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HEALTH AND SAFETY PLAN

Karwick Road Landfill Site
Michigan City, Indiana

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1.0 INTRODUCTION

APT, Limited (APT) has been retained by the Michigan City Parks & Recreation Department and the Michigan City Economic Development Corp. (MCEDC), to conduct environmental assessment activities at an old landfill (Karwick) off of Karwick Rd in Michigan City, Indiana. The proposed activities will consist of soil sampling, monitoring well installation, and groundwater sampling.

APT has prepared this Health and Safety Plan (HASP) in accordance with the Occupational Safety and Health Administration (OSHA) regulations found in 29 CFR 1910.120. This HASP provides the necessary procedures to protect human health and the environment, and is to be followed by all individuals involved in the assessment activities. The HASP presents the following information:

- Health and Safety Policy (Section 2.0)
- Key Personnel (Section 3.0)
- Safety and Health Risk Analysis (Section 4.0)
- Personnel Training Requirements (Section 5.0)
- Personal Protection Equipment (Section 6.0)
- Medical Surveillance Requirements (Section 7.0)
- Air Monitoring and Action Levels (Section 8.0)
- Site Control Measures (Section 9.0)
- Decontamination (Section 10.0)
- Emergency Response (Section 11.0)
- Sanitation (Section 12.0)
- Confined Space Entry (Section 13.0)
- Spill Containment Program (Section 14.0)

Compliance Certification (Section 15.0)

2.0 HEALTH AND SAFETY POLICY

It is the policy of APT to provide a safe and healthy work environment for all employees and subcontractors. APT considers no phase of operation or administration to be of greater importance than injury and illness prevention. Safety takes precedence over expediency or shortcuts. At APT, it is believed that every accident and every injury is avoidable with proper training and planning. APT personnel will take every reasonable step to reduce the possibility of injury, illness, or accident.

This HASP describes the procedures that must be followed by all site personnel while at the former Karwick Road Landfill site. The provisions of this HASP are mandatory to all APT personnel, its contractors and visitors.

Work conditions and plans can change as operations progress. The Site Safety Officer (SSO) and Project Manager will provide written addenda to this HASP when changes warrant. Operational changes, which could affect the health or safety of personnel, the community, or the environment, will not be implemented without prior approval of the client and APT.

The following safe work practices will be strictly adhered to during site operations:

- At least one copy of this plan shall be available at the site at all times.
- At least one person trained in a minimum of basic first aid and CPR will be on site whenever site investigation and remediation activities occur. As an alternative, this requirement is satisfied when a 911 emergency responder can respond within five (5) minutes to the site.
- Emergency equipment shall be located in readily accessible uncontaminated locations.
- All personnel entering the site shall be thoroughly briefed on the hazards, equipment requirements, safety practices, emergency procedures, and communication methods.
- Personnel entrance and exit routes shall be planned and emergency escape routes designated. An evacuation route shall be reviewed at the site.
- Unfamiliar operations shall be discussed with affected personnel before beginning work.
- Operations will be stopped whenever visible dust emissions are generated. At a minimum, site-wetting practices shall be used to control dust emissions.
- Prompt action shall be taken if an inadvertent release of a hazardous material occurs.
- Work areas shall be illuminated with supplementary lighting, as necessary. Supplementary lighting may be necessary inside buildings, tanks at night, or in other poorly lit areas. Intrinsically safe lighting may be required in some areas.

- No food, beverages, or tobacco products shall be present, consumed or used in contaminated areas or potentially contaminated areas. Taking medication, smoking, or applying cosmetics are also prohibited. These activities are allowed only in the established clean room and clean areas.
- No smoking will be permitted for the duration of the project, except in designated areas.
- All personnel shall be required, as a minimum, to wash their face and hands with soap and water before eating, drinking, smoking or applying cosmetics. If deemed necessary, personnel shall also remove outer protective garments.
- Contaminated protective equipment, such as respirators, hoses, boots, etc., shall not be removed from the regulated area until it has been cleaned, or properly packaged and labeled.
- Removal of contaminated soil or debris from protective clothing or equipment by blowing, shaking, or any other means that disperses contaminants into the air is prohibited.
- Contaminated scrap waste, debris, and clothing shall be stored in tightly closed containers and located in well-ventilated areas.
- Legible and understandable precautionary labels will be affixed prominently to containers of contaminated scrap, waste, debris, and clothing.
- Containers shall be moved only with the proper equipment and shall be secured to prevent dropping or loss of control during transport.
- All personnel should wear cotton, leather, or canvas work gloves during loading, unloading, moving, or manual lifting of uncontaminated equipment or materials. Gloves shall be sufficient to prevent cuts or bruises to the hands of individuals wearing them.
- APT employees and subcontractor personnel will use nearby sanitary facilities. No portable sanitary facilities will be provided.
- Fire extinguishers will be mounted on equipment as required. When there is a fire potential, fire extinguishers will be located in the adjacent area.
- All on-site personnel shall use the buddy system (working in groups of two or more). Buddies shall pre-arrange hand signals for communication. Buddies shall maintain visual contact with each other. Personnel must observe each other for signs of heat or cold stress or toxic exposure such as:
  - Changes in complexion and skin discoloration
  - Changes in coordination or demeanor
  - Excessive salivation and papillary response
  - Changes in speech pattern.

- Personnel shall also inform each other of non-visual effects potentially due to heat or cold stress or toxic exposure such as:
  - Numbness of extremities or skin surface
  - Headaches
  - Dizziness
  - Nausea
  - Blurred vision
  - Cramps
  - Irritation of eyes, skin, or respiratory tract.

All visitors and personnel performing field activities must review and acknowledge that they understand and agree to comply with the HASP. Each individual must acknowledge this by signing the *Health and Safety Plan Acknowledgment* sign-off sheet to be provided to each person. Subcontractors must certify that their employees assigned to the remediation system construction are properly trained and have medical clearance by signing a *Contractor Certification* before starting work on the project.

A copy of the *Contractor Certification* as well as a *Site Health and Safety Plan Acknowledgment* sign-off sheet is included in Appendix A.

3.0 KEY PERSONNEL AND RESPONSIBILITIES

This section presents the key personnel involved with the field assessment at the former Karwick Road Landfill site and their responsibilities. Key personnel include the following:

❑ Site Safety Officer (SSO)	John E. Klanke
❑ Alternate SSO	Andrea M. DePoy
❑ Field Operations Leader (FOL)	Andrea M. DePoy
❑ Project Manager	John E. Klanke
❑ Client Representative	Tom B. Stevenson, Environmental Incorporated

3.1 ALL PERSONNEL

All personnel involved in the closure activities are responsible for continuous adherence to the health and safety procedures presented in the HASP while performing their work. No person shall work in a manner conflicting with the intent of or the inherent safety and environmental precautions expressed in these procedures. After due warnings, APT will dismiss from the site any person who violates the health and safety procedures presented in this HASP. APT employees are subject to progressive discipline and may be terminated for continued violations.

THE PERSON MOST RESPONSIBLE FOR AN INDIVIDUAL'S HEALTH AND SAFETY IS THE EMPLOYEE HIMSELF.

3.2 SITE SAFETY OFFICER (SSO)

The SSO is responsible for developing and coordinating the site-specific HASP and any addenda that may be required due to changing conditions or work scope. The SSO is the primary contact for regulatory agencies on matters of health and safety. Other SSO responsibilities include the following:

- General health and safety administration for the project;
- Determining the level of personnel protection equipment (PPE) required;
- Updating equipment or procedures based on information obtained during site operations;
- Establishing air monitoring parameters based on expected contaminants;
- Establishing employee exposure monitoring programs for the project, if necessary;
- Investigating and reporting accidents, illnesses, and other safety or environmental incidents, and implementing corrective action plans as necessary;
- Communicating key learnings from accidents, illnesses, and other incidents to the project team in order to prevent future accidents, illnesses, and other incidents from occurring; and
- Developing site-specific employee/community emergency response plans as required and based on expected hazards.

3.3 FIELD OPERATIONS LEADER (FOL)

The APT FOL supervises all APT activities at the site and is responsible for field implementation of the HASP. This includes communicating site requirements to all personnel, ensuring that field supervisors and subcontractors enforce all provisions of the plan, and consulting with the SSO and Project Manager regarding changes to the HASP. Other responsibilities include:

- Being familiar with this HASP and APT policies and procedures;
- Enforcing the HASP and other safety regulations;
- Stopping work as required to prevent injury and unsafe acts;
- Determining evacuation routes, establishing and posting local emergency telephone numbers and arranging emergency transportation;
- Assuring that the respiratory protection program is implemented;
- Determining that all site personnel and visitors have received the proper training and medical clearance prior to entering the site;
- Establishing work, decontamination and support zones;
- Presenting on-site safety meetings and maintaining attendance logs and records;
- Assuring that decontamination procedures meet established criteria; and
- Determining that there is a qualified first aid trained person on-site.

3.4 PROJECT MANAGER

The Project Manager is ultimately responsible for determining that all project activities are completed in accordance with requirements set forth in the HASP.

3.5 DRILL CREW MEMBERS/SAMPLE TEAM MEMBERS

Drill crew and sample team members will be responsible for understanding and complying with the requirements of the HASP. Each member will be expected to have the experience and training necessary to perform their job in a safe manner. Each member will be responsible for limiting the exposure of site contaminants and decontamination chemicals to other field personnel. Personnel will not "sniff" or touch samples or potentially contaminated material (e.g., soil, groundwater) without wearing the appropriate PPE.

3.6 SUBCONTRACTORS

On-site subcontractors and their personnel are responsible for understanding and complying with all site requirements and procedures established in this HASP as a minimum.

3.7 VISITORS

Visitors are required to be familiar with and comply with the provisions of this HASP. Visitors are required to check in with the SSO or FOL before entering the site, and will be briefed on site

conditions and requirements. Visitors will then be required to review and sign the HASP. Visitors are responsible for their own health and safety, completing tasks in a safe manner, and reporting any unsafe acts or conditions to the SSO or FOL. Personnel will monitor themselves and their fellow employees for signs and symptoms of heat/cold stress and chemical exposure.

4.0 SAFETY AND HEALTH RISK ANALYSIS

This section discusses the potential safety and health risks associated with the closure activities. The discussions are broken into physical, chemical, and biological hazards.

4.1 PHYSICAL HAZARDS

Physical hazards are associated with every field project and require preventative measures to reduce the risk of injury to personnel. Physical hazards include the following:

- Heavy equipment
- Hand tools
- Slip, trip, fall
- Elevated work
- Electrical
- Underground utilities (e.g., electrical lines, buried pipelines)
- Overhead obstructions (e.g., electrical lines, pipe racks, overhangs)
- Deterioration of building
- Manual lifting
- Heat and cold stress
- Physical exertion
- Noise

The primary physical hazards associated with this project are buried and exposed debris including glass, metal, concrete rubble, and household refuse/garbage (slip, trip, and fall hazards). There is also the possibility that hazardous materials may have been disposed at the site given the presence of partially buried drums and the slightly impacted subsurface soils in one area. Lastly, there are potential hazards associated with working with and around heavy equipment (*e.g.,* drilling rigs) and hand tools, noise, and underground utilities along a right-of-way on the south side of the site. Personnel will also monitor for heat and cold stress signs and symptoms. Proper precautions and preventative measures will be taken to prevent injury to personnel and damage to facility structures and utilities that could potentially result from these hazards.

4.2 CHEMICAL HAZARDS

Chemical hazards result from the exposure to toxic and hazardous materials by any of the following means:

- Inhalation of vapors, particulates, aerosols, or fumes;
- Ingestion of soil, water, air, food, or drink containing toxic or hazardous materials;

- Direct skin contact with toxic or hazardous materials; and
- Absorption of toxic or hazardous materials through the skin upon contact.

The principal chemical hazards associated with this project are related to the potential exposure of man-made chemicals and metals in the soil and groundwater. Individual constituents may include volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. However, these compounds are not anticipated to be present in amounts sufficient to be a cause for concern. The National Institute of Occupational Safety and Health's (NIOSH) *Pocket Guide to Chemical Hazards* (June 1994 or later addition) is to be referred to for a summary of exposure limits, chemical/physical properties, personal protection equipment (PPE) requirements, and health hazards for the constituents of concern.

4.3 BIOLOGICAL HAZARDS

Biological hazards typically encountered during construction activities include the following:

- Exposure to biological agents and pathogens (e.g., viral, bacterial, fungal, parasitic);
- Poison ivy, sumac, and oak;
- Insect and animal bites that may be poisonous or carry pathogens; and
- Insufficient personal hygiene practices.

No significant biological hazards are expected. However, the site is an abandoned landfill containing undefined waste, including household garbage. Therefore, proper precautions and preventative measures will be taken to prevent injury to personnel that could potentially result from biological hazards.

4.4 PROJECT SAFETY ANALYSIS

The project safety analysis (PSA) identifies potential safety, health, and environmental hazards and provides for the protection of personnel, the community and the environment. It is performed prior to beginning the project and continually throughout the project. The SSO and FOL must continually inspect the work site to identify hazards, which may be a hazard to site personnel, the community, or the environment. The SSO and FOL must be aware of any changing conditions and modify work procedures accordingly, and are responsible for contacting and informing the Project Manager of these changing conditions and modified work procedures. Written addenda to the HASP will be developed as necessary to account for changing conditions identified by the PSA and to update work, health, and safety procedures.

5.0 PERSONNEL TRAINING REQUIREMENTS

This section describes the general and specific training requirements for the field assessment activities at the former Karwick Road Landfill site.

5.1 GENERAL REQUIREMENTS

All field personnel are trained and certified to perform work associated with hazardous waste operations and emergency response (HAZWOPER) according to the OSHA regulations found in 29 CFR 1910.120. All field personnel receive a minimum of 40 hours of training off site, 3 days of actual field experience under the direct supervision of a trained and experienced HAZWOPER supervisor, and 8 hours annually of refresher training. A subcontractor's personnel must meet the same training requirements. Personnel, including subcontractors, whose activities are limited to non-hazardous activities, must complete 24 hours of training off site and 8 hours of onsite training.

A copy of each individual's training certificate is maintained with the project and personnel files. Subcontractors must provide certificates of training of each employee assigned to the project for the project file.

5.2 HAZWOPER TRAINING COURSE CONTENT

Following is a general list of topics covered in the 40-hour HAZWOPER training course:

- General site safety;
- Physical hazards (fall protection, noise, heat stress, cold stress);
- Names and titles of key personnel responsible for site health and safety;
- Safety, health and other hazards present at the site;
- Use of personal protective equipment;
- Work practices by which employees can minimize risks from hazards;
- Safe use of engineering controls and equipment on site;
- Medical surveillance requirements;
- Recognition of symptoms and signs indicating overexposure to hazards;
- Worker Right-to-know;
- Routes of exposure to on site contaminants;
- Engineering controls and safe work practices;
- Components of the site health and safety program;
- Decontamination practices for personnel and equipment;
- Confined space entry procedures; and
- Emergency response plan.

5.3 SITE SAFETY ORIENTATION

Prior to beginning each field activity at the former landfill site, the SSO or FOL will brief all personnel and subcontractors on the site-specific requirements, hazards, and HASP.

5.4 DAILY ON-SITE SAFETY MEETINGS

The SSO or FOL will conduct an on-site safety meeting at the beginning of each day or shift once the job commences. The topics discussed at the safety meeting will include health and safety considerations for the day's activities, necessary PPE, problems encountered, and new operations. Attendance records and meeting notes will be maintained in the field notebook.

6.0 PERSONAL PROTECTION EQUIPMENT

This section describes the PPE requirements that have been selected for this project based on site characterization and analytical data, planned filed activities, site hazards, intended use, and duration of potential employee exposures. Maintenance and storage of PPE, decontamination, donning/doffing procedures, inspection and effectiveness monitoring, and limitations are also presented in this section. Level D PPE is the maximum anticipated level of protection for this project.

6.1 RESPIRATORY PROTECTION

The following guidelines will be followed at all times:

- The respiratory protection used on site will be in compliance with OSHA, 29 CFR 1910.134;
- Only properly cleaned, maintained, NIOSH approved respirators shall be used on site;
- Selection of respirators, as well as any decisions regarding upgrading or downgrading of respiratory protection, will be made by the Health and Safety Officer or his designee;
- Used air-purifying cartridges shall at a minimum be replaced at the end of each shift, or more frequently if flow through the cartridge falls off;
- Only personnel who have been trained to wear and maintain respirators properly shall be allowed to use respiratory protection;
- Respirator users shall be instructed in the proper use and limitations of respirators;
- Positive and negative pressure tests shall be performed each time the respirator in donned;
- If a person has difficulty in breathing during the fit test or during use, he or she shall be evaluated medically to determine if he can wear a respirator safely while performing assigned tasks;
- No person shall be assigned to tasks requiring the use of respirators if, based upon the most recent examination, a physician determines that the health or safety of that person will be impaired by respirator use;
- Contact lenses shall not be worn while using any type of respiratory protection;
- Excessive facial hair (beards) prevents proper face fit and effectiveness of respirators. Persons required to wear full-face or half-face respirators must not have beards, wide mustaches, goatees, extended sideburns, or Fu Manchu mustaches. All personnel wearing full-face or half-face respirators will be required to be clean shaven prior to each day's shift;
- Air-supplied respirators shall be assembled according to manufacturer's specifications. Hose length, couplings, valves, regulators, manifolds and all

accessories shall meet American National Standards Institute (ANSI) and the manufacturer's requirements;

- Respirators shall be cleaned and sanitized daily after use;
- Respirators shall be stored in a convenient, clean and sanitary location;
- Respirators shall be inspected during cleaning. Worn or deteriorated parts shall be replaced;
- The SSO and FOL shall review the respiratory protection program daily to ensure employees are properly wearing and maintaining their respirators and that the respiratory protection is adequately protecting the employees; and
- The SSO and Project Manager shall evaluate the respiratory protection program monthly to ensure the continuing effectiveness.

6.2 LEVELS OF PROTECTION

The level of protection used in the work zone is based on site-specific information. Specific levels of protection will be changed whenever site conditions change. They can either be increased to the next higher level or decreased to the next lower level. The decision to change levels of protection will be made by the SSO and FOL. The SSO and FOL shall communicate decisions to upgrade or downgrade PPE levels to the Project Manager. The levels of protection are described below and in Section 8.0 of this document.

Level A PPE
Level A PPE is not anticipated to be required for this project.

Level B PPE
Level B PPE is not anticipated to be required for this project. Level B Protection will only be required if airborne, breathing-zone concentrations of VOCs are equal to the lower of either a time-weighted average of 5 ppmv over an 8-hour work day or a concentration of 1,000 parts per million (ppmv) over a five minute period, measured as total organic vapors with a portable organic vapor meter (OVM).

Although there is no information suggesting the disposal of chemical wastes at the site, the presence of partially buried drums at the site suggests the potential for chemical impacts. If hazardous materials were disposed at the site, it is APT's experience that petroleum products and waste solvents comprise the most likely types of contaminants that might be present.

Therefore, the 5 ppmv action criteria value represent five times the OSHA Permissible Exposure Limit (PEL) for benzene. Benzene is the target constituent anticipated to be most likely encountered at the site having the lowest TWA PEL.

The 1,000 ppmv action criteria represents five times the OSHA ceiling PEL of 200 ppmv for PCE and TCE, since waste solvents are a possibility at the site, and PCE and/or TCE are the solvents most likely to be encountered having the lowest OSHA ceiling PEL.

Since the OVM is incapable of distinguishing individual COCs, a conservative approach that is protective of worker exposure is to assume that benzene, or PCE/TCE, constitute 100% of the detected vapors.

A factor of five times the PEL was used because Level C PPE using a full-face, air-purifying respirator provides a protection factor of 10 for breathing zone concentrations. The designated action level of 5 ppmv TWA over an eight-hour work day and 1,000 ppmv over a five minute period (*i.e.*, five times the ceiling PEL of PCE) provides a safety factor to account for potential synergistic effects of multiple VOCs being present and the potential for not detecting peak concentrations in the breathing zone. The Project Manager will be notified when the decision is made to upgrade to Level B.

Level C PPE

Level C PPE is not anticipated to be required for this project. Level C PPE will be required if airborne, breathing-zone concentrations of VOCs are equal to the lower of either a TWA concentration of 0.5 ppmv over an eight-hour work day or a concentration of 100 ppmv over a five minute period, measured as total organic vapors with a portable OVM.

The former value represents one-half the OSHA Permissible Exposure Limit (PEL) for benzene. Benzene is the target constituent anticipated to be most likely encountered at the site having the lowest TWA PEL.

The latter value represents one-half the OSHA ceiling PEL of 200 ppmv for PCE and TCE, since waste solvents are a possibility at the site, and PCE and/or TCE are the solvents most likely to be encountered having the lowest OSHA ceiling PEL.

Since the OVM is incapable of distinguishing individual COCs, a conservative approach that is protective of worker exposure is to assume that benzene, or PCE/TCE, constitute 100% of the detected vapors. The Project Manager will be notified when the decision is made to upgrade to Level C PPE.

The factor of one-half of the PEL was selected in order to be protective of worker health by taking into account potential synergistic effects of multiple constituents being present and the potential for not detecting peak concentrations in the breathing zone. If Level C PPE becomes necessary, the following equipment will be used during the field activities at the site:

- Full-face, air-purifying respirators with combination organic vapor/HEPA filter (color-coded black and magenta or black and purple);
- Standard Tyvek® coveralls or equal, with taped at gloves and boots;
- Nitrile gloves with latex inner gloves;
- Steel-toed boots with rubber overboots; and
- Hard-hat.

Modified Level D PPE

Modified Level D PPE is not expected to be required for field work unless field observations indicate a need for dermal protection without respiratory protection, as determined by the SSO. The following equipment will be used for Modified Level D PPE:

- Disposable Tyvek® coveralls or equal taped at gloves and boots;
- Nitrile gloves with latex inner gloves;
- Steel-toed boots with rubber overboots; and
- Safety glasses and hard hat

Level D PPE

As a minimum, Level D PPE will be required for all field work, and this includes the following PPE:

- Standard work clothes or coveralls
- Leather work gloves when operating heavy equipment or hand tools, disposable latex gloves for sampling;
- Steel-toed boots;
- Safety glasses; and
- Hard hat when working around heavy equipment or in areas of the facility that requires hard hats.

Noise Protection

Earplugs will be worn by personnel working around heavy equipment if the noise level reaches 85 decibels in the work area.

6.3 DONNING AND DOFFING

All persons entering the immediate work area shall put on the required PPE according to established procedures in this plan to minimize exposure potential. When leaving the work area, PPE shall be removed according to these established procedures to minimize the spread of contamination.

Donning Procedures

The following donning procedure will be used:

1. Remove street clothes and store in a clean location.
2. Put on coveralls or work clothes.
3. Put on boots.
4. Put on gloves.
5. Put on remaining PPE, such as hard hat, safety glasses, respirator, etc.

Doffing Procedure

The following doffing procedure will be used for removing PPE:

1. Before leaving work areas, rinse potentially contaminated mud and debris from PPE.
2. Remove overboots.
3. Remove outer gloves.
4. Remove hood and coveralls.
5. Remove respirator.
6. Remove inner gloves.
7. Clean reusable PPE.
8. Wash hands and face thoroughly.

All disposable equipment, garments, and PPE shall be bagged in trash bags and placed into properly labeled containers (e.g., trash bin or drums), and disposed of properly.

7.0 MEDICAL SURVEILLANCE REQUIREMENTS

This section describes the medical surveillance program that APT intends to implement.

7.1 PHYSICAL EXAMINATION

All field personnel will have successfully completed a periodic physical examination and been given medical clearance from the examining physician that they are clear for HAZWOPER work. The physical examination has been designed to meet the requirements of the OSHA regulations found in 29 CFR 1910.120. A thorough medical surveillance program examination consists of:

- Medical and occupational history questionnaire;
- Physical examination;
- Complete blood count with differential;
- SMAC 24;
- Urinalysis;
- Chest x-ray;
- Pulmonary function test;
- Audiogram;
- Drug and alcohol screening; and
- Visual acuity.

The following information should be provided to the examining physician:

- Description of employee's duties;
- Anticipated chemical and asbestos exposure and levels;
- Description of the personal protective equipment to be used; and
- Information from previous medical exams.

Contractors will certify that all their employees have successfully completed a physical examination by a qualified physician on the Certification Form. The physical examinations shall meet the requirements of 29 CFR 1910.120, and 29 CFR 1910.134. Contractors will supply copies of the medical examination certificate for each onsite employee.

7.2 MEDICAL RECORDS

Medical and personal exposure monitoring records will be maintained according to the requirements of 29 CFR 1910.120 and shall be kept for a minimum of 30 years. Employee confidentiality shall be maintained.

8.0 AIR MONITORING AND ACTION LEVELS

Air monitoring will be conducted using "real-time" or "direct-reading" instrumentation, due to the potential exposure to VOCs during the field activity. Air in the work area and environs will be continuously monitored during drilling operations or any other operation where VOCs are likely to be released. The breathing zones of personnel with the highest probability of exposure to VOCs and general work area will be monitored using a portable organic vapor meter (OVM) equipped with a photoionization detector (PID). A portable OVM measures the total concentration of organic vapors in ambient air. When not actively being used for testing a specific location, this instrument will be placed near the highest anticipated potential contamination and continuously operated. Measurements will be periodically recorded in the field notebook.

Real-time measurements of total organic vapor concentrations will be used by the SSO and FOL to evaluate and decide whether to upgrade the PPE level. Action levels for total organic vapor concentrations in the breathing zone are as follows:

- Upgrade from Level D PPE to Level C PPE: 0.5 ppm TWA over 8-hr work day; or 100 ppm over 5-minute period.
- Upgrade from Level C PPE to Level B PPE: 5 ppm TWA over 8-hr work day; or 1,000 ppm over 5-minute period.

These action levels must be sustained in the breathing zone for longer than the specified times before upgrading. This prevents site personnel from having to unnecessarily don PPE.

The action levels are based on the VOC constituents anticipated to be in the breathing zone. The primary potential indicator constituents of concern are benzene, TCE, and PCE, because they are the constituents most likely to be present at the site, having the lowest PELs, which could potentially volatilize and be present in the breathing zone. The OSHA PEL for benzene is 1 ppm over an 8-hour work day. The OSHA ceiling PEL for TCE and PCE is 200 ppm over a five-minute period.

The action levels for upgrading from Level D PPE to Level C PPE of 0.5 ppm over an 8-hour work day and 100 ppm over a 5-minute period were selected because they are equal to one half of the TWA and ceiling PELs for benzene and PCE/TCE, respectively and are protective of potential synergistic effects of multiple constituents being present and the potential for not detecting peak concentrations in the breathing zone. The action levels for upgrading from Level C PPE to Level B PPE of 5 ppm over an 8-hour work day and 1,000 ppm over a 5-minute period were selected because they are equal to five times the TWA and ceiling PELs for benzene and PCE/TCE, respectively, and are protective of potential synergistic effects of multiple constituents being present and the potential for not detecting peak concentrations in the breathing zone.

The portable OVM will be calibrated daily using the manufacturer's specified procedures. Calibration may be done more frequently at the discretion of the SSO and FOL.

9.0 SITE CONTROL MEASURES

Site control requires establishing specific measures to prevent unauthorized entry onto the work areas and to protect all personnel entering the work areas from recognized safety and health hazards. The measures described in this section are mandatory.

9.1 WORK ZONES

The SSO and FOL will establish work zones for the project based on the location of contamination, investigation activities, accessibility, and site control. These work zones include the exclusion zone, contaminant-reduction zone, and support zone, and must be clearly marked and defended against unauthorized entry. The work zones are described in the following sections. A map is not provided since work zones will be moved with the drilling rig as points are advanced at different locations.

Exclusion Zone

An exclusion zone is the area where contamination is suspected or known to be present, or where significant physical, chemical, or biological hazards are present. This zone has the highest potential for exposure to the contaminants by inhalation and direct contact or for injury to occur as the result of a significant physical, chemical, or biological hazards. This area will be clearly marked at the site using safety fencing or other types of barriers or markers, if determined to be necessary by the SSO or FOL.

The SSO and FOL may change the exclusion zone based on professional judgment and data collected in the field. For example, if OVA measurements are recorded outside the existing exclusion zone, the SSO or FOL should increase the size of the exclusion zone to the point where no OVA measurements are recorded outside the exclusion zone.

Contaminant-Reduction Zone

The contaminant reduction zone will be clearly marked, if necessary, and established in a convenient, easily accessible area where inadvertent entry by facility employees or other persons is minimized. Equipment and personnel decontamination activities will take place in this zone. The SSO and FOL may change the location of this zone based on professional judgment and accessibility.

Support Zone

Support zones are established in uncontaminated areas and are used for the storage of supplies and general administrative functions. Work breaks will be taken in this zone, which includes the entire facility outside of the exclusion and contaminant-reduction zones.

9.2 SITE ENTRY

The Project Manager or FOL may grant authorization to enter the work areas. Access to contaminated work areas is regulated and limited to only authorized and properly trained personnel. Representatives from regulatory agencies will be permitted to enter the work areas if the client representative has authorized this action, they are properly trained, and the HASP and other site-specific requirements are followed. Representatives of the news media and other

visitors must receive authorization from the client, and must be accompanied by the Project Manager, SSO, or FOL.

9.3 SITE ORIENTATION

The SSO or FOL will brief all personnel entering the work areas on the requirements of the HASP and inform them of potential site health and safety hazards and procedures specific to this site. All personnel shall acknowledge this briefing by signing the acknowledgment form contained in the HASP. This briefing shall be further documented in the field notebook or other appropriate log.

9.4 DOCUMENTATION OF CERTIFICATES

Personnel entering the site to work shall have satisfied the medical and HAZWOPER training requirements of the OSHA regulations found in 29 CFR 1910.120. The project file shall contain copies of certificates documenting status for all on-site personnel. Personnel not entering the work zones need not meet the above requirements. The Project Manager or SSO shall accommodate requests from regulatory agency representatives to review this documentation. All visitors must present documentation of current training and medical status before being granted authorization to enter the work zone.

9.5 ENTRY LOG

The SSO and FOL will keep a daily roster in the field notebook or other appropriate log of all on-site personnel and visitors including the time of entry into and exit from the site for each person.

10.0 DECONTAMINATION

Field personnel and equipment decontamination is necessary to minimize the potential for spreading contamination outside of the exclusion and contaminant-reduction work zones. Decontamination procedures are presented in this section for Level D and C PPE, equipment, and emergency decontamination of injured persons.

10.1 LEVEL D PPE DECONTAMINATION

Work completed in Level D PPE is not anticipated to result in gross contamination of personnel, so decontamination requirements are minimal. Level D PPE decontamination procedures only consist of cleaning off monitoring equipment and hand tools, bagging and containerizing disposal equipment and PPE, containerizing wash and rinse water, and implementing good personal hygiene practices prior to leaving the contaminant-reduction zone.

10.2 LEVEL C AND MODIFIED LEVEL D PPE DECONTAMINATION

Work completed in Level C and Modified Level D PPE has the potential to result in gross contamination of personnel, so decontamination requirements are more extensive than work performed in Level D PPE. Decontamination procedures are presented in this section.

Step 1: Segregated Equipment Drop
Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in separate containers with plastic liners. Each piece of equipment will be contaminated to a different degree. Segregation at the drop reduces the probability of cross contamination.

Equipment: *Various sized containers*
Plastic liners
Plastic drop cloths.

Step 2: Reusable Boots, Gloves, and Garment Wash and Rinse
Scrub boots, gloves, and chemical-resistant suit with decontamination solution or detergent/water. Rinse gloves, boots, and garment with clean water into plastic bucket.

Equipment: *Two containers (30- to 50-gallons)*
Detergent/ Water
Scrub brushes, long-handle.

Step 3: Disposable Boots and Gloves Removal
Remove boots and gloves with accompanying tape. Dispose in a plastic-lined container.

Equipment: *One container (30 to 50-gallon)*
Plastic liner
Bench or stool.

Step 4: Canister/Cartridge Change

If a worker leaves the contaminated work zone to change canister/cartridge on his/her respirator, this is the last step in the decontamination procedure. Once the worker's canister/cartridge is exchanged, the outer gloves and boot covers are donned with joints taped. The worker may then return to the contaminated work zone. All used canisters or cartridges will be disposed of at the end of the work day and fresh ones installed before start of work.

Equipment: *Respirator canisters/cartridges*
Tape
Extra gloves
Boot covers (if worn).

Step 5: Boots, Gloves, and Outer Garment Removal

Remove boots, gloves (inner), and outer garment. The outer chemical-resistant garment and inner gloves should be deposited in a plastic-lined container.

Equipment: *Container (30- to 50-gallons)*
Bench or stool
Plastic liners.

Step 6: Respiratory Protection Removal

Remove the face piece respirator, deposit used cartridge in a plastic-lined container, and wipe the face piece with clean water and paper towels.

Equipment: *Container (30- to 50-gallons)*
Plastic liners
Paper towels
Detergent solution
Rinse water.

Step 7: Field Wash and/or Decontamination Unit

Wash hands and face and shower as soon as possible.

Equipment: *Water*
Soap
Wash basins/buckets.

10.3 EQUIPMENT DECONTAMINATION

Any item taken into an exclusion zone must be assumed to be contaminated and must be carefully inspected and/or decontaminated prior to the item leaving the area. All contaminated vehicles, equipment, and materials will be cleaned and decontaminated to the satisfaction of the SSO and FOL or containerized prior to leaving the site. Verification that equipment has been adequately decontaminated or containerized is the responsibility of the SSO and FOL. The ultimate responsibility that these procedures are followed still resides with the Project Manager.

In a designated area within the contaminant-reduction zone, an equipment decontamination station will be constructed for the removal of gross contamination from all vehicles and

equipment leaving the work areas. All reusable PPE and materials shall be decontaminated and reconditioned for reuse prior to final removal from the work zone.

Decontamination will take place on the equipment decontamination pad established by APT. Special attention will be paid to the removal of material on and within the undercarriage, tracks, and sprockets of track-mounted equipment, and the undercarriage, tires, and axles of trucks and rubber-tired mounted equipment. High-pressure spray washers and/or steam cleaners will be used to decontaminate heavy equipment.

Instruments used in the exclusion zone are to be protected from contamination to the extent feasible. Decontamination of instruments is to be conducted using appropriate solvents (e.g., alcohol, hexane, etc.) so that the instruments are visually clean. Tools and items, for which decontamination is difficult or impossible to verify, will remain on site until project completion for subsequent packaging and proper disposal (for example, items such as lumber, rope, and disposable clothing).

The following is a list of equipment needed for decontamination:

- Plastic garbage barrels;
- Liners for garbage barrels;
- Galvanized steel basins;
- Alconox® (or equivalent) detergent concentrate;
- Deionized or distilled water;
- Hand pump sprayers;
- Long handle soft bristle brushes;
- Large sponges;
- Cleanser for respirators;
- Plastic bags;
- Liquid detergent and paper towels;
- Rolls of plastic; and
- High pressure spray washers and/or steam cleaners.

10.4 EMERGENCY DECONTAMINATION OF INJURED PERSONS

Injured personnel will be handled in a manner that provides maximum medical response to the injured person, prevents injury to others, and prevents contamination to emergency personnel and the hospital. Injured personnel who are in potentially contaminated work zones should be removed if at all practical (without further injuring the person). Decontamination consisting of at least gross removal of contaminants should be carried out prior to the injured person leaving the site.

In some situations movement of the injured person, removal of PPE, or decontamination may result in further injury. Under these circumstances, site personnel will provide first aid and comfort to the victim to the degree possible (e.g., providing a sun shield by suspending a space blanket or tarp over them) while awaiting instructions from emergency personnel.

Injuries in the exclusion zone may require modifying many of the site health and safety procedures. In these situations, personnel will render aid immediately, contact members of the project management staff, and provide full information and assistance to emergency personnel including providing PPE and decontamination where necessary.

11.0 EMERGENCY RESPONSE

This section describes the emergency response procedures in the event of an emergency or other incident occurring during field activities.

11.1 EMERGENCY CONTACTS

In the event of an emergency or other incident, the following individuals shall be contacted as soon as possible in the order they are presented. These individuals should only be contacted once the emergency situation is stabilized (e.g., ambulance has been contacted for injured persons, actions are taken to prevent further injury or damage to property).

FIELD OPERATIONS LEADER (FOL):	**Andrea DePoy**	**(574) 257-8196**
SITE SAFETY OFFICER (SSO):	**John E. Klanke**	**(574) 257-8196**
APT PROJECT MANAGER:	**John E. Klanke**	**(574) 257-8196**
ALTERNATE APT CONTACT:	**Mark Cichoracki**	**(574) 257-8196**
CLIENT REPRESENTATIVE:	**Thomas B. Stevenson**	**(219) 462-7576**
CLIENT CONTACT:	**Tony Rodriguez**	**(219) 873-1211**

Organizations and phone numbers that may also be contacted in case of an emergency are as follows:

POLICE	**911**
FIRE DEPARTMENT	**911**
AMBULANCE	**911**
HOSPITAL, EMERGENCY (St. Anthony Memorial Health Centers, 301 West Homer, Michigan City, IN)	**(219) 877-1616**
POISON INFORMATION CENTER	**(800) 382-9097**
NATIONAL RESPONSE CENTER (Spill Reporting)	**(800) 424-8802**

11.2 GENERAL

The SSO and FOL will establish evacuation routes and assembly areas for each work area. All personnel entering a work area will be informed of these routes and assembly areas. If the work

area is large and the evacuation routes are not clear, a site plan will be made marking the evacuation routes and will be posted at conspicuous locations.

Each work area will be evaluated for the potential for fire, explosion, chemical release or other catastrophic events. Based on previous site characterization and remediation activities, chemical releases and explosions are not likely to occur. Unusual events, activities, chemicals and conditions will be reported to the Project Manager/Field Operations Leader.

The following emergency equipment will be available:

- Large industrial first aid kits;
- Emergency oxygen with inhalator mask and resuscitation mask with one-way valve;
- An adequate supply of disposable latex gloves in sterile condition; and
- 10 to 20 lbs. A:B:C dry chemical fire extinguishers.

The SSO and FOL will document all health and safety incidents that occur during the remediation system construction. All incidents will be dealt with in a manner to minimize adverse health risks to site workers, the environment and the local community. If an incident occurs, the following procedure will be followed:

- First aid or other appropriate initial action will be administered by properly trained personnel who are closest to the incident. This assistance will be conducted in a manner to ensure that those rendering assistance are not placed in a situation of unacceptable risk.
- If an injury to a worker is chemical in nature (e.g., overexposure), the following first aid procedure is to be instituted:
  - ***Eye exposure*** - if contaminated soils or liquids get into the eyes, wash eyes immediately at the emergency station using large amounts of potable water and lifting the lower and upper lids occasionally. Wash for at least 15 minutes. Obtain medical attention immediately.
  - ***Skin Exposure*** - if contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap or mild detergent and water for at least 15 minutes. Obtain medical attention immediately when exposed to concentrated solids or liquids.
- All workers on site are responsible for conducting themselves in a mature, calm manner in the event of an incident event. All personnel must conduct themselves in a manner to avoid spreading the danger to themselves and to other workers.
- All incidents will be promptly reported to the SSO and FOL. The SSO or FOL is responsible for coordinating the emergency response in an efficient, rapid, and safe manner, and communicating all information to the Project Manager.

- The SSO will be the site emergency coordinator and will evaluate each incident to determine the extent of the incident and the need for outside assistance. Outside assistance will be requested as needed. The SSO will act as liaison between responding agencies and site personnel.
- If an injured person can be removed, he or she will be removed from the source of contamination. Decontamination procedures, additional first aid, or preparation for transportation will be conducted at a safe distance from the work area.
- If the SSO determines that evacuation is necessary, all personnel will assemble in the Support Zone and be accounted for at that time.
- The SSO has the authority to commit resources as needed to contain and control released material and to prevent its spread to off site areas.

11.3 SAFETY SIGNALS

Vehicle, tractor, or portable horns will be used for safety signals as follows:

- 1 Long Blast: Emergency evacuation
- 2 Long Blasts: Clear working area around powered or moving equipment

11.4 MEDICAL EMERGENCY

Paramedics will be summoned without delay in the event of a medical emergency. The emergency coordinator will stay on the line with the 911 operator until the operator hangs up. If an individual is injured and is ambulatory or not in critical condition, they can be driven to the nearest hospital. The directions to the hospital are as follows:

Go south on Karwick Rd, which will turn into Warnke Rd after left-hand bend in road. Proceed east on Warnke Rd and take first right hand turn – this is also Warnke Rd. (there will to two options travel down Warnke Rd, east and south - go south). Proceed south on Warnke Rd to US-35. Turn right onto US-35 N---proceed northwest –US-35 N becomes US-12. Turn left onto US-421 S – US-421 S becomes Washington St. Proceed on US-421 S/Washington St, which becomes US-421 S. Turn right on US-421/Franklin St. Proceed on US-421/Franklin St to W Homer St. Turn right onto W Homer St and proceed to hospital and follow the hospital signs.

11.5 REPORTING INJURIES AND ILLNESSES

Personnel will immediately report all injuries and illnesses as soon as possible to the SSO or FOL. The SSO or FOL will immediately contact the Project Manager as soon as the situation has been stabilized, and will submit a *Report of Injury* to the Project Manager within 24 hours of the occurrence. If there is any indication that an injury or illness is work-related, the SSO or FOL will also submit a *Report of Injury* to the Project Manager within 24 hours after being notified by the person.

12.0 SANITATION

This section describes the sanitation procedures to be followed.

12.1 POTABLE WATER

An adequate supply of potable water shall be provided on the site. Portable containers used to dispense drinking water shall be capable of being tightly closed and equipped with a tap. Disposable cups will be supplied. A sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

12.2 NON-POTABLE WATER

There are no outlets for non-potable water on the former Karwick Road Landfill site. Therefore, there shall be no cross connection (open or potential) between potable and non-potable water systems.

12.3 TOILET FACILITIES

Personnel will use the toilet facilities at another location off site.

12.4 FOOD HANDLING

With the exception of Gatorade and water, food will only be stored and consumed in designated areas outside of the exclusion and contaminant reduction zones. The SSO will designate areas for dispensing of Gatorade and water.

13.0 CONFINED SPACE ENTRY

Confined space entry will not be required for this project. If it is determined to be necessary during the project, an addendum to this HASP will be prepared that will specify the confined-space entry procedures. No confined space entry will be done until the addendum is completed, personnel have been properly trained and briefed on the work scope and confined space entry procedures, appropriate ambient air measurements are completed within the confined space, and a confined space entry permit is obtained.

14.0 SPILL CONTAINMENT PROGRAM

No spills of hazardous materials are expected to occur during the site activities based on the project scope not involving the handling of significant quantities of hazardous materials that would require reporting. The emergency contacts listed in Section 11 of this document are to be notified at the earliest safe opportunity if such a situation occurs.

15.0 COMPLIANCE CERTIFICATION

All visitors and personnel performing field activities must review and acknowledge that they understand and agree to comply with the HASP. Each individual must acknowledge this by signing the *Health and Safety Plan Acknowledgment* sign-off sheet to be provided to each person. Subcontractors must certify that their employees assigned to the site activities are properly trained and have medical clearance by signing a *Contractor Certification* before starting work on the project.

A copy of the *Contractor Certification* as well as a *Site Health and Safety Plan Acknowledgment* sign-off sheet is included in Appendix A.

APPENDIX B

EXPOSURE GUIDELINES

EXPOSURE GUIDELINES

The following are exposure guidelines for selected chemicals that may be encountered in soils and/or groundwater at the site.

Acetone PEL:

OSHA - 1000 ppm
NIOSH - 250 ppm
IDLH - 2,500 ppm (10% LEL)

Benzene PEL:

OSHA – 1 ppm
NIOSH – Ca 0.1 ppm
IDLH – Ca 500 ppm

2-Butanone (MEK) PEL:

OSHA – 200 ppm
NIOSH – 200 ppm
IDLH – 3,000 ppm

1,1-Dichloroethane PEL:

OSHA – 100 ppm
NIOSH – 100 ppm
IDLH – 3,000 ppm

1,1-Dichloroethene PEL:

OSHA – NA
NIOSH – NA
IDLH - NA

1,2-Dichloroethene (total) PEL:

OSHA - 200 ppm
NIOSH - 200 ppm
IDLH - 1,000 ppm

Ethylbenzene PEL:

OSHA - 100 ppm skin
NIOSH - 100 ppm
IDLH - 800 ppm

Methylene Chloride PEL:

OSHA – 25 ppm
NIOSH – Ca
IDLH – Ca 2,300 PPM

Naphthalene PEL:

OSHA – 10 ppm
NIOSH – 10 ppm
IDLH – 250 ppm

Tetrachloroethene (PCE) PEL:

OSHA - 100 ppm
- C 200 ppm
- 300 ppm (5-min. max peak in any 3 hrs)
NIOSH - Ca
IDLH - Ca 150 ppm

Toluene PEL:

OSHA – 200 ppm
- C 300 ppm
- 500 ppm (10-min max peak)
NIOSH – 100 ppm
IDLH – 500 ppm

1,1,1-Trichloroethane PEL:

OSHA - NA
ACGIH - NA
IDLH - NA

1,1,2-Trichloroethane PEL:

OSHA – 10 ppm (skin)
NIOSH – Ca 10 ppm (skin)
IDLH – Ca 100 ppm

Trichloroethylene PEL:

OSHA - 100 ppm
- C 200 ppm
NIOSH - Ca
IDLH - Ca 1,000 ppm

1,2,3-Trimethylbenzene; 1,2,4-Trimethylbenzene; and 1,3,5-Trimethylbenzene PEL:
OSHA – none
NIOSH – 25 ppm
IDLH - NA

o-Xylene PEL:

OSHA - 100 ppm
NIOSH - 100 ppm
IDLH - 900 ppm

m-Xylene PEL:

OSHA – 100 ppm
NIOSH – 100 ppm
IDLH – 900 ppm

p-Xylene PEL:

OSHA – 100 ppm
NIOSH – 100 ppm
IDLH – 900 ppm

Notes:
Unless other wise noted, OSHA PEL values are time-weighted average (TWA) concentrations that must not be exceeded during any 8-hour work shift of a 40-hour work week.

NIOSH PEL values are time-weighted average (TWA) concentrations that must not be exceeded during any 10-hour work shift of a 40-hour work week.

A short-term exposure limit (STEL) is a 15-minute TWA exposure that should not be exceeded at any time during the work day.

C = A ceiling value that should not be exceeded at any time during the work day.

Ca = A suspected or known carcinogen. A PEL value may not be available.

NA = No value available.

Rec'd 5/13/0

Work described occurred prior to grant to Wickert & APP

APT

April 2002

SAMPLING AND ANALYSIS PLAN

Karwick Road Landfill Site
Michigan City, Indiana

Prepared for:
Michigan City Parks & Recreation Department
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 312-01

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Figure 1 Site Location Map

Figure 2 Site Map

1.0 INTRODUCTION

The purpose of this Sampling and Analysis Plan (SAP) is to establish sampling and analysis procedures associated with a site investigation at the former Karwick Road Landfill site consistent with the Indiana Department of Environmental Management (IDEM) – Voluntary Remediation Program (VRP) *Resource Guide*, dated July 1996. The sampling and analysis procedures are required to determine the extent of potential soil and groundwater impacts at the former Karwick Road Landfill site. Additionally, investigative activities conducted within the potentially impacted areas may be used to determine remedial action alternatives, if necessary.

Site investigation activities associated with the project have already occurred at the site, prior to development of this SAP. However, these activities were performed in accordance with VRP guidance and with the procedures described in this SAP. Additionally, this SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples during any subsequent investigatory activities at the facility.

This SAP includes discussion of equipment and materials, sampling procedures, chain-of-custody and field documentation procedures, target monitoring parameters, field measurement procedures, decontamination procedures, and quality assurance procedures. Information presented in the text of this SAP include, but are not limited to, sampling procedures, analytical methods, sample containers, sample preservation, holding times, and chain-of-custody procedures, specific to the former Karwick Road Landfill site in Michigan City, Indiana.

2.0 FACILITY LOCATION AND BACKGROUND

The former Karwick Road Landfill site is located on Karwick Road near the intersection of Warnke Road in Michigan City, Indiana (Figure 1). The site consists of approximately 23.5 acres, contains no buildings or structures, and is largely overgrown with weeds and small trees. The property is bounded on the north and south by rail lines, on the east by Karwick Road, and on the west by a creek (Figure 2). The site has not been used for landfill purposes since the 1960s, and is currently vacant unused property.

A Phase I Environmental Site Assessment (ESA) conducted at the site by APT, Limited (APT) in March 2002 identified two potential recognized environmental conditions (RECs) associated with the property. These are identified as follows:

- REC-1: Buried Waste – The entire site was used as a municipal landfill. There is no available history of the types of waste accepted at the landfill. Information received from Michigan City personnel indicate that the landfill was used primarily to dispose of household waste. However, partially buried drums observed at the time of the site walk-through indicate that all types of waste may have been received at the facility. Therefore, the buried waste represents an REC.
- REC-2: Site-Wide Groundwater Issues – Due to the dates of operations at the facility and lack of information regarding management practices, the possibility of buried chemicals and the resulting leachate which may have affected the groundwater quality at the facility cannot be mitigated. Therefore site-wide groundwater represents an REC.

3.0 GENERAL INFORMATION

The area to be investigated is the former Karwick Road Landfill site and environs. Soil and groundwater samples were collected by APT personnel during the site investigation activities in July 2001 through March 2002, prior to development of this SAP. Although site investigation activities associated with the project have already occurred at the site prior to development of this SAP, these activities were performed in accordance with VRP guidance and with the procedures described in this SAP. Additionally, this SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples during any subsequent investigatory activities at the facility.

Sampling has not and will not be conducted during inclement weather, with inclement weather defined as weather that may impair the integrity of the samples. A copy of the SAP will accompany the sampling team during each sampling event.

All soil and groundwater samples were and will be analyzed by Pace Analytical of Indianapolis, Indiana (Pace), with the analyses performed in accordance with the most recent edition of the EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Pace's quality assurance plan (QAP) is included as Appendix D of the multi-site *Quality Assurance Project Plan* (APT, April 2002), which has been developed as a separate document.

QAPP received by G. Reed on 4/22/02

4.0 EQUIPMENT AND MATERIALS REQUIRED

The following is a listing of sampling equipment that is planned on being used during the investigative soil and groundwater sampling:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- A push-probe that utilizes a macro-core sampler consisting of a 4-foot by 2-inch steel tube fitted with a new, clean acetate liner;
- Clean replacement acetate liners for the macro-core samplers;
- Truck-mounted drill rig with steel alloy hollow-stem augers and drill rods;
- A continuous soil sampler consisting of a 2-foot by 2-inch steel tube advanced before the lead hollow-stem auger;
- A scale suitable for use in the field capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An Organic Vapor Meter (OVM) with 100 parts per million by volume (ppmv) isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- For groundwater elevation measurement, a Slope Indicator Company Water Level Indicator, graduated in hundredths of a foot;
- A portable pH/ORP/°C/µS Watertest meter suitable for use in the field. Manufacturer – Hanna Instruments and related calibration solutions;
- Dedicated, disposable, polyethylene bailer and string;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves (enough for each sampling team member to wear a fresh pair for each sample interval or each well);
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment as needed;
- Insulated coolers, capable of maintaining samples at 4 degrees Celsius, for transporting the samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);

- Plastic sheeting, paper towels, garbage bags, indelible ink pen, etc.; and
- A copy of the QAPP on site with the samplers.

Sampling equipment will not be allowed to come in contact with the ground or any object that might provide a source of contamination once it has been decontaminated.

5.0 EQUIPMENT INSPECTION AND CALIBRATION

Equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the manufacturer's specification. In order to insure and maintain operational condition of the sampling and monitoring equipment to be used during field activities, sampling equipment inspection, and calibration procedures will be followed during site activities. In addition, an outline of procedures for using and changing gloves to ensure sample integrity during sample collection has also been included.

Field equipment have established standard preventative maintenance plans. This includes decontamination of field analytical equipment, including the OVM, Watertest meter, and survey instrumentation. All scheduled and unscheduled maintenance will be recorded in the field notebook.

5.1 EQUIPMENT INSPECTION

Equipment to be used during the field sampling will be examined prior to use to certify that it is in operating condition. This includes checking the manufacturer's operating manual and the instructions for each instrument to ensure that maintenance requirements are being observed. Field notes from previous sampling trips will be reviewed so that the notation on any prior equipment problems are not overlooked, and all necessary repairs to equipment have been carried out.

Sampling equipment will be inspected at least one (1) week prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in the inspection. The copy of the list will be used to document the inspection.

The groundwater monitoring wells will be inspected during each groundwater sampling event for any signs of deterioration or other problems (e.g., rusted or broken locks, crumbling or cracked surface pad, missing well cap, standing water). The condition of each monitoring well will be documented in the Field Logbook.

The hollow-stem continuous sampler and hydraulic push-probe soil sampling equipment will be inspected in the field prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in each inspection. Any problem or concern related to the condition of the equipment will be corrected prior to performance of field activities. Hollow stem drilling and push-probe equipment will be provided and operated by Top Flight Environmental Drilling of Osceola, Indiana under the direction of APT.

5.2 EQUIPMENT CALIBRATION

Calibration of field instruments is governed by the specific standard operating procedure (SOP) for the applicable field analysis method, and such procedures take precedence over the following general discussion. Additional calibrations will be performed in the event of suspected equipment malfunction.

Calibration of field instruments will be performed at least twice daily, at the beginning and end of every workday, unless the manufacturer specifies more frequent intervals. Equipment calibration will occur more frequently as conditions dictate. Field instruments will include a portable OVM and a Watertest meter. In the event that an internally calibrated field instrument fails to meet calibration/checkout procedures, it will be replaced or repaired before being used.

The OVM instrument will be calibrated in the field at the beginning and end of each day of sampling using a 100 ppmv isobutylene calibration gas. Acceptable results of the OVM verification check should be plus or minus 10 percent of the true value of the calibration gas. The OVM instrument will be recalibrated if the result of the verification check is outside of acceptable limits and as necessary in response to any malfunction or anomalous behavior of the instrument. Equipment calibration will be performed to manufacturers' instructions. If equipment malfunction is suspected and calibration failure occurs, equipment will be removed from service and substitute equipment obtained. Documentation of field calibration of the OVM instrument will be recorded in the Field Logbook.

The scale used to weigh the sample will be zeroed by placing a clean calibration mass on the scale and calibration of the scale will continue following the manufacturer instructions.

The Watertest meter will be calibrated in the field at the beginning and end of each day of sampling. Re-calibration will be conducted as necessary in response to any instrument malfunction or anomalous behavior of the instrument. Equipment calibration will be performed according to manufacturer instructions. Documentation of field calibration of the pH, specific conductivity, and temperature meter will be recorded in the Field Logbook.

6.0 TARGET PARAMETERS/ANALYTICAL METHODS

Since the site was used as a municipal landfill and there is no available documentation regarding the exact types of waste accepted at the landfill, the constituents of concern (COCs) encompass a wide range of analytes, including VOCs, semi-volatile organic compounds (SVOCs), and priority pollutant (PPL) metals.

Soil and groundwater samples were collected by APT personnel during the site investigation activities in July 2001 through March 2002, prior to development of this SAP. Although site investigation activities associated with the project have already occurred at the site prior to development of this SAP, these activities were performed in accordance with VRP guidance and with the procedures described in this SAP. Additionally, this SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples during any subsequent investigatory activities at the facility.

Groundwater screening samples were collected from Geoprobe soil borings in July 2001 and groundwater investigative samples were collected in March 2002 from monitoring wells installed at the site. No soil sampling was planned unless there were gross indications of impact while drilling based on OVM or visual observations. In the event that there was evidence of impact, soil samples were to be collected for possible analysis and the City contacted with regard to whether analysis should be performed. One soil sample was collected during the July 2001 phase of the investigation and analyzed for VOCs using Method 8260. No other soil samples have been collected for laboratory analysis. Eight groundwater screening samples (DQO Level 1) and seven investigatory groundwater samples (DQO Level 3) were collected at the site in July 2001 and March 2002, respectively. All groundwater samples were analyzed for VOCs, SVOCs, and PPL metals by SW-846 Methods 8260, 8270, and 6010/7471, respectively.

Future groundwater (and soil, if warranted) samples will be analyzed for:

- VOCs by SW-846 Method 8260;
- SVOCs by SW-846 Method 8270 (base/neutrals/acids); and
- PPL metals by SW-846 Methods 6010 and 7471 (mercury).

In future investigation activities, soil samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. If no soil sample analyses are to be performed, the collected soil sample(s) will be discarded.

Further details pertaining to laboratory methods and data quality objectives are presented in the laboratory's QAP, which is included as Appendix D of the multi-site QAPP (APT, April 2002).

7.0 USE OF GLOVES

Any personnel handling the equipment or performing sampling will wear a new pair of clean latex, nitrile, or vinyl gloves if the potential exists for contact with the soil or groundwater sample, or any surface that may come in contact with the sample. Gloves must be discarded after each sample interval and replaced with new, clean gloves prior to proceeding to the next sample interval. Gloves will be collected with other personal protection equipment (PPE), containerized in a labeled 55-gallon drum, and characterized for appropriate disposal. Characterization of PPE will rely on the laboratory results of the soil samples tested. Sampling equipment and the samples themselves will not be allowed to come in contact with any object that might provide a source of contamination.

8.0 SOIL SAMPLING

Soil and groundwater samples were collected by APT personnel during the site investigation activities in July 2001 through March 2002, prior to development of this SAP. During the July 2001 phase of the site investigation, soil boring was advanced using a Geoprobe drilling unit, which utilizes a hydraulic percussion method to advance a push-probe sampler. Continuous soil cores were collected in order to characterize the subsurface, and a single soil sample was collected for laboratory analysis as described in Section 8.1 of this document. Seven monitoring wells were installed at the site in December 2001. These wells were installed using a track-mounted drilling rig equipped with hollow stem augers. Although continuous soil cores were collected for subsurface characterization, no soil samples were collected for laboratory analysis due to a lack of apparent impact.

Although site investigation activities associated with the project have already occurred at the site prior to development of this SAP, these activities were performed in accordance with VRP guidance and with the procedures described in this SAP. Additionally, this SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples during any subsequent investigatory activities at the facility.

In future investigation phases, each soil boring will be advanced using either a Geoprobe drilling unit, which utilizes a hydraulic percussion method to advance a push-probe sampler, or a truck-mounted drilling rig equipped with hollow stem augers and split-spoon samplers, depending on logistical concerns and site conditions. Continuous soil cores will be collected in order to characterize the subsurface according to the procedure outlined in Sections 8.2 or 8.3 of this SAP, as applicable.

APT anticipates that no soil samples will be collected for laboratory analysis, since the media of concern for this project is groundwater and there are no discrete areas of the site suspected of having vadose zone impacts. However, continuous soil cores will be collected while drilling to characterize the subsurface. These soil cores will be field screened for volatile contaminants using a portable OVM. In the event that there is evidence of impact based on OVM or visual observations, soil samples will be collected for possible analysis and the City will be contacted with regard to whether analysis should be performed. Soil samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. Soil samples to be analyzed for other parameters will be stored in appropriate containers supplied by the laboratory. If no soil sample analyses are to be performed, the collected soil sample(s) will be discarded

Soil samples collected for laboratory analysis (if any) will follow the VRP's DQO's for site investigation sampling (*i.e.*, Level 3 DQOs). If soil sampling occurs, the soil sample will be collected from the interval exhibiting the highest degree of apparent impact based on OVM readings or visual observations. In the event that soil samples are collected for laboratory

analysis, it will be done in accordance to the procedure described in the following sections. The laboratory will analyze any soil samples for the analytical parameters specified in Section 6.0 of this *Sampling and Analysis Plan*.

8.1 SAMPLE LOCATIONS

prior to April

Eight Geoprobe borings were advanced during July 2001 for the purpose of collecting groundwater screening samples. All borings were advanced to a depth of approximately one to two feet into the zone of saturation, which occurred at depths ranging from seven to more than ten feet below the ground surface (BGS). These locations were selected to obtain groundwater quality information at widely spaced locations across the site, including two borings (GB—6 and GB-4) adjacent to relatively deep geotechnical investigation boring locations (B-1 and B-2, respectively) advanced by Great lakes Engineering and Testing, Inc. in late 2000. One soil sample was collected, from a depth of eight feet BGS in GB-03, based on OVM readings and visual evidence of impact. Upon approval from the City, this soil sample was submitted to the laboratory for VOC, SVOC, and PPL metals analyses by SW-846 Methods 8260, 8270, and 6010/7471. None of the remaining soil borings exhibited any signs of impact, thus no additional soil samples were collected.

Additionally, seven monitoring wells were installed at the site during December 2001 in order to characterize groundwater quality. No soil samples were collected from any of the monitoring well borings for laboratory analysis as there was no evidence of impact in any of the borings.

The Geoprobe soil boring and monitoring well locations are shown in Figure 2. No additional site investigation activity is proposed as of April 2002.

8.2 PUSH-PROBE SOIL SAMPLING EQUIPMENT AND PROCEDURE

The hydraulic push-probe sampler operates by advancing a string of 1-inch-diameter threaded steel alloy rods with the aid of a hydraulic ram. The push probe is capable of exerting 18,000 pounds of force and uses a hydraulic hammer attachment to advance the rods through dense or hard materials.

A macro-core sampler will be used to continuously obtain soil samples. The macro-core sampler is a hollow steel tube measuring 4 feet in length and fitted with an acetate insert. The macro-core sampler is capable of recovering a soil core up to 48 inches long and 1.5 inches in diameter. Sampling procedures to be implemented during investigative activities are discussed below.

The following procedure will be followed when sampling using this technique:

1. The truck-mounted push-probe rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. Push-probe equipment will be set up and the decontaminated macro-core sampler advanced to the desired depth using the hydraulic ram and hammer; each core will be

taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the soil sample contained within the acetate liner is removed from the sampler for inspection.

3. The acetate liner will be cut open using a decontaminated liner cutter for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
5. Soil samples will be collected from a pre-determined depth or based on OVM and visual observations, as applicable.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
8. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP. The collected soil samples will be analyzed for the COCs listed in Section 6.0 of this SAP.
9. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

8.3 HOLLOW-STEM AUGER SOIL SAMPLING EQUIPMENT AND PROCEDURE

A mobile rig equipped with hollow-stem augers operates by continuously advancing ahead of the auger bit a two-foot long, 2-inch diameter split-spoon sampler attached on the bottom of 2-inch diameter steel alloy drill rods. The split-spoon sampler is a split hollow steel tube measuring two feet in length. The split-spoon sampler is advanced by repeatedly dropping a "hammer" a fixed distance onto the drive head of the sampling chain until it has been advanced an incremental distance of two feet.

Continuous soil cores will be retrieved from the monitoring well borings to geologically and chemically characterize the soils and observe the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

1. The drill rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for the location change, will be documented in the Field Logbook.
2. The drilling equipment will be set up and a decontaminated two-foot long, 2-inch diameter split-spoon sampler will be advanced ahead of the auger bit in accordance with ASTM Standard Method D1586-84; each sample core will be taken with a vertical orientation. After being advanced to the desired sampling depth, the sampler will be withdrawn and the soil core removed for inspection.
3. The soil core will be placed on clean plastic sheeting and opened by splitting the sampler in half for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form. Although no soil samples are proposed to be collected from monitoring well borings, soil sample may be retained for possible laboratory analysis based on the OVM readings or visual evidence of impact. Samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. The MCEDC will be contacted with regard to whether analysis should be performed. If not, the collected soil sample will be discarded
5. If the sample is to be submitted to the laboratory for analyses, a sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier as discussed in Section 14 of this SAP.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. The auger chain is then advanced to the bottom depth of the split-spoon sampler and the process repeated until the total depth of the boring is reached.
8. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14.

Following completion of each boring, the open borehole will be properly abandoned by filling it with bentonite or grout.

9.0 GROUNDWATER SAMPLING

Groundwater screening samples were collected from each of the eight Geoprobe borings in July 2001 for laboratory analysis consistent with VRP DQOs for screening (*i.e.,* Level 1 DQOs). Additionally, groundwater samples were collected from each of the seven monitoring wells in March 2002 consistent with VRP DQOs for nature & extent investigation sampling (*i.e.,* Level 3 DQOs). The locations of the soil borings ("GB") and monitoring wells ("MW") are shown in Figure 2.

The purpose of the July 2001 groundwater screening sampling was to evaluate the groundwater quality at more or less widely spaced random locations across the site. The purpose of the March 2002 groundwater nature & extent sampling and analysis was to obtain and analyze representative groundwater samples to determine to what extent, if any, VOC, SVOCs, and PPL metal impacts may be impacting Trail Creek, an environmentally sensitive area that traverses the property, as well as evaluate the potential for groundwater impacts from upgradient sources.

This section lists the procedures to be followed so that any qualified individual can obtain representative groundwater samples from the soil borings and monitoring wells. The laboratory will analyze groundwater samples for the analytical parameters specified in Section 6.0 of this *Sampling and Analysis Plan.*

9.1 GROUNDWATER SCREENING SAMPLING

Future assessment work scopes may include taking groundwater screening samples from soil borings. The following procedure will be followed when collecting groundwater screening samples:

1. The boring will be advanced to a depth of three to five feet below the static water level as indicated by saturated conditions encountered while drilling, following the procedure outlined in Section 8.0 of this SAP.
2. Static water elevations will be allowed to equilibrate for ten minutes.
3. Prior to collecting a groundwater sample from a Geoprobe soil boring, a minimum of three well casing volumes of water will be purged from the borehole. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the boring and multiplying the difference by 0.064 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. Up to two additional well casing volumes of water, following the initial three well volumes, will be purged from a borehole if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: ± 0.1 standard units;
    - temperature: ± 0.5°C; and
    - specific conductivity: ± 10 percent.

Purge water will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated an labeled 55-gallon drum for disposal at a later date;

4. A length of decontaminated polyethylene tubing equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater;

5. The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass or plastic sample containers. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice; and

6. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14. Groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

9.2 BASELINE GROUNDWATER ASSESSMENT SAMPLING

In order to characterize the groundwater quality at the former Karwick Road Landfill site, seven monitoring wells have been installed at the locations shown on Figure 2. Additional monitoring wells may be warranted in future phases of site investigation activity. The locations of additional monitoring wells, if warranted, will be based on the results of the existing soil and groundwater data, future screening data, and site conditions. The monitoring wells will be located such they are adequate to evaluate site-wide groundwater with regard to the potential for impact.

All monitoring well borings are anticipated to be advanced to a depth of approximately five feet into the zone of saturation, estimated to occur at a depth of 10 to 20 feet BGS depending on the location within the site. Continuous soil cores will be retrieved from the monitoring well borings to geologically and chemically characterize the soils and observe the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

1. The drill rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for the location change, will be documented in the Field Logbook.

2. The drilling equipment will be set up and a decontaminated two-foot long, 2-inch diameter split-spoon sampler will be advanced ahead of the auger bit in accordance with ASTM Standard Method D1586-84; each sample core will be taken with a vertical orientation. After being advanced to the desired sampling depth, the sampler will be withdrawn and the soil core removed for inspection.

3. The soil core will be placed on clean plastic sheeting and opened by splitting the sampler in half for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form. Although no soil samples are proposed to be collected from monitoring well borings, soil samples may be retained for possible laboratory analysis based on the OVM readings or visual evidence of impact. Samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. The MCEDC will be contacted with regard to whether analysis should be performed. If not, the collected soil sample will be discarded
5. If the sample is to be submitted to the laboratory for analyses, a sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier as discussed in Section 14 of this SAP.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. The auger chain is then advanced to the bottom depth of the split-spoon sampler and the process repeated until the total depth of the boring is reached.
8. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14.
9. Following completion of each boring, a monitoring well will be constructed per the procedure outlined in Section 9.2.1 of this SAP.
10. Following installation, each monitoring well will be developed using the procedure described in Section 9.2.3 of this SAP.
11. No sooner than 24 hours following installation and development of the monitoring wells, one round of groundwater samples will be collected from all of the wells to provide a baseline for site-wide groundwater quality. Groundwater samples from the monitoring wells will be analyzed for VOCs, SVOCs, and PPL metals using Method 8260, Method 8270, and Methods 6010 and 7471 respectively. QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinsate blank per day, one MS/MSD per 20 investigative samples, and one trip blank per sample shipping container.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Soil sampling

equipment will be decontaminated between soil cores using non-phosphate detergent and distilled water.

9.2.1 Monitoring Well Installation Procedure

The following procedure will be followed when installing monitoring wells:

1. The monitoring well borehole will be advanced to its total planned depth using a mobile drilling rig equipped with 4-1/4 inch hollow stem augers. The wellbore will be terminated upon reaching a depth sufficient to install a five-foot long screen across the static water level of the uppermost water bearing zone. This will allow for the detection of possible light non-aqueous phase liquids (LNAPL) under a range of groundwater elevation fluctuations. Continuous coring will be performed using a two-foot long split-sampling device driven ahead of the auger chain in order to characterize the subsurface geology. These cores will also be field screened for volatile compounds using an OVM;
2. The monitoring well will be installed inside of the auger chain using a five-foot long slotted screen and five-foot long sections of flush-threaded 2-inch PVC. The monitoring well will be equipped with a flush mount casing, unless it is located in an area of no vehicular traffic where the monitoring well will be of stick-up design;
3. A filter pack of appropriately sized material will be placed from the bottom of the wellbore to two feet above the top of the screen. The filter pack will not extend more than two feet above the top of the well screen;
4. An annular seal of bentonite shall be installed above the filter pack and will have a minimum thickness of two feet;
5. A annular seal of bentonite or grout (if the bentonite does not extend upward through the remaining annular space to the base of the concrete surface seal) shall be installed above the bentonite seal and will extend upward to the base of the concrete surface seal;
6. A concrete surface seal will be installed and will be anchored to soils below the regional frost line to protect the well from damage due to frost heave;
7. A concrete pad will be installed around the monitoring well and will be sloped away from the well casing to deflect surface water away from the well; and
8. The newly installed monitoring well will be surveyed to a vertical accuracy of 0.01 feet and a horizontal accuracy of 1.0 feet, relative to a permanent on-site benchmark.
9. A well construction diagram will be completed for each monitoring well, providing pertinent information regarding the well.

The filter pack, annular seal, and grouting materials shall be installed through the center of the hollow-stem auger chain as the drill string is withdrawn. Filter pack materials and bentonite chips or pellets will be introduced gradually and uniformly to the annular space inside of the hollow-stem auger chain and around the well casing to prevent bridging of the materials during placement. The auger chain will be gradually removed from the open borehole in approximately one-foot lifts as the material is placed, allowing the material to gradually spill out of the bottom

of the auger chain into the annular space between the subsurface soils and the well casing and thus further prevent bridging. Any grouting will occur under pressure with the annulus sealed from the bottom up via the tremie method.

9.2.2 Measurement of Static Groundwater Elevations

Prior to purging the wells when sampling, the depth to water will be determined by utilizing a decontaminated electronic water level indicator with a weighted probe. Upon opening each well (i.e., removing the sealed cap), the water elevations will be gauged repeatedly and the measured elevations recorded in the field logbook. When the trends of at least three consecutive measurements are within 0.01 feet of one another the well will be considered to have equilibrated. Upon reaching apparent equilibrium, the monitoring well will be allowed to equilibrate for an additional five minute time period as a safety factor.

Measurements will then be taken using an electronic water level indicator, to an accuracy of 0.01 feet. The reference point for the measurement is a mark at the top of the well casing. The elevations of these reference points will be surveyed relative to a permanent local benchmark. The elevation of the groundwater in each well will be determined by subtracting the depth-to-water measurement from the measuring point elevation. All survey and water elevation measurements will be recorded in the Field Logbook.

9.2.3 Monitoring Well Purging and Sampling Procedure

The following procedure will be followed when sampling groundwater from monitoring wells:

1. The sampler will don new, clean, disposable, latex sampling gloves when performing sampling activities at each well location.
2. Prior to collecting a groundwater sample from a monitoring well, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the well and multiplying the difference by 0.163 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. A maximum of five well volumes will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: $\pm$ 0.1 standard units;
    - temperature: $\pm$ 0.5°C; and
    - specific conductivity: $\pm$ 10 percent.

    Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated and labeled 55-gallon drum for disposal at a later date;

3. A dedicated polyethylene bailer equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater. The sampling bailer will be lowered into the well gently to reduce agitation and aeration of the water sample;
4. The bailer will be removed from the well and the sample containers filled. Groundwater samples will be transferred directly from the sampling bailer to laboratory supplied, pre-preserved sample containers. Samples for VOCs will be filled such that there is no headspace in the sample container. Excess sample will be poured into the drum containing purge water. The following sampling order will be followed:
    - VOCs;
    - SVOCs; and
    - PPL metals.
5. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice.
6. Upon completion of the sampling activity at each well, the cap will be replaced and the well locked.

Sample bottles, analytical methods, preservatives, and holding times are specified in the following sections of this SAP and in Table 1. Three 40-ml vials, pre-preserved with HCl at the laboratory; two 1-L amber bottles; and one 150-mL plastic bottle, pre-preserved with HNO_3 at the laboratory will be used as the sampling containers for samples to be analyzed for VOCs, SVOCs, and metals, respectively. It is desirable to label all the bottles prior to sampling or to pre-label a complete set of bottles for a well prior to sampling the well.

Dedicated bailers and twine will be used to purge/sample each well; bailers or twine will not be re-used.

10.0 QA/QC SAMPLES

The VRP guidance (IDEM, July 1996) identifies four types of quality control samples to be collected in the field: trip blanks, equipment rinsate or field blanks, duplicates, and matrix spike/matrix spike duplicates. Trip blanks are used to document volatile organic contamination attributable to shipping and field handling procedures. Equipment rinsate blanks are obtained from sampling equipment, which has been decontaminated to document the effectiveness of decontamination procedures. The detection of analytes in the equipment rinsate blank indicates possible cross-contamination between sample locations and determines that either ineffective or incomplete decontamination has been performed on equipment from which the equipment rinsate blank was collected. Duplicate samples are used to assess the representativeness (sampling variability) of field sampling procedures. Matrix spike/matrix spike duplicates are used to assess the effect the sample matrix has on the accuracy of the result.

10.1 TRIP BLANKS

To document the absence of VOC contamination attributable to shipping and field handling procedures associated with aqueous samples, a water sample of analyte-free media is prepared by the laboratory, transported to the sampling site, and returned to the laboratory unopened. The trip blank (which is pre-preserved and will remain sealed) is transported to the laboratory along with the investigative samples, and analyzed for VOCs. A minimum of one trip blank will be analyzed per shipping container containing aqueous samples.

Additionally, a methanol blank will be submitted to the laboratory for analysis associated with the soil sampling activities for VOC analysis (Method IN5035). A minimum of one methanol blank will be analyzed per shipping container containing soil samples to be analyzed for VOCs.

10.2 EQUIPMENT RINSATE/FIELD BLANKS

As a check on equipment decontamination procedures, equipment/field blanks will be prepared from each type of soil sampling device used to collect solid media. The equipment/field blank will be prepared by pouring a sufficient volume of deionized water over all of the sampling equipment used to collect samples in the sampling event (*e.g.*, the split-spoon sampler and any utensils used for soil sampling, or the water level meter and any other equipment or utensils coming in contact with groundwater samples).

The equipment blank will be collected in the appropriate sample containers, preserved, transported, and analyzed in the exact manner as the assessment samples. A minimum of one equipment/field blank will be collected and analyzed per ten investigative samples, with no less than one per day of sampling. For this project, it is estimated that one equipment/field blank will be collected during the soil and groundwater screening assessment, and one equipment blank will be collected during the baseline groundwater assessment.

10.3 DUPLICATES

One field duplicate will be collected for the groundwater screening assessment and for the baseline groundwater assessment to establish the representativeness of field sampling procedures. The duplicate sample will be prepared by dividing the soil or groundwater sample into two approximately equal portions, one of which is the duplicate sample. The sample and duplicate sample will be filled successively from a selected soil sample. Additional sample volumes will be collected and split as needed to fill the two (investigative and duplicate) sample containers. The sample bottles for one parameter (e.g., VOCs) will be filled before proceeding to the next parameter or sampling interval. The duplicate sample is placed in the appropriate container using the same procedure as for investigative samples, and subjected to the same analyses as the investigative sample.

A minimum of one duplicate will be collected and analyzed per ten investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one duplicate soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater duplicate will be collected during the baseline groundwater assessment. No duplicate samples will be collected during the groundwater screening, consistent with a Level 1 DQO.

10.4 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

In order to document both the bias and the precision of a method in a given sample matrix, enough volume of one sample of each media will be collected to prepare a matrix spike (MS) and a matrix spike duplicate (MSD) each time samples are collected.

A minimum of one MS/MSD will be collected and analyzed per twenty investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one MS/MSD soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater MS/MSD will be collected during the baseline groundwater assessment. No MS/MSD samples will be collected during the groundwater screening, consistent with a Level 1 DQO. The selected soil or groundwater sample for matrix spike/matrix spike duplicate analysis will be divided into two more or less equal portions and placed in their respective sample bottles. Additional sample volumes will be collected and split as needed to fill the two sample containers.

11.0 DECONTAMINATION OF FIELD INSTRUMENTS

Only thoroughly decontaminated equipment will be used to collect samples during the investigative activities. If dedicated factory sealed bailers are used for groundwater sampling, no decontamination will be required for this equipment item. The hollow stem augers will be decontaminated using a pressurized steam cleaner to wash off all visible soil/residues.

The following decontamination procedures will be used for all other sampling equipment, including the hollow-stem auger continuous sampler, the push-probe sampling tools, the water level indicator, and any other non-disposable sampling equipment that might come in contact with the soil or groundwater samples. All such sampling equipment will be decontaminated using these procedures:

1. Prior to decontamination, all rods and sampling equipment will be completely disassembled to the extent feasible.
2. The decontamination procedure will consist of a three-step process which includes a thorough non-phosphate detergent "dirty wash" to remove the majority of the soil, followed by a non-phosphate "clean wash" and triple rinse with distilled water.
3. If visible soil or other residues remain, then procedure 2 will be followed again until all visible soil/residues have been removed from all sampling equipment.
4. The sampling equipment will then be subjected to a final rinse with distilled water.
5. Sampling equipment will be protected from contamination during field operations.

12.0 SAMPLE CONTAINERS AND PRESERVATION

All samples are to be transferred directly into the appropriate new sample containers provided by the laboratory. Only new, pre-preserved (as applicable) sample containers supplied by the analytical laboratory will be used. All sample containers will conform to the specifications of SW-846. The container will be filled with the appropriate amount of soil or water that is determined by the analytical method. The containers will be appropriately sized to contain a sufficient volume of sample for the required analysis. Container descriptions, preservation requirements, and holding times are presented in Table 1.

Soil samples that will be analyzed for VOCs will be stored in two 40-ml vials and one 4-ounce container. One of the 40-ml vials will be pre-preserved with methanol, and the remaining 40-ml vial and 4-ounce container will be non-preserved, consistent with IN-5035M. Soil samples that will be analyzed for SVOCs, PPL metals, and PCBs will be containerized in 4-ounce glass jars equipped with Teflon lined lids. Preservation will also include packing the samples in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

Groundwater samples, equipment blanks, and trip blanks that will be analyzed for VOCs (SW-846 Method 8260) will be stored in 40-mL vials pre-preserved at the laboratory with HCl. Groundwater and QA/QC samples that will be analyzed for SVOCs will be stored in1-liter amber bottles without preservative. Groundwater and QA/QC samples that will be analyzed for PPL metals will be stored in 500-ml plastic bottles pre-preserved at the laboratory with HNO_3. All samples will be stored and shipped in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

13.0 PACKING AND SHIPMENT OF SAMPLES

The filled sample containers (both soil and groundwater) will be securely packed in an insulated cooler to avoid breakage during shipment. Ice will be placed in pouches such as Ziplock® baggies and packed with the samples in an insulated cooler to maintain the temperature of the samples at 4° C during shipment. All samples will be shipped to the laboratory via overnight courier. Each sample shipment will be accompanied by a chain-of-custody form, which will also identify the requested analyses. All necessary paperwork will be placed in a plastic, sealed bag inside the lid of each cooler and the cooler will be sealed with custody seals and covered by clear shipping tape. Shipping records will be maintained with chain-of-custody documentation.

The lid of each cooler will be sealed with two custody seals at opposite corners of the cooler, and covered by clean transparent shipping tape. The cooler will be sealed with clean shipping tape.

14.0 SAMPLE CUSTODY DOCUMENTATION/FIELD LOGBOOK

Chain-of-custody procedures will ensure proper documentation of possession and handling of samples from the time they are collected until analysis at the laboratory. Information provided to document chain-of-custody possession will include the APT Project number, signature of samplers, sample numbers, dates and times of collection, signatures of individuals involved in sample transfer, and the air bill or other shipping number.

Documentation and chain-of-custody procedures will include the following:

- Sample Identification.
- Sample Labels.
- Cooler Seals.
- Field Logbook.
- Chain-of-Custody Forms.

Chain-of-custody procedures to be followed by Pace after delivery of the samples are presented in the Laboratory QAP (Appendix D of the multi-site QAPP for this project).

14.1 SAMPLE IDENTIFICATION

Samples will be assigned a unique sample ID code. Sample nomenclature for the soil samples will consist of the soil boring identification number followed a semicolon and the depth below the ground surface (BGS) at which the soil sample is collected. For example, a soil sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *SB-1; 25'*.

Sample nomenclature for the groundwater samples will consist of the monitoring well identification number followed by a semicolon and the six-digit representation of the date on which the groundwater sample is collected. For example, a groundwater sample collected from monitoring well MW-1 on March 15, 2002 would be identified as *MW-1; 031502*.

Duplicate soil samples will be identified by the prefix "DUP" followed by a dash, a sequential integer to designate the duplicate number, semicolon, and the depth BGS. For example, the first duplicate soil sample collected during the project from a depth of 25 feet BGS in soil boring SB-1 would be identified as *DUP-1; 25'*. A second duplicate sample from another boring would be identified as *DUP-2; depth.* The soil boring that the duplicate was obtained from will be identified only in the field notebook in order to obtain a "blind" duplicate.

Duplicate groundwater samples will be identified by the prefix "DUP" followed by a dash, a sequential integer designating the duplicate sample number for that round of sampling, a semicolon, and the six-digit representation of the date. For example, a duplicate groundwater sample collected from monitoring well MW-1 on August 15, 2002 would be identified as *DUP-1; 031502*. If a second duplicate sample were collected on August 15, 2002 (*i.e.,* during the same

sampling event) from monitoring well MW-3, it would be identified as *DUP-2; 031502.* The monitoring wells from which the duplicate samples were collected would be identified only in the field notebook.

Trip blanks will be identified by the prefix "TB" followed by the six-digit representation of the date. For example, a trip blank collected on March 15, 2002 would be identified as *TB; 031502.*

Equipment rinsate blanks will be identified by the prefix "ER" followed by the six-digit representation of the date. For example, an equipment rinsate blank collected on March 15, 2002 would be identified as *ER; 031502.*

Matrix spike and matrix spike duplicates will be identified by the prefix "MS" and "MSD", respectively, followed by a dash, the soil boring name, a semicolon, and the depth BGS at which the sample was collected. For example, a matrix spike sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *MS/MSD-SB1; 25'.*

The corresponding sample identification number recorded in the Field Logbook will be used on the sample label and the chain-of-custody form for each sample for reference purposes. The correlation of sample designation to the sample number will be recorded in the Field Logbook.

14.2 SAMPLE LABELS

To identify the contents of each sample container, a sample label completed with a waterproof marker will be firmly attached to each sample container. Each sample label will be completed with the following information:

- Date of sampling;
- Sample ID number;
- Place of sampling (Karwick Road Landfill site);
- Type of preservative;
- Parameters to be analyzed; and
- Name(s), initials of the sampler(s).

The boring or monitoring well number will not be recorded on the sample label or the chain-of-custody of the duplicates so that the laboratory will not know which well these samples were taken from. The locations of the duplicates will be noted in the Field Logbook.

14.3 COOLER SEALS

In the event that the samples will change hands en route to the laboratory, such as when shipped via overnight courier, chain-of-custody seals will be affixed at opposite corners the lid of the cooler to ensure that the container has not been opened during shipment. For the purposes of this project, it is important to document the persons who have access to the samples and to confirm that the samples have not been exposed to undocumented conditions or persons which may

impact the integrity of the samples, thus impacting the results of the analytical tests. Two seals will be affixed to each shipping container and fastened so that the container cannot be opened without breaking at least one of the seals. The custody seals will be completed with the date of sealing and signature of the sampler. The cooler will also be further secured for shipment using clear shipping tape. The condition of the custody seal, as well as the name of the sampler and the sampling date, will be recorded in the Field Logbook. Upon arrival at the laboratory, the condition of the custody seals will be examined by laboratory personnel for signs of tampering during transit.

14.4 FIELD LOGBOOK

A bound Field Logbook, designated "Karwick Road Landfill – 312-01" will be used to record notes and observations during the closure activities. All entries into the Field Logbook will be made in permanent ink. Cross-outs, corrections, and additions to the entries will be initialed and dated. Ambient weather information will be recorded in the Field Logbook. This will include approximate temperature, wind velocity and direction, cloud cover, and precipitation information. The ground surface near the wellhead will be visually inspected for standing water or other soil conditions. These observations will also be recorded in the Field Logbook.

For sampling event: the site name and location, date, starting and ending times, weather, names of all people involved in sampling activities, level of personal protection used, documentation of adherence to protocol, any changes made to planned protocol, names of visitors to the site during sampling and reason for their visit, unusual observations, and signature of the person recording the information.

For each individual sample: a detailed description of location, any measurements made, the unique sample number assigned, the time the sample was taken, physical description of sample, depth from which sample was collected, whether grab or composite (if composite, how composited), equipment used to collect the sample, volume and number of sample containers, how sample is preserved, and initials of sampler. Each field duplicate must be given its own unique sample number; the description should include the unique sample number of its duplicate.

The field logbook will include comments regarding the following:

- Purpose of sampling event and identification of each sample location;
- General field observations;
- Name(s) of field personnel on site;
- Name(s) of site visitors;
- Climactic conditions - approximate temperature, wind speed and direction, and precipitation/cloud cover;
- Well maintenance and sampling information including:
  - Well stick-up; and
  - Problems noting well condition and maintenance.

- Sample procedure/equipment;
- Date and time of calibration of field-testing equipment;
- Equipment calibration (recorded each time the instruments are calibrated) and file data including:
  - Standards used;
  - Field meter identification;
  - Calibration results; and
  - Name of person who performed calibrations.
- Deviations, if any, from the SAP or QAPP;
- Depth to water;
- Total well or boring depth;
- Purge volume (groundwater sampling);
- Sample locations and depths;
- Sample collection procedures;
- Sample identification numbers;
- General sample appearance (color, odor noted, etc.), including presence/absence of visual impact;
- Types and source of sample containers;
- Preservatives used;
- Parameters for analysis;
- Date and time of sample collection; and
- Sample transport method and transporter.

All sample identification numbers will be recorded in the Field Logbook, along with a sketch showing sample locations associated with each sample number.

In addition to general comments and observation included in the Field Logbook, a Soil Boring Log form will also be completed for each soil sampling location, documenting the following:

- A general Field Description including soil boring I.D.; date; well logger's name, title and affiliation; narratives of geologic and drilling observations (e.g., blow counts, soil color, consistence, etc.); and total depth;
- United States Department of Agriculture (USDA) texture;
- Unified Soil Classification System (USCS) Classification;
- Lithologic description, including roundness (where applicable), sorting, grain size using the modified "Wentworth" grade size scale, and mineralogy (where appropriate);
- Color, using the Munsell Soil Color Charts (Munsell Color, 1975);

- Soil structures (soil horizons);
- Sedimentary features, such as bedding, stratification, deterioration, bioturbation, etc.
- Consistency;
- Moisture;
- Zones of secondary priority, including fractures, root chemicals, animal burrows, dissolution pores, etc., and
- Other miscellaneous features, such as apparent contamination (odors, staining) and other pertinent information not mentioned above.

14.5 CHAIN-OF-CUSTODY FORM

The field portion of the custody documentation should include: (1) project name; (2) signatures of samplers; (3) sample number, date and time of collection, and whether the sample is grab or composite; (4) signatures of individuals handling samples; and (5) air bill or other shipping number.

A chain-of-custody form will be filled out and accompany the samples to the analytical laboratory. The form will also serve as a sample analysis request form, communicating to the laboratory the exact analysis (including method number) to be performed on each sample submitted. The chain-of-custody form will include the following information:

- Sample identification number;
- Signature of sample collector and other individuals in chain of possession;
- Date(s) of collection;
- Date(s) of relinquishment by individuals in chain of possession;
- Identification of analytical laboratory;
- Sample matrix;
- Sample container descriptions, number of sample containers per analysis, and types of analysis to be performed including analytical method numbers;
- Laboratory identification number (completed by laboratory);
- Integrity of cooler seals (to be noted by laboratory, if applicable); and
- Special instructions and remarks.

14.6 LABORATORY LOGBOOK

The laboratory will have an acceptable quality assurance and quality control program. Among the necessary procedures will be the maintenance of laboratory logbooks. Commercial laboratories selected will certify the use of and make available for inspection laboratory logbooks. The type of information to be recorded in the logbooks is specified in the laboratory QAP (Appendix D of the multi-site QAPP).

15.0 RE-SAMPLING

If during sampling any samples are broken or lost prior to analysis, the specific sample and media will be re-sampled by the same or an alternate method identified in this SAP and submitted for the parameters corresponding to the lost or broken sample containers. Re-sampling will be conducted within two weeks of the original sampling date.

16.0 SUBMITTAL OF ANALYTICAL RESULTS

The soil and groundwater analytical results will be submitted to the USEPA and the IDEM for review as part of the *VRP Phase II Site Investigation Report* and the *VRP Remediation Work Plan.* The analytical results will be submitted to the MCEDC in interim status reports following receipt from the laboratory. These reports will include the data validation results, as described in the multi-site QAPP.

The analytical results package will include sampling dates, analysis dates, analytical methods used, practical quantitation limits, quality control results, and signed copies of the chain-of-custody forms. The QA/QC results will include blank results, matrix spike/matrix spike duplicate results, surrogate recoveries (as appropriate for the analysis), tuning results (CC-MS), and initial calibration results.

Copies of the pertinent Field Logbook entries will be submitted in the reports to IDEM and USEPA if requested, and will also be copied to Michigan City Economic Development Corporation management for filing.

TABLES

1 Sample Container, Preservation, and Holding Time Requirements

TABLE 1
SAMPLE BOTTLES, METHODS, PRESERVATIVES, AND HOLD TIMES
Sampling and Analysis Plan
Karwick Road Landfill - Michigan City, Indiana

Sample Name[1]	Sample Matrix	Number of Samples[4]	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
SB-#:*[depth]*	Soil	8	Investigative	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
GW-#:*[date]*[3]	Groundwater	5	Screening	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#:*[date]*	Groundwater	5	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#:*[depth]*	Soil	1	Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
DUP-#:*[date]*	Groundwater	1	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD-#:*[depth]*	Soil	1	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
MS/MSD-#:*[date]*	Groundwater	1	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
EQ-#:*[date]*	Aqueous	1	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 1-L Amber (Non-Preserved, 4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082

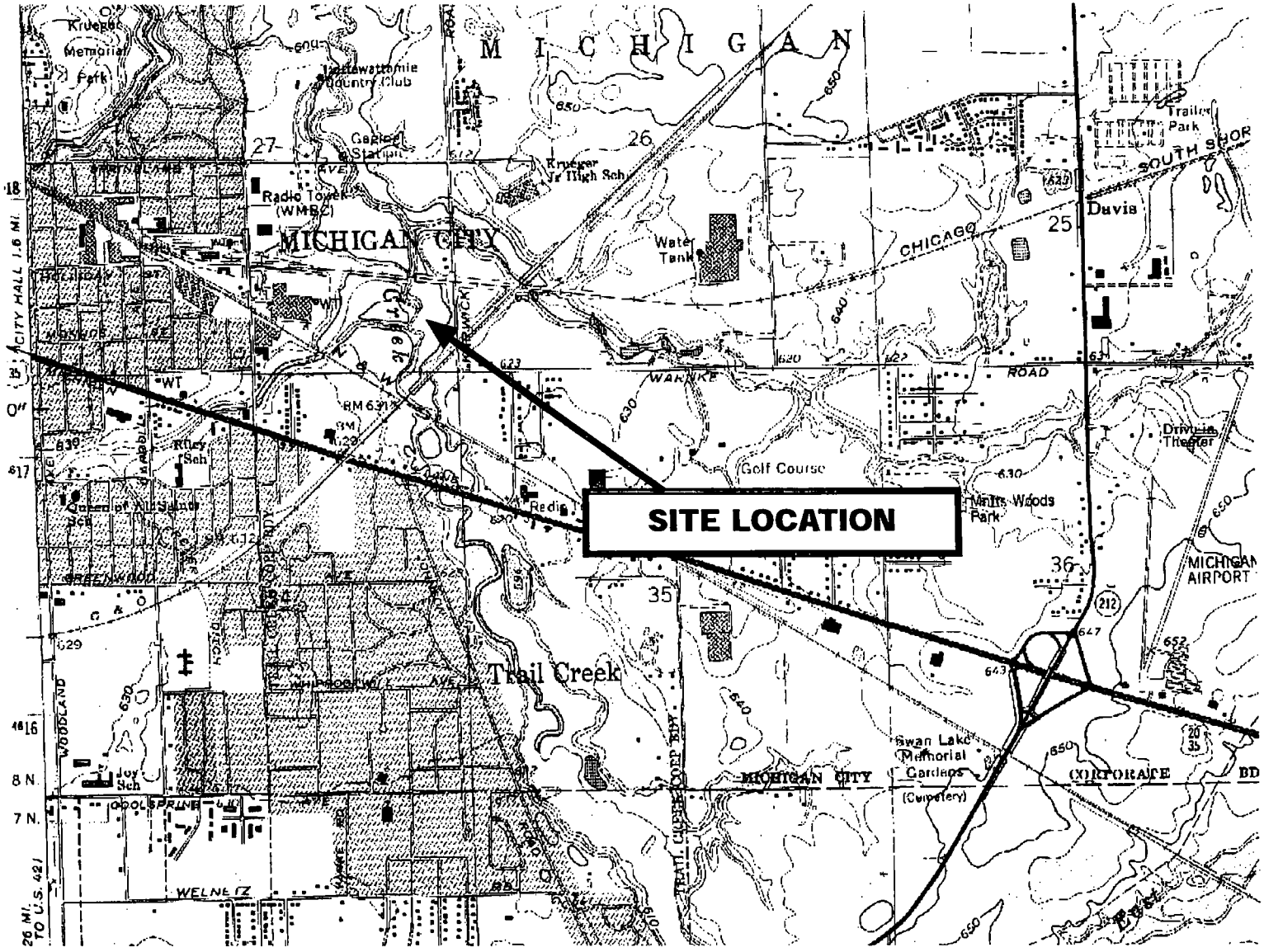
Notes:

1. The soil samples to be collected by APT from soil borings advanced by *Top Flight Environmental Drilling Services.*
2. Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolitile organic compounds (SVOCs), priority pollutant list (PPL) metals, and PCBs using the stated analytical method.
3. Groundwater screening samples (GW:*[date]*) will be collected from the Geoprobe boreholes.
4. Number of samples is based on one sampling event.

FIGURES

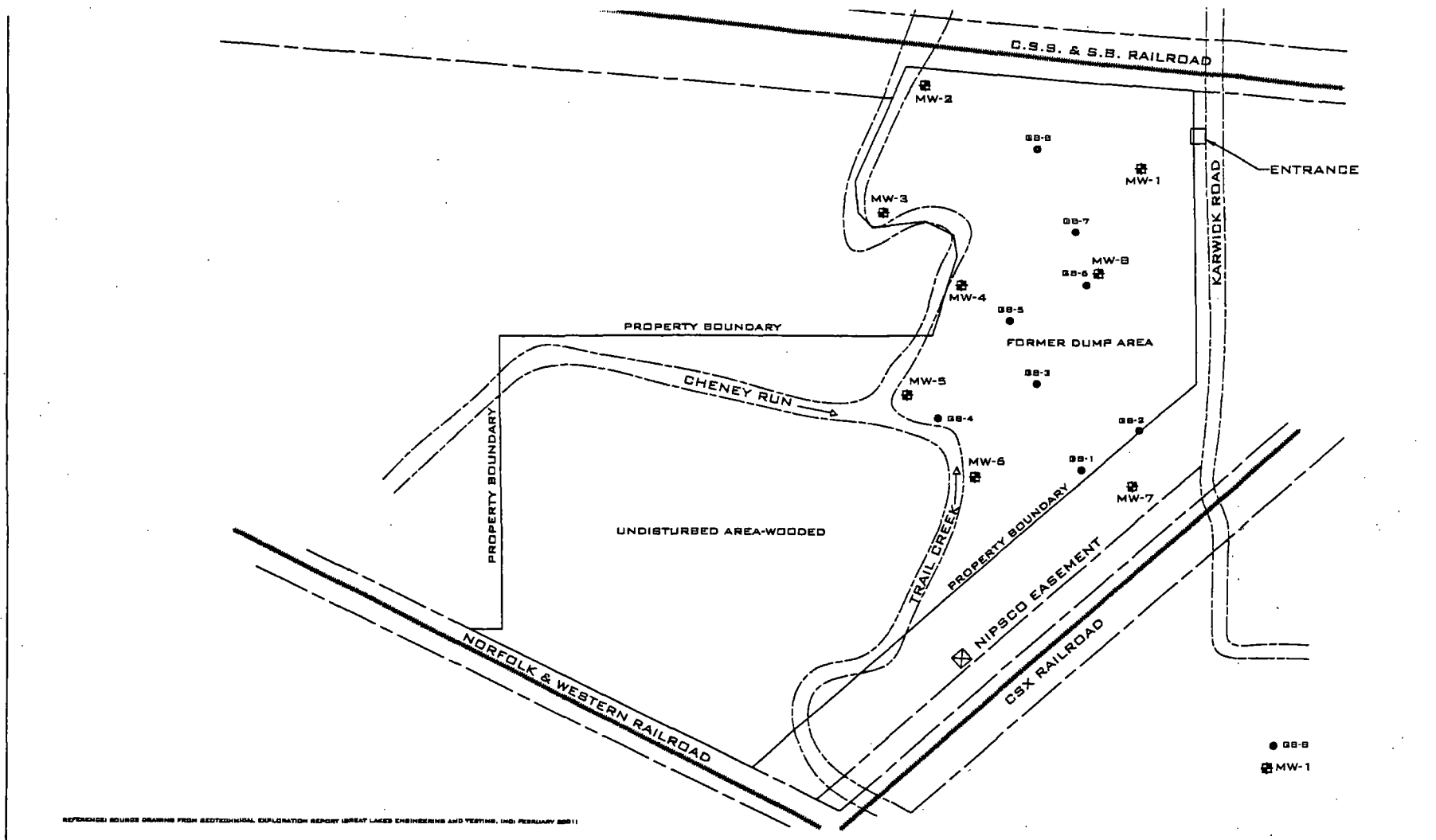
1 Site Location Map

2 Site Map



FERENCE: USGS QUADRANGLE MICHIGAN CITY EAST 1969 (REV. 1980) LAPORTE COUNTY, INDIANA

	APT	PROPERTY OF APT This document was produced by APT as an instrument of service and remains the property of APT. This document is confidential and may not be reused or modified for other than the client's internal use without the prior written authorization of APT. All rights of design are reserved	TASK: 1 DWG: 312.1.F1.SL	Karwick Rd. Site Michigan City, IN PREPARED FOR M.C. Parks & Recreation Michigan City, IN	Figure 1 Site Location Map



REFERENCE: SOURCE DRAWING FROM GEOTECHNICAL EXPLORATION REPORT (GREAT LAKES ENGINEERING AND TESTING, INC) FEBRUARY 2001

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TASK 1
DWG: 312.1.73.MWS8
DATE: 1-29-02
DWG BY: AS

PREPARED FO

January 2002

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Former Royal Metals Facility
600 North Carroll Avenue
Michigan City, Indiana

Prepared For:

Michigan City Economic Development Corporation
100 East Michigan Boulevard
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Prepared By:

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Project No. 333-01

Advanced Pollution Technologists

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FIGURES

Figure 1 Site Location Map
Figure 2 Site Map

APPENDICES

Appendix A Environmental Records Search Report
Appendix B Environmental Professional's Resume

1.0 SUMMARY

APT, Limited (APT) was retained by the Michigan City Economic Development Corporation (MCEDC) to perform a Phase I Environmental Site Assessment (ESA) of the former Royal Metals facility located at 600 North Carroll Avenue in Michigan City, Indiana (Figure 1). The site consists of approximately 3.75 acres, and includes one building of approximately 64,000-square feet. The purpose of the Phase I ESA was to identify any recognized environmental conditions (RECs) associated with the subject property that pose potential environmental liability. The Phase I ESA consisted of a site reconnaissance, a visual survey of adjacent properties, and an evaluation of local geologic and hydrogeologic conditions. APT also reviewed available historical fire insurance maps, historical topographic maps, aerial photographs, and federal and state environmental agency database records as part of the Phase I ESA.

The subject property comprises approximately 3.75 acres and includes one building (Figure 2). Construction of the building was completed in several phases, however exact dates are unknown. The oldest portions of the building were depicted in Sanborn Fire Insurance maps dated 1929. The newest portions (including an aluminum sided addition) are present in Sanborn Fire Insurance Maps from 1965. At the time of the site reconnaissance, the subject property was abandoned and large portions of the facility have become structurally unstable and have collapsed. The facility had formerly housed operations for Royal Metals, an office furniture manufacturer. Both woodworking and metalworking operations had taken place at the facility prior to its closing in approximately 1982. Information regarding operations formerly located at the facility was obtained from Officer Mike Chamberlain of the Michigan City Police Department during the site reconnaissance. Officer Chamberlain worked at the Royal Metals facility prior to its closing.

The subject property is relatively flat. The grounds are mostly grass covered. Access drives for delivery and transport of finished products are located to the east and west of the main building.

Based on the results of the Phase I ESA, the following RECs were identified at the subject property:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluids were still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. Therefore, the vapor degreaser represents an REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint booths represent an REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.

- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents an REC.

- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents an REC.

- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based up materials which were likely stored in this area, the hazardous material storage area represents an REC.

- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in areas throughout the facility, including the metal working, wood working, explosion proof finishing, and chemical storage areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent an REC.

- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents an REC.

- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area which was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals which would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents an REC.

- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.

- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation, and that they were stored throughout the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents an REC.

3 wells - saving
2 wells

2.0 INTRODUCTION

This section includes the purpose, scope of services, significant assumptions, limitations and exceptions, special terms and conditions, and user reliance for this Phase I ESA.

2.1 PURPOSE

The purpose of the Phase I ESA is to provide an objective, independent, professional opinion of any potential recognized environmental conditions (RECs) associated with the subject property. An REC is defined by the American Society of Testing Materials (ASTM) E1527-00 as:

> "the presence or the likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on a property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

2.2 SCOPE OF SERVICES

APT was retained by MCEDC for the purpose of conducting a Phase I ESA of the former Royal Metals facility, located at 600 North Carroll Avenue in Michigan City, Indiana. APT performed the Phase I ESA in general accordance with the ASTM *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-00).*

The Phase I ESA consisted of the following scope items:

- A site reconnaissance by an environmental professional for the purpose of observing site conditions associated with the property, including:
  - Exterior observations of the periphery of the property and conditions and use across the property.
  - Interior observations within structures for indications of current and past usage.
  - A visual survey of site use for immediately adjoining properties
- An interview with the Owner Representative for the purpose of identifying current and past uses and conditions of the property, including:
  - Any known environmental condition that may result in a REC.
  - Any environmental regulatory compliance issue that may result in a REC.
  - A description of current and past operations on the property.
- A review of readily available regional and site-specific geologic and hydrogeologic conditions.

- Review of reasonably ascertainable information from standard sources regarding federal and state environmental agency database records, physical setting and historic use. The records review includes:
  - A review of readily available site historical records,
  - Previous environmental reports,
  - Waste disposal manifests,
  - Facility operating and discharge permits,
  - Historical aerial photographs,
  - Historical fire insurance maps,
  - Regional topographic and geologic maps, and
  - Federal and state environmental agency databases are reviewed to identify any adjacent or nearby properties that may impact the subject property.

The information was reviewed to identify potential RECs from current and former site operations, raw material storage and waste management practices, and/or past spill or leak incidents.

2.3 SIGNIFICANT ASSUMPTIONS

In preparing this report, APT has accepted as true and complete the information provided by the property owner's representative and standard sources of environmental records. APT has performed these services in a competent and professional manner in accordance with sound consulting practices and procedures. APT cannot warrant the actual site conditions described in this report beyond matters amenable to visual confirmation within the limits of this site reconnaissance program.

2.4 LIMITATIONS AND EXCEPTIONS

The Phase I ESA described herein was performed in general accordance with the currently acceptable engineering practices and principles found in the ASTM *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-00).* Any variances from the ASTM standard are documented within the body of the report. The limits and exceptions defined in the ASTM E1527-00 standard are applicable to this assessment.

The evaluations and recommendations presented in this Phase I ESA report are based exclusively on information provided by the current property owner, available public records, and observations made during the site reconnaissance. No quantitative soil, groundwater, surface water, or air sampling was performed as part of the Phase I ESA. In addition, this Phase I ESA does not include:

- A certified asbestos inspection,
- Review of regulatory compliance issues,
- Radon evaluation,
- Lead-based paint evaluation,
- Wetlands survey,
- Identification of cultural and historic resources,

- Industrial hygiene evaluation,
- Identification of ecological resources,
- Identification of endangered species,
- Indoor air quality evaluation, nor
- High voltage power line evaluation.

2.5 SPECIAL TERMS AND CONDITIONS

There are no special terms or conditions applicable to this Phase I ESA.

2.6 USER RELIANCE

This Phase I ESA may be used and relied upon by MCEDC. No other party may use or rely upon this Phase I ESA without the prior written consent of APT.

3.0 SITE DESCRIPTION

APT conducted a review of the physical setting, local utilities, surrounding land use, regional geological setting, and site history of the subject property. APT obtained the information presented in this section from observations made during the site reconnaissance, information provided during the historical interviews, and from published information and public records.

3.1 LOCATION AND LEGAL DESCRIPTION

The subject property is located at 600 North Carroll Avenue in Michigan City, Indiana (Figure 1) and consists of approximately 3.75 acres. The legal description of the subject property was provided by MCEDC and is included below:

> "Blocks Twenty-six (26), Twenty-seven (27), Twenty-eight (28), and Twenty-nine (29), vacated alleys in Blocks Twenty-six (26), Twenty-seven (27), Twenty-eight (28), and Twenty-nine (29), vacated Calumet Avenue from Grand Street to New York, Chicago and St. Louis Railroad, vacated Ashland Avenue from Grand Street to the North line of Walker Street, formerly known as Rose Street, vacated Walker Street, formerly known as Rose Street, from the Western right-of-way line of Ashland Avenue to the Northerly right-of-way line of Carroll Avenue to the Western right-of-way line of Ashland Avenue, and vacated Ashland Avenue from the Southern right-of-way line of Walker Street, formerly known as Rose Street, to the Northern right-of-way line of the New York, Chicago, and St. Louis Railroad, all in the Ridgeland Addition to Michigan City, Indiana as recorded in Plat Book 3, pages 52 and 53 in the Office of the Recorder of LaPorte County, Indiana, more particularly described as follows: Beginning at the Northeast corner of Lot One (1) in Block Twenty-nine (29), in Ridgeland Addition as recorded in Plat Book 3, pages 52 and 53, in the Office of the Recorder of LaPorte County, Indiana, said point being also the intersection of the Southerly right-of-way line of Grand Street, and the Westerly right-of-way line of Carroll Avenue, in the City of Michigan City, Indiana; thence South zero degrees zero minutes zero seconds (S00°00'00") along the Westerly right-of-way line of Carroll Avenue, a distance of Five Hundred Seventy-eight and Eleven hundredths (578.11) feet to the Northerly right-of-way line of the New York, Chicago and St. Louis Railroad; thence North Fifty-seven degrees Nineteen minutes West (N57°19'W), along said Northerly right-of-way line, a distance of Nine Hundred Twenty-two and Six hundredths (922.06) feet to the Easterly right-of-way line of Ridgeland Avenue; thence North Zero degrees Zero minutes Zero seconds (N00°00'00") along said Easterly right-of-way line, a distance of Seventy-seven and Sixty-five hundredths (77.65) feet to the Southerly right-of-way line of Grand Street; thence North Eighty-nine degrees Forty-eight minutes Ten seconds East (N89°48'10"E), along said Southerly right-of-way line, a distance of Seven Hundred Seventy-six and Six hundredths (776.06) feet to the place of beginning."

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

Based on a review of the United States Geological Survey (USGS) 7.5 Minute Topographic Map, Michigan City East, Indiana Quadrangle (Figure 1), the general topography of the subject property is essentially flat. The approximate surface elevation is 620 feet above mean sea level (ft msl).

At the time of the site reconnaissance, the property was vacant. Visual observations indicate that the property includes one building, described below. A stone service drive runs to the loading dock area on the east side of the building. Loading docks on the west side of the building were serviced by a stone drive, and formerly, a rail spur. Most of the eastern portion of the property is grass lawn with large trees. A fence separates the northern portion of the property from Grand Street.

3.3 CURRENT USE OF PROPERTY

Royal Metals, an office furniture manufacturer, occupied the facility until approximately 1982. The building apparently used for storage after Royal Metals ceased operation. The property is currently vacant.

3.4 DESCRIPTION OF STRUCTURES, ROADS, OTHER IMPROVEMENTS ON THE SITE

The subject property comprises approximately 3.75 acres and includes one building (Figure 2). Construction of the building was completed in several phases, however exact dates are unknown. The oldest portions of the building were depicted in Sanborn Fire Insurance maps dated 1929. The newest portions (including an aluminum sided addition) are present in Sanborn Fire Insurance Maps from 1965. At the time of the site reconnaissance, the subject property was abandoned and large portions of the facility have become structurally unstable and have collapsed. The surrounding grounds at the subject property are grassy plots with several large trees. Crushed stone access roads run to loading docks located on the east and west side of the building. A rail spur formerly accessed the southwest corner of the building. The northernmost portion of the property is fenced.

Electrical and natural gas utilities are provided to the subject property by NIPSCO. APT did not observe any type of back-up generator systems at the subject property. No transformers were observed at the facility. However, a large concrete pad, which was most likely used for a large transformer, was located on the northern side of the building. No run-off collection was observed around the concrete pad. Consequently, the concrete pad represents an REC since transformer oils may have been washed from the pad and subsequently impacted the soil and/or groundwater.

The City of Michigan City provides water and sanitary sewer service to the facility. Conversations with Michigan City Sanitation personnel indicate that a sewer was available back to at least 1927. However, it is unknown at what date the factory connected to the available sewers.

Several floor drains were observed in the metal working, wood working, and hazardous material storage areas of the facility. This portion of the factory was constructed before 1929. Because it is unknown at what date the facility connected to the available sewers, these floor drains represent an REC.

3.5 CURRENT USES OF ADJOINING PROPERTY

The subject facility is located in a mixed residential and industrial area in Michigan City, LaPorte County, Indiana. North of the subject property is a residential area and a small city park. South of the subject property is the South Shore Rail Line. The former Bromwell wire manufacturing facility is located to the southeast. Residential properties are located to the east of the subject property, while west of the subject property is a residence and the rail line.

4.0 USER PROVIDED INFORMATION

The following summarizes the user provided information.

4.1 TITLE RECORDS

MCDEC provided title information to APT from the Michigan City Directory. Royal Metals address was listed as "Quality Coal Yard" in 1925-1926 and as Royal Metals Manufacturing Company from 1926 until 1975. No information was listed for the address after that date.

4.2 OTHER

MCDEC was not aware of the existence of any Environmental Liens, valuation reduction based upon environmental issues, or any other encumbrance on the subject property due to environmental liability.

5.0 RECORDS REVIEW

This section summaries the environmental database search and historical use information regarding the subject property.

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

An environmental records search was conducted for nearby properties, in accordance with ASTM guidelines, to identify any adjacent properties that may represent a recognized environmental condition to the subject property. Nearby properties that may represent a potential recognized environmental condition are those sites located hydraulically upgradient of the subject property where releases or potential releases of hazardous or petroleum substances have occurred.

The reason for interest regarding potential off-site environmental concerns is that releases at hydraulically-upgradient sites may produce environmental impacts that can then potentially impact the subject property via surface runoff and/or groundwater flow. Environmental Data Resources, Inc. (EDR) of South Port, Connecticut conducted the environmental agency database search. The following summarizes the results of EDR report number 711383.3s for the subject property:

Federal/State Databases	Radius (Miles)	Mappable Sites
NPL	1.00	1
CERCLIS	0.50	0
CERCLIS - NFRAP	0.25	0
CORRACTS	1.00	1
RCRIS – TSD	0.50	0
RCRIS – Lg. Quan. Gen.	0.25	0
RCRIS – Sm. Quan. Gen.	0.25	3
ERNS	TP	0
State Haz. Waste	1.00	0
State Landfill	0.50	0
LUST	0.50	1
UST	0.25	4
CONSENT	1.00	0
ROD	1.00	1
Delisted NPL	1.00	0
FINDS	TP	0
HMIRS	TP	0
MLTS	TP	0
MINES	0.25	0

Federal/State Databases	Radius (Miles)	Mappable Sites
NPL Liens	TP	0
PADS	TP	0
RAATS	TP	0
TRIS	TP	0
TSCA	TP	0
FTTS	TP	0
IN Spills	TP	0

A copy of the EDR report is provided in Appendix A. Details concerning the database searches for the sites and definitions of the terms included in the above table are included in Appendix A. EDR also searched several federal and state regulatory agency databases that are not required by the ASTM standard. Information on these databases is included in the report. The subject property was not listed in any of the databases summarized in the EDR report.

As stated previously, the primary concern with off-site contamination is the migration of constituents from a hydraulically upgradient source onto the subject property. Based upon known conditions in the area, groundwater flow is north towards Lake Michigan. Thus, attention is focused on releases at properties located hydraulically upgradient (i.e., south) of the subject property, and also those located adjacent to the subject property due to the fact that they share common property boundaries.

Based upon suspected hydrogeologic conditions at the facility, three properties listed in the EDR report are located within ¼-mile, hydraulically upgradient of the facility. The closest property is located immediately south of the subject property , Chicago South Shore and South Bend Rail Road. The property is listed as a Resource Conservation and Recovery Information System (RCRIS) small quantity generator. No violations were listed for the facility. Dwyer Products Corporation (Dwyer) is located approximately 1/8-mile southwest of the subject property. Dwyer is listed in the UST database as having two closed UST with no releases and in the RCRIS Small Quantity Generator database. As a RCRIS generator two low priority violations were reported at the facility. Storrite Products was also listed in the UST database as having two closed USTs with no reported releases. Storrite is located approximately 1/8-mile south-southeast of the subject property.

Other sites listed in the EDR report include Waste Inc, which was listed as a National Priority List (NPL) site. Waste Inc. is located approximately one mile northwest of the facility. Servpro, located less than 1/8-mile east of the subject property, was listed in the UST database. Amoco Station #20170 was listed in both the leaking underground storage tank (LUST) and UST database. The Amoco station is located approximately ½-mile south-southwest of the facility. The LUST database listed the Amoco station as having both soil and groundwater impacts related to the USTs.

5.2 ENVIRONMENTAL COMPLIANCE ISSUES

Environmental compliance issues are outside the scope of work for this Phase I ESA; consequently, no discussions regarding environmental compliance issues were held.

5.3 PHYSICAL SETTING SOURCES

Based on a review of the United States Geological Survey (USGS) 7.5 Minute Topographic Maps, Michigan City East and Michigan City West, Indiana Quadrangles (Figure 1), the general topography of the subject property is essentially flat. There are no features that would indicate that off-site releases would be transported onto the property via surface run on.

Additionally, the topographic map review did not indicate the presence of pits, ponds or lagoons associated with on site waste disposal practices, nor are there elevation changes that would suggest dumping or burial of wastes

5.4 HISTORICAL USE INFORMATION ON THE PROPERTY

A review of the available environmental reports and an interview with Officer Mike Chamberlain, a former Royal Metals employee, regarding prior site use was conducted to determine the site history and prior operations on the site.

Officer Chamberlain indicated that Royal Metals manufactured metal office furniture. All aspects of production were completed at the Carroll Avenue facility including metal machining, gluing and cutting wood products, gluing and cutting foam products, and finishing by painting or laminating. The factory operated from the mid 1920's until approximately 1982.

A historical records review was also conducted for the site. Sanborn fire insurance maps were available for 1929, 1936, 1948, and 1965. The 1929 Sanborn shows the metalworking and assembly portions of the facility. The 1936 Sanborn shows an addition on the northern side of the building. This addition corresponds to the portions of the building which were labeled hazard material storage during the site reconnaissance. The Sanborn drawn in 1948 shows the brick and wood building additions to the west of the metalworking area and the entry addition on the northeast side of the metalworking area. The 1965 map shows the building as it currently stands including the aluminum sided addition on the northwest and the woodworking addition to the northeast. There were no RECs identified solely on the basis of the Sanborn maps. Arial photographs were requested from the LaPorte County offices. Only one aerial photograph, dated 1999, was available for review. No RECs were identified in the aerial photograph.

6.0 SITE RECONNAISSANCE

The site reconnaissance was completed by Ms. Andrea DePoy of APT on December 18, 2001.

The purpose of the site reconnaissance and historical interview was to identify RECs related to the subject property. The primary focus of the site reconnaissance and interviews was to identify whether any of the following were historically or are currently present at the subject property:

- Hazardous/toxic substances or waste;
- Underground or aboveground tanks used for chemical or petroleum products;
- Drywells and leach fields;
- Signs of illegal dumping;
- PCB containing equipment; and
- Areas of stained soil and/or stressed vegetation.

Results of the site reconnaissance are limited to visual observations of those areas readily and reasonably observable.

6.1 METHODOLOGY AND LIMITING CONDITIONS

Andrea DePoy of APT conducted the site reconnaissance on December 18, 2001. Ms. DePoy walked the property and observed the interior of the building.

6.2 GENERAL SITE SETTING

The subject property comprises approximately 3.75 acres and includes one building (Figure 2). Construction of the building was completed in several phases, however exact dates are unknown. The oldest portions of the building were depicted in Sanborn Fire Insurance maps dated 1929. The newest portions (including an aluminum sided addition) are present in Sanborn Fire Insurance Maps from 1965. At the time of the site reconnaissance, the subject property was abandoned and large portions of the facility have become structurally unstable and have collapsed.

6.3 EXTERIOR OBSERVATIONS

The subject property is relatively flat. The grounds are mostly grass covered. Crushed stone access roads run to loading docks located on the east and west side of the building. A rail spur formerly accessed the southwest corner of the building. The northernmost portion of the property is fenced. A large concrete pad, which was most likely used for a large transformer, was located on the northern side of the building. No run-off collection was observed around the concrete pad. Consequently, the concrete pad represents an REC since there is the possibility the transformer oils contained PCB oils and that the transformer oils may have been washed from the pad and subsequently impacted the soil and/or groundwater. The portion of the building immediately adjacent to the apparent transformer pad was posted as hazardous material storage. The interior of the rooms could not be inspected during the Phase I ESA site reconnaissance due

to the collapsed roof. However, based up materials which were likely stored in this area, the hazardous material storage area represents an REC.

6.4 INTERIOR OBSERVATIONS

The majority of the building was red brick with wood truss ceilings. One addition was constructed of aluminum siding. The floors were predominantly poured concrete and in good condition. Several floor drains were observed in the metal working and wood working areas of the facility. This portion of the factory was constructed before 1929. Because it is unknown at what date the facility connected to the available sewers, these floor drains represent an REC.

The interior of the building included a foam room, metalworking area, woodworking area, explosion proof finishing area, shipping and storage areas, as well as rest rooms, locker rooms, and offices in the eastern portion of the building. Several areas were inaccessible due to collapsed ceilings. In addition, two areas, the aluminum sided addition and the office area in the northeastern corner of the building were inaccessible because the doors were heavily secured and we were unable to enter. Observations regarding these areas were limited to exterior observations, review of historic documents, and information provided by Officer Chamberlain.

The finishing area included two paint booths, a flammable material storage room (with floor drain), and a paint dip tank. The floors and walls of the paint booths were heavily coated in paints. No collection system appeared to be present. The paint rooms represent an REC because historic use of paints and paint thinners may have impacted the soils and groundwater beneath the concrete floor.

A small room equipped with multiple shelving units was labeled "Flammable" at the time of the site reconnaissance. Based upon the chemicals which would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents an REC.

A long trench tank was also located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents an REC.

A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluids were still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. Therefore, the vapor degreaser represents an REC because chemicals from the tank and concrete vault may have leaked to the ground below.

A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents an REC.

A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.

7.0 INTERVIEW WITH OWNER

The current owner was not available for interview in connection with this Phase I ESA. As discussed previously, information regarding facility operations was obtained from Officer Mike Chamberlain of the Michigan City Police Department. Officer Chamberlain was employed by Royal Metals prior to its close in the early 1980s.

Officer Chamberlain indicated that the tanks observed in the metal working area were used to degrease metals after machining prior to painting and finishing. Furthermore, he indicated that several dryers operated in the explosion proof to dry parts which had been painted in the paint dip tanks. Wood parts were assembled in the northeastern wing of the building. Officer Chamberlain indicated that desk tops prepared, painted, and laminates were glued in this area. Information supplied by Officer Chamberlain corresponded to the 1965 Sanborn map and observations made during the site walk through.

Officer Chamberlain indicated that chemicals used at the facility were located in several locations. In addition to the two chemical storage areas observed during the site reconnaissance, he indicated that drums were sometimes stored in the fenced area north of the factory buildings.

8.0 FINDINGS

This section summarizes known or suspected environmental conditions associated with the property. This portion of the report includes both RECs and de minimis conditions. The following RECs were identified at the subject property:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluids were still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. Therefore, the vapor degreaser represents an REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint booths represent an REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.
- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents an REC.
- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents an REC.
- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based up materials which were likely stored in this area, the hazardous material storage area represents an REC.
- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in several areas throughout the facility, but predominantly in the metal working and wood working areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent an REC.
- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the

trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the chemicals associated with paint and enameling operations and the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents an REC.

- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area which was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals which would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents an REC.
- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.
- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation and that they were stored throughout the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents an REC.

In addition to the RECs listed above, it is APT's experience that environmental impacts are sometimes associated with ASTs, drum storage areas, and solvent-based parts washers, even when there is no direct evidence of releases.

9.0 OPINION

This section of the report includes the environmental professional's opinion as to the potential impact on the property of the known or suspected environmental conditions identified. This section is to provide the reasoning or rationale in defining the potential environmental liabilities associated with the results of the Phase I ESA.

The only potential RECs at the subject property are the pit vapor degreaser, the paint booths, the unknown pit, the apparent transformer pad, the hazardous material storage area, and the floor drains and possible septic system, the paint dip tank, the flammable chemical storage room, the wood paint area, and site-wide groundwater. The pit vapor degreaser is a large tank seated in a concrete vault which was filled with liquids during the time of the site reconnaissance. The degreasers used during facility operation were most likely contained chlorinated solvents. Based upon the chemicals that were most likely used and the likelihood of constituents to seep through the concrete vault, the vapor degreaser must be considered to be an REC.

The floors and walls in the paint booths were thickly coated with paints. There was no apparent collection system to prevent migration of spilled constituents. Paints and paint thinners may have historically seeped through the concrete floor and impacted the soils and groundwater located below the paint rooms. Therefore, the paint rooms must be considered to be an REC.

A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this pit must be considered an REC.

An apparent transformer pad is located just north of the metal working area of the facility. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present. The pad appears to have been the site of a former transformer. There is thus the possibility of PCBs impacts relating to transformer oils. Based upon that fact that transformer oils may have leaked to the surrounding soils, this concrete pad must be considered an REC.

The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. Based upon materials which were likely stored in this area and upon the inability to inspect the condition of the floors and storage conditions, the hazardous material storage area must be considered an REC.

Several floor drains were observed throughout the facility, including in the metal working, wood working, and chemical storage areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and the possible septic system must be considered an REC.

A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the chemicals associated with paint and enameling operations and the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank must be considered an REC.

A small room was present in the explosion proof area which was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals which would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room must be considered an REC.

A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area must be considered an REC.

No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation of the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater must be considered an REC.

10.0 CONCLUSIONS

APT has performed this Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-00 of a industrial property located at 600 North Carroll Avenue in Michigan City, Indiana. This assessment has revealed no evidence of RECs in connection with the property, except for the following:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluids were still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. Therefore, the vapor degreaser represents an REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint rooms represent an REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.
- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents an REC.
- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents an REC.
- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based up materials which were likely stored in this area, the hazardous material storage area represents an REC.
- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in the metal working and wood working areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent an REC.
- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the

trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents an REC.

- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area which was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals which would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents an REC.
- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.
- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation of the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents an REC.

In addition to the RECs listed above, it is APT's experience that environmental impacts are sometimes associated with ASTs, drum storage areas, and solvent-based parts washers, even when there is no direct evidence of releases.

11.0 DEVIATIONS

There have been no deviations from the practices defined in ASTM Standard E 1527.

12.0 ADDITIONAL SERVICES

There were no additional Scope of Service items contracted to be performed with this Phase I ESA.

13.0 REFERENCES

References used to perform this Phase I ESA are provided below.

USGS 7.5 Minute Topographic Maps – Michigan City East, Indiana, 1980
USGS 7.5 Minute Topographic Maps – Michigan City West, Indiana, 1994

14.0 SIGNATURE

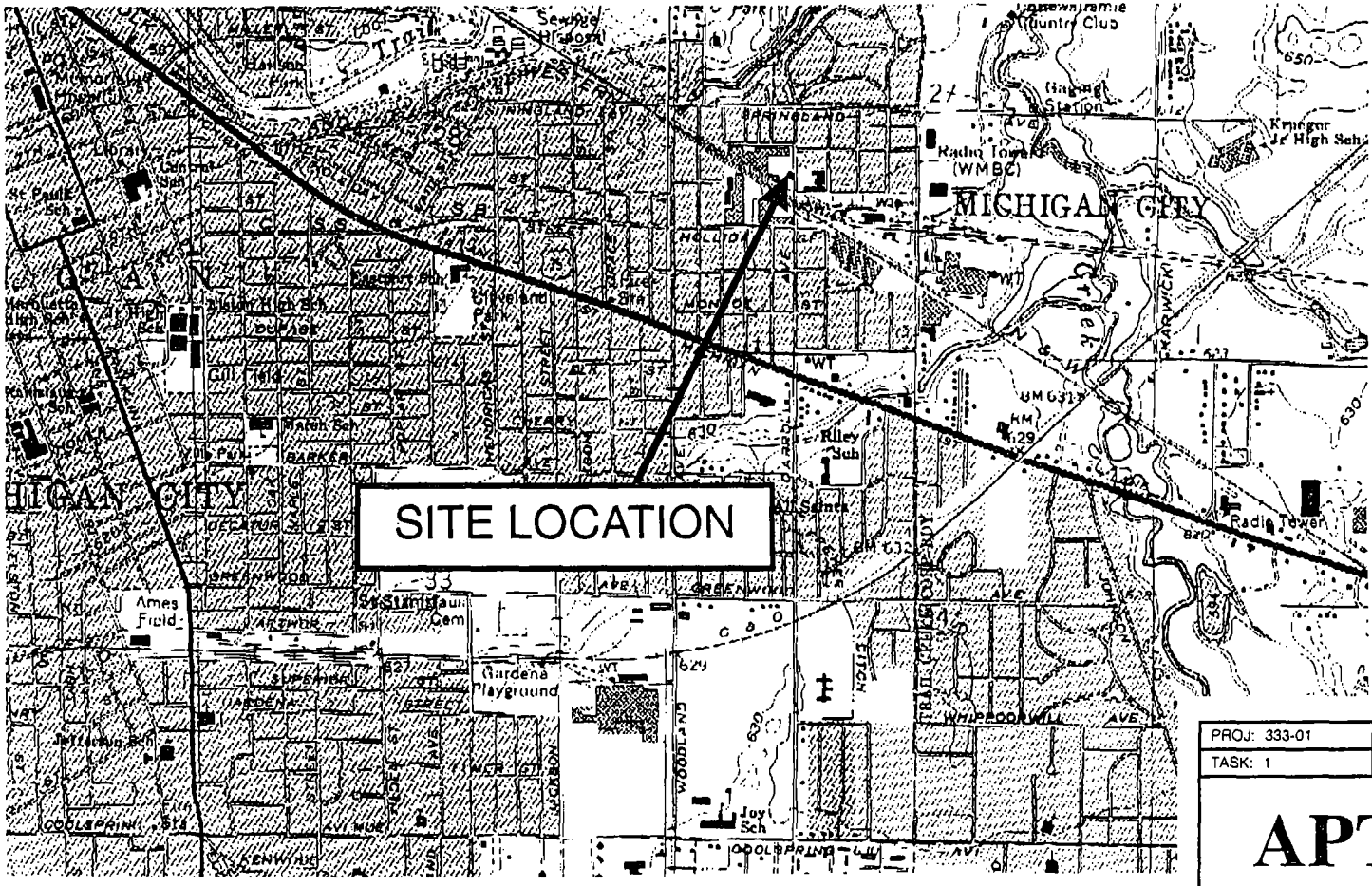
The environmental professional responsible for this Phase I ESA was Ms. Andrea M. DePoy.

Andrea M. DePoy

15.0 QUALIFICATIONS

Ms. DePoy's resume is provided in Appendix B.

FIGURES

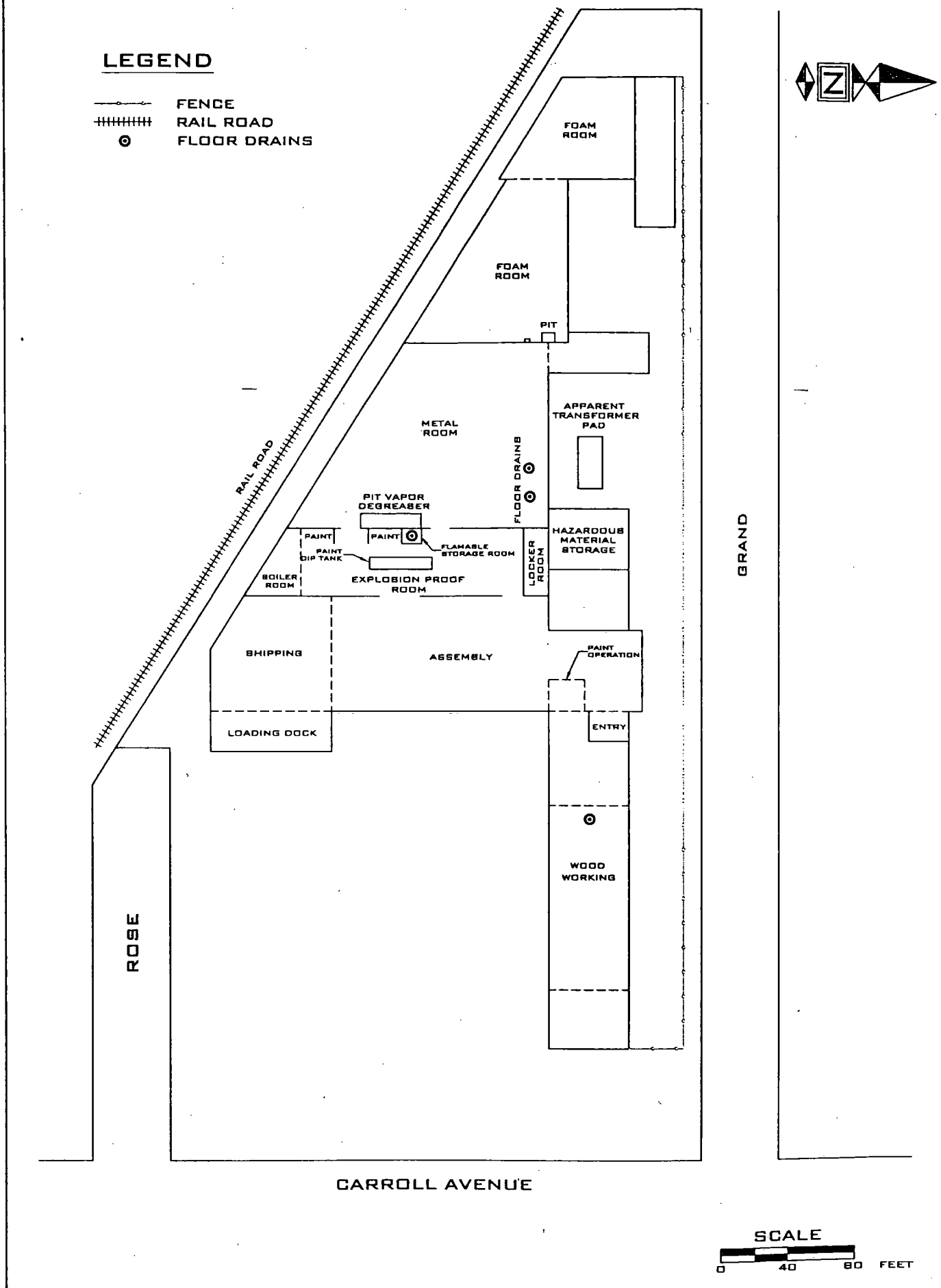


PROJ: 333-01	DWG LOC: MICHIGAN CITY, INDIANA	
TASK: 1	DWG BY: AB	REV DATE:

APT, Limited

Figure 1
SITE LOCATION MAP

Royal Metals
Michigan City, Indiana
PREPARED FOR
Michigan City Economic
Development Corporation
Michigan City, Indiana



APT

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TASK 1	
DWG: 333.1.F2.SM	
DATE: 1-17-02	
DWG BY: AR	

Royal Metals
Michigan City, Indiana

PREPARED FOR
Michigan City Economic Development Corporation

Figure 2

SITE MAP

APPENDIX A

Environmental Records Search Report

The EDR Radius Map
with GeoCheck®

Royal Metals
600 North Carrol Avenue
Michigan City, IN 46360

Inquiry Number: 711383.3s

December 06, 2001

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Detail Map	3
Map Findings Summary	4
Map Findings	5
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Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
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Physical Setting Source Records Searched	A-14

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

600 NORTH CARROL AVENUE
MICHIGAN CITY, IN 46360

COORDINATES

Latitude (North):	41.714200 - 41° 42' 51.1"
Longitude (West):	86.869700 - 86° 52' 10.9"
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	510839.6
UTM Y (Meters):	4617840.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2441086-F7 MICHIGAN CITY EAST, IN
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

Proposed NPL	Proposed National Priority List Sites
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
RCRIS-TSD	Resource Conservation and Recovery Information System
RCRIS-LQG	Resource Conservation and Recovery Information System
ERNS	Emergency Response Notification System

STATE ASTM STANDARD

SHWS	List of Hazardous Waste Response Sites Scored Using the Indiana Scoring Model
SWF/LF	Permitted Solid Waste Facilities

FEDERAL ASTM SUPPLEMENTAL

CONSENT	Superfund (CERCLA) Consent Decrees
Delisted NPL	National Priority List Deletions

EXECUTIVE SUMMARY

FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

IN Spills..... Spills Incidents

EDR PROPRIETARY DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL ASTM STANDARD

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 07/26/2001 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WASTE INC	*1701 E US HWY 12*	*1/2 - 1 NW*	*0*	*5*

EXECUTIVE SUMMARY

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 09/20/2001 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WASTE INC	*1701 E US HWY 12*	*1/2 - 1 NW*	*0*	*5*

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 06/21/2000 has revealed that there are 3 RCRIS-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CHICAGO S SHORE AND SOUTH BEND	*505 N CARROLL AVE*	*0 - 1/8 S*	*A2*	*10*
CHICAGO SOUTHSHORE & SOUTH BEN	*505 N CARROLL AVE*	*0 - 1/8 S*	*A3*	*11*
DWYER PRODUCTS CORPORATION	*418 CALUMET AVE*	*1/8 - 1/4 SW*	*B6*	*12*

STATE ASTM STANDARD

LUST: Lust List.

A review of the LUST list, as provided by EDR, and dated 10/10/2001 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
AMOCO SS 20170 EARL WOODRUFF	*2315 E MICHIGAN*	*1/4 - 1/2 SSW*	*8*	*14*

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Management's Indiana Registered Underground Storage Tanks list.

A review of the UST list, as provided by EDR, and dated 09/18/2001 has revealed that there are 4 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SERVPRO	702 ROSE ST	0 - 1/8 E	1	10
DEPARTMENT OF WATER WORKS	*701 GRAND ST*	*0 - 1/8 NE*	*4*	*11*
DWYER PRODUCTS CORP	418 N CALUMET AVE	1/8 - 1/4 SW	B5	12
STORRITE PRODUCTS	411 FAIRFIELD ST	1/8 - 1/4 SSE	7	13

EXECUTIVE SUMMARY

FEDERAL ASTM SUPPLEMENTAL

RODS: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, has revealed that there is 1 ROD site within approximately 1 mile of the target property.

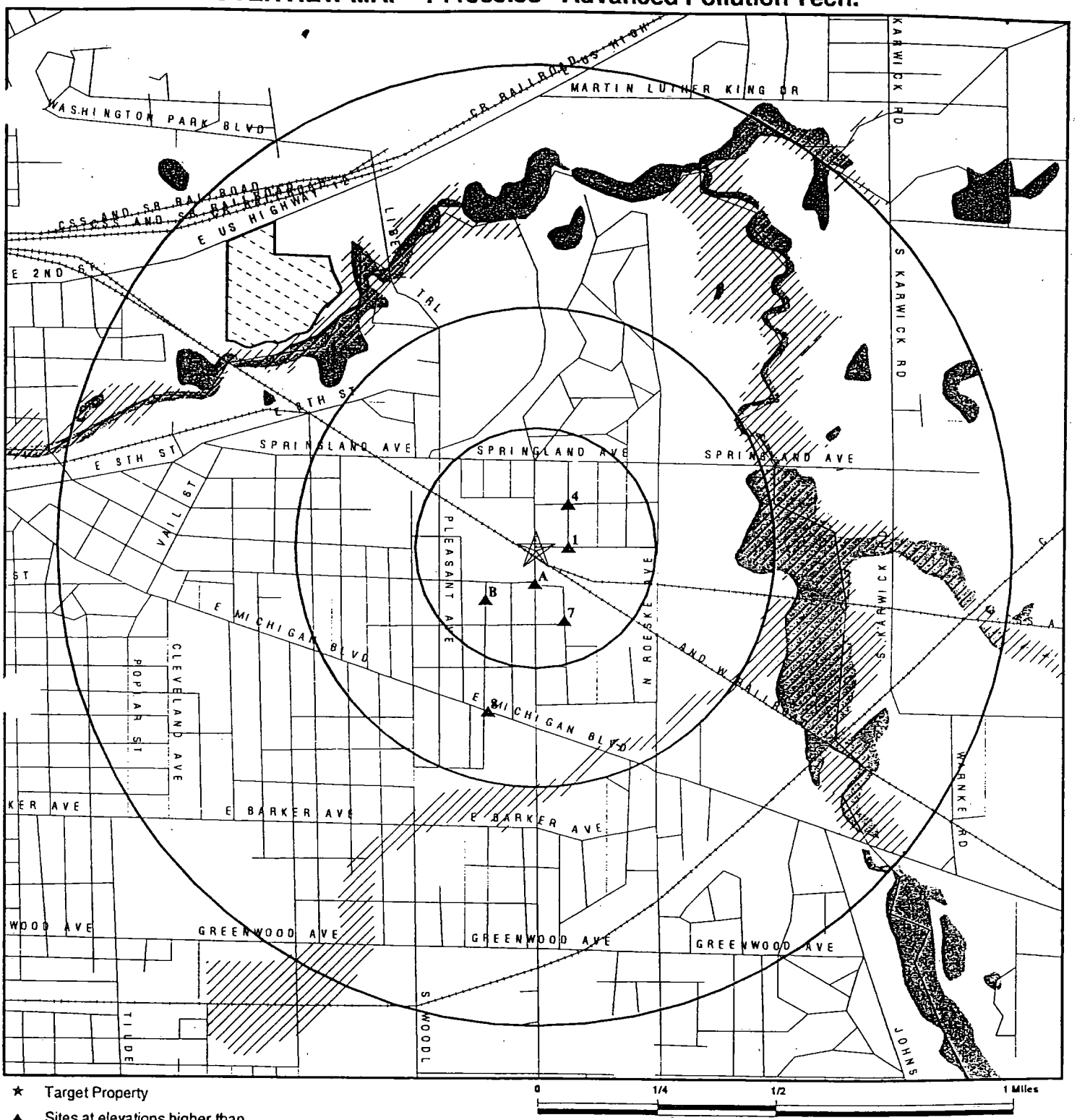
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WASTE INC	*1701 E US HWY 12*	*1/2 - 1 NW*	*0*	*5*

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
NIPSCO MICHIGAN CITY GENERATING STATION	FINDS, IN Spills, RCRIS-LQG, RCRIS-TSD, CORRACTS
LAKELAND AUTO SALVAGE	CERCLIS, RCRIS-SQG, FINDS
MICHIGAN CITY DRUM SITE	CERCLIS
TOWN OF PINES GROUNDWATER PLUME	CERCLIS
AMI METALS DIVISION	CERC-NFRAP
DEERCROFT RECYCLING & DISPOSAL FACILITY	SWF/LF
JOHNSON TRANSFER STATION	SWF/LF
SEARS ROEBUCK & CO	LUST, UST
MICHIGAN CITY FIRE DEPARTMENT	LUST, UST
JET FABRICATORS INC	UST
IND BELL TEL CO MICHIGAN CITY RS N6W	RCRIS-SQG, FINDS
INTERROYAL CORP	RCRIS-SQG, FINDS
AMERICAN ROYAL INC	RCRIS-SQG, FINDS
PHARMACO INC MYSTIK TAPE FAC	FINDS, RCRIS-LQG
NEAR ROYAL ROAD AND TRYON ROAD IN EAST MICHIGAN CITY, LOCATE	ERNS

OVERVIEW MAP - 711383.3s - Advanced Pollution Tech.



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

♟ Coal Gasification Sites (if requested)

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

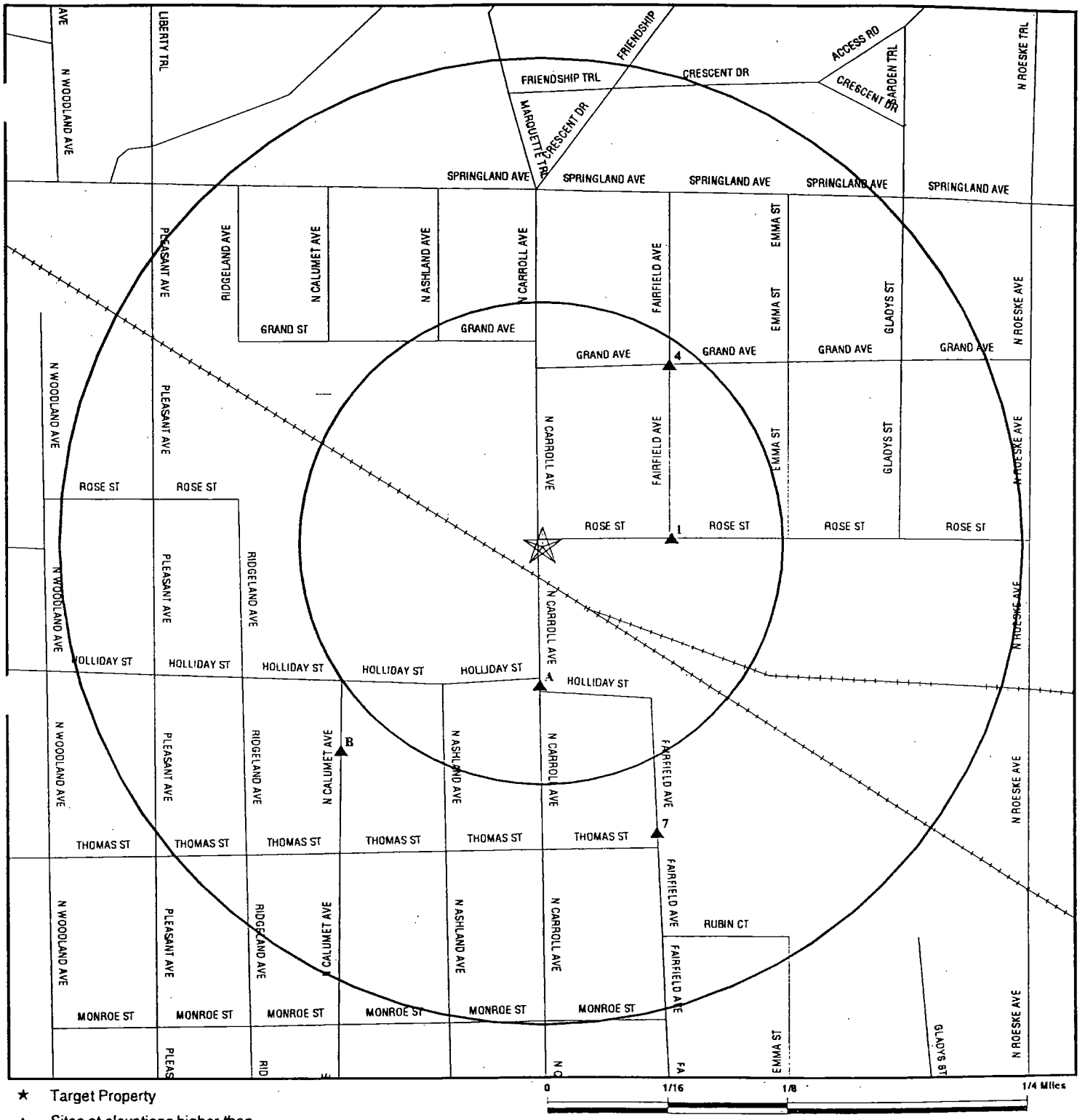
100-year flood zone

500-year flood zone

Wetlands

TARGET PROPERTY:	Royal Metals	CUSTOMER:	Advanced Pollution Tech.
ADDRESS:	600 North Carrol Avenue	CONTACT:	Andrea DePoy
CITY/STATE/ZIP:	Michigan City IN 46360	INQUIRY #:	711383.3s
LAT/LONG:	41.7142 / 86.8697	DATE:	December 06, 2001 1:03 pm

DETAIL MAP - 711383.3s - Advanced Pollution Tech.



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

Coal Gasification Sites (if requested)

Sensitive Receptors

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

100-year flood zone

500-year flood zone

TARGET PROPERTY:	Royal Metals	CUSTOMER:	Advanced Pollution Tech.
ADDRESS:	600 North Carrol Avenue	CONTACT:	Andrea DePoy
CITY/STATE/ZIP:	Michigan City IN 46360	INQUIRY #:	711383.3s
LAT/LONG:	41.7142 / 86.8697	DATE:	December 06, 2001 1:03 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	1	NR	1
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	1	NR	1
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	2	1	NR	NR	NR	3
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	1	NR	NR	1
UST		0.250	2	2	NR	NR	NR	4
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	1	NR	1
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
IN Spills		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NPL
Region
NW
1/2-1
3445

WASTE INC
1701 E US HWY 12
MICHIGAN CITY, IN 46360

CERCLIS **1000397211**
RCRIS-SQG **IND980504005**
FINDS
NPL
CORRACTS
ROD

CERCLIS Classification Data:

— Site Incident Category:	Not reported	Federal Facility:	Not a Federal Facility
Non NPL Status:	Not reported		
Ownership Status:	Private	NPL Status:	Currently on the Final NPL
Contact:	DION NOVAK	Contact Tel:	(312) 886-4737
Contact Title:	Not reported		

Site Description: The 32-acre Waste Incorporated Lanfill site is located in LaPorte County, Indiana, at 1701 East US Highway 12 in Michigan City, Indiana. The site is comprised of two properties, Waste, Inc. (the west half of the site) and Lin-See, Ltd (the east hal f). The most prominent feature of the site is the landfill mound, which is 35 feet high and comprises most of the site. It is bordered by Highway 12 on the northwest, Michiana Auto Builders and Sullair Corp. on the north and east, Trail Creek to th e east and south, and Lake Aluminum Corp. (property owned by Northern Indiana Steel Supply Company - NISSCO) to the west. Approximately one third of the site perimeter is fenced and the entrance driveway is blocked by a steel gate. Other structures on the property include: decontamination and storage shed, a fuel pump and associated underground storage tank. Empty steel drums are also scattered across the site.
In 1959, the site consisted of agricultural land with some lowlands. In 1954, a small disposal mound was located in the north-central portion of the site. From 1965 to 1972, the site was operated as an unpermitted landfill by Dis-Pos-All Services Division, an division of NISSCO. In 1972, Waste, Inc. acquired the site and continued operating the landfill until 1982. In 1982 a consent order was signed, effectively closing the site and allowing Waste, Inc. to cover the site with clay. In 1983 , in response to State enforcement actions, a court order demanded proper closure of the site. In 1987, EPA and the potentially responsible parties (PRPs) agreed to perform a Remedial Investigation/Feasibility Study (RI/FS).

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	04/01/1979
Assessment:	PRELIMINARY ASSESSMENT	Completed:	04/01/1983
Assessment:	SITE INSPECTION	Completed:	12/01/1983
Assessment:	HRS PACKAGE	Completed:	04/10/1985
Assessment:	PROPOSAL TO NPL	Completed:	04/10/1985
Assessment:	NPL RP SEARCH	Completed:	12/31/1985
Assessment:	ADMIN ORDER ON CONSENT	Completed:	03/31/1987
Assessment:	RI/FS NEGOTIATIONS	Completed:	03/31/1987
Assessment:	FINAL LISTING ON NPL	Completed:	07/22/1987
Assessment:	NON-BINDING ALLOCATION OF RESP	Completed:	09/11/1987
Assessment:	REMOVAL ASSESSMENT	Completed:	08/07/1990
Assessment:	REMOVAL ASSESSMENT	Completed:	07/10/1991
Assessment:	REMOVAL ASSESSMENT	Completed:	04/17/1992
Assessment:	COMMUNITY INVOLVEMENT	Completed:	12/31/1992
Assessment:	PRP RI/FS	Completed:	08/18/1994

WASTE INC (Continued) 1000397211

Assessment:	RECORD OF DECISION	Completed:	08/18/1994
Assessment:	HUMAN HEALTH RISK ASSESSMENT	Completed:	08/18/1994
Assessment:	RD/RA NEGOTIATIONS	Completed:	12/08/1995
Assessment:	UNILATERAL ADMIN ORDER	Completed:	12/08/1995
Assessment:	PRP RD	Completed:	09/12/1996
Assessment:	MANAGEMENT ASSISTANCE	Completed:	09/30/1996
Assessment:	Lodged By DOJ	Completed:	02/27/1997
Assessment:	ADMIN ORDER ON CONSENT	Completed:	08/28/1997
Assessment:	SECTION 104(E) REF LITIGATION	Completed:	09/22/1997
Assessment:	PRP RA	Completed:	12/22/1997
Assessment:	COMMUNITY INVOLVEMENT	Completed:	12/31/1997
Assessment:	ADMIN ORDER ON CONSENT	Completed:	10/07/1998
Assessment:	Lodged By DOJ	Completed:	01/11/1999
Assessment:	CONSENT DECREE	Completed:	03/29/1999
Assessment:	ADMIN ORDER ON CONSENT	Completed:	03/30/1999
Assessment:	Lodged By DOJ	Completed:	09/25/2000
Assessment:	Lodged By DOJ	Completed:	09/25/2000
Assessment:	CONSENT DECREE	Completed:	12/22/2000
Assessment:	CONSENT DECREE	Completed:	12/22/2000

CERCLIS Site Status:
Not reported

CERCLIS Alias Name(s):
WASTE INC LDFL
WASTE INC LDFL
WASTE INC LDFL
WASTE, INC., LANDFILL

CORRACTS Data:

EPA Id:	IND980504005
Region:	5
State:	IN
Area Name:	ENTIRE FACILITY
Original Scheduled Date:	Not reported
New Scheduled Date:	Not reported
Actual Date:	07/22/1987
Corrective Action:	CA210SF - CA Responsibility Referred To A Non-RCRA Federal Authority , Corrective Action at the facility or area referred to CERCLA
EPA Id:	IND980504005
Region:	5
State:	IN
Area Name:	ENTIRE FACILITY
Original Scheduled Date:	Not reported
New Scheduled Date:	Not reported
Actual Date:	07/22/1987
Corrective Action:	CA075HI - CA Prioritization, Facility or areawas assigned a high corrective action priority
EPA Id:	IND980504005
Region:	5
State:	IN
Area Name:	ENTIRE FACILITY
Original Scheduled Date:	Not reported
New Scheduled Date:	Not reported
Actual Date:	07/22/1987
Corrective Action:	CA050 - RFA Completed
EPA Id:	IND980504005
Region:	5
State:	IN
Area Name:	ENTIRE FACILITY

WASTE INC (Continued) 1000397211

Original Scheduled Date: Not reported
New Scheduled Date: Not reported
Actual Date: 07/22/1987
Corrective Action: CA070YE - RFA Determination Of Need For An RFI, RFIis Necessary
EPA Id: IND980504005
Region: 5
State: IN
Area Name: ENTIRE FACILITY
Original Scheduled Date: Not reported
New Scheduled Date: Not reported
Actual Date: 07/22/1987
Corrective Action: CA210SF - CA Responsibility Referred To A Non-RCRA Federal Authority , Corrective Action at the facility or area referred to CERCLA

The CORRACTS database contains 3 additional records for this site.
Please contact your EDR Account Executive for more information.

NPL:
EPA ID: IND980504005
Region: 05
Federal: General
Final Date: 07/22/1987

NPL Contaminant:
NPL Status: Final
Substance Id: C385
Case Num: 129-00-0
Substance : PYRENE
Pathway : NOT INDICATED
GW Scoring : Not reported
SW Scoring : Not reported
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Not reported
FE Scoring: Not reported

NPL Status: Final
Substance Id: D008
Case Num: 7439-92-1
Substance : LEAD (PB)
Pathway : DC
GW Scoring : Not reported
SW Scoring : Not reported
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Toxicity
FE Scoring: Not reported

NPL Status: Final
Substance Id: D008
Case Num: 7439-92-1
Substance : LEAD (PB)
Pathway : GW
GW Scoring : Toxicity
SW Scoring : Not reported
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Not reported
FE Scoring: Not reported

WASTE INC (Continued) **1000397211**

NPL Status: Final
Substance Id: A020
Case Num: 7440-47-3
Substance : CHROMIUM AND COMPOUNDS, NOS (CR)
Pathway : SW
GW Scoring : Not reported
SW Scoring : Observed Release
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Not reported
FE Scoring: Not reported

NPL Status: Final
Substance Id: A046
Case Num: 1336-36-3
Substance : POLYCHLORINATED BIPHENYLS, NOS
Pathway : SW
GW Scoring : Not reported
SW Scoring : Observed Release
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Not reported
FE Scoring: Not reported

NPL Status: Final
Substance Id: D004
Case Num: 7440-38-2
Substance : ARSENIC
Pathway : SW
GW Scoring : Not reported
SW Scoring : Observed Release
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Not reported
FE Scoring: Not reported

NPL Status: Final
Substance Id: D008
Case Num: 7439-92-1
Substance : LEAD (PB)
Pathway : SW
GW Scoring : Not reported
SW Scoring : Observed Release & Toxicity
Air Scoring: Not reported
Soil Scoring: Not reported
DC Scoring: Not reported
FE Scoring: Not reported

NPL Site:
CERCLIS Id: IND980504005
Site City: Michigan City
Site State: IN
NPL Status: Final
Status Date: 07/22/87
Federal Site: Not reported
HRS Score: 50.63
GW Score: 71.43
SW Score: 50.70
Air Score: 0.00

WASTE INC (Continued) **1000397211**

Soil Score: 0.00
DC Score: 62.50
FE Score: 0.00

NPL Char:

NPL Status: Final
Category Description: DEPTH TO AQUIFER
Category Value: 18 FTBGS

NPL Status: Final
Category Description: DISTANCE TO THE NEAREST POPULATION
Category Value: 100

NPL Status: Final
Category Description: OBSERVED RELEASE-Surface Water
Category Value: Not reported

NPL Status: Final
Category Description: OTHER GROUND WATER USE-Unknown
Category Value: Not reported

NPL Status: Final
Category Description: PERMIT-None
Category Value: Not reported

NPL Status: Final
Category Description: PHYSICAL STATE-Liquid
Category Value: Not reported

NPL Status: Final
Category Description: PHYSICAL STATE-Sludge
Category Value: Not reported

NPL Status: Final
Category Description: PHYSICAL STATE-Solid
Category Value: Not reported

NPL Status: Final
Category Description: SITE ACTIVITY WASTE SOURCE-Industry Commercial Landfill
Category Value: Not reported

NPL Status: Final
Category Description: SITE ACTIVITY WASTE SOURCE-Manufacturing
Category Value: Not reported

NPL Status: Final
Category Description: SITE ACTIVITY WASTE SOURCE-Manufacturing Primary Metals
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Lake
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Stream
Category Value: Not reported

NPL Status: Final
Category Description: SURFACE WATER ADJACENT TO SITE-Wetland
Category Value: Not reported

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

WASTE INC (Continued) 1000397211

RCRIS:
Owner: LAND RECLAMATION INC
(813) 784-5858
Contact: MEL HARLIB
(219) 872-5555
Record Date: 11/07/1996
Classification: Conditionally Exempt Small Quantity Generator
Used Oil Recyc: No

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Comperhensive Environmental Response, Compensation and Liability Information System (CERCLIS)
Enforcement Docket System (DOCKET)
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)
State Systems (STATE)

1
East
< 1/8
354
Higher

SERVPRO UST U003113947
702 ROSE ST N/A
MICHIGAN CITY, IN 46360

UST:
Facility ID: 22079
Tank Number: 1
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: 01/01/1975
Closure Date: 8/14/96 0:00
Owner Id: 13048
Company Name: Servpro

A2
South
< 1/8
387
Higher

CHICAGO S SHORE AND SOUTH BEND RR RCRIS-SQG 1000463828
505 N CARROLL AVE FINDS IND006939300
MICHIGAN CITY, IN 46360

Site 1 of 2 in cluster A

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212
Contact: DF LAWRENCE
(219) 874-4221
Record Date: 08/19/1980
Classification: Not reported

CHICAGO S SHORE AND SOUTH BEND RR (Continued) 1000463828

Used Oil Recyc: No

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)
State Systems (STATE)

A3
South
< 1/8
387
Higher

CHICAGO SOUTHSHORE & SOUTH BEND RR
505 N CARROLL AVE
MICHIGAN CITY, IN 46360

RCRIS-SQG 1001404677
FINDS INR000009985

Site 2 of 2 in cluster A

RCRIS:
Owner: CHICAGO SOUTHSHORE & S BEND RR
(219) 874-9000
Contact: MERRILL PRICE
(219) 874-9000
Record Date: 02/17/1997
Classification: Small Quantity Generator
Used Oil Recyc: No

Violation Status: No violations found

4
NE
< 1/8
599
Higher

DEPARTMENT OF WATER WORKS
701 GRAND ST
MICHIGAN CITY, IN 46360

IN Spills 1000513954
UST N/A

SPILL:
Facility ID: 198707019
Incident Date: 7/11/87
Spill Source: Trans - Truck
Spill Desc: Not reported
Contained: No
Water Affected: None
Fish Killed: 0
Enforcement: NONE
Spilled Amount: 0
Recovered Amnt: 0
Material: Creek Sediment
Cleanup Duration: Not reported
Public Intake: Not reported

Report Date: 7/11/87
Area Affected: Unknown
Wtr Supply Affctd: No
Units: Unknown Units
Units: Unknown Units

UST:
Facility ID: 6023
Tank Number: 1
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 3983
Company Name: Michigan City Water Dept

DEPARTMENT OF WATER WORKS (Continued) **1000513954**

Facility ID: 6023
Tank Number: 2
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: 10/23/96 0:0
Owner Id: 3983
Company Name: Michigan City Water Dept

Facility ID: 6023
Tank Number: 3
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: 01/01/1981
Closure Date: 10/23/96 0:0
Owner Id: 3983
Company Name: Michigan City Water Dept

B5
SW
1/8-1/4
788
Higher

DWYER PRODUCTS CORP UST U001077512
418 N CALUMET AVE N/A
MICHIGAN CITY, IN 46360

Site 1 of 2 in cluster B

UST:
Facility ID: 1535
Tank Number: 2
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 4011
Company Name: Dwyer Products

Facility ID: 1535
Tank Number: 1
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 4011
Company Name: Dwyer Products

B6
SW
1/8-1/4
788
Higher

DWYER PRODUCTS CORPORATION RCRIS-SQG 1000211089
418 CALUMET AVE FINDS IND005069190
MICHIGAN CITY, IN 46360

Site 2 of 2 in cluster B

DWYER PRODUCTS CORPORATION (Continued) **1000211089**

RCRIS:
Owner: NAME NOT REPORTED
(312) 555-1212

Contact: ALLAN KALK
(219) 874-5236

Record Date: 08/18/1980
Classification: Small Quantity Generator
Used Oil Recyc: No

Violation Status: Violations exist

Regulation Violated:	Not reported
Area of Violation:	Generator-All Requirements
Date Violation Determined:	01/07/2000
Priority of Violation:	Low
Schedule Date to Achieve Compliance:	Not reported
Actual Date Achieved Compliance:	Not reported
Enforcement Action:	Written Informal
Enforcement Action Date:	01/07/2000
Proposed Monetary Penalty:	Not reported
Final Monetary Penalty:	Not reported
Regulation Violated:	Not reported
Area of Violation:	Generator-All Requirements
Date Violation Determined:	01/07/2000
Priority of Violation:	Low
Schedule Date to Achieve Compliance:	Not reported
Actual Date Achieved Compliance:	Not reported
Enforcement Action:	Written Informal
Enforcement Action Date:	01/07/2000
Proposed Monetary Penalty:	Not reported
Final Monetary Penalty:	Not reported

There are 2 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Other Evaluation	Generator-All Requirements	
	Generator-All Requirements	

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AIRS Facility System (AIRS/AFS)
Facility Registry System (FRS)
Resource Conservation and Recovery Act Information system (RCRAINFO)
State Systems (STATE)

7
SSE
1/8-1/4
852
Higher

STORRITE PRODUCTS
411 FAIRFIELD ST
MICHIGAN CITY, IN 46360

UST U000186947
N/A

UST:
Facility ID: 5886
Tank Number: 1
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
	STORRITE PRODUCTS (Continued)		**U000186947**

Closure Date: Not reported
Owner Id: 4182
Company Name: Howard Marschak

Facility ID: 5886
Tank Number: 2
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 4182
Company Name: Howard Marschak

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8 SSW 1/4-1/2 1877 Higher	**AMOCO SS 20170 EARL WOODRUFF** **2315 E MICHIGAN** **MICHIGAN CITY, IN 46360**	LUST UST	U001078832 N/A

LUST:
Facility ID: 10588
Owner Name: Amoco Service Station # 20170
Incident Number: 199108562
Priority: Medium
Contaminant: Not reported
Affected Area: Soil
Description: Active

Facility ID: 10588
Owner Name: Amoco Service Station # 20170
Incident Number: 199108562
Priority: Medium
Contaminant: Not reported
Affected Area: Groundwater
Description: Active

UST:
Facility ID: 10588
Tank Number: 5
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 1017
Company Name: BP Amoco Oil Co.

Facility ID: 10588
Tank Number: 4
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 1017
Company Name: BP Amoco Oil Co.

Facility ID: 10588
Tank Number: 3
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 1017

AMOCO SS 20170 EARL WOODRUFF (Continued) U001078832

Company Name: BP Amoco Oil Co.

Facility ID: 10588
Tank Number: 2
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 1017
Company Name: BP Amoco Oil Co.

Facility ID: 10588
Tank Number: 1
Tank Status: PERMANENTLY OUT OF SERVICE
Install Date: / /
Closure Date: Not reported
Owner Id: 1017
Company Name: BP Amoco Oil Co.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
LA PORTE COUNTY	S104942977	DEERCROFT RECYCLING & DISPOSAL FACILITY	SOUTHWEST CORNER OF THE INTERSECTION		SWF/LF	
LA PORTE COUNTY	S104942978	JOHNSON TRANSFER STATION	HUPP RD AND 1ST LINE RD		SWF/LF	
MICHIGAN CITY	1000113806	JET FABRICATORS INC	SR 212	46360	UST	10005
MICHIGAN CITY	1000104188	IND BELL TEL CO MICHIGAN CITY RS N6W	HWY 450 N	46360	RCRIS-SQG, FINDS	
MICHIGAN CITY	1000217446	INTERROYAL CORP	CARROL AVE	46360	RCRIS-SQG, FINDS	
MICHIGAN CITY	1001114915	LAKELAND AUTO SALVAGE	8188 NORTH COUNTY ROAD 600 WEST	46360	CERCLIS, RCRIS-SQG, FINDS	
MICHIGAN CITY	U003094278	SEARS ROEBUCK & CO	3901 S FRANKLIN ST-MARQUETTE S/C	46360	LUST, UST	12310
MICHIGAN CITY	1000364743	PHARMACO INC MYSTIK TAPE FAC	US HWY 20	46360	FINDS, RCRIS-LQG	
MICHIGAN CITY	90151432	NEAR ROYAL ROAD AND TRYON ROAD IN EAST MICHIGAN CITY, LOCATE	NEAR ROYAL ROAD AND TRYON ROAD IN EAS MICHIGAN CITY, LOCATE		ERNS	
MICHIGAN CITY	1000359382	AMERICAN ROYAL INC	ROYAL RD	46360	RCRIS-SQG, FINDS	
MICHIGAN CITY	1003870547	AMI METALS DIVISION	1617 EAST US HIGHWAY 12	46360	CERC-NFRAP	
MICHIGAN CITY	1000841344	NIPSCO MICHIGAN CITY GENERATING STATION	WABASH AT LAKE MICHIGAN	46360	FINDS, IN Spills, RCRIS-LQG, RCRIS-TSD, CORRACTS	199510029
MICHIGAN CITY	U003095247	MICHIGAN CITY FIRE DEPARTMENT	313 WARREN RD	46360	LUST, UST	19829
MICHIGAN CITY	1000241418	MICHIGAN CITY DRUM SITE	50 YRDS N OF THE E-W SEGMENT OF TWIN RI	46360	CERCLIS	
TOWN OF PINES	1003073065	TOWN OF PINES GROUNDWATER PLUME	WALNUT STREET / HWY. 20	46360	CERCLIS	

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/26/01
Date Made Active at EDR: 08/28/01
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 08/06/01
Elapsed ASTM days: 22
Date of Last EDR Contact: 11/05/01

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 07/26/01
Date Made Active at EDR: 08/28/01
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 08/06/01
Elapsed ASTM days: 22
Date of Last EDR Contact: 11/05/01

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/12/01
Date Made Active at EDR: 10/16/01
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/24/01
Elapsed ASTM days: 22
Date of Last EDR Contact: 09/24/01

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/12/01
Date Made Active at EDR: 10/16/01
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/24/01
Elapsed ASTM days: 22
Date of Last EDR Contact: 09/24/01

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/20/01
Date Made Active at EDR: 10/30/01
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 09/24/01
Elapsed ASTM days: 36
Date of Last EDR Contact: 09/11/01

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 06/21/00
Date Made Active at EDR: 07/31/00
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 07/10/00
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/07/01

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 08/08/00
Date Made Active at EDR: 09/06/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 08/11/00
Elapsed ASTM days: 26
Date of Last EDR Contact: 10/25/01

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially

Date of Last EDR Contact: 09/18/01
Date of Next Scheduled EDR Contact: 12/17/01

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/09/01
Date of Next Scheduled EDR Contact: 01/07/02

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/26/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/05/01
Date of Next Scheduled EDR Contact: 02/04/02

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/13/01
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/01
Date of Next Scheduled EDR Contact: 01/07/02

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 05/31/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/22/01
Date of Next Scheduled EDR Contact: 01/21/02

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 05/29/01
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/08/01
Date of Next Scheduled EDR Contact: 01/07/02

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 08/24/01
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/01/01
Date of Next Scheduled EDR Contact: 12/31/01

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 11/19/01
Date of Next Scheduled EDR Contact: 02/18/02

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/30/01
Database Release Frequency: Annually

Date of Last EDR Contact: 11/13/01
Date of Next Scheduled EDR Contact: 02/12/02

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 09/13/01
Date of Next Scheduled EDR Contact: 12/10/01

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/99
Database Release Frequency: Annually

Date of Last EDR Contact: 09/24/01
Date of Next Scheduled EDR Contact: 12/24/01

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years

Date of Last EDR Contact: 10/24/01
Date of Next Scheduled EDR Contact: 01/21/02

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/19/01
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/25/01
Date of Next Scheduled EDR Contact: 12/24/01

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 07/19/01
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/25/01
Date of Next Scheduled EDR Contact: 12/24/01

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF INDIANA ASTM STANDARD RECORDS

SHWS: List of Hazardous Waste Response Sites Scored Using the Indiana Scoring Model
Source: Department of Environmental Management
Telephone: 317-308-3052
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 09/01/00
Date Made Active at EDR: 02/05/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 01/09/01
Elapsed ASTM days: 27
Date of Last EDR Contact: 10/01/01

SWF/LF: Permitted Solid Waste Facilities
Source: Department of Environmental Management
Telephone: 317-232-0066
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/29/01
Date Made Active at EDR: 05/01/01
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 04/03/01
Elapsed ASTM days: 28
Date of Last EDR Contact: 10/15/01

LUST: Lust Leaking Underground Storage Tank List
Source: Department of Environmental Management
Telephone: 317-308-3008
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/10/01
Date Made Active at EDR: 10/31/01
Database Release Frequency: Annually
Date of Data Arrival at EDR: 10/10/01
Elapsed ASTM days: 21
Date of Last EDR Contact: 10/01/01

UST: Indiana Registered Underground Storage Tanks
Source: Department of Environmental Management
Telephone: 317-308-3008
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/18/01
Date Made Active at EDR: 10/18/01
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 10/01/01
Elapsed ASTM days: 17
Date of Last EDR Contact: 10/01/01

STATE OF INDIANA ASTM SUPPLEMENTAL RECORDS

SPILLS: Spills Incidents
Source: Department of Environmental Management
Telephone: 317-308-3008

Date of Government Version: 09/18/01
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 10/01/01
Date of Next Scheduled EDR Contact: 12/01/01

GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ROYAL METALS
600 NORTH CARROL AVENUE
MICHIGAN CITY, IN 46360

TARGET PROPERTY COORDINATES

Latitude (North):	41.714199 - 41° 42' 51.1"
Longitude (West):	86.869698 - 86° 52' 10.9"
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	510839.6
UTM Y (Meters):	4617840.0

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2441086-F7 MICHIGAN CITY EAST, IN
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General ENE

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
LA PORTE, IN	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 1801470010B / CBPP

Additional Panels in search area:
1801470005B / CBPP
00000000000 / UNMC
1801470015B / CBPP
1801470020B / CBNP

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MICHIGAN CITY EAST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT **GEOLOGIC AGE IDENTIFICATION**

Era:	Paleozoic	Category:	Stratified Sequence
System:	Devonian		
Series:	Upper Devonian		
Code:	D3 *(decoded above as Era, System & Series)*		

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	COLOMA
Soil Surface Texture:	loamy sand
Hydrologic Group:	Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.
Soil Drainage Class:	Excessively. Soils have very high and high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: LOW

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	4 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 4.50
2	4 inches	39 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 4.50
3	39 inches	60 inches	stratified	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 4.50

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: sand
loamy fine sand
fine sand
sandy loam
fine sandy loam

Surficial Soil Types: sand
loamy fine sand
fine sand
sandy loam
fine sandy loam

Shallow Soil Types: sandy loam
sandy clay loam

Deeper Soil Types: fine sand
sand

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

loam

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	414245086514001	1/4 - 1/2 Mile ESE
A2	414245086514001	1/4 - 1/2 Mile ESE
B3	414245086512301	1/2 - 1 Mile East
B4	414245086512301	1/2 - 1 Mile East
C5	414217086522901	1/2 - 1 Mile SSW
C6	414217086522901	1/2 - 1 Mile SSW
C7	414216086523001	1/2 - 1 Mile SSW
C8	414216086523001	1/2 - 1 Mile SSW
D9	414210086522301	1/2 - 1 Mile SSW
D10	414210086522301	1/2 - 1 Mile SSW
E11	414224086512101	1/2 - 1 Mile SE
E12	414224086512101	1/2 - 1 Mile SE
F13	414231086511301	1/2 - 1 Mile ESE
F14	414231086511301	1/2 - 1 Mile ESE
G15	414204086515601	1/2 - 1 Mile SSE
G16	414204086515601	1/2 - 1 Mile SSE
G17	414203086515701	1/2 - 1 Mile SSE
G18	414203086515701	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

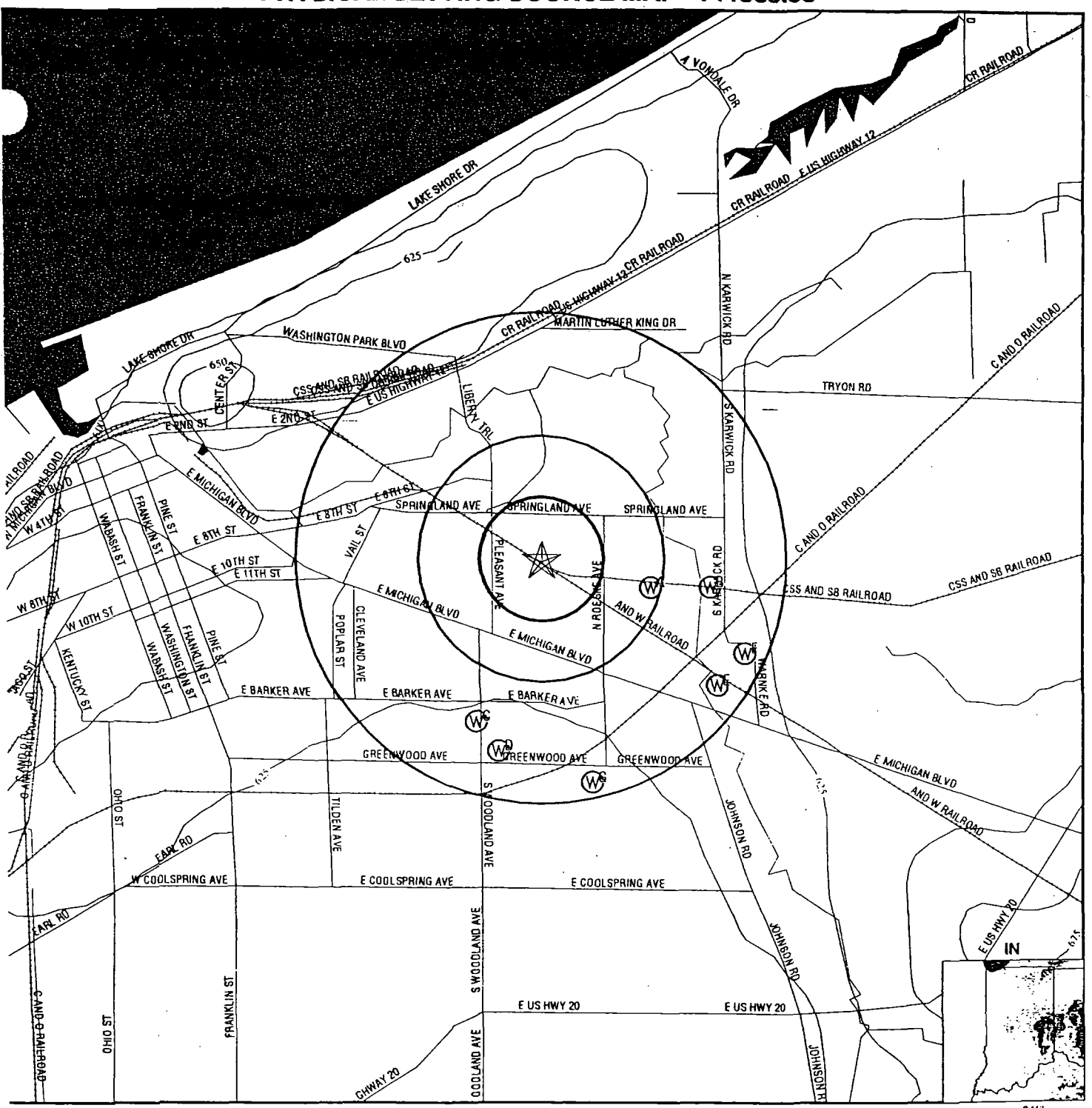
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 711383.3s



0 1/2 1 2 Miles

- Major Roads
- Contour Lines
- Water Wells
- Public Water Supply Wells
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Cluster of Multiple Icons
- Earthquake epicenter, Richter 5 or greater

TARGET PROPERTY:	Royal Metals	CUSTOMER:	Advanced Pollution Tech.
ADDRESS:	600 North Carrol Avenue	CONTACT:	Andrea DePoy
CITY/STATE/ZIP:	Michigan City IN 46360	INQUIRY #:	711383.3s
LAT/LONG:	41.7148 / 86.8987	DATE:	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A1 **ESE** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**414245086514001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1954	County:	La Porte
Altitude:	625.00 ft.	State:	Indiana
Well Depth:	19.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	6.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05121954	Prim. Use of Water:	Domestic

A2 **ESE** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**414245086514001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1954	County:	La Porte
Altitude:	625.00 ft.	State:	Indiana
Well Depth:	19.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	6.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	05121954	Prim. Use of Water:	Domestic

B3 **East** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414245086512301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1952	County:	La Porte
Altitude:	620.00 ft.	State:	Indiana
Well Depth:	61.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	20.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	09251952	Prim. Use of Water:	Domestic

B4 **East** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414245086512301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1952	County:	La Porte
Altitude:	620.00 ft.	State:	Indiana
Well Depth:	61.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	20.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	09251952	Prim. Use of Water:	Domestic

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
C5 **SSW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414217086522901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1925	County:	La Porte
Altitude:	627.00 ft.	State:	Indiana
Well Depth:	238.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	0000.30 ft.	Prim. Use of Site:	Test
Date Measured:	03151925	Prim. Use of Water:	Not Reported

	Database	EDR ID Number
C6 **SSW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414217086522901**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1925	County:	La Porte
Altitude:	627.00 ft.	State:	Indiana
Well Depth:	238.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	0000.30 ft.	Prim. Use of Site:	Test
Date Measured:	03151925	Prim. Use of Water:	Not Reported

	Database	EDR ID Number
C7 **SSW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414216086523001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1929	County:	La Porte
Altitude:	627.00 ft.	State:	Indiana
Well Depth:	382.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Not Reported
Date Measured:	01011929	Prim. Use of Water:	Not Reported

	Database	EDR ID Number
C8 **SSW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414216086523001**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1929	County:	La Porte
Altitude:	627.00 ft.	State:	Indiana
Well Depth:	382.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Not Reported
Date Measured:	01011929	Prim. Use of Water:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D9
SSW
1/2 - 1 Mile
Higher | **FED USGS** | **414210086522301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1957	County:	La Porte
Altitude:	627.00 ft.	State:	Indiana
Well Depth:	60.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Test
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

D10
SSW
1/2 - 1 Mile
Higher | FED USGS | 414210086522301

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1957	County:	La Porte
Altitude:	627.00 ft.	State:	Indiana
Well Depth:	60.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Test
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

E11
SE
1/2 - 1 Mile
Higher | FED USGS | 414224086512101

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1956	County:	La Porte
Altitude:	625.00 ft.	State:	Indiana
Well Depth:	27.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	13.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	12291956	Prim. Use of Water:	Domestic

E12
SE
1/2 - 1 Mile
Higher | **FED USGS** | **414224086512101**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1956	County:	La Porte
Altitude:	625.00 ft.	State:	Indiana
Well Depth:	27.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	13.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	12291956	Prim. Use of Water:	Domestic

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
F13 **ESE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414231086511301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	La Porte
Altitude:	620.00 ft.	State:	Indiana
Well Depth:	17.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Not Reported
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

	Database	EDR ID Number
F14 **ESE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414231086511301**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	La Porte
Altitude:	620.00 ft.	State:	Indiana
Well Depth:	17.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Not Reported
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

	Database	EDR ID Number
G15 **SSE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414204086515601**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1957	County:	La Porte
Altitude:	630.00 ft.	State:	Indiana
Well Depth:	33.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	8.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011957	Prim. Use of Water:	Domestic

	Database	EDR ID Number
G16 **SSE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**414204086515601**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1957	County:	La Porte
Altitude:	630.00 ft.	State:	Indiana
Well Depth:	33.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	8.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	04011957	Prim. Use of Water:	Domestic

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
G17 **SSE** **1/2 - 1 Mile** **Higher**		**FED USGS**	**414203086515701**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1954	County:	La Porte
Altitude:	630.00 ft.	State:	Indiana
Well Depth:	32.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	5.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	08101954	Prim. Use of Water:	Domestic

G18 **SSE** **1/2 - 1 Mile** **Higher**		**FED USGS**	**414203086515701**

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1954	County:	La Porte
Altitude:	630.00 ft.	State:	Indiana
Well Depth:	32.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	5.00 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	08101954	Prim. Use of Water:	Domestic

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for LA PORTE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 46360

Number of sites tested: 16

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.789 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.394 pCi/L	94%	6%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

Indiana Community and Non-Community Wells
Source: Department of Environmental Management
Telephone: 317-232-8476

RADON

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

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Sanborn® Map Report

Ship to: Andrea DePoy
Advanced Pollution Tech.
6910 N. Main Street
Grainger, IN 46530

Order Date: 12/6/2001 **Completion Date:** 12/07/2001
Inquiry #: 711383.4S
P.O. #: NA
Site Name: Royal Metals
Address: 600 North Carrol Avenue
City/State: Michigan City, IN 46360
Cross Streets:

1017756GRA 219-257-8196

Based on client-supplied information, fire insurance maps for the following years were identified

1929 - 1 - map
1936 - 1 - map
1948 - 1 - map
1965 - 1 - map

Total Maps: 4

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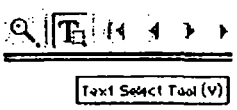

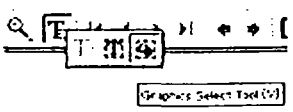

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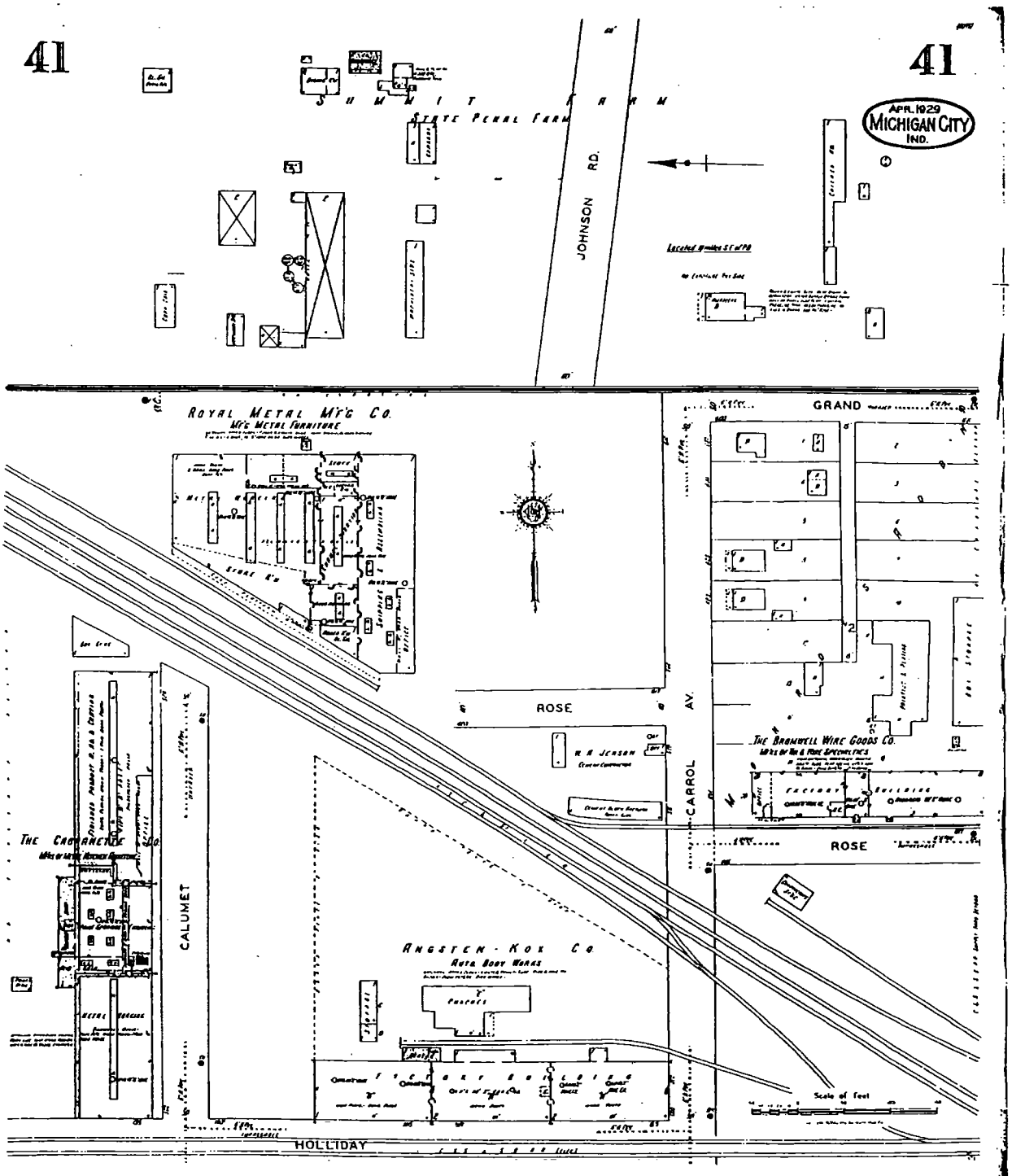

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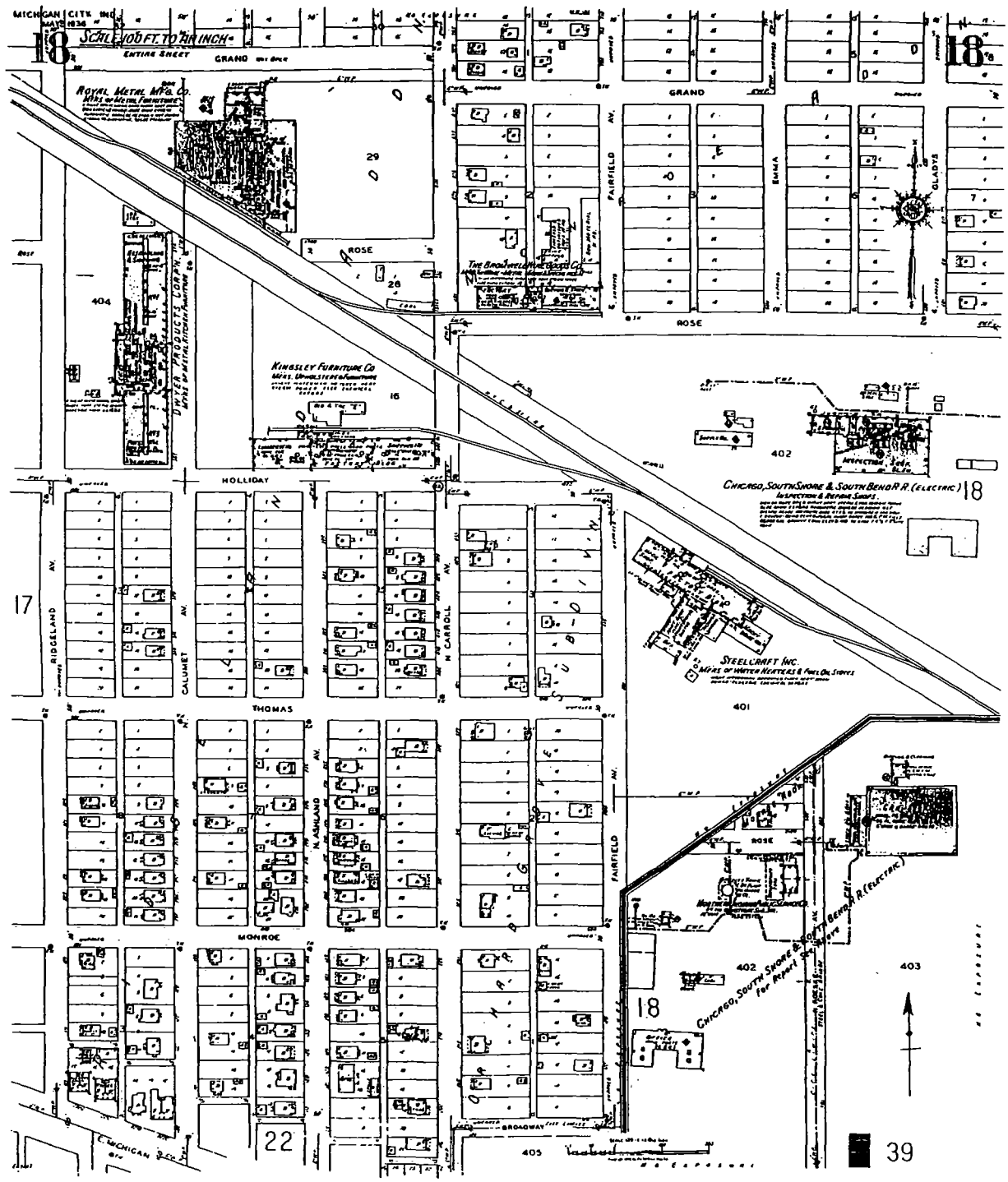

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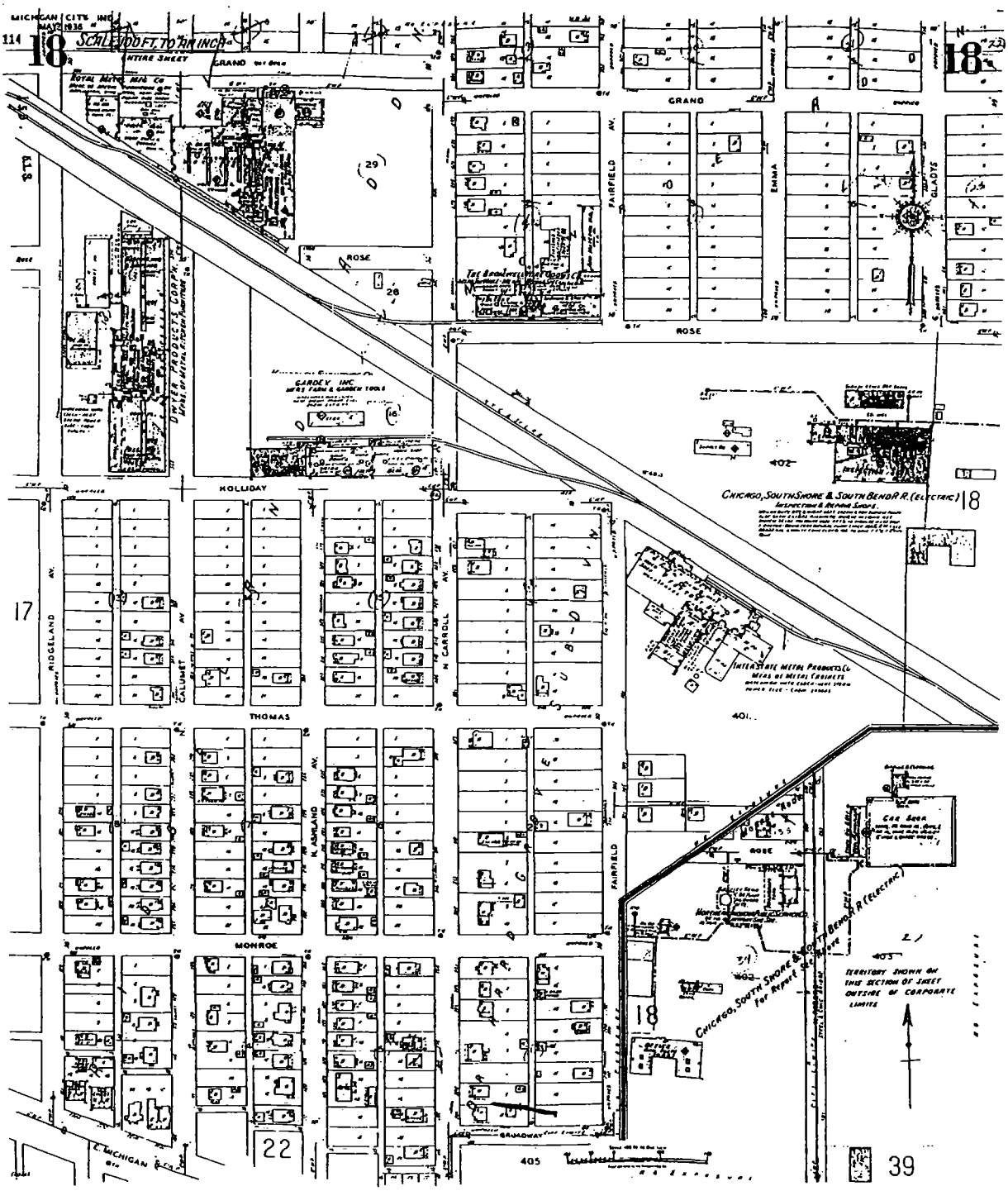

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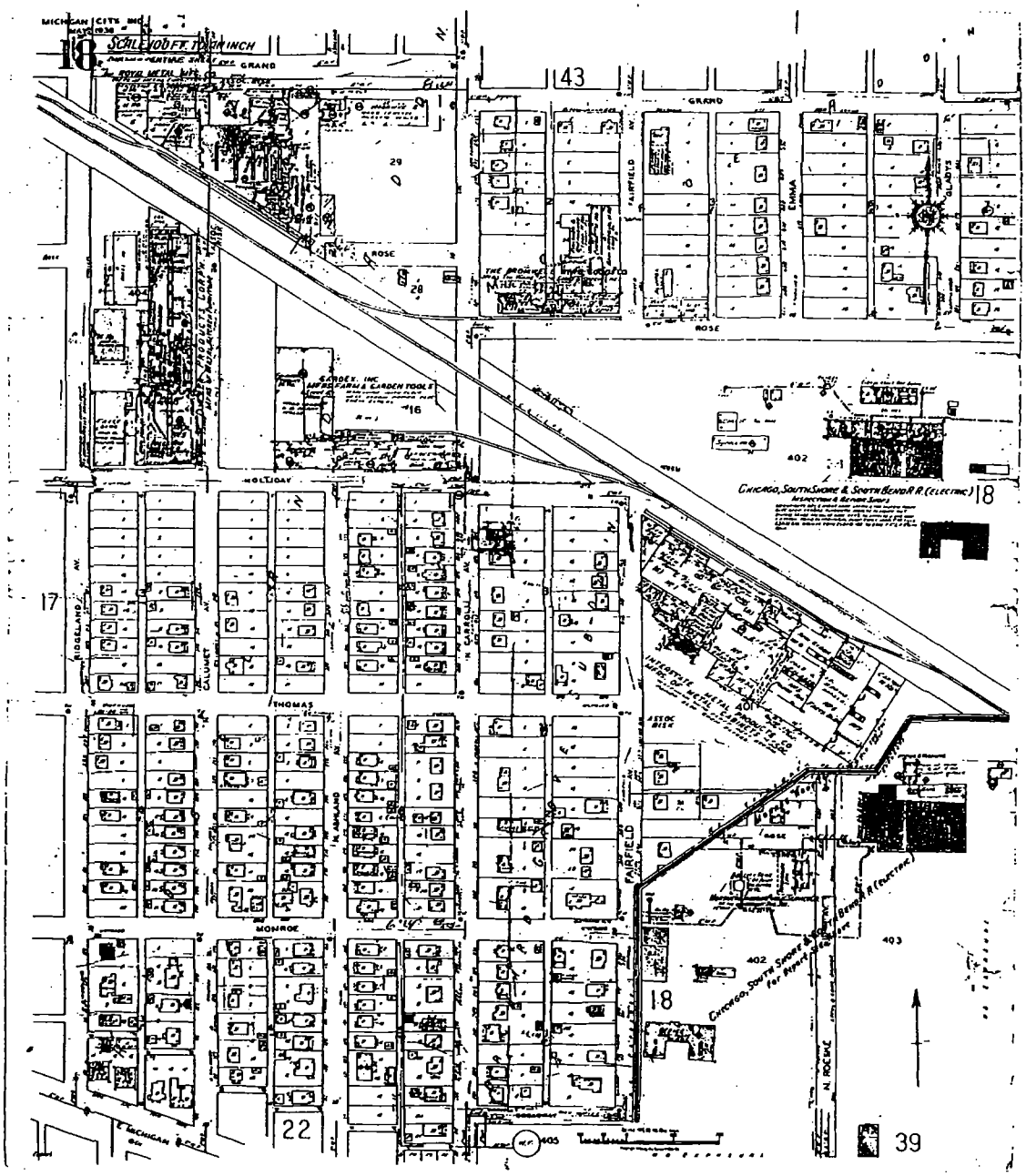

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Rec. 5/15/02

April 2002

SAMPLING AND ANALYSIS PLAN

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:
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Michigan City Economic Development Corp.
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Michigan City, Indiana 46360

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Project No. 333-01

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FIGURES

Figure 1 Site Location Map

Figure 2 Site Map With Proposed Monitoring Well and Soil Boring Locations

1.0 INTRODUCTION

The purpose of this Sampling and Analysis Plan (SAP) is to establish sampling and analysis procedures associated with a site investigation at the former Royal Metals site consistent with the Indiana Department of Environmental Management (IDEM) – Voluntary Remediation Program (VRP) *Resource Guide*, dated July 1996. The sampling and analysis procedures are required to determine the extent of potential soil and groundwater impacts at the former Royal Metals facility. Additionally, investigative activities conducted within the potentially impacted areas may be used to determine remedial action alternatives, if necessary. This SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples at the identified locations and intervals presented in this SAP, and any subsequent investigatory activities at the facility.

This SAP includes discussion of equipment and materials, sampling procedures, chain-of-custody and field documentation procedures, target monitoring parameters, field measurement procedures, decontamination procedures, and quality assurance procedures. Information presented in the text of this SAP include, but are not limited to, sampling procedures, analytical methods, sample containers, sample preservation, holding times, and chain-of-custody procedures, specific to the former Royal Metals facility in Michigan City, Indiana.

2.0 FACILITY LOCATION AND BACKGROUND

The Former Royal Metals facility is located at 600 N Carroll Ave. in Michigan City, LaPorte County, Indiana (see Figure 1). The facility is situated on approximately 3.75 acres of land with a total area of 64,000 square feet of office and manufacturing building (see Figure 2). The facility is currently abandoned; however, past production activities at the facility consisted of metal fabricating and finishing.

A Phase I Environmental Site Assessment (ESA) conducted at the site by APT, Limited (APT) in January 2002 identified 10 potential recognized environmental conditions (RECs) associated with the property. These are identified as follows:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluid was still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. As a result, the vapor degreaser represents a REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint booths represent a REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.
- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents a REC.
- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents a REC.
- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based on materials that were likely stored in this area, the hazardous material storage area represents a REC.
- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in areas throughout the facility, including the metal working, wood working, explosion proof finishing, and chemical storage areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at

least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent a REC.

- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents a REC.
- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area and was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals that would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents a REC.
- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.
- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation, and that they were stored throughout the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents a REC.

3.0 GENERAL INFORMATION

The area to be investigated is the former Royal Metals facility and environs. Soil and groundwater samples will be collected by APT personnel during the site investigation activities. Sampling will not be conducted during inclement weather, with inclement weather defined as weather that may impair the integrity of the samples. A copy of the SAP will accompany the sampling team during each sampling event.

All soil and groundwater samples will be analyzed by Pace Analytical of Indianapolis, Indiana (Pace), with the analyses performed in accordance with the most recent edition of the EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Pace's quality assurance plan (QAP) is included as Appendix D of the multi-site *Quality Assurance Project Plan* (APT, April 2002), which has been developed as a separate document.

4.0 EQUIPMENT AND MATERIALS REQUIRED

The following is a listing of sampling equipment that is planned on being used during the investigative soil and groundwater sampling:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- A push-probe that utilizes a macro-core sampler consisting of a 4-foot by 2-inch steel tube fitted with a new, clean acetate liner;
- Clean replacement acetate liners for the macro-core samplers;
- Truck-mounted drill rig with steel alloy hollow-stem augers and drill rods;
- A continuous soil sampler consisting of a 2-foot by 2-inch steel tube advanced before the lead hollow-stem auger;
- A scale suitable for use in the field capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An Organic Vapor Meter (OVM) with 100 parts per million by volume (ppmv) isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- For groundwater elevation measurement, a Slope Indicator Company Water Level Indicator, graduated in hundredths of a foot;
- A portable pH/ORP/°C/µS Watertest meter suitable for use in the field. Manufacturer – Hanna Instruments and related calibration solutions;
- Dedicated, disposable, polyethylene bailer and string;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves (enough for each sampling team member to wear a fresh pair for each sample interval or each well);
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment as needed;
- Insulated coolers, capable of maintaining samples at 4 degrees Celsius, for transporting the samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);

- Plastic sheeting, paper towels, garbage bags, indelible ink pen, etc.; and
- A copy of the QAPP on site with the samplers.

Sampling equipment will not be allowed to come in contact with the ground or any object that might provide a source of contamination once it has been decontaminated.

5.0 EQUIPMENT INSPECTION AND CALIBRATION

Equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the manufacturer's specification. In order to insure and maintain operational condition of the sampling and monitoring equipment to be used during field activities, sampling equipment inspection, and calibration procedures will be followed during site activities. In addition, an outline of procedures for using and changing gloves to ensure sample integrity during sample collection has also been included.

Field equipment have established standard preventative maintenance plans. This includes decontamination of field analytical equipment, including the OVM, Watertest meter, and survey instrumentation. All scheduled and unscheduled maintenance will be recorded in the field notebook.

5.1 EQUIPMENT INSPECTION

Equipment to be used during the field sampling will be examined prior to use to certify that it is in operating condition. This includes checking the manufacturer's operating manual and the instructions for each instrument to ensure that maintenance requirements are being observed. Field notes from previous sampling trips will be reviewed so that the notation on any prior equipment problems are not overlooked, and all necessary repairs to equipment have been carried out.

Sampling equipment will be inspected at least one (1) week prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in the inspection. The copy of the list will be used to document the inspection.

The groundwater monitoring wells will be inspected during each groundwater sampling event for any signs of deterioration or other problems (e.g., rusted or broken locks, crumbling or cracked surface pad, missing well cap, standing water). The condition of each monitoring well will be documented in the Field Logbook.

The hollow-stem continuous sampler and hydraulic push-probe soil sampling equipment will be inspected in the field prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in each inspection. Any problem or concern related to the condition of the equipment will be corrected prior to performance of field activities. Hollow stem drilling and push-probe equipment will be provided and operated by Top Flight Environmental Drilling of Osceola, Indiana under the direction of APT.

5.2 EQUIPMENT CALIBRATION

Calibration of field instruments is governed by the specific standard operating procedure (SOP) for the applicable field analysis method, and such procedures take precedence over the following general discussion. Additional calibrations will be performed in the event of suspected equipment malfunction.

Calibration of field instruments will be performed at least twice daily, at the beginning and end of every workday, unless the manufacturer specifies more frequent intervals. Equipment calibration will occur more frequently as conditions dictate. Field instruments will include a portable OVM and a Watertest meter. In the event that an internally calibrated field instrument fails to meet calibration/checkout procedures, it will be replaced or repaired before being used.

The OVM instrument will be calibrated in the field at the beginning and end of each day of sampling using a 100 ppmv isobutylene calibration gas. Acceptable results of the OVM verification check should be plus or minus 10 percent of the true value of the calibration gas. The OVM instrument will be recalibrated if the result of the verification check is outside of acceptable limits and as necessary in response to any malfunction or anomalous behavior of the instrument. Equipment calibration will be performed to manufacturers' instructions. If equipment malfunction is suspected and calibration failure occurs, equipment will be removed from service and substitute equipment obtained. Documentation of field calibration of the OVM instrument will be recorded in the Field Logbook.

The scale used to weigh the sample will be zeroed by placing a clean calibration mass on the scale and calibration of the scale will continue following the manufacturer instructions.

The Watertest meter will be calibrated in the field at the beginning and end of each day of sampling. Re-calibration will be conducted as necessary in response to any instrument malfunction or anomalous behavior of the instrument. Equipment calibration will be performed according to manufacturer instructions. Documentation of field calibration of the pH, specific conductivity, and temperature meter will be recorded in the Field Logbook.

6.0 TARGET PARAMETERS/ANALYTICAL METHODS

The COCs for the facility are solvents, lubricating and cutting oils, petroleum products, metals, and possible PCB-containing fluids. Soil and groundwater samples from the area will therefore be analyzed for:

- Volatile organic compounds (VOCs) by SW-846 Method 8260, with methanol preservation in the field using Method IN-5035M for soil samples;
- Semivolatile organic compounds (SVOCs) by SW-846 Method 8270 (base/neutrals/acids);
- Priority Pollutant List (PPL) metals by SW-846 Methods 6010 and 7471 (mercury); and
- Polychlorinated Biphenyls (PCBs) by SW-846 Method 8082 (soil samples only).

Further details pertaining to laboratory methods and data quality objectives are presented in the laboratory's QAP, which is included as Appendix D of the multi-site QAPP (APT, April 2002).

7.0 USE OF GLOVES

Any personnel handling the equipment or performing sampling will wear a new pair of clean latex, nitrile, or vinyl gloves if the potential exists for contact with the soil or groundwater sample, or any surface that may come in contact with the sample. Gloves must be discarded after each sample interval and replaced with new, clean gloves prior to proceeding to the next sample interval. Gloves will be collected with other personal protection equipment (PPE), containerized in a labeled 55-gallon drum, and characterized for appropriate disposal. Characterization of PPE will rely on the laboratory results of the soil samples tested. Sampling equipment and the samples themselves will not be allowed to come in contact with any object that might provide a source of contamination.

8.0 SOIL SAMPLING

Soil samples will be collected for laboratory analysis following the VRP's DQO's for site investigation sampling (*i.e.,* Level 3 DQOs). One soil sample will be collected from each of an estimated eight soil borings that will be advanced at the site. The soil sample will be collected from the interval exhibiting the highest degree of apparent impact based on OVM readings or visual observations, or if there is no evidence of impact, from just above the capillary fringe of the water table. Each soil boring will be advanced using a Geoprobe drilling unit, which utilizes a hydraulic percussion method to advance a push-probe sampler. Continuous soil cores will be collected in order to characterize the subsurface. Depending on logistics and technical requirements, an alternative method of drilling may be required, in which case the USEPA and the City will be notified prior to implementing the alternative drilling method. The laboratory will analyze soil samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan.* While all soil samples will be analyzed for VOCs, SVOCs, and PPL metals, only selected soil samples will be analyzed for PCBs (*i.e.,* from areas where PCB-containing fluids may have been present).

8.1 SAMPLE LOCATIONS

The proposed soil boring locations are shown in Figure 2, and are based on the results of the *Phase I EA* (APT, January 2002). However, the final locations will be determined in the field based on site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The soil borings will be located such that they are adequate to evaluate each REC with regard to the potential for impact.

All borings will be advanced to a depth of approximately five feet into the zone of saturation, estimated to occur at a depth of 20 feet BGS.

8.2 PUSH-PROBE SOIL SAMPLING EQUIPMENT AND PROCEDURE

The hydraulic push-probe sampler operates by advancing a string of 1-inch-diameter threaded steel alloy rods with the aid of a hydraulic ram. The push probe is capable of exerting 18,000 pounds of force and uses a hydraulic hammer attachment to advance the rods through dense or hard materials.

A macro-core sampler will be used to continuously obtain soil samples. The macro-core sampler is a hollow steel tube measuring 4 feet in length and fitted with an acetate insert. The macro-core sampler is capable of recovering a soil core up to 48 inches long and 1.5 inches in diameter. Sampling procedures to be implemented during investigative activities are discussed below.

The following procedure will be followed when sampling using this technique:

1. The truck-mounted push-probe rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.

2. Push-probe equipment will be set up and the decontaminated macro-core sampler advanced to the desired depth using the hydraulic ram and hammer; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the soil sample contained within the acetate liner is removed from the sampler for inspection.
3. The acetate liner will be cut open using a decontaminated liner cutter for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
5. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. One soil sample will be collected for laboratory analysis from each of the soil borings. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.,* from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
8. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.
9. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

9.0 GROUNDWATER SAMPLING

Groundwater samples will be collected for laboratory analysis following the VRP DQOs for screening (*i.e.*, Level 1 DQOs) and nature & extent investigation sampling (*i.e.*, Level 3 DQOs). The purpose of the groundwater sampling and analysis is to obtain and analyze representative groundwater samples to determine to what extent, if any, VOC, SVOCs, and PPL metal impacts from past operations at the facility have affected groundwater quality. The groundwater sampling and analysis will be used to characterize the site-wide groundwater quality at the Royal Metal property. Groundwater sampling at the site will include obtaining groundwater samples from five of the soil borings advanced during the soil assessment portion of the investigation, and subsequent groundwater sampling from five monitoring wells installed as part of the baseline groundwater assessment portion of the investigation.

This section lists the procedures to be followed so that any qualified individual can obtain representative groundwater samples from the soil borings and monitoring wells.

The laboratory will analyze groundwater samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan*.

9.1 GROUNDWATER SCREENING SAMPLING

The assessment work scope will include taking groundwater screening samples from five selected soil borings. The following procedure will be followed when collecting groundwater screening samples:

1. The boring will be advanced to a depth of five feet below the static water level as indicated by saturated conditions encountered while drilling, following the procedure outlined in Section 8.0 of this SAP.
2. Static water elevations will be allowed to equilibrate for ten minutes.
3. Prior to collecting a groundwater sample from a Geoprobe soil boring, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the boring and multiplying the difference by 0.064 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. Up to two additional well casing volumes of water, following the initial three well volumes, will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: ± 0.1 standard units;
    - temperature: ± 0.5°C; and
    - specific conductivity: ± 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated an labeled 55-gallon drum for disposal at a later date;

4. A length of decontaminated polyethylene tubing equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater;

5. The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass or plastic sample containers. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice; and

6. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14. Groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

9.2 BASELINE GROUNDWATER ASSESSMENT SAMPLING

In order to characterize the groundwater quality at the former Royal Metals facility, five monitoring wells will be installed at the proposed locations shown on Figure 2. The final locations will be based on the results of the soil and groundwater screening analyses, as well as site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The monitoring wells will be located such they are adequate to evaluate site-wide groundwater with regard to the potential for impact.

All monitoring well borings will be advanced to a depth of approximately five feet into the zone of saturation, estimated to occur at a depth of 20 feet BGS. Continuous soil cores will be retrieved from the monitoring well borings to geologically and chemically characterize the soils and observe the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

1. The drill rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for the location change, will be documented in the Field Logbook.

2. The drilling equipment will be set up and a decontaminated two-foot long, 2-inch diameter split-spoon sampler will be advanced ahead of the auger bit in accordance with ASTM Standard Method D1586-84; each sample core will be taken with a vertical orientation. After being advanced to the desired sampling depth, the sampler will be withdrawn and the soil core removed for inspection.

3. The soil core will be placed on clean plastic sheeting and opened by splitting the sampler in half for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form. Although no soil samples are proposed to be collected from monitoring well borings, soil sample may be retained for possible laboratory analysis based on the OVM readings or visual evidence of impact. Samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. The MCEDC will be contacted with regard to whether analysis should be performed. If not, the collected soil sample will be discarded
5. If the sample is to be submitted to the laboratory for analyses, a sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier as discussed in Section 14 of this SAP.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. The auger chain is then advanced to the bottom depth of the split-spoon sampler and the process repeated until the total depth of the boring is reached.
8. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14.
9. Following completion of each boring, a monitoring well will be constructed per the procedure outlined in Section 9.2.1 below.
10. Following installation, each monitoring well will be developed using the procedure described in Section 9.2.3 of this SAP.
11. No sooner than 24 hours following installation and development of the monitoring wells, one round of groundwater samples will be collected from all of the wells to provide a baseline for site-wide groundwater quality. Groundwater samples from these five monitoring wells will be analyzed for VOCs, SVOCs, and PPL metals using Method 8260, Method 8270, and Methods 6010 and 7471 respectively. QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinsate blank per day, one MS/MSD per 20 investigative samples, and one trip blank per sample shipping container.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Soil sampling

equipment will be decontaminated between soil cores using non-phosphate detergent and distilled water.

9.2.1 Monitoring Well Installation Procedure

The following procedure will be followed when installing monitoring wells:

1. The monitoring well borehole will be advanced to an estimated depth of 20 feet BGS using a mobile drilling rig equipped with 4-1/4 inch hollow stem augers. The wellbore will be terminated upon reaching a depth sufficient to install a five-foot long screen across the static water level of the uppermost water bearing zone. This will allow for the detection of possible light non-aqueous phase liquids (LNAPL) under a range of groundwater elevation fluctuations. Continuous coring will be performed using a two-foot long split-sampling device driven ahead of the auger chain in order to characterize the subsurface geology. These cores will also be field screened for volatile compounds using an OVM;
2. The monitoring well will be installed inside of the auger chain using a five-foot long slotted screen and five-foot long sections of flush-threaded 2-inch PVC. The monitoring well will be equipped with a flush mount casing, unless it is located in an area of no vehicular traffic where the monitoring well will be of stick-up design;
3. A filter pack of appropriately sized material will be placed from the bottom of the wellbore to two feet above the top of the screen. The filter pack will not extend more than two feet above the top of the well screen;
4. An annular seal of bentonite shall be installed above the filter pack and will have a minimum thickness of two feet;
5. A annular seal of bentonite or grout (if the bentonite does not extend upward through the remaining annular space to the base of the concrete surface seal) shall be installed above the bentonite seal and will extend upward to the base of the concrete surface seal;
6. A concrete surface seal will be installed and will be anchored to soils below the regional frost line to protect the well from damage due to frost heave;
7. A concrete pad will be installed around the monitoring well and will be sloped away from the well casing to deflect surface water away from the well; and
8. The newly installed monitoring well will be surveyed to a vertical accuracy of 0.01 feet and a horizontal accuracy of 1.0 feet, relative to a permanent on-site benchmark.
9. A well construction diagram will be completed for each monitoring well, providing pertinent information regarding the well.

The filter pack, annular seal, and grouting materials shall be installed through the center of the hollow-stem auger chain as the drill string is withdrawn. Filter pack materials and bentonite chips or pellets will be introduced gradually and uniformly to the annular space inside of the hollow-stem auger chain and around the well casing to prevent bridging of the materials during placement. The auger chain will be gradually removed from the open borehole in approximately

one-foot lifts as the material is placed, allowing the material to gradually spill out of the bottom of the auger chain into the annular space between the subsurface soils and the well casing and thus further prevent bridging. Any grouting will occur under pressure with the annulus sealed from the bottom up via the tremie method.

9.2.2 Measurement of Static Groundwater Elevations

Prior to purging the wells when sampling, the depth to water will be determined by utilizing a decontaminated electronic water level indicator with a weighted probe. Upon opening each well (i.e., removing the sealed cap), the water elevations will be gauged repeatedly and the measured elevations recorded in the field logbook. When the trends of at least three consecutive measurements are within 0.01 feet of one another the well will be considered to have equilibrated. Upon reaching apparent equilibrium, the monitoring well will be allowed to equilibrate for an additional five minute time period as a safety factor.

Measurements will then be taken using an electronic water level indicator, to an accuracy of 0.01 feet. The reference point for the measurement is a mark at the top of the well casing. The elevations of these reference points will be surveyed relative to a permanent local benchmark. The elevation of the groundwater in each well will be determined by subtracting the depth-to-water measurement from the measuring point elevation. All survey and water elevation measurements will be recorded in the Field Logbook.

9.2.3 Monitoring Well Purging and Sampling Procedure

The following procedure will be followed when sampling groundwater from monitoring wells:

1. The sampler will don new, clean, disposable, latex sampling gloves when performing sampling activities at each well location.
2. Prior to collecting a groundwater sample from a monitoring well, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the well and multiplying the difference by 0.163 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. A maximum of five well volumes will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: $\pm$ 0.1 standard units;
    - temperature: $\pm$ 0.5°C; and
    - specific conductivity: $\pm$ 10 percent.

    Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated and labeled 55-gallon drum for disposal at a later date;

3. A dedicated polyethylene bailer equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater. The sampling bailer will be lowered into the well gently to reduce agitation and aeration of the water sample;
4. The bailer will be removed from the well and the sample containers filled. Groundwater samples will be transferred directly from the sampling bailer to laboratory supplied, pre-preserved sample containers. Samples for VOCs will be filled such that there is no headspace in the sample container. Excess sample will be poured into the drum containing purge water. The following sampling order will be followed:
    - VOCs;
    - SVOCs; and
    - PPL metals.
5. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice.
6. Upon completion of the sampling activity at each well, the cap will be replaced and the well locked.

Sample bottles, analytical methods, preservatives, and holding times are specified in the following sections of this SAP and in Table 1. Three 40-ml vials, pre-preserved with HCl at the laboratory; two 1-L amber bottles; and one 150-mL plastic bottle, pre-preserved with HNO_3 at the laboratory will be used as the sampling containers for samples to be analyzed for VOCs, SVOCs, and metals, respectively. It is desirable to label all the bottles prior to sampling or to pre-label a complete set of bottles for a well prior to sampling the well.

Dedicated bailers and twine will be used to purge/sample each well; bailers or twine will not be re-used.

10.0 QA/QC SAMPLES

The VRP guidance (IDEM, July 1996) identifies four types of quality control samples to be collected in the field: trip blanks, equipment rinsate or field blanks, duplicates, and matrix spike/matrix spike duplicates. Trip blanks are used to document volatile organic contamination attributable to shipping and field handling procedures. Equipment rinsate blanks are obtained from sampling equipment, which has been decontaminated to document the effectiveness of decontamination procedures. The detection of analytes in the equipment rinsate blank indicates possible cross-contamination between sample locations and determines that either ineffective or incomplete decontamination has been performed on equipment from which the equipment rinsate blank was collected. Duplicate samples are used to assess the representativeness (sampling variability) of field sampling procedures. Matrix spike/matrix spike duplicates are used to assess the effect the sample matrix has on the accuracy of the result.

10.1 TRIP BLANKS

To document the absence of VOC contamination attributable to shipping and field handling procedures associated with aqueous samples, a water sample of analyte-free media is prepared by the laboratory, transported to the sampling site, and returned to the laboratory unopened. The trip blank (which is pre-preserved and will remain sealed) is transported to the laboratory along with the investigative samples, and analyzed for VOCs. A minimum of one trip blank will be analyzed per shipping container containing aqueous samples.

Additionally, a methanol blank will be submitted to the laboratory for analysis associated with the soil sampling activities for VOC analysis (Method IN5035). A minimum of one methanol blank will be analyzed per shipping container containing soil samples to be analyzed for VOCs.

10.2 EQUIPMENT RINSATE/FIELD BLANKS

As a check on equipment decontamination procedures, equipment/field blanks will be prepared from each type of soil sampling device used to collect solid media. The equipment/field blank will be prepared by pouring a sufficient volume of deionized water over all of the sampling equipment used to collect samples in the sampling event (*e.g.*, the split-spoon sampler and any utensils used for soil sampling, or the water level meter and any other equipment or utensils coming in contact with groundwater samples).

The equipment blank will be collected in the appropriate sample containers, preserved, transported, and analyzed in the exact manner as the assessment samples. A minimum of one equipment/field blank will be collected and analyzed per ten investigative samples, with no less than one per day of sampling. For this project, it is estimated that one equipment/field blank will be collected during the soil and groundwater screening assessment, and one equipment blank will be collected during the baseline groundwater assessment.

10.3 DUPLICATES

One field duplicate will be collected for the groundwater screening assessment and for the baseline groundwater assessment to establish the representativeness of field sampling procedures. The duplicate sample will be prepared by dividing the soil or groundwater sample into two approximately equal portions, one of which is the duplicate sample. The sample and duplicate sample will be filled successively from a selected soil sample. Additional sample volumes will be collected and split as needed to fill the two (investigative and duplicate) sample containers. The sample bottles for one parameter (e.g., VOCs) will be filled before proceeding to the next parameter or sampling interval. The duplicate sample is placed in the appropriate container using the same procedure as for investigative samples, and subjected to the same analyses as the investigative sample.

A minimum of one duplicate will be collected and analyzed per ten investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one duplicate soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater duplicate will be collected during the baseline groundwater assessment. No duplicate samples will be collected during the groundwater screening, consistent with a Level 1 DQO.

10.4 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

In order to document both the bias and the precision of a method in a given sample matrix, enough volume of one sample of each media will be collected to prepare a matrix spike (MS) and a matrix spike duplicate (MSD) each time samples are collected.

A minimum of one MS/MSD will be collected and analyzed per twenty investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one MS/MSD soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater MS/MSD will be collected during the baseline groundwater assessment. No MS/MSD samples will be collected during the groundwater screening, consistent with a Level 1 DQO. The selected soil or groundwater sample for matrix spike/matrix spike duplicate analysis will be divided into two more or less equal portions and placed in their respective sample bottles. Additional sample volumes will be collected and split as needed to fill the two sample containers.

11.0 DECONTAMINATION OF FIELD INSTRUMENTS

Only thoroughly decontaminated equipment will be used to collect samples during the investigative activities. If dedicated factory sealed bailers are used for groundwater sampling, no decontamination will be required for this equipment item. The hollow stem augers will be decontaminated using a pressurized steam cleaner to wash off all visible soil/residues.

The following decontamination procedures will be used for all other sampling equipment, including the hollow-stem auger continuous sampler, the push-probe sampling tools, the water level indicator, and any other non-disposable sampling equipment that might come in contact with the soil or groundwater samples. All such sampling equipment will be decontaminated using these procedures:

1. Prior to decontamination, all rods and sampling equipment will be completely disassembled to the extent feasible.
2. The decontamination procedure will consist of a three-step process which includes a thorough non-phosphate detergent "dirty wash" to remove the majority of the soil, followed by a non-phosphate "clean wash" and triple rinse with distilled water.
3. If visible soil or other residues remain, then procedure 2 will be followed again until all visible soil/residues have been removed from all sampling equipment.
4. The sampling equipment will then be subjected to a final rinse with distilled water.
5. Sampling equipment will be protected from contamination during field operations.

12.0 SAMPLE CONTAINERS AND PRESERVATION

All samples are to be transferred directly into the appropriate new sample containers provided by the laboratory. Only new, pre-preserved (as applicable) sample containers supplied by the analytical laboratory will be used. All sample containers will conform to the specifications of SW-846. The container will be filled with the appropriate amount of soil or water that is determined by the analytical method. The containers will be appropriately sized to contain a sufficient volume of sample for the required analysis. Container descriptions, preservation requirements, and holding times are presented in Table 1.

Soil samples that will be analyzed for VOCs will be stored in two 40-ml vials and one 4-ounce container. One of the 40-ml vials will be pre-preserved with methanol, and the remaining 40-ml vial and 4-ounce container will be non-preserved, consistent with IN-5035M. Soil samples that will be analyzed for SVOCs, PPL metals, and PCBs will be containerized in 4-ounce glass jars equipped with Teflon lined lids. Preservation will also include packing the samples in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

Groundwater samples, equipment blanks, and trip blanks that will be analyzed for VOCs (SW-846 Method 8260) will be stored in 40-mL vials pre-preserved at the laboratory with HCl. Groundwater and QA/QC samples that will be analyzed for SVOCs will be stored in 1-liter amber bottles without preservative. Groundwater and QA/QC samples that will be analyzed for PPL metals will be stored in 500-ml plastic bottles pre-preserved at the laboratory with HNO_3. All samples will be stored and shipped in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

13.0 PACKING AND SHIPMENT OF SAMPLES

The filled sample containers (both soil and groundwater) will be securely packed in an insulated cooler to avoid breakage during shipment. Ice will be placed in pouches such as Ziplock® baggies and packed with the samples in an insulated cooler to maintain the temperature of the samples at 4° C during shipment. All samples will be shipped to the laboratory via overnight courier. Each sample shipment will be accompanied by a chain-of-custody form, which will also identify the requested analyses. All necessary paperwork will be placed in a plastic, sealed bag inside the lid of each cooler and the cooler will be sealed with custody seals and covered by clear shipping tape. Shipping records will be maintained with chain-of-custody documentation.

The lid of each cooler will be sealed with two custody seals at opposite corners of the cooler, and covered by clean transparent shipping tape. The cooler will be sealed with clean shipping tape.

14.0 SAMPLE CUSTODY DOCUMENTATION/FIELD LOGBOOK

Chain-of-custody procedures will ensure proper documentation of possession and handling of samples from the time they are collected until analysis at the laboratory. Information provided to document chain-of-custody possession will include the APT Project number, signature of samplers, sample numbers, dates and times of collection, signatures of individuals involved in sample transfer, and the air bill or other shipping number.

Documentation and chain-of-custody procedures will include the following:

- Sample Identification.
- Sample Labels.
- Cooler Seals.
- Field Logbook.
- Chain-of-Custody Forms.

Chain-of-custody procedures to be followed by Pace after delivery of the samples are presented in the Laboratory QAP (Appendix D of the multi-site QAPP for this project).

14.1 SAMPLE IDENTIFICATION

Samples will be assigned a unique sample ID code. Sample nomenclature for the soil samples will consist of the soil boring identification number followed a semicolon and the depth below the ground surface (BGS) at which the soil sample is collected. For example, a soil sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *SB-1; 25'*.

Sample nomenclature for the groundwater samples will consist of the monitoring well identification number followed by a semicolon and the six-digit representation of the date on which the groundwater sample is collected. For example, a groundwater sample collected from monitoring well MW-1 on March 15, 2002 would be identified as *MW-1; 031502*.

Duplicate soil samples will be identified by the prefix "DUP" followed by a dash, a sequential integer to designate the duplicate number, semicolon, and the depth BGS. For example, the first duplicate soil sample collected during the project from a depth of 25 feet BGS in soil boring SB-1 would be identified as *DUP-1; 25'*. A second duplicate sample from another boring would be identified as *DUP-2; depth.* The soil boring that the duplicate was obtained from will be identified only in the field notebook in order to obtain a "blind" duplicate.

Duplicate groundwater samples will be identified by the prefix "DUP" followed by a dash, a sequential integer designating the duplicate sample number for that round of sampling, a semicolon, and the six-digit representation of the date. For example, a duplicate groundwater sample collected from monitoring well MW-1 on August 15, 2002 would be identified as *DUP-1; 031502*. If a second duplicate sample were collected on August 15, 2002 (*i.e.*, during the same

sampling event) from monitoring well MW-3, it would be identified as *DUP-2; 031502.* The monitoring wells from which the duplicate samples were collected would be identified only in the field notebook.

Trip blanks will be identified by the prefix "TB" followed by the six-digit representation of the date. For example, a trip blank collected on March 15, 2002 would be identified as *TB; 031502.*

Equipment rinsate blanks will be identified by the prefix "ER" followed by the six-digit representation of the date. For example, an equipment rinsate blank collected on March 15, 2002 would be identified as *ER; 031502.*

Matrix spike and matrix spike duplicates will be identified by the prefix "MS" and "MSD", respectively, followed by a dash, the soil boring name, a semicolon, and the depth BGS at which the sample was collected. For example, a matrix spike sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *MS/MSD-SB1; 25'.*

The corresponding sample identification number recorded in the Field Logbook will be used on the sample label and the chain-of-custody form for each sample for reference purposes. The correlation of sample designation to the sample number will be recorded in the Field Logbook.

14.2 SAMPLE LABELS

To identify the contents of each sample container, a sample label completed with a waterproof marker will be firmly attached to each sample container. Each sample label will be completed with the following information:

- Date of sampling;
- Sample ID number;
- Place of sampling (Royal Metals facility);
- Type of preservative;
- Parameters to be analyzed; and
- Name(s), initials of the sampler(s).

The boring or monitoring well number will not be recorded on the sample label or the chain-of-custody of the duplicates so that the laboratory will not know which well these samples were taken from. The locations of the duplicates will be noted in the Field Logbook.

14.3 COOLER SEALS

In the event that the samples will change hands en route to the laboratory, such as when shipped via overnight courier, chain-of-custody seals will be affixed at opposite corners the lid of the cooler to ensure that the container has not been opened during shipment. For the purposes of this project, it is important to document the persons who have access to the samples and to confirm that the samples have not been exposed to undocumented conditions or persons which may

impact the integrity of the samples, thus impacting the results of the analytical tests. Two seals will be affixed to each shipping container and fastened so that the container cannot be opened without breaking at least one of the seals. The custody seals will be completed with the date of sealing and signature of the sampler. The cooler will also be further secured for shipment using clear shipping tape. The condition of the custody seal, as well as the name of the sampler and the sampling date, will be recorded in the Field Logbook. Upon arrival at the laboratory, the condition of the custody seals will be examined by laboratory personnel for signs of tampering during transit.

14.4 FIELD LOGBOOK

A bound Field Logbook, designated "Royal Metals and Schmock – 333-01" will be used to record notes and observations during the closure activities. All entries into the Field Logbook will be made in permanent ink. Cross-outs, corrections, and additions to the entries will be initialed and dated. Ambient weather information will be recorded in the Field Logbook. This will include approximate temperature, wind velocity and direction, cloud cover, and precipitation information. The ground surface near the wellhead will be visually inspected for standing water or other soil conditions. These observations will also be recorded in the Field Logbook.

For sampling event: the site name and location, date, starting and ending times, weather, names of all people involved in sampling activities, level of personal protection used, documentation of adherence to protocol, any changes made to planned protocol, names of visitors to the site during sampling and reason for their visit, unusual observations, and signature of the person recording the information.

For each individual sample: a detailed description of location, any measurements made, the unique sample number assigned, the time the sample was taken, physical description of sample, depth from which sample was collected, whether grab or composite (if composite, how composited), equipment used to collect the sample, volume and number of sample containers, how sample is preserved, and initials of sampler. Each field duplicate must be given its own unique sample number; the description should include the unique sample number of its duplicate.

The field logbook will include comments regarding the following:

- Purpose of sampling event and identification of each sample location;
- General field observations;
- Name(s) of field personnel on site;
- Name(s) of site visitors;
- Climactic conditions - approximate temperature, wind speed and direction, and precipitation/cloud cover;
- Well maintenance and sampling information including:
  - Well stick-up; and
  - Problems noting well condition and maintenance.

- Sample procedure/equipment;
- Date and time of calibration of field-testing equipment;
- Equipment calibration (recorded each time the instruments are calibrated) and file data including:
  - Standards used;
  - Field meter identification;
  - Calibration results; and
  - Name of person who performed calibrations.
- Deviations, if any, from the SAP or QAPP;
- Depth to water;
- Total well or boring depth;
- Purge volume (groundwater sampling);
- Sample locations and depths;
- Sample collection procedures;
- Sample identification numbers;
- General sample appearance (color, odor noted, etc.), including presence/absence of visual impact;
- Types and source of sample containers;
- Preservatives used;
- Parameters for analysis;
- Date and time of sample collection; and
- Sample transport method and transporter.

All sample identification numbers will be recorded in the Field Logbook, along with a sketch showing sample locations associated with each sample number.

In addition to general comments and observation included in the Field Logbook, a Soil Boring Log form will also be completed for each soil sampling location, documenting the following:

- A general Field Description including soil boring I.D.; date; well logger's name, title and affiliation; narratives of geologic and drilling observations (e.g., blow counts, soil color, consistence, etc.); and total depth;
- United States Department of Agriculture (USDA) texture;
- Unified Soil Classification System (USCS) Classification;
- Lithologic description, including roundness (where applicable), sorting, grain size using the modified "Wentworth" grade size scale, and mineralogy (where appropriate);
- Color, using the Munsell Soil Color Charts (Munsell Color, 1975);

- Soil structures (soil horizons);
- Sedimentary features, such as bedding, stratification, deterioration, bioturbation, etc.
- Consistency;
- Moisture;
- Zones of secondary priority, including fractures, root chemicals, animal burrows, dissolution pores, etc., and
- Other miscellaneous features, such as apparent contamination (odors, staining) and other pertinent information not mentioned above.

14.5 CHAIN-OF-CUSTODY FORM

The field portion of the custody documentation should include: (1) project name; (2) signatures of samplers; (3) sample number, date and time of collection, and whether the sample is grab or composite; (4) signatures of individuals handling samples; and (5) air bill or other shipping number.

A chain-of-custody form will be filled out and accompany the samples to the analytical laboratory. The form will also serve as a sample analysis request form, communicating to the laboratory the exact analysis (including method number) to be performed on each sample submitted. The chain-of-custody form will include the following information:

- Sample identification number;
- Signature of sample collector and other individuals in chain of possession;
- Date(s) of collection;
- Date(s) of relinquishment by individuals in chain of possession;
- Identification of analytical laboratory;
- Sample matrix;
- Sample container descriptions, number of sample containers per analysis, and types of analysis to be performed including analytical method numbers;
- Laboratory identification number (completed by laboratory);
- Integrity of cooler seals (to be noted by laboratory, if applicable); and
- Special instructions and remarks.

14.6 LABORATORY LOGBOOK

The laboratory will have an acceptable quality assurance and quality control program. Among the necessary procedures will be the maintenance of laboratory logbooks. Commercial laboratories selected will certify the use of and make available for inspection laboratory logbooks. The type of information to be recorded in the logbooks is specified in the laboratory QAP (Appendix D of the multi-site QAPP).

15.0 RE-SAMPLING

If during sampling any samples are broken or lost prior to analysis, the specific sample and media will be re-sampled by the same or an alternate method identified in this SAP and submitted for the parameters corresponding to the lost or broken sample containers. Re-sampling will be conducted within two weeks of the original sampling date.

16.0 SUBMITTAL OF ANALYTICAL RESULTS

The soil and groundwater analytical results will be submitted to the USEPA and the IDEM for review as part of the *VRP Phase II Site Investigation Report* and the *VRP Remediation Work Plan*. The analytical results will be submitted to the MCEDC in interim status reports following receipt from the laboratory. These reports will include the data validation results, as described in the multi-site QAPP.

The analytical results package will include sampling dates, analysis dates, analytical methods used, practical quantitation limits, quality control results, and signed copies of the chain-of-custody forms. The QA/QC results will include blank results, matrix spike/matrix spike duplicate results, surrogate recoveries (as appropriate for the analysis), tuning results (CC-MS), and initial calibration results.

Copies of the pertinent Field Logbook entries will be submitted in the reports to IDEM and USEPA if requested, and will also be copied to Michigan City Economic Development Corporation management for filing.

TABLES

1 Sample Container, Preservation, and Holding Time Requirements

TABLE 1
SAMPLE BOTTLES, METHODS, PRESERVATIVES, AND HOLD TIMES
Sampling and Analysis Plan
Royal Metals - Michigan City, Indiana

Sample Name[1]	Sample Matrix[1]	Number of Samples[4]	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
SB-#:*[depth]*	Soil	8	Investigative	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
GW-#:*[date]*[3]	Groundwater	5	Screening	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#:*[date]*	Groundwater	5	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#:*[depth]*	Soil	1	Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
DUP-#:*[date]*	Groundwater	1	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD-#:*[depth]*	Soil	1	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
MS/MSD-#:*[date]*	Groundwater	1	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
EQ-#:*[date]*	Aqueous	1	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 1-L Amber (Non-Preserved, 4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082

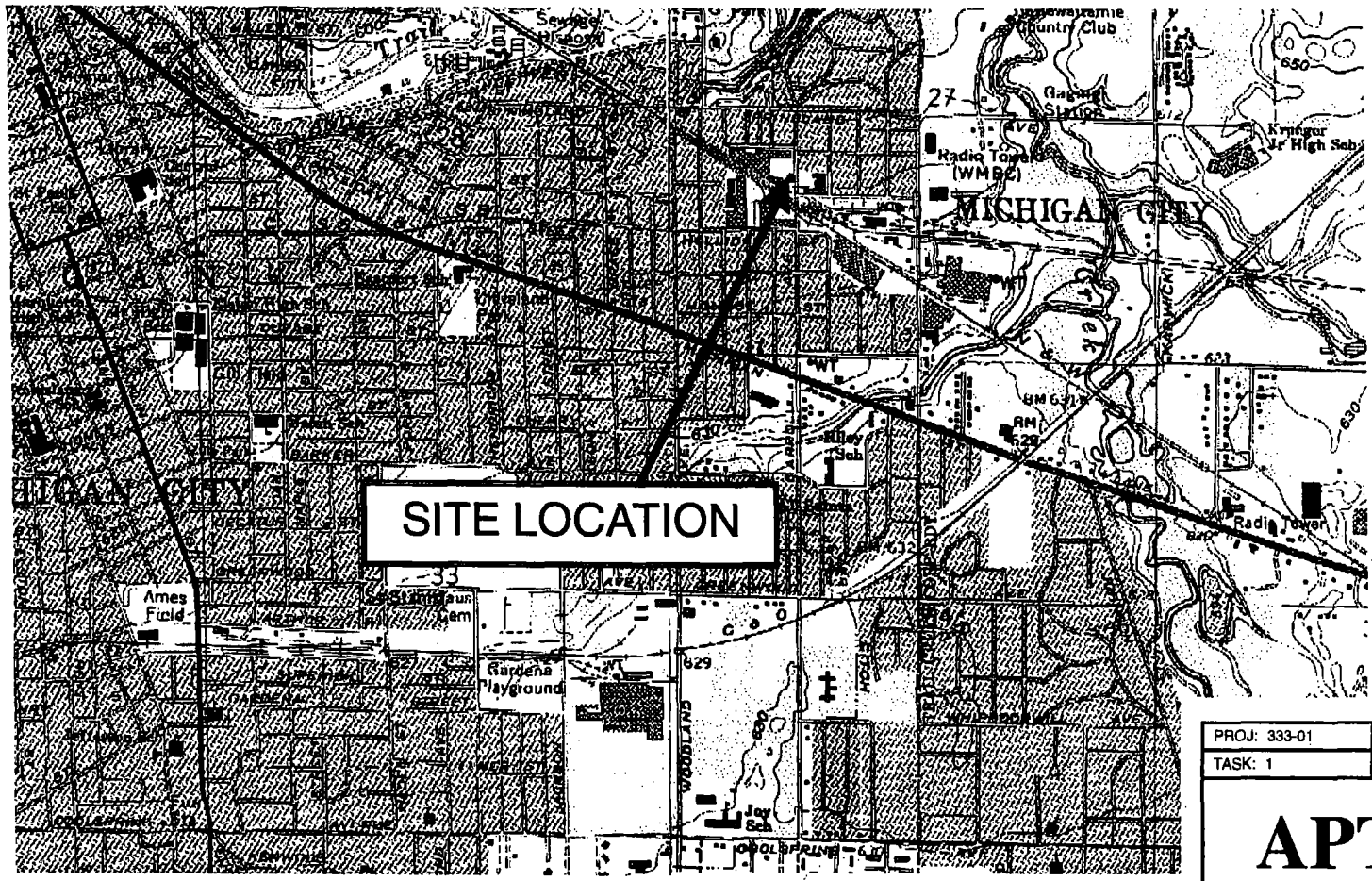
Notes:

1. The soil samples to be collected by APT from soil borings advanced by Top Flight Environmental Drilling Services.
2. Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolitile organic compounds (SVOCs), priority pollutant list (PPL) metals, and PCBs using the stated analytical method.
3. Groundwater screening samples (GW:*[date]*) will be collected from the Geoprobe boreholes.
4. Number of samples is based on one sampling event.

FIGURES

1 Site Location Map

2 Site Map With Proposed Monitoring Well and Soil Boring Locations

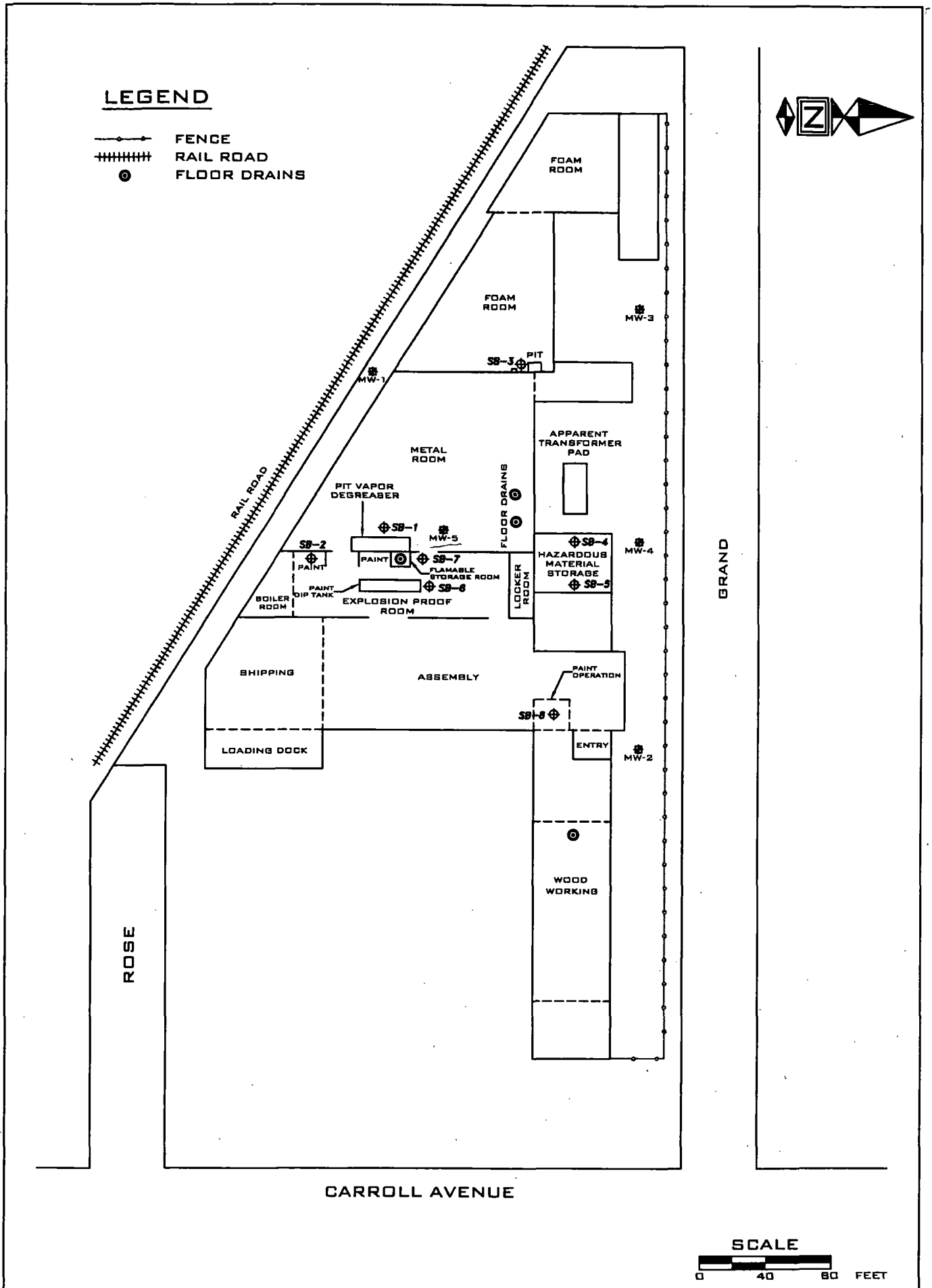


PROJ: 333-01	DWG LOC: MICHIGAN CITY, INDIANA	
TASK: 1	DWG BY: AB	REV DATE:

APT, Limited

Figure 1
SITE LOCATION MAP

Royal Metals
Michigan City, Indiana
PREPARED FOR
Michigan City Economic
Development Corporation
Michigan City, Indiana



APT	PROPERTY OF APT THIS DOCUMENT WAS PRODUCED BY APT AS AN INSTRUMENT OF SERVICE AND REMAINS THE PROPERTY OF APT . THIS DOCUMENT IS CONFIDENTIAL AND MAY NOT BE REUSED OR MODIFIED FOR OTHER THAN THE CLIENT'S INTERNAL USE WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF APT ALL RIGHTS OF DESIGN ARE RESERVED.	TASK 1 DWG:333.1.F2.MW98 DATE:4-23-02 DWG BY: AB	Royal Metals Michigan City, Indiana PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	Figure 2 SITE MAP WITH PROPOSED MONITORING WELL AND SOIL BORING LOCATIONS

APT, LIMITED

December 2003

SAMPLING AND ANALYSIS PLAN: COMPLETION SAMPLING

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:
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Project No. 333-01

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Figure 1 Site Location Map

Figure 2 Proposed Completion Sampling Locations

1.0 INTRODUCTION

The purpose of this Sampling and Analysis Plan (SAP) is to establish sampling and analysis procedures associated with proposed completion sampling of soil and groundwater at the former Royal Metals site consistent with the Indiana Department of Environmental Management (IDEM) – Voluntary Remediation Program (VRP) *Resource Guide*, dated July 1996. The sampling and analysis procedures described herein are required to verify previous sampling results and determine the potential for soil and groundwater impacts at areas not previously investigated at the former Royal Metals facility. This completion sampling will be used to obtain site closure from the Indiana VRP, leading to a *Certificate of Completion* and *Covenant Not to Sue*. This SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples at the identified locations and intervals presented in this SAP, and any subsequent investigatory activities at the facility.

The media of concern are soils and groundwater. The constituents of concern (COCs) are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and priority pollutant list metals (PPL metals) in soil and groundwater. Additionally, polychlorinated biphenyls (PCBs) are of concern in soils in the immediate area of a former transformer area.

This SAP includes discussion of equipment and materials, sampling procedures, chain-of-custody and field documentation procedures, target monitoring parameters, field measurement procedures, decontamination procedures, and quality assurance procedures. Information presented in the text of this SAP include, but are not limited to, sampling procedures, analytical methods, sample containers, sample preservation, holding times, and chain-of-custody procedures, specific to the former Royal Metals facility in Michigan City, Indiana.

2.0 FACILITY LOCATION AND BACKGROUND

The Former Royal Metals facility is located at 600 N Carroll Ave. in Michigan City, LaPorte County, Indiana (see Figure 1). The facility is situated on approximately 3.75 acres of land with a total area of 64,000 square feet of office and manufacturing building (see Figure 2). The facility is currently abandoned; however, past production activities at the facility consisted of metal fabricating and finishing.

A Phase I Environmental Site Assessment (ESA) conducted at the site by APT, Limited (APT) in January 2002 identified 10 potential recognized environmental conditions (RECs) associated with the property. These are identified as follows:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluid was still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. As a result, the vapor degreaser represents a REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint booths represent a REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.
- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents a REC.
- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents a REC.
- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based on materials that were likely stored in this area, the hazardous material storage area represents a REC.
- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in areas throughout the facility, including the metal working, wood working, explosion proof finishing, and chemical storage areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at

least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent a REC.

- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents a REC.
- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area and was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals that would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents a REC.
- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.
- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation, and that they were stored throughout the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents a REC.

APT conducted a multi-phase Phase II EA at the site during the period September 2002 through July 2003, in which RECs identified during the Phase I EA conducted by APT were investigated in order to characterize the hydrogeologic, chemical, physical, and land use properties of the facility and environs. Investigation activities were conducted consistent with the multi-site *Quality Assurance Project Plan* (APT, April 2002) and *Sampling and Analysis Plan* (APT, September 2002), both of which were developed as separate documents and subsequently approved by the USEPA.

The first phase of the Phase II EA occurred in September 2002. A total of eight soil borings (SB-1 through SB-8) were advanced to the water table using a soil sampler and jackhammer assembly. Neither a mobile drilling rig nor a Geoprobe-type unit could be used due to access and space restrictions inside the building. Observations were recorded on soil boring logs. Additionally, three monitoring wells (MW-1 through MW-3) were installed outside of the

building using a mobile drilling rig equipped with hollow stem augers. Soil cores were collected continuously through the total depth of each soil boring and monitoring well. Cores were field screened for volatile compounds using an organic vapor meter (OVM), then geologically characterized by the site geologist. Soil and groundwater samples were collected from these soil borings and monitoring wells and analyzed for VOCs, SVOCs, and PPL metals. Groundwater screening samples were collected from five out of the eight soil borings.

The second phase of the Phase II EA occurred in December 2002. Two additional monitoring wells (MW-4 and MW-5) were installed at strategic locations outside of the building based on the APT groundwater flow interpretation and investigative sample results from the earlier phase of activity. Soil cores were collected continuously through the total depth of each soil boring and monitoring well. Cores were field screened for volatile compounds using an OVM, then geologically characterized by the site geologist. Groundwater samples were collected from these two new monitoring wells and analyzed for VOCs, SVOCs, and PPL metals using Methods 8260, 8270, and 6010/7471, respectively.

The third phase of the Phase II EA occurred in July 2003. Groundwater samples were collected from all five monitoring wells using a low flow sampling technique to reduce the quantity of suspended sediment in the samples and thus obtain more representative groundwater data. These samples were analyzed for VOCs, SVOCs, and PPL metals using Methods 8260, 8270, and 6010/7471, respectively.

The results of the Phase II investigation are as follows:

- The geologic framework at the site consists of fine grained sand contained within a thick unit of unconsolidated glacial deposits of approximately 200 feet overlying eroded Devonian and Mississippian age bedrock. The glacial deposits in the area are comprised of a basal clay-loam till unit containing zones of intertill sand and gravel covered by fine to medium glaciolacustrine and wind-blown sand with some beach gravel, local peat, and lake silt and clay deposits. The bedrock underlying the Michigan City location is the Antrim and Ellsworth shales (Devonian and Mississippian age). There are three aquifer types present at the former Royal Metals facility: the surficial sand and gravel aquifer, the discontinuous sand and gravel aquifer, and the carbonate bedrock aquifer. Groundwater is encountered at 5 to 12 feet below ground surface at the facility, with expected fluctuations of several feet in response to precipitation variations;
- No VOCs, SVOCs, or PPL metals were detected above VRP Tier II Residential Cleanup criteria in any soil samples;
- No VOCs or SVOCs were detected above VRP Tier II Non-Residential Cleanup criteria in any groundwater samples;
- Lead and arsenic were detected in one groundwater screening sample, collected from soil boring SB-2 during the fall of 2002, at concentrations exceeding VRP Tier Non-Residential and default RISC Industrial criteria of 42 µg/l and 50 µg/l, respectively.

- Lead was detected in three groundwater samples collected during the fall of 2002, from monitoring wells MW-1, MW-2, and MW-3, at concentrations above the RISC Industrial Default Closure criterion of 42 µg/l.
- No constituents, including lead, were detected above VRP Tier II Non-Residential Cleanup criteria in groundwater samples re-collected during July 2003 using a low-flow sampling technique to reduce suspended solids. The sediment present in previously collected groundwater samples appears to have been responsible for the elevated lead and arsenic concentrations, given the results of the low-flow sampling event conducted in July 2003.

3.0 GENERAL INFORMATION

The area to be investigated is the former Royal Metals facility and environs. Soil and groundwater samples will be collected by APT personnel during the proposed site investigation activities. Sampling will not be conducted during inclement weather, with inclement weather defined as weather that may impair the integrity of the samples. A copy of the SAP will accompany the sampling team during each sampling event.

All soil and groundwater samples will be analyzed by Pace Analytical of Indianapolis, Indiana (Pace), with the analyses performed in accordance with the most recent edition of the EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Pace's quality assurance plan (QAP) is included as Appendix D of the multi-site *Quality Assurance Project Plan* (APT, April 2002), which has been developed as a separate document.

The MCEDC intends to obtain closure for the site utilizing Residential criteria for soils, and Non-Residential/Industrial criteria for groundwater. An environmental restrictive covenant (ERC) will be recorded prohibiting the use of groundwater at the site; potable water in the area is supplied by the Michigan City Water Works, which derives their water supply solely from Lake Michigan. This approach will allow the MCEDC flexibility in redeveloping the site for both residential and non-residential purposes.

4.0 EQUIPMENT AND MATERIALS REQUIRED

The following is a listing of sampling equipment that is planned on being used during the investigative soil and groundwater sampling:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- A push-probe that utilizes a macro-core sampler consisting of a 4-foot by 2-inch steel tube fitted with a new, clean acetate liner;
- Clean replacement acetate liners for the macro-core samplers;
- Truck-mounted drill rig with steel alloy hollow-stem augers and drill rods;
- A continuous soil sampler consisting of a 2-foot by 2-inch steel tube advanced before the lead hollow-stem auger;
- Jackhammer for driving soil sampling device (where manual technique is warranted);
- A scale suitable for use in the field capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An Organic Vapor Meter (OVM) with 100 parts per million by volume (ppmv) isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- For groundwater elevation measurement, a Slope Indicator Company Water Level Indicator, graduated in hundredths of a foot;
- A portable pH/ORP/°C/µS Watertest meter suitable for use in the field. Manufacturer – Hanna Instruments and related calibration solutions;
- Dedicated, disposable, polyethylene bailer and string;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves (enough for each sampling team member to wear a fresh pair for each sample interval or each well);
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment as needed;
- Insulated coolers, capable of maintaining samples at 4 degrees Celsius, for transporting the samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;

- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Plastic sheeting, paper towels, garbage bags, indelible ink pen, etc.; and
- A copy of the QAPP on site with the samplers.

Sampling equipment will not be allowed to come in contact with the ground or any object that might provide a source of contamination once it has been decontaminated.

5.0 EQUIPMENT INSPECTION AND CALIBRATION

Equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the manufacturer's specification. In order to insure and maintain operational condition of the sampling and monitoring equipment to be used during field activities, sampling equipment inspection, and calibration procedures will be followed during site activities. In addition, an outline of procedures for using and changing gloves to ensure sample integrity during sample collection has also been included.

Standard preventative maintenance plans have been established for all field equipment. This includes decontamination of field analytical equipment, including the OVM, Watertest meter, and survey instrumentation. All scheduled and unscheduled maintenance will be recorded in the field notebook.

5.1 EQUIPMENT INSPECTION

Equipment to be used during the field sampling will be examined prior to use to certify that it is in operating condition. This includes checking the manufacturer's operating manual and the instructions for each instrument to ensure that maintenance requirements are being observed. Field notes from previous sampling trips will be reviewed so that the notation on any prior equipment problems are not overlooked, and all necessary repairs to equipment have been carried out.

Sampling equipment will be inspected at least one (1) week prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in the inspection. The copy of the list will be used to document the inspection.

The groundwater monitoring wells will be inspected during each groundwater sampling event for any signs of deterioration or other problems (e.g., rusted or broken locks, crumbling or cracked surface pad, missing well cap, standing water). The condition of each monitoring well will be documented in the Field Logbook.

The hollow-stem continuous sampler and hydraulic push-probe soil sampling equipment will be inspected in the field prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in each inspection. Any problem or concern related to the condition of the equipment will be corrected prior to performance of field activities. Hollow stem drilling and push-probe equipment will be provided and operated by Top Flight Environmental Drilling of Osceola, Indiana under the direction of APT.

5.2 EQUIPMENT CALIBRATION

Calibration of field instruments is governed by the specific standard operating procedure (SOP) for the applicable field analysis method, and such procedures take precedence over the following general discussion. Additional calibrations will be performed in the event of suspected equipment malfunction.

Calibration of field instruments will be performed at least twice daily, at the beginning and end of every workday, unless the manufacturer specifies more frequent intervals. Equipment calibration will occur more frequently as conditions dictate. Field instruments will include a portable OVM and a Watertest meter. In the event that an internally calibrated field instrument fails to meet calibration/checkout procedures, it will be replaced or repaired before being used.

The OVM instrument will be calibrated in the field at the beginning and end of each day of sampling using a 100 ppmv isobutylene calibration gas. Acceptable results of the OVM verification check should be plus or minus 10 percent of the true value of the calibration gas. The OVM instrument will be recalibrated if the result of the verification check is outside of acceptable limits and as necessary in response to any malfunction or anomalous behavior of the instrument. Equipment calibration will be performed to manufacturers' instructions. If equipment malfunction is suspected and calibration failure occurs, equipment will be removed from service and substitute equipment obtained. Documentation of field calibration of the OVM instrument will be recorded in the Field Logbook.

If sample weights are required, the scale used to weigh the sample will be calibrated by placing a clean calibration mass on the scale and calibration of the scale will continue following the manufacturer instructions.

The Watertest meter will be calibrated in the field at the beginning and end of each day of sampling. Re-calibration will be conducted as necessary in response to any instrument malfunction or anomalous behavior of the instrument. Equipment calibration will be performed according to manufacturer instructions. Documentation of field calibration of the pH, specific conductivity, and temperature meter will be recorded in the Field Logbook.

6.0 TARGET PARAMETERS/ANALYTICAL METHODS

The COCs for the facility are associated with solvents, lubricating and cutting oils, petroleum products, metals, and possible PCB-containing fluids. Soil and groundwater samples from the area will therefore be analyzed for:

- VOCs by SW-846 Method 8260, with methanol preservation in the field using Method IN-5035M for soil samples;
- SVOCs by SW-846 Method 8270 (base/neutrals/acids);
- PPL metals by SW-846 Methods 6010 and 7471 (mercury); and
- PCBs by SW-846 Method 8082 (soil samples adjacent to the former transformer area only).

Further details pertaining to laboratory methods and data quality objectives are presented in the laboratory's QAP, which is included as Appendix D of the multi-site QAPP (APT, April 2002).

7.0 USE OF GLOVES

Any personnel handling the equipment or performing sampling will wear a new pair of clean latex, nitrile, or vinyl gloves if the potential exists for contact with the soil or groundwater sample, or any surface that may come in contact with the sample. Gloves must be discarded after each sample interval and replaced with new, clean gloves prior to proceeding to the next sample interval. Gloves will be collected with other personal protection equipment (PPE), containerized in a labeled 55-gallon drum, and characterized for appropriate disposal. Characterization of PPE will rely on the laboratory results of the soil samples tested. Sampling equipment and the samples themselves will not be allowed to come in contact with any object that might provide a source of contamination.

8.0 SOIL SAMPLING

Soil samples will be collected for laboratory analysis following the VRP's DQO's for site closure sampling (*i.e.*, Level 4 DQOs). Two soil samples will be collected from each of an estimated twenty-one soil borings that will be advanced at the site. One soil sample will be collected from a depth of approximately 1 - 1.5 feet below the ground (or building foundation) surface in each boring, and will be representative of surface soils as defined by the Indiana VRP. The second soil sample in each boring will be collected from the interval exhibiting the highest degree of apparent impact based on OVM readings or visual observations, or if there is no evidence of impact, from just above the capillary fringe of the water table. This sample will be representative of subsurface soils as defined by the Indiana VRP.

Each soil boring will be advanced using either a Geoprobe drilling unit, which utilizes a hydraulic percussion method to advance a push-probe sampler, a drilling rig equipped with hollow stem augers, or a manually driven push probe advanced using a jackhammer or equivalent. The method used will be dictated by the site conditions, including access and clearance considerations. Continuous soil cores will be collected in order to characterize the subsurface. Depending on logistics and technical requirements, an alternative method of drilling may be required, in which case the USEPA and the City will be notified prior to implementing the alternative drilling method. The laboratory will analyze soil samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan*. While all soil samples will be analyzed for VOCs, SVOCs, and PPL metals, only selected soil samples will be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present).

8.1 SAMPLE LOCATIONS

The proposed soil boring locations are shown in Figure 2, and are based on the results of the *Phase I EA* (APT, January 2002) and the previously conducted Phase II investigation results. However, the final locations will be determined in the field based on site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The soil borings will be located such that they are adequate to meet the IDEM requirements for closure.

All borings will be advanced to the zone of saturation, estimated to occur at a depth of 5 - 10 feet BGS.

8.2 PUSH-PROBE SOIL SAMPLING EQUIPMENT AND PROCEDURE

The hydraulic push-probe sampler operates by advancing a string of 1-inch-diameter threaded steel alloy rods with the aid of a hydraulic ram. The push probe is capable of exerting 18,000 pounds of force and uses a hydraulic hammer attachment to advance the rods through dense or hard materials.

A macro-core sampler will be used to continuously obtain soil samples. The macro-core sampler is a hollow steel tube measuring 4 feet in length and fitted with an acetate insert. The macro-

core sampler is capable of recovering a soil core up to 48 inches long and 1.5 inches in diameter. Sampling procedures to be implemented during investigative activities are discussed below.

The following procedure will be followed when sampling using this technique:

1. The truck-mounted push-probe rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. Push-probe equipment will be set up and the decontaminated macro-core sampler advanced to the desired depth using the hydraulic ram and hammer; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the soil sample contained within the acetate liner is removed from the sampler for inspection.
3. The acetate liner will be cut open using a decontaminated liner cutter for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
5. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. Two soil samples will be collected for laboratory analysis from each of the soil borings, as described at the beginning of Section 8. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.,* from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
8. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.

9. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

8.3 HOLLOW STEM AUGER SAMPLING EQUIPMENT AND PROCEDURE

Drilling with hollow-stem augers will be performed in general accordance with ASTM D-1586. Hollow-stem auger soil borings will be advanced using a drill rig and hollow-stem augers. While drilling with hollow-stem augers, soil samples will be collected continuously using a clean, two-foot or three-foot long, split-barrel sampler. The split-barrel sampler will be decontaminated between each sample interval.

The following procedure will be followed when sampling using this technique:

1. The drilling rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. A decontaminated split-spoon sampler advanced to the desired depth following ASTM D-1586; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the split-spoon sampler opened, exposing the soil core contained within for inspection.
3. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
4. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
5. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
6. Two soil samples will be collected for laboratory analysis from each of the soil borings, as described at the beginning of this Section 8. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.

7. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.

8. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Following completion of the boring, the borehole will be backfilled with a cement/bentonite slurry (90/10 mixture) unless the boring is to be converted to a groundwater monitoring well. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

8.4 MANUAL PUSH PROBE SAMPLING EQUIPMENT AND PROCEDURE

In areas inaccessible to a Geoprobe or drilling rig equipped with hollow stem augers (*e.g.*, low roofed buildings or buildings with limited access), soil sampling will be accomplished using a manual push probe method. The drilling contractor will advance a two- or four-foot sampling device (*e.g.*, Geoprobe sampler or split-spoon sampler and AWJ-rod assembly) using a jackhammer or other manually operated percussive device. Continuous soil samples will be collected from the soil borings in four-foot and/or two-foot increments. A clean, plastic sampling sleeve will be used for each sample interval. The stainless steel coring sleeve will be decontaminated between each boring.

Every two-foot section of the sample core will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Two soil samples will be collected for laboratory analysis from each of the soil borings, as described at the beginning of this Section 8. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.

Following completion of the boring, the borehole will be backfilled with any remaining cuttings. At a minimum, the upper two feet of the borehole will be backfilled with bentonite pellets. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

9.0 GROUNDWATER SAMPLING

Groundwater samples will be collected laboratory analysis following the VRP DQOs for screening (*i.e.*, Level 1 DQOs), and completion sampling leading to site closure (*i.e.*, Level 4 DQOs). The purpose of the proposed groundwater sampling and analysis is to obtain and analyze representative groundwater samples to verify that there are no off-site impacts, and to verify the results of previous on-site sampling with regard to VOC, SVOCs, and PPL metal concentrations in groundwater. Groundwater sampling at the site will include obtaining a groundwater screening sample from one soil boring advanced on an off-site property downgradient of the site, and groundwater completion sampling from five monitoring wells previously installed at the site.

This section lists the procedures to be followed so that any qualified individual can obtain representative groundwater samples from the soil borings and monitoring wells.

The laboratory will analyze groundwater samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan*.

9.1 GROUNDWATER SCREENING SAMPLING

The assessment work scope will include taking groundwater screening samples from one soil boring, to be located on an off-site property hydraulically downgradient of monitoring well MW-3. The following procedure will be followed when collecting groundwater screening samples:

1. The boring will be advanced to a depth of five feet below the static water level as indicated by saturated conditions encountered while drilling, following the procedure outlined in Section 8.0 of this SAP.
2. Static water elevations will be allowed to equilibrate for ten minutes.
3. Prior to collecting a groundwater sample from a Geoprobe soil boring, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the boring and multiplying the difference by 0.064 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. Up to two additional well casing volumes of water, following the initial three well volumes, will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: ± 0.1 standard units;
    - temperature: ± 0.5°C; and
    - specific conductivity: ± 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated and labeled 55-gallon drum for disposal at a later date;

4. A length of decontaminated polyethylene tubing equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater;

5. The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass or plastic sample containers. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice;

6. The groundwater sample to be analyzed for PPL metals will be decanted into a decontaminated plastic container and allowed to stand for several minutes and the clarified liquid carefully decanted (without disturbing the settled sediment) directly into a laboratory supplied pre-preserved plastic sample container. This will allow suspended sediment to settle, thus reducing the likelihood of "false positives" associated with detection of naturally occurring metals in suspended soil particles; and

7. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14. Groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

9.2 GROUNDWATER COMPLETION SAMPLING

In order to verify the results of previously conducted groundwater sampling and analysis, and to obtain site closure from the IDEM, groundwater samples will be collected on a quarterly basis for four consecutive quarters from the five monitoring wells installed at the site, shown on Figure 2.

9.2.1 Measurement of Static Groundwater Elevations

Prior to purging the wells when sampling, the depth to water will be determined by utilizing a decontaminated electronic water level indicator with a weighted probe. Upon opening each well (i.e., removing the sealed cap), the water elevations will be gauged repeatedly and the measured elevations recorded in the field logbook. When the trends of at least three consecutive measurements are within 0.01 feet of one another the well will be considered to have equilibrated. Upon reaching apparent equilibrium, the monitoring well will be allowed to equilibrate for an additional five minute time period as a safety factor.

Measurements will then be taken using an electronic water level indicator, to an accuracy of 0.01 feet. The reference point for the measurement is a mark at the top of the well casing. The elevations of these reference points will be surveyed relative to a permanent local benchmark. The elevation of the groundwater in each well will be determined by subtracting the depth-to-water measurement from the measuring point elevation. All survey and water elevation measurements will be recorded in the Field Logbook.

9.2.2 Monitoring Well Purging and Sampling Procedure

The following procedure will be followed when sampling groundwater from monitoring wells:

1. The sampler will don new, clean, disposable, latex sampling gloves when performing sampling activities at each well location;
2. Prior to collecting a groundwater sample from a monitoring well, a minimum of three well casing volumes of water will be purged from the monitoring well using a low flow technique to minimize agitation of the water column in the well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the well and multiplying the difference by 0.163 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. A maximum of five well volumes will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: ± 0.1 standard units;
    - temperature: ± 0.5°C; and
    - specific conductivity: ± 10 percent.
3. Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated and labeled 55-gallon drum for disposal at a later date;
4. Purging will be initiated by carefully installing the submersible pump in the well (to about the midpoint of the water column or slightly below), connecting the discharge tubing to the water quality meter, and starting the pump at the lowest possible flow rate (about 50 ml/min or so --- choking the downhole pump back with a valve at the well head). The pumping rate may be able to be increased to a maximum of approximately 100 ml/min or so, depending upon what the flow rate looks like. The flow rate will be verified using a graduated cylinder, flask, or equivalent. Drawdown in the well will be minimized, and should not exceed 5% of the standing water column in the well. The values of the target indicator parameters (pH, temperature, and specific conductivity) will be recorded as described above;

5. When purging is complete, and while the sampling pump is continuing to operate (still at a minimal rate --- 50 ml to 100 ml/min) collect additional water samples in the appropriate sample containers for the following analyses and in the following order:
    - VOCs;
    - SVOCs; and
    - PPL metals.
6. The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass or plastic sample containers. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice;
7. The groundwater sample to be analyzed for PPL metals will be decanted into a decontaminated plastic container and allowed to stand for several minutes and the clarified liquid carefully decanted (without disturbing the settled sediment) directly into a laboratory supplied pre-preserved plastic sample container. This will allow suspended sediment to settle, thus reducing the likelihood of "false positives" associated with detection of naturally occurring metals in suspended soil particles. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice;
8. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14. Groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471; and
9. Upon completion of the sampling activity at each well, the cap will be replaced and the well locked.

Sample bottles, analytical methods, preservatives, and holding times are specified in the following sections of this SAP and in **Table 1**. Three 40-ml vials, pre-preserved with HCl at the laboratory; two 1-L amber bottles; and one 150-mL plastic bottle, pre-preserved with HNO_3 at the laboratory will be used as the sampling containers for samples to be analyzed for VOCs, SVOCs, and metals, respectively. It is desirable to label all the bottles prior to sampling or to pre-label a complete set of bottles for a well prior to sampling the well. Dedicated tubing will be used to purge/sample each well, and will not be re-used.

10.0 QA/QC SAMPLES

The VRP guidance (IDEM, July 1996) identifies four types of quality control samples to be collected in the field: trip blanks, equipment rinsate or field blanks, duplicates, and matrix spike/matrix spike duplicates. Trip blanks are used to document volatile organic contamination attributable to shipping and field handling procedures. Equipment rinsate blanks are obtained from sampling equipment, which has been decontaminated to document the effectiveness of decontamination procedures. The detection of analytes in the equipment rinsate blank indicates possible cross-contamination between sample locations and determines that either ineffective or incomplete decontamination has been performed on equipment from which the equipment rinsate blank was collected. Duplicate samples are used to assess the representativeness (sampling variability) of field sampling procedures. Matrix spike/matrix spike duplicates are used to assess the effect the sample matrix has on the accuracy of the result.

10.1 TRIP BLANKS

To document the absence of VOC contamination attributable to shipping and field handling procedures associated with aqueous samples, a water sample of analyte-free media is prepared by the laboratory, transported to the sampling site, and returned to the laboratory unopened. The trip blank (which is pre-preserved and will remain sealed) is transported to the laboratory along with the investigative samples, and analyzed for VOCs. A minimum of one trip blank will be analyzed per shipping container containing aqueous samples.

10.2 EQUIPMENT RINSATE/FIELD BLANKS

As a check on equipment decontamination procedures, equipment/field blanks will be prepared from each type of soil sampling device used to collect solid media. The equipment/field blank will be prepared by pouring a sufficient volume of deionized water over all of the sampling equipment used to collect samples in the sampling event (*e.g.*, the split-spoon sampler and any utensils used for soil sampling, or the water level meter and any other equipment or utensils coming in contact with groundwater samples).

The equipment blank will be collected in the appropriate sample containers, preserved, transported, and analyzed in the exact manner as the assessment samples. A minimum of one equipment/field blank will be collected and analyzed per ten investigative samples, with no less than one per day of sampling. For this project, it is estimated that one equipment/field blank will be collected during the groundwater screening sampling, five equipment/field blanks will be collected during the soil completion sampling, and one equipment blank will be collected during each groundwater sampling event (four total).

10.3 DUPLICATES

Four field duplicates will be collected for the soil completion sampling, two surface soil duplicates and two subsurface soil duplicates. One field duplicate will be collected during each of the four quarterly groundwater completion sampling events. These duplicate samples will be used to establish the representativeness of field sampling procedures. The duplicate sample will

be prepared by dividing the soil or groundwater sample into two approximately equal portions, one of which is the duplicate sample. The sample and duplicate sample will be filled successively from a selected soil sample. Additional sample volumes will be collected and split as needed to fill the two (investigative and duplicate) sample containers. The sample bottles for one parameter (e.g., VOCs) will be filled before proceeding to the next parameter or sampling interval. The duplicate sample is placed in the appropriate container using the same procedure as for investigative samples, and subjected to the same analyses as the investigative sample.

A minimum of one duplicate will be collected and analyzed per ten investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that four duplicate soil samples (two surface soil and two subsurface soil) will be collected during the soil completion sampling, and one groundwater duplicate will be collected during each of the four quarterly groundwater completion sampling events. No duplicate samples will be collected during the groundwater screening, consistent with a Level I DQO.

10.4 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

In order to document both the bias and the precision of a method in a given sample matrix, enough volume of one sample of each media will be collected to prepare a matrix spike (MS) and a matrix spike duplicate (MSD) each time samples are collected.

A minimum of one MS/MSD will be collected and analyzed per twenty investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that two MS/MSD soil samples will be collected during the soil completion sampling, one surface sample and one subsurface sample. Additionally, one groundwater MS/MSD will be collected during each of the four quarterly groundwater completion sampling events. No MS/MSD samples will be collected during the groundwater screening, consistent with a Level I DQO. The selected soil or groundwater sample for matrix spike/matrix spike duplicate analysis will be divided into two more or less equal portions and placed in their respective sample bottles. Additional sample volumes will be collected and split as needed to fill the two sample containers.

11.0 DECONTAMINATION OF FIELD EQUIPMENT

Only thoroughly decontaminated equipment will be used to collect samples during the investigative activities. If dedicated factory sealed bailers are used for groundwater sampling, no decontamination will be required for this equipment item. The hollow stem augers will be decontaminated using a pressurized steam cleaner to wash off all visible soil/residues.

The following decontamination procedures will be used for all other sampling equipment; including the hollow-stem auger continuous sampler, the push-probe sampling tools, the water level indicator, and any other non-disposable sampling equipment that might come in contact with the soil or groundwater samples. All such sampling equipment will be decontaminated using these procedures:

1. Prior to decontamination, all rods and sampling equipment will be completely disassembled to the extent feasible.
2. The decontamination procedure will consist of a three-step process which includes a thorough non-phosphate detergent "dirty wash" to remove the majority of the soil, followed by a non-phosphate "clean wash" and triple rinse with distilled water.
3. If visible soil or other residues remain, then procedure 2 will be followed again until all visible soil/residues have been removed from all sampling equipment.
4. The sampling equipment will then be subjected to a final rinse with distilled water.
5. Sampling equipment will be protected from contamination during field operations.

12.0 SAMPLE CONTAINERS AND PRESERVATION

All samples are to be transferred directly into the appropriate new sample containers provided by the laboratory. Only new, pre-preserved (as applicable) sample containers supplied by the analytical laboratory will be used. All sample containers will conform to the specifications of SW-846. The container will be filled with the appropriate amount of soil or water that is determined by the analytical method. The containers will be appropriately sized to contain a sufficient volume of sample for the required analysis. Container descriptions, preservation requirements, and holding times are presented in **Table 1**.

Soil samples will be containerized in 4-ounce glass jars equipped with Teflon lined lids. Preservation will also include packing the samples in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

Groundwater samples, equipment blanks, and trip blanks that will be analyzed for VOCs (SW-846 Method 8260) will be stored in 40-mL vials pre-preserved at the laboratory with HCl. Groundwater and QA/QC samples that will be analyzed for SVOCs will be stored in 1-liter amber bottles without preservative. Groundwater and QA/QC samples that will be analyzed for PPL metals will be stored in 500-ml plastic bottles pre-preserved at the laboratory with HNO_3. All samples will be stored and shipped in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

13.0 PACKAGING AND SHIPMENT OF SAMPLES

The filled sample containers (both soil and groundwater) will be securely packed in an insulated cooler to avoid breakage during shipment. Ice will be placed in pouches such as Ziplock® baggies and packed with the samples in an insulated cooler to maintain the temperature of the samples at 4° C during shipment. All samples will be shipped to the laboratory via overnight courier. Each sample shipment will be accompanied by a chain-of-custody form, which will also identify the requested analyses. All necessary paperwork will be placed in a plastic, sealed bag inside the lid of each cooler and the cooler will be sealed with custody seals and covered by clear shipping tape. Shipping records will be maintained with chain-of-custody documentation.

The lid of each cooler will be sealed with two custody seals at opposite corners of the cooler, and covered by clean transparent shipping tape. The cooler will be sealed with clean shipping tape.

14.0 SAMPLE CUSTODY DOCUMENTATION/FIELD LOGBOOK

Chain-of-custody procedures will ensure proper documentation of possession and handling of samples from the time they are collected until analysis at the laboratory. Information provided to document chain-of-custody possession will include the APT Project number, signature of samplers, sample numbers, dates and times of collection, signatures of individuals involved in sample transfer, and the air bill or other shipping number.

Documentation and chain-of-custody procedures will include the following:

- Sample Identification.
- Sample Labels.
- Cooler Seals.
- Field Logbook.
- Chain-of-Custody Forms.

Chain-of-custody procedures to be followed by Pace after delivery of the samples are presented in the Laboratory QAP (Appendix D of the multi-site QAPP for this project).

14.1 SAMPLE IDENTIFICATION

Samples will be assigned a unique sample ID code. Sample nomenclature for the soil samples will consist of the soil boring identification number followed a semicolon and the depth below the ground surface (BGS) at which the soil sample is collected. For example, a completion soil sample collected from a depth of 5 feet BGS in soil boring SB-1 would be identified as *CSB-1; 5'*.

Sample nomenclature for the groundwater samples will consist of the monitoring well identification number followed by a semicolon and the six-digit representation of the date on which the groundwater sample is collected. For example, a groundwater sample collected from monitoring well MW-1 on March 15, 2004 would be identified as *MW-1; 031504*.

Duplicate soil samples will be identified by the prefix "DUP" followed by a dash and a sequential integer, a semi-colon, and a six-digit representation of the date to designate the duplicate number. For example, the first duplicate completion soil sample collected on March 12, 2004 from soil boring CSB-1 would be identified as *DUP-1;031204*. A second duplicate sample from another boring on the same date would be identified as *DUP-2;031204*. The soil boring and depth from which the duplicate was obtained will be identified only in the field notebook in order to obtain a "blind" duplicate.

Duplicate groundwater samples will be identified by the prefix "DUP" followed by a dash, a sequential integer designating the duplicate sample number for that round of sampling, a semicolon, and the six-digit representation of the date. For example, a duplicate groundwater sample collected from monitoring well MW-1 on August 15, 2004 would be identified as *DUP-*

1: 031504. If a second duplicate sample were collected on August 15, 2004 (*i.e.*, during the same sampling event) from monitoring well MW-3, it would be identified as *DUP-2: 031504*. The monitoring wells from which the duplicate samples were collected would be identified only in the field notebook.

Trip blanks will be identified by the prefix "TB" followed by the six-digit representation of the date. For example, a trip blank collected on March 15, 2004 would be identified as *TB: 031504*.

Equipment rinsate blanks will be identified by the prefix "ER" followed by the six-digit representation of the date. For example, an equipment rinsate blank collected on March 15, 2004 would be identified as *ER: 031504*.

Matrix spike and matrix spike duplicates will be identified by the prefix "MS" and "MSD", respectively, followed by a dash, the soil boring name, a semicolon, and the depth BGS at which the sample was collected. For example, a matrix spike sample collected from a depth of 5 feet BGS in soil boring CSB-1 would be identified as *MS/MSD-CSB1: 5'*.

The corresponding sample identification number recorded in the Field Logbook will be used on the sample label and the chain-of-custody form for each sample for reference purposes. The correlation of sample designation to the sample number will be recorded in the Field Logbook.

14.2 SAMPLE LABELS

To identify the contents of each sample container, a sample label completed with a waterproof marker will be firmly attached to each sample container. Each sample label will be completed with the following information:

- Date of sampling;
- Sample ID number;
- Place of sampling (Royal Metals facility);
- Type of preservative;
- Parameters to be analyzed; and
- Name(s), initials of the sampler(s).

The boring or monitoring well number will not be recorded on the sample label or the chain-of-custody of the duplicates so that the laboratory will not know which well these samples were taken from. The locations of the duplicates will be noted in the Field Logbook.

14.3 COOLER SEALS

In the event that the samples will change hands en route to the laboratory, such as when shipped via overnight courier, chain-of-custody seals will be affixed at opposite corners the lid of the cooler to ensure that the container has not been opened during shipment. For the purposes of this project, it is important to document the persons who have access to the samples and to confirm

that the samples have not been exposed to undocumented conditions or persons which may impact the integrity of the samples, thus impacting the results of the analytical tests. Two seals will be affixed to each shipping container and fastened so that the container cannot be opened without breaking at least one of the seals. The custody seals will be completed with the date of sealing and signature of the sampler. The cooler will also be further secured for shipment using clear shipping tape. The condition of the custody seal, as well as the name of the sampler and the sampling date, will be recorded in the Field Logbook. Upon arrival at the laboratory, the condition of the custody seals will be examined by laboratory personnel for signs of tampering during transit.

14.4 FIELD LOGBOOK

A bound Field Logbook, designated "Royal Metals and Schmock – 333-01" will be used to record notes and observations during the closure activities. All entries into the Field Logbook will be made in permanent ink. Cross-outs, corrections, and additions to the entries will be initialed and dated. Ambient weather information will be recorded in the Field Logbook. This will include approximate temperature, wind velocity and direction, cloud cover, and precipitation information. The ground surface near the wellhead will be visually inspected for standing water or other soil conditions. These observations will also be recorded in the Field Logbook.

For sampling event: the site name and location, date, starting and ending times, weather, names of all people involved in sampling activities, level of personal protection used, documentation of adherence to protocol, any changes made to planned protocol, names of visitors to the site during sampling and reason for their visit, unusual observations, and signature of the person recording the information.

For each individual sample: a detailed description of location, any measurements made, the unique sample number assigned, the time the sample was taken, physical description of sample, depth from which sample was collected, whether grab or composite (if composite, how composited), equipment used to collect the sample, volume and number of sample containers, how sample is preserved, and initials of sampler. Each field duplicate must be given its own unique sample number; the description should include the unique sample number of its duplicate.

The field logbook will include comments regarding the following:

- Purpose of sampling event and identification of each sample location;
- General field observations;
- Name(s) of field personnel on site;
- Name(s) of site visitors;
- Climactic conditions - approximate temperature, wind speed and direction, and precipitation/cloud cover;
- Well maintenance and sampling information including:
  - Well stick-up; and
  - Problems noting well condition and maintenance.

- Sample procedure/equipment;
- Date and time of calibration of field-testing equipment;
- Equipment calibration (recorded each time the instruments are calibrated) and file data including:
  - Standards used;
  - Field meter identification;
  - Calibration results; and
  - Name of person who performed calibrations.
- Deviations, if any, from the SAP or QAPP;
- Depth to water;
- Total well or boring depth;
- Purge volume (groundwater sampling);
- Sample locations and depths;
- Sample collection procedures;
- Sample identification numbers;
- General sample appearance (color. odor noted, etc.), including presence/absence of visual impact;
- Types and source of sample containers;
- Preservatives used;
- Parameters for analysis;
- Date and time of sample collection; and
- Sample transport method and transporter.

All sample identification numbers will be recorded in the Field Logbook, along with a sketch showing sample locations associated with each sample number.

In addition to general comments and observation included in the Field Logbook, a Soil Boring Log form will also be completed for each soil sampling location, documenting the following:

- A general Field Description including soil boring I.D.; date; well logger's name, title and affiliation; narratives of geologic and drilling observations (e.g., blow counts, soil color, consistence, etc.); and total depth;
- United States Department of Agriculture (USDA) texture;
- Unified Soil Classification System (USCS) Classification;
- Lithologic description, including roundness (where applicable), sorting, grain size using the modified "Wentworth" grade size scale, and mineralogy (where appropriate);
- Color, using the Munsell Soil Color Charts (Munsell Color, 1975);

- Soil structures (soil horizons);
- Sedimentary features, such as bedding, stratification, deterioration, bioturbation, etc.
- Consistency;
- Moisture;
- Zones of secondary priority, including fractures, root chemicals, animal burrows, dissolution pores, etc., and
- Other miscellaneous features, such as apparent contamination (odors, staining) and other pertinent information not mentioned above.

14.5 CHAIN-OF-CUSTODY FORM

The field portion of the custody documentation should include: (1) project name; (2) signatures of samplers; (3) sample number, date and time of collection, and whether the sample is grab or composite; (4) signatures of individuals handling samples; and (5) air bill or other shipping number.

A chain-of-custody form will be filled out and accompany the samples to the analytical laboratory. The form will also serve as a sample analysis request form, communicating to the laboratory the exact analysis (including method number) to be performed on each sample submitted. The chain-of-custody form will include the following information:

- Sample identification number:
- Signature of sample collector and other individuals in chain of possession;
- Date(s) of collection;
- Date(s) of relinquishment by individuals in chain of possession;
- Identification of analytical laboratory;
- Sample matrix;
- Sample container descriptions, number of sample containers per analysis, and types of analysis to be performed including analytical method numbers;
- Laboratory identification number (completed by laboratory);
- Integrity of cooler seals (to be noted by laboratory, if applicable); and
- Special instructions and remarks.

14.6 LABORATORY LOGBOOK

The laboratory will have an acceptable quality assurance and quality control program. Among the necessary procedures will be the maintenance of laboratory logbooks. Commercial laboratories selected will certify the use of and make available for inspection laboratory logbooks. The type of information to be recorded in the logbooks is specified in the laboratory QAP (Appendix D of the multi-site QAPP).

15.0 RE-SAMPLING

If during sampling any samples are broken or lost prior to analysis, the specific sample and media will be re-sampled by the same or an alternate method identified in this SAP and submitted for the parameters corresponding to the lost or broken sample containers. Re-sampling will be conducted within two weeks of the original sampling date.

16.0 SUBMITTAL OF ANALYTICAL RESULTS

The soil and groundwater analytical results will be submitted to the USEPA and the IDEM for review as part of the *VRP Completion Report*. The analytical results will be submitted to the MCEDC in interim status reports following receipt from the laboratory. These reports will include the data validation results, as described in the multi-site QAPP.

The analytical results package will include sampling dates, analysis dates, analytical methods used, practical quantitation limits, quality control results, and signed copies of the chain-of-custody forms. The QA/QC results will include blank results, matrix spike/matrix spike duplicate results, surrogate recoveries (as appropriate for the analysis), tuning results (CC-MS), and initial calibration results.

Copies of the pertinent Field Logbook entries will be submitted in the reports to IDEM and USEPA, if requested, and will also be copied to Michigan City Economic Development Corporation management for filing.

TABLES

1 Sample Container, Preservation, and Holding Time Requirements

TABLE 1
SAMPLE CONTAINER, PRESERVATION, AND HOLDING TIME REQUIREMENTS
Sampling and Analysis Plan
Royal Metals - Michigan City, Indiana

Sample Name[1]	Sample Matrix[1]	Number of Samples[4]	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
CSB-#*[depth]*	Soil	42 (21 surface, 21 subsurface)	Completion	1, 4 oz Jar Non-preserved (10 g) (4° C)	VOCs	3 days (Non-Preserved, 4° C)	SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
GW-#*[date]*	Groundwater	1	Screening	3, 40-mL Vials (HCl < pH 2, 4°C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4°C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#*[date]*	Groundwater	20 (5 per quarterly event)	Completion	3, 40-mL Vials (HCl < pH 2, 4°C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4°C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#*[date]*	Soil	4 (2 surface soil, 2 subsurface soil)	Duplicate	1, 4 oz Jar Non-preserved (10 g) (4° C)	VOCs	3 days (Non-Preserved, 4° C)	SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
DUP-#*[date]*	Groundwater	4 (1 per quarterly event)	Duplicate	3, 40-mL Vials (HCl < pH 2, 4°C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4°C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD-#*[depth]*	Soil	2 (1 surface soil, 1 subsurface soil)	Matrix Spike/Matrix Spike Duplicate	1, 4 oz Jar Non-preserved (10 g) (4° C)	VOCs	3 days (Non-Preserved, 4° C)	SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
MS/MSD-#*[date]*	Groundwater	4 (1 per quarterly event)	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4°C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4°C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
EQ-#*[date]*	Aqueous	6	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4°C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4°C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 1-L Amber (Non-Preserved, 4°C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082

Notes:

1 The soil samples to be collected by APT from soil borings advanced by Top Flight Environmental Drilling Services

2 Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolitile organic compounds (SVOCs), priority pollutant list (PPL) metals, and PCBs using the stated analytical method

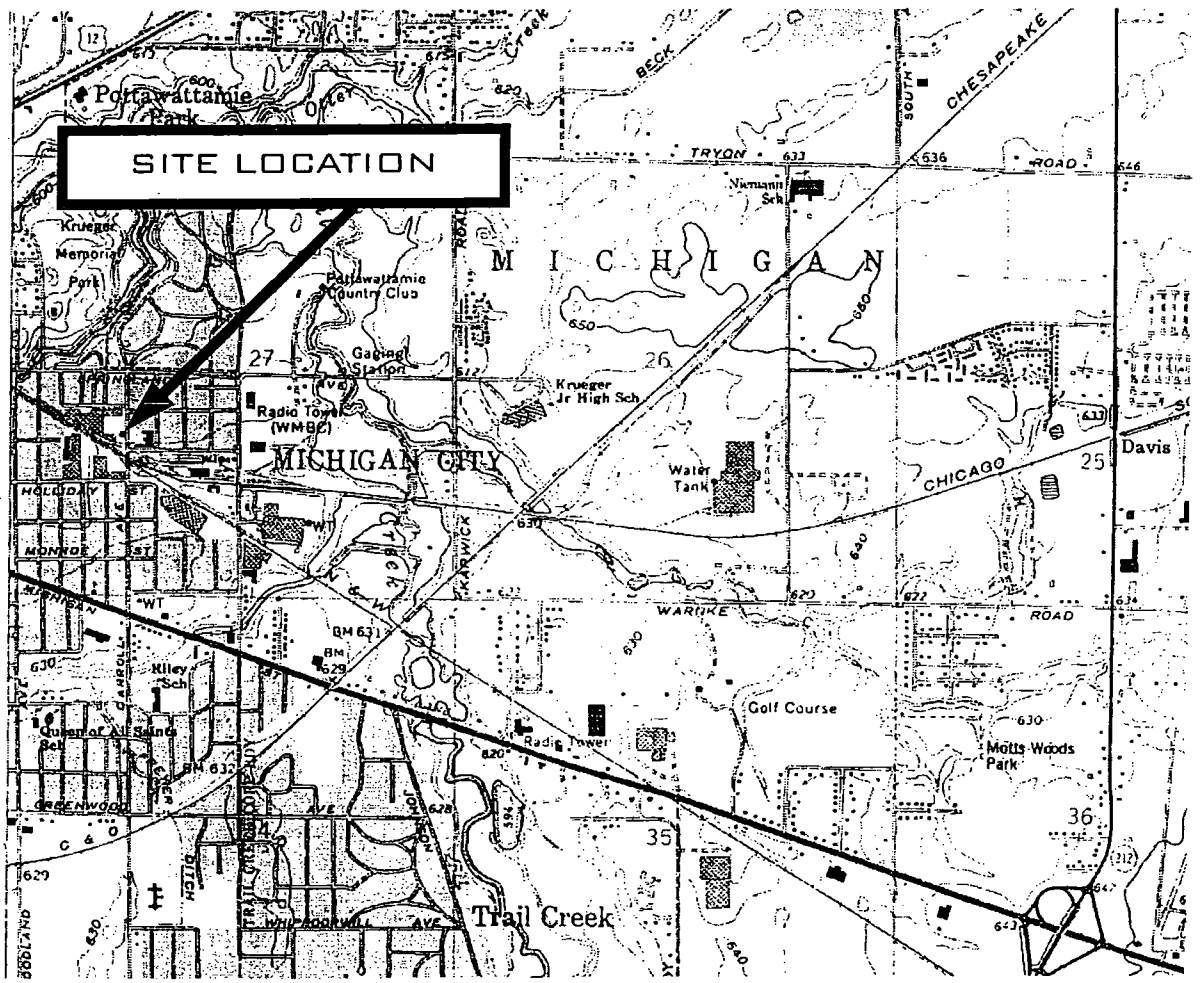
3 Groundwater screening samples (GW*[date]*) will be collected from the Geoprobe boreholes

4 Number of samples is based on proposed completion sampling described in VRP RWP

FIGURES

1 Site Location Map

2 Proposed Completion Sampling Locations



SCALE

0 1000 2000 FEET

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP : MICHIGAN CITY WEST, IN, 1969 (1980) QUADRANGLE

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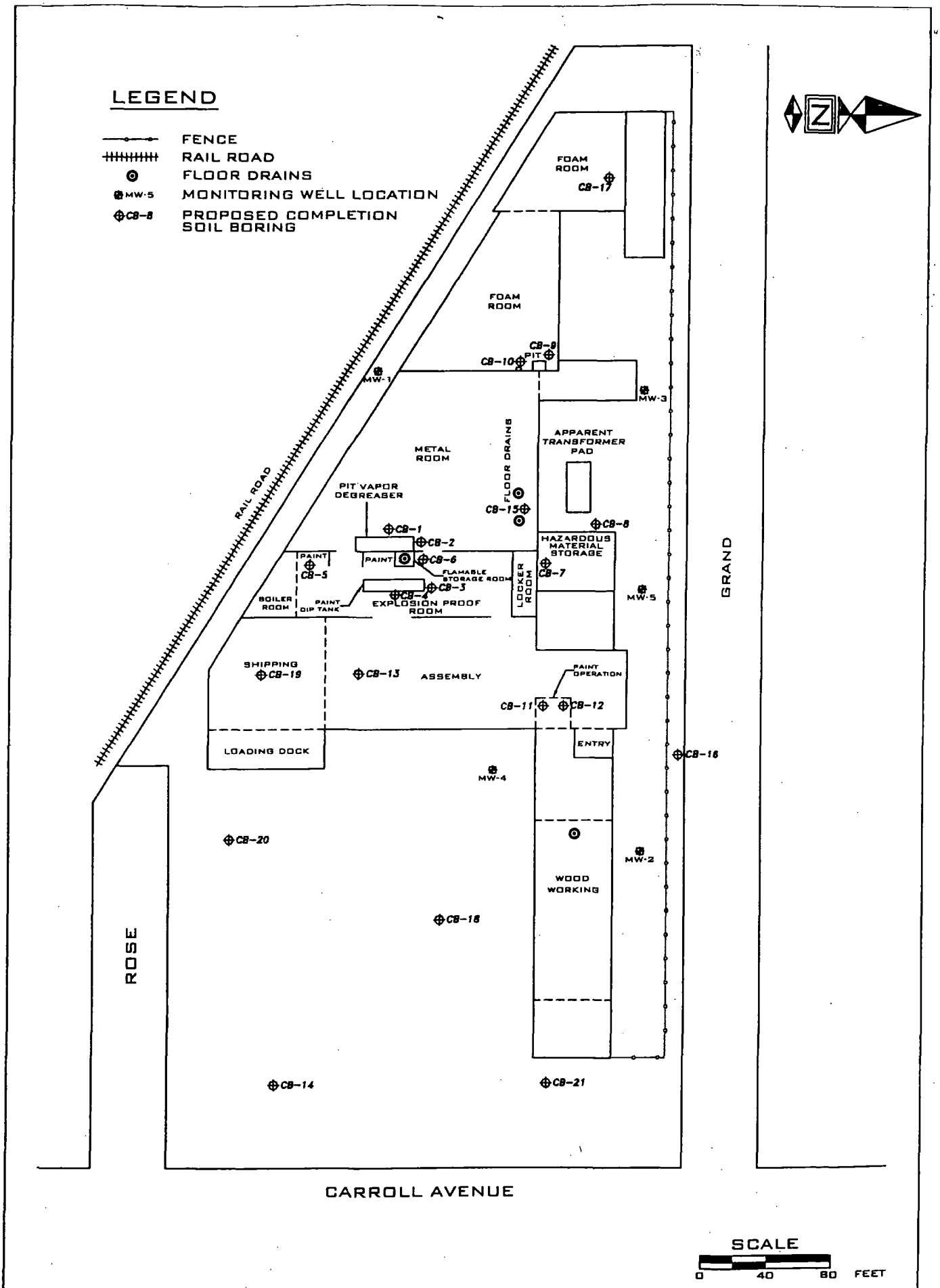

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TASK 8	Royal Metals Michigan City, Indiana	Figure 2
DWG:333.1.F6.CBC8	PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	PROPOSED COMPLETION SAMPLING LOCATIONS
DATE: 1-16-03		
DWG BY: AB		

Michigan City, IN
BP 97571501

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APT, LIMITED

September 2003

IDEM VRP PHASE II
SITE INVESTIGATION REPORT

Former Schmock Oil Facility
1111 West Garfield Street
Michigan City, Indiana
VRP ID No. 6020114

Prepared For:
Michigan City Economic Development Corporation
100 East Michigan Boulevard
Michigan City, Indiana 46360

Prepared By:
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Project No. 333-01

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1.0 INTRODUCTION

This Phase II Site Investigation Report (SIR) presents the results of site assessment activities conducted by APT, Limited (APT) at the former Schmock Oil facility located at 1111 West Garfield Street in Michigan City, LaPorte County, Indiana (**Figure 1**). APT was retained by the Michigan City Economic Development Corporation (MCEDC) to conduct site investigation activities to assess the redevelopment potential of the former Schmock Oil facility under Michigan City's Brownfield Redevelopment Project entitled Revitalizing Environmentally Neglected Emerging Workplaces (ReNEW).

1.1 PROJECT BACKGROUND

The MCEDC has entered the former Schmock Oil facility into Indiana Department of Environmental Management (IDEM) Voluntary Remediation Program (VRP) with the objective of obtaining a *Certificate of Completion* from the IDEM and a *Covenant Not To Sue* from the State of Indiana Governor's Office.

1.1.1 Facility name and address

Former Schmock Oil Facility
1111 West Garfield Street
Michigan City, Indiana 46360

1.1.2 Facility description

The site is located at 1111 West Garfield Street in Michigan City, Indiana (**Figure 1**), and is approximately 1 acre in size. The property is currently vacant and the grounds are mostly grass covered, although a small crushed-rock parking lot and drive is located at the north end of the site. The site is relatively flat with a gentle surface slope toward the north. An approximately 31,000 square foot building occupied the site until it was demolished in early 2002. Offices and employee facilities such as break rooms and locker rooms existed in the front of the building structure, with a large shop area in the rear portions of the building.

Electrical and natural gas utilities are provided to the subject property by NIPSCO. The property is serviced by municipal water and sanitary sewer.

The site is located in a mixed residential and industrial area in Michigan City. Residential properties are located east and west of the site. A small barricaded lot occupies the property to the north of the site and a Waste Management facility (transfer station) is located north of the barricaded lot. A rail yard is located to the south of the site, across Garfield Street.

1.1.3 Site map

The site location is depicted in **Figure 1**. A site map is included as **Figure 2**.

1.1.4 Brief summary of site history

Limited title information was provided to APT by MCEDC. Based upon a Michigan City Directory, the subject property was listed as Snyder & Associates, a manufacturer of "side rock," from 1960 to 1970. The 1975 directory listed the property as Gateway Ind., a wholesaler. Schmock Oil, a used oil recycling operation, was located at the site from 1980 to 1999.

The Schmock Oil facility had several Resource and Recovery Information System (RCRIS) violations as well as enforcement actions listed with the IDEM Hazardous Waste Section and Spill Section. It is unknown whether all of these issues were resolved to the satisfaction of the regulatory agencies. It is APT's understanding that soils were excavated in the southern portion of the site as part of an emergency response action at the facility. However, soil analytical results are not available to determine if impacts remain at the facility. The available documentation does not indicate the nature or extent of the release.

The constituents of concern (COCs) at the site are solvents, lubricating and cutting oils, petroleum products, metals, and possible polychlorinated biphenyls (PCB)-containing fluids. Soil and groundwater samples were therefore analyzed for:

- Volatile organic compounds (VOCs) by SW-846 Method 8260, with methanol preservation in the field using Method IN-5035M for soil samples;
- Semivolatile organic compounds (SVOCs) by SW-846 Method 8270 (base/neutrals/acids);
- Priority Pollutant List (PPL) metals by SW-846 Methods 6010 and 7471 (mercury); and
- PCBs by SW-846 Method 8082 (soil samples only).

1.1.5 Overview of initial discovery of contamination and/or previous investigations

A Phase I Environmental Site Assessment (ESA) was conducted at the site by APT in January 2002. The purpose of the Phase I ESA was to identify any recognized environmental conditions (RECs) associated with the site that pose potential environmental liability. The Phase I ESA identified six potential RECs associated with the property. These are identified as follows:

- REC-1: AST Area – Several ASTs were formerly piped into the north side of the building. The piping was still visible. No concrete pad or collection system was apparent.
- REC-2: Soil Excavation Area – An area of soil disturbance immediately south of the building was observed. It is APT's understanding that soils were excavated in this area as part of an emergency response action at the facility. However, soil analytical results are not available to determine if impacts remain at the facility.
- REC-3: Cut Pipe Protruding from Ground Surface – Near the southeast corner of the building, a cut pipe was observed protruding from the ground surface. The origin of the pipe is unknown. Apparent vent pipes were attached to the building wall at the same location. Based upon the location and type of pipes, it is possible that these pipes may have belonged to a former underground storage tank (UST) located near the southeast corner of the building.
- REC-4: Barricaded Storage Area – Off-site and immediately north of the facility is a small barricaded lot. A semi-trailer was parked on the lot at the time of the site reconnaissance. Based upon operations at the facility, it is likely that the lot was used for temporary storage of petroleum based products.
- REC-5: Floor Drains - Floor drains were located throughout the former building. Based upon the type of operations at the facility, the floor drains may have been tied into an oil/water separator at the facility.

- REC-6: Site-Wide Groundwater Issues – Due to the nature of operations at the facility and lack of information regarding management practices, the possibility of historic spills which may have affected the groundwater quality at the facility represented an REC.

1.1.6 Summary of results of additional site investigations

APT was retained to conduct a Phase II site investigation consisting of soil and groundwater sampling and characterization. These activities were performed to assess the redevelopment potential of the former Schmock Oil facility under Michigan City's ReNEW project.

Soil sampling was conducted in August 2002 and March 2003. Soil samples were collected for laboratory analysis from nine soil borings (SB-1 through SB-8 and SB-13) and one monitoring well (MW-3), during installation. The laboratory analytical results of the soil investigation indicated that several VOCs, SVOCs, and PPL metals were detected in the soil samples. However, all of the reported concentrations were below respective cleanup goals.

Groundwater screening sampling was conducted in August 2002 and March 2003. Groundwater screening samples were collected from 11 soil borings (SB-2, SB-4 through SB-7, and SB-9 through SB-14). The laboratory analytical results indicated that several VOCs and SVOCs are present in groundwater at the site. However, benzene was the only constituent detected at concentrations above its VRP Tier II Non-Residential cleanup criteria of 98.6 micrograms per liter (µg/L). Benzene concentrations exceeded the cleanup goal in six groundwater screening samples, collected from soil borings SB-4, SB-5, SB-7, and SB-12 through SB-14.

Groundwater samples were also collected from five monitoring wells (MW-1 through MW-5) following their installation during the autumn of 2002 and from nine monitoring wells (MW-1 and MW-3 through MW-10) in March 2003 following the installation of new monitoring wells MW-6 through MW-10. Monitoring well MW-2 was not sampled in March 2003 due to insufficient water in the well. The laboratory analytical results indicated that several VOCs, SVOCs, and PPL metals are present in groundwater. However, only benzene, vinyl chloride (VC), and lead (Pb) concentrations exceeded VRP Tier II Non-Residential cleanup criteria (98.6 µg/L, 10 µg/L, and 15 µg/L, respectively).

Benzene was detected above its VRP Tier II Non-Residential cleanup criteria of 98.6 ug/L in groundwater samples collected from monitoring wells MW-3 (200 ug/L in March 2003), MW-5 (2,700 ug/L in October 2002 and 1,400 ug/L in March 2003), and MW-7 (1,300 in March 2003).

VC was detected in one monitoring well, MW-4, at concentrations exceeding its VRP Tier II Non-Residential cleanup criterion of 10 ug/L. VC was detected at a concentration of 170 ug/L in a November 2002 groundwater sample, and at a concentration of 1,000 ug/L in the March 2003 groundwater sample.

Pb was detected in groundwater samples collected from monitoring wells MW-3 and MW-5 during September and October 2002, respectively, at concentrations exceeding its VRP Tier II Non-Residential cleanup criterion of 15 ug/L, but below its default RISC Industrial criterion of 42 ug/L. The groundwater samples collected in March 2003 were not analyzed for metals.

The results of the hydrogeologic investigation indicate that the subsurface at the former Schmock Oil site consists predominantly of well-sorted, fine- to medium-grained sand, with thin discontinuous lenses of silt and clay. Saturated conditions were encountered at depths ranging between 5 and 12 feet below the ground surface (bgs). Groundwater elevation data indicate that the general shallow groundwater flow direction varies from northeast to northwest, toward Trail Creek and Lake Michigan. The average hydraulic gradient was calculated as 0.0008 feet per foot (ft/ft), based on potentiometric maps created with groundwater elevation data collected in September and October 2002, and March 2003. The average linear velocity of groundwater across the site is estimated to be approximately 4 to 40 feet per year (ft/year), assuming a hydraulic conductivity ranging from of 1×10^{-3} to 1×10^{-2} cm/sec (0.002 ft/min), and an effective porosity of 0.20. These values are reasonable for subsurface deposits such as are found at the site.

1.1.7 Map depicting facilities and land use within one mile radius

A map depicting facilities and land use within one mile of the site is presented in **Figure 3.**

1.2 SITE DOCUMENTATION

Site investigations at the former Schmock Oil facility began with a Phase I Environmental Site Assessment conducted by APT in January 2002.

1.2.1 Identification of previous reports

A Phase I Environmental Site Assessment Report was prepared by APT and submitted to the IDEM in January 2002. In April 2002 and January 2003, APT submitted a Sampling and Analysis Plan (SAP) and SAP Addendum to the United States Environmental Protection Agency (USEPA) for the various phases of site investigation. The site investigations were being conducted under the auspices of a USEPA Brownfield Pilot Grant. The SAP and SAP addendum were approved by the USEPA prior to initiating site investigation activities. Copies of these documents are included as **Appendix A.**

1.2.2 Description of available data and/or other documentation regarding the site

The Schmock Oil facility had several RCRIS violations as well as enforcement actions listed with the IDEM Hazardous Waste Section and Spill Section. It is unknown whether all of these issues were resolved to the satisfaction of the regulatory agencies.

A Phase I ESA was conducted at the site by APT in January 2002. The purpose of the Phase I ESA was to identify any RECs associated with the site that pose potential environmental liability. The Phase I ESA identified six potential RECs associated with the property, as described in Section 1.1.5.

In February 2002, the site was entered into the IDEM VRP and assigned site number 6020114. APT submitted a SAP to the USEPA in April 2002 and a SAP addendum in January 2003 that outlined specific sampling plans associated with the site investigation. The site investigation activities were conducted in August through November 2002 and March 2003.

2.0 STATEMENT OF WORK

This section includes references to the Site-Specific Health and Safety Plan (HASP) and the Quality Assurance Project Plan (QAPP).

2.1 SITE SAFETY PLAN

A site-specific HASP for the former Schmock Oil site was developed and was used for the site investigation and ecological assessment activities. The HASP prescribed the procedures that were followed by all site personnel in order to safely conduct project activities. The site-specific HASP is included in **Appendix B**.

2.2 QUALITY ASSURANCE PROJECT PLAN

A multi-site QAPP was developed to address the quality assurance requirements associated with conducting investigations at the three sites being assessed under the USEPA Brownfield Pilot Grant. This multi-site QAPP was submitted to the USEPA and approved prior to initiating site assessment activities. A site specific QAPP for the Schmock Oil site was derived from the USEPA-approved QAPP, and is included as **Appendix C**. The site-specific QAPP is consistent with IDEM guidance published in the *VRP Resource Guide*, July 1996. It is the goal of the MCEDC and APT to generate data that is scientifically valid, defensible, and of sufficient known quality to withstand scientific and legal challenge relative to the use for which that data are obtained.

3.0 SITE CHARACTERIZATION

The baseline assessment, background concentrations, sampling methodology, sample analysis, and site investigation results are discussed in this section.

3.1 BASELINE ASSESSMENT

Baseline ecological and hydrogeologic assessments for the former Schmock Oil site were performed by APT.

3.1.1 Ecological Assessment

A baseline ecological assessment has been conducted as part of the Phase II Investigation at the facility. The ecological assessment was conducted primarily as a desktop review and walk-through inspection to determine if critical habitats are present at the facility or if critical habitats could potentially be impacted by constituents associated with the facility. As such, potential exposure routes to sensitive areas and populations were examined.

The nearest major surface waters to the site are Lake Michigan and Trail Creek. Lake Michigan is located approximately 1 mile northwest of the Site while Trail Creek is located approximately 1 mile northeast of the site at its closest point. Lake Michigan serves as the potable water supply for the City of Michigan City, while Trail Creek is used for recreational fishing and boating. Potential contaminant exposure to aquatic life is possible through groundwater migration. However, given the relatively flat hydraulic gradient at the site and the distance between the site and the nearest surface waters, contaminant exposure to aquatic life is improbable.

The nearest designated "wetlands and floodplains" are located approximately 0.5 mile southwest and southeast of the site, respectively. Since groundwater flow has been determined to be toward the northeast to northwest, contaminant exposure to wetlands and floodplains is improbable. Maps depicting wetlands and floodplains in the area of the former Schmock Oil site are included in the EDR Report (**Appendix D**).

No effects of impact have been observed on vegetation or wildlife populations at the site, and no potential effects are anticipated, given the current site conditions. No potential stresses to environmentally sensitive areas are foreseen, as exposure of constituents found at the referenced facility to the environmentally sensitive areas is unlikely.

In addition to a physical inspection (walk-through) of the facility and environs, APT conducted a search of the Indiana Department of Natural Resources (IDNR) files regarding the areas surrounding the facility. These records include surface water quality, key aquatic and wildlife species, plant life, wetlands, and parks. The land use of the surrounding area, surface runoff and topography of the immediate area was also researched.

The IDNR searched the Indiana Natural Heritage Data Center records for endangered, threatened, or rare (ETR) species, high quality natural communities, and natural areas documented in the area of the former Schmock Oil site. The results of the search did not indicate the presence of any ETR species nor any significant natural areas in the vicinity of the site (**Appendix E**).

3.1.2 Background Hydrogeologic Assessment

A literature search was completed to provide a background understanding of the regional and local hydrogeology. The following applicable publications were reviewed:

- *Geologic Map of Indiana*; Indiana Geological Survey.
- *Hydrogeologic Atlas of Aquifers in Indiana*; U.S. Geologic Survey (USGS), 1994.
- *Soil Survey of La Porte County, Indiana*; United States Department of Agriculture, Soil Conservation Service in cooperation with the Purdue University Agricultural Experiment Station and the Indiana Department of Natural Resources Soil and Water Conservation Committee, January 1982.
- *Michigan City West, Quadrangle*; USGS, 7.5 Minute Topographic Map Series, 1993.
- *Water Resource Availability in the Lake Michigan Region, Indiana*; Indiana Department of Natural Resources, Division of Water, Water Resource Assessment 94-4.

Baseline Geological Assessment

According to the LaPorte County, Indiana Soil Survey, the surface soil type at the site is classified as Urban Land-Oakville Complex (USDA 1982). The "Urban Land" soil classification indicates that the surface layer and subsoil have been covered, removed, and/or disturbed by streets, parking lots, buildings, and other structures to an extent that the original soil type can no longer be identified. Typical profiles of Oakville Complex soils consist of fine sands with thin bands of clayey and silty sands. The Oakville soils in this unit have low available water capacity and are highly permeable. The Urban Land-Oakville Complex unit is not used for growing crops, forage, or woodland, but rather used for building sites.

The former Schmock Oil site is located in the northern portion of the Lake Michigan Region within the Calumet Lacustrine Plain and Calumet Aquifer System (IDNR 1994). The Calumet Lacustrine Plain lies between the Valparaiso Morainal Area and Lake Michigan and has been altered as a result of industrialization and urbanization. The Calumet Lacustrine Plain was formed from the retreat of the Lake Michigan Lobe from its terminal position at the Lake Border Moraine and the development of ancestral Lake Michigan. From the existing land surface to the surface of the underlying bedrock, the Calumet Lacustrine Plain deposits are subdivided into three primary stratigraphic units: fine-grained lacustrine and dunal sands and medium-grained coastal sands; till and glaciolacustrine clay; and, stratified lacustrine sand, silt, and clay (IDNR 1994). Additionally, slag and dunal sands were used to fill in depressions and lowlands to create a relatively featureless plain in the industrialized sections of the Calumet Lacustrine Plain and lakeshore areas.

Bedrock in the Lake Michigan Region consists of more than 4,000 feet of sedimentary rocks overlying a Pre-Cambrian basement. The uppermost bedrock units in the Lake Michigan Region range from Silurian to Mississippian Age. The bedrock underlying the Calumet Lacustrine Plain at the site consists of Upper Devonian-age Antrim Shale. The Antrim Shale consists of brown to black non-calcareous shale; however, calcareous shale, limestone, and sandstone are present in the lower part of the unit in some areas of LaPorte County (IDNR 1994). According to regional geologic maps, the bedrock surface underlying the site is at an elevation of approximately 425

feet above mean sea level (msl). Therefore, the unconsolidated Calumet Lacustrine Plain deposits at the site are approximately 200 feet thick, based on an approximate surface elevation of 620 feet msl.

The site-specific geology was evaluated via continuous subsurface soil cores collected while drilling the soil borings and monitoring wells at the site. The maximum depth reached during drilling at the site was 15 feet below the ground surface. The site-specific geologic characterization as obtained from soil samples collected during drilling activities at the site indicates that the near surface soils consist predominantly of well-sorted, fine-to-medium grained sand. Thin deposits of silt, and combinations of clay, silt, and sand were also encountered at various locations at the site. Bedrock was not encountered in any of the soil borings advanced on the subject property. Copies of soil boring logs for the drilling activities performed at the site are provided in **Appendix F**.

Baseline Hydrogeological Assessment

The former Schmock Oil site is located within the Calumet Aquifer System. The Calumet Aquifer System is mainly an unconfined aquifer bordered to the north by Lake Michigan and roughly to the south by the northern slopes of the Lake Border Moraine in northwestern LaPorte County. The Calumet Aquifer consists of fine-to medium grained sands with dispersed lenses of beach gravel. Dunal sands cap the aquifer in many places and localized beds of laminated silt and clay and deposits of peat and muck confine the aquifer in small areas across the Lake Michigan Region. A relatively impermeable clay and till unit, that is greater than 100 feet thick in places, underlies the Calumet Aquifer. Static water levels in the Calumet Aquifer generally follow the trend of the surface topography. The depth to water in the area is typically less than 15 ft bgs. Regional hydrogeologic maps indicate that the regional groundwater flow direction of the Calumet Aquifer System is to the north-northwest toward Lake Michigan.

Development of the Calumet Aquifer as a source of potable water has not been significant due to the proximity to Lake Michigan, which is an abundant source of potable water. However, the Calumet Aquifer is utilized as a source of water by a few domestic and small commercial facilities. The potable water supply from the Calumet Aquifer is typically derived from depths of 40 to 150 ft bgs. Domestic wells typically produce 5 to 20 gallons per minute (gpm) while high-capacity wells can expect to produce up to 100 gpm (IDNR 1994). Higher sustained withdrawal rates are difficult to achieve in many areas due to the predominance of fine-grained sand.

At the Schock Oil site, saturated conditions indicative of the static water table were encountered while drilling at depths ranging between 5 and 13 ft bgs, as indicated on the soil boring logs (**Appendix F**). Groundwater elevation measurements collected in September and October 2002, and March 2003 were consistent with these observations. The monitoring wells installed by APT during the site investigation activities were screened to intersect the static water table.

Groundwater elevations were measured from the monitoring wells at the site on September 3, 2002, October 24, 2002, and March 21, 2003 (Table 1). On September 3, 2002, groundwater elevations were measured from monitoring wells MW-1 through MW-3 and ranged from 4.86 to 9.28 feet below the tops of the inner well casings. On October 24, 2002, groundwater elevations were collected from monitoring wells MW-1 through MW-5 and ranged from 5.52 to 10.31 feet

below the tops of the inner well casings. On March 21, 2003, groundwater elevations were measured from monitoring wells MW-1 through MW-10 and ranged from 6.10 to 11.10 feet below the tops of the inner well casings.

The groundwater elevation data were used to construct potentiometric surface maps that indicate the general shallow groundwater flow direction varies from northeast to the northwest, toward Trail Creek and Lake Michigan (**Figures 4** through **6**). The September 2002 potentiometric surface map indicates a northeasterly flow direction. However, this map is based on only three groundwater elevation points (monitoring wells MW-1 through MW-3). The October 2002 and March 2003 potentiometric surface maps, which indicate a northwesterly flow direction, are likely more accurate since they were created with five and ten elevation points, respectively.

The nearest surface waters to the site are Lake Michigan and Trail Creek. Lake Michigan is located approximately 1 mile northwest of the Site while Trail Creek is located approximately 1 mile northeast of the site. Trail Creek is one of the few tributaries to Lake Michigan in the State of Indiana, and drains the northwestern part of LaPorte County. Lake Michigan serves as the potable water supply for the City of Michigan City, while Trail Creek is used for recreational fishing and boating.

3.2 SAMPLING METHODOLOGY

The sampling methodology used during the site investigation is presented herein. This section identifies the investigative methods and equipment used and the areas of the site that were investigated for potential contamination. The previously submitted SAP (APT, April 2002) and SAP addendum (APT, January 2003) included as **Appendix A** of this document describe the sampling process for the site investigation in detail.

3.2.1 Sample Matrices

Subsurface soil and groundwater were investigated during this site investigation. Subsurface soil samples and groundwater screening samples were collected from soil borings. One soil sample was collected during monitoring well installation (from monitoring well MW-3). Groundwater samples were collected from all installed monitoring wells.

3.2.2 Sample Locations

During the fall of 2002, eight soil borings (SB-1 through SB-8) and five monitoring wells (MW-1 through MW-5) were advanced in the locations shown in **Figure 2**. The locations were based on the results of the Phase I ESA (APT, January 2002). The soil borings were located such that they are adequate to evaluate REC-1, REC-2, REC-3, REC-5, and REC-6 with regard to the potential for impact. Subsequent to the Phase I ESA being performed, it was learned that the barricaded storage area (REC-4) is not located on the former Schmock Oil site. Therefore, REC-4 was not considered when locating the soil borings. The monitoring wells were located to adequately evaluate site-wide groundwater with regard to the potential for impact. Six soil borings (SB-3 through SB-8) and two monitoring wells (MW-3 and MW-5) were located in the northern portion of the site. The remaining two soil borings (SB-1 and SB-2) and two monitoring wells (MW-1 and MW-4) were located in the southeastern portion of the site, in the vicinity of a suspected former underground storage tank (UST). The remaining monitoring well (MW-2) was located

along the west-central property line. Groundwater screening samples were collected from five of the eight soil borings advanced during the autumn 2002 assessment phase (SB-2, and SB-4 through SB-7).

The IDEM typically requires that the extent of impact be delineated to the perimeter where constituent concentrations approach or meet unrestricted use criteria (*i.e.*, Residential criteria in the VRP). Monitoring wells constructed to published IDEM specifications must be used to delineate groundwater impacts, although monitoring wells may be supplemented by groundwater screening sampling conducted in soil borings or temporary well points. Since the autumn 2002 sampling activities did not define the extent of groundwater impact, a supplemental assessment was performed in March 2003 to better define the nature and extent of groundwater impacts. This supplemental assessment was described in an addendum to the SAP (APT, January 2003), which is included in **Appendix A**.

Based on the results of the autumn 2002 investigation, groundwater in the northern portion of the site was determined to be impacted by benzene at concentrations exceeding VRP Tier II Non-Residential Cleanup Goals. Benzene impacts were defined to Non-Residential criteria to the east based on groundwater sampling in monitoring well MW-3 and soil boring SB-6. However, benzene concentrations in both of these sampling points (87 µg/L in MW-3 and 21 µg/L in SB-6) were above the VRP Tier II Residential cleanup criterion for benzene (5 µg/L). Since the area of impact defined by the autumn 2002 sampling extended to near the downgradient property boundaries (*i.e.* north and east), additional investigation was warranted downgradient of these points to evaluate whether impacts might extend off-site at concentrations exceeding VRP Residential criteria. To the north, west, and south of the impacted area, the benzene impact was not defined to even VRP Tier II Non-Residential Cleanup Goals.

Additionally, trichloroethylene (TCE) and VC had been detected in groundwater at the southeast corner of the site. This impact had not yet been defined to the VRP Tier II Non-Residential cleanup criteria to the west, north, or east. Also, since the area of impact is near the eastern property boundary, additional investigation was warranted to evaluate the potential for off-site impacts.

In order to meet IDEM requirements for impact delineation, three additional monitoring wells (MW-6, MW-7, and MW-10) were installed in the northern portion of the site and two additional monitoring wells (MW-8 and MW-9) were installed in the southeast portion of the site. The five new monitoring wells were supplemented by groundwater screening from six additional soil borings, three each in the northern (SB-12 through SB-14) and southeast portions (SB-9 through SB-11) of the site. The soil borings were advanced using an Earthprobe™. No soil samples were collected for laboratory analysis from these borings, although soil cores were field screened for volatile compounds using an OVM.

3.2.3 Investigation Methods

Soil borings were advanced and monitoring wells were installed as part of the Phase II site investigation. Continuous soil cores were collected while drilling, and were used to geologically and chemically characterize the subsurface and examine the soils for unusual conditions. The procedures followed during the investigation are discussed in this section. The soil boring and

monitoring well installation procedures described herein were also documented in the SAP and the SAP addendum (see **Appendix A**).

Soil Borings

Soil borings were advanced in locations based on the results of the Phase I ESA (soil borings SB-1 through SB-8) and the initial Phase II investigation conducted during the autumn of 2002 (soil borings SB-9 through SB-14). Soil borings were advanced using an Earthprobe™ drilling unit, which utilizes a percussion-type push probe technique to advance the borehole. Soil borings were advanced to depths ranging from 8 feet bgs to 12 feet bgs, which was coincident with encountering saturated conditions. All soil borings were terminated upon reaching the water table. Continuous soil cores were obtained in four foot increments while drilling, using an acetate liner inserted inside of the steel sampling device to contain the core.

Monitoring Well Installation

Monitoring wells were advanced in locations based on the results of the Phase I ESA (monitoring wells MW-1 through MW-5) and the initial Phase II investigation (monitoring wells MW-6 through MW-10). Monitoring well borings were advanced to a depth approximately 2 to 3 feet into the zone of saturation, as determined while drilling, using a drilling rig equipped with hollow-stem augers. Continuous soil cores were retrieved from the monitoring well borings to their total depth using a stainless steel split-spoon sampler advanced into undisturbed soils ahead of the auger bit.

3.3.4 Sample Collection

This section describes the sample collection protocol for the site investigation, including sampling equipment, sampling procedures, sample identification, decontamination procedures, and documentation.

Soil Sampling

The following sampling equipment was used during the soil boring process:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- A push-probe that utilizes a macro-core sampler consisting of a 4-foot by 2-inch or 3-foot by 2-inch steel tube fitted with a new, clean acetate liner;
- Clean replacement acetate liners for the macro-core samplers;
- A scale suitable for use in the field, capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An organic vapor meter (OVM) with 100 parts per million by volume (ppmv) isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- Deionized water and non-phosphate detergent for decontamination;

- New, disposable, clean vinyl, nitrile, or latex gloves;
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment;
- Insulated coolers capable of maintaining samples at 4°C, for transporting samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Plastic sheeting, paper towels, garbage bags, indelible ink pens, etc.; and
- Copies of the HASP and QAPP.

Soil samples were collected from soil borings SB-1 through SB-8 and SB-13. Soil samples were not collected from soil borings SB-9 through SB-12, and SB-14 as these borings were advanced for the sole purpose of collecting groundwater screening samples. However, soil cores from these latter borings were field screened for volatile compounds upon retrieval using an OVM; no evidence of impacts in the vadose zone was noted.

Soil samples were collected from the interval in each boring exhibiting the greatest evidence of impact, based on OVM readings, or from just above the capillary fringe if no impacts were detected. The sample depths and identification numbers are included in **Table 2**. Soil samples were placed into laboratory-supplied containers and shipped to the laboratory following standard chain-of-custody procedures. The soil samples were analyzed for VOCs using Method 5035/8260, SVOCs using SW-846 Method 8270, PPL metals using SW-846 Methods 6010 and 7471, and PCBs using SW-846 Method 8082. The soil sample collected from soil boring SB-13 was analyzed for VOCs and SVOCs only.

All soil sampling activities, including soil boring advancement, decontamination procedures, sample containers, sample preservation, collection of QA/QC samples, and documentation, were performed in accordance with the QAPP and SAP. Field screening results are listed on the soil borings logs in **Appendix F**. Chain-of-custody forms are included with the laboratory analytical reports in **Appendix G**.

Groundwater Screening Sample Collection

The following sampling equipment was used during the groundwater screening sample collection process:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- Peristaltic pump and new polyethylene tubing to collect groundwater screening samples;

- New, disposable, clean vinyl, nitrile, or latex gloves;
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Insulated coolers capable of maintaining samples at 4°C, for transporting samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Paper towels, garbage bags, indelible ink pens, etc.; and
- Copies of the HASP and QAPP.

Groundwater screening samples were collected from soil borings SB-2, SB-4 through SB-7, and SB-9 through SB-14 for laboratory analysis. The sample identification numbers are included in Table 3. Groundwater screening samples GW-1;082602, GW-2;082602, GW-3;082702, GW-4;082702, and GW-5;082802 were collected from soil borings SB-2, SB-6, SB-5, SB-4, and SB-7, respectively. The sample identification numbers for the groundwater screening samples collected from soil borings SB-9 through SB-14 correspond numerically to the soil boring identification numbers (*i.e.* groundwater screening sample GW-9;031703 was collected from soil boring SB-9). The samples were placed into laboratory-supplied containers and shipped to the laboratory following standard chain-of-custody procedures. The groundwater screening samples were analyzed for VOCs using SW-846 Method 8260.

Groundwater screening sampling, including decontamination, sample containers, sample preservation, and documentation, was performed in accordance with the QAPP and SAP. Chain-of-custody forms are included with the laboratory analytical reports in **Appendix G**.

Monitoring Well Installation

The following sampling equipment was used during the monitoring well installation process:

- Truck-mounted drill rig with steel alloy hollow-stem augers and drill rods;
- A continuous soil sampler consisting of a 2-foot by 2-inch steel tube advanced before the lead hollow-stem auger;
- A scale suitable for use in the field, capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An OVM with 100 ppmv isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves;

- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment;
- Insulated coolers capable of maintaining samples at 4°C, for transporting samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Plastic sheeting, paper towels, garbage bags, indelible ink pens, etc.; and
- Copies of the HASP and QAPP.

One soil sample was obtained from a depth of 8-9.5 feet below the ground surface (*i.e.*, just above the water table) during the installation of monitoring well MW-3. The sample depth and identification number are included in **Table 2**. The sample was collected from the interval with the greatest evidence of impact, based on OVM readings. The sample was placed into laboratory-supplied containers and shipped to the laboratory following standard chain-of-custody procedures. The soil sample was analyzed for VOCs using Method 5035/8260 and SVOCs using SW-846 Method 8270.

Soil sampling conducted during monitoring well installation, including decontamination, sample containers, sample preservation, collection of QA/QC samples, and documentation, was performed in accordance with the QAPP and SAP. Field screening results are listed on the soil borings logs in **Appendix F**. Chain-of-custody forms are included with the laboratory analytical reports in **Appendix G**.

Groundwater Sample Collection

The following sampling equipment was used during the groundwater sample collection process:

- An electronic water level indicator/interface probe equipped with a chemical resistant, inert tape, capable of measuring to one-hundredth of a foot accuracy;
- Hanna Instruments Water Test hand held combination Temperature/Conductivity/pH meter;
- Disposable bailers equipped with a single bottom check valve;
- Polypropylene rope or twine, attached to a bailer and used to raise and lower the bailer;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves;
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;

- Insulated coolers capable of maintaining samples at 4°C, for transporting samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;
- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Plastic sheeting, paper towels, garbage bags, indelible ink pens, etc.; and
- Copies of the HASP and QAPP.

Groundwater samples were collected from monitoring wells MW-1 through MW-3 in September 2002, to provide a baseline for site-wide groundwater quality and guide the placement of subsequent monitoring wells. Groundwater samples were collected from monitoring wells MW-4 and MW-5 following their installation in October 2002. The September and October 2002 samples were analyzed for VOCs, SVOCs, and PPL metals using SW-846 Methods 8260, 8270, and 6010/7471, respectively. However, due to laboratory error, monitoring well MW-4 was re-sampled for VOCs in November 2002. In March 2003, groundwater samples were collected from nine onsite monitoring wells (MW-1 and MW-3 through MW-10). Monitoring well MW-2 was not sampled due to insufficient water in the well. The March 2003 samples were analyzed for VOCs using SW-846 Method 8260. The March 2003 groundwater samples were not analyzed for SVOCs or metals, since the intent of these wells was to provide additional delineation of detected volatile compounds. No SVOCs were detected at concentrations exceeding their respective VRP Tier II cleanup criteria in the initial assessment samples, and the elevated Pb concentrations are believe to be the result of suspended sediment in the sample, and not indicative of dissolved constituent concentrations.

Disposable items such as the bailer, polypropylene rope, and latex gloves were discarded between each sampling point (i.e., each monitoring well) to prevent cross-contamination. The remainder of the sampling equipment was properly decontaminated using the procedures outlined in the SAP (see **Appendix A**) and QAPP (see **Appendix C**).

All groundwater sampling methods were in accordance with the SAP, SAP addendum, and QAPP, including the sampling containers used, the sample preservation procedures, and documentation procedures. Quality control samples, one matrix spike/matrix spike duplicate (MS/MSD) sample and one duplicate sample, were collected during each groundwater sampling event. One trip blank per day was also submitted to the lab. Chain-of-custody forms are included with the laboratory analytical reports in **Appendix G**.

3.3 SAMPLE ANALYSIS

This section presents the analytical methods, sample containers, and preservation techniques used to collect and characterize each sample.

3.3.1 Analytical Methods

The analytical methods, sample containers, and preservation procedures for each sample matrix are summarized in **Table 4.**

Soil samples were collected from soil borings SB-1 through SB-8 and SB-13 and monitoring well MW-3. The soil samples were analyzed for VOCs using Method 5035/8260, SVOCs using SW-846 Method 8270, PPL metals using SW-846 Methods 6010 and 7471, and PCBs using SW-846 Method 8082. However, the soil samples collected from soil boring SB-13 and monitoring well MW-3 were analyzed for VOCs and SVOCs only.

Groundwater screening samples collected from soil borings SB-2 and SB-4 through SB-8 and were analyzed for VOCs, SVOCs, and PPL metals using SW-846 Methods 8260, 8270, and 6010/7471. Groundwater screening samples collected from soil borings SB-9 through SB-14 were analyzed for VOCs using SW-846 Method 8260.

In September 2002, groundwater samples were collected from monitoring wells MW-1 through MW-3. In October 2002, groundwater samples were collected from monitoring wells MW-4 and MW-5. The September and October 2002 samples were analyzed for VOCs, SVOCs, and PPL metals using SW-846 Methods 8260, 8270, and 6010/7471 respectively. However, due to laboratory error, monitoring well MW-4 was resampled for VOCs in November 2002. In March 2003, groundwater samples were collected from nine onsite monitoring wells (MW-1 and MW-3 through MW-10). Monitoring well MW-2 was not sampled due to insufficient water in the well. The March 2003 samples were analyzed for VOCs using SW-846 Method 8260.

3.4 SITE INVESTIGATION RESULTS

Soil, groundwater screening, and groundwater sample analysis results are discussed in this section. Analytical results are compared to the VRP Tier II Non-Residential Cleanup Goals. However, if no VRP Tier II Non-Residential Cleanup Goal is listed for an individual constituent, then the analytical results are compared to the default RISC Industrial closure criterion. Copies of all laboratory reports are included in **Appendix G.**

Laboratory precision was assessed by evaluating the results of the MS/MSD samples and the duplicate samples. The MS/MSD samples were evaluated by comparing the percent recoveries of each detected constituent. Percent recovery was calculated using the following equation:

Equation 1: $\text{Percent Recovery} = (C_{MS} / (C_{Sample} + C_{Spike})) * 100$

where: C_{MS} is the MS (or MSD) concentration after the spike,
C_{Sample} is the sample concentration before the spike, and
C_{Spike} is the spike concentration.

The results of the duplicate samples were evaluated by comparing the relative percent difference (RPD) between the two samples. RPD was calculated using the following equation:

Equation 2: $RPD = ((C_s - C_d)/C_{avg}) * 100$

where: C_s is the sample concentration,

C_d is the duplicate sample concentration, and
C_{avg} is the average concentration of the sample and the duplicate.

When a constituent was not detected, half the laboratory detection limit was used as a surrogate concentration.

3.4.1 Soil Analytical Results

In August 2002, soil borings SB-1 through SB-8 were advanced in locations based on the results of the Phase I ESA. One soil sample was collected from each boring from the interval with the highest evidence of impact, based on OVM readings, or from above the capillary fringe, if no impacts were detected. During monitoring well installation in September 2002, OVM readings indicated soil impact in the boring advanced for monitoring well MW-3, from a depth just above the water table. One soil sample was collected from that interval in that boring. All soil samples except that collected from MW-3 were analyzed for VOCs, SVOCs, PPL metals, and PCBs. The soil sample collected from monitoring well boring MW-3 was analyzed only for VOCs and SVOCs.

Several VOCs, SVOCs, and PPL metals were detected in the soil samples. However, all of the reported concentrations were below the VRP Tier II Non-Residential cleanup criteria or default RISC Industrial closure criteria, as appropriate. The soil sampling results are presented in tabular format in **Table 2**, and in plan view in **Figure 7**.

In March 2003, soil borings SB-9 through SB-14 were advanced at locations based on the results of the autumn 2002 soil investigation. The intent of the work scope was only to collect groundwater screening samples from these borings to fill data gas between the monitoring wells, as part of the effort to define the extent of the previously detected benzene and VC impacts. No soil sampling was planned, although continuous soil coring was performed while drilling and the cores field screened for volatile compounds using an OVM. However, one soil sample was collected from soil boring SB-13 because OVM readings indicated soil impact at a depth of 13 feet bgs.

Several VOCs and SVOCs were detected in the soil sample. However, all of the reported concentrations were below the VRP Tier II Non-Residential cleanup criteria or default RISC Industrial closure criteria, as applicable. The soil sampling results are presented in tabular format in **Table 2**, and in plan view in **Figure 7**.

Soil QA/QC Sample Results

An MS/MSD sample was collected from soil boring SB-4, during the autumn 2002 sampling event. Since only one soil sample was collected, duplicate and MS/MSD samples were not collected during the March 2003 soil sampling event. The percent recoveries of most of the constituents were within acceptable limits, with the exception of TCE, chlorobenzene, and toluene (see **Table 5**). TCE and chlorobenzene exceeded their respective acceptable range in the MS analysis and toluene was not recovered in either the MS or MSD. The calculated RPDs between the MS and MSD were similarly within acceptable ranges, except for benzene, TCE, toluene, and chlorobenzene, which had RPDs of 53%, 43%, 34%, and 74% respectively. According to the laboratory report, the high VOC constituent concentrations in the MS/MSD

sample resulted in unreliable recovery data. Since the percent recoveries and RPDs for all remaining VOCs, SVOCs, PPL metals, and PCBs were within acceptable limits, the laboratory results of the investigative samples are considered reliable.

A duplicate soil sample was collected from soil boring SB-8. The calculated RPDs between investigative and duplicate samples range from 1.0% (lead) to 198.3% (zinc) (Table 6). The high RPD value for zinc may be due to natural variations in constituent concentrations in the soil, since metals are naturally occurring components of minerals found in soil. According to Pace (the laboratory), no anomalies were found between the investigative and duplicate samples upon reexamination of the data and the laboratory data indicated adequate QC results. The RPDs for methylene chloride and nickel were 50% and 50.3%, respectively. However, the concentrations of methylene chloride and nickel in the investigative and duplicate samples are close to the laboratory detection limits and within one order of magnitude. Methylene chloride is also a common laboratory contaminant. Thus, the laboratory results are considered reliable.

Toluene was detected in the equipment rinsate sample collected on August 28, 2002 at a concentration of 9.9 µg/L. However, no VOCs, SVOCs, PCBs, or PPL metals were detected in the remaining equipment rinsate samples, indicating the equipment was properly decontaminated between soil borings. No VOCs were detected in the trip blanks and methanol blanks, indicating that sample integrity had not been compromised during shipping and handling. In summary, the analytical results of the soil samples are reliable for their intended purpose.

Toluene was also detected in the equipment rinsate sample collected on March 17, 2003 at a concentration of 11 µg/L. Since only one soil sample was collected, there was no opportunity for cross contamination of other soil samples. No SVOCs were detected in the equipment rinsate sample. Naphthalene was detected in the methanol blank at a concentration of 170 µg/kg. No other VOCs were detected in the methanol blank. No VOCs were detected in the trip blank, indicating that sample integrity had not been compromised during shipping and handling.

3.4.2 Groundwater Analytical Results

In August 2002, groundwater screening samples were collected from soil borings SB-2, and SB-4 through SB-7. Several VOCs and SVOCs were detected in the groundwater screening samples. However, benzene was the only constituent detected above its VRP Tier II Non-Residential cleanup criterion of 98.6 µg/L. Benzene was detected at concentrations of 2,500 µg/L, 690 µg/L, and 2,600 µg/L in groundwater screening samples collected from soil borings SB-4 (GW-4;082702), SB-5 (GW-3;082702), and SB-7 (GW-5;082802), respectively. The groundwater screening sampling results are presented in tabular format in **Table 3** and in plan view in **Figure 8**.

In September 2002, groundwater samples were collected from monitoring wells MW-1 through MW-3. Groundwater samples were collected from monitoring wells MW-4 and MW-5 in October 2002 following their installation. However, due to laboratory error, monitoring well MW-4 was resampled for VOCs in November 2002. Several VOCs, SVOCs, and PPL metals were detected in the groundwater samples collected from the monitoring wells. However, only vinyl chloride, benzene, and lead were detected at concentrations above VRP Tier II Non-

Residential Cleanup Goals (10 µg/L, 98.6 µg/L, and 15 µg/L, respectively). Vinyl chloride was detected at a concentration of 170 µg/L in the groundwater sample collected from monitoring well MW-4. Benzene was detected at a concentration of 2,700 µg/L in the groundwater sample collected from monitoring well MW-5. Lead was detected at concentrations of 36.1 µg/L and 20.5 µg/L in the groundwater samples collected from monitoring wells MW-3 and MW-5, respectively. It is APT's opinion that the observed lead concentrations are the result of suspended sediment in the groundwater samples. Since lead is a naturally occurring component of many minerals found in soils, any suspended solids in the groundwater sample will likely result in elevated lead concentrations. The groundwater sampling results are presented in tabular format in **Table 3** and in plan view in **Figure 8**.

Since the results of the autumn 2002 groundwater sampling did not fully define the extent of benzene and vinyl chloride impact, additional assessment activities occurred in March 2003. Groundwater screening samples were collected from six new soil borings, SB-9 through SB-14, and five additional monitoring wells were installed, with attendant groundwater sampling from all of the monitoring wells (MW-1, and MW-3 through MW-10). Monitoring well MW-2 was not sampled in March 2003 due to insufficient water in the well.

Several VOCs were detected in the groundwater screening samples collected from six soil borings and the groundwater samples collected from nine monitoring wells during March 2003. However, benzene and VC were the only constituents detected above their respective VRP Tier II Non-Residential cleanup criteria of 98.6 µg/L and 2 µg/L, respectively. These concentrations are discussed below:

- Vinyl chloride was detected at a concentration of 1,000 µg/L in the groundwater sample collected from monitoring well MW-4, which exceeds the VRP Tier II Non-Residential cleanup criteria of 10 µg/L.
- Benzene was detected at concentrations of 5,300 µg/L, 4,200 µg/L, and 5,900 µg/L in groundwater screening samples collected from soil borings SB-12 (GW-12;031703), SB-13 (GW-13;031703), and SB-14 (GW-14;031703), respectively. Benzene was detected at concentrations of 200 µg/L, 1,400 µg/L, and 1,300 µg/L in the groundwater samples collected from monitoring wells MW-3, MW-5, and MW-7. These concentrations exceed the VRP Tier II Non-Residential Cleanup Goal of 98.6 µg/L.

The groundwater screening sampling results are presented in tabular format in **Table 3** and in plan view in **Figure 8**.

Groundwater QA/QC Sample Results

No duplicate or MS/MSD samples were collected during the August 2002 groundwater screening. No VOCs, SVOCs, PCBs, or PPL metals were detected in the two equipment rinsate samples (ER; 082602 and ER; 082702) collected on August 26 and 27, 2002, indicating the equipment was properly decontaminated between groundwater screening samples.

A MS/MSD sample (MS/MSD-1; 090302) was collected from monitoring well MW-1 on September 3, 2002. The percent recoveries of the MS/MSD sample were within acceptable limits

(see **Table 7**), indicating the laboratory methods were precise. A duplicate groundwater sample (DUP-1; 090302) was collected from monitoring well MW-3. The calculated RPDs between investigative and duplicate samples range from 0% (PCE) to 85.9% (lead) (see **Table 8**). The relatively high RPD for lead may be due to variations in the suspended sediment between the two samples, if as is speculated, the elevated lead concentrations are due to suspended sediment in the groundwater samples. According to Pace, after conducting a QA/QC review of the data, there were no indications that the data is invalid.

No VOCs were detected in the equipment rinsate sample (ER; 090302) associated with the September 2002 groundwater sampling, indicating the equipment was properly decontaminated between monitoring wells. Similarly, no VOCs were detected in the trip blank (TB; 090302), indicating that sample integrity had not been compromised during shipping and handling. In summary, the analytical results of the September 2002 groundwater samples are reliable for their intended purpose.

No duplicate or MS/MSD samples were collected associated with the March 2003 groundwater screening samples collected from the soil borings. However, a MS/MSD sample (was collected from monitoring well MW-10 during the March 2003 sampling event, and a duplicate groundwater sample was collected from monitoring well MW-5. The percent recoveries of the MS/MSD samples were within acceptable limits (see **Table 7**), indicating the laboratory methods were precise. The calculated RPDs between the investigative and duplicate samples collected from MW-5 range from 8.0% (methyl-tert-butyl ether (MTBE)) to 44.9% (n-butylbenzene) (see **Table 8**). The n-butylbenzene RPD may be high because the concentrations detected in the investigative and duplicate samples are close to the detection limit.

Methylene chloride was detected in the trip blank (TB; 031703) associated with the March 2003 groundwater screening samples, at a concentration of 7.8 µg/L. However, methylene chloride was not detected in any of the groundwater screening samples. Since methylene chloride is a common laboratory artifact, sample integrity was likely not compromised during shipping and handling. The analytical results of the groundwater screening samples are thus reliable for their intended purpose. Toluene was detected in the trip blank (TB; 032103) associated with the March 2003 groundwater samples collected from the monitoring wells, at a concentration of 6.5 mg/L, which is close to the detection limit. According to Pace, the sample results may be biased due to carryover of the sample analyzed immediately prior to the trip blank. Based on the trip blank analysis, sample integrity was likely not compromised during shipping handling. No VOCs were detected in the equipment rinsate sample (ER; 031703) associated with the March 2003 groundwater sampling, indicating the equipment was properly decontaminated between monitoring wells. In summary, the analytical results of the March 2003 groundwater samples are reliable for their intended purpose.

3.4.3 Hydrogeologic Investigation Results

The geologic characterization of the subsurface at the former Schmock Oil facility indicates that the near-surface deposits consist of predominantly well-sorted, fine- to medium- grained sand. Thin deposits of silt, and combinations of clay, silt, and sand were also encountered at various locations at the site. Bedrock was not encountered in any of the soil borings advanced at the site. Saturated conditions were encountered at depths ranging between 5 and 12 feet bgs. The surficial

aquifer unit is under unconfined conditions. Geologic cross-sections illustrating the site-specific geology are presented in **Figure 9**. Copies of soil boring and monitoring well logs are included in **Appendix F**.

Groundwater elevations were measured on September 3, 2002, October 24, 2002, and March 21, 2003 (see **Table 1**). These data were collected to evaluate seasonal variations in groundwater flow direction and gradient. Groundwater elevations decreased approximately 0.5 to 1 foot from September to October 2002. From October 2002 to March 2003, groundwater elevations decreased approximately 0.5 to 1 foot.

Potentiometric maps were created using the groundwater elevation data collected in September 2002, October 2002, and March 2003 (see **Figures 4** through **6**). The September 2002 potentiometric surface map indicates a southwesterly flow direction. However, this map is based on only three groundwater elevation points (monitoring wells MW-1 through MW-3). The October 2002 and March 2003 potentiometric surface maps, which indicate a northwesterly flow direction, are likely more accurate since they were created with five and ten elevation points, respectively. The localized northwesterly groundwater flow direction observed at the site is consistent with regional data.

The hydraulic gradient across the site was calculated based on the potentiometric maps (**Figures 4, 5, 6**). The hydraulic gradient was calculated as 0.0002 ft/ft, 0.0007 ft/ft, and 0.0016 ft/ft in September 2002, October 2002, and March 2003, respectively. The average hydraulic gradient is 0.0008 feet per foot (ft/ft).

The seasonal variation in groundwater elevations is expected to be on the order of several inches based on APT's experience in the area, and should not affect the groundwater flow direction or gradient. The average linear velocity (or interstitial velocity) of groundwater across the site is estimated to range from approximately 4 to 40 ft/year using the equation $V_{avg} = (k)(i)/n_e$; where "k" is the estimated hydraulic conductivity, "i" is the hydraulic gradient, and n_e is the effective porosity. The average linear velocity is based on an estimated hydraulic conductivity range of 1 x 10^{-3} cm/sec to 1 x 10^{-2} cm/sec, an estimated hydraulic conductivity of 0.0008 ft/ft, and an estimated effective porosity of approximately 0.2 for the subsurface deposits. The porosity value of 0.2 is reasonable for the fine to medium grained sands encountered at the site (Maidment, 1993). Likewise, the hydraulic conductivity value used is reasonable values for sand deposits such as those that exist at the site (Fetter, 1988).

4.0 CONCLUSIONS

This section summarizes of the extent of contamination and potential risks associated with the site and presents preliminary remediation alternatives, based on the results of the soil and groundwater investigation.

4.1 SUMMARY OF EXTENT OF CONTAMINATION

The results of the soil, groundwater, and hydrogeologic investigations conducted by APT at the former Schmock Oil site are discussed in this section.

4.1.1 Soil Investigation

Soil sampling was conducted in August 2002 and March 2003. Soil samples were collected from nine soil borings (SB-1 through SB-8 and SB-13) and one monitoring well (MW-3). The laboratory analytical results of the soil investigation indicated that several VOCs, SVOCs, and PPL metals were detected in the soil samples. However, all of the reported concentrations were below VRP Tier II Non-Residential or default RISC Industrial cleanup criteria, as applicable.

4.1.2 Groundwater Investigation

Groundwater sampling was conducted during autumn 2002 and March 2003. Groundwater screening samples were collected from 11 soil borings (SB-2, SB-4 through SB-7, and SB-9 through SB-14). Groundwater samples were collected from five monitoring wells (MW-1 through MW-5) during the Fall of 2002 and from nine monitoring wells (MW-1 and MW-3 through MW-10) in March 2003.

The laboratory analytical results indicated that several VOCs and SVOCs were detected. However, only benzene, vinyl chloride, and lead concentrations exceeded VRP Tier II Non-Residential Cleanup Goals (98.6 µg/L, 10 µg/L, and 15 µg/L, respectively). Benzene concentrations exceeded the cleanup goal in six groundwater screening samples, collected from soil borings SB-4, SB-5, SB-7, and SB-12 through SB-14. Benzene concentrations exceeded the cleanup goal in groundwater samples collected from monitoring wells MW-3, MW-5, and MW-7. Vinyl chloride concentrations exceeded the cleanup goal in groundwater samples collected from monitoring well MW-4. An isoconcentration map illustrating benzene concentrations in groundwater is presented as **Figure 10**.

4.1.3 Hydrogeologic Investigation

The results of the hydrogeologic investigation indicate that the subsurface at the former Schmock Oil site consists of well-sorted, fine- to medium-grained sand with thin deposits of silt and combinations of clay, silt, and sand. Saturated conditions were encountered at depths ranging between 5 and 13 feet bgs. Groundwater elevation data indicate a northwest groundwater flow direction, toward Lake Michigan. The average hydraulic gradient was calculated as 0.0008 ft/ft, based on potentiometric maps created with groundwater elevation data collected in September and October 2002, and March 2003. The average linear velocity of groundwater across the site is estimated to range between 4 and 40 ft/year.

4.2 SUMMARY OF POTENTIAL RISKS ASSOCIATED WITH THE SITE

There is no risk of human exposure to impacted soil since the soil investigation indicated that no constituents were detected at concentrations above VRP Tier II Non-Residential Cleanup Goals or default RISC Industrial closure criteria. The potential for human exposure to impacted groundwater is mitigated in that groundwater is not used as a drinking water source; all drinking water in the city is derived from Lake Michigan. However, the extent of groundwater impact appears to extend offsite to the north, beyond the property control of the Schmock Oil property owner.

4.3 DESCRIPTION OF PRELIMINARY REMEDIATION ALTERNATIVES

The remediation alternatives for the groundwater impacts that APT has preliminarily identified as being the most attractive from a cost/benefit standpoint include monitored natural attenuation, groundwater pump and treatment, air sparging/soil vapor extraction (SVE), and in situ chemical oxidation/enhanced bioremediation. Brief descriptions of these remediation techniques are provided below:

- Natural attenuation is a remediation alternative that allows natural processes, such as biodegradation, dispersion, and dilution, to reduce contamination to levels that are not harmful to human and ecological health. Natural attenuation is monitored through groundwater sampling but no human intervention or enhancement occurs.
- Groundwater pump and treat consists of pumping groundwater from groundwater extraction wells located in the vicinity of the suspected source areas and treating the groundwater with an air stripping system. Treated groundwater is discharged to a recharge leach field located some distance away from the area of impact.
- Air sparging consists of injecting air into the groundwater through injection wells or sparge points to physically strip VOCs from the groundwater. SVE is coupled with air sparging to remove the stripped VOCs from the vadose zone.
- In situ chemical oxidation/enhanced bioremediation consists of injecting an oxidizing agent into the groundwater to destroy VOCs in situ and provide a favorable environment for indigenous bacteria to metabolize contaminants. This technique is most effective with petroleum products.

The remediation alternatives will be evaluated and a Remediation Work Plan will be developed upon approval of this Phase II Investigation Report.

TABLES

TABLE 1
GROUNDWATER ELEVATION DATA
Former Schmock Oil Facility
Michigan City, Indiana

Monitoring Well	Elevation[1] Top of Casing TOC[2] (ft)	September 3, 2002		October 24, 2002		March 21, 2003	
		Depth to Groundwater (ft)	Groundwater Elevation RDL[3] (ft)	Depth to Groundwater (ft)	Groundwater Elevation RDL (ft)	Depth to Groundwater (ft)	Groundwater Elevation RDL (ft)
MW-1	93.66	4.86	88.80	5.52	88.14	6.10	87.56
MW-2	96.29	7.48	88.81	8.20	88.09	8.91	87.38
MW-3	98.06	9.28	88.78	10.02	88.04	10.81	87.25
MW-4	94.49	NI[4]	NI	6.37	88.12	6.98	87.51
MW-5	98.32	NI	NI	10.31	88.01	11.10	87.22
MW-6	98.26	NI	NI	NI	NI	11.04	87.22
MW-7	97.39	NI	NI	NI	NI	10.13	87.26
MW-8	94.43	NI	NI	NI	NI	6.94	87.49
MW-9	95.42	NI	NI	NI	NI	7.90	87.52
MW-10	97.71	NI	NI	NI	NI	10.51	87.20

Notes:

1. Top of well casing elevations surveyed by APT, Limited.
2. Top of well casing (TOC).
3. Referenced datum level (RDL).
4. Not Installed (NI)

TABLE 2
SOIL ANALYTICAL RESULTS
Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1,2]	VRP Tier II Non-Residential Cleanup Objective	Soil Boring Samples									
		SB-1;5.5-6'	SB-2;5.5-6'	SB-3;6-7'	SB-4;8-10'	SB-5;7.5-8'	SB-6;9.5-10'	SB-7;8-9'	SB-8;8-9'	MW-3;8-9.5'	SB-13;11'
VOCs											
Benzene	4.77	ND (0.0035)[3]	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	**0.880**	ND (0.0025)	ND (0.069)	**1.00**
n-Butylbenzene	NL[4]	ND (0.0035)	ND (0.0049)	**0.840**	ND (0.240)	ND (0.250)	ND (0.0025)	**6.60**	ND (0.0025)	**0.900**	**13.0**
sec-Butylbenzene	NL	ND (0.0035)	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	ND (0.250)	ND (0.0025)	ND (0.069)	**5.2**
tert-Butylbenzene	NL	ND (0.0035)	ND (0.0049)	ND (0.230)	**0.360**	**0.410**	ND (0.0025)	**0.790**	ND (0.0025)	**0.900**	**0.630**
Carbon disulfide	NL (82)	**9.60**	**2.60**	ND (0.230)	**0.650**	**0.490**	ND (0.049)	ND (0.500)	ND (0.0050)	ND (0.140)	ND (0.270)
Ethylbenzene	1,000	**0.960**	ND (0.0049)	**2.30**	**6.40**	**2.30**	ND (0.0025)	**3.50**	ND (0.0025)	ND (0.069)	**12.0**
Isopropylbenzene	NL	ND (0.0035)	ND (0.0049)	**0.570**	**2.30**	**0.740**	ND (0.0025)	**0.740**	ND (0.0025)	ND (0.069)	**4.1**
p-Isopropyltoluene	NL	ND (0.0035)	ND (0.0049)	ND (0.230)	**0.360**	**0.410**	ND (0.0025)	**0.790**	ND (0.0025)	ND (0.069)	**5.2**
Methylene chloride	NL (1.8)	ND (0.0035)	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	**0.330**	**0.0027**	ND (0.069)	ND (0.140)
Naphthalene	10,000	ND (0.0035)	ND (0.0049)	**6.00**	**19.0**	ND (0.250)	ND (0.0025)	**15.0**	ND (0.0025)	ND (0.069)	**6.9**
n-Propylbenzene	NL	ND (0.0035)	ND (0.0049)	**1.70**	**6.30**	**0.850**	ND (0.0025)	**2.10**	ND (0.0025)	ND (0.069)	**9.2**
Tetrachloroethene	8.01	ND (0.0035)	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	ND (0.250)	ND (0.0025)	**0.140**	ND (0.140)
Toluene	1,000	**0.0054**	ND (0.0049)	**3.40**	**6.90**	**0.280**	ND (0.0025)	**22.0**	ND (0.0025)	ND (0.069)	**64.0**
1,2,4-Trimethylbenzene	NL	ND (0.0035)	ND (0.0049)	**11.0**	**48.0**	**43.0**	ND (0.0025)	**62.0**	ND (0.0025)	ND (0.069)	**34**
1,3,5-Trimethylbenzene	NL	ND (0.0035)	ND (0.0049)	**0.590**	**2.30**	**0.740**	ND (0.0025)	**0.760**	ND (0.0025)	ND (0.069)	**150**
Vinyl chloride	0.13	**0.0037**	ND (0.0020)	ND (0.092)	ND (0.097)	ND (0.098)	ND (0.00099)	ND (0.099)	ND (0.0010)	ND (0.028)	ND (0.055)
m&p-Xylene	1,000	**1.70**	ND (0.0049)	**22.0**	**65.0**	**26.0**	ND (0.0025)	**130.0**	ND (0.0025)	ND (0.069)	**160**
o-Xylene	1,000	**0.013**	ND (0.0049)	**11.0**	**34.0**	**19.0**	ND (0.0025)	**65.0**	ND (0.0025)	ND (0.069)	**67**
SVOCs											
2-Methylnaphthalene	NL	ND (0.520)	ND (0.780)	**14.0**	**9.20**	ND (2.40)	ND (0.470)	**21.0**	ND (0.350)	ND (0.390)	**26.0**
Naphthalene	10,000	ND (0.520)	ND (0.780)	**11.0**	**3.30**	ND (2.40)	ND (0.470)	**13.0**	ND (0.350)	ND (0.390)	**23.0**
Phenanthrene	NL	ND (0.520)	ND (0.780)	ND (1.700)	ND (1.700)	ND (2.40)	ND (0.470)	ND (1.800)	ND (0.350)	**0.470**	ND (1.800)
Metals (Total)											
Arsenic	438	**5.21**	**20.0**	ND (2.05)	ND (1.78)	ND (1.83)	ND (1.92)	ND (1.90)	ND (1.91)	NA[5]	NA
Chromium	10,000	**6.69**	**14.0**	ND (2.05)	**3.49**	ND (1.83)	**7.18**	**1.93**	**5.52**	NA	NA
Copper	NL (1,700)	**4.49**	**9.65**	ND (2.05)	ND (1.78)	ND (1.83)	**6.84**	**2.02**	ND (1.91)	NA	NA
Lead	1,000	**3.83**	**6.37**	ND (2.05)	**3.57**	ND (1.83)	**30.6**	**11.20**	**4.93**	NA	NA
Nickel	10,000	**7.23**	**22.6**	**2.24**	**2.09**	**1.86**	**2.97**	**2.02**	**2.23**	NA	NA
Zinc	10,000	**14.1**	**33.8**	**11.3**	**9.86**	**17.8**	**36.5**	**10.0**	**12.4**	NA	NA
PCBs	4.23	ND (0.026)	ND (0.039)	ND (0.017)	ND (0.017)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.017)	NA	NA

Notes:

1. Results presented in mg/kg.
2. Individual constituents listed only if detected in at least one sample.
3. ND (#) Not present above laboratory detection limit, given in parentheses.
4. NL (#) Not listed in VRP Tier II table (Cleanup objective in parentheses from RISC Default Closure Table for Commercial/Industrial sites, if listed).
5. NA The sample was not analyzed for the constituent.

Con#V-14;031703	
VOCs	
Acetone	ND (50)
Benzene	**5,900**
2-Butanone	ND (10)
n-Butylbenz	ND (5.0)
sec-Butylbe	ND (5.0)
Carbon disu	ND (5.0)
Chloroethan	ND (5.0)
cis-1,2-Dich	ND (5.0)
trans-1,2-Di	ND (5.0)
1,1-Dichlor	ND (5.0)
Ethylbenzer	**1,400**
2-Hexanone	ND (10)
Isopropylbe	**50**
p-Isopropyl	**5.9**
4-Methyl-2-	ND (10)
Methyl-tert-	ND (5.0)
Naphthalen	**240**
n-Propylben	**110**
Styrene	ND (5.0)
Tetrachloro	ND (5.0)
Toluene	**17,000**
1,2,3-Trichl	ND (5.0)
1,2,4-Trichl	ND (5.0)
1,1,1-Trichl	ND (5.0)
Trichloroeth	ND (5.0)
1,2,4-Trime	**1,100**
1,3,5-Trime	**250**
Vinyl acetat	ND (10)
Vinyl chlori	ND (2.0)
m&p-Xylen	**4,700**
o-Xylene	**2,100**
Xylene (Tot	**6,800**
SVOCs	
Diethylphth	NA
2,4-Dimethy	NA
2-Methylna	NA
2-Methylph	NA
3&4-Methy	NA
Naphthalen	NA
Phenol	NA
Metals (Tot	
Arsenic	ND (10)
Chromium	ND (10)
Copper	ND (20)
Lead	ND (10)
Zinc	ND (50)

Notes:

1. Results pres
2. Individual co
3. ND (#) Not
4. Numbers in
5. NL (#) Not
6. VRP Tier II
7. NA Sample

Constituent[1,2]	W-9 /2003	MW-10 3/21/2003
VOCs		
Acetone	(50)	ND (50)
Benzene	(5.0)	ND (5.0)
2-Butanone (MEK)	(10)	ND (10)
n-Butylbenzene	(5.0)	ND (5.0)
sec-Butylbenzene	(5.0)	ND (5.0)
Carbon disulfide	(5.0)	ND (5.0)
Chloroethane	(5.0)	ND (5.0)
cis-1,2-Dichloroethe	(5.0)	ND (5.0)
trans-1,2-Dichloroeth	(5.0)	ND (5.0)
1,1-Dichloroethane	(5.0)	ND (5.0)
Ethylbenzene	(5.0)	ND (5.0)
2-Hexanone	(10)	ND (10)
Isopropylbenzene	(5.0)	ND (5.0)
p-Isopropyltoluene	(5.0)	ND (5.0)
4-Methyl-2-pentanon	(10)	ND (10)
Methyl-tert-butyl-eth	(5.0)	ND (5.0)
Naphthalene	(5.0)	ND (5.0)
n-Propylbenzene	(5.0)	ND (5.0)
Styrene	(5.0)	ND (5.0)
Tetrachloroethene	(5.0)	ND (5.0)
Toluene	(5.0)	ND (5.0)
1,2,3-Trichlorobenze	(5.0)	ND (5.0)
1,2,4-Trichlorobenze	(5.0)	ND (5.0)
1,1,1-Trichloroethan	(5.0)	ND (5.0)
Trichloroethene	(5.0)	ND (5.0)
1,2,4-Trimethylbenze	(5.0)	ND (5.0)
1,3,5-Trimethylbenze	(5.0)	ND (5.0)
Vinyl acetate	(10)	ND (10)
Vinyl chloride	(2.0)	ND (2.0)
m&p-Xylene	(5.0)	ND (5.0)
o-Xylene	(5.0)	ND (5.0)
Xylene (Total)	(10)	ND (10)
SVOCs		
Diethylphthalate	NA	NA
2,4-Dimethylphenol	NA	NA
2-Methylnaphthalene	NA	NA
2-Methylphenol	NA	NA
3&4-Methylphenol	NA	NA
Naphthalene	NA	NA
Phenol	NA	NA
Metals (Total)		
Arsenic	NA	NA
Chromium	NA	NA
Copper	NA	NA
Lead	NA	NA
Zinc	NA	NA

Notes:

1. Results presented in µg/l
2. Individual compounds li
3. ND (#) Not present abo
4. Numbers in bold and sha
5. NL (#) Not listed in VR
6. VRP Tier II Non-Reside
7. NA Sample was not anal
8. VRP Tier II Non-Reside
9. Monitoring well MW-4
10. NS Well not sampled d

TABLE 4
SAMPLE BOTTLES, METHODS, PRESERVATIVES, AND HOLD TIMES
Former Schmock Oil Facility
Michigan City, Indiana

Sample Name	Sample Matrix	Number of Samples[1]	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
SB-#;*[depth]*[3]	Soil	10	Investigative	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
GW-#;*[date]*[4]	Groundwater	11	Screening	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#;*[date]*	Groundwater	15	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#;*[depth]*	Soil	1	Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
DUP-#;*[date]*	Groundwater	2	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD-#;*[depth]*	Soil	1	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Aqalysis	SW-846 Method 8082
MS/MSD-#;*[date]*	Groundwater	2	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
ER-#;*[date]*	Aqueous	7	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 1-L Amber (Non-Preserved, 4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
TB-#;*[date]*	Aqueous	9	Trip Blank (Aqueous samples only)	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
MB-#;*[date]*	Methanol	4	Methanol Blank (Soil samples only)	1, 40-mL Vial (Methanol)	VOCs	14 days	IN-5035M Preservation SW-846 Method 8260

Notes:

1. Total number of samples collected during the site investigation.
2. Samples were analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolitile organic compounds (SVOCs), priority pollutant list (PPL) metals, and polychlorinated biphenyls (PCBs) using the stated analytical method.
3. The soil samples were collected by APT from soil borings advanced by Top Flight Environmental Drilling Services and K&S Drilling.
4. Groundwater screening samples were collected from the Earthprobe boreholes.

TABLE 5
SOIL MS/MSD SAMPLE - RELATIVE PERCENT DIFFERENCE AND PERCENT RECOVERY
Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1]	Concentration (mg/kg)		Relative Percent Difference	Percent Recovery		Acceptable Range of Percent Recovery[4]
	MS[2]	MSD[3]		MS	MSD	
VOCs						
1,1-Dichloroethene	0.01473	0.01618	9%	62	71	3-146
Benzene	0.04544	0.02648	53%	126	48	12-137
Trichloroethene	0.04067	0.02636	43%	**172**[5]	116	0-155
Toluene	1.407	0.9966	34%	**0**	**0**	1-143
Chlorobenzene	0.05380	0.02477	74%	**227**	109	0-124
SVOCs						
Phenol	3.077	3.276	6%	88	93	47-111
2-Chlorophenol	2.122	2.276	7%	60	65	51-108
1,4-Dichlorobenzene	2.889	3.058	6%	82	87	35-109
N-Nitroso-di-n-propylamine	3.508	3.837	9%	100	110	42-120
1,2,4-Trichlorobenzene	3.630	3.179	2%	104	106	44-114
4-Chloro-3-methylphenol	3.362	3.421	2%	96	98	58-113
Acenapthene	2.957	3.068	4%	84	88	44-122
4-Nitrophenol	2.923	3.340	13%	83	95	51-120
2,4-Dinotrotoluene	3.010	3.007	0%	86	86	40-121
Pentachlorophenol	2.388	2.350	2%	68	67	30-119
Pyrene	3.270	3.329	2%	93	95	46-125
Metals (Total)						
Antimony	38.71	41.54	7%	84	81	75-125
Arsenic	46.53	49.16	5%	100	95	75-125
Beryllium	4.471	4.683	5%	97	92	75-125
Cadmium	4.408	4.691	6%	94	91	75-125
Chromium	47.99	50.51	5%	96	92	75-125
Copper	46.10	48.35	5%	97	92	75-125
Lead	46.44	47.85	3%	93	87	75-125
Mercury	0.8646	0.8727	1%	96	97	46-131
Nickel	46.54	49.23	6%	96	92	75-125
Selenium	43.65	46.31	6%	95	91	75-125
Silver	4.428	4.754	7%	96	93	75-125
Thallium	43.03	46.59	8%	93	91	75-125
Zinc	52.21	54.53	4%	92	88	75-125
PCBs						
Aroclor 1016	0.06923	0.06923	0%	79	79	38-142
Aroclor 1260	0.07011	0.07344	5%	80	84	8-191

Notes:

1. Only constituents that were analyzed are listed.
2. MS Matrix spike.
3. MSD Matrix spike duplicate.
4. Acceptable range of % recovery provided by Pace Analytical Services, Inc.
5. Bold numbers indicate the value is not within the acceptable range of percent recovery.

TABLE 6
SOIL DUPLICATE SAMPLE -RELATIVE PERCENT DIFFERENCE
Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1]	SB-8;8-9'[2,3]	DUP-1;8-9'[4]	Relative Percent Difference[5]
VOCs			
Methylene chloride	0.0027	0.0045	50.0%
SVOCs	ND[6]	ND	NA[7]
Metals (Total)			
Chromium	5.52	6.52	16.6%
Lead	4.93	4.88	1.0%
Nickel	2.23	3.73	50.3%
Zinc	12.4	2,830	198.3%
PCBs	ND	ND	NA

Notes:

1. Individual constituents listed only if detected in at least one sample.
2. SB-# = groundwater sample from monitoring well.
3. Results presented in mg/kg.
4. DUP = duplicate sample.
5. The relative percent difference (RPD) is equal to the absolute value of the difference between the concentrations of the two samples, divided by the average concentration of the two samples, then multiplied by 100 to convert to a percent value. For non-detects, half the detection limit was used as a surrogate concentration value.
6. ND = Not detected.
7. NA = Not applicable.

TABLE 7
GROUNDWATER MS/MSD SAMPLES - RELATIVE PERCENT DIFFERENCE AND PERCENT RECOVERY
Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1]	September 2002						March 2003					
	Concentration (µg/L)		Relative Percent Difference	Percent Recovery		Acceptable Range of Percent Recovery[4]	Concentration (µg/L)		Relative Percent Difference	Percent Recovery		Acceptable Range of Percent Recovery
	MS[2]	MSD[3]		MS	MSD		MS	MSD		MS	MSD	
VOCs												
1,1-Dichloroethene	53.02	51.05	4%	106	102	41-152	56.37	55.56	1%	113	111	41-152
Benzene	57.24	55.32	3%	114	111	57-145	55.05	53.65	3%	110	107	57-145
Trichloroethene	53.91	51.05	5%	108	102	53-140	52.52	50.74	3%	105	102	53-140
Toluene	51.08	46.96	8%	102	94	59-139	51.98	50.33	3%	100	96	59-139
Chlorobenzene	55.57	52.66	5%	111	105	63-129	51.22	48.56	5%	102	97	63-129
SVOCs												
Phenol	26.92	28.51	6%	27	28	10-64	NA[5]	NA	NA	NA	NA	NA
2-Chlorophenol	52.30	54.57	4%	52	55	10-113	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	47.99	53.41	11%	48	53	18-93	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	79.55	86.63	9%	80	87	40-125	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	50.46	57.24	13%	50	57	23-99	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	55.98	56.12	0%	56	56	10-137	NA	NA	NA	NA	NA	NA
Acenapthene	70.73	78.86	11%	71	79	40-113	NA	NA	NA	NA	NA	NA
4-Nitrophenol	29.52	31.53	7%	30	32	10-69	NA	NA	NA	NA	NA	NA
2,4-Dinotrotoluene	75.48	83.09	10%	76	83	38-121	NA	NA	NA	NA	NA	NA
Pentachlorophenol	39.11	39.27	0%	39	39	10-133	NA	NA	NA	NA	NA	NA
Pyrene	53.41	59.87	11%	53	60	25-135	NA	NA	NA	NA	NA	NA
Metals (Total)												
Antimony	955.2	934.9	2%	95	93	75-125	NA	NA	NA	NA	NA	NA
Arsenic	987.5	969.0	2%	98	96	75-125	NA	NA	NA	NA	NA	NA
Beryllium	93.1	91.3	2%	93	91	75-125	NA	NA	NA	NA	NA	NA
Cadmium	90.5	88.1	3%	90	88	75-125	NA	NA	NA	NA	NA	NA
Chromium	894.1	868.2	3%	89	86	75-125	NA	NA	NA	NA	NA	NA
Copper	992.6	965.3	3%	97	94	75-125	NA	NA	NA	NA	NA	NA
Lead	916.7	888.7	3%	91	88	75-125	NA	NA	NA	NA	NA	NA
Mercury	5.0	4.9	3%	97	94	80-120	NA	NA	NA	NA	NA	NA
Nickel	932.3	913.4	2%	90	89	75-125	NA	NA	NA	NA	NA	NA
Selenium	938.1	921.1	2%	94	92	75-125	NA	NA	NA	NA	NA	NA
Silver	94.2	92.0	2%	94	92	75-125	NA	NA	NA	NA	NA	NA
Thallium	920.8	918.0	0%	92	91	75-125	NA	NA	NA	NA	NA	NA
Zinc	902.7	870.4	4%	86	83	75-125	NA	NA	NA	NA	NA	NA

Notes:

1. Only constituents that were analyzed are listed.
2. MS Matrix spike.
3. MSD Matrix spike duplicate.
4. Acceptable range of % recovery provided by Pace Analytical Services, Inc.
5. NA Not analyzed for this constituent.

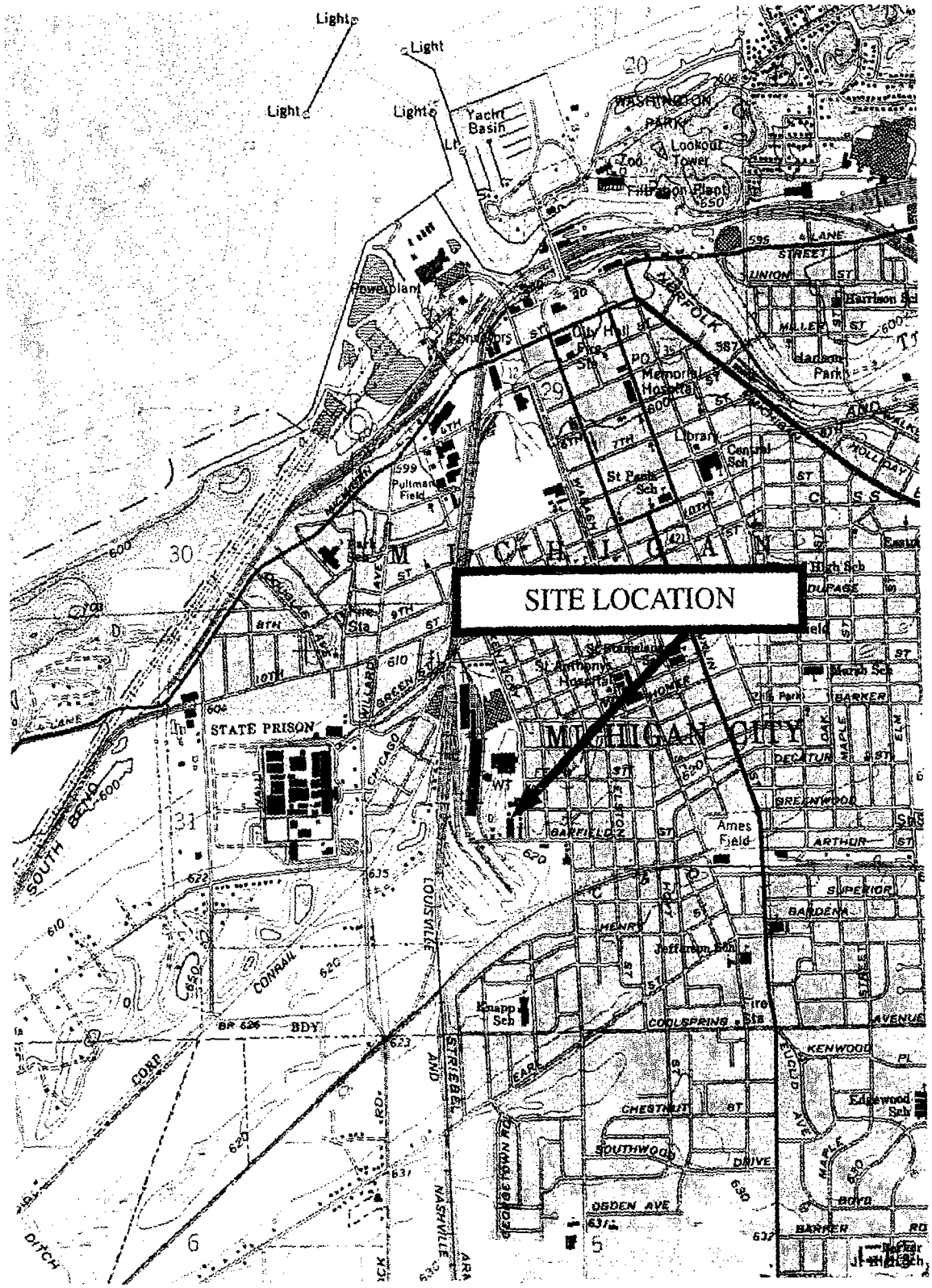
TABLE 8
GROUNDWATER DUPLICATE SAMPLES - RELATIVE PERCENT DIFFERENCE
Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1]	MW-3;090302[2,3]	DUP-1;090302[4]	Relative Percent Difference[5]	MW-5;032103	DUP	Relative Percent Difference
VOCs						
Acetone	ND (50)[6]	ND (50)	NA[7]	**170**	**120**	**34.5%**
Benzene	**87**	**49**	**55.9%**	**1,400**	**1,600**	**13.3%**
2-Butanaone	ND (10)	ND (10)	NA	**48**	**38**	**23.3%**
n-Butylbenzene	ND (5)	ND (5)	NA	**12**	**7.6**	**44.9%**
Ethylbenzene	**47**	**23**	**68.6%**	**360**	**410**	**13.0%**
Isopropylbenzene	ND (5)	ND (5)	NA	**25**	**19**	**27.3%**
4-Methyl-2-pentanone	ND (5)	ND (5)	NA	**96**	**81**	**16.9%**
Methyl-tert-butyl-ether	ND (5)	ND (5)	NA	**13**	**12**	**8.0%**
Naphthalene	**18**	**13**	**32.3%**	**120**	**88**	**30.8%**
n-Propylbenzene	ND (5)	ND (5)	NA	**51**	**36**	**34.5%**
Styrene	ND (5)	ND (5)	NA	**54**	**42**	**25.0%**
Tetrachloroethene	**5.0**	**5.0**	**0.0%**	ND (5)	ND (5)	NA
Toluene	**170**	**78**	**74.2%**	**3,200**	**3,900**	**19.7%**
1,1,1-Trichloroethane	ND (5)	ND (5)	NA	**9.0**	**7.6**	**16.9%**
1,2,4-Trimethylbenzene	**72**	**41**	**54.9%**	**450**	**340**	**27.8%**
1,3,5-Trimethylbenzene	**27**	**15**	**57.1%**	**160**	**110**	**37.0%**
m&p-Xylene	**150**	**79**	**62.0%**	**1,200**	**1,400**	**15.4%**
o-Xylene	**140**	**77**	**58.1%**	**720**	**840**	**15.4%**
Xylene (Total)	**290**	**160**	**57.8%**	**1,900**	**2,300**	**19.0%**
SVOCs						
Naphthalene	**7.3**	**7.4**	**1.4%**	NA	NA	NA
Metals (Total)						
Chromium	**52.3**	**23.9**	**74.5%**	NA	NA	NA
Copper	**52.4**	**31.5**	**49.8%**	NA	NA	NA
Lead	**36.1**	**14.4**	**85.9%**	NA	NA	NA
Zinc	**186**	**98.4**	**61.6%**	NA	NA	NA

Notes:

1. Individual constituents listed only if detected in at least one sample.
2. MW-# = groundwater sample from monitoring well.
3. Results presented in µg/L.
4. DUP = duplicate sample.
5. The relative percent difference (RPD) is equal to the absolute value of the difference between the concentrations of the two samples, divided by the average concentration of the two samples, then multiplied by 100 to convert to a percent value. For non-detects, half the detection limit was used as a surrogate concentration value.
6. ND (#) Not detected above the laboratory detection limit, given in parentheses.
7. NA Not applicable.

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP : MICHIGAN CITY WEST, IN, 1969 (1980) QUADRANGLE

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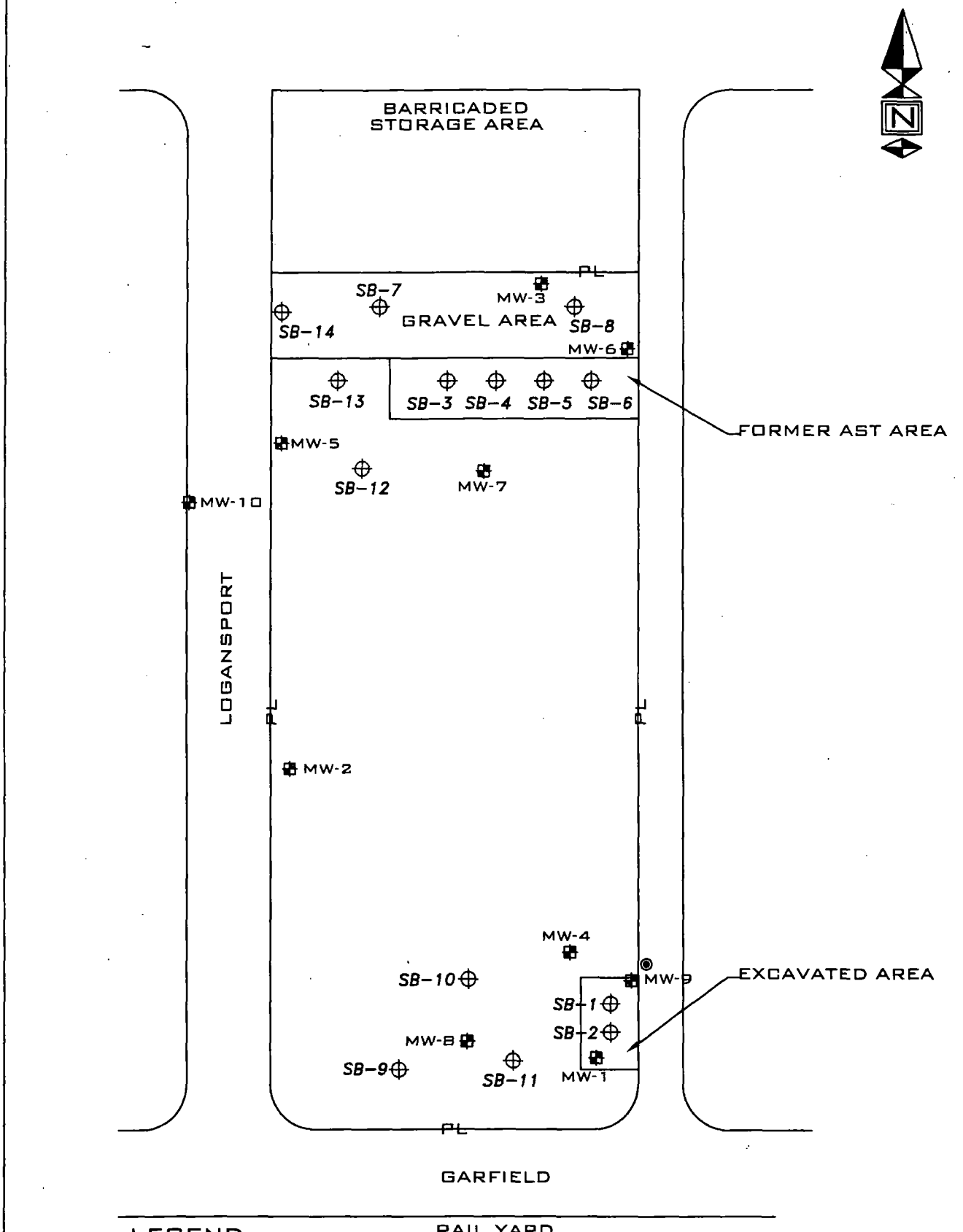

LEGEND

- MW-2 MONITORING WELL LOCATION
- SB-1 SOIL BORING LOCATION
- CUT PIPE
- PL PROPERTY LINE
- PROPOSED MONITORING WELL
- PROPOSED SOIL BORING

SCALE

0 25 50 FEET

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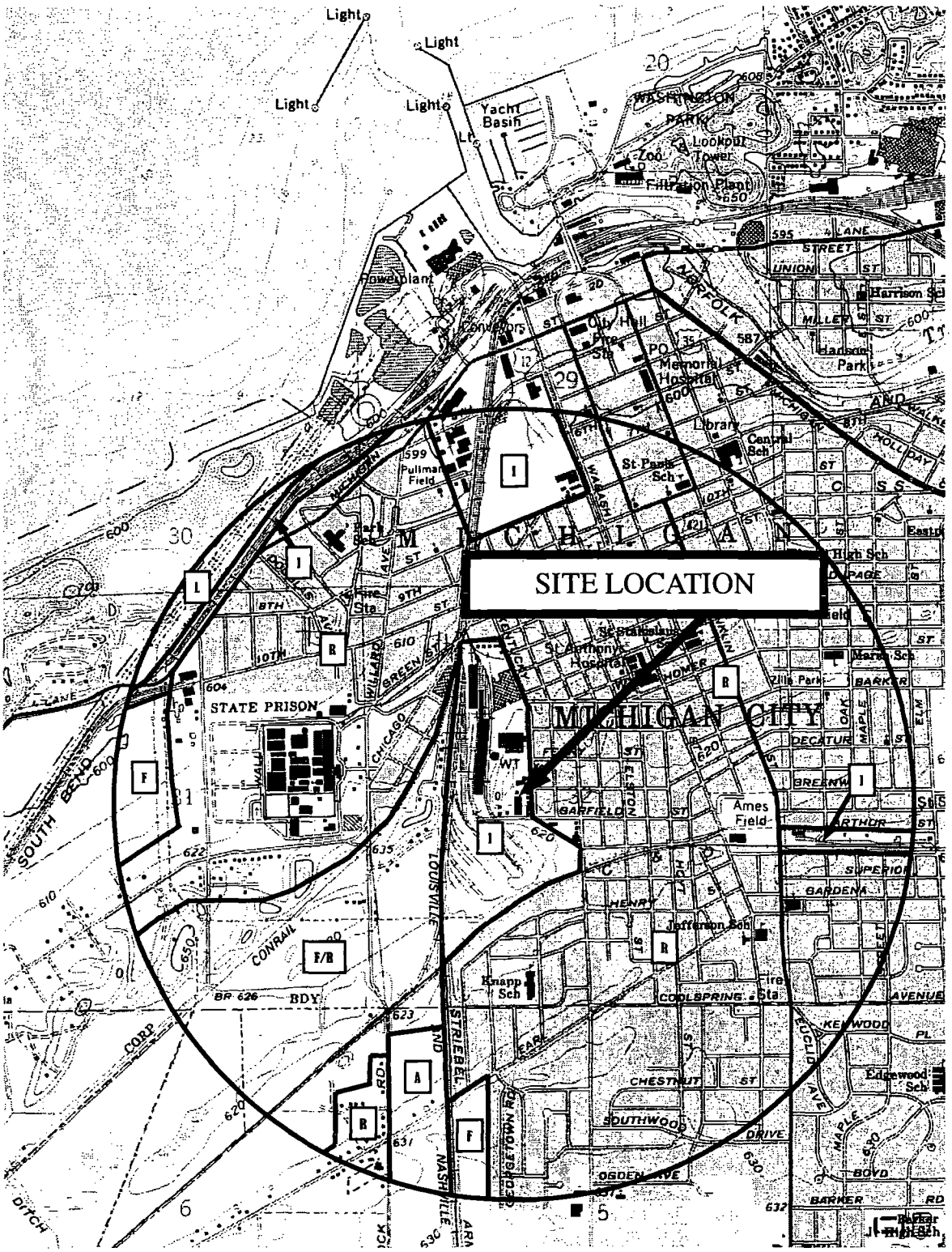
TASK 11	SCHMOOK OIL MICHIGAN CITY, INDIANA	FIGURE 2	
DWG: 333.11.F2.SM	PREPARED FOR MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATION MICHIGAN CITY, INDIANA	SITE MAP WITH SOIL BORING AND MONITORING WELL LOCATIONS	
DATE: 6-13-03			
DWG BY: AB			



I—INDUSTRIAL/COMMERCIAL
R—RESIDENTIAL
F—FOREST
L—LAKESHORE
A—AGRICULTURE
F/R—FOREST WITH SOME RESIDENTIAL

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP : MICHIGAN CITY WEST, IN, 1969 (1980) QUADRANGLE
USGS AERIAL PHOTO: MICHIGAN CITY, INDIANA, APRIL 11, 1998

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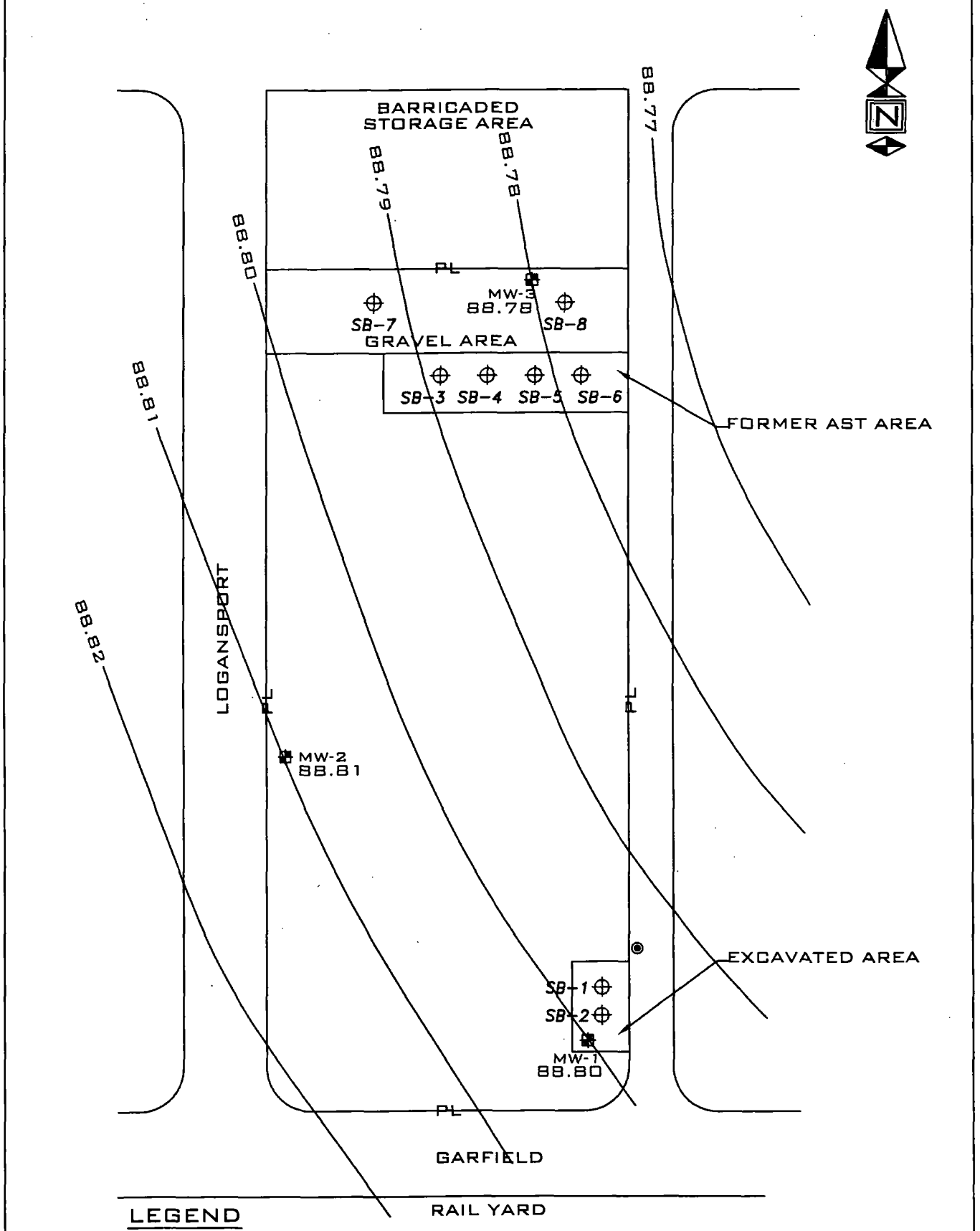
TASK: 1	SCHMOCK OIL MICHIGAN CITY, IN	FIGURE 3
DWG: 333.1.F1.SL		
DATE: 5-6-03	PREPARED FOR MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATION MICHIGAN CITY, IN	LAND USE WITHIN 1-MILE RADIUS
DWG BY: AB		



LEGEND

- MW-2 MONITORING WELL LOCATION
- SB-1 SOIL BORING LOCATION
- CUT PIPE
- PL PROPERTY LINE
- —88.80— POTENTIOMETRIC CONTOUR

SCALE

0 25 50 FEET

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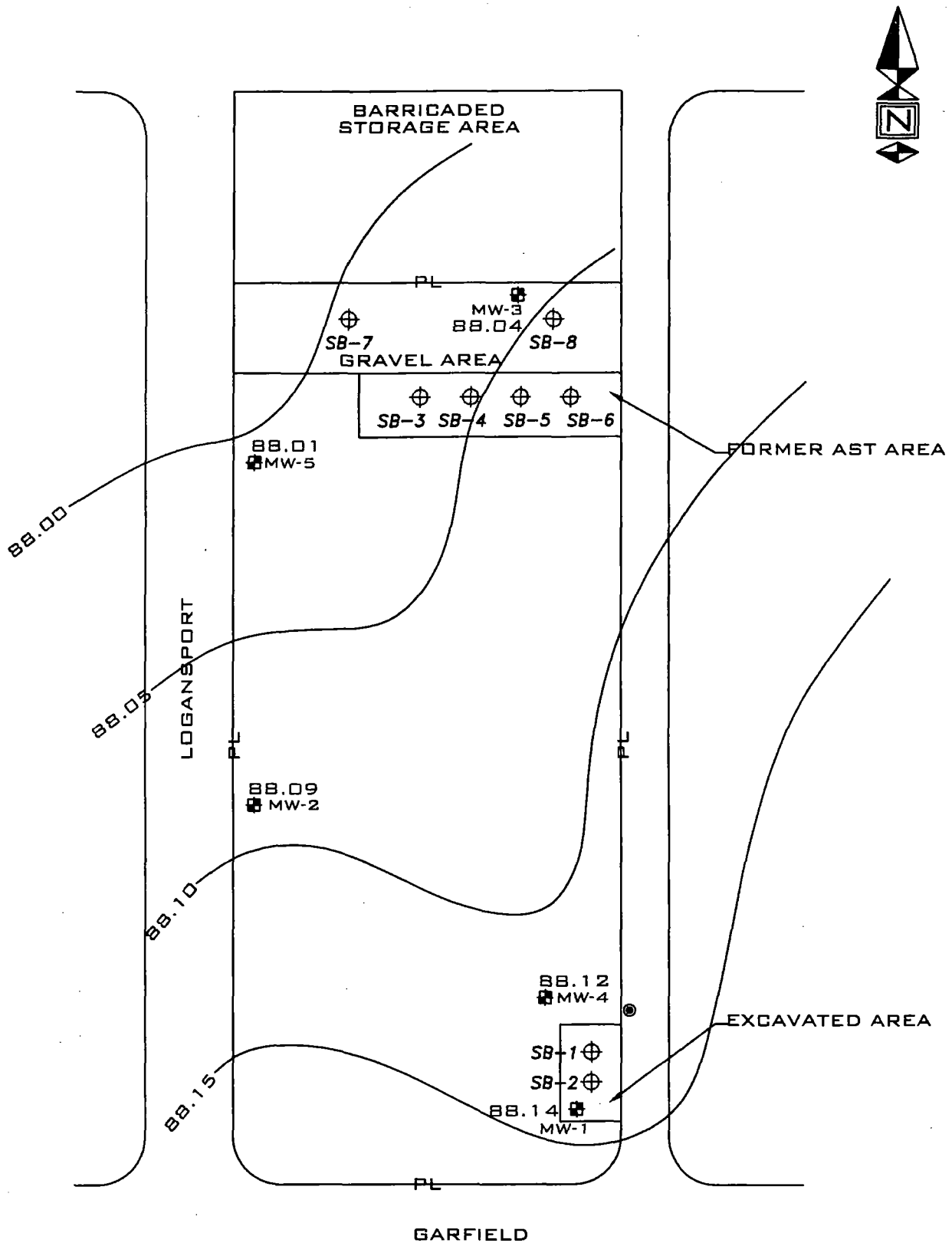
TASK 5	Bohmock Oil Michigan City, Indiana	FIGURE 4
DWB:333.5.F3.PM	PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	GROUNDWATER POTENTIOMETRIC MAP SEPTEMBER 3, 2002
DATE: 6-12-03		
DWG BY: AB		



LEGEND

- MW-2 MONITORING WELL LOCATION
- SB-1 SOIL BORING LOCATION
- CUT PIPE
- PL PROPERTY LINE
- POTENTIOMETRIC CONTOUR

SCALE

0 25 50 FEET

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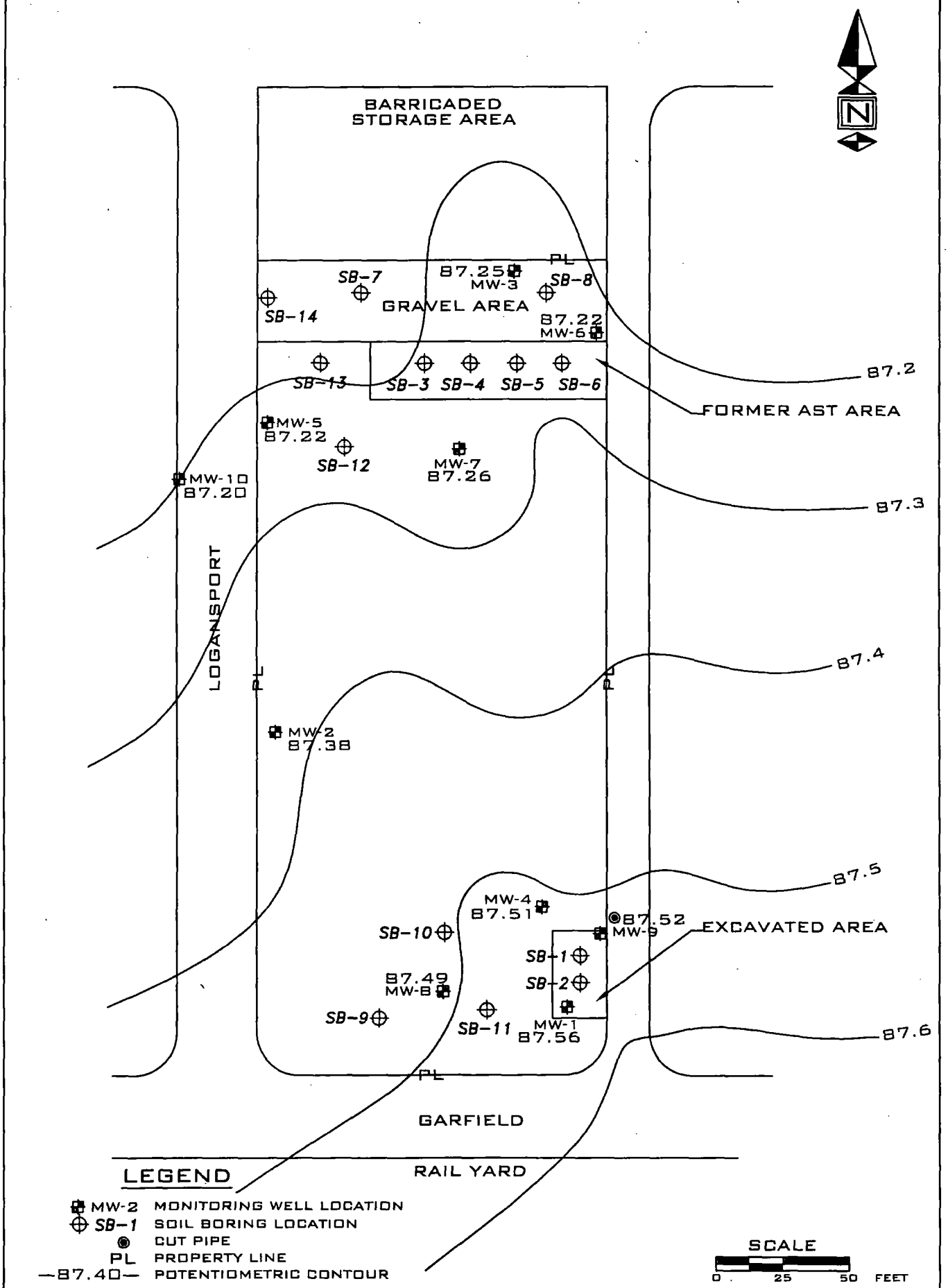
TASK 5	SCHMOOK OIL MICHIGAN CITY, INDIANA	FIGURE 5
DWG:333.5.F3.PM	PREPARED FOR MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATION MICHIGAN CITY, INDIANA	GROUNDWATER POTENTIOMETRIC MAP OCTOBER 24, 2002
DATE: 6-12-03		
DWG BY: AB		



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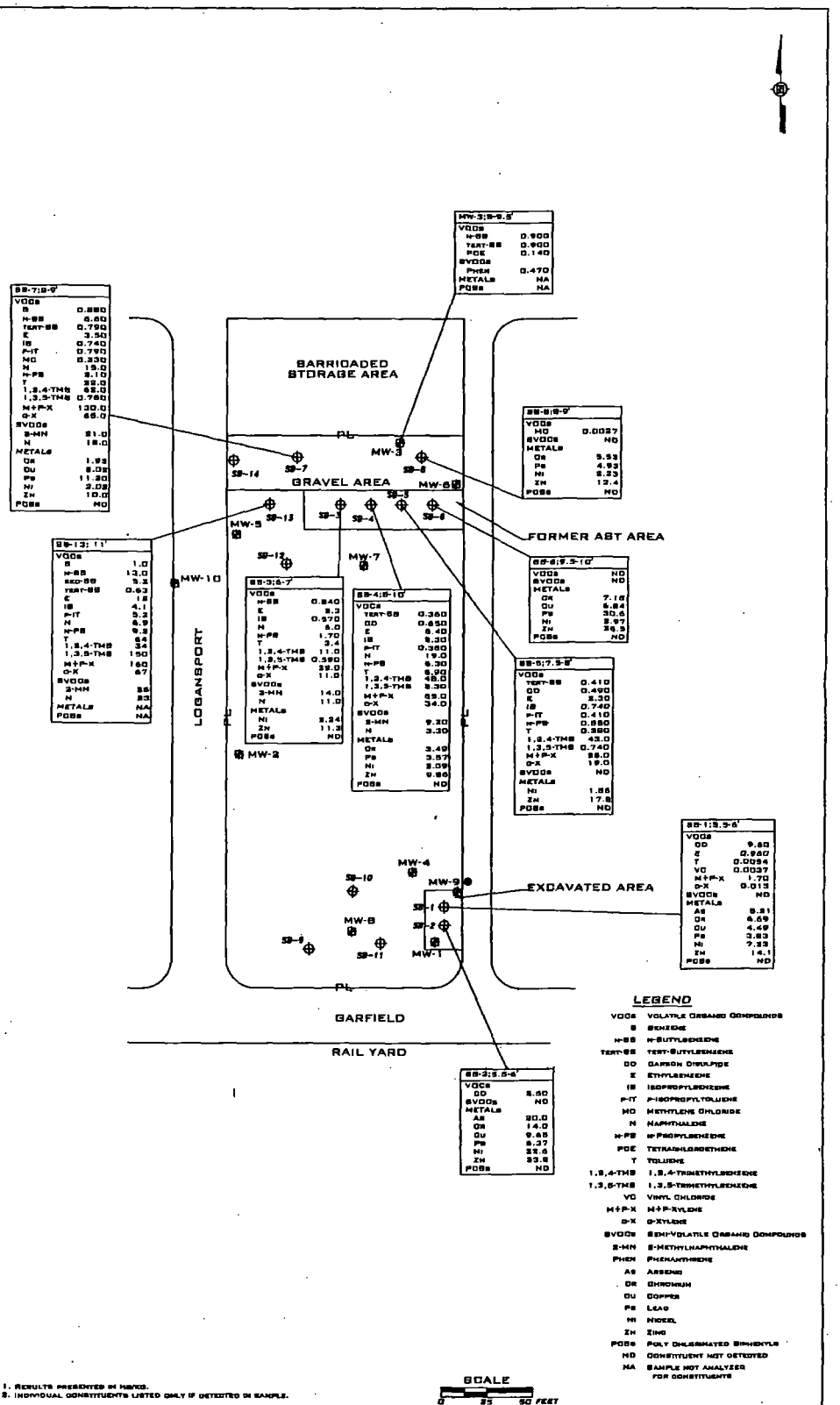
TASK 5	SCHMOCK OIL MICHIGAN CITY, INDIANA	FIGURE 6
DWG: 333.5.F7.PM	PREPARED FOR MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATION MICHIGAN CITY, INDIANA	GROUNDWATER POTENTIOMETRIC MAP MARCH 21, 2003
DATE: 5-6-03		
DWG BY: AB		



LEGEND

VOCs	Volatile Organic Compounds
B	Benzene
N-BB	n-Butylbenzene
TERT-BB	tert-Butylbenzene
CD	Carbon Disulfide
E	Ethylbenzene
IB	Isopropylbenzene
P-IT	p-Isopropyltoluene
MC	Methylene Chloride
N	Naphthalene
N-PB	n-Propylbenzene
PCE	Tetrachloroethene
T	Toluene
1,2,4-TMB	1,2,4-Trimethylbenzene
1,3,5-TMB	1,3,5-Trimethylbenzene
VC	Vinyl Chloride
M+P-X	m+p-Xylene
O-X	o-Xylene
SVOCs	Semi-Volatile Organic Compounds
2-MN	2-Methylnaphthalene
PHEN	Phenanthrene
AS	Arsenic
CR	Chromium
CU	Copper
PB	Lead
NI	Nickel
ZN	Zinc
PCBs	Poly Chlorinated Biphenyls
ND	Constituent not detected
NA	Sample not analyzed for constituents

SCALE
0 35 50 FEET

NOTES: 1. Results presented in mg/kg.
2. Individual constituents listed only if detected in sample.

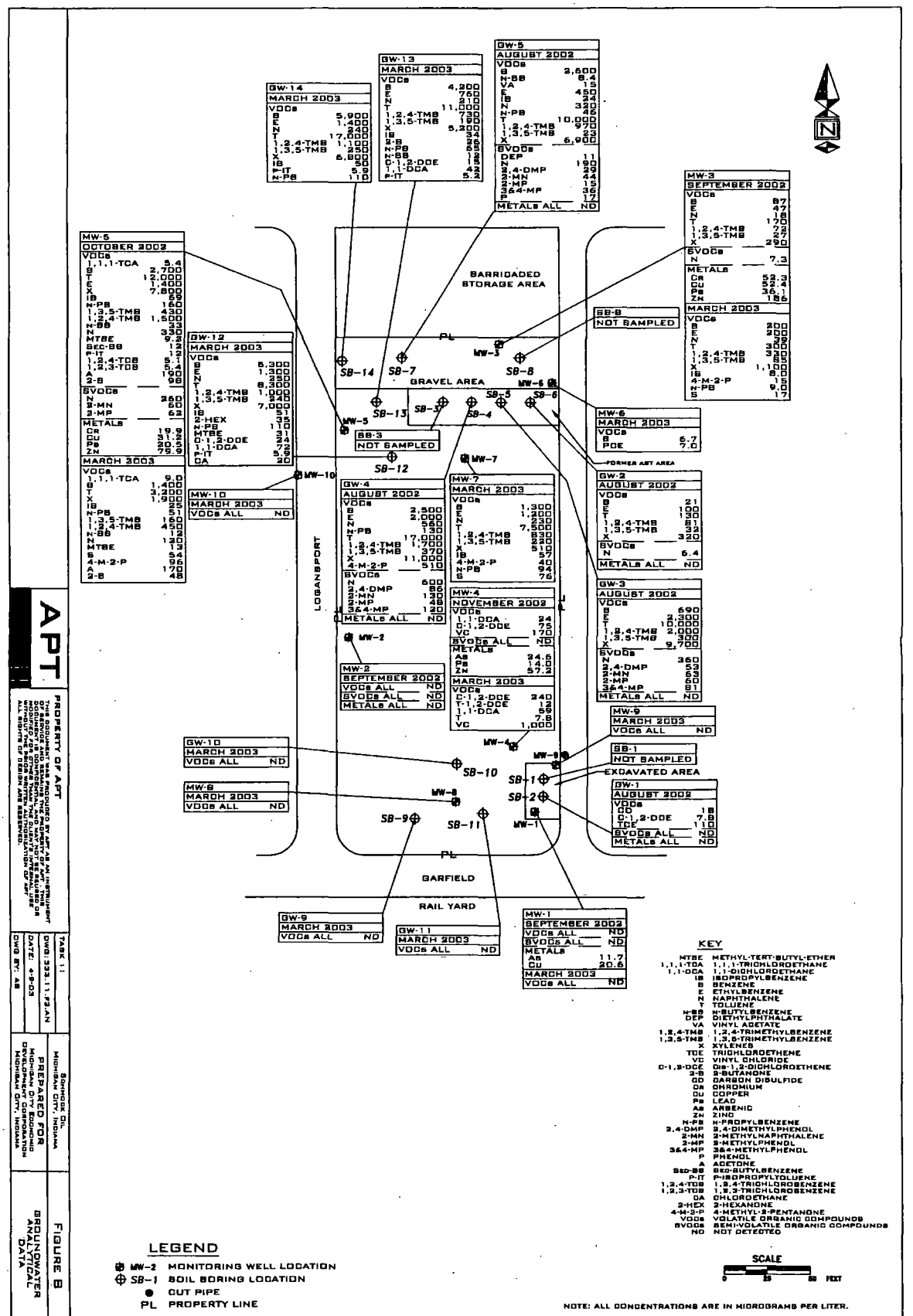
APT

PROPERTY OF APT

PREPARED FOR

FIGURE 7

SOIL ANALYTICAL RESULTS



APT

PROPERTY OF APT

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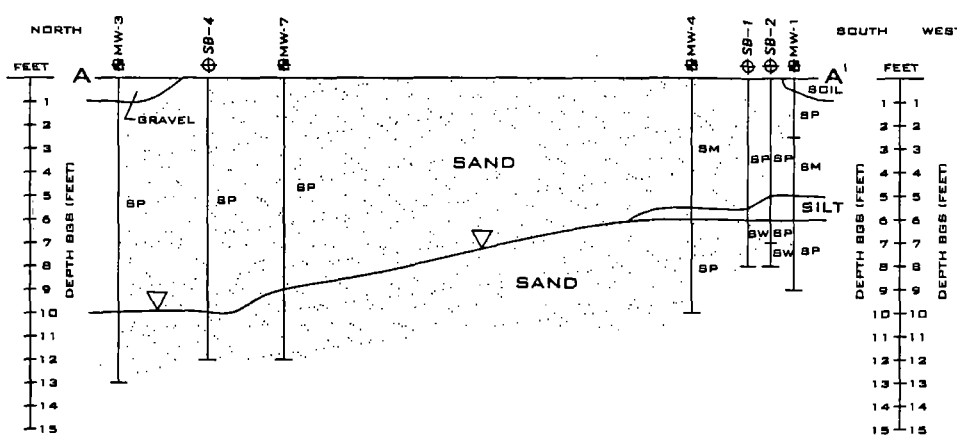
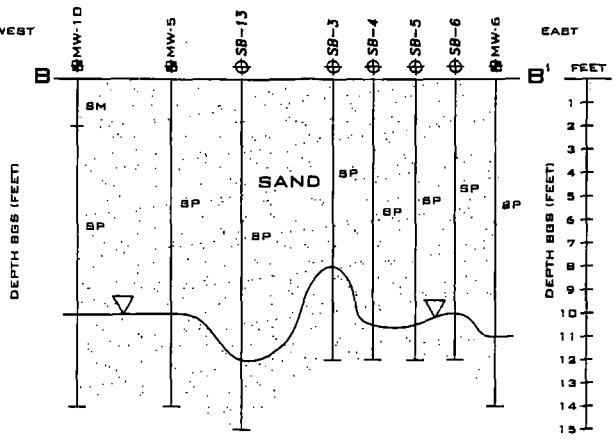
TASK: 1.1
DWG: 333.11.F2.AN
DATE: 4-8-03
DWG BY: AB

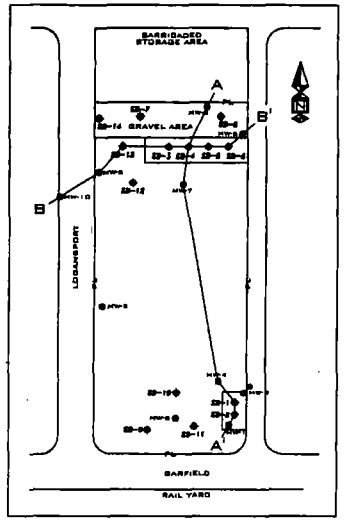
SOHIO/BP OIL
MICHIGAN CITY, INDIANA

PREPARED FOR
MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATION
MICHIGAN CITY, INDIANA

FIGURE 8
GROUNDWATER ANALYTICAL DATA







KEY

SP	POORLY GRADED SAND
SW	WELL GRADED SAND
SM	SILTY SAND
MW-10	MONITORING WELL LOCATION
SB-13	SOIL BORING LOCATION

HORIZONTAL SCALE

0 25 50 FEET

APT

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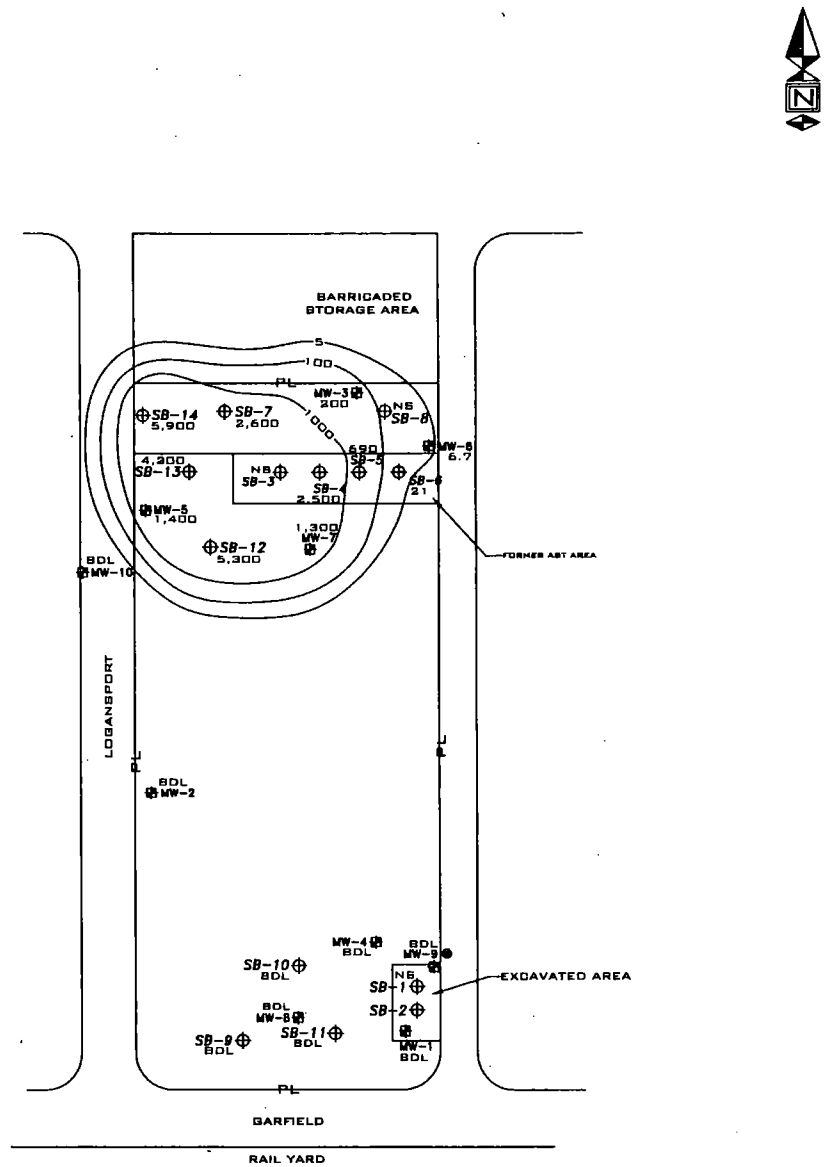
TASK 5
DWG: 333.5.F9.009
DATE: 6-13-03
DWN BY: AS

SCHNOOK OIL
MICHIGAN CITY, IN

PREPARED FOR
MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATIONS

FIGURE 9

GEOLOGIC CROSS SECTIONS



LEGEND

- MW-2 MONITORING WELL LOCATION
- SB-1 SOIL BORING LOCATION
- ● CUT PIPE
- PL PROPERTY LINE
- —100— ISOCONCENTRATION CONTOUR

SCALE
0 25 50 FEET

NOTE: ALL CONCENTRATIONS ARE IN MICROGRAMS PER LITER.

APT

PROPERTY OF APT

THIS DOCUMENT WAS PRODUCED BY APT AS AN INSTRUMENT OF SERVICE AND RELAINS THE PROPERTY OF APT. THIS DOCUMENT IS CONFIDENTIAL AND MAY NOT BE REUSED OR MODIFIED FOR OTHER THAN THE CLIENTS INTERNAL USE WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF APT. ALL RIGHTS OF DESIGN ARE RESERVED.

TASK 11
DWG: 333.11.F5.BIOM
DATE: 7-21-03
DWG BY: AB

SCHNOCK OIL
MICHIGAN CITY, INDIANA

PREPARED FOR
MICHIGAN CITY ECONOMIC DEVELOPMENT CORPORATION
MICHIGAN CITY, INDIANA

FIGURE 10

BENZENE ISOCONCENTRATION MAP: GROUNDWATER

APT, LIMITED

RECEIVED
OCT 2 2 2003
BEAS REGION 5
U.S. EPA

October 16, 2003

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal
Phase II Site Investigation Report
Former Schmock Oil Property, Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Enclosed please find one copy of the *Phase II Site Investigation Report* for the former Schmock Oil site. This site investigation activities were performed in accordance with both the USEPA-approved multi-site QAPP and the requirements of the Indiana Voluntary Remediation Program. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196; (574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosure

Cc: Mr. Tony Rodriguez – Michigan City Economic Development Corp.;
Mr. Tom Stevenson – Environmental Incorporated

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - Rev Multi-site QAPP to Diane Spencer at USEPA.doc

APT, LIMITED

April 2003

SAMPLING AND ANALYSIS PLAN

Karwick Road Landfill Site
Michigan City, Indiana

Prepared for:
Michigan City Parks & Recreation Department
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 312-01

APT, LIMITED

December 2003

SAMPLING AND ANALYSIS PLAN: COMPLETION SAMPLING

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
Two Cadence Park Plaza
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 333-01

ENVIRONMENTAL INCORPORATED

August 27, 2004

SENT VIA FEDEX

Mr. Jeff Kavanaugh
Project Manager
Indiana Department of Environmental Management
Voluntary Remediation Program
100 North Senate Avenue
Indianapolis, Indiana 46206-6015

SUBJECT: VOLUNTARY REMEDIATION PROGRAM (VRP) REMEDIATION WORK PLAN (RWP) FOR THE FORMER SCHMOCK OIL COMPANY FACILITY, 1111 WEST GARFIELD STREET, MICHIGAN CITY, INDIANA 46360-VRP SITE NO. 6020114

Dear Mr. Kavanaugh:

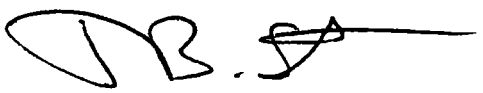
On behalf of the City of Michigan City, Indiana, Environmental Incorporated is pleased to submit three copies of the RWP for the subject VRP site for your review and comment. Per your request, one RWP copy has the full laboratory analytical and quality control (QC) reports and the other two copies only have the analytical reports. The attached CD includes the full laboratory analytical and QC reports for the supplemental investigation only.

As discussed via our telephone conversation, Michigan City does not currently own the site. The site is still owned by the Schmock Brothers Oil Company, Inc. However, Michigan City is interested in the redevelopment of the site and, therefore, has assessed the site for environmental impacts and prepared this RWP for potential future implementation. Site activities have been funded from an U.S. EPA Brownfields Assessment Demonstration Pilot Project Grant and with local funding from Michigan City. As presented within the RWP, there does not appear to be a significant risk of human or ecological exposure to constituents of concern at the site; and, thus, the initiation/completion of site remedial activities presented within the RWP will be dependent on the availability of future project funding.

If there are any questions or comments regarding the RWP or the project, please contact me or Mike Palm at (219) 462-7576.

Sincerely,

ENVIRONMENTAL INCORPORATED



Thomas B. Stevenson
Vice President

cc: MCRC0403
J. Pugh (Michigan City)
D. Spencer (U.S. EPA)
M. Palm (EI)

2502 INVERNESS DRIVE
VALPARAISO, INDIANA 46383
PHONE: 219-462-7576
FAX: 219-462-8659

AUGUST 2004

VOLUNTARY REMEDIATION PROGRAM
REMEDIATION WORK PLAN
FORMER SCHMOCK OIL COMPANY FACILITY
1111 WEST GARFIELD STREET
MICHIGAN CITY, INDIANA 46360
VRP SITE NO. 6020114

Prepared for:

THE MICHIGAN CITY PLANNING &
REDEVELOPMENT DEPARTMENT
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

VOLUME 1 OF 3

ENVIRONMENTAL
INCORPORATED

VALPARAISO, IN
and
MICHIGAN CITY, IN

AUGUST 2004

VOLUNTARY REMEDIATION PROGRAM
REMEDIATION WORK PLAN
FORMER SCHMOCK OIL COMPANY FACILITY
1111 WEST GARFIELD STREET
MICHIGAN CITY, INDIANA 46360
VRP SITE NO. 6020114

Prepared for:

THE MICHIGAN CITY PLANNING &
REDEVELOPMENT DEPARTMENT
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

VOLUME 2 OF 3

ENVIRONMENTAL
INCORPORATED

VALPARAISO, IN
and
MICHIGAN CITY, IN

AUGUST 2004

VOLUNTARY REMEDIATION PROGRAM
REMEDIATION WORK PLAN
FORMER SCHMOCK OIL COMPANY FACILITY
1111 WEST GARFIELD STREET
MICHIGAN CITY, INDIANA 46360
VRP SITE NO. 6020114

Prepared for:

THE MICHIGAN CITY PLANNING &
REDEVELOPMENT DEPARTMENT
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

VOLUME 3 OF 3

ENVIRONMENTAL
INCORPORATED

VALPARAISO, IN
and
MICHIGAN CITY, IN

February 2004

REMEDIATION WORK PLAN
Voluntary Remediation Program

Former Karwick Road Landfill
Michigan City, Indiana
VRP Project #6020118

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
Two Cadence Park Plaza
Michigan City, Indiana 46360

Prepared by:

APT, LIMITED

6910 N. Main Street, Building #2/Unit #17
Granger, Indiana 46530

Project No. 312-01

1 of 2

Text, Tables, Figures, Appendices B through E

February 2004

REMEDIATION WORK PLAN
Voluntary Remediation Program

Former Karwick Road Landfill
Michigan City, Indiana
VRP Project #6020118

Prepared for:

City of Michigan City
Michigan City Economic Development Corp.
Two Cadence Park Plaza
Michigan City, Indiana 46360

Prepared by:

APT, LIMITED

6910 N. Main Street, Building #2/Unit #17
Granger, Indiana 46530

Project No. 312-01

2 of 2

Appendix A

APT, LIMITED

April 16, 2002

Ms. Jan Pels
Quality Assurance Officer
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal – Multi-Site QAPP
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Ms. Pels:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Enclosed please find one copy of the *Multi-Site Quality Assurance Project Plan* for the three sites identified above. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Cc: Ms. Gloria Willis – USEPA (letter only)
Ms. Diane Spencer – USEPA (letter only)

Enclosure: Multi-Site QAPP

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - Multi-site QAPP to USEPA.doc

APT, LIMITED

June 2002
Revision 01

MULTI-SITE
QUALITY ASSURANCE PROJECT PLAN

FORMER ROYAL METALS, SCHMOCK OIL, & KARWICK ROAD MUNICIPAL LANDFILL SITES
Michigan City, Indiana

Prepared for:
Michigan City Economic Development Corporation
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 North Main Street, Unit #17
Granger, Indiana 46530
(574) 257-8196

APT Project Nos. 312-01 & 333-01

Diane Spencer
09/25/02 08:57 AM

To: Tom <tbstevenson@attbi.com>, jeklanke@aptlimited.com
cc: tonyr@mc-edc.com
Subject: Re: Phase II ESA Activities

Tom-

Thanks for the notification as to the start of sampling at the Royal Metals property. This morning, I received the revised Sampling Plan, which now includes the manual push probe section. The revision is approved as submitted.

Diane M. Spencer
Brownfields Project Manager
U.S. EPA Region 5
77 W. Jackson Blvd (SE-4J)
Chicago, IL 60604

Phone (312) 886-5867 Fax (312) 886-6741
spencer.diane@epa.gov

Tom <tbstevenson@attbi.com>

Tom <tbstevenson@attbi.com>
09/24/02 01:21 PM

To: Diane Spencer/R5/USEPA/US@EPA
cc: Tony Rodriguez <tonyr@mc-edc.com>
Subject: Phase II ESA Activities

Diane,

Just a reminder that Phase II ESA activities are scheduled to start at the Royal Metals facility tomorrow (9/25). Please call if you have any questions. Thanks.

Thomas Stevenson
Environmental Inc.
219-462-7576

Diane Spencer
07/15/02 09:47 AM

To: tonyr@mc-edc.com, tbstevenson@attbi.com
cc:
Subject: Michigan City, IN Brownfields Grant: Sampling and Analysis Plans

Attn: Tony Rodriguez, Michigan City Economic Development Corp.
Tom Stevenson, Environmental Incorporated

RE: Sampling and Analysis Plans

I have completed my review of the Sampling and Analysis Plans for the former Schmock Oil and Royal Metals facilities. Both documents are dated April 2002, but were not received by me until May 13, 2002. These documents were submitted, prior to receipt of the Quality Assurance Project Plan (QAPP). The QAPP (June 2002, Revision 1) is currently undergoing review by Jan Pels and the document has not yet been approved.

The two sampling plans mentioned previously are approved. However, sampling cannot begin until the QAPP review is complete and the title/signature page has been signed. On July 12, Jan notified John Klanke, APT Limited, about several missing items. Once these items have been submitted, she will be able to complete her review.

The sampling and analysis plan, also dated April 2002, for the Karwick Road Landfill Site is not approved. As stated on the first page of the plan, the "site investigation activities associated with the project have already occurred at the site, prior to the development of the SAP." The plan submitted describes activities which were conducted prior to receipt of the Brownfields grant. If you desire to conduct sampling at this property, please submit a revised, current sampling plan for review. As a reminder, you must allow at least 10 days review time for each sampling and analysis plan submitted. A separate approval will be given for each sampling plan submitted.

If you have any questions, please call.

Diane M. Spencer
U.S. EPA Region 5
77 W. Jackson Blvd (SE-4J)
Chicago, IL 60604

Phone (312) 886-5867
Fax (312) 886-6741
spencer.diane@epa.gov

Rec. 5/13/02

APT, LIMITED

April 30, 2002

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal – Sampling and Analysis Plans
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Enclosed please find one copy of the *Sampling and Analysis Plan* for each of the three sites identified above for your review and comment. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Cc: Ms. Gloria Willis – USEPA (letter only)

Enclosure: SAPs (3)

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal -SAPs to USEPA.doc

Rec. 5/15/02

April 2002

SAMPLING AND ANALYSIS PLAN

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 333-01

5/13/02

APT

April 2002

SAMPLING AND ANALYSIS PLAN

Former Schmock Oil Facility
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 333-01

5/13/02

April 2002

SAMPLING AND ANALYSIS PLAN

Karwick Road Landfill Site
Michigan City, Indiana

Prepared for:
Michigan City Parks & Recreation Department
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 312-01

Rec 4/14/03 DMS

APT, LIMITED

April 8, 2003

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Sampling and Analysis Plan
VRP Phase II Site Investigation
Former Karwick Road Municipal Landfill
Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Per my recent voicemail message, APT, Limited (APT) is herein submitting a revised copy of Table 1 – Sample bottles, Methods, Preservatives, and Hold Times submitted on April 4, 2003. This table is included in the *Sampling and Analysis Plan* for conducting a Phase II Site Investigation under the Indiana Voluntary Remediation Program at the referenced site.

APT regrets any confusion caused. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Building 2 / Unit 17
Granger, Indiana 46530
(574) 257-8196 Fax: (574) 257-8595
E-mail: adepoy@aptlimited.com

Respectfully Submitted,

Andrea M. DePoy
Senior Engineer

Enclosure: Table 1 – Sample Bottles, Methods, Preservatives, and Hold Times
Cc: Mr. Tony Rodriguez, Michigan City Economic Development Corp.
S:\APT LTD\Projects - Active\MI City Parks and Recreation.312\VRP Phase II\Ammended SAP-rev to USEPA-rev02a.doc

Revise Table 4/14/03 Receipt

TABLE 1
SAMPLE BOTTLES, METHODS, PRESERVATIVES, AND HOLD TIMES
Sampling and Analysis Plan
Karwick Road Landfill - Michigan City, Indiana

Sample Name[1]	Sample Matrix	Number of Samples	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
SB-#:*[depth]*	Soil	40 surface; 40 subsurface	Investigative	1, 40-mL Vial with Methanol 2, 40-mL Vial Non-preserved 1, 4 oz PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (30 g) (4° C)	SVOCs	14 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#:*[date]*	Groundwater	32 VOCS; 32 SVOCs; 40 PPL Metals	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
SW-#:*[date]*	Surface Water	34	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
SD-#:*[date]*	Sediment	10	Investigative	1, 4 oz Jar Non-preserved (30 g) (4° C)	SVOCs	14 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (30 g) (4° C)	PCBs	14 days Extract, 40 days Analysis	SW-846 Method 8082
MB-#: *[date]*	Methanol	4	Methanol Blank	3, 40-mL Vials with Methanol	VOCs	14 days	IN-5035M Preservation SW-846 Method 8260
TB-#: *[date]*	Aqueous	9	Trip Blank	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
DUP-#:*[depth]*	Soil	4 surface; 4 subsurface	Duplicate	1, 40-mL Vial with Methanol 2, 40-mL Vial Non-preserved 1, 4 oz PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (30 g) (4° C)	SVOCs	14 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#:*[date]*	Groundwater	4	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	*PPL Metals*	*6 months (24 hr Cr6, 28 days Hg)*	*SW-846 Methods 6010/7471*
SWDUP-#:*[date]*	Surface Water	5	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
SDDUP-#:*[date]*	Sediment	1	Duplicate	1, 4 oz Jar Non-preserved (30 g) (4° C)	SVOCs	14 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (30 g) (4° C)	PCBs	14 days Extract, 40 days Analysis	SW-846 Method 8082
MS/MSD SB-#:*[depth]*	Soil	2 MS; 2 MSD	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 2, 40-mL Vial Non-preserved 1, 4 oz PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (30 g) (4° C)	SVOCs	14 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD MW-#:*[date]*	Groundwater	4 MS; 4 MSD	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD SW-#:*[date]*	Surface water	5 MS; 5 MSD	Matrix Spike/Matrix Spike Duplicate	2, 1-L Amber (Non-Preserved, 4° C)	VOCs	14 days	SW-846 Method 8260
				1, 500-mL Bottle (HNO_3, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
MS/MSD SD-#:*[depth]*	Sediment	1 MS; 1 MSD	Matrix Spike/Matrix Spike Duplicate	1, 4 oz Jar Non-preserved (30 g) (4° C)	SVOCs	14 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (30 g) (4° C)	PCBs	14 days Extract, 40 days Analysis	SW-846 Method 8082
ER-#:*[date]*	Aqueous	17	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471

Notes:

1. The soil samples to be collected by APT from soil borings advanced by Top Flight Environmental Drilling Services.
2. Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), priority pollutant list (PPL) metals, and polychlorinated biphenyls (PCBs) using the stated analytical method.

APT, LIMITED

Rec 4/9/03

April 4, 2003

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Sampling and Analysis Plan
VRP Phase II Site Investigation
Former Karwick Road Municipal Landfill
Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

APT, Limited (APT) is herein submitting for your review a *Sampling and Analysis Plan* for conducting a Phase II Site Investigation under the Indiana Voluntary Remediation Program at the referenced site. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosure: SAP

S:\APT LTD\Projects - Active\MI City Parks and Recreation.312\VRP Phase II\Ammended SAP-rev to USEPA.doc

D. SPENCER

APT, LIMITED

April 10, 2002

Mrs. Gloria Willis
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

Transmittal - Phase I ESA Reports
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Mrs. Willis:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0). Phase I Environmental Assessments have been for the three sites included in this project, the former Royal Metals Facility, former Schmock Oil Facility, and the former Karwick Road municipal landfill.

Enclosed please find one copy of the *Phase I Environmental Site Assessment Report* for each of the three sites identified above. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosures: Phase I ESA Reports

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - Phase I ESA Reports and Invoice (Task 1).doc

APT

January 2002

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Former Royal Metals Facility
600 North Carroll Avenue
Michigan City, Indiana

Prepared For:

Michigan City Economic Development Corporation
100 East Michigan Boulevard
Michigan City, Indiana 46360

Prepared By:

APT, Limited
6910 North Main Street, Unit 17
Granger, Indiana 46530
(219) 257-8196

Project No. 333-01

Advanced Pollution Technologists

• Environmental Consultants •

APT

March 2002

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Karwick Road Landfill Site
Karwick Road
Michigan City, Indiana

Prepared For:

Michigan City Parks and Recreation Department
100 East Michigan Boulevard
Michigan City, Indiana 46360

Prepared By:

APT, Limited
6910 North Main Street, Unit 17
Granger, Indiana 46530
(219) 257-8196

Project No. 312-01

Advanced Pollution Technologists

• Environmental Consultants •

APT

January 2002

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Former Schmock Oil Facility
1111 West Garfield Street
Michigan City, Indiana

Prepared For:

Michigan City Economic Development Corporation
100 East Michigan Boulevard
Michigan City, Indiana 46360

Prepared By:

APT, Limited
6910 North Main Street, Unit 17
Granger, Indiana 46530
(219) 257-8196

Project No. 333-01

Advanced Pollution Technologists

• Environmental Consultants •

Received 4/29/02

APT, LIMITED

April 23, 2002

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal – Health and Safety Plans
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Enclosed please find one copy of the *Health and Safety Plan* for each of the three sites identified above for your review and comment. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Cc: Ms. Gloria Willis – USEPA (letter only)

Enclosure: HASPs (3)

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - HASPs to USEPA.doc

Received
4/29/02

APT

April 2002

HEALTH AND SAFETY PLAN

Karwick Road Landfill Site
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 312-01

Received 4/29/02

April 2002

HEALTH AND SAFETY PLAN

Former Schmock Oil Facility
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 333-01

Received 4/9/02

APT

April 2002

HEALTH AND SAFETY PLAN

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Prepared by:
APT, Limited
6910 N. Main Street, Unit 17
Granger, Indiana 46530

Project No. 333-01

APT, LIMITED

RECEIVED
JUN 28 2004
BEAS REGION 5
U.S. EPA

June 22, 2004

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal
Replacement Pages
Indiana VRP Remediation Work Plan
Former Royal Metals Facility, Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

A Remediation Work Plan (RWP) submitted to the Indiana Department of Environmental Management (IDEM) Voluntary Remediation Program (VRP) was reviewed and commented upon by that agency in a correspondence dated March 31, 2004. A response to comments document and replacement pages for the RWP were submitted to the IDEM on May 21, 2004. Enclosed please find one copy of the response to comments document and replacement pages for the RWP. Completion sampling will not occur pending final IDEM approval of the RWP. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196; (574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosure

Cc: Mr. Tony Rodriguez – Michigan City Economic Development Corp.;
Mr. Tom Stevenson – Environmental Incorporated

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Royal Metals\RWP\Transmittal - Replacement pages RWP to Diane Spencer at USEPA.doc

6910 North Main Street
Unit #17 – Building #2
Granger, Indiana 46530

phone: (574) 257-8196
fax: (574) 257-8595
www. aptlimited.com

APT, LIMITED

May 21, 2004

Mr. Bill Wieringa
Indiana Department of Environmental Management
Voluntary Remediation Program
Office of Land Quality
100 N. Senate
P.O. Box 6015
Indianapolis, Indiana 46205-6015

RECEIVED
JUN 28 2004
BEAS REGION 5
U.S. EPA

Response to IDEM Comments
Re: Remediation Work Plan
Former Royal Metals Facility
Michigan City, Indiana

Dear Mr. Wieringa:

On behalf of the Michigan City Economic Development Corporation (MCEDC), APT, Limited (APT) has received your comments regarding the referenced *Remediation Work Plan* (RWP).

APT offers the following responses to the Indiana Department of Environmental Management (IDEM) comments the referenced *Remediation Work Plan* (APT, December 2003). These comments were received from the IDEM in a correspondence dated March 31, 2004. Each IDEM comment is shown in italicized text followed by APT's response:

EXECUTIVE SUMMARY

1. *IDEM COMMENT*
   "Neither the executive summary nor the balance of the RWP presents a map depicting facilities and land use within one-mile radius (e.g. agricultural, commercial, residential, etc.)"

   APT Response
   APT has revised Figure 1 to depict nearby facilities and land use within a one-mile radius. The revised Figure 1 is attached.

6910 North Main Street
Unit #17 – Building #2
Granger, Indiana 46530

phone: (574) 257-8196
fax: (574) 257-8595
www. aptlimited.com

2. *IDEM COMMENT*
"The need for and scope of additional investigation(s) is not discussed in the executive summary."

APT Response
A sentence explaining that a groundwater screening sample will be collected from an off-site location downgradient of monitoring well MW-3, as described in Section 9.1 of the RWP, has been added to the Executive Summary. No other investigation activities are proposed, or needed, per the meeting and site visit with the IDEM (Mr. Bill Wieringa) in December 2003.

3. *IDEM COMMENT*
"Although no remediation is proposed, the executive summary should briefly summarize the sampling that is proposed to confirm that remediation is unnecessary."

APT Response
The Executive Summary has been revised to include a paragraph describing the proposed completion sampling.

4. *IDEM COMMENT*
"The executive summary should briefly outline a schedule for remediation (i.e., confirmation sampling) milestones."

APT Response
The Executive Summary has been revised to include a paragraph outlining the anticipated schedule for remaining planned activities associated this project.

REMEDIATION WORK PLAN NARRATIVE

1. *IDEM COMMENT*
"Property boundaries are not identified on any of the figures or maps included in the RWP."

APT Response
The figures depicting the site have been modified to identify the property boundaries. Copies of the revised figures are attached.

2. ***IDEM COMMENT***
"The discussion of Phase II investigation at the "Paint Booths" states that the detection of carbon disulfide in the soil sample from soil boring SB-8 represents a laboratory artifact. No explanation is provided for attributing carbon disulfide to the laboratory."

APT Response
The reference to the carbon disulfide detection being a laboratory artifact has been removed from the text. However, the measured concentration is below the default RISC Residential criterion. Thus, no action is required.

3. ***IDEM COMMENT***
"For REC-4, potential contaminants of concern are indicated to include PCBs (Section 2.2.1). However, in the discussion describing the Phase II investigation (Section 2.2.2), there is no reference to investigative samples at REC-4 or analyses for PCBs."

APT Response
No samples for PCB analysis were collected during the Phase II assessment. However, a PCB sample will be collected during the completion sampling. This sampling was inadvertently omitted from the RWP. Section 9.1 of the RWP has been revised to include PCB sampling.

4. ***IDEM COMMENT***
"Floor drains and a possible septic system are identified as REC-6 (Section 2.2.1). However, in the discussion describing the Phase II investigation (Section 2.2.2), there is no reference to either the collection or analysis of investigative samples at REC-6. Also, the confirmation sampling and analysis plan does not mention this REC."

APT Response
REC-6, which was identified as a potential area of concern during the Phase I Environmental Assessment (EA), was dropped as a Recognized Environmental Condition (REC) when it was determined that the floor drains connected to the municipal sewer system and there was no evidence that a septic field ever existed at the site. Therefore, no investigative activities occurred during the Phase II EA associated with this REC, and no completion sampling is proposed. Text has been added to Section 2.2.2 to reflect this information.

5. ***IDEM COMMENT***
"During the Phase II investigation, several contaminants of concern were identified including methylene chloride, carbon disulfide, trichloroethene, and tetrachloroethene. However, no discussion is provided to assess their toxicity, solubility, or mobility. Although concentrations of these contaminants in groundwater samples collected on the property appear to be less than their respective industrial default clean up goals, all three groundwater monitoring wells located along the downgradient northern property

boundary indicate the presence contaminants at concentrations greater than their respective residential cleanup goals. Thus, there appears to be potential for off-site migration at concentrations greater than residential default cleanup goals. Consequently, the toxicity, solubility, and mobility of these contaminants should be discussed in the RWP."

APT Response
A discussion regarding the chemical characteristics of the detected constituents of concern (COCs), including toxicity, solubility, and mobility, has been added as Section 2.2.5 of the RWP. The IDEM has previously indicated (December 2003 site visit) that the potential of off-site migration of constituents will be addressed via the groundwater screening sample that will be collected downgradient of monitoring well MW-3.

6. *IDEM COMMENT*
"Figures 5 and 6 of the RWP are useful for assessing the horizontal extent of contaminants of concern. However, there is neither a narrative discussion, nor graphical representations of the horizontal or vertical extent of impacts."

APT Response
Mr. Bill Wieringa of the IDEM instructed APT to disregard this comment in a telephone conversation on April 22, 2004. He concurred that since COC concentrations in soil are all below VRP Tier II Residential criteria, there is no contamination per se. Additionally, the COC concentration for trichlorethene and methylene chloride in groundwater (four detections and one detection, respectively, site-wide) are only marginally exceeded VRP Tier II Residential criteria. Therefore, Mr. Wieringa agreed that there is no need to include a narrative discussion or graphical representation of the horizontal or vertical extent of impact other than what is provided in the RWP (see the discussions in the Executive Summary and Section 2.2.2, and the graphical representation in Figures 4 and 5 of the RWP).

7. *IDEM COMMENT*
"The data summary tables for investigative sample results include only the constituents that were detected in the samples. Without reviewing the individual laboratory reports, it is impossible to assess from the data summary tables whether non-detect concentrations are above or below applicable cleanup goals. For non-detect results, the detection or laboratory reporting limits should be provided for comparison with applicable cleanup goals."

APT Response
The data tables have been revised to show all COCs, including non-detects, with the detection limit shown in parentheses for non-detects. Copies of the revised tables are attached. However, Mr. Wieringa indicated in a telephone conversation on April 22, 2004 that future data tables need not include non-detects as long as the report text discussed the detection limits as compared to VRP Tier II Residential criteria. Since the

RWP data tables had already been revised to include non-detects at the time of the telephone conversation, they are attached.

8. ***IDEM COMMENT***
"Information is provided for endangered, threatened, and/or rare species. However, no summary is provided for other wildlife at the property."

APT Response
The site is mostly covered by building structures and paving, except for a large lawn along the east side of the site, and a narrow strip of weeds and underbrush along the north, west, and south sides of the site. Furthermore, the site is surrounded by developed properties (industrial to the south and east, and residential to the north and west). No indigenous wildlife other than birds and squirrels were noted at the site.

9. ***IDEM COMMENT***
"PCBs are identified in the VRP application as constituents of concern for both the surface and subsurface soil media. PCBs are also identified as constituents of concern in the RWP (Section 2.2.1). However, no cleanup goal is included in the RWP."

APT Response
Table 1 has been revised to include a cleanup goal for PCBs. Since no VRP Tier II criteria exist for PCBs, the Risk Integrated System of Closure (RISC) default Industrial criterion will be used. The revised table is attached.

10. ***IDEM COMMENT***
"In addition to the typewritten driving directions, the Health and Safety Plan should include a route map and estimated time of travel to the nearby hospital.

APT Response
A map illustrating the location of the nearest hospital relative to the site and the travel route has been created and will be included in the Health and Safety Plan. A copy of the map is attached.

11. ***IDEM COMMENT***
"Volatile organic compounds have been detected at concentrations above residential cleanup goals in all three downgradient groundwater monitoring wells located along the northern property boundary. Additional investigations should be implemented downgradient from each of these locations."

APT Response
Mr. Bill Wieringa of the IDEM instructed APT to disregard this comment in a telephone conversation on April 22, 2004. Mr. Wieringa concurred that per the meeting and site

visit on December 2003, he had agreed that no additional investigation activities were warranted other than a groundwater screening sample that was to be collected from a residential property across the street and downgradient of monitoring well MW-3. This screening sample is included in the completion sampling discussion found in Section 9.1 of the RWP.

12. ***IDEM COMMENTS***
"If PCBs are to be included in the COC/CNTS, soil samples should be collected from the vicinity of the former transformer pad (REC-4) and analyzed for PCBs."

APT Response
Per, the discussion with Mr. Bill Wieringa of the IDEM in a site visit in December 2003, a completion sample for PCBs analysis will be collected from the former transformer pad (REC-4). This sample was inadvertently left out of the RWP. The Executive Summary and Section 9.1 of the RWP have been modified to indicate that a surface soil sample will be collected for PCB analysis.

13. ***IDEM COMMENT***
"The RWP should indicate that confirmation sampling data will be tabulated in their entirety, including non-detect results, their respective detection limits, and their respective cleanup goals. Presentation of the data in this manner will facilitate efficient review of the results and comparison with applicable cleanup goals."

APT Response
Mr. Wieringa indicated in a telephone conversation with APT on April 22, 2004 that future data tables need not include non-detects as long as the report text discussed the detection limits as compared to VRP Tier II Residential criteria.

14. ***IDEM COMMENT***
"IDEM will advertise the RPW in one or two local newspapers, identifying the document repository. If requested by interested parties, the IDEM will determine whether a public meeting will be held. If a public meeting is determined to be warranted, the applicant will make the necessary arrangements as requested by the IDEM."

APT Response
No response is necessary.

15. IDEM COMMENT
"A schedule for remediation (i.e., confirmation sampling and remediation completion report) should be included in the RWP."

APT Response
A new Section 11.0 has been inserted into the RWP text. The previous Section 11.0 (References) has been renamed as Section 12.0.

RWP TYPOGRAPHICAL ERRORS

- *IDEM COMMENTS*

"Page 7, bullet item "REC-5", 'however, based upon materials...' "

"Page 22, Section 4.1, 'will be conducted for these media in all areas ...' "

"Page 22, Section 4.2, 'The surface soil sample will be collected from a depth of approximately 1.5 feet six inches foot below the ground or floor surface, as applicable.'"

APT Response
The typographical errors have been corrected. Please note that surface soil samples will be collected from a depth of approximately six inches below the ground or floor surface, as applicable.

Three copies of replacement pages for the Remediation Work Plan text, tables and figures are attached. The MCEDC respectfully requests that the IDEM approve the RWP as modified herein. If you have any questions, please contact me at (574) 257-8196.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Royal Metals\RWP\Response to IDEM Comments on RWP - Royal Metals.doc

ATTACHMENT

Replacement Text for RWP

(filed)

APT, LIMITED

FYI

January 17, 2003

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Addendum
Sampling and Analysis Plan
Former Schmock Oil Property
Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

This addendum to the referenced *Sampling and Analysis Plan* (APT, April 2002) has been developed in response to a need for additional site investigation at the former Schmock Oil site. It is our understanding that in order to finance these activities using brownfield pilot grant funds, this addendum must be approved by the USEPA prior to initiating the proposed site assessment activities.

Your prompt review and approval of this addendum to the SAP is requested. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196 (574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Cc: Ms. Gloria Willis – USEPA (letter only)

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Schmock Oil\Schmock SAP addendum to USEPA.doc

Thomas Stevenson <tbstevenson@comcast.net>
01/07/04 10:18 AM

To: Diane Spencer/R5/USEPA/US@EPA
cc: Tony Rodriguez <tonyr@mc-edc.com>
Subject: Re: SAP for Royal Metals

Hi Diane

I bet you were hoping that the reviews would be done prior to your return!

We did receive the paper work for the time extension for the project (which was extended to April 30, 2004), so we just want to be able to get the approval and initiate the completion sampling at the Royal Metals site prior to that date. The SAP for completion sampling at Royal Metals follows the guidelines set forth in the previously approved SAP and QAPP for the site. Please call me if you have any questions/comments. Thanks again for you assistance.

Tom

----- Original Message -----
From: <Spencer.Diane@epamail.epa.gov>
To: "Thomas Stevenson" <tbstevenson@comcast.net>
Cc: "Tony Rodriguez" <tonyr@mc-edc.com>
Sent: Wednesday, January 07, 2004 8:32 AM
Subject: Re: SAP for Royal Metals

> Good Morning Tom
>
> Today is my first day back in the office after beginning to use my
> vacation leave on December 18. I just opened a big box, left on my
> chair and discovered the sampling information. Unfortunately, this is
> extremely bad timing. Currently, the entire Brownfields section is
> focused on completing review, scoring, and discussion of the Region 5
> new grant applications. Once we're done with that portion, we'll
> receive a second batch of applications to review on a national basis,
> which will go through the same process. I may have a short window of
> time in early February, but can't do anything sooner. I'll try to keep
> you posted and hope you weren't expecting a quick turn around.
>
> Diane
>
>
>
> Thomas Stevenson <tbstevenson@comcast.net> 01/05/04 10:35 AM
> To: Diane Spencer/R5/USEPA/US@EPA
> cc: Tony Rodriguez <tonyr@mc-edc.com>
> Subject: SAP for Royal Metals
>
>
>
>

>
>
> Hi Diane
>
> Just wanted to make sure that you received the SAP for the completion
> sampling at the Royal Metals Facility in Michigan City and was inquiring
> as to the status of the review.
>
> Thanks
>
> Tom Stevenson
> Environmental Inc.
> 219-462-7576
>
>
>

APT, LIMITED

December 18, 2003

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal
Indiana VRP Remediation Work Plan
Former Royal Metals Facility, Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Enclosed please find one copy of the *Indiana VRP Remediation Work Plan* (RWP), and one copy of the *Sampling and Analysis Plan* (SAP) for the proposed completion sampling for the former Royal Metals site. This site investigation activities and proposed completion sampling described in the RWP and SAP are in accordance with both the USEPA-approved multi-site QAPP and the requirements of the Indiana Voluntary Remediation Program. Completion sampling will not occur pending approval of both the RWP and the SAP. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196; (574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosure

Cc: Mr. Tony Rodriguez – Michigan City Economic Development Corp.;
Mr. Tom Stevenson – Environmental Incorporated

S \APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - Rev Multi-site QAPP to Diane Spencer at USEPA.doc

Diane Spencer
07/08/03 03:49 PM

To: Thomas Stevenson
Subject: Re: Michigan City Brownfields Grant Closure

Hi Tom,

You should touch base with the Project Officer, Romona Smith, with your budget questions and follow her instructions for moving funds.

As for the investigative waste disposal -- wasn't that addressed as part of the sampling plans or in the QAPP? Usually, that's where the disposal of the materials is discussed. I can pull the plans tomorrow to review. As far as the cost for disposal, it is usually part of the Phase II field work, as that is when it is generated.

The time extension request will need to go through both Romona and me. You'll need to provide some basic information, such as what tasks remain unfinished and the available funds to address the tasks. You'll also need to provide the date when you expect to complete the activities. You'll be requesting a no cost, time extension.

Feel free to run a draft revised work plan by me (electronically) before you do an official submittal and we can work thorough potential issues. Unfortunately, the work plan is a technical document, which is handled mainly be me, as the Project Manager and the budget and administrative stuff is handled by the Project Officer, Romona Smith. When you and I agree on an approvable revised work plan, you can then send an "official" copy to Romona. After she receives it, she'll ask me to review and approve and/or comment.

How much money remains that isn't committed to payment of previous activities?
-----Thomas Stevenson <tbstevenson@comcast.net> wrote: -----

To: Diane Spencer/R5/USEPA/US@EPA
From: Thomas Stevenson <tbstevenson@comcast.net>
Date: 07/08/2003 01:27PM
cc: Tony Rodriguez <tonyr@mc-edc.com>
Subject: Michigan City Brownfields Grant Closure

Diane,

The Mich. City BF Task force and Project ReNEW Members will be meeting in a few weeks to discuss the final/closure tasks of the project. With funds still remaining in the grant budget, decisions will be made regarding allocation of the remaining funds to proper investigation activities (i.e., characterization/disposal of investigation derived wastes, site closure monitoring activities at the Royal Metals facility). Decisions will also be made regarding the source of local funding to complete several of these investigation activities.

The questions that I have are: (1) what is the proper procedure to move funds around within the budget categories?; and, (2) How do we submit a Work Plan Addendum to the EPA for activities not covered by the original Work Plan (i.e., for characterization/disposal of investigation derived wastes)?

I also wanted to give you a heads up that we will be requesting an extension for the project. What is the proper procedure to request for the extension?

If all of the requested changes to the Work Plan could be done in single Work Plan Addendum, that would be great.

Thanks

Thomas Stevenson
Environmental Inc.
219-462-7576

A Michigan City Brownfields Project

Ms. Diane M. Spencer
Brownfields Project Manager
U.S. EPA Region 5
77 W. Jackson Blvd. (SE-4J)
Chicago, IL 60604

May 13, 2003

Diane,
As you requested, attached is the information that was available for our Project ReNEW community meeting held on April 30, 2003 at Michigan City's City Hall. These include an agenda, a copy of the March 2003 ReNewsletter, the power point presentation of Tony Rodriguez, Executive Director of the Michigan City Economic Development Corporation and a copy of the power point presentation of John Klanke of Advanced Pollution Technologies.

The purpose of this meeting was two-fold: to provide an update on the status and results of the environmental testing that has been completed on the three sites and to engage the public in a discussion relative to potential future reuses of the properties.

The audience numbered 27, which included 19 persons who represented neighborhood groups, business interests, adjacent neighbors, labor unions and the media. The others in attendance were City department heads and those associated with the Project. We were encouraged by the number of questions and amount of interest that were generated during the meeting. Subsequently, the Michigan City News-Dispatch ran a front-page headline and story about Project ReNEW and the meeting in their May 1st edition. In addition, the newspaper wrote a positive and supportive editorial about the Project in its May 20th edition.

It is unfortunate that you were not able to attend the meeting because I feel that you would have been pleased with the excitement and interest it generated.

On behalf of our Project ReNEW team, thanks again for all of your support and assistance.

Sincerely

Robert J. Schaefer

CC: Tony Rodriguez, Tom Stevenson

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

A Michigan City Brownfields Project

AGENDA

PROJECT ReNEW
"Revitalizing Environmentally Neglected Emerging Workplaces"

Community Meeting

April 30, 2003

City Hall

9:00AM **Mayor Brillson-Welcome and opening remarks**

9:05AM **Tony Rodriguez-Director, Michigan City Economic Development Corporation**

- **Introductions**
- **Review of EPA grant**
- **Overview of Project ReNEW**
- **Review of sites**
- **Work tasks completed to date**

9:15AM **John Klanke-Advanced Pollution Technologies**

- **Environmental assessments report**

9:30AM **Kevin Kieft-Neighborhood Planner, City of Michigan City**

- **Potential redevelopment opportunities**
- **Community input**

9:50AM **Tony Rodriguez**

- **Questions**
- **Next steps**

10:00AM **Conclusion**

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Project ReNEW
REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

NEWS

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

Newsletter for Michigan City Project ReNEW *March 2003*

Much progress has been made in performing the environmental site assessments on the three brownfield sites involved in the US EPA $250,000 grant awarded to the City in 2001. Informational signs have been placed at each site.

Former City Landfill-Karwick Road

Phase I and Phase II site assessments were completed at the site in August 2002. Based on the results, only minor impacts to subsurface soils and groundwater were detected. Additional testing will take place in Spring 2003 to confirm that past waste disposal activities that took place there from 1950-1970 did not adversely impact site soils and groundwater. The site will eventually be developed into the Karwick Nature Park to be utilized and enjoyed by the citizens of Michigan City.

Royal Metals-600 North Carroll Avenue

A Phase I site assessment was completed in January 2002 which determined the processes at this facility from 1929 to 1982. A Phase II assessment was subsequently completed and included the collection and analysis of subsurface soil samples and groundwater samples. Minor impacts to the site were detected. It is anticipated that minimal assessment activities will be required. The City has condemned the building because of poor structural conditions. Eventually, this site can be developed into a potential business location.

Schmock Oil –1111 West Garfield

A Phase I assessment was completed in January 2002. In April 2002, the building was demolished due to poor structural conditions. The Phase II assessment included the collection and analysis of soil and groundwater samples. Impacts to the soils and groundwater were detected; therefore, additional assessments are scheduled to determine the magnitude and extent of these impacts. A remediation strategy will be developed and sources of clean-up funding will be identified.

Project ReNEW Phase II

In December 2002 the City, through the Michigan City Economic Development Corporation (MCEDC), completed an Initial Proposal to the US EPA for another $200,000 grant which would have been used for environmental assessments on other sites in the City. Unfortunately, this proposal was not selected; however, the City and the MCEDC will aggressively continue to pursue additional grants and funding to help address the remaining brownfields in the City.

CITY OF MICHIGAN CITY'S U.S. ENVIRONMENTAL PROTECTION AGENCY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT

PROJECT RENEW SITES

Royal Metals Facility,
600 North Carroll Avenue

Schmock Oil Corporation Facility,
1111 West Garfield Street

Michigan City Municipal Landfill,
Karwick Road

Project ReNEW Hot Line
219-873-1211 (Ext. 4)

Project ReNEW Hot Link on the MCEDC web site at www.michigancity.org/busdevelop/mcedc/index.htm

PROJECT ReNEW

Revitalizing Environmentally Neglected Emerging Workplaces

•City of Michigan City U.S. Environmental Protection Agency Brownfields Assessment Demonstration Pilot Grant

PROJECT ReNEW-Scope

EPA awarded MC $250,000 in 2001

- Awarded to only 35 communities in US !!
- 2 year project covers cost for:
    * Environmental Assessments
    * Clean up/remediation plans
    * Feasibility/reuse plans
    * Community outreach plans

For three brownfield sites in the City

What is a Brownfield?

- Industrial or commercial property that is abandoned, inactive or underutilized
- Actual or perceived environmental contamination
- Potential health and safety risks

PROJECT ReNEW-GOAL

- To transform two former industrial facilities and their associated properties and one former City landfill back to viable economically & environmentally safe and productive uses.

Royal Metals-600 N. Carroll Ave.

Photo

Schmock Oil-1111 W. Garfield St.

Photo

Former City Landfill-Karwick Road

DRAWING

PROJECT ReNEW- Work Tasks

- ✓ Conduct environmental assessments
- ✓ Prepare remedial action plans
- ✓ Conduct feasibility studies/future uses
- ✓ Develop community outreach plan

PROJECT ReNEW-Status

- Initial assessments completed
- Community outreach is ongoing
  - * ReNEWsletter
  - * Web site
  - * Hot line
  - * Community meetings

PROJECT ReNEW-Status Cont.

- Developing remediation costs
- Beginning feasibilty discussions

PROJECT ReNEW CONTACTS

- ✓ Hot Line: 219-873-1211 Ext. 385
- ✓ MCEDC web site:www.mc-edc.com
- ✓ Email: mcedc@mc-edc.com

PROJECT ReNEW STATUS

Royal Metals

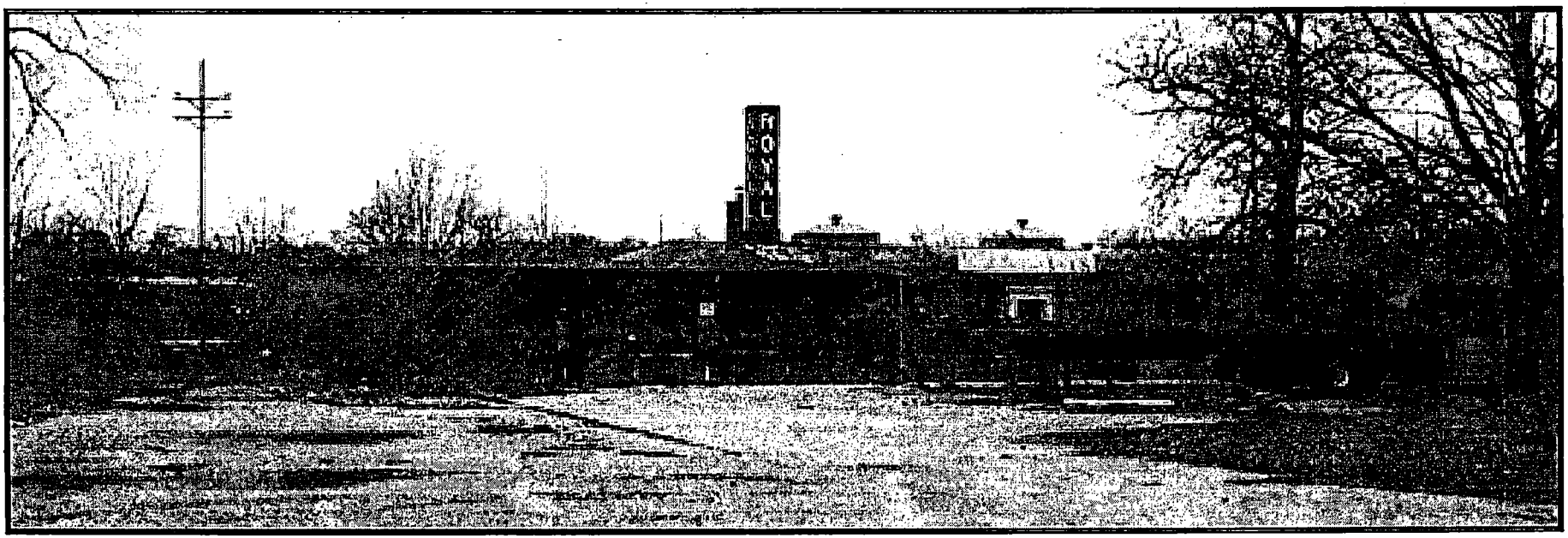
Schmock Oil

Karwick Road Landfill

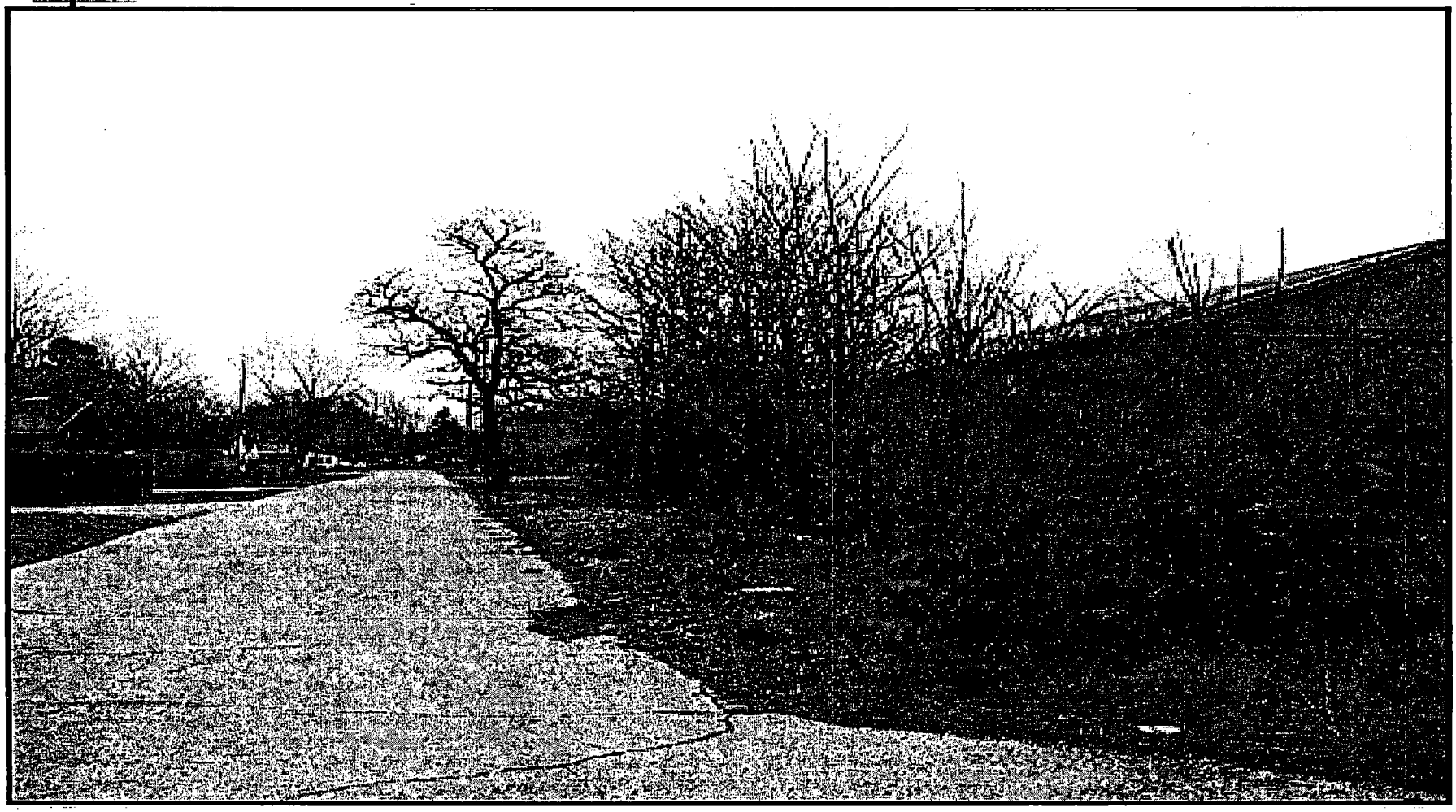
Royal Metals

Former Royal Metals Site

- 600 N. Carroll Avenue
- Former metal furniture manufacturing
- Abandoned since 1980s
- Solvents, heavy metals, oils, PCBs
- Entered in VRP January 2002



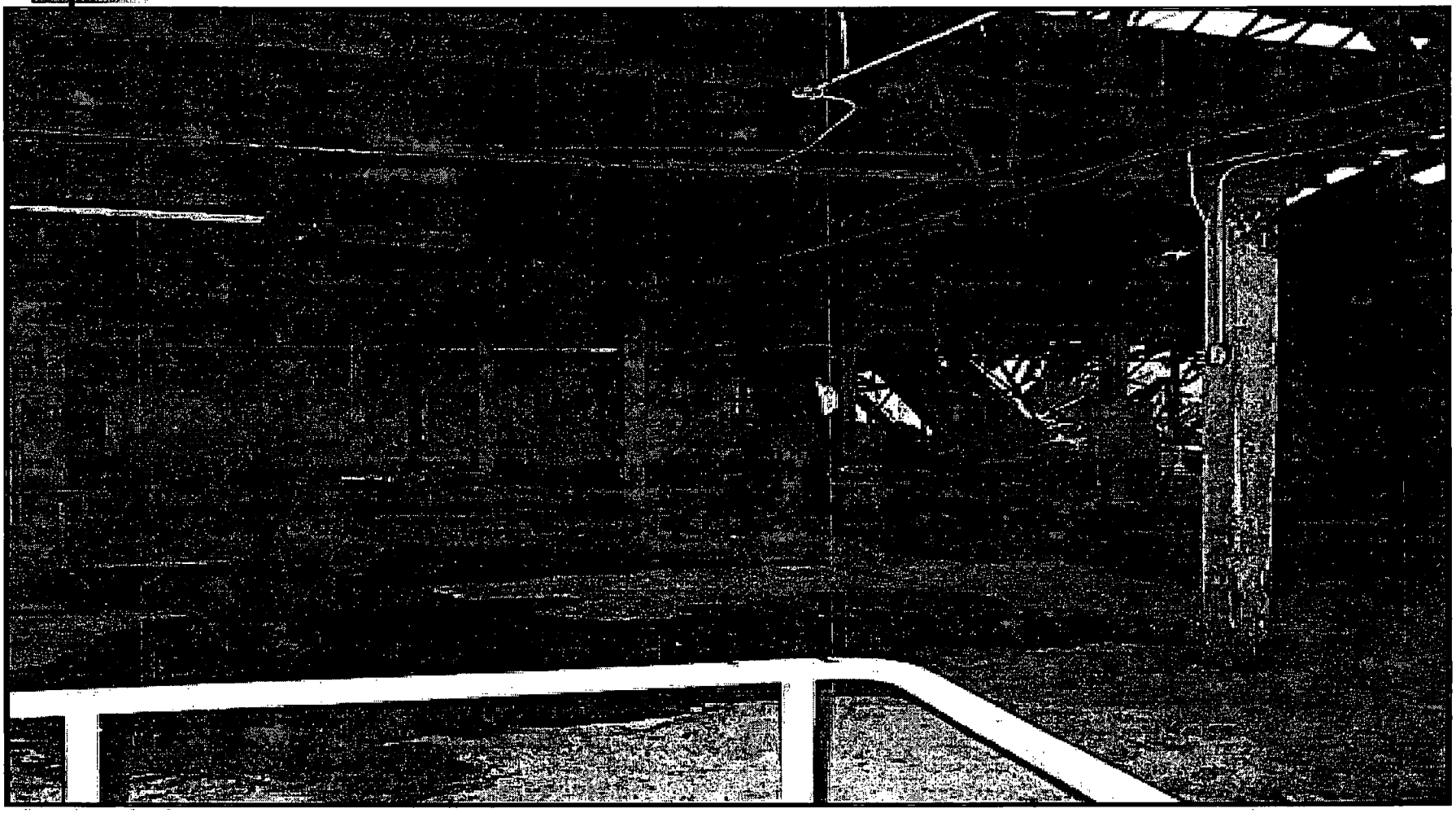
Royal Metals – East side



Royal Metals - Rear

Royal Metals – West side

Royal Metals - Inside

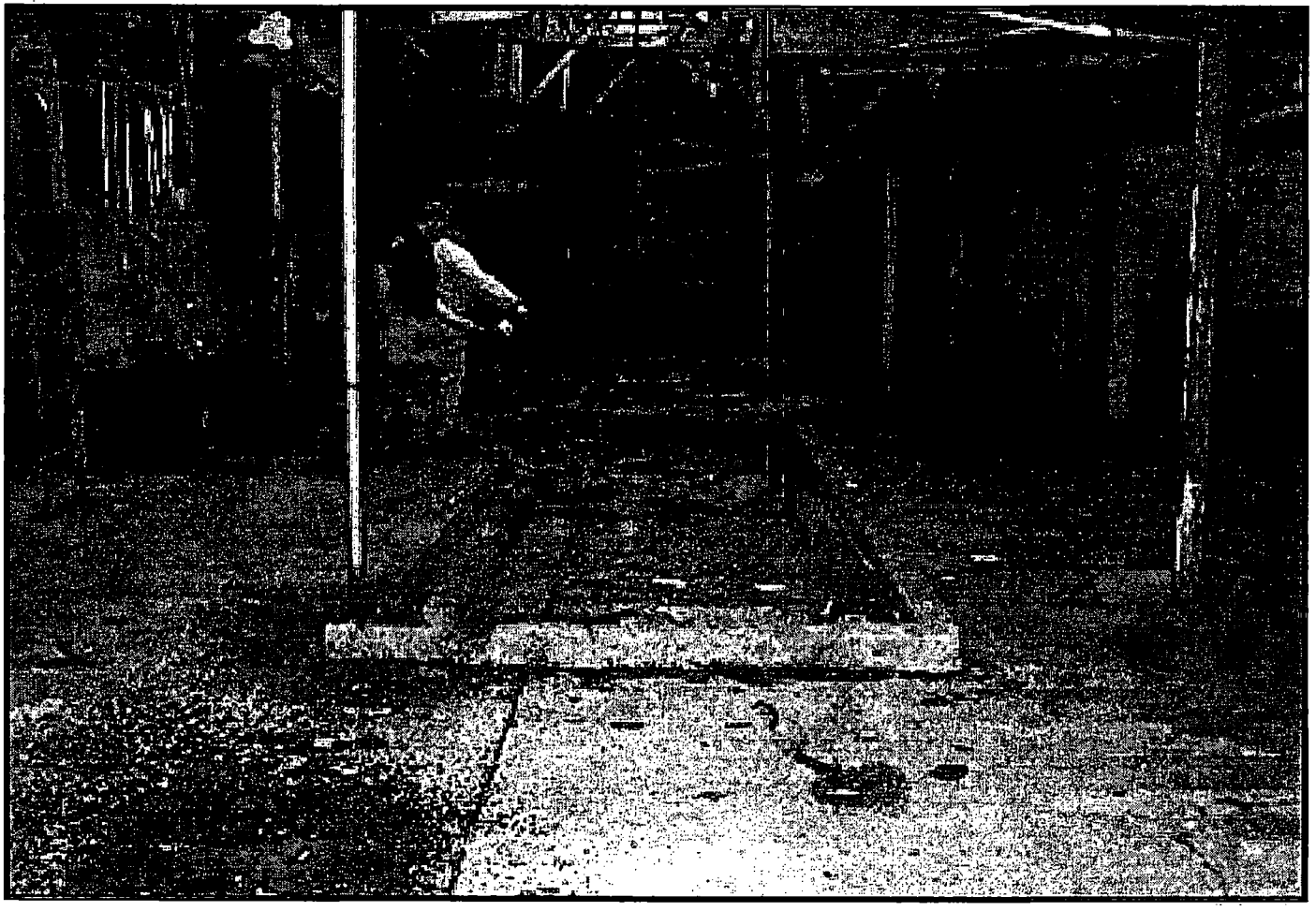


Phase I Environmental Assessment

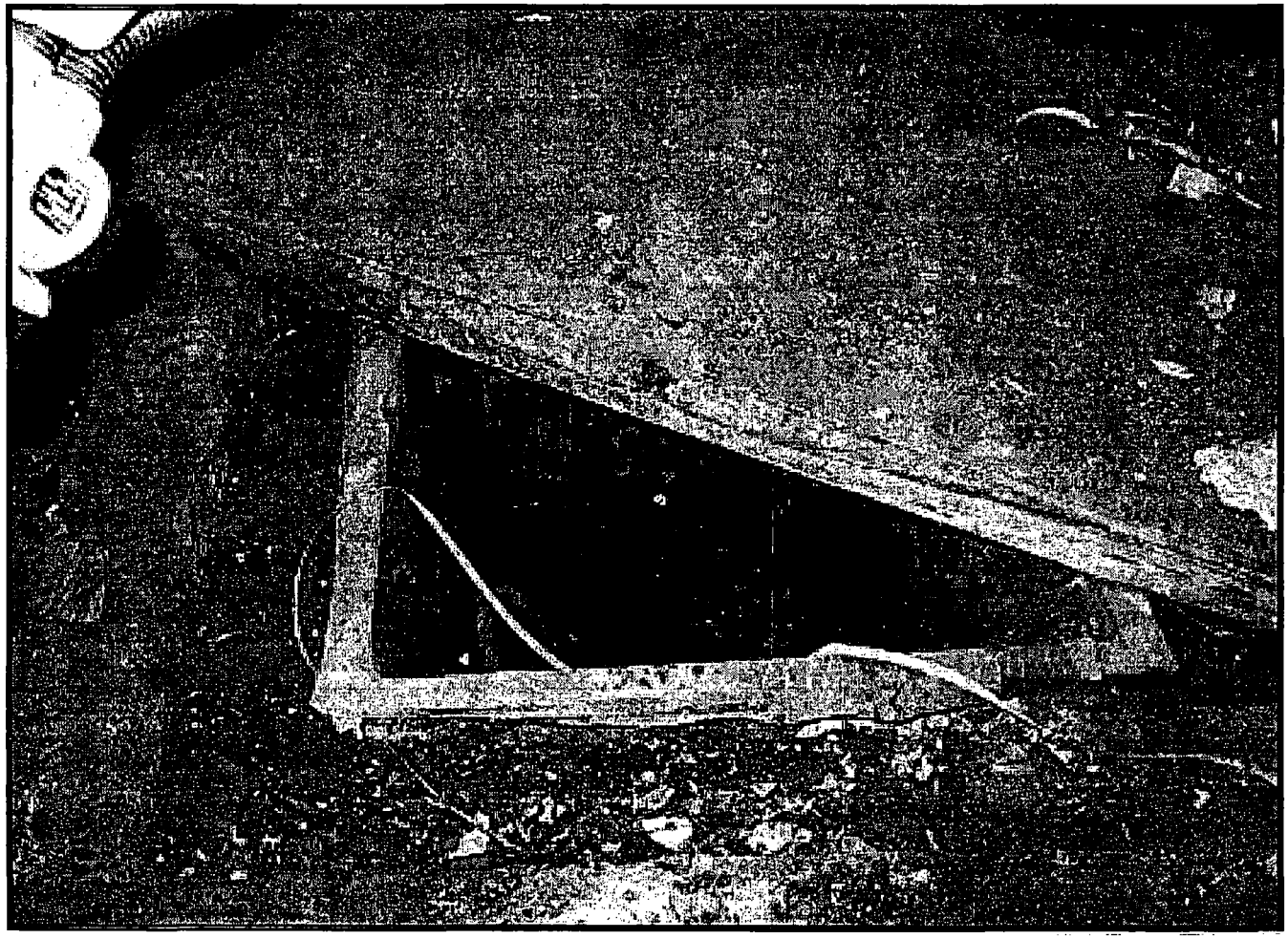
- January 2002
- Nine areas of environmental concern
  - ✓ Pit vapor degreaser
  - ✓ Paint areas
  - ✓ Drains and collection pits
  - ✓ Chemical storage areas
  - ✓ Transformer pad

Pit Vapor Degreaser

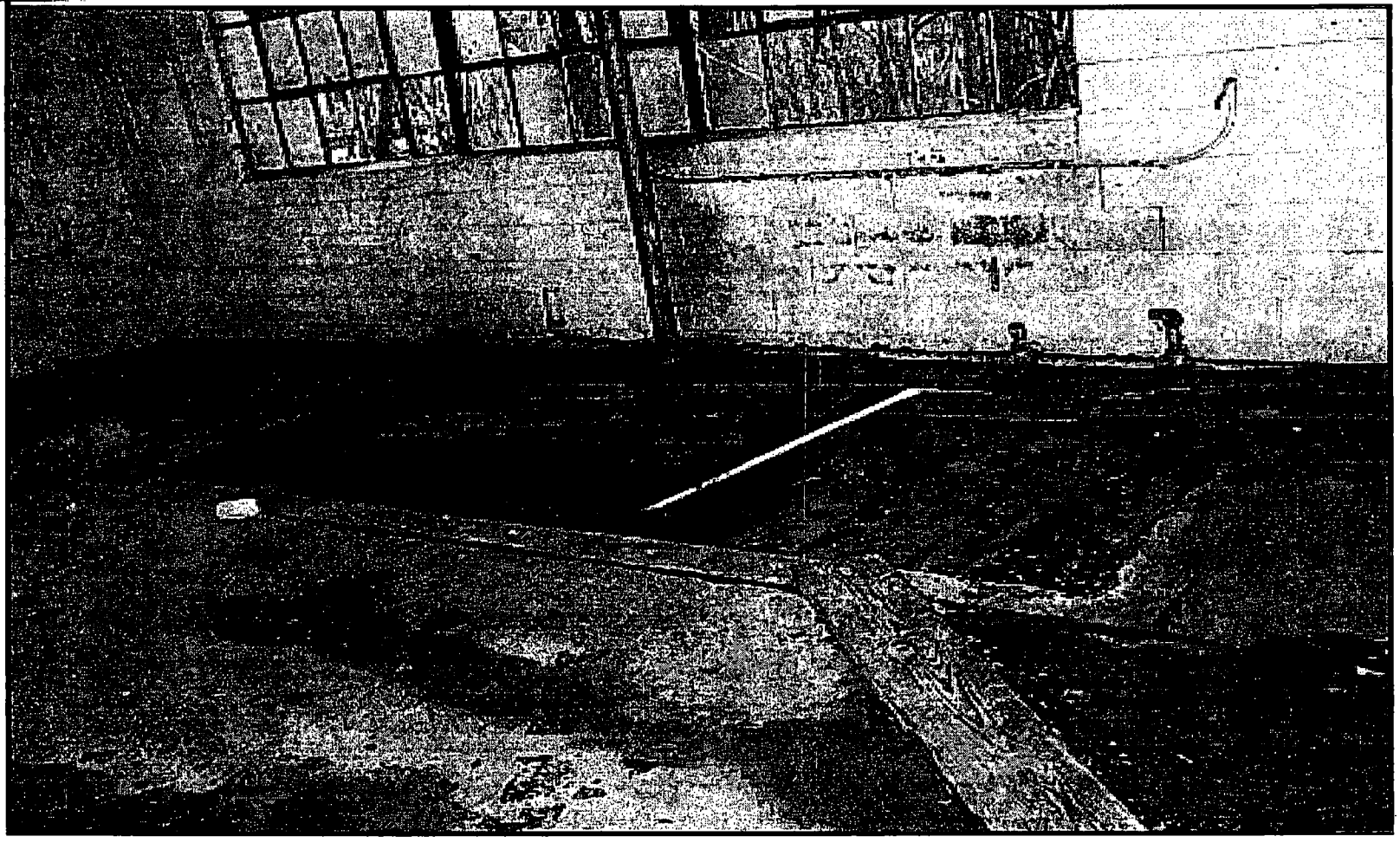
Paint Area



Collection Pit

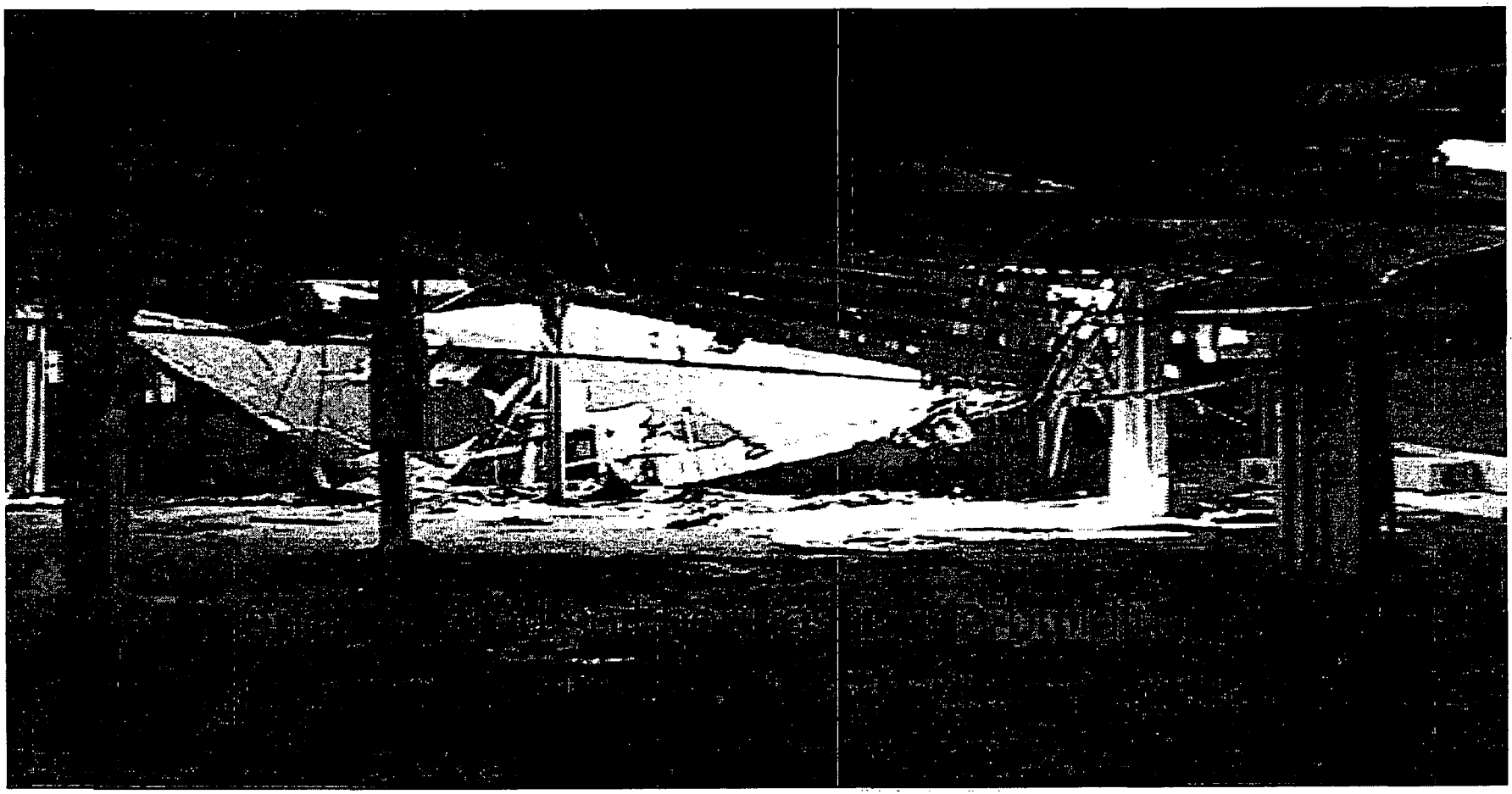


Collection Pit



Chemical/Paint Storage Area

Phase II Environmental Assessment



Phase II Environmental Assessment

Assessment Results

- Lab results indicate no contaminants present above cleanup criteria except lead and arsenic

  - ✓Lead in groundwater at three locations
  - ✓Arsenic in groundwater at one location

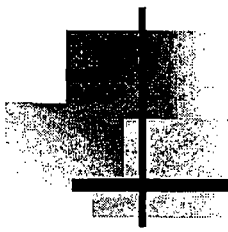
Conclusions

➢**No significant environmental issues**

- ✓ No contaminants in soil
- ✓ Contaminants in groundwater likely due to suspended sediment in sample
- ✓ Groundwater occurs 5-10 feet below ground surface and is not used for drinking water

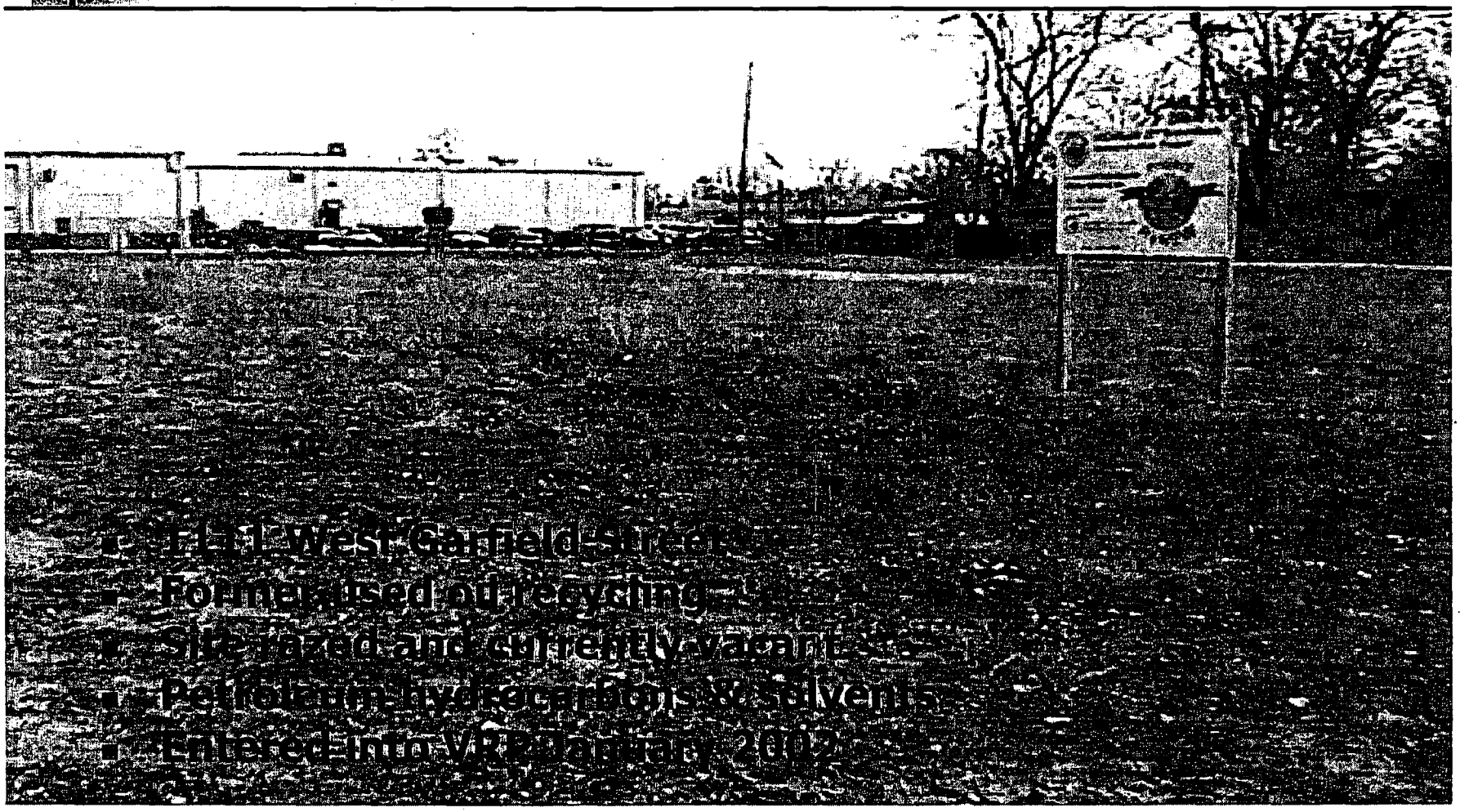
Current Status

- Site Investigation completed
- No remediation planned
- Preparing "No Further Action" Remediation Work Plan for IDEM
- Closure sampling after IDEM approval



Schmock Oil

Former Schmock Oil Site



- [redacted] West Garfield Street
- Formerly used oil recycling
- Site fenced and currently vacant
- Petroleum hydrocarbons & solvents
- Entered Ohio VAP on [redacted], 2002

Former Schmock Oil Site

Phase I Environmental Assessment

- January 2002
- Five areas of environmental concern
  - ✓ Possible former UST SE corner
  - ✓ Former ASTs N of building
  - ✓ Bulk tanker truck parking N end of site
  - ✓ Former floor drains
  - ✓ USEPA removal action

Phase II Environmental Assessment

- **Fourteen soil borings**
- **Ten monitoring wells**
- **Two phases of investigation**
  - ✓ **August - November 2002**
  - ✓ **March 2003**

- **8 soil samples**
- **11 groundwater screening samples from bores**
- **1 groundwater sample/well**

Phase II Environmental Assessment

Assessment Results

- Lab results indicate contaminants present above cleanup criteria

✓Benzene in groundwater N end of site

✓250x cleanup goal

Assessment Results

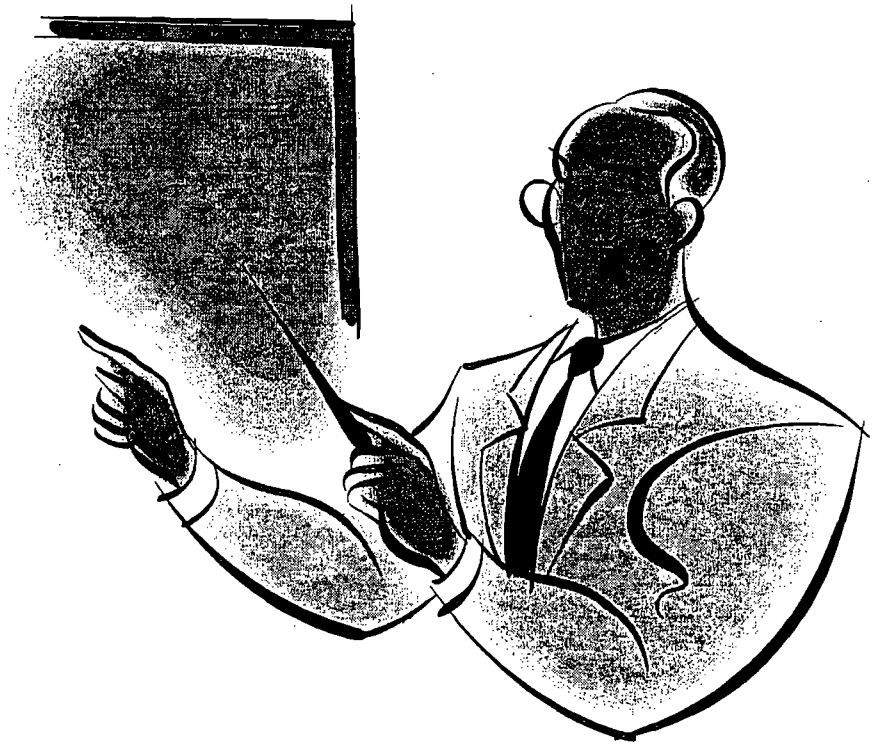
- Lab results indicate contaminants present above cleanup criteria

✓Vinyl chloride in groundwater SE portion of site

✓100x cleanup goal

Conclusions

➢**Significant environmental issues**

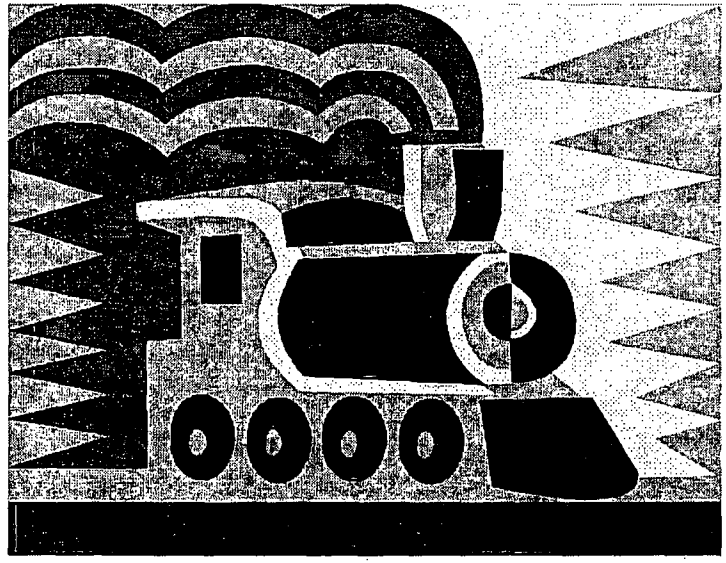


- ✓ Contaminants in groundwater two separate areas
- ✓ No contaminants in soil
- ✓ Groundwater occurs 5-10 feet below ground surface and is not used for drinking water

➢**No imminent risk to human health**

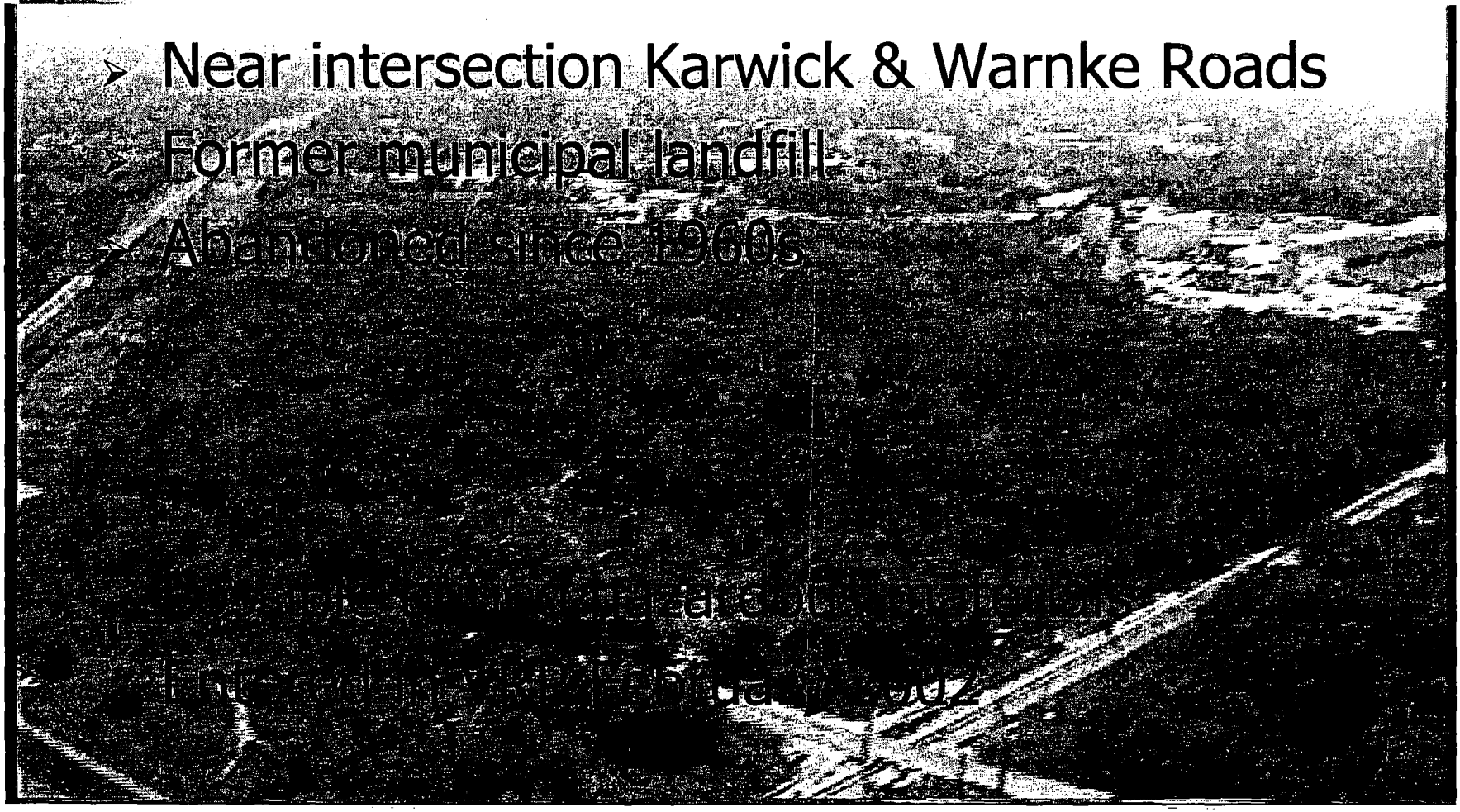
Current Status

- Extent of impacts defined
- Remediation Work Plan to be prepared for IDEM
- Possible monitored natural attenuation



Former Karwick Rd Landfill

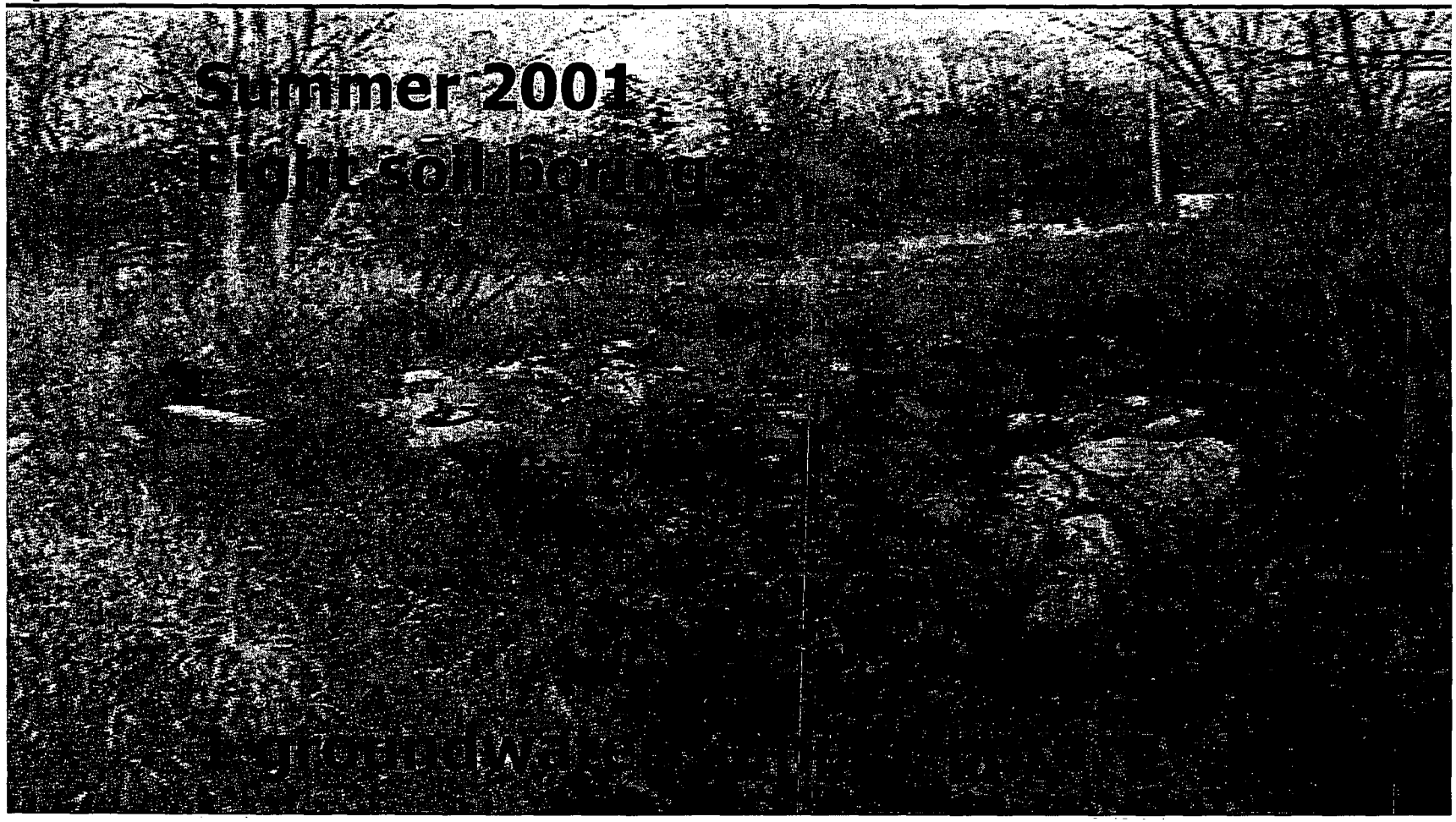
Karwick Road Landfill Site



- Near intersection Karwick & Warnke Roads
- Former municipal landfill
- Abandoned since 1960s

Former Landfill

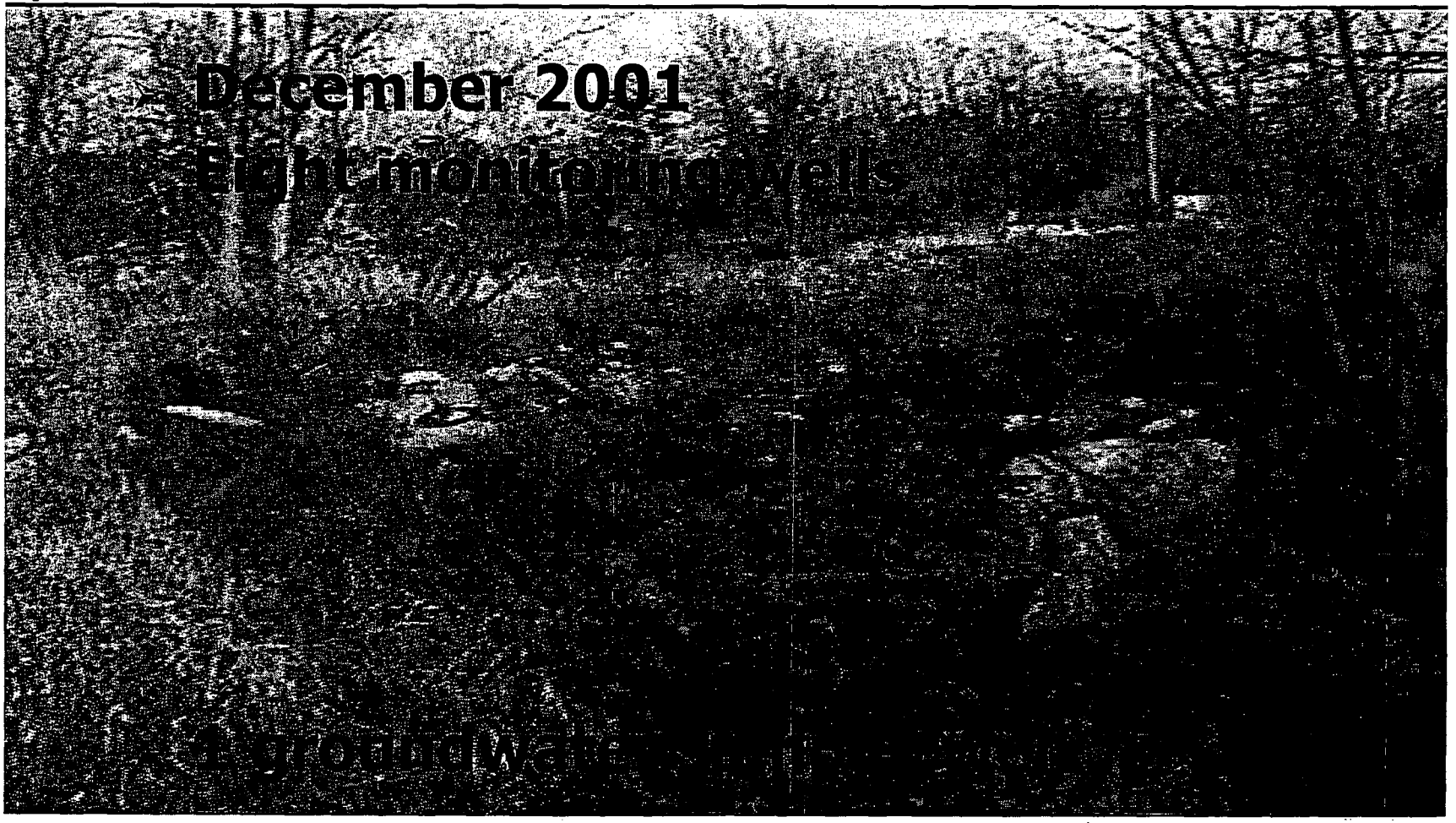
Groundwater Screening Assessment



Groundwater Screening Results

- Debris & fill 6-20 feet thick
- Water table at 11-16 BGS
  - ✓ Coincident with old floodplain horizon
- Lab results indicate heavy metals present in groundwater above cleanup criteria
  - ✓ Possibly due to sediment in samples

Baseline Groundwater Assessment



Baseline Groundwater Assessment Results

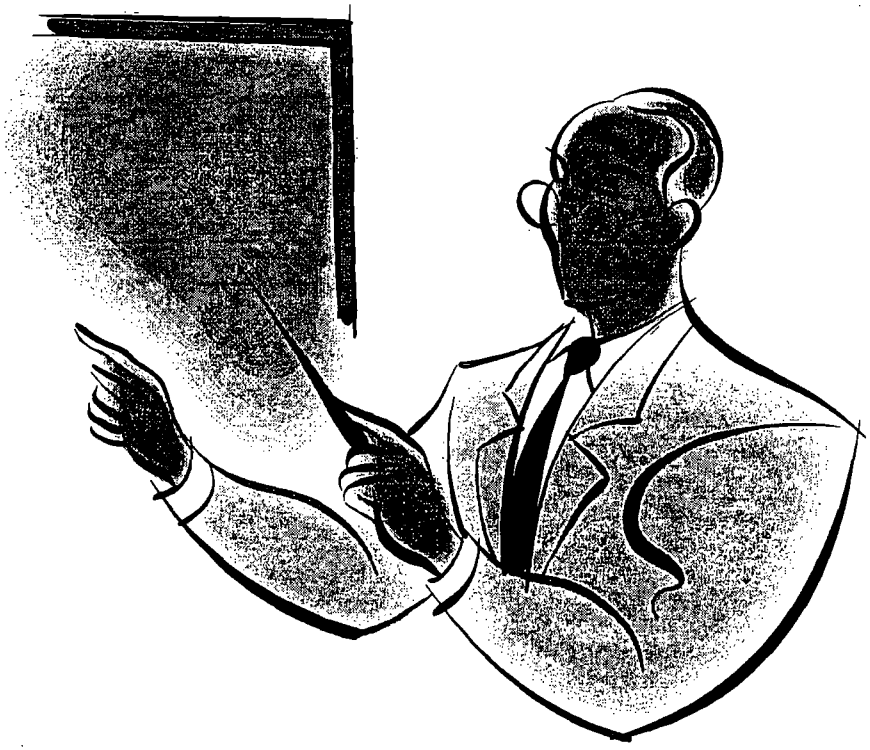
- Groundwater connected to Trail Creek

- Lab results indicate lead present in groundwater above cleanup criteria at five locations

  - ✓ Possibly due to sediment in samples

Conclusions

➢**Environmental issues likely not significant**

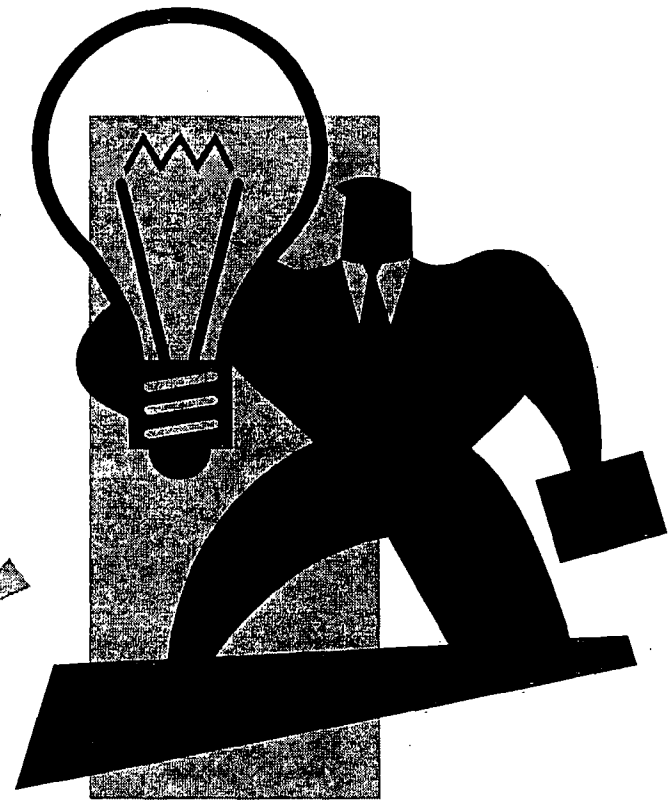


- ✓ No contaminants in soil
- ✓ Contaminants in groundwater may be due to sediment in samples
- ✓ No apparent human health risk
- ✓ Potential ecological risk to Trail Creek

➢**Main risk is from exposed debris (glass, concrete, metal)**

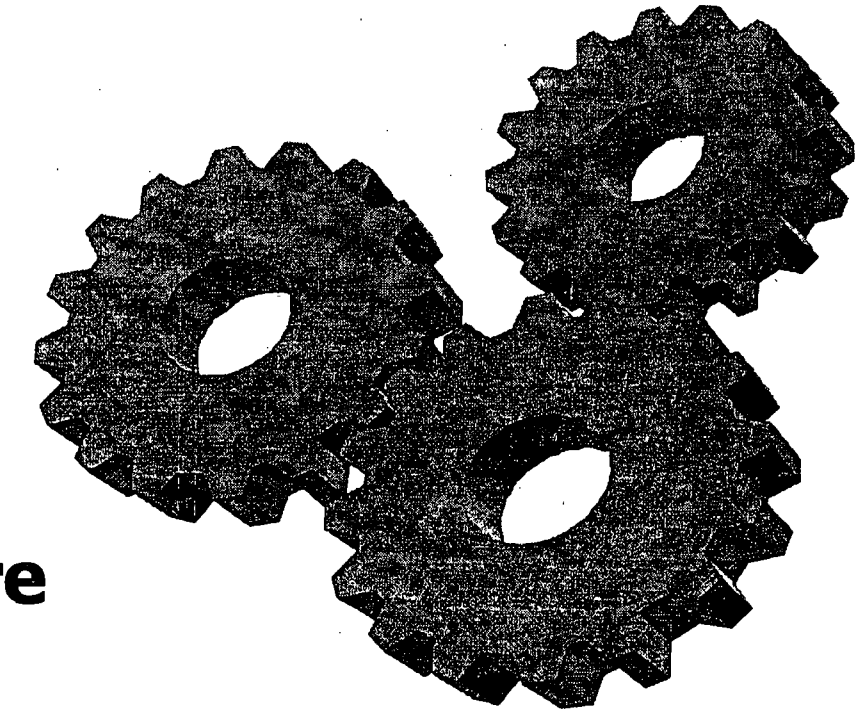
Planned Strategy

- **Demonstrate lack of ecological impacts**
  - ✓ Four quarters of surface water & sediment sampling
- **Demonstrate lack of subsurface soil impacts**
  - ✓ Random soil borings across site – 40 bores
- **Demonstrate lack of groundwater impacts**
  - ✓ Four quarters of groundwater monitoring from existing wells using low flow sampling



What's Next?

- **USEPA approval of SAP**
- **Prepare RWP for IDEM**
- **Perform closure sampling**



THE END

QUESTIONS?

Tom <tbstevenson@attbi.com>

12/05/02 11:36 PM

To: Diane Spencer/R5/USEPA/US@EPA
cc: tonyr@mc-edc.com
Subject: Re: Phase II ESA Status/Assessment Grant Proposal

Diane, 12/9/02

Monday afternoon would be fine to talk about the pilot results and the grant proposal. The following is a brief synopsis of the pilot results at Schmock and Royal Metals.

Schmock Oil Site

Five wells have been installed/sampled at the site with the following results. Several hits have been identified at the Schmock Oil Site in the groundwater as summarized as follows. A monitoring well (MW-4) located in the southeast portion of the site had hits of cis-1,2-DCE (75 ug/L) and more importantly vinyl chloride (170 ug/L). The vinyl chloride concentration well exceeds the IN VRP Tier II Non-Residential cleanup goal of 2 ug/L. Benzene (2,700 ug/L) was detected in groundwater from a well (MW-5) located in the northwest portion of the site. In conclusion, the benzene impacts in the northwest portion of the site may be coming from offsite, since well MW-5 is right on the upgradient property line. Alternatively, we may be simply seeing a large diffuse plume that spreads around the source area, as the GW gradient is very flat (0.0002 ft/ft). Thus, additional assessment activities would better define the impacted area. The elevated vinyl chloride (southeast portion of the site) is also an area of concern suggesting impacts in the southern portion of the site that warrant further assessment. Thus, APT is preparing a scope of work to further delineate the magnitude and extent of these areas of concern. With funding remaining in the grant remaining and additional assessment activities outlined in the workplan (Task 3), it seems appropriate to define the magnitude and extent of these areas. The main question is do we need to revise the Schmock Oil SAP to include the additional work?

Royal Metals

At this point, only 3 wells have been installed/sampled at RM. (5 wells are proposed for the site.) We were waiting for the GW analytical results (a minor TCE detection was indicated in a northern perimeter well) and flow direction (to the north/northeast) to place the final 2 wells in appropriate positions. However, due to the site access issues with RM, the well installations were delayed. With LaPorte County acquiring ownership of RM, we finally received permission to install the 2 wells.

Grant Proposal-We would greatly appreciate your input in the initial grant proposal. Hopefully it will be in final draft form by mid next week and we will sent it to you.

Thanks. Have a nice weekend and I'll talk to you Monday.

Thomas Stevenson
Environmental Inc.
219-462-7576

----- Original Message -----
From: <Spencer.Diane@epamail.epa.gov>
To: "Tom" <tbstevenson@attbi.com>
Cc: <tonyr@mc-edc.com>
Sent: Thursday, December 05, 2002 7:00 AM
Subject: Re: Phase II ESA Status/Assessment Grant Proposal

>
> Tom-
>
> In delineating the areas of contamination, will you be doing more
> sampling at Schmock Oil? Is more information needed to move forward
> with the end use for the property?

>
> Why are two more monitoring wells being installed at Royal Metals? What
> information do you have in hand as to why additional groundwater info is
> needed?
>
> It would be a good idea to run a draft electronic copy of your upcoming
> submittal for the new assessment funds by me. I encourage you to
> provide as much site specific information as possible in the
> application. Since this is a two-part submittal, you want the initial
> proposal to be as good as possible. Make sure all the questions in
> Section 4.2 of the guidelines are answered.
>
> I'm tied up all day today -- but have nothing on my schedule for Monday.
> If that fits with your schedule, maybe we can discuss both the current
> pilot activities, and the upcoming grant proposals then.
>
> Diane M. Spencer
> Brownfields Project Manager
> U.S. EPA Region 5
> 77 W. Jackson Blvd (SE-4J)
> Chicago, IL 60604
>
> Phone (312) 886-5867 Fax (312) 886-6741
> Spencer.diane@epa.gov
>
>
>
>
>
> Tom
> <tbstevenson@att
> bi.com>

To: Diane Spencer/R5/USEPA/US@EPA
cc: Tony Rodriguez <tonyr@mc-edc.com>
Subject: Phase II ESA Status/Assessment Grant Proposal

> 12/04/02 04:49
> PM
>
>
>
>
>
> Diane,
>
> I wanted to give you an update of the Phase II ESA activities for
> Michigan City. At Schmock Oil, APT is providing a scope of work to
> delineate some of the contaminants detected at the site. At Royal
> Metals, two additional wells are to be installed at the site on Tuesday,
> Dec. 10. APT is also revising the Former Karwick Road Landfill SAP to
> be submitted to the EPA for review and approval.
>
> As we have discussed, Mich. City is preparing an initial proposal for
> the EPA Brownfields Assessment Grant (due Dec. 16). They have
> identified 4 brownfield sites that they will be requesting assessment
> grant funding for: one former service station, one former service
> station/junk yard; one former junk yard and a former dry-cleaner.
>
> Let me know if you want to review/discuss the preliminary results from
> the brownfield/greenspace pilot sites, or the sites proposed for
> additional grant funding. Thanks.
>

> Thomas Stevenson
> Environmental Inc.
> 219-462-7576
>
>
>

Diane Spencer
02/18/03 11:32 AM

To: Tom Stevenson <tbstevenson@attbi.com>
Subject: Re: Project ReNEW

Tom,

Additional soil sampling points and monitoring well installation (3 wells) at the north end of the property appears to be associated only w/petroleum constituents. I failed to notice anything else. The grant conditions do not allow you to assess, characterize, remediate or plan for remediation of petroleum under this pilot. Unless you can provide further information, this portion of the sampling and analysis plan addendum will not be approved to allow use of Federal Brownfields grant funds.

Additional soil samples and monitoring wells near the southeast side (total of 2 wells) will be okay.

If you'd like to get together to discuss project status, that's fine. Or, you're e-mails also work well. Just let me know what you'd prefer and we can go from there.

Diane
Tom Stevenson <tbstevenson@attbi.com>

Tom Stevenson <tbstevenson@attbi.com>
02/14/03 10:04 AM

To: Diane Spencer
Subject: Project ReNEW

Diane,

Wanted to send you a quick update on the 3 Michigan City Brownfield Projects.

Former Karwick Road Landfill - The City has just allocated additional funding to complete the assessment/activities (in addition to the EPA grant funding). So APT is in the process of preparing a SAP for this site to be submitted to the EPA for review and approval. The goal of the additional assessment activities is to submit a No Further Action (NFA) report to the IDEM Voluntary Remediation Program (VRP).

Royal Metals - APT is in the process of preparing a Remediation Work Plan for submittal to the IDEM VRP. This plan will summarize assessment activities conducted and recommended some additional monitoring in order to seek NFA at the site.

Schmock Oil - Additional assessment activities are needed as described in the SAP Addendum (awaiting EPA review and approval).

At this point do you feel the we should meet to discuss results and the direction that each site is going? Or would a technical memorandum (with a discussion on the results) be more on the order? Or are these e-mail updates sufficient? Thanks and have a nice weekend.

Thomas Stevenson
Environmental Inc.
219-462-7576

APT, LIMITED

Rec. 1/21/03 [illegible]

January 17, 2003

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Addendum
Sampling and Analysis Plan
Former Schmock Oil Property
Michigan City, Indiana
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

This addendum to the referenced *Sampling and Analysis Plan* (APT, April 2002) has been developed in response to a need for additional site investigation at the former Schmock Oil site. It is our understanding that in order to finance these activities using brownfield pilot grant funds, this addendum must be approved by the USEPA prior to initiating the proposed site assessment activities.

Your prompt review and approval of this addendum to the SAP is requested. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196 (574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Cc: Ms. Gloria Willis – USEPA (letter only)

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Schmock Oil\Schmock SAP addendum to USEPA.doc

ADDENDUM TO SAMPLING AND ANALYSIS PLAN
FORMER SCHMOCK OIL PROPERTY
MICHIGAN CITY, INDIANA
INDIANA BROWNFIELDS ASSESSMENT
DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0

This addendum to the referenced *Sampling and Analysis Plan* (APT, April 2002) has been developed in response to a need for additional site investigation at the former Schmock Oil site.

BACKGROUND

The site has been entered into the Indiana Voluntary Remediation Program (VRP), which is the regulatory vehicle for brownfield re-development in the State of Indiana. Site assessment activities were initially performed at the referenced site during the fall of 2002. This assessment was performed in accordance with a site-specific *Sampling & Analysis Plan* (SAP) and *Multi-Site Quality Assurance Project Plan* (QAPP) (APT, June 2002) approved by the USEPA. A total of eight soil borings and five monitoring wells were advanced at the site, with attendant soil and groundwater sampling and analyses. Six of the soil borings and two of the monitoring wells were located in the northern portion of the site. The two remaining soil borings and two monitoring wells were located in the southeastern portion of the site in the vicinity of a suspected former underground storage tank (UST). The remaining monitoring well is located along the west-central property line. Continuous soil cores were collected while drilling for field screening using an organic vapor meter (OVM) and geologic characterization. The soil boring and monitoring well locations are shown in **Figure 1**.

Per the approved SAP, one soil sample was collected from each boring, either from the interval exhibiting the greatest degree of impact based on field screening of soil cores using an OVM, or if there was no evidence of impact based on field screening, from just above the capillary fringe of the saturated zone. No soil samples were collected from any of the monitoring wells, except MW-3. In MW-3 a single soil sample was collected from a depth of 8-9.5 feet below the ground surface, based on field observations of impact. All soil samples except the sample from monitoring well boring MW-3 were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), priority pollutant list (PPL) metals, and polychlorinated biphenyls (PCBs). The soil sample from MW-3 was analyzed for VOCs, SVOC, and PPL metals.

One groundwater sample was collected from each monitoring well. Additionally, groundwater screening samples were collected from five of the soil borings, four of the northern borings and one of the southeastern borings. All groundwater samples were analyzed for VOCs, SVOCs, and PPL metals.

The results of the Phase II Environmental Assessment (EA) indicate that groundwater impacts exist at two areas of the site, with constituent concentrations exceeding VRP Tier II Non-Residential criteria in both areas. No significant soil impacts were discovered. The analytical results are presented in **Tables 1** and **2**, and **Figure 2**.

In the northern portion of the site, primarily petroleum hydrocarbon constituents impact groundwater, with benzene being the only constituent having concentrations above VRP Tier II

Non-Residential criteria. Benzene concentrations in groundwater range from 21µg/L to 2,700 µg/L based on groundwater samples collected from four soil borings (groundwater screening samples) and two monitoring wells. The VRP Tier II cleanup criterion for benzene in a Non-Residential scenario is 98.6 µg/L. The extent of impact has not yet been defined (see **Figure 2**).

Additional VOCs, SVOCs, and metals were detected in groundwater samples collected from soil borings SB-4 through SB-7 and monitoring wells MW-3 and MW-5. Several of these constituents were detected at concentrations exceeding VRP Tier II Residential cleanup criteria, including benzene, ethylbenzene, toluene, cis-1,2 dichloroethylene (C-1,2 DCE), and lead.

In the southeast quadrant of the site, primarily halogenated hydrocarbons impact groundwater, with vinyl chloride (VC) being the only constituent of concern having concentrations above VRP Tier II cleanup criteria. VC was detected at a concentration of 170 µg/L in the sample collected from monitoring well MW-4. The VRP Tier II The VRP Tier II cleanup criterion for VC in a Non-Residential scenario is 2 µg/L. The extent of impact has not yet been defined (see **Figure 2**).

Additional VOCs and metals were detected in groundwater samples collected from soil boring SB-2 and monitoring wells MW-1 and MW-4. Two of these constituents, trichloroethene (110 µg/L in SB-2) and C-1,2 DCE (75 µg/L in MW-4) were detected at concentrations exceeding VRP Tier II Residential cleanup criteria.

Groundwater flow was toward the northeast with a gradient of 0.0002 ft/ft on September 3, 2002 and toward the northwest at a gradient of approximately 0.0006 on October 24, 2002. A potentiometric map for October 24, 2002 is shown in **Figure 3**. The relative flatness of the gradient likely accounts for the variation in groundwater flow vectors, although the generally northward direction is consistent with regional trends.

RATIONALE FOR PROPOSED WORK SCOPE

The Indiana Department of Environmental Management (IDEM) typically requires that the extent of impact be delineated to the perimeter where constituent concentrations approach or meet unrestricted use criteria (*i.e.*, Residential criteria in the VRP). This has not yet been accomplished at the former Schmock Oil site. Monitoring wells constructed to published IDEM specifications must be used to delineate groundwater impacts, although monitoring wells may be supplemented by groundwater screening sampling conducted in soil borings or temporary well points.

In the northern portion of the site, benzene concentrations exceed VRP Tier II Non-Residential criteria. Benzene impacts have been defined to Non-Residential criteria to the east based on groundwater sampling in monitoring well MW-3 and soil boring SB-6. However, benzene concentrations in both of these sampling points (87 µg/L in MW-3 and 21 µg/L in SB-6) are above the VRP Tier II Residential criteria for benzene (5 µg/L). Since the area of impact extends to near the downgradient property boundaries (*i.e.* north and east), additional investigation is warranted downgradient of these points to evaluate the risk of off-site exposure. Benzene, ethylbenzene, toluene, C-1,2 DCE, and lead may also be present off-site at concentrations exceeding VRP Tier II

all gradient constituents

Residential criteria, which is the default for off-site properties. To the north, west, and south of the impacted area, the benzene impact has not even been defined to VRP Tier II Non-Residential criteria.

In order to meet IDEM requirements for impact delineation, three additional monitoring wells are warranted in the northern portion of the site. The three monitoring wells will be supplemented by groundwater screening conducted using a Geoprobe (or similar) to fill data gaps between monitoring wells. A total of three soil borings are proposed. Since no source areas have been identified to date for the observed petroleum impacts in the northern portion of the site, the soil borings will also be used to evaluate the vadose zone soil conditions.

In the southeast quadrant of the site, vinyl chloride was detected at a concentration above its VRP Tier II Non-Residential criterion. This impact has not yet been defined to Non-Residential criteria to the west, north, or east. Since the area of impact is near the eastern property boundary, which was downgradient of the impact area in September 2002, additional investigation is warranted to evaluate the risk of off-site exposure. C-1,2 DCE and trichloroethene (TCE) may also be present off-site at concentrations exceeding VRP Tier II Residential criteria, which is the default for off-site properties.

In order to meet IDEM requirements for impact delineation, two additional monitoring wells are recommended in the southeastern portion of the site. The two monitoring wells will be supplemented by groundwater screening conducted using a Geoprobe (or similar) to fill data gaps between monitoring wells. A total of three soil borings for groundwater are proposed. Since no source areas have been identified to date for the observed impacts in the southeastern portion of the site, the soil borings will also be used to evaluate the vadose zone soil conditions.

PROPOSED SCOPE OF WORK

The proposed work scope includes the following elements:

1. Preparation of this addendum to the Sampling and Analysis Plan (SAP) to reflect the additional site assessment activities, including a rationale for the proposed work;
2. A supplemental assessment to further delineate the extent of groundwater impact and attempt to locate source areas.
3. Community outreach and agency reporting activities.

These activities are described in more detail below.

Task 1

APT is preparing this addendum to the existing SAP to reflect the additional site assessment activities, including the rationale for the proposed work. This addendum is being submitted to the USEPA for approval.

Task 2

In order to further characterize the site-wide groundwater quality with regard to likely source areas and extent of impact, APT proposes a supplemental assessment consisting of five new monitoring wells and six soil borings for groundwater characterization. The monitoring wells are proposed at locations that will provide a valid framework within which to adequately assess groundwater quality at the site, with the Geoprobe borings providing supplemental information to fill data gaps between monitoring wells. The IDEM considers data derived from groundwater samples collected from Geoprobe borings or temporary well points to be valid only for groundwater screening purposes.

Three of the monitoring wells will be installed in the northern portion of the site, and two monitoring wells will be installed in the southeast portion of the site. The soil borings will be advanced in each of the two areas of impact, the northwest and southeast portions of the site. The locations of the proposed soil borings and monitoring wells are shown in **Figure 4**. This work scope is intended to yield groundwater data for: delineating the extent of impact; determining whether the observed groundwater impacts have an off-site source; and developing remediation costs. This in turn will allow the MCEDC to make valid planning decisions. These activities will be conducted consistent with the existing USEPA-approved QAPP, Health and Safety Plan (HASP), and SAP as amended by this addendum.

The specific activities that will be conducted are:

- Advancing three soil borings at selected locations at each of the two areas of impact at the site (six borings total), with continuous coring of the subsurface for geologic characterization and field screening of volatiles using a portable OVM;
- Collecting one groundwater screening sample from each soil boring for laboratory analysis;
- Analyzing the groundwater samples for volatile organic compounds (VOCs);
- Installing five new monitoring wells, three wells in the northern portion of the site and two wells in the southeastern quadrant of the site, with continuous coring of the subsurface for geologic characterization and field screening of volatiles using a portable OVM;
- Collecting groundwater samples from the five newly-installed monitoring wells and the five existing wells for laboratory analysis;
- Analyzing the groundwater samples for VOCs;
- Possible collection of subsurface soil samples if warranted by field screening of soil cores, with attendant analysis for VOCs and SVOCs;
- Surveying the elevation of each new monitoring well, relative to the existing benchmark;
- Preparing a geologic log for each new soil boring and monitoring well, which will include the geological characterization data and unusual observations (e.g., staining, odors);

- Collecting groundwater elevation measurements using an electronic water level indicator; and
- Preparing a groundwater potentiometric map defining the groundwater flow direction and gradient.

Soil Boring Drilling and Sampling Procedure

Soil borings will be advanced to a depth of approximately three feet into the zone of saturation using a Geoprobe (or similar) drilling unit. A soil boring depth of 14 feet below the ground surface (BGS) is assumed for the purposes of preparing this proposal, but the actual depth may vary based on site conditions. A depth of 14 feet BGS is based on APT's experience in the area. Sampling equipment will be decontaminated between borings.

Continuous soil cores will be retrieved from the soil borings to geologically and chemically characterize the soils and examine the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

- Push-probe equipment will be set up and the decontaminated macro-core sampler advanced to the desired depth using the hydraulic ram and hammer; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the soil sample contained within the acetate liner is removed from the sampler for inspection.
- The soil core will be accessed by cutting open the acetate liner using a decontaminated liner cutter for direct observation of the soil sample.
- The soil core will then be field screened for VOCs using an organic vapor meter (OVM) equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
- If warranted by gross indications of impact, a soil sample will be collected for possible laboratory analysis.
- The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
- The above process will be repeated until the total depth of the boring is reached.
- A groundwater screening sample will be collected from the boring;
- Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.
- Soil coring equipment will be decontaminated between soil cores using non-phosphate detergent and distilled water.

One groundwater screening sample will be retained from each soil boring for laboratory analysis. Additionally, soil samples may be collected for laboratory analysis if there is gross evidence of

impact based on PID or visual observations. The samples will be placed into laboratory-supplied containers and shipped to the laboratory following standard chain-of-custody procedures. Each of the groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260. Any collected soil samples will be analyzed for VOCs using Method 5035/8260 and SVOCs using SW-846 Method 8270. The constituents of concern (COCs) were identified based on the results of the prior investigation at the site.

Analyses will be performed in accordance with investigative sampling DQOs (i.e., VRP DQO Level III). QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinseate blank per day, one methanol blank per sample shipment, and one MS/MSD per 20 investigative samples. The sampling and analysis program is summarized in **Table 3**.

Monitoring Well Installation and Sampling Procedure

Monitoring well borings will be advanced to a depth of approximately three to five feet into the zone of saturation using a mobile drilling rig equipped with hollow stem augers. A total depth of 15 feet BGS for each monitoring well is assumed for the purposes of preparing this proposal, but the actual depth may vary based on site conditions. A depth of 15 feet BGS is based on APT's experience in the area. Sampling equipment and augers will be decontaminated between borings.

Continuous soil cores will be retrieved from the monitoring well borings to geologically and chemically characterize the soils and observe the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

- The drilling equipment will be set up and a decontaminated two-foot long, 2-inch diameter split-spoon sampler will be advanced ahead of the auger bit in accordance with ASTM Standard Method D1586-84; each sample core will be taken with a vertical orientation. After being advanced to the desired sampling depth, the sampler will be withdrawn and the soil core removed for inspection.
- The soil core will be accessed by splitting the sampler in half for direct observation of the soil sample.
- The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
- If warranted by gross indications of impact, a soil sample will be collected for laboratory analysis, at the discretion of the MCEDC.
- The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
- The above process will be repeated until the total depth of the boring is reached.

- Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.
- Soil sampling equipment will be decontaminated between soil cores using non-phosphate detergent and distilled water.

If soil samples are collected, the IDEM's DQOs for investigative sampling will be followed. QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinseate blank per day, one methanol blank per sample shipment, and one MS/MSD per 20 investigative samples. The sampling and analysis program is summarized in **Table 3**.

The following procedure will be followed when installing monitoring wells and collecting groundwater samples:

- The monitoring well borehole will be advanced to an estimated depth of 15 feet BGS using a mobile drilling rig equipped with 4-1/4 inch hollow stem augers. The wellbore will be terminated upon reaching a depth sufficient to install a five-foot long screen across a saturated interval of the uppermost water bearing zone. Continuous coring will be performed using a two-foot long split-sampling device driven ahead of the auger chain in order to characterize the subsurface geology. These cores will also be field screened for volatile compounds using an OVM;
- The monitoring well will be installed inside of the auger chain using a five-foot long slotted screen and five-foot long sections of flush-threaded 2-inch PVC. The monitoring well will be equipped with a flush mount casing, unless it is located in an area of no vehicular traffic where the monitoring well will be of stick-up design;
- A concrete pad will be installed around the monitoring well and will be sloped away from the well casing to deflect surface water away from the well;
- The newly installed monitoring well will be surveyed to a vertical accuracy of 0.01 feet and a horizontal accuracy of 1.0 feet, relative to a permanent on-site benchmark;
- Prior to collecting a groundwater sample from a monitoring well, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the boring and multiplying the difference by 0.163 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. Up to two additional well casing volumes of water, following the initial three well volumes, will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
  - pH: ± 0.1 standard units;
  - temperature: ± 0.5°C; and

- specific conductivity: ± 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a designated 55-gallon drum for disposal at a later date;

- A dedicated polyethylene bailer equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater;
- The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass sample containers;
- The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice.

All monitoring wells will be installed per the well construction criteria described below:

- The filter pack will not extend more than two feet above the top of the well screen;
- An annular seal of bentonite shall be installed above the filter pack and will have a minimum thickness of two feet;
- A annular seal of grout shall be installed above the bentonite seal (if the bentonite does not extend upward through the remaining annular space to the base of the concrete surface seal) and will extend upward to the base of the concrete surface seal;
- A concrete surface seal will be installed and will be anchored to soils below the regional frost line to protect the well from damage due to frost heave;
- The filter pack, annular seal, and grouting materials shall be installed through the center of the hollow-stem auger chain as the drill string is withdrawn;
- Filter pack materials and bentonite chips or pellets will be introduced gradually and uniformly to the annular space inside of the hollow-stem auger chain and around the well casing to prevent bridging of the materials during placement. The auger chain will be gradually removed from the open borehole in approximately one-foot lifts as the material is placed, allowing the material to gradually spill out of the bottom of the auger chain into the annular space between the subsurface soils and the well casing and thus further prevent bridging; and
- Any grouting will occur under pressure with the annulus sealed from the bottom up via the tremie method.

All monitoring well casings will be surveyed to a common permanent on-site benchmark, to a vertical accuracy of 0.01 feet. A well construction diagram will be completed for each monitoring well, providing pertinent information regarding the well.

One groundwater sample will be collected from each newly installed and pre-existing monitoring well for laboratory analysis. The samples will be placed into laboratory-supplied containers and

shipped to the laboratory following standard chain-of-custody procedures. Each of the samples will be analyzed for VOCs using SW-846 Method 8260. The COCs were identified based on the results of the prior investigation at the site.

Analyses will be performed in accordance with investigative sampling DQOs (i.e., VRP DQO Level III). QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinseate blank per day, one trip blank per sample shipment, and one MS/MSD per 20 investigative samples. The sampling and analysis program is summarized in **Table 3**.

Task 3

APT anticipates being expected to attend a meeting of the Redevelopment Advisory Committee, a citizen advisory committee appointed to assist with the exchange of project information to the general public, and provide written information to City staff to be included in meeting summaries, working papers, and reports to the IDEM .

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TABLES

Table 1	Soil Analytical Results
Table 2	Groundwater Analytical Results
Table 3	Sample Container, Preservation, and Holding Time Requirements

TABLE 1
SOIL ANALYTICAL RESULTS
Addendum to SAP - Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1,2]	VRP Tier II Non-Residential Cleanup Objective	Soil Boring Samples								
		SB-1;5.5-6'	SB-2;5.5-6'	SB-3;6-7'	SB-4;8-10'	SB-5;7.5-8'	SB-6;9.5-10'	SB-7;8-9'	SB-8;8-9'	MW-3;8-9.5'
VOCs										
Benzene	4.77	ND (0.0035)[3]	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	**0.880**	ND (0.0025)	ND (0.069)
n-Butylbenzene	NL[4]	ND (0.0035)	ND (0.0049)	**0.840**	ND (0.240)	ND (0.250)	ND (0.0025)	**6.60**	ND (0.0025)	**0.900**
tert-Butylbenzene	NL	ND (0.0035)	ND (0.0049)	ND (0.230)	**0.360**	**0.410**	ND (0.0025)	**0.790**	ND (0.0025)	**0.900**
Carbon disulfide	NL (82)	**9.60**	**2.60**	ND (0.230)	**0.650**	**0.490**	ND (0.049)	ND (0.500)	ND (0.0050)	ND (0.140)
Ethylbenzene	1,000	**0.960**	ND (0.0049)	**2.30**	**6.40**	**2.30**	ND (0.0025)	**3.50**	ND (0.0025)	ND (0.069)
Isopropylbenzene	NL	ND (0.0035)	ND (0.0049)	**0.570**	**2.30**	**0.740**	ND (0.0025)	**0.740**	ND (0.0025)	ND (0.069)
p-Isopropyltoluene	NL	ND (0.0035)	ND (0.0049)	ND (0.230)	**0.360**	**0.410**	ND (0.0025)	**0.790**	ND (0.0025)	ND (0.069)
Methylene chloride	NL (1.8)	ND (0.0035)	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	**0.330**	**0.0027**	ND (0.069)
Naphthalene	10,000	ND (0.0035)	ND (0.0049)	**6.00**	**19.0**	ND (0.250)	ND (0.0025)	**15.0**	ND (0.0025)	ND (0.069)
n-Propylbenzene	NL	ND (0.0035)	ND (0.0049)	**1.70**	**6.30**	**0.850**	ND (0.0025)	**2.10**	ND (0.0025)	ND (0.069)
Tetrachloroethene	8.01	ND (0.0035)	ND (0.0049)	ND (0.230)	ND (0.240)	ND (0.250)	ND (0.0025)	ND (0.250)	ND (0.0025)	**0.140**
Toluene	1,000	**0.0054**	ND (0.0049)	**3.40**	**6.90**	**0.280**	ND (0.0025)	**22.0**	ND (0.0025)	ND (0.069)
1,2,4-Trimethylbenzene	NL	ND (0.0035)	ND (0.0049)	**11.0**	**48.0**	**43.0**	ND (0.0025)	**62.0**	ND (0.0025)	ND (0.069)
1,3,5-Trimethylbenzene	NL	ND (0.0035)	ND (0.0049)	**0.590**	**2.30**	**0.740**	ND (0.0025)	**0.760**	ND (0.0025)	ND (0.069)
Vinyl chloride	0.13	**0.0037**	ND (0.0020)	ND (0.092)	ND (0.097)	ND (0.098)	ND (0.00099)	ND (0.099)	ND (0.0010)	ND (0.028)
m&p-Xylene	1,000	**1.70**	ND (0.0049)	**22.0**	**65.0**	**26.0**	ND (0.0025)	**130.0**	ND (0.0025)	ND (0.069)
o-Xylene	1,000	**0.013**	ND (0.0049)	**11.0**	**34.0**	**19.0**	ND (0.0025)	**65.0**	ND (0.0025)	ND (0.069)
SVOCs										
2-Methylnaphthalene	NL	ND (0.520)	ND (0.780)	**14.0**	**9.20**	ND (2.40)	ND (0.470)	**21.0**	ND (0.350)	ND (0.390)
Naphthalene	10,000	ND (0.520)	ND (0.780)	**11.0**	**3.30**	ND (2.40)	ND (0.470)	**13.0**	ND (0.350)	ND (0.390)
Phenanthrene	NL	ND (0.520)	ND (0.780)	ND (1.700)	ND (1.700)	ND (2.40)	ND (0.470)	ND (1.800)	ND (0.350)	**0.470**
Metals (Total)										
Arsenic	438	**5.21**	**20.0**	ND (2.05)	ND (1.78)	ND (1.83)	ND (1.92)	ND (1.90)	ND (1.91)	NA[5]
Cadmium	730	ND (2.75)	ND (4.56)	ND (2.05)	ND (1.78)	ND (1.83)	ND (1.92)	ND (1.90)	ND (1.91)	NA
Chromium	10,000	**6.69**	**14.0**	ND (2.05)	**3.49**	ND (1.83)	**7.18**	**1.93**	**5.52**	NA
Copper	NL (1,700)	**4.49**	**9.65**	ND (2.05)	ND (1.78)	ND (1.83)	**6.84**	**2.02**	ND (1.91)	NA
Lead	NL (230)	**3.83**	**6.37**	ND (2.05)	**3.57**	ND (1.83)	**30.6**	**11.20**	**4.93**	NA
Mercury	87.6	ND (1.57)	ND (2.37)	ND (1.04)	ND (1.05)	ND (1.10)	ND (1.11)	ND (1.09)	ND (1.05)	NA
Nickel	10,000	**7.23**	**22.6**	**2.24**	**2.09**	**1.86**	**2.97**	**2.02**	**2.23**	NA
Selenium	7,300	ND (2.75)	ND (4.56)	ND (2.05)	ND (1.78)	ND (1.83)	ND (1.92)	ND (1.90)	ND (1.91)	NA
Zinc	10,000	**14.1**	**33.8**	**11.3**	**9.86**	**17.8**	**36.5**	**10.0**	**12.4**	NA
PCBs	4.23	ND (0.026)	ND (0.039)	ND (0.017)	ND (0.017)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.017)	NA

Notes:

1. Results presented in mg/kg (ppm).
2. Individual compounds listed only if detected in at least one sample.
3. ND (#) Not present above laboratory detection limit, given in parentheses.
4. NL (#) Not listed in VRP Tier II table (Cleanup objective in parentheses from RISC Default Closure Table for Commercial/Industrial sites, if listed).
5. NA The sample was not analyzed for the constituent.

TABLE 2 (1 of 2)
GROUNDWATER ANALYTICAL RESULTS
Addendum to SAP - Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1,2]	VRP Tier II Non-Residential Cleanup Objective	GW-1;082602	GW-2;082602	GW-3;082702	GW-4;082702	GW-5;082802
VOCs						
Acetone	10,220	ND (50)[3]	ND (50)	ND (2,500)	ND (1,000)	ND (50)
Benzene	98.6	ND (5)	21	**690**[4]	**2,500**	**2,600**
sec-Butylbenzene	NL	ND (5)	ND (5)	ND (250)	ND (100)	ND (5)
2-Butanone	NL (61,000)	ND (10)	ND (10)	ND (500)	ND (200)	ND (10)
n-Butylbenzene	NL	ND (5)	ND (5)	ND (250)	ND (100)	**8.4**
Carbon disulfide	NL (10,000)[5]	**18**	ND (5)	ND (250)	ND (100)	ND (5)
cis-1,2-Dichloroethene	1,022	**7.8**	ND (5)	ND (250)	ND (100)	ND (5)
1,1-Dichloroethane	10,220	ND (5)	ND (5)	ND (250)	ND (100)	ND (5)
Ethylbenzene	10,220	ND (5)	**100**	**2,300**	**2,000**	**450**
Isopropylbenzene	NL	ND (5)	ND (5)	ND (250)	ND (100)	**24**
p-Isopropyltoluene	NL	NND (5)	ND (5)	ND (250)	ND (100)	ND (5)
4-Methyl-2-pentanone	5,110	ND (10)	ND (10)	ND (500)	**510**	ND (10)
Methyl-tert-butyl-ether	NL (720)	ND (5)	ND (5)	ND (250)	ND (100)	ND (5)
Naphthalene	4,088	ND (5)	ND (5)	ND (250)	**560**	**320**
n-Propylbenzene	NL	ND (5)	ND (5)	ND (250)	**130**	**46**
Toluene	20,440	ND (5)	**130**	**10,000**	**17,000**	**10,000**
1,2,3-Trichlorobenzene	NL	ND (5)	ND (5)	ND (250)	ND (100)	ND (5)
1,2,4 Trichlorobenzene	1,022	ND (5)	ND (5)	ND (250)	ND (100)	ND (5)
1,1,1-Trichloroethane	9,198	ND (5)	ND (5)	ND (250)	ND (100)	ND (5)
Trichloroethene	260	**110**	ND (5)	ND (250)	ND (100)	ND (5)
1,2,4-Trimethylbenzene	NL	ND (5)	**81**	**2,000**	**1,700**	**970**
1,3,5-Trimethylbenzene	NL	ND (5)	**32**	**300**	**370**	**23**
Vinyl acetate	NL (100,000)	ND (10)	ND (10)	ND (500)	ND (200)	**15**
Vinyl chloride	10	ND (2)	ND (2)	ND (100)	ND (40)	ND (2)
m&p-Xylene	204,400	ND (5)	**210**	**6,600**	**7,700**	**4,200**
o-Xylene	204,400	ND (5)	**110**	**3,200**	**3,800**	**2,600**
Xylene (Total)	204,400	ND (10)	**320**	**9,700**	**11,000**	**6,900**
SVOCs						
Diethylphthalate	81,760	ND (10)	ND (10)	ND (11)	ND (10)	**11**
2,4-Dimethylphenol	NL (2,000)	ND (10)	ND (10)	**53**	**86**	**29**
2-Methylnaphthalene	NL	ND (10)	ND (10)	**63**	**130**	**44**
2-Methylphenol	5,110	ND (10)	ND (10)	**60**	**48**	**15**
3&4-Methylphenol	5,110	ND (20)	ND (20)	**81**	**120**	**36**
Naphthalene	4,088	ND (5)	**6.4**	**360**	**600**	**190**
Phenol	12,264	ND (10)	ND (10)	ND (11)	ND (10)	**17**
Metals (Total)						
Antimony	60	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)
Arsenic	50	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Beryllium	5	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Cadmium	51.1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	102,200	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Copper	NL (3,800)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)
Lead	NL (42)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Mercury	6.1	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Nickel	2,044	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Selenium	511	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Silver	511	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Thallium	NL (9.2)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Zinc	30,660	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)

Notes:

1. Results presented in µg/L.
2. Individual compounds listed only if detected in at least one sample
3. ND (#) Not present above laboratory detection limit, given in parentheses.
4. Numbers in bold and shaded exceed VRP Tier II non-residential cleanup goal (VRP Resource Guide, July 1996).
5. NL (#) Not listed in VRP Tier II table (Cleanup objective in parentheses from RISC Default Closure Table for Commercial/Industrial sites, if listed).

TABLE 2 (2 of 2)
GROUNDWATER ANALYTICAL RESULTS
Addendum to SAP - Former Schmock Oil Facility
Michigan City, Indiana

Constituent[1,2]	VRP Tier II Non-Residential Cleanup Objective	MW-1;090302	MW-2;090302	MW-3;090302	MW-4;110402	MW-5:102402
VOCs						
Acetone	10,220	ND (50)[3]	ND (50)	ND (50)	ND (50)	**190**
Benzene	98.6	ND (5)	ND (5)	**87**	ND (5)	**2,700**[4]
n-Butylbenzene	NL	ND (5)	ND (5)	ND (5)	ND (5)	**33**
sec-Butylbenzene	NL	ND (5)	ND (5)	ND (5)	ND (5)	**12**
2-Butanone	NL (61,000)	ND (10)	ND (10)	ND (10)	ND (10)	**98**
Carbon disulfide	NL (10,000)[5]	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
cis-1,2-Dichloroethene	1,022	ND (5)	ND (5)	ND (5)	**75**	ND (5)
1,1-Dichloroethane	10,220	ND (5)	ND (5)	ND (5)	**24**	ND (5)
Ethylbenzene	10,220	ND (5)	ND (5)	**47**	ND (5)	**1,400**
Isopropylbenzene	NL	ND (5)	ND (5)	ND (5)	ND (5)	**69**
p-Isopropyltoluene	NL	ND (5)	ND (5)	ND (5)	ND (5)	**12**
4-Methyl-2-pentanone	5,110	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Methyl-tert-butyl-ether	NL (720)	ND (5)	ND (5)	ND (5)	ND (5)	**9.2**
Naphthalene	4,088	ND (5)	ND (5)	**18**	ND (5)	**330**
n-Propylbenzene	NL	ND (5)	ND (5)	ND (5)	ND (5)	**160**
Toluene	20,440	ND (5)	ND (5)	**170**	ND (5)	**12,000**
1,2,3-Trichlorobenzene	NL	ND (5)	ND (5)	ND (5)	ND (5)	**5.4**
1,2,4 Trichlorobenzene	1,022	ND (5)	ND (5)	ND (5)	ND (5)	**5.1**
1,1,1-Trichloroethane	9,198	ND (5)	ND (5)	ND (5)	ND (5)	**5.4**
Trichloroethene	260	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
1,2,4-Trimethylbenzene	NL	ND (5)	ND (5)	**72**	ND (5)	**1,500**
1,3,5-Trimethylbenzene	NL	ND (5)	ND (5)	**27**	ND (5)	**430**
Vinyl acetate	NL (100,000)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Vinyl chloride	10	ND (2)	ND (2)	ND (2)	**170**	ND (2)
m&p-Xylene	204,400	ND (5)	ND (5)	**150**	**7.5**	**5,200**
o-Xylene	204,400	ND (5)	ND (5)	**140**	ND (5)	**2,700**
Xylene (Total)	204,400	ND (10)	ND (10)	**290**	ND (10)	**7,800**
SVOCs						
Diethylphthalate	81,760	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)
2,4-Dimethylphenol	NL (2,000)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)
2-Methylnaphthalene	NL	ND (10)	ND (10)	ND (10)	ND (10)	**60**
2-Methylphenol	5,110	ND (10)	ND (10)	ND (10)	ND (10)	**62**
3&4-Methylphenol	5,110	ND (20)	ND (20)	ND (20)	ND (20)	ND (100)
Naphthalene	4,088	ND (5)	ND (5)	**7.3**	ND (5)	**260**
Phenol	12,264	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)
Metals (Total)						
Antimony	60	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)
Arsenic	50	**11.7**	ND (10)	ND (10)	**24.6**	ND (10)
Beryllium	5	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Cadmium	51.1	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Chromium	102,200	ND (10)	ND (10)	**52.3**	ND (10)	**19.9**
Copper	NL (3,800)	**20.6**	ND (20)	**52.4**	ND (20)	**31.2**
Lead	NL (42)	ND (10)	ND (10)	**36.1**	**14**	**20.5**
Mercury	6.1	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Nickel	2,044	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Selenium	511	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Silver	511	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Thallium	NL (9.2)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Zinc	30,660	ND (50)	ND (50)	**186**	**57.2**	**79.9**

Notes:

1. Results presented in µg/L.
2. Individual compounds listed only if detected in at least one sample.
3. ND (#) Not present above laboratory detection limit, given in parentheses.
4. Numbers in bold and shaded exceed VRP Tier II non-residential cleanup goal (VRP Resource Guide, July 1996).
5. NL (#) Not listed in VRP Tier II table (Cleanup objective in parentheses from RISC Default Closure Table for Commercial/Industrial sites, if listed).

TABLE 3
SAMPLE CONTAINER, PRESERVATION, AND HOLDING TIME REQUIREMENTS
Addendum to SAP - Former Schmock Oil Facility
Michigan City, Indiana

GROUNDWATER SAMPLING

Sample Name	Sample Matrix[1]	Number of Samples[4]	Sample Type	Containers & Preservation	Analytical Parameters[2]	Hold Times	Analytical Methods
GW-#;*[date]*[3]	Groundwater	6	Screening (Geoprobe)	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
MW-#;*[date]*	Groundwater	10	Investigative (Monitoring well)	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
DUP-#;*[date]*	Groundwater	1	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
MS/MSD-#;*[date]*	Groundwater	1	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
ER;*[date]*	Aqueous	1	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
TB;*[date]*	Aqueous	1	Trip Blank (Aqueous samples only)	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260

SOIL SAMPLING (CONTINGENT ON FIELD SCREENING)

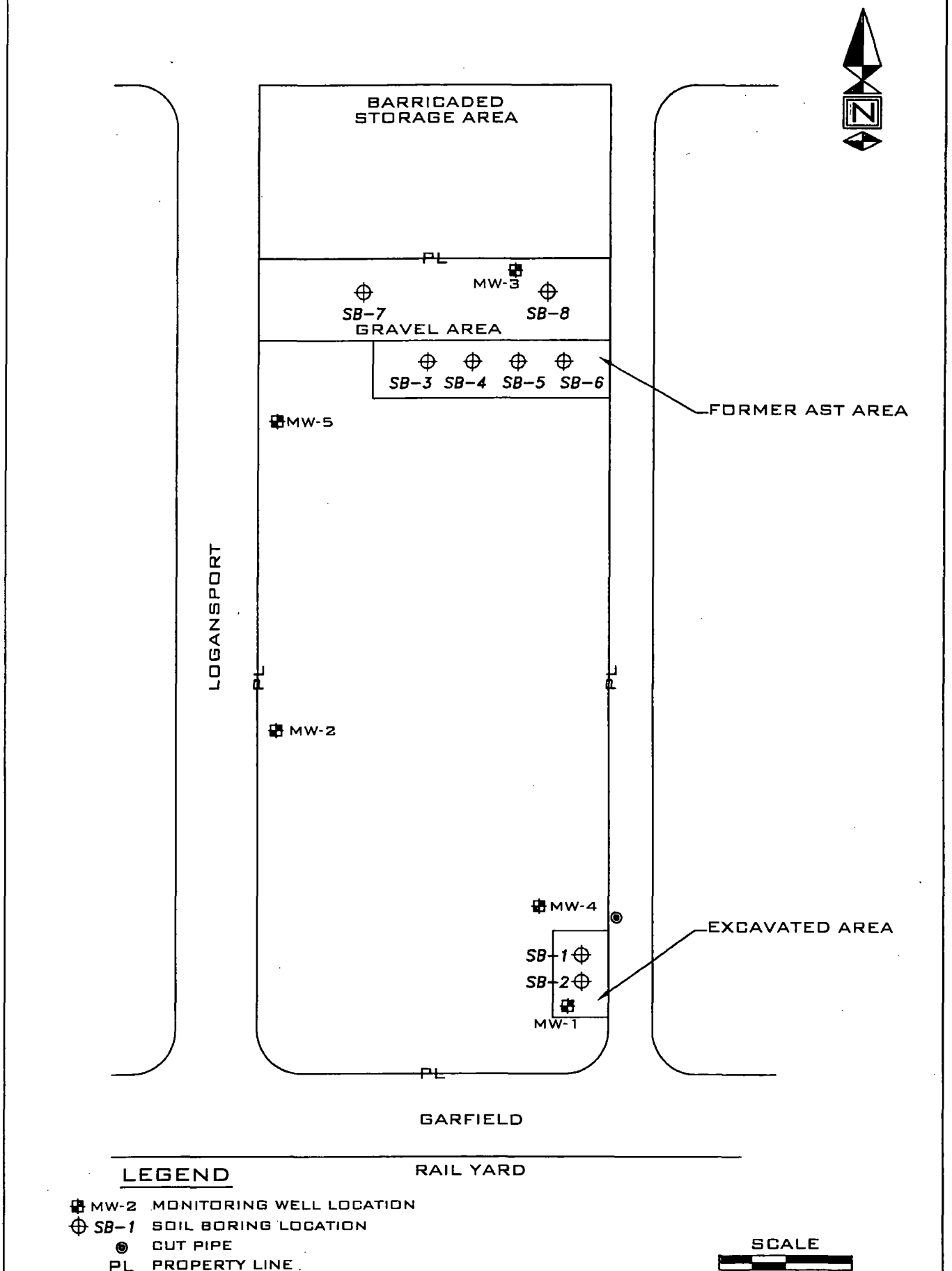
Sample Name	Sample Matrix	Number of Samples	Sample Type	Containers & Preservation	Analytical Parameters	Hold Times	Analytical Methods
SB-#;*[depth]*	Soil	None Anticipated	Investigative	1, 40-mL Vial with Methanol 2, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
DUP-#;*[depth]*	Soil	1 per 10 Investigative Soil Samples	Duplicate	1, 40-mL Vial with Methanol 2, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
MS/MSD-SB#;*[depth]*	Soil	1 per 20 Investigative Soil Samples	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 2, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
ER;*[date]*	Aqueous	1 per Day of Investigative Soil Samples	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
MB;*[date]*	Methanol	1 per Day of Investigative Soil Samples	Methanol Blank (Soil samples only)	1, 40-mL Vial (Methanol)	VOCs	14 days	IN-5035M Preservation SW-846 Method 8260

Notes:

1. The soil samples to be collected by APT from soil borings advanced by Top Flight Environmental Drilling Services.
2. Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) using the stated analytical method.
3. Groundwater samples (GW-#;*[date]*) will be collected from the boreholes.
4. Number of samples is based on one sampling event.

FIGURES

Figure1	Soil Boring and Monitoring Well Locations
Figure 2	Groundwater Analytical Data
Figure 3	Groundwater Potentiometric Map October 24, 2002
Figure 4	Proposed Soil Boring and Monitoring Well Locations



LEGEND

- MW-2 MONITORING WELL LOCATION
- SB-1 SOIL BORING LOCATION
- CUT PIPE
- PL PROPERTY LINE

SCALE

0 25 50 FEET

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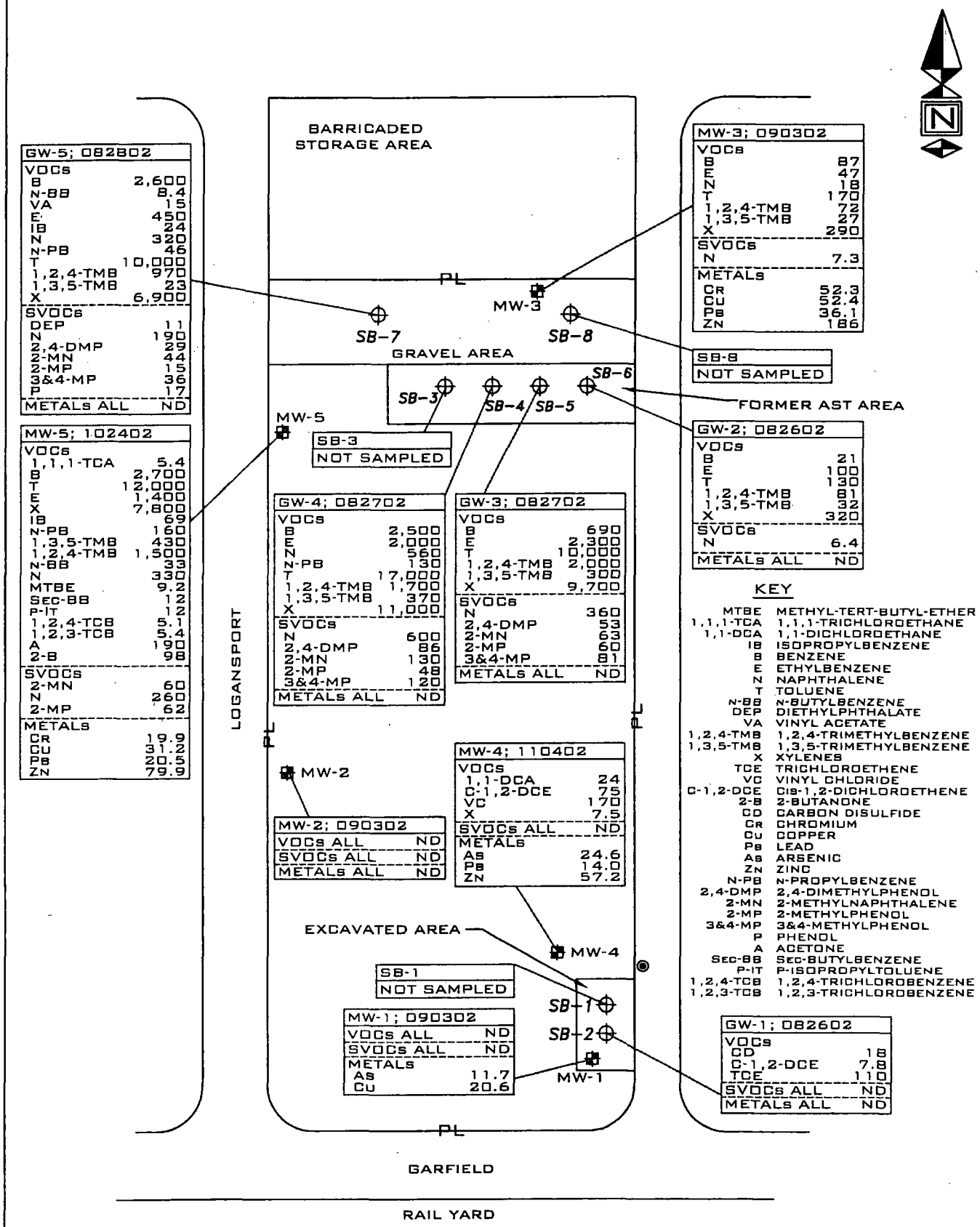
TASK 7	Schmuck Oil Michigan City, Indiana
DWG:333.7.F1.SBMW	Figure 1
DATE: 1-16-03	PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana
DWG BY: AB	SOIL BORING AND MONITORING WELL LOCATIONS



NOTE: ALL CONCENTRATIONS ARE IN MICROGRAMS PER LITER.

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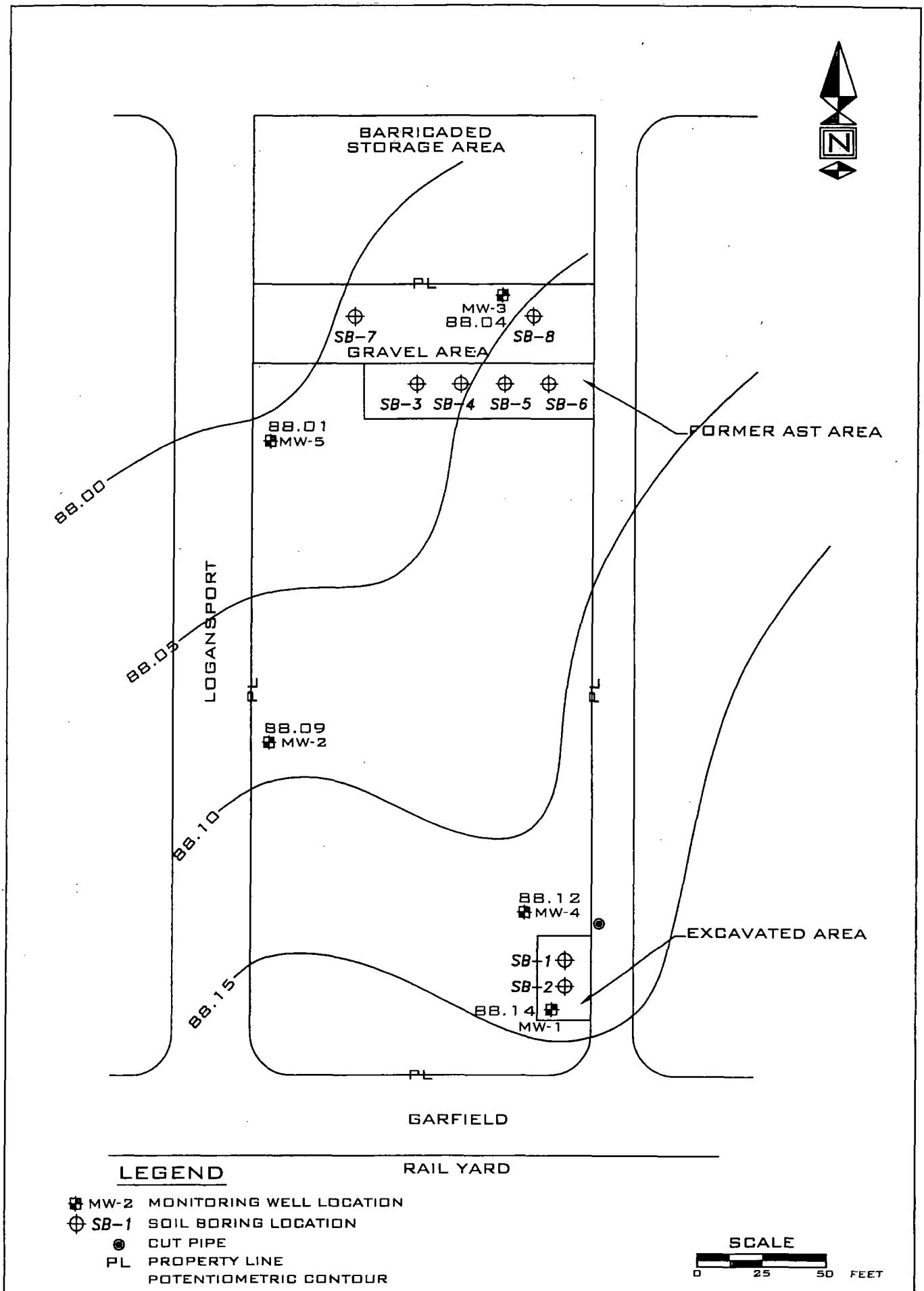
TASK 7	Schmuck Oil Michigan City, Indiana	Figure 2
DWG:333.7.F2.AN	PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	GROUNDWATER ANALYTICAL DATA
DATE: 1-16-03		
DWG BY: AB		



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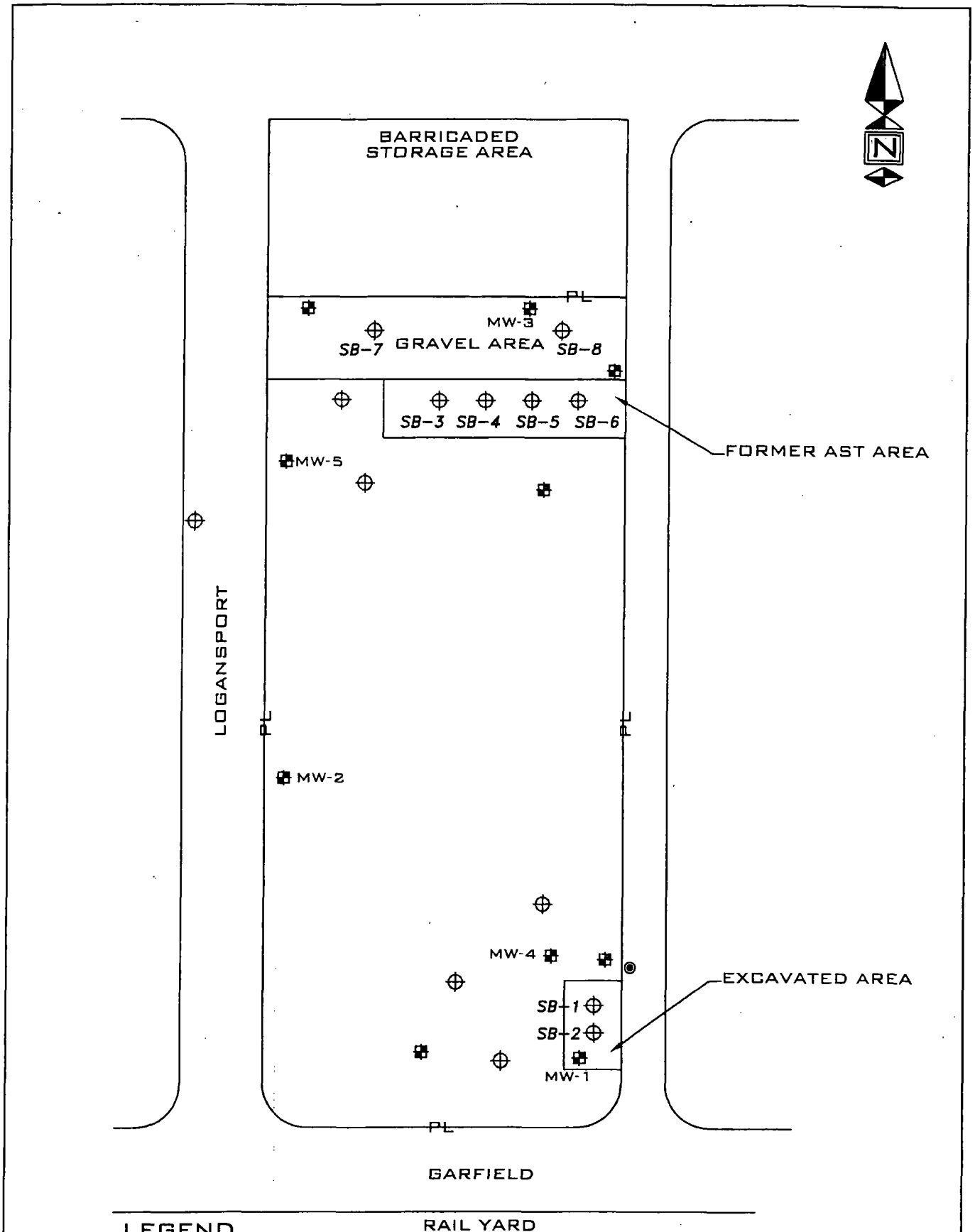

LEGEND

- MW-2 MONITORING WELL LOCATION
- SB-1 SOIL BORING LOCATION
- CUT PIPE
- PL PROPERTY LINE
- PROPOSED MONITORING WELL
- PROPOSED SOIL BORING

SCALE

0 25 50 FEET

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TASK 7	Schrock Oil Michigan City, Indiana	Figure 4
DWG:333.7.F4.PSBMW	PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	PROPOSED SOIL BORING AND MONITORING WELL LOCATIONS
DATE: 1-16-03		
DWG BY: AB		

Jan Pels
09/19/02 08:55 AM

To: "John E. Klanke" <jeklanke@aptlimited.com>
cc: Diane Spencer/R5/USEPA/US@EPA
Subject: Re: SOP for Royal Metals project, Michigan City, IN

John:

The attached SOP looks fine. We will insert a copy of this into the QAPP. This SOP should be transmitted to all who have the QAPP, along with a brief memo to amend the sampling plan to incorporate this revised sampling method.

Please call if you have any questions on this.

Thanks!
Jan
(312) 886-3009
"John E. Klanke" <jeklanke@aptlimited.com>

"John E. Klanke" <jeklanke@aptlimited.com>
09/18/02 05:11 PM

To: Jan Pels/R5/USEPA/US@EPA
cc:
Subject: SOP for Royal Metals project, Michigan City, IN

Jan,

I looked up the SOP for soil sampling in the QAPP, and lo and behold, we had already included a procedure for hand augering (Section 2.1.3 in SOP 1). However, this procedure does not describe what we're intending to do, which is to drive a split-spoon sampler or Geoprobe sampler using a jackhammer or equivalent. Therefore, I have inserted a new Section 2.1.3 Manual Push Probe to SOP 1, after the split-spoon auger technique and before the hand auger technique. The revised SOP is attached for your review. Please let me know what you think of it.

John SOP-1rev - Soil Sampling.d

SOP-1: SOIL SAMPLING

1.01 PURPOSE

Soil sampling is used to characterize subsurface soil strata. Observations are made pertaining to soil type, texture, consistency, color, odor, moisture content, impurities, and inclusions (e.g., root fragments, fossils). During soil sampling, a geologic log is compiled to aid in the development of geologic cross-section(s) of the site. Proper soil characterization is an important aspect to understanding possible contaminant migration pathways.

1.02 PROCEDURE

The following subsections describe the standard operating procedure for the collection of soil samples using various techniques for collection and preparation.

2.1 SAMPLE COLLECTION TECHNIQUES

Soil samples may be collected for laboratory analysis based on one or more of the following criteria:

1. Known and/or suspected release area(s)
2. Visual identification of soil staining
3. Concentrated chemical odors
4. Highest PID level reading

Soil samples will be placed into the appropriate containers (cleaned to EPA specifications) in the order of selected analyses as described below:

1. Volatile Organic Compounds
2. Semi-Volatile Organic Compounds
3. Polychlorinated Biphenyls and Pesticides
4. Cyanides
5. Metals
6. Other Inorganic Parameters

Soil sample collected for parameters other than VOCs will be homogenized in a stainless-steel bowl with a stainless-steel spoon prior to placement in appropriate sample containers. Debris such as small sticks, pebbles, etc. will be removed and discarded prior to homogenizing. Following used of the stainless-steel bowl and spoon, this equipment will be decontaminated in accordance with APT SOP-5.

Soil samples that will be analyzed for VOCs will be analyzed using Method IN5035 in conjunction with Method 8260. One of the following procedures will be followed when collecting soil samples for VOC analysis.

Use of Coring Device (Option 1)

In this option, a small airtight coring device (such as the *En Core*™ sampler) is used to collect a 10 gram (g) aliquot of soil directly from the desired interval of soil. The sample should be collected from a freshly-exposed soil surface to reduce the risk of constituent loss through volatilization. The device collects the sample directly into the storage chamber, filling it completely with zero headspace. The storage chamber is then capped, forming an airtight seal and cooled to approximately 4° C. The intact samples are then transported to the laboratory in sealed devices using standard chain-of-custody procedures. The following sampling steps should be followed when using this method:

1. Remove the sampler and cap from foil an attach the reusable T-handle to the sampler body;
2. Quickly push the sampler into a freshly exposed surface of soil until the sampler is full;
3. Use clean paper toweling to quickly wipe the sampler head so that the cap can be tightly attached;
4. Push the cap on with a twisting motion to firmly attach;
5. Detach the T-handle from the capped sampler;
6. Fill out the label and attach to the sampler; and
7. If a dry weight sample is being collected, collect using a properly decontaminated spatula. Fill the container.

Use of Empty VOA Vials for Sample Storage and Transportation (Option 2)

In this option, three aliquots of soil are collected and placed in 40 milliliter (ml) glass vials. Two of the aliquots are placed into empty vials (*i.e.*, no preservative) and capped, forming an airtight seal. The remaining aliquot is placed into a vial containing methanol preservative and capped, forming an airtight seal. For the preserved samples, the soil sample volume must be at a 1:1 ratio with the methanol preservative. For example, if 10 ml of methanol are used for preservative, then 10 g of soil must be collected. The aliquots of soil can be collected using a calibrated syringe with the tip cut off (or equivalent device) to collect a known volume of soil, which is then extruded directly into the 40-ml vial, or manually. Manually collected samples will be weighed using an electronic scale in order to obtain the desired volume of soil. In the manual collection method, the empty (except for methanol preservative) 40-ml vials should be placed on the scale and the scale "zeroed out" before adding the soil aliquot. This allows for the collection of a precise mass of soil without the risk of introducing calculation errors (*i.e.*, accounting for the weight of the vial). Collected samples are stored at 4° C, and shipped to the laboratory using standard chain-of-custody procedures.

Syringes used to collect soil aliquots may be used only once and then must be discarded. If soil samples are collected manually, all equipment coming in contact with the soil sample must be properly decontaminated between samples.

The following sampling steps should be followed when using this method in conjunction with a syringe of equivalent device:

1. Do several "trail runs" on a section of soil core that will not be subjected to analysis, to determine the soil volume that will yield the desired sample mass (*e.g.*, 10 g of soil), using the electronic scale to measure the sample mass. The empty syringe (or equivalent device) may be placed on the scale and "zeroed out" or only the extruded soil sample can be weighed;
2. Note the length of soil column in the syringe (or equivalent device) necessary to obtain the desired sample mass. This length will be used for all samples collected.
3. Discard all syringes used in the trial runs;
4. Quickly push the sampler into a freshly exposed surface of soil until the required volume of soil is collected;
5. Extrude the collected aliquot of soil directly into the 40-ml vial;
6. Use clean paper toweling to quickly wipe the sample vial threads so that the cap can be tightly attached, and firmly cap the vial forming an airtight seal;
7. Fill out a sample label and attach to the sample vial; and
8. If a dry weight sample is being collected, collect using a properly decontaminated spatula. Fill the container.

The following sampling steps should be followed when using the manual soil collection method:

1. Place the empty vial (with cap) on the scale and "zero out" the scale;
2. Collect soil from a freshly exposed surface of soil and gradually add soil directly to the bottle until the required volume of soil is collected;
3. Use clean paper toweling to quickly wipe the sample vial threads so that the cap can be tightly attached, and firmly cap the vial forming an airtight seal;
4. Fill out a sample label and attach to the sample vial; and
5. If a dry weight sample is being collected, collect using a properly decontaminated spatula. Fill the container.

5.1.1 Soil Sampling: Geoprobe.

Drilling with a Geoprobe will be performed in general accordance with the American Society for Testing and Materials publication ASTM D-4700. The drilling contractor will use hydraulic drive core/direct push (e.g., Geoprobe) sampling techniques. Continuous soil samples will be collected from the soil borings in four-foot and/or two-foot increments. A clean, plastic sampling sleeve will be used for each sample interval. The stainless steel coring sleeve will be decontaminated between each boring.

Every two-foot section of the sample core will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Following completion of the boring, the borehole will be backfilled with any remaining cuttings. At a minimum, the upper two feet of the borehole will be backfilled with bentonite pellets. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

5.1.2 Soil Sampling: Hollow-Stem Augers

Drilling with hollow-stem augers will be performed in general accordance with ASTM D-1586. Hollow-stem auger soil borings will be advanced using a drill rig and hollow-stem augers. While drilling with hollow-stem augers, soil samples will be collected continuously using a clean, two-foot or three-foot long, split-barrel sampler. The split-barrel sampler will be decontaminated between each sample interval.

Each sample will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Following completion of the boring, the borehole will be backfilled with a cement/bentonite slurry (90/10 mixture) unless the boring is to be converted to a groundwater monitoring well. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

5.1.3 Soil Sampling: Manual Push Probe

In areas inaccessible to a Geoprobe or drilling rig equipped with hollow stem augers (*e.g.*, low roofed buildings or buildings with limited access), soil sampling will be accomplished using a manual push probe method. The drilling contractor will advance a two- or four-foot sampling device (*e.g.*, Geoprobe sampler or split-spoon sampler and AWJ-rod assembly) using a jackhammer or other manually operated percussive device. Continuous soil samples will be collected from the soil borings in four-foot and/or two-foot increments. A clean, plastic sampling sleeve will be used for each sample interval. The stainless steel coring sleeve will be decontaminated between each boring.

Every two-foot section of the sample core will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Following completion of the boring, the borehole will be backfilled with any remaining cuttings. At a minimum, the upper two feet of the borehole will be backfilled with bentonite pellets. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

5.1.4 Soil Sampling: Hand Auger

The geologist or engineer will use a clean, stainless-steel hand auger to manually core a soil boring. Soil samples will be collected at six-inch intervals. Soil samples collected using the hand

auger will be obtained from the lower half of the auger bucket. The hand auger will be decontaminated between each boring.

Each sample will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

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5.1.5 Soil Sampling: Test Pits/Excavations

Each test pit or excavation will be excavated with a backhoe to: (1) a described depth, (2) until the water table is encountered, or (3) until the maximum effective depth of the operation of the backhoe is reached. Soil samples may also be selected based on their proximity to buried debris such as tanks, drums, or other possible liquid-containing vessels. Upon completing each test pit, the excavation will be backfilled with either clean fill sand or materials removed from the hole. No sampling personnel shall enter any test pit or excavation under any circumstances.
Each sample will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

5.2 SAMPLE PREPARATION

All soil samples will be transferred directly to the appropriate precleaned (to EPA specifications) containers and stored following United States Environmental Protection Agency (USEPA) Publication SW-846, *Testing Methods for Evaluating Solid Waste.* All soil samples will be labeled with:

1. The boring/sample station location identifier
2. Date and time of sample collection
3. Initials of sampler
4. Type of sample (grab or composite)
5. Required analyses
6. Type of preservation (if applicable)

Any sample containers submitted to a CLP/CRL laboratory will additionally be identified with USEPA assigned CLP sample numbers as referenced in Section 2.3.1 of the Quality Assurance Project Plan (QAPP).

If soil analyses are included in the scope of work for a specific property, APT will select soil samples for laboratory analysis as described in Section 2.1. Clean latex gloves will be worn for

each sampling location to prevent cross-contamination of samples and to protect the sampler from dermal contact with potential contaminants.

Using clear packaging tape, sample labels will be secured on sample containers that will be shipped to the laboratory. Additionally, each sample container will be placed in sealable bubble wrap packaging bags for shipment, prior to placement in the ice-filled cooler.

APT, LIMITED

September 20, 2002

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal – Revised SOP-1 for Multi-Site QAPP
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0). Enclosed please find a replacement copy of *SOP-1: Soil Sampling* for the referenced QAPP, and a revised *Sampling and Analysis Plan* for the Royal Metals site.

The following change has been made from the previous SOP-1 dated June 12, 2002, and the SAP:

- ❑ APT SOP-1 and the SAP have been revised to include a discussion on soil sample collection procedures using a manually-driven push probe; and
- ❑ The headers throughout both documents have been revised to reflect a revision date and document revision number.

This change is necessitated by the site conditions at the Royal Metals facility, where lack of access and a partially collapsed building structure preclude the use of a Geoprobe or drilling rig inside of the building. Please note that this sampling method is being incorporated into the *Sampling and Analysis Plan* for the Royal Metals site. If you have any questions, please contact me:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosure: Revised SOP-1: SOIL SAMPLING; Revised SAP-Royal Metals Site

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SOP-1: SOIL SAMPLING

1.0 PURPOSE

Soil sampling is used to characterize subsurface soil strata. Observations are made pertaining to soil type, texture, consistency, color, odor, moisture content, impurities, and inclusions (e.g., root fragments, fossils). During soil sampling, a geologic log is compiled to aid in the development of geologic cross-section(s) of the site. Proper soil characterization is an important aspect to understanding possible contaminant migration pathways.

2.0 PROCEDURE

The following subsections describe the standard operating procedure for the collection of soil samples using various techniques for collection and preparation.

2.1 SAMPLE COLLECTION TECHNIQUES

Soil samples may be collected for laboratory analysis based on one or more of the following criteria:

1. Known and/or suspected release area(s)
2. Visual identification of soil staining
3. Concentrated chemical odors
4. Highest PID level reading

Soil samples will be placed into the appropriate containers (cleaned to EPA specifications) in the order of selected analyses as described below:

1. Volatile Organic Compounds
2. Semi-Volatile Organic Compounds
3. Polychlorinated Biphenyls and Pesticides
4. Cyanides
5. Metals
6. Other Inorganic Parameters

Soil sample collected for parameters other than VOCs will be homogenized in a stainless-steel bowl with a stainless-steel spoon prior to placement in appropriate sample containers. Debris such as small sticks, pebbles, etc. will be removed and discarded prior to homogenizing. Following used of the stainless-steel bowl and spoon, this equipment will be decontaminated in accordance with APT SOP-5.

Soil samples that will be analyzed for VOCs will be analyzed using Method IN5035 in conjunction with Method 8260. One of the following procedures will be followed when collecting soil samples for VOC analysis.

Use of Coring Device (Option 1)

In this option, a small airtight coring device (such as the *En Core*™ sampler) is used to collect a 10 gram (g) aliquot of soil directly from the desired interval of soil. The sample should be collected from a freshly-exposed soil surface to reduce the risk of constituent loss through volatilization. The device collects the sample directly into the storage chamber, filling it completely with zero headspace. The storage chamber is then capped, forming an airtight seal and cooled to approximately 4° C. The intact samples are then transported to the laboratory in sealed devices using standard chain-of-custody procedures. The following sampling steps should be followed when using this method:

1. Remove the sampler and cap from foil an attach the reusable T-handle to the sampler body;
2. Quickly push the sampler into a freshly exposed surface of soil until the sampler is full;
3. Use clean paper toweling to quickly wipe the sampler head so that the cap can be tightly attached;
4. Push the cap on with a twisting motion to firmly attach;
5. Detach the T-handle from the capped sampler;
6. Fill out the label and attach to the sampler; and
7. If a dry weight sample is being collected, collect using a properly decontaminated spatula. Fill the container.

Use of Empty VOA Vials for Sample Storage and Transportation (Option 2)

In this option, three aliquots of soil are collected and placed in 40 milliliter (ml) glass vials. Two of the aliquots are placed into empty vials (*i.e.*, no preservative) and capped, forming an airtight seal. The remaining aliquot is placed into a vial containing methanol preservative and capped, forming an airtight seal. For the preserved samples, the soil sample volume must be at a 1:1 ratio with the methanol preservative. For example, if 10 ml of methanol are used for preservative, then 10 g of soil must be collected. The aliquots of soil can be collected using a calibrated syringe with the tip cut off (or equivalent device) to collect a known volume of soil, which is then extruded directly into the 40-ml vial, or manually. Manually collected samples will be weighed using an electronic scale in order to obtain the desired volume of soil. In the manual collection method, the empty (except for methanol preservative) 40-ml vials should be placed on the scale and the scale "zeroed out" before adding the soil aliquot. This allows for the collection of a precise mass of soil without the risk of introducing calculation errors (*i.e.*, accounting for the weight of the vial). Collected samples are stored at 4° C, and shipped to the laboratory using standard chain-of-custody procedures.

Syringes used to collect soil aliquots may be used only once and then must be discarded. If soil samples are collected manually, all equipment coming in contact with the soil sample must be properly decontaminated between samples.

The following sampling steps should be followed when using this method in conjunction with a syringe of equivalent device:

1. Do several "trail runs" on a section of soil core that will not be subjected to analysis, to determine the soil volume that will yield the desired sample mass (*e.g.*, 10 g of soil),

using the electronic scale to measure the sample mass. The empty syringe (or equivalent device) may be placed on the scale and "zeroed out" or only the extruded soil sample can be weighed;

2. Note the length of soil column in the syringe (or equivalent device) necessary to obtain the desired sample mass. This length will be used for all samples collected.
3. Discard all syringes used in the trial runs;
4. Quickly push the sampler into a freshly exposed surface of soil until the required volume of soil is collected;
5. Extrude the collected aliquot of soil directly into the 40-ml vial;
6. Use clean paper toweling to quickly wipe the sample vial threads so that the cap can be tightly attached, and firmly cap the vial forming an airtight seal;
7. Fill out a sample label and attach to the sample vial; and
8. If a dry weight sample is being collected, collect using a properly decontaminated spatula. Fill the container.

The following sampling steps should be followed when using the manual soil collection method:

1. Place the empty vial (with cap) on the scale and "zero out" the scale;
2. Collect soil from a freshly exposed surface of soil and gradually add soil directly to the bottle until the required volume of soil is collected;
3. Use clean paper toweling to quickly wipe the sample vial threads so that the cap can be tightly attached, and firmly cap the vial forming an airtight seal;
4. Fill out a sample label and attach to the sample vial; and
5. If a dry weight sample is being collected, collect using a properly decontaminated spatula. Fill the container.

2.1.1 Soil Sampling: Geoprobe

Drilling with a Geoprobe will be performed in general accordance with the American Society for Testing and Materials publication ASTM D-4700. The drilling contractor will use hydraulic drive core/direct push (e.g., Geoprobe) sampling techniques. Continuous soil samples will be collected from the soil borings in four-foot and/or two-foot increments. A clean, plastic sampling sleeve will be used for each sample interval. The stainless steel coring sleeve will be decontaminated between each boring.

Every two-foot section of the sample core will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Following completion of the boring, the borehole will be backfilled with any remaining cuttings. At a minimum, the upper two feet of the borehole will be backfilled with bentonite pellets.

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Each test pit or excavation will be excavated with a backhoe to: (1) a described depth, (2) until the water table is encountered, or (3) until the maximum effective depth of the operation of the backhoe is reached. Soil samples may also be selected based on their proximity to buried debris such as tanks, drums, or other possible liquid-containing vessels. Upon completing each test pit, the excavation will be backfilled with either clean fill sand or materials removed from the hole. No sampling personnel shall enter any test pit or excavation under any circumstances.
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APT, LIMITED

September 2002

SAMPLING AND ANALYSIS PLAN

Revision 01

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:
City of Michigan City
Michigan City Economic Development Corp.
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Michigan City, Indiana 46360

Prepared by:
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Project No. 333-01

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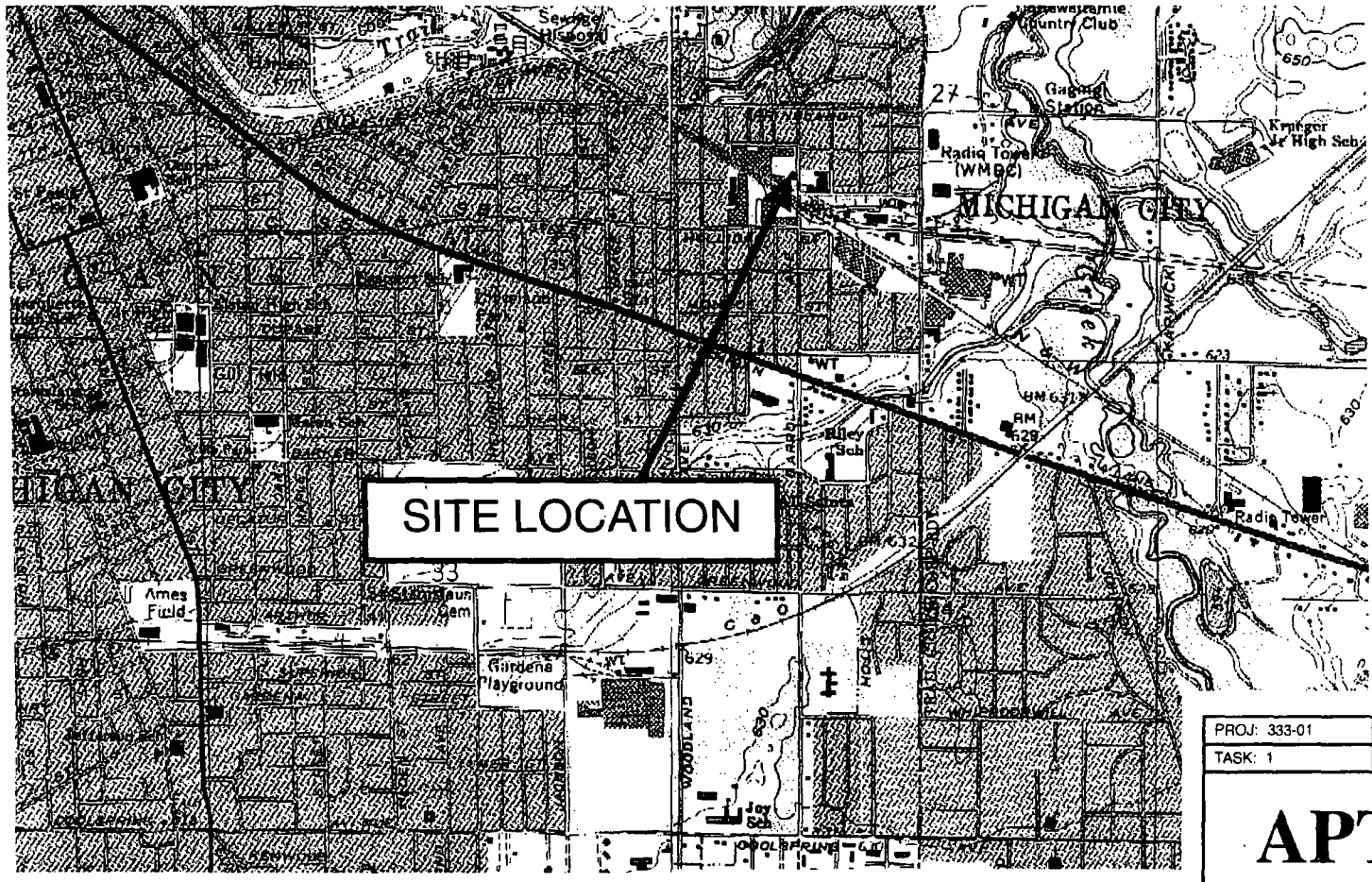
Figure 2 Site Map With Proposed Monitoring Well and Soil Boring Locations



PROJ: 333-01	DWG LOC: MICHIGAN CITY, INDIANA	
TASK: 1	DWG BY: AB	REV DATE:

APT, Limited

Figure 1
SITE LOCATION MAP

Royal Metals
Michigan City, Indiana
PREPARED FOR
Michigan City Economic
Development Corporation
Michigan City, Indiana

1.0 INTRODUCTION

The purpose of this Sampling and Analysis Plan (SAP) is to establish sampling and analysis procedures associated with a site investigation at the former Royal Metals site consistent with the Indiana Department of Environmental Management (IDEM) – Voluntary Remediation Program (VRP) *Resource Guide*, dated July 1996. The sampling and analysis procedures are required to determine the extent of potential soil and groundwater impacts at the former Royal Metals facility. Additionally, investigative activities conducted within the potentially impacted areas may be used to determine remedial action alternatives, if necessary. This SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples at the identified locations and intervals presented in this SAP, and any subsequent investigatory activities at the facility.

This SAP includes discussion of equipment and materials, sampling procedures, chain-of-custody and field documentation procedures, target monitoring parameters, field measurement procedures, decontamination procedures, and quality assurance procedures. Information presented in the text of this SAP include, but are not limited to, sampling procedures, analytical methods, sample containers, sample preservation, holding times, and chain-of-custody procedures, specific to the former Royal Metals facility in Michigan City, Indiana.

2.0 FACILITY LOCATION AND BACKGROUND

The Former Royal Metals facility is located at 600 N Carroll Ave. in Michigan City, LaPorte County, Indiana (see Figure 1). The facility is situated on approximately 3.75 acres of land with a total area of 64,000 square feet of office and manufacturing building (see Figure 2). The facility is currently abandoned; however, past production activities at the facility consisted of metal fabricating and finishing.

A Phase I Environmental Site Assessment (ESA) conducted at the site by APT, Limited (APT) in January 2002 identified 10 potential recognized environmental conditions (RECs) associated with the property. These are identified as follows:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluid was still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. As a result, the vapor degreaser represents a REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint booths represent a REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.
- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents a REC.
- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents a REC.
- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based on materials that were likely stored in this area, the hazardous material storage area represents a REC.
- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in areas throughout the facility, including the metal working, wood working, explosion proof finishing, and chemical storage areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at

least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent a REC.

- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents a REC.
- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area and was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals that would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents a REC.
- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.
- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation, and that they were stored throughout the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents a REC.

3.0 GENERAL INFORMATION

The area to be investigated is the former Royal Metals facility and environs. Soil and groundwater samples will be collected by APT personnel during the site investigation activities. Sampling will not be conducted during inclement weather, with inclement weather defined as weather that may impair the integrity of the samples. A copy of the SAP will accompany the sampling team during each sampling event.

All soil and groundwater samples will be analyzed by Pace Analytical of Indianapolis, Indiana (Pace), with the analyses performed in accordance with the most recent edition of the EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Pace's quality assurance plan (QAP) is included as Appendix D of the multi-site *Quality Assurance Project Plan* (APT, April 2002), which has been developed as a separate document.

4.0 EQUIPMENT AND MATERIALS REQUIRED

The following is a listing of sampling equipment that is planned on being used during the investigative soil and groundwater sampling:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- A push-probe that utilizes a macro-core sampler consisting of a 4-foot by 2-inch steel tube fitted with a new, clean acetate liner;
- Clean replacement acetate liners for the macro-core samplers;
- Truck-mounted drill rig with steel alloy hollow-stem augers and drill rods;
- A continuous soil sampler consisting of a 2-foot by 2-inch steel tube advanced before the lead hollow-stem auger;
- Jackhammer for driving soil sampling device (where manual technique is warranted);
- A scale suitable for use in the field capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An Organic Vapor Meter (OVM) with 100 parts per million by volume (ppmv) isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- For groundwater elevation measurement, a Slope Indicator Company Water Level Indicator, graduated in hundredths of a foot;
- A portable pH/ORP/°C/µS Watertest meter suitable for use in the field. Manufacturer – Hanna Instruments and related calibration solutions;
- Dedicated, disposable, polyethylene bailer and string;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves (enough for each sampling team member to wear a fresh pair for each sample interval or each well);
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment as needed;
- Insulated coolers, capable of maintaining samples at 4 degrees Celsius, for transporting the samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;

- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Plastic sheeting, paper towels, garbage bags, indelible ink pen, etc.; and
- A copy of the QAPP on site with the samplers.

Sampling equipment will not be allowed to come in contact with the ground or any object that might provide a source of contamination once it has been decontaminated.

5.0 EQUIPMENT INSPECTION AND CALIBRATION

Equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the manufacturer's specification. In order to insure and maintain operational condition of the sampling and monitoring equipment to be used during field activities, sampling equipment inspection, and calibration procedures will be followed during site activities. In addition, an outline of procedures for using and changing gloves to ensure sample integrity during sample collection has also been included.

Field equipment have established standard preventative maintenance plans. This includes decontamination of field analytical equipment, including the OVM, Watertest meter, and survey instrumentation. All scheduled and unscheduled maintenance will be recorded in the field notebook.

5.1 EQUIPMENT INSPECTION

Equipment to be used during the field sampling will be examined prior to use to certify that it is in operating condition. This includes checking the manufacturer's operating manual and the instructions for each instrument to ensure that maintenance requirements are being observed. Field notes from previous sampling trips will be reviewed so that the notation on any prior equipment problems are not overlooked, and all necessary repairs to equipment have been carried out.

Sampling equipment will be inspected at least one (1) week prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in the inspection. The copy of the list will be used to document the inspection.

The groundwater monitoring wells will be inspected during each groundwater sampling event for any signs of deterioration or other problems (e.g., rusted or broken locks, crumbling or cracked surface pad, missing well cap, standing water). The condition of each monitoring well will be documented in the Field Logbook.

The hollow-stem continuous sampler and hydraulic push-probe soil sampling equipment will be inspected in the field prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in each inspection. Any problem or concern related to the condition of the equipment will be corrected prior to performance of field activities. Hollow stem drilling and push-probe equipment will be provided and operated by Top Flight Environmental Drilling of Osceola, Indiana under the direction of APT.

5.2 EQUIPMENT CALIBRATION

Calibration of field instruments is governed by the specific standard operating procedure (SOP) for the applicable field analysis method, and such procedures take precedence over the following general discussion. Additional calibrations will be performed in the event of suspected equipment malfunction.

Calibration of field instruments will be performed at least twice daily, at the beginning and end of every workday, unless the manufacturer specifies more frequent intervals. Equipment calibration will occur more frequently as conditions dictate. Field instruments will include a portable OVM and a Watertest meter. In the event that an internally calibrated field instrument fails to meet calibration/checkout procedures, it will be replaced or repaired before being used.

The OVM instrument will be calibrated in the field at the beginning and end of each day of sampling using a 100 ppmv isobutylene calibration gas. Acceptable results of the OVM verification check should be plus or minus 10 percent of the true value of the calibration gas. The OVM instrument will be recalibrated if the result of the verification check is outside of acceptable limits and as necessary in response to any malfunction or anomalous behavior of the instrument. Equipment calibration will be performed to manufacturers' instructions. If equipment malfunction is suspected and calibration failure occurs, equipment will be removed from service and substitute equipment obtained. Documentation of field calibration of the OVM instrument will be recorded in the Field Logbook.

The scale used to weigh the sample will be zeroed by placing a clean calibration mass on the scale and calibration of the scale will continue following the manufacturer instructions.

The Watertest meter will be calibrated in the field at the beginning and end of each day of sampling. Re-calibration will be conducted as necessary in response to any instrument malfunction or anomalous behavior of the instrument. Equipment calibration will be performed according to manufacturer instructions. Documentation of field calibration of the pH, specific conductivity, and temperature meter will be recorded in the Field Logbook.

6.0 TARGET PARAMETERS/ANALYTICAL METHODS

The COCs for the facility are solvents, lubricating and cutting oils, petroleum products, metals, and possible PCB-containing fluids. Soil and groundwater samples from the area will therefore be analyzed for:

- Volatile organic compounds (VOCs) by SW-846 Method 8260, with methanol preservation in the field using Method IN-5035M for soil samples;
- Semivolatile organic compounds (SVOCs) by SW-846 Method 8270 (base/neutrals/acids);
- Priority Pollutant List (PPL) metals by SW-846 Methods 6010 and 7471 (mercury); and
- Polychlorinated Biphenyls (PCBs) by SW-846 Method 8082 (soil samples only).

Further details pertaining to laboratory methods and data quality objectives are presented in the laboratory's QAP, which is included as Appendix D of the multi-site QAPP (APT, April 2002).

7.0 USE OF GLOVES

Any personnel handling the equipment or performing sampling will wear a new pair of clean latex, nitrile, or vinyl gloves if the potential exists for contact with the soil or groundwater sample, or any surface that may come in contact with the sample. Gloves must be discarded after each sample interval and replaced with new, clean gloves prior to proceeding to the next sample interval. Gloves will be collected with other personal protection equipment (PPE), containerized in a labeled 55-gallon drum, and characterized for appropriate disposal. Characterization of PPE will rely on the laboratory results of the soil samples tested. Sampling equipment and the samples themselves will not be allowed to come in contact with any object that might provide a source of contamination.

8.0 SOIL SAMPLING

Soil samples will be collected for laboratory analysis following the VRP's DQO's for site investigation sampling (*i.e.*, Level 3 DQOs). One soil sample will be collected from each of an estimated eight soil borings that will be advanced at the site. The soil sample will be collected from the interval exhibiting the highest degree of apparent impact based on OVM readings or visual observations, or if there is no evidence of impact, from just above the capillary fringe of the water table. Each soil boring will be advanced using either a Geoprobe drilling unit, which utilizes a hydraulic percussion method to advance a push-probe sampler, a drilling rig equipped with hollow stem augers, or a manually driven push probe advanced using a jackhammer or equivalent. The method used will be dictated by the site conditions, including access and clearance considerations. Continuous soil cores will be collected in order to characterize the subsurface. Depending on logistics and technical requirements, an alternative method of drilling may be required, in which case the USEPA and the City will be notified prior to implementing the alternative drilling method. The laboratory will analyze soil samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan*. While all soil samples will be analyzed for VOCs, SVOCs, and PPL metals, only selected soil samples will be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present).

8.1 SAMPLE LOCATIONS

The proposed soil boring locations are shown in Figure 2, and are based on the results of the *Phase I EA* (APT, January 2002). However, the final locations will be determined in the field based on site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The soil borings will be located such that they are adequate to evaluate each REC with regard to the potential for impact.

All borings will be advanced to a depth of approximately three to five feet into the zone of saturation, estimated to occur at a depth of 10 feet BGS.

8.2 PUSH-PROBE SOIL SAMPLING EQUIPMENT AND PROCEDURE

The hydraulic push-probe sampler operates by advancing a string of 1-inch-diameter threaded steel alloy rods with the aid of a hydraulic ram. The push probe is capable of exerting 18,000 pounds of force and uses a hydraulic hammer attachment to advance the rods through dense or hard materials.

A macro-core sampler will be used to continuously obtain soil samples. The macro-core sampler is a hollow steel tube measuring 4 feet in length and fitted with an acetate insert. The macro-core sampler is capable of recovering a soil core up to 48 inches long and 1.5 inches in diameter. Sampling procedures to be implemented during investigative activities are discussed below.

The following procedure will be followed when sampling using this technique:

1. The truck-mounted push-probe rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. Push-probe equipment will be set up and the decontaminated macro-core sampler advanced to the desired depth using the hydraulic ram and hammer; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the soil sample contained within the acetate liner is removed from the sampler for inspection.
3. The acetate liner will be cut open using a decontaminated liner cutter for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
5. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. One soil sample will be collected for laboratory analysis from each of the soil borings. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
8. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.
9. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

8.3 HOLLOW STEM AUGER SAMPLING EQUIPMENT AND PROCEDURE

Drilling with hollow-stem augers will be performed in general accordance with ASTM D-1586. Hollow-stem auger soil borings will be advanced using a drill rig and hollow-stem augers. While drilling with hollow-stem augers, soil samples will be collected continuously using a clean, two-foot or three-foot long, split-barrel sampler. The split-barrel sampler will be decontaminated between each sample interval.

The following procedure will be followed when sampling using this technique:

1. The drilling rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. A decontaminated split-spoon sampler advanced to the desired depth following ASTM D-1586; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the split-spoon sampler opened, exposing the soil core contained within for inspection.
3. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
4. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
5. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
6. One soil sample will be collected for laboratory analysis from each of the soil borings. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.,* from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
7. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be

packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.

8. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Following completion of the boring, the borehole will be backfilled with a cement/bentonite slurry (90/10 mixture) unless the boring is to be converted to a groundwater monitoring well. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

8.3 MANUAL PUSH PROBE SAMPLING EQUIPMENT AND PROCEDURE

In areas inaccessible to a Geoprobe or drilling rig equipped with hollow stem augers (*e.g.*, low roofed buildings or buildings with limited access), soil sampling will be accomplished using a manual push probe method. The drilling contractor will advance a two- or four-foot sampling device (*e.g.*, Geoprobe sampler or split-spoon sampler and AWJ-rod assembly) using a jackhammer or other manually operated percussive device. Continuous soil samples will be collected from the soil borings in four-foot and/or two-foot increments. A clean, plastic sampling sleeve will be used for each sample interval. The stainless steel coring sleeve will be decontaminated between each boring.

Every two-foot section of the sample core will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Following completion of the boring, the borehole will be backfilled with any remaining cuttings. At a minimum, the upper two feet of the borehole will be backfilled with bentonite pellets. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

9.0 GROUNDWATER SAMPLING

Groundwater samples will be collected for laboratory analysis following the VRP DQOs for screening (*i.e.*, Level 1 DQOs) and nature & extent investigation sampling (*i.e.*, Level 3 DQOs). The purpose of the groundwater sampling and analysis is to obtain and analyze representative groundwater samples to determine to what extent, if any, VOC, SVOCs, and PPL metal impacts from past operations at the facility have affected groundwater quality. The groundwater sampling and analysis will be used to characterize the site-wide groundwater quality at the Royal Metal property. Groundwater sampling at the site will include obtaining groundwater samples from five of the soil borings advanced during the soil assessment portion of the investigation, and subsequent groundwater sampling from five monitoring wells installed as part of the baseline groundwater assessment portion of the investigation.

This section lists the procedures to be followed so that any qualified individual can obtain representative groundwater samples from the soil borings and monitoring wells.

The laboratory will analyze groundwater samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan.*

9.1 GROUNDWATER SCREENING SAMPLING

The assessment work scope will include taking groundwater screening samples from five selected soil borings. The following procedure will be followed when collecting groundwater screening samples:

1. The boring will be advanced to a depth of five feet below the static water level as indicated by saturated conditions encountered while drilling, following the procedure outlined in Section 8.0 of this SAP.
2. Static water elevations will be allowed to equilibrate for ten minutes.
3. Prior to collecting a groundwater sample from a Geoprobe soil boring, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the boring and multiplying the difference by 0.064 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. Up to two additional well casing volumes of water, following the initial three well volumes, will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: $\pm$ 0.1 standard units;
    - temperature: $\pm$ 0.5°C; and
    - specific conductivity: $\pm$ 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated an labeled 55-gallon drum for disposal at a later date;

4. A length of decontaminated polyethylene tubing equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater;

5. The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass or plastic sample containers. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice; and

6. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14. Groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

9.2 BASELINE GROUNDWATER ASSESSMENT SAMPLING

In order to characterize the groundwater quality at the former Royal Metals facility, five monitoring wells will be installed at the proposed locations shown on Figure 2. The final locations will be based on the results of the soil and groundwater screening analyses, as well as site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The monitoring wells will be located such they are adequate to evaluate site-wide groundwater with regard to the potential for impact.

All monitoring well borings will be advanced to a depth of approximately five feet into the zone of saturation, estimated to occur at a depth of 20 feet BGS. Continuous soil cores will be retrieved from the monitoring well borings to geologically and chemically characterize the soils and observe the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

1. The drill rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for the location change, will be documented in the Field Logbook.

2. The drilling equipment will be set up and a decontaminated two-foot long, 2-inch diameter split-spoon sampler will be advanced ahead of the auger bit in accordance with ASTM Standard Method D1586-84; each sample core will be taken with a vertical orientation. After being advanced to the desired sampling depth, the sampler will be withdrawn and the soil core removed for inspection.

3. The soil core will be placed on clean plastic sheeting and opened by splitting the sampler in half for direct observation of the soil sample.

4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form. Although no soil samples are proposed to be collected from monitoring well borings, soil sample may be retained for possible laboratory analysis based on the OVM readings or visual evidence of impact. Samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. The MCEDC will be contacted with regard to whether analysis should be performed. If not, the collected soil sample will be discarded

5. If the sample is to be submitted to the laboratory for analyses, a sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier as discussed in Section 14 of this SAP.

6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.

7. The auger chain is then advanced to the bottom depth of the split-spoon sampler and the process repeated until the total depth of the boring is reached.

8. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14.

9. Following completion of each boring, a monitoring well will be constructed per the procedure outlined in Section 9.2.1 below.

10. Following installation, each monitoring well will be developed using the procedure described in Section 9.2.3 of this SAP.

11. No sooner than 24 hours following installation and development of the monitoring wells, one round of groundwater samples will be collected from all of the wells to provide a baseline for site-wide groundwater quality. Groundwater samples from these five monitoring wells will be analyzed for VOCs, SVOCs, and PPL metals using Method 8260, Method 8270, and Methods 6010 and 7471 respectively. QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinsate blank per day, one MS/MSD per 20 investigative samples, and one trip blank per sample shipping container.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Soil sampling equipment will be decontaminated between soil cores using non-phosphate detergent and distilled water.

9.2.1 Monitoring Well Installation Procedure

The following procedure will be followed when installing monitoring wells:

1. The monitoring well borehole will be advanced to an estimated depth of 20 feet BGS using a mobile drilling rig equipped with 4-1/4 inch hollow stem augers. The wellbore will be terminated upon reaching a depth sufficient to install a five-foot long screen across the static water level of the uppermost water bearing zone. This will allow for the detection of possible light non-aqueous phase liquids (LNAPL) under a range of groundwater elevation fluctuations. Continuous coring will be performed using a two-foot long split-sampling device driven ahead of the auger chain in order to characterize the subsurface geology. These cores will also be field screened for volatile compounds using an OVM;
2. The monitoring well will be installed inside of the auger chain using a five-foot long slotted screen and five-foot long sections of flush-threaded 2-inch PVC. The monitoring well will be equipped with a flush mount casing, unless it is located in an area of no vehicular traffic where the monitoring well will be of stick-up design;
3. A filter pack of appropriately sized material will be placed from the bottom of the wellbore to two feet above the top of the screen. The filter pack will not extend more than two feet above the top of the well screen;
4. An annular seal of bentonite shall be installed above the filter pack and will have a minimum thickness of two feet;
5. A annular seal of bentonite or grout (if the bentonite does not extend upward through the remaining annular space to the base of the concrete surface seal) shall be installed above the bentonite seal and will extend upward to the base of the concrete surface seal;
6. A concrete surface seal will be installed and will be anchored to soils below the regional frost line to protect the well from damage due to frost heave;
7. A concrete pad will be installed around the monitoring well and will be sloped away from the well casing to deflect surface water away from the well; and
8. The newly installed monitoring well will be surveyed to a vertical accuracy of 0.01 feet and a horizontal accuracy of 1.0 feet, relative to a permanent on-site benchmark.
9. A well construction diagram will be completed for each monitoring well, providing pertinent information regarding the well.

The filter pack, annular seal, and grouting materials shall be installed through the center of the hollow-stem auger chain as the drill string is withdrawn. Filter pack materials and bentonite chips or pellets will be introduced gradually and uniformly to the annular space inside of the

hollow-stem auger chain and around the well casing to prevent bridging of the materials during placement. The auger chain will be gradually removed from the open borehole in approximately one-foot lifts as the material is placed, allowing the material to gradually spill out of the bottom of the auger chain into the annular space between the subsurface soils and the well casing and thus further prevent bridging. Any grouting will occur under pressure with the annulus sealed from the bottom up via the tremie method.

9.2.2 Measurement of Static Groundwater Elevations

Prior to purging the wells when sampling, the depth to water will be determined by utilizing a decontaminated electronic water level indicator with a weighted probe. Upon opening each well (i.e., removing the sealed cap), the water elevations will be gauged repeatedly and the measured elevations recorded in the field logbook. When the trends of at least three consecutive measurements are within 0.01 feet of one another the well will be considered to have equilibrated. Upon reaching apparent equilibrium, the monitoring well will be allowed to equilibrate for an additional five minute time period as a safety factor.

Measurements will then be taken using an electronic water level indicator, to an accuracy of 0.01 feet. The reference point for the measurement is a mark at the top of the well casing. The elevations of these reference points will be surveyed relative to a permanent local benchmark. The elevation of the groundwater in each well will be determined by subtracting the depth-to-water measurement from the measuring point elevation. All survey and water elevation measurements will be recorded in the Field Logbook.

9.2.3 Monitoring Well Purging and Sampling Procedure

The following procedure will be followed when sampling groundwater from monitoring wells:

1. The sampler will don new, clean, disposable, latex sampling gloves when performing sampling activities at each well location.
2. Prior to collecting a groundwater sample from a monitoring well, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the well and multiplying the difference by 0.163 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. A maximum of five well volumes will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: $\pm$ 0.1 standard units;
    - temperature: $\pm$ 0.5°C; and
    - specific conductivity: $\pm$ 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated and labeled 55-gallon drum for disposal at a later date;

3. A dedicated polyethylene bailer equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater. The sampling bailer will be lowered into the well gently to reduce agitation and aeration of the water sample;
4. The bailer will be removed from the well and the sample containers filled. Groundwater samples will be transferred directly from the sampling bailer to laboratory supplied, pre-preserved sample containers. Samples for VOCs will be filled such that there is no headspace in the sample container. Excess sample will be poured into the drum containing purge water. The following sampling order will be followed:
    - VOCs;
    - SVOCs; and
    - PPL metals.
5. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice.
6. Upon completion of the sampling activity at each well, the cap will be replaced and the well locked.

Sample bottles, analytical methods, preservatives, and holding times are specified in the following sections of this SAP and in Table 1. Three 40-ml vials, pre-preserved with HCl at the laboratory; two 1-L amber bottles; and one 150-mL plastic bottle, pre-preserved with HNO_3 at the laboratory will be used as the sampling containers for samples to be analyzed for VOCs, SVOCs, and metals, respectively. It is desirable to label all the bottles prior to sampling or to pre-label a complete set of bottles for a well prior to sampling the well.

Dedicated bailers and twine will be used to purge/sample each well; bailers or twine will not be re-used.

10.0 QA/QC SAMPLES

The VRP guidance (IDEM, July 1996) identifies four types of quality control samples to be collected in the field: trip blanks, equipment rinsate or field blanks, duplicates, and matrix spike/matrix spike duplicates. Trip blanks are used to document volatile organic contamination attributable to shipping and field handling procedures. Equipment rinsate blanks are obtained from sampling equipment, which has been decontaminated to document the effectiveness of decontamination procedures. The detection of analytes in the equipment rinsate blank indicates possible cross-contamination between sample locations and determines that either ineffective or incomplete decontamination has been performed on equipment from which the equipment rinsate blank was collected. Duplicate samples are used to assess the representativeness (sampling variability) of field sampling procedures. Matrix spike/matrix spike duplicates are used to assess the effect the sample matrix has on the accuracy of the result.

10.1 TRIP BLANKS

To document the absence of VOC contamination attributable to shipping and field handling procedures associated with aqueous samples, a water sample of analyte-free media is prepared by the laboratory, transported to the sampling site, and returned to the laboratory unopened. The trip blank (which is pre-preserved and will remain sealed) is transported to the laboratory along with the investigative samples, and analyzed for VOCs. A minimum of one trip blank will be analyzed per shipping container containing aqueous samples.

Additionally, a methanol blank will be submitted to the laboratory for analysis associated with the soil sampling activities for VOC analysis (Method IN5035). A minimum of one methanol blank will be analyzed per shipping container containing soil samples to be analyzed for VOCs.

10.2 EQUIPMENT RINSATE/FIELD BLANKS

As a check on equipment decontamination procedures, equipment/field blanks will be prepared from each type of soil sampling device used to collect solid media. The equipment/field blank will be prepared by pouring a sufficient volume of deionized water over all of the sampling equipment used to collect samples in the sampling event (*e.g.*, the split-spoon sampler and any utensils used for soil sampling, or the water level meter and any other equipment or utensils coming in contact with groundwater samples).

The equipment blank will be collected in the appropriate sample containers, preserved, transported, and analyzed in the exact manner as the assessment samples. A minimum of one equipment/field blank will be collected and analyzed per ten investigative samples, with no less than one per day of sampling. For this project, it is estimated that one equipment/field blank will be collected during the soil and groundwater screening assessment, and one equipment blank will be collected during the baseline groundwater assessment.

10.3 DUPLICATES

One field duplicate will be collected for the groundwater screening assessment and for the baseline groundwater assessment to establish the representativeness of field sampling procedures. The duplicate sample will be prepared by dividing the soil or groundwater sample into two approximately equal portions, one of which is the duplicate sample. The sample and duplicate sample will be filled successively from a selected soil sample. Additional sample volumes will be collected and split as needed to fill the two (investigative and duplicate) sample containers. The sample bottles for one parameter (e.g., VOCs) will be filled before proceeding to the next parameter or sampling interval. The duplicate sample is placed in the appropriate container using the same procedure as for investigative samples, and subjected to the same analyses as the investigative sample.

A minimum of one duplicate will be collected and analyzed per ten investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one duplicate soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater duplicate will be collected during the baseline groundwater assessment. No duplicate samples will be collected during the groundwater screening, consistent with a Level 1 DQO.

10.4 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

In order to document both the bias and the precision of a method in a given sample matrix, enough volume of one sample of each media will be collected to prepare a matrix spike (MS) and a matrix spike duplicate (MSD) each time samples are collected.

A minimum of one MS/MSD will be collected and analyzed per twenty investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one MS/MSD soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater MS/MSD will be collected during the baseline groundwater assessment. No MS/MSD samples will be collected during the groundwater screening, consistent with a Level 1 DQO. The selected soil or groundwater sample for matrix spike/matrix spike duplicate analysis will be divided into two more or less equal portions and placed in their respective sample bottles. Additional sample volumes will be collected and split as needed to fill the two sample containers.

11.0 DECONTAMINATION OF FIELD INSTRUMENTS

Only thoroughly decontaminated equipment will be used to collect samples during the investigative activities. If dedicated factory sealed bailers are used for groundwater sampling, no decontamination will be required for this equipment item. The hollow stem augers will be decontaminated using a pressurized steam cleaner to wash off all visible soil/residues.

The following decontamination procedures will be used for all other sampling equipment, including the hollow-stem auger continuous sampler, the push-probe sampling tools, the water level indicator, and any other non-disposable sampling equipment that might come in contact with the soil or groundwater samples. All such sampling equipment will be decontaminated using these procedures:

1. Prior to decontamination, all rods and sampling equipment will be completely disassembled to the extent feasible.
2. The decontamination procedure will consist of a three-step process which includes a thorough non-phosphate detergent "dirty wash" to remove the majority of the soil, followed by a non-phosphate "clean wash" and triple rinse with distilled water.
3. If visible soil or other residues remain, then procedure 2 will be followed again until all visible soil/residues have been removed from all sampling equipment.
4. The sampling equipment will then be subjected to a final rinse with distilled water.
5. Sampling equipment will be protected from contamination during field operations.

12.0 SAMPLE CONTAINERS AND PRESERVATION

All samples are to be transferred directly into the appropriate new sample containers provided by the laboratory. Only new, pre-preserved (as applicable) sample containers supplied by the analytical laboratory will be used. All sample containers will conform to the specifications of SW-846. The container will be filled with the appropriate amount of soil or water that is determined by the analytical method. The containers will be appropriately sized to contain a sufficient volume of sample for the required analysis. Container descriptions, preservation requirements, and holding times are presented in Table 1.

Soil samples that will be analyzed for VOCs will be stored in two 40-ml vials and one 4-ounce container. One of the 40-ml vials will be pre-preserved with methanol, and the remaining 40-ml vial and 4-ounce container will be non-preserved, consistent with IN-5035M. Soil samples that will be analyzed for SVOCs, PPL metals, and PCBs will be containerized in 4-ounce glass jars equipped with Teflon lined lids. Preservation will also include packing the samples in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

Groundwater samples, equipment blanks, and trip blanks that will be analyzed for VOCs (SW-846 Method 8260) will be stored in 40-mL vials pre-preserved at the laboratory with HCl. Groundwater and QA/QC samples that will be analyzed for SVOCs will be stored in1-liter amber bottles without preservative. Groundwater and QA/QC samples that will be analyzed for PPL metals will be stored in 500-ml plastic bottles pre-preserved at the laboratory with HNO_3. All samples will be stored and shipped in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

13.0 PACKING AND SHIPMENT OF SAMPLES

The filled sample containers (both soil and groundwater) will be securely packed in an insulated cooler to avoid breakage during shipment. Ice will be placed in pouches such as Ziplock® baggies and packed with the samples in an insulated cooler to maintain the temperature of the samples at 4° C during shipment. All samples will be shipped to the laboratory via overnight courier. Each sample shipment will be accompanied by a chain-of-custody form, which will also identify the requested analyses. All necessary paperwork will be placed in a plastic, sealed bag inside the lid of each cooler and the cooler will be sealed with custody seals and covered by clear shipping tape. Shipping records will be maintained with chain-of-custody documentation.

The lid of each cooler will be sealed with two custody seals at opposite corners of the cooler, and covered by clean transparent shipping tape. The cooler will be sealed with clean shipping tape.

14.0 SAMPLE CUSTODY DOCUMENTATION/FIELD LOGBOOK

Chain-of-custody procedures will ensure proper documentation of possession and handling of samples from the time they are collected until analysis at the laboratory. Information provided to document chain-of-custody possession will include the APT Project number, signature of samplers, sample numbers, dates and times of collection, signatures of individuals involved in sample transfer, and the air bill or other shipping number.

Documentation and chain-of-custody procedures will include the following:

- Sample Identification.
- Sample Labels.
- Cooler Seals.
- Field Logbook.
- Chain-of-Custody Forms.

Chain-of-custody procedures to be followed by Pace after delivery of the samples are presented in the Laboratory QAP (Appendix D of the multi-site QAPP for this project).

14.1 SAMPLE IDENTIFICATION

Samples will be assigned a unique sample ID code. Sample nomenclature for the soil samples will consist of the soil boring identification number followed a semicolon and the depth below the ground surface (BGS) at which the soil sample is collected. For example, a soil sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *SB-1; 25'*.

Sample nomenclature for the groundwater samples will consist of the monitoring well identification number followed by a semicolon and the six-digit representation of the date on which the groundwater sample is collected. For example, a groundwater sample collected from monitoring well MW-1 on March 15, 2002 would be identified as *MW-1; 031502*.

Duplicate soil samples will be identified by the prefix "DUP" followed by a dash, a sequential integer to designate the duplicate number, semicolon, and the depth BGS. For example, the first duplicate soil sample collected during the project from a depth of 25 feet BGS in soil boring SB-1 would be identified as *DUP-1; 25'*. A second duplicate sample from another boring would be identified as *DUP-2; depth*. The soil boring that the duplicate was obtained from will be identified only in the field notebook in order to obtain a "blind" duplicate.

Duplicate groundwater samples will be identified by the prefix "DUP" followed by a dash, a sequential integer designating the duplicate sample number for that round of sampling, a semicolon, and the six-digit representation of the date. For example, a duplicate groundwater sample collected from monitoring well MW-1 on August 15, 2002 would be identified as *DUP-1; 031502*. If a second duplicate sample were collected on August 15, 2002 (*i.e.*, during the same

sampling event) from monitoring well MW-3, it would be identified as *DUP-2; 031502.* The monitoring wells from which the duplicate samples were collected would be identified only in the field notebook.

Trip blanks will be identified by the prefix "TB" followed by the six-digit representation of the date. For example, a trip blank collected on March 15, 2002 would be identified as *TB; 031502.*

Equipment rinsate blanks will be identified by the prefix "ER" followed by the six-digit representation of the date. For example, an equipment rinsate blank collected on March 15, 2002 would be identified as *ER; 031502.*

Matrix spike and matrix spike duplicates will be identified by the prefix "MS" and "MSD", respectively, followed by a dash, the soil boring name, a semicolon, and the depth BGS at which the sample was collected. For example, a matrix spike sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *MS/MSD-SB1; 25'.*

The corresponding sample identification number recorded in the Field Logbook will be used on the sample label and the chain-of-custody form for each sample for reference purposes. The correlation of sample designation to the sample number will be recorded in the Field Logbook.

14.2 SAMPLE LABELS

To identify the contents of each sample container, a sample label completed with a waterproof marker will be firmly attached to each sample container. Each sample label will be completed with the following information:

- Date of sampling;
- Sample ID number;
- Place of sampling (Royal Metals facility);
- Type of preservative;
- Parameters to be analyzed; and
- Name(s), initials of the sampler(s).

The boring or monitoring well number will not be recorded on the sample label or the chain-of-custody of the duplicates so that the laboratory will not know which well these samples were taken from. The locations of the duplicates will be noted in the Field Logbook.

14.3 COOLER SEALS

In the event that the samples will change hands en route to the laboratory, such as when shipped via overnight courier, chain-of-custody seals will be affixed at opposite corners the lid of the cooler to ensure that the container has not been opened during shipment. For the purposes of this project, it is important to document the persons who have access to the samples and to confirm

that the samples have not been exposed to undocumented conditions or persons which may impact the integrity of the samples, thus impacting the results of the analytical tests. Two seals will be affixed to each shipping container and fastened so that the container cannot be opened without breaking at least one of the seals. The custody seals will be completed with the date of sealing and signature of the sampler. The cooler will also be further secured for shipment using clear shipping tape. The condition of the custody seal, as well as the name of the sampler and the sampling date, will be recorded in the Field Logbook. Upon arrival at the laboratory, the condition of the custody seals will be examined by laboratory personnel for signs of tampering during transit.

14.4 FIELD LOGBOOK

A bound Field Logbook, designated "Royal Metals and Schmock – 333-01" will be used to record notes and observations during the closure activities. All entries into the Field Logbook will be made in permanent ink. Cross-outs, corrections, and additions to the entries will be initialed and dated. Ambient weather information will be recorded in the Field Logbook. This will include approximate temperature, wind velocity and direction, cloud cover, and precipitation information. The ground surface near the wellhead will be visually inspected for standing water or other soil conditions. These observations will also be recorded in the Field Logbook.

For sampling event: the site name and location, date, starting and ending times, weather, names of all people involved in sampling activities, level of personal protection used, documentation of adherence to protocol, any changes made to planned protocol, names of visitors to the site during sampling and reason for their visit, unusual observations, and signature of the person recording the information.

For each individual sample: a detailed description of location, any measurements made, the unique sample number assigned, the time the sample was taken, physical description of sample, depth from which sample was collected, whether grab or composite (if composite, how composited), equipment used to collect the sample, volume and number of sample containers, how sample is preserved, and initials of sampler. Each field duplicate must be given its own unique sample number; the description should include the unique sample number of its duplicate.

The field logbook will include comments regarding the following:

- Purpose of sampling event and identification of each sample location;
- General field observations;
- Name(s) of field personnel on site;
- Name(s) of site visitors;
- Climactic conditions - approximate temperature, wind speed and direction, and precipitation/cloud cover;
- Well maintenance and sampling information including:
  - Well stick-up; and

  - Problems noting well condition and maintenance.

- Sample procedure/equipment;
- Date and time of calibration of field-testing equipment;
- Equipment calibration (recorded each time the instruments are calibrated) and file data including:
  - Standards used;
  - Field meter identification;
  - Calibration results; and
  - Name of person who performed calibrations.
- Deviations, if any, from the SAP or QAPP;
- Depth to water;
- Total well or boring depth;
- Purge volume (groundwater sampling);
- Sample locations and depths;
- Sample collection procedures;
- Sample identification numbers;
- General sample appearance (color, odor noted, etc.), including presence/absence of visual impact;
- Types and source of sample containers;
- Preservatives used;
- Parameters for analysis;
- Date and time of sample collection; and
- Sample transport method and transporter.

All sample identification numbers will be recorded in the Field Logbook, along with a sketch showing sample locations associated with each sample number.

In addition to general comments and observation included in the Field Logbook, a Soil Boring Log form will also be completed for each soil sampling location, documenting the following:

- A general Field Description including soil boring I.D.; date; well logger's name, title and affiliation; narratives of geologic and drilling observations (e.g., blow counts, soil color, consistence, etc.); and total depth;
- United States Department of Agriculture (USDA) texture;
- Unified Soil Classification System (USCS) Classification;

- Lithologic description, including roundness (where applicable), sorting, grain size using the modified "Wentworth" grade size scale, and mineralogy (where appropriate);
- Color, using the Munsell Soil Color Charts (Munsell Color, 1975);
- Soil structures (soil horizons);
- Sedimentary features, such as bedding, stratification, deterioration, bioturbation, etc.
- Consistency;
- Moisture;
- Zones of secondary priority, including fractures, root chemicals, animal burrows, dissolution pores, etc., and
- Other miscellaneous features, such as apparent contamination (odors, staining) and other pertinent information not mentioned above.

14.5 CHAIN-OF-CUSTODY FORM

The field portion of the custody documentation should include: (1) project name; (2) signatures of samplers; (3) sample number, date and time of collection, and whether the sample is grab or composite; (4) signatures of individuals handling samples; and (5) air bill or other shipping number.

A chain-of-custody form will be filled out and accompany the samples to the analytical laboratory. The form will also serve as a sample analysis request form, communicating to the laboratory the exact analysis (including method number) to be performed on each sample submitted. The chain-of-custody form will include the following information:

- Sample identification number;
- Signature of sample collector and other individuals in chain of possession;
- Date(s) of collection;
- Date(s) of relinquishment by individuals in chain of possession;
- Identification of analytical laboratory;
- Sample matrix;
- Sample container descriptions, number of sample containers per analysis, and types of analysis to be performed including analytical method numbers;
- Laboratory identification number (completed by laboratory);
- Integrity of cooler seals (to be noted by laboratory, if applicable); and
- Special instructions and remarks.

14.6 LABORATORY LOGBOOK

The laboratory will have an acceptable quality assurance and quality control program. Among the necessary procedures will be the maintenance of laboratory logbooks. Commercial laboratories selected will certify the use of and make available for inspection laboratory logbooks. The type of information to be recorded in the logbooks is specified in the laboratory QAP (Appendix D of the multi-site QAPP).

14.6 LABORATORY LOGBOOK

The laboratory will have an acceptable quality assurance and quality control program. Among the necessary procedures will be the maintenance of laboratory logbooks. Commercial laboratories selected will certify the use of and make available for inspection laboratory logbooks. The type of information to be recorded in the logbooks is specified in the laboratory QAP (Appendix D of the multi-site QAPP).

15.0 RE-SAMPLING

If during sampling any samples are broken or lost prior to analysis, the specific sample and media will be re-sampled by the same or an alternate method identified in this SAP and submitted for the parameters corresponding to the lost or broken sample containers. Re-sampling will be conducted within two weeks of the original sampling date.

16.0 SUBMITTAL OF ANALYTICAL RESULTS

The soil and groundwater analytical results will be submitted to the USEPA and the IDEM for review as part of the *VRP Phase II Site Investigation Report* and the *VRP Remediation Work Plan.* The analytical results will be submitted to the MCEDC in interim status reports following receipt from the laboratory. These reports will include the data validation results, as described in the multi-site QAPP.

The analytical results package will include sampling dates, analysis dates, analytical methods used, practical quantitation limits, quality control results, and signed copies of the chain-of-custody forms. The QA/QC results will include blank results, matrix spike/matrix spike duplicate results, surrogate recoveries (as appropriate for the analysis), tuning results (CC-MS), and initial calibration results.

Copies of the pertinent Field Logbook entries will be submitted in the reports to IDEM and USEPA if requested, and will also be copied to Michigan City Economic Development Corporation management for filing.

TABLES

1 Sample Container, Preservation, and Holding Time Requirements

TABLE 1
SAMPLE BOTTLES, METHODS, PRESERVATIVES, AND HOLD TIMES
Sampling and Analysis Plan
Royal Metals - Michigan City, Indiana

Sample Name[1]	Sample Matrix[1]	Number of Samples[4]	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
SB-#;*[depth]*	Soil	8	Investigative	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
GW-#;*[date]*[3]	Groundwater	5	Screening	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#;*[date]*	Groundwater	5	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#;*[depth]*	Soil	1	Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
DUP-#;*[date]*	Groundwater	1	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD-#;*[depth]*	Soil	1	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
MS/MSD-#;*[date]*	Groundwater	1	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
EQ-#;*[date]*	Aqueous	1	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 1-L Amber (Non-Preserved, 4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082

Notes:

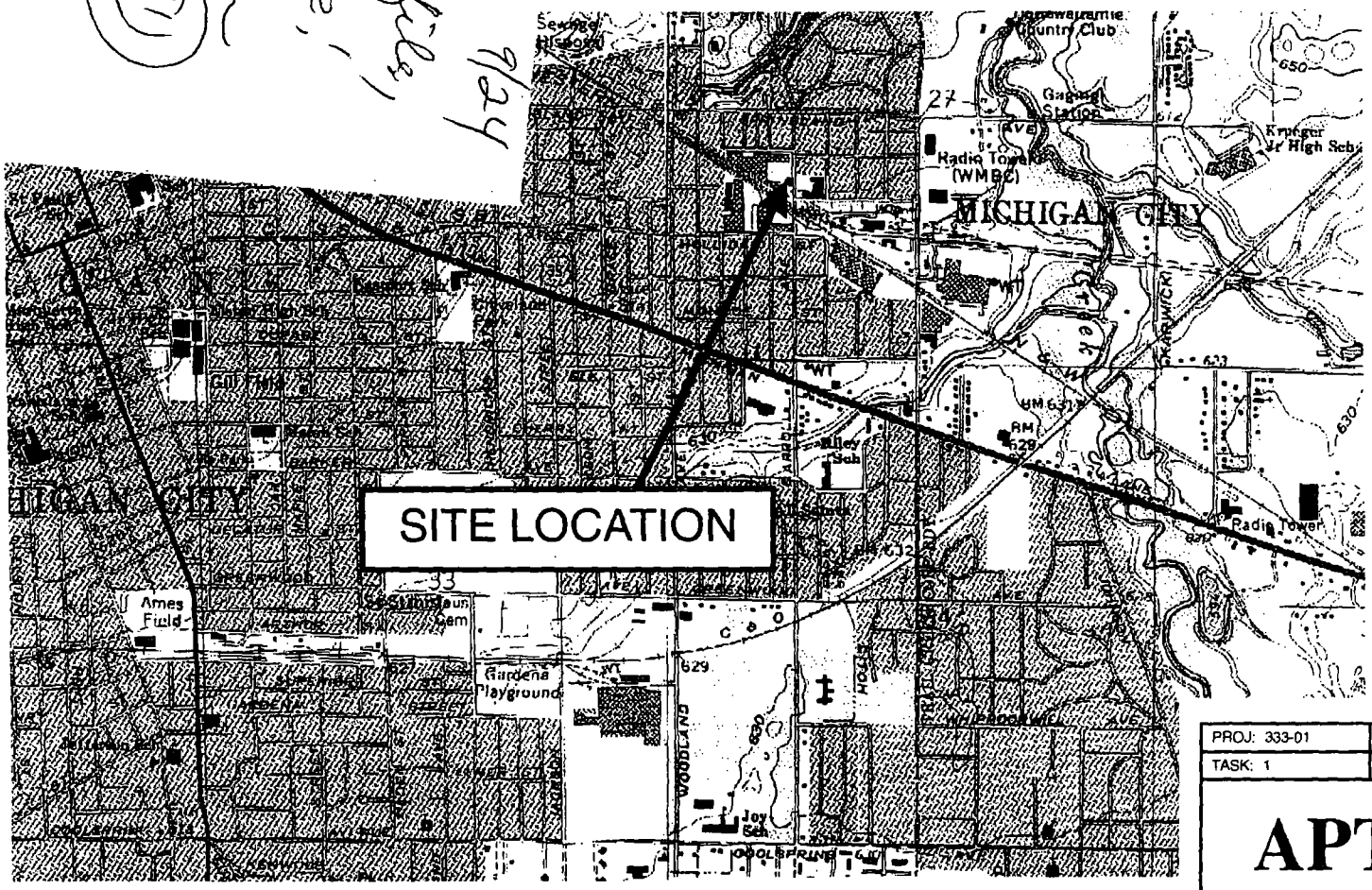
1. The soil samples to be collected by APT from soil borings advanced by Top Flight Environmental Drilling Services.
2. Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolitile organic compounds (SVOCs), priority pollutant list (PPL) metals, and PCBs using the stated analytical method.
3. Groundwater screening samples (GW-*[date]*) will be collected from the Geoprobe boreholes.
4. Number of samples is based on one sampling event.

FIGURES

1 Site Location Map

2 Site Map With Proposed Monitoring Well and Soil Boring Locations

Diane -
for your file,
I believe,
Jan
9/24



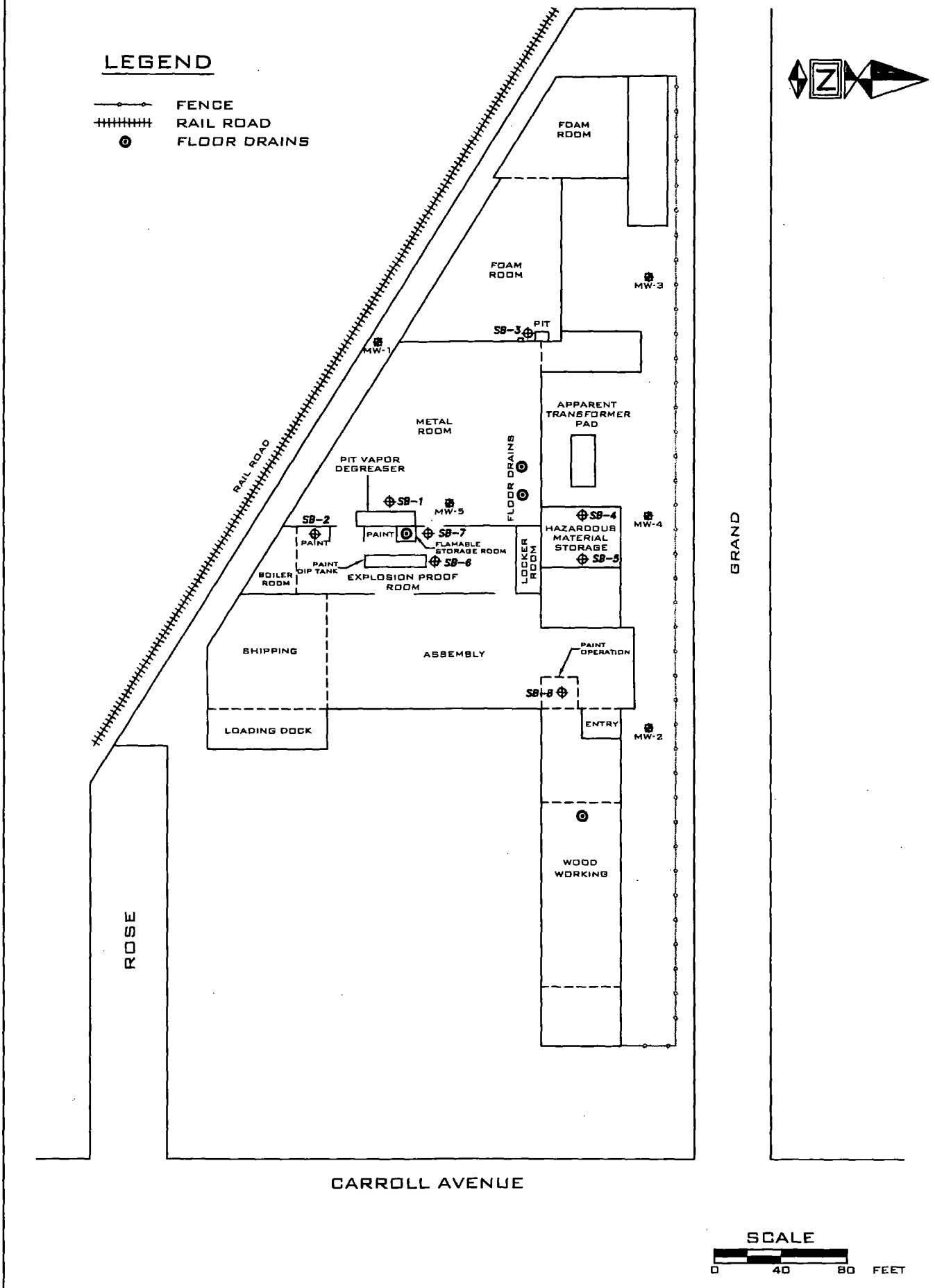
SCALE
0 2,000 4,000

PROJ: 333-01	DWG LOC: MICHIGAN CITY, INDIANA	
TASK: 1	DWG BY: AB	REV DATE:

APT, Limited

Figure 1
SITE LOCATION MAP

Royal Metals
Michigan City, Indiana
PREPARED FOR
Michigan City Economic
Development Corporation
Michigan City, Indiana



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TASK 1	Royal Metals Michigan City, Indiana
DWG: 333.1.F2.MWSB	PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana
DATE: 4-23-02	
DWR BY: AB	

Figure 2

SITE MAP WITH PROPOSED MONITORING WELL AND SOIL BORING LOCATIONS

APT, LIMITED

September 2002

SAMPLING AND ANALYSIS PLAN

Revision 01

Former Royal Metals Facility
Michigan City, Indiana

Prepared for:

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Michigan City Economic Development Corp.
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Project No. 333-01

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Figure 1 Site Location Map

Figure 2 Site Map With Proposed Monitoring Well and Soil Boring Locations

1.0 INTRODUCTION

The purpose of this Sampling and Analysis Plan (SAP) is to establish sampling and analysis procedures associated with a site investigation at the former Royal Metals site consistent with the Indiana Department of Environmental Management (IDEM) – Voluntary Remediation Program (VRP) *Resource Guide*, dated July 1996. The sampling and analysis procedures are required to determine the extent of potential soil and groundwater impacts at the former Royal Metals facility. Additionally, investigative activities conducted within the potentially impacted areas may be used to determine remedial action alternatives, if necessary. This SAP lists the procedures to be followed so that any qualified individual adhering to the procedures outlined in the SAP can obtain soil and groundwater samples at the identified locations and intervals presented in this SAP, and any subsequent investigatory activities at the facility.

This SAP includes discussion of equipment and materials, sampling procedures, chain-of-custody and field documentation procedures, target monitoring parameters, field measurement procedures, decontamination procedures, and quality assurance procedures. Information presented in the text of this SAP include, but are not limited to, sampling procedures, analytical methods, sample containers, sample preservation, holding times, and chain-of-custody procedures, specific to the former Royal Metals facility in Michigan City, Indiana.

2.0 FACILITY LOCATION AND BACKGROUND

The Former Royal Metals facility is located at 600 N Carroll Ave. in Michigan City, LaPorte County, Indiana (see Figure 1). The facility is situated on approximately 3.75 acres of land with a total area of 64,000 square feet of office and manufacturing building (see Figure 2). The facility is currently abandoned; however, past production activities at the facility consisted of metal fabricating and finishing.

A Phase I Environmental Site Assessment (ESA) conducted at the site by APT, Limited (APT) in January 2002 identified 10 potential recognized environmental conditions (RECs) associated with the property. These are identified as follows:

- REC-1: Pit Vapor Degreaser – A large pit vapor degreaser was present in the metal working area of the plant. The degreaser consisted of a tank sitting in a large concrete vault. Fluid was still present in the tank and in the vault below. Chlorinated solvents were the most common degreasers used in vapor tanks. As a result, the vapor degreaser represents a REC because chemicals from the tank and concrete vault may have leaked to the ground below.
- REC-2: Paint Booths – Two paint booths were present adjacent to the metal working area of the factory. The floors and walls were heavily coated in paint overspray. No collection system appeared to be present. The paint booths represent a REC because historic use of paints, and paint thinners may have impacted the soils and groundwater beneath the concrete floor.
- REC-3: Unknown Pit – A pit of unknown use was located in the former foam area of the factory. The pit was rectangular in shape, approximately six feet long by four feet wide, and was approximately two feet deep. The pit was full of standing water. Based upon the unknown use of this pit, this represents a REC.
- REC-4: Apparent Transformer Pad – A concrete pad is located just north of the metal working area of the facility. The pad appears to have been the site of a former transformer. There is thus the possibility of impacts from PCB containing transformer fluids. The concrete pad is enclosed with a six-foot chain link fence. The concrete appeared to be in good condition, however no run-off collection system was present to collect run-off of transformer oils. Therefore, this concrete pad represents a REC.
- REC-5: Hazardous Material Storage Area – The portion of the building located immediately east of the concrete pad is marked hazardous material storage. The rooms could not be inspected during the Phase I ESA site reconnaissance due to the collapsed roof. However, based on materials that were likely stored in this area, the hazardous material storage area represents a REC.
- REC-6: Floor Drains and Possible Septic System – Several floor drains were located in areas throughout the facility, including the metal working, wood working, explosion proof finishing, and chemical storage areas of the factory. Personnel from the Michigan City Sanitation Department indicated that a combination sewer was present back to at

least 1927 but could not indicate whether the factory had been connected to the sewer. The location of a septic system, if any, was not identified. Therefore, the floor drains and possible septic system represent a REC.

- REC-7: Paint Dip Tank – A long trench tank was located in the explosion proof area. The trench was mostly covered except for the southernmost end, which was open at the time of the site reconnaissance. According to interviews with Officer Chamberlain, the trench was the former location for a paint dip tank operation. Review of available Sanborn maps indicated that enameling operations were historically completed in the area. Based upon the possibility of fluids leaking from the tanks and impacting the underlying soils and groundwater, the paint dip tank represents a REC.
- REC-8: Flammable Chemical Storage – A small room was present in the explosion proof area and was labeled "Flammable". The room contained multiple shelving units for storage and a floor drain. Based upon the chemicals that would likely have been stored in the room and upon the lack of information associated with chemical management at the facility, the flammable chemical storage room represents a REC.
- REC-9: Wood Paint Area – A paint area was present in the woodworking area of the factory. Paint racks and tanks were present at the time of the site reconnaissance. Officer Chamberlain indicated that painting and gluing of the wood products were completed in this area. It is possible that historic spills of paints and paint thinners may have impacted the soils and groundwater underlying the concrete floor. Based upon historic operations in the facility and upon the lack of available information concerning management and control of chemicals used at the facility, the wood paint area represents an REC.
- REC-10: Site-Wide Groundwater Issues – No chemical management or historic spill information was available for the Royal Metals facility. However, it is known that hazardous chemicals were used during the operation, and that they were stored throughout the facility. Based upon the duration and nature of historical operations, it is possible that historic spills have adversely impacted groundwater quality at the subject property. Thus, site-wide groundwater represents a REC.

3.0 GENERAL INFORMATION

The area to be investigated is the former Royal Metals facility and environs. Soil and groundwater samples will be collected by APT personnel during the site investigation activities. Sampling will not be conducted during inclement weather, with inclement weather defined as weather that may impair the integrity of the samples. A copy of the SAP will accompany the sampling team during each sampling event.

All soil and groundwater samples will be analyzed by Pace Analytical of Indianapolis, Indiana (Pace), with the analyses performed in accordance with the most recent edition of the EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Pace's quality assurance plan (QAP) is included as Appendix D of the multi-site *Quality Assurance Project Plan* (APT, April 2002), which has been developed as a separate document.

4.0 EQUIPMENT AND MATERIALS REQUIRED

The following is a listing of sampling equipment that is planned on being used during the investigative soil and groundwater sampling:

- Truck-mounted hydraulic direct-push probe machinery with steel alloy and stainless steel rods;
- A push-probe that utilizes a macro-core sampler consisting of a 4-foot by 2-inch steel tube fitted with a new, clean acetate liner;
- Clean replacement acetate liners for the macro-core samplers;
- Truck-mounted drill rig with steel alloy hollow-stem augers and drill rods;
- A continuous soil sampler consisting of a 2-foot by 2-inch steel tube advanced before the lead hollow-stem auger;
- Jackhammer for driving soil sampling device (where manual technique is warranted);
- A scale suitable for use in the field capable of measuring in 0.01-gram increments;
- Certified steel or brass tare weight of known mass (for calibration);
- An Organic Vapor Meter (OVM) with 100 parts per million by volume (ppmv) isobutylene calibration gas;
- Decontaminated stainless steel spatula, utility knife, hand trowel, etc.;
- For groundwater elevation measurement, a Slope Indicator Company Water Level Indicator, graduated in hundredths of a foot;
- A portable pH/ORP/°C/µS Watertest meter suitable for use in the field. Manufacturer – Hanna Instruments and related calibration solutions;
- Dedicated, disposable, polyethylene bailer and string;
- Deionized water and non-phosphate detergent for decontamination;
- New, disposable, clean vinyl, nitrile, or latex gloves (enough for each sampling team member to wear a fresh pair for each sample interval or each well);
- New, appropriately sized, pre-preserved sample containers supplied by the laboratory;
- Five-gallon plastic buckets to be used for decontamination of equipment as needed;
- Insulated coolers, capable of maintaining samples at 4 degrees Celsius, for transporting the samples to the laboratory;
- Sealable plastic baggies for packaging and refrigeration of samples;
- Water resistant sample labels;
- A hardbound field logbook;

- Chain-of-custody forms;
- Clear shipping tape and chain-of-custody seals to seal coolers (if shipped);
- Plastic sheeting, paper towels, garbage bags, indelible ink pen, etc.; and
- A copy of the QAPP on site with the samplers.

Sampling equipment will not be allowed to come in contact with the ground or any object that might provide a source of contamination once it has been decontaminated.

5.0 EQUIPMENT INSPECTION AND CALIBRATION

Equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the manufacturer's specification. In order to insure and maintain operational condition of the sampling and monitoring equipment to be used during field activities, sampling equipment inspection, and calibration procedures will be followed during site activities. In addition, an outline of procedures for using and changing gloves to ensure sample integrity during sample collection has also been included.

Field equipment have established standard preventative maintenance plans. This includes decontamination of field analytical equipment, including the OVM, Watertest meter, and survey instrumentation. All scheduled and unscheduled maintenance will be recorded in the field notebook.

5.1 EQUIPMENT INSPECTION

Equipment to be used during the field sampling will be examined prior to use to certify that it is in operating condition. This includes checking the manufacturer's operating manual and the instructions for each instrument to ensure that maintenance requirements are being observed. Field notes from previous sampling trips will be reviewed so that the notation on any prior equipment problems are not overlooked, and all necessary repairs to equipment have been carried out.

Sampling equipment will be inspected at least one (1) week prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in the inspection. The copy of the list will be used to document the inspection.

The groundwater monitoring wells will be inspected during each groundwater sampling event for any signs of deterioration or other problems (e.g., rusted or broken locks, crumbling or cracked surface pad, missing well cap, standing water). The condition of each monitoring well will be documented in the Field Logbook.

The hollow-stem continuous sampler and hydraulic push-probe soil sampling equipment will be inspected in the field prior to each sampling event. A copy of the equipment list in Section 4.0 of this SAP is intended to be used as an inspection schedule and shows the items to be included in each inspection. Any problem or concern related to the condition of the equipment will be corrected prior to performance of field activities. Hollow stem drilling and push-probe equipment will be provided and operated by Top Flight Environmental Drilling of Osceola, Indiana under the direction of APT.

5.2 EQUIPMENT CALIBRATION

Calibration of field instruments is governed by the specific standard operating procedure (SOP) for the applicable field analysis method, and such procedures take precedence over the following general discussion. Additional calibrations will be performed in the event of suspected equipment malfunction.

Calibration of field instruments will be performed at least twice daily, at the beginning and end of every workday, unless the manufacturer specifies more frequent intervals. Equipment calibration will occur more frequently as conditions dictate. Field instruments will include a portable OVM and a Watertest meter. In the event that an internally calibrated field instrument fails to meet calibration/checkout procedures, it will be replaced or repaired before being used.

The OVM instrument will be calibrated in the field at the beginning and end of each day of sampling using a 100 ppmv isobutylene calibration gas. Acceptable results of the OVM verification check should be plus or minus 10 percent of the true value of the calibration gas. The OVM instrument will be recalibrated if the result of the verification check is outside of acceptable limits and as necessary in response to any malfunction or anomalous behavior of the instrument. Equipment calibration will be performed to manufacturers' instructions. If equipment malfunction is suspected and calibration failure occurs, equipment will be removed from service and substitute equipment obtained. Documentation of field calibration of the OVM instrument will be recorded in the Field Logbook.

The scale used to weigh the sample will be zeroed by placing a clean calibration mass on the scale and calibration of the scale will continue following the manufacturer instructions.

The Watertest meter will be calibrated in the field at the beginning and end of each day of sampling. Re-calibration will be conducted as necessary in response to any instrument malfunction or anomalous behavior of the instrument. Equipment calibration will be performed according to manufacturer instructions. Documentation of field calibration of the pH, specific conductivity, and temperature meter will be recorded in the Field Logbook.

6.0 TARGET PARAMETERS/ANALYTICAL METHODS

The COCs for the facility are solvents, lubricating and cutting oils, petroleum products, metals, and possible PCB-containing fluids. Soil and groundwater samples from the area will therefore be analyzed for:

- Volatile organic compounds (VOCs) by SW-846 Method 8260, with methanol preservation in the field using Method IN-5035M for soil samples;
- Semivolatile organic compounds (SVOCs) by SW-846 Method 8270 (base/neutrals/acids);
- Priority Pollutant List (PPL) metals by SW-846 Methods 6010 and 7471 (mercury); and
- Polychlorinated Biphenyls (PCBs) by SW-846 Method 8082 (soil samples only).

Further details pertaining to laboratory methods and data quality objectives are presented in the laboratory's QAP, which is included as Appendix D of the multi-site QAPP (APT, April 2002).

7.0 USE OF GLOVES

Any personnel handling the equipment or performing sampling will wear a new pair of clean latex, nitrile, or vinyl gloves if the potential exists for contact with the soil or groundwater sample, or any surface that may come in contact with the sample. Gloves must be discarded after each sample interval and replaced with new, clean gloves prior to proceeding to the next sample interval. Gloves will be collected with other personal protection equipment (PPE), containerized in a labeled 55-gallon drum, and characterized for appropriate disposal. Characterization of PPE will rely on the laboratory results of the soil samples tested. Sampling equipment and the samples themselves will not be allowed to come in contact with any object that might provide a source of contamination.

8.0 SOIL SAMPLING

Soil samples will be collected for laboratory analysis following the VRP's DQO's for site investigation sampling (*i.e.*, Level 3 DQOs). One soil sample will be collected from each of an estimated eight soil borings that will be advanced at the site. The soil sample will be collected from the interval exhibiting the highest degree of apparent impact based on OVM readings or visual observations, or if there is no evidence of impact, from just above the capillary fringe of the water table. Each soil boring will be advanced using either a Geoprobe drilling unit, which utilizes a hydraulic percussion method to advance a push-probe sampler, a drilling rig equipped with hollow stem augers, or a manually driven push probe advanced using a jackhammer or equivalent. The method used will be dictated by the site conditions, including access and clearance considerations. Continuous soil cores will be collected in order to characterize the subsurface. Depending on logistics and technical requirements, an alternative method of drilling may be required, in which case the USEPA and the City will be notified prior to implementing the alternative drilling method. The laboratory will analyze soil samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan*. While all soil samples will be analyzed for VOCs, SVOCs, and PPL metals, only selected soil samples will be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present).

8.1 SAMPLE LOCATIONS

The proposed soil boring locations are shown in Figure 2, and are based on the results of the *Phase I EA* (APT, January 2002). However, the final locations will be determined in the field based on site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The soil borings will be located such that they are adequate to evaluate each REC with regard to the potential for impact.

All borings will be advanced to a depth of approximately three to five feet into the zone of saturation, estimated to occur at a depth of 10 feet BGS.

8.2 PUSH-PROBE SOIL SAMPLING EQUIPMENT AND PROCEDURE

The hydraulic push-probe sampler operates by advancing a string of 1-inch-diameter threaded steel alloy rods with the aid of a hydraulic ram. The push probe is capable of exerting 18,000 pounds of force and uses a hydraulic hammer attachment to advance the rods through dense or hard materials.

A macro-core sampler will be used to continuously obtain soil samples. The macro-core sampler is a hollow steel tube measuring 4 feet in length and fitted with an acetate insert. The macro-core sampler is capable of recovering a soil core up to 48 inches long and 1.5 inches in diameter. Sampling procedures to be implemented during investigative activities are discussed below.

The following procedure will be followed when sampling using this technique:

1. The truck-mounted push-probe rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. Push-probe equipment will be set up and the decontaminated macro-core sampler advanced to the desired depth using the hydraulic ram and hammer; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the soil sample contained within the acetate liner is removed from the sampler for inspection.
3. The acetate liner will be cut open using a decontaminated liner cutter for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
5. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. One soil sample will be collected for laboratory analysis from each of the soil borings. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
8. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.
9. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

8.3 HOLLOW STEM AUGER SAMPLING EQUIPMENT AND PROCEDURE

Drilling with hollow-stem augers will be performed in general accordance with ASTM D-1586. Hollow-stem auger soil borings will be advanced using a drill rig and hollow-stem augers. While drilling with hollow-stem augers, soil samples will be collected continuously using a clean, two-foot or three-foot long, split-barrel sampler. The split-barrel sampler will be decontaminated between each sample interval.

The following procedure will be followed when sampling using this technique:

1. The drilling rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for changes of location, will be documented in the Field Logbook.
2. A decontaminated split-spoon sampler advanced to the desired depth following ASTM D-1586; each core will be taken with a vertical orientation. After being advanced to the sampling depth, the sampler will be withdrawn and the split-spoon sampler opened, exposing the soil core contained within for inspection.
3. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector (PID). OVM measurements will be recorded in the logbook or on a Soil Boring Log form.
4. If warranted by gross indications of impact (OVM or visual), a soil sample will be collected for possible laboratory analysis.
5. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
6. One soil sample will be collected for laboratory analysis from each of the soil borings. Samples are to be analyzed for VOCs using SW-846 Method 8260/IN-5035M; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471. Selected soil samples will also be analyzed for PCBs (*i.e.*, from areas where PCB-containing fluids may have been present) using Method 8082. Each soil sample will be transferred into the appropriate sample container by using a gloved hand and/or a decontaminated stainless steel spatula. A sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. If duplicate or matrix spike/matrix spike duplicate samples are required from a specified interval, the appropriate number of sample containers will be filled. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier.
7. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be

7. Following sampling activities, the chain-of-custody form will be completed and each sample container placed in an ice-filled cooler for storage. Each sample will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14 of this SAP.
8. Following completion of each boring, either a monitoring well will be constructed or the boring will be sealed with crushed-grade or granulated bentonite to the top of the borehole and potable water added to hydrate the bentonite.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Following completion of the boring, the borehole will be backfilled with a cement/bentonite slurry (90/10 mixture) unless the boring is to be converted to a groundwater monitoring well. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

8.4 MANUAL PUSH PROBE SAMPLING EQUIPMENT AND PROCEDURE

In areas inaccessible to a Geoprobe or drilling rig equipped with hollow stem augers (*e.g.*, low roofed buildings or buildings with limited access), soil sampling will be accomplished using a manual push probe method. The drilling contractor will advance a two- or four-foot sampling device (*e.g.*, Geoprobe sampler or split-spoon sampler and AWJ-rod assembly) using a jackhammer or other manually operated percussive device. Continuous soil samples will be collected from the soil borings in four-foot and/or two-foot increments. A clean, plastic sampling sleeve will be used for each sample interval. The stainless steel coring sleeve will be decontaminated between each boring.

Every two-foot section of the sample core will be screened with a PID for the presence of volatile constituents. A geologic log will be constructed based on observations from the soil samples. Unified Soil Classification System (USCS) information, including soil type, grain-size, color, and moisture content, will be recorded on a field boring log form.

Following completion of the boring, the borehole will be backfilled with any remaining cuttings. At a minimum, the upper two feet of the borehole will be backfilled with bentonite pellets. Surface features, such as pavement, asphalt, soil, etc. will be restored to its original status to the extent practicable.

9.0 GROUNDWATER SAMPLING

Groundwater samples will be collected for laboratory analysis following the VRP DQOs for screening (*i.e.*, Level 1 DQOs) and nature & extent investigation sampling (*i.e.*, Level 3 DQOs). The purpose of the groundwater sampling and analysis is to obtain and analyze representative groundwater samples to determine to what extent, if any, VOC, SVOCs, and PPL metal impacts from past operations at the facility have affected groundwater quality. The groundwater sampling and analysis will be used to characterize the site-wide groundwater quality at the Royal Metal property. Groundwater sampling at the site will include obtaining groundwater samples from five of the soil borings advanced during the soil assessment portion of the investigation, and subsequent groundwater sampling from five monitoring wells installed as part of the baseline groundwater assessment portion of the investigation.

This section lists the procedures to be followed so that any qualified individual can obtain representative groundwater samples from the soil borings and monitoring wells.

The laboratory will analyze groundwater samples for the analytical parameters specified Section 6.0 of this *Sampling and Analysis Plan.*

9.1 GROUNDWATER SCREENING SAMPLING

The assessment work scope will include taking groundwater screening samples from five selected soil borings. The following procedure will be followed when collecting groundwater screening samples:

1. The boring will be advanced to a depth of five feet below the static water level as indicated by saturated conditions encountered while drilling, following the procedure outlined in Section 8.0 of this SAP.
2. Static water elevations will be allowed to equilibrate for ten minutes.
3. Prior to collecting a groundwater sample from a Geoprobe soil boring, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the boring and multiplying the difference by 0.064 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. Up to two additional well casing volumes of water, following the initial three well volumes, will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: ± 0.1 standard units;
    - temperature: ± 0.5°C; and
    - specific conductivity: ± 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated an labeled 55-gallon drum for disposal at a later date;

4. A length of decontaminated polyethylene tubing equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater;

5. The collected groundwater will be decanted directly into laboratory supplied pre-preserved glass or plastic sample containers. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice; and

6. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14. Groundwater screening samples will be analyzed for VOCs using SW-846 Method 8260; SVOCs using SW-846 Method 8270; and PPL metals using SW-846 Methods 6010 and 7471.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary.

9.2 BASELINE GROUNDWATER ASSESSMENT SAMPLING

In order to characterize the groundwater quality at the former Royal Metals facility, five monitoring wells will be installed at the proposed locations shown on Figure 2. The final locations will be based on the results of the soil and groundwater screening analyses, as well as site conditions. Some of the proposed locations may be inaccessible due to the deteriorated condition of the building and unknown obstructions. The monitoring wells will be located such they are adequate to evaluate site-wide groundwater with regard to the potential for impact.

All monitoring well borings will be advanced to a depth of approximately five feet into the zone of saturation, estimated to occur at a depth of 20 feet BGS. Continuous soil cores will be retrieved from the monitoring well borings to geologically and chemically characterize the soils and observe the soils for unusual conditions. The following procedure will be followed while advancing each borehole:

1. The drill rig will be moved to the designated sampling location. Any deviation from the sample locations identified in this SAP, along with the reasons for the location change, will be documented in the Field Logbook.

2. The drilling equipment will be set up and a decontaminated two-foot long, 2-inch diameter split-spoon sampler will be advanced ahead of the auger bit in accordance with ASTM Standard Method D1586-84; each sample core will be taken with a vertical orientation. After being advanced to the desired sampling depth, the sampler will be withdrawn and the soil core removed for inspection.

3. The soil core will be placed on clean plastic sheeting and opened by splitting the sampler in half for direct observation of the soil sample.
4. The soil core will then be field screened for VOCs using an OVM equipped with a photoionization detector. OVM measurements will be recorded in the logbook or on a Soil Boring Log form. Although no soil samples are proposed to be collected from monitoring well borings, soil sample may be retained for possible laboratory analysis based on the OVM readings or visual evidence of impact. Samples to be analyzed for VOCs will be collected in accordance with Method IN5035-M: each soil sample will be weighed for the appropriate amount and transferred into the appropriate sample container by using a gloved hand and/or spatula. The MCEDC will be contacted with regard to whether analysis should be performed. If not, the collected soil sample will be discarded
5. If the sample is to be submitted to the laboratory for analyses, a sample number will be assigned to that sample and all appropriate information will be recorded in the Field Logbook. Soil sample locations and intervals will be recorded in the Field Logbook or on a Soil Boring Log form using the appropriate sample identifier as discussed in Section 14 of this SAP.
6. The soil core will then be geologically characterized by the on-site geologist. The geologic observations and stratigraphic information will be recorded in the logbook or on a Soil Boring Log form.
7. The auger chain is then advanced to the bottom depth of the split-spoon sampler and the process repeated until the total depth of the boring is reached.
8. Following sampling activities, the chain-of-custody form will be completed and sample containers placed in an ice-filled cooler for storage. Samples will be packaged and protected to reduce the potential for breakage and cross-contamination. Appropriate chain-of-custody procedures will be maintained. Sample labels are to be completed for each sample container as outlined in Section 14.
9. Following completion of each boring, a monitoring well will be constructed per the procedure outlined in Section 9.2.1 below.
10. Following installation, each monitoring well will be developed using the procedure described in Section 9.2.3 of this SAP.
11. No sooner than 24 hours following installation and development of the monitoring wells, one round of groundwater samples will be collected from all of the wells to provide a baseline for site-wide groundwater quality. Groundwater samples from these five monitoring wells will be analyzed for VOCs, SVOCs, and PPL metals using Method 8260, Method 8270, and Methods 6010 and 7471 respectively. QA/QC samples will also be collected in accordance with IDEM requirements, and will include one duplicate sample per every 10 investigative samples, one equipment rinsate blank per day, one MS/MSD per 20 investigative samples, and one trip blank per sample shipping container.

Soils and decontamination liquids generated during drilling activities will be placed in labeled 55-gallon drums for appropriate characterization and disposal as necessary. Soil sampling equipment will be decontaminated between soil cores using non-phosphate detergent and distilled water.

9.2.1 Monitoring Well Installation Procedure

The following procedure will be followed when installing monitoring wells:

1. The monitoring well borehole will be advanced to an estimated depth of 20 feet BGS using a mobile drilling rig equipped with 4-1/4 inch hollow stem augers. The wellbore will be terminated upon reaching a depth sufficient to install a five-foot long screen across the static water level of the uppermost water bearing zone. This will allow for the detection of possible light non-aqueous phase liquids (LNAPL) under a range of groundwater elevation fluctuations. Continuous coring will be performed using a two-foot long split-sampling device driven ahead of the auger chain in order to characterize the subsurface geology. These cores will also be field screened for volatile compounds using an OVM;
2. The monitoring well will be installed inside of the auger chain using a five-foot long slotted screen and five-foot long sections of flush-threaded 2-inch PVC. The monitoring well will be equipped with a flush mount casing, unless it is located in an area of no vehicular traffic where the monitoring well will be of stick-up design;
3. A filter pack of appropriately sized material will be placed from the bottom of the wellbore to two feet above the top of the screen. The filter pack will not extend more than two feet above the top of the well screen;
4. An annular seal of bentonite shall be installed above the filter pack and will have a minimum thickness of two feet;
5. A annular seal of bentonite or grout (if the bentonite does not extend upward through the remaining annular space to the base of the concrete surface seal) shall be installed above the bentonite seal and will extend upward to the base of the concrete surface seal;
6. A concrete surface seal will be installed and will be anchored to soils below the regional frost line to protect the well from damage due to frost heave;
7. A concrete pad will be installed around the monitoring well and will be sloped away from the well casing to deflect surface water away from the well; and
8. The newly installed monitoring well will be surveyed to a vertical accuracy of 0.01 feet and a horizontal accuracy of 1.0 feet, relative to a permanent on-site benchmark.
9. A well construction diagram will be completed for each monitoring well, providing pertinent information regarding the well.

The filter pack, annular seal, and grouting materials shall be installed through the center of the hollow-stem auger chain as the drill string is withdrawn. Filter pack materials and bentonite chips or pellets will be introduced gradually and uniformly to the annular space inside of the

hollow-stem auger chain and around the well casing to prevent bridging of the materials during placement. The auger chain will be gradually removed from the open borehole in approximately one-foot lifts as the material is placed, allowing the material to gradually spill out of the bottom of the auger chain into the annular space between the subsurface soils and the well casing and thus further prevent bridging. Any grouting will occur under pressure with the annulus sealed from the bottom up via the tremie method.

9.2.2 Measurement of Static Groundwater Elevations

Prior to purging the wells when sampling, the depth to water will be determined by utilizing a decontaminated electronic water level indicator with a weighted probe. Upon opening each well (i.e., removing the sealed cap), the water elevations will be gauged repeatedly and the measured elevations recorded in the field logbook. When the trends of at least three consecutive measurements are within 0.01 feet of one another the well will be considered to have equilibrated. Upon reaching apparent equilibrium, the monitoring well will be allowed to equilibrate for an additional five minute time period as a safety factor.

Measurements will then be taken using an electronic water level indicator, to an accuracy of 0.01 feet. The reference point for the measurement is a mark at the top of the well casing. The elevations of these reference points will be surveyed relative to a permanent local benchmark. The elevation of the groundwater in each well will be determined by subtracting the depth-to-water measurement from the measuring point elevation. All survey and water elevation measurements will be recorded in the Field Logbook.

9.2.3 Monitoring Well Purging and Sampling Procedure

The following procedure will be followed when sampling groundwater from monitoring wells:

1. The sampler will don new, clean, disposable, latex sampling gloves when performing sampling activities at each well location.
2. Prior to collecting a groundwater sample from a monitoring well, a minimum of three well casing volumes of water will be purged from the monitoring well. A well casing volume will be calculated by subtracting the depth-to-water from the total depth of the well and multiplying the difference by 0.163 gallons per foot (gal/ft). The pH, temperature, and specific conductivity of the groundwater will be measured in the field after each well casing volume is removed. A maximum of five well volumes will be purged from a monitoring well if the pH, temperature, and specific conductivity does not stabilize in accordance with the following criteria:
    - pH: ± 0.1 standard units;
    - temperature: ± 0.5°C; and
    - specific conductivity: ± 10 percent.

Purge water from the monitoring wells will be collected in 5-gallon buckets during purging and sampling. The purge water will be transferred to a properly designated and labeled 55-gallon drum for disposal at a later date;

3. A dedicated polyethylene bailer equipped with a check valve will be lowered into the standing water within the boring, and allowed to fill with groundwater. The sampling bailer will be lowered into the well gently to reduce agitation and aeration of the water sample;
4. The bailer will be removed from the well and the sample containers filled. Groundwater samples will be transferred directly from the sampling bailer to laboratory supplied, pre-preserved sample containers. Samples for VOCs will be filled such that there is no headspace in the sample container. Excess sample will be poured into the drum containing purge water. The following sampling order will be followed:
    - VOCs;
    - SVOCs; and
    - PPL metals.
5. The groundwater samples will be immediately placed into a pre-chilled sample cooler containing ice.
6. Upon completion of the sampling activity at each well, the cap will be replaced and the well locked.

Sample bottles, analytical methods, preservatives, and holding times are specified in the following sections of this SAP and in Table 1. Three 40-ml vials, pre-preserved with HCl at the laboratory; two 1-L amber bottles; and one 150-mL plastic bottle, pre-preserved with HNO_3 at the laboratory will be used as the sampling containers for samples to be analyzed for VOCs, SVOCs, and metals, respectively. It is desirable to label all the bottles prior to sampling or to pre-label a complete set of bottles for a well prior to sampling the well.

Dedicated bailers and twine will be used to purge/sample each well; bailers or twine will not be re-used.

10.0 QA/QC SAMPLES

The VRP guidance (IDEM, July 1996) identifies four types of quality control samples to be collected in the field: trip blanks, equipment rinsate or field blanks, duplicates, and matrix spike/matrix spike duplicates. Trip blanks are used to document volatile organic contamination attributable to shipping and field handling procedures. Equipment rinsate blanks are obtained from sampling equipment, which has been decontaminated to document the effectiveness of decontamination procedures. The detection of analytes in the equipment rinsate blank indicates possible cross-contamination between sample locations and determines that either ineffective or incomplete decontamination has been performed on equipment from which the equipment rinsate blank was collected. Duplicate samples are used to assess the representativeness (sampling variability) of field sampling procedures. Matrix spike/matrix spike duplicates are used to assess the effect the sample matrix has on the accuracy of the result.

10.1 TRIP BLANKS

To document the absence of VOC contamination attributable to shipping and field handling procedures associated with aqueous samples, a water sample of analyte-free media is prepared by the laboratory, transported to the sampling site, and returned to the laboratory unopened. The trip blank (which is pre-preserved and will remain sealed) is transported to the laboratory along with the investigative samples, and analyzed for VOCs. A minimum of one trip blank will be analyzed per shipping container containing aqueous samples.

Additionally, a methanol blank will be submitted to the laboratory for analysis associated with the soil sampling activities for VOC analysis (Method IN5035). A minimum of one methanol blank will be analyzed per shipping container containing soil samples to be analyzed for VOCs.

10.2 EQUIPMENT RINSATE/FIELD BLANKS

As a check on equipment decontamination procedures, equipment/field blanks will be prepared from each type of soil sampling device used to collect solid media. The equipment/field blank will be prepared by pouring a sufficient volume of deionized water over all of the sampling equipment used to collect samples in the sampling event (*e.g.*, the split-spoon sampler and any utensils used for soil sampling, or the water level meter and any other equipment or utensils coming in contact with groundwater samples).

The equipment blank will be collected in the appropriate sample containers, preserved, transported, and analyzed in the exact manner as the assessment samples. A minimum of one equipment/field blank will be collected and analyzed per ten investigative samples, with no less than one per day of sampling. For this project, it is estimated that one equipment/field blank will be collected during the soil and groundwater screening assessment, and one equipment blank will be collected during the baseline groundwater assessment.

10.3 DUPLICATES

One field duplicate will be collected for the groundwater screening assessment and for the baseline groundwater assessment to establish the representativeness of field sampling procedures. The duplicate sample will be prepared by dividing the soil or groundwater sample into two approximately equal portions, one of which is the duplicate sample. The sample and duplicate sample will be filled successively from a selected soil sample. Additional sample volumes will be collected and split as needed to fill the two (investigative and duplicate) sample containers. The sample bottles for one parameter (e.g., VOCs) will be filled before proceeding to the next parameter or sampling interval. The duplicate sample is placed in the appropriate container using the same procedure as for investigative samples, and subjected to the same analyses as the investigative sample.

A minimum of one duplicate will be collected and analyzed per ten investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one duplicate soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater duplicate will be collected during the baseline groundwater assessment. No duplicate samples will be collected during the groundwater screening, consistent with a Level 1 DQO.

10.4 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

In order to document both the bias and the precision of a method in a given sample matrix, enough volume of one sample of each media will be collected to prepare a matrix spike (MS) and a matrix spike duplicate (MSD) each time samples are collected.

A minimum of one MS/MSD will be collected and analyzed per twenty investigative samples, per media, with no less than one per media for each sampling event. For this project, it is estimated that one MS/MSD soil sample will be collected during the soil assessment phase of the site investigation, and one groundwater MS/MSD will be collected during the baseline groundwater assessment. No MS/MSD samples will be collected during the groundwater screening, consistent with a Level 1 DQO. The selected soil or groundwater sample for matrix spike/matrix spike duplicate analysis will be divided into two more or less equal portions and placed in their respective sample bottles. Additional sample volumes will be collected and split as needed to fill the two sample containers.

11.0 DECONTAMINATION OF FIELD INSTRUMENTS

Only thoroughly decontaminated equipment will be used to collect samples during the investigative activities. If dedicated factory sealed bailers are used for groundwater sampling, no decontamination will be required for this equipment item. The hollow stem augers will be decontaminated using a pressurized steam cleaner to wash off all visible soil/residues.

The following decontamination procedures will be used for all other sampling equipment, including the hollow-stem auger continuous sampler, the push-probe sampling tools, the water level indicator, and any other non-disposable sampling equipment that might come in contact with the soil or groundwater samples. All such sampling equipment will be decontaminated using these procedures:

1. Prior to decontamination, all rods and sampling equipment will be completely disassembled to the extent feasible.
2. The decontamination procedure will consist of a three-step process which includes a thorough non-phosphate detergent "dirty wash" to remove the majority of the soil, followed by a non-phosphate "clean wash" and triple rinse with distilled water.
3. If visible soil or other residues remain, then procedure 2 will be followed again until all visible soil/residues have been removed from all sampling equipment.
4. The sampling equipment will then be subjected to a final rinse with distilled water.
5. Sampling equipment will be protected from contamination during field operations.

12.0 SAMPLE CONTAINERS AND PRESERVATION

All samples are to be transferred directly into the appropriate new sample containers provided by the laboratory. Only new, pre-preserved (as applicable) sample containers supplied by the analytical laboratory will be used. All sample containers will conform to the specifications of SW-846. The container will be filled with the appropriate amount of soil or water that is determined by the analytical method. The containers will be appropriately sized to contain a sufficient volume of sample for the required analysis. Container descriptions, preservation requirements, and holding times are presented in Table 1.

Soil samples that will be analyzed for VOCs will be stored in two 40-ml vials and one 4-ounce container. One of the 40-ml vials will be pre-preserved with methanol, and the remaining 40-ml vial and 4-ounce container will be non-preserved, consistent with IN-5035M. Soil samples that will be analyzed for SVOCs, PPL metals, and PCBs will be containerized in 4-ounce glass jars equipped with Teflon lined lids. Preservation will also include packing the samples in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

Groundwater samples, equipment blanks, and trip blanks that will be analyzed for VOCs (SW-846 Method 8260) will be stored in 40-mL vials pre-preserved at the laboratory with HCl. Groundwater and QA/QC samples that will be analyzed for SVOCs will be stored in1-liter amber bottles without preservative. Groundwater and QA/QC samples that will be analyzed for PPL metals will be stored in 500-ml plastic bottles pre-preserved at the laboratory with HNO_3. All samples will be stored and shipped in an insulated cooler with ice to maintain the samples at a temperature of approximately 4°C.

13.0 PACKING AND SHIPMENT OF SAMPLES

The filled sample containers (both soil and groundwater) will be securely packed in an insulated cooler to avoid breakage during shipment. Ice will be placed in pouches such as Ziplock® baggies and packed with the samples in an insulated cooler to maintain the temperature of the samples at 4° C during shipment. All samples will be shipped to the laboratory via overnight courier. Each sample shipment will be accompanied by a chain-of-custody form, which will also identify the requested analyses. All necessary paperwork will be placed in a plastic, sealed bag inside the lid of each cooler and the cooler will be sealed with custody seals and covered by clear shipping tape. Shipping records will be maintained with chain-of-custody documentation.

The lid of each cooler will be sealed with two custody seals at opposite corners of the cooler, and covered by clean transparent shipping tape. The cooler will be sealed with clean shipping tape.

14.0 SAMPLE CUSTODY DOCUMENTATION/FIELD LOGBOOK

Chain-of-custody procedures will ensure proper documentation of possession and handling of samples from the time they are collected until analysis at the laboratory. Information provided to document chain-of-custody possession will include the APT Project number, signature of samplers, sample numbers, dates and times of collection, signatures of individuals involved in sample transfer, and the air bill or other shipping number.

Documentation and chain-of-custody procedures will include the following:

- Sample Identification.
- Sample Labels.
- Cooler Seals.
- Field Logbook.
- Chain-of-Custody Forms.

Chain-of-custody procedures to be followed by Pace after delivery of the samples are presented in the Laboratory QAP (Appendix D of the multi-site QAPP for this project).

14.1 SAMPLE IDENTIFICATION

Samples will be assigned a unique sample ID code. Sample nomenclature for the soil samples will consist of the soil boring identification number followed a semicolon and the depth below the ground surface (BGS) at which the soil sample is collected. For example, a soil sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *SB-1; 25'*.

Sample nomenclature for the groundwater samples will consist of the monitoring well identification number followed by a semicolon and the six-digit representation of the date on which the groundwater sample is collected. For example, a groundwater sample collected from monitoring well MW-1 on March 15, 2002 would be identified as *MW-1; 031502*.

Duplicate soil samples will be identified by the prefix "DUP" followed by a dash, a sequential integer to designate the duplicate number, semicolon, and the depth BGS. For example, the first duplicate soil sample collected during the project from a depth of 25 feet BGS in soil boring SB-1 would be identified as *DUP-1; 25'*. A second duplicate sample from another boring would be identified as *DUP-2; depth*. The soil boring that the duplicate was obtained from will be identified only in the field notebook in order to obtain a "blind" duplicate.

Duplicate groundwater samples will be identified by the prefix "DUP" followed by a dash, a sequential integer designating the duplicate sample number for that round of sampling, a semicolon, and the six-digit representation of the date. For example, a duplicate groundwater sample collected from monitoring well MW-1 on August 15, 2002 would be identified as *DUP-1; 031502*. If a second duplicate sample were collected on August 15, 2002 (*i.e.*, during the same

sampling event) from monitoring well MW-3, it would be identified as *DUP-2; 031502.* The monitoring wells from which the duplicate samples were collected would be identified only in the field notebook.

Trip blanks will be identified by the prefix "TB" followed by the six-digit representation of the date. For example, a trip blank collected on March 15, 2002 would be identified as *TB; 031502.*

Equipment rinsate blanks will be identified by the prefix "ER" followed by the six-digit representation of the date. For example, an equipment rinsate blank collected on March 15, 2002 would be identified as *ER; 031502.*

Matrix spike and matrix spike duplicates will be identified by the prefix "MS" and "MSD", respectively, followed by a dash, the soil boring name, a semicolon, and the depth BGS at which the sample was collected. For example, a matrix spike sample collected from a depth of 25 feet BGS in soil boring SB-1 would be identified as *MS/MSD-SB1; 25'.*

The corresponding sample identification number recorded in the Field Logbook will be used on the sample label and the chain-of-custody form for each sample for reference purposes. The correlation of sample designation to the sample number will be recorded in the Field Logbook.

14.2 SAMPLE LABELS

To identify the contents of each sample container, a sample label completed with a waterproof marker will be firmly attached to each sample container. Each sample label will be completed with the following information:

- Date of sampling;
- Sample ID number;
- Place of sampling (Royal Metals facility);
- Type of preservative;
- Parameters to be analyzed; and
- Name(s), initials of the sampler(s).

The boring or monitoring well number will not be recorded on the sample label or the chain-of-custody of the duplicates so that the laboratory will not know which well these samples were taken from. The locations of the duplicates will be noted in the Field Logbook.

14.3 COOLER SEALS

In the event that the samples will change hands en route to the laboratory, such as when shipped via overnight courier, chain-of-custody seals will be affixed at opposite corners the lid of the cooler to ensure that the container has not been opened during shipment. For the purposes of this project, it is important to document the persons who have access to the samples and to confirm

that the samples have not been exposed to undocumented conditions or persons which may impact the integrity of the samples, thus impacting the results of the analytical tests. Two seals will be affixed to each shipping container and fastened so that the container cannot be opened without breaking at least one of the seals. The custody seals will be completed with the date of sealing and signature of the sampler. The cooler will also be further secured for shipment using clear shipping tape. The condition of the custody seal, as well as the name of the sampler and the sampling date, will be recorded in the Field Logbook. Upon arrival at the laboratory, the condition of the custody seals will be examined by laboratory personnel for signs of tampering during transit.

14.4 FIELD LOGBOOK

A bound Field Logbook, designated "Royal Metals and Schmock – 333-01" will be used to record notes and observations during the closure activities. All entries into the Field Logbook will be made in permanent ink. Cross-outs, corrections, and additions to the entries will be initialed and dated. Ambient weather information will be recorded in the Field Logbook. This will include approximate temperature, wind velocity and direction, cloud cover, and precipitation information. The ground surface near the wellhead will be visually inspected for standing water or other soil conditions. These observations will also be recorded in the Field Logbook.

For sampling event: the site name and location, date, starting and ending times, weather, names of all people involved in sampling activities, level of personal protection used, documentation of adherence to protocol, any changes made to planned protocol, names of visitors to the site during sampling and reason for their visit, unusual observations, and signature of the person recording the information.

For each individual sample: a detailed description of location, any measurements made, the unique sample number assigned, the time the sample was taken, physical description of sample, depth from which sample was collected, whether grab or composite (if composite, how composited), equipment used to collect the sample, volume and number of sample containers, how sample is preserved, and initials of sampler. Each field duplicate must be given its own unique sample number; the description should include the unique sample number of its duplicate.

The field logbook will include comments regarding the following:

- Purpose of sampling event and identification of each sample location;
- General field observations;
- Name(s) of field personnel on site;
- Name(s) of site visitors;
- Climactic conditions - approximate temperature, wind speed and direction, and precipitation/cloud cover;
- Well maintenance and sampling information including:
  - Well stick-up; and

  - Problems noting well condition and maintenance.

- Sample procedure/equipment;
- Date and time of calibration of field-testing equipment;
- Equipment calibration (recorded each time the instruments are calibrated) and file data including:
  - Standards used;
  - Field meter identification;
  - Calibration results; and
  - Name of person who performed calibrations.
- Deviations, if any, from the SAP or QAPP;
- Depth to water;
- Total well or boring depth;
- Purge volume (groundwater sampling);
- Sample locations and depths;
- Sample collection procedures;
- Sample identification numbers;
- General sample appearance (color, odor noted, etc.), including presence/absence of visual impact;
- Types and source of sample containers;
- Preservatives used;
- Parameters for analysis;
- Date and time of sample collection; and
- Sample transport method and transporter.

All sample identification numbers will be recorded in the Field Logbook, along with a sketch showing sample locations associated with each sample number.

In addition to general comments and observation included in the Field Logbook, a Soil Boring Log form will also be completed for each soil sampling location, documenting the following:

- A general Field Description including soil boring I.D.; date; well logger's name, title and affiliation; narratives of geologic and drilling observations (e.g., blow counts, soil color, consistence, etc.); and total depth;
- United States Department of Agriculture (USDA) texture;
- Unified Soil Classification System (USCS) Classification;

- Lithologic description, including roundness (where applicable), sorting, grain size using the modified "Wentworth" grade size scale, and mineralogy (where appropriate);
- Color, using the Munsell Soil Color Charts (Munsell Color, 1975);
- Soil structures (soil horizons);
- Sedimentary features, such as bedding, stratification, deterioration, bioturbation, etc.
- Consistency;
- Moisture;
- Zones of secondary priority, including fractures, root chemicals, animal burrows, dissolution pores, etc., and
- Other miscellaneous features, such as apparent contamination (odors, staining) and other pertinent information not mentioned above.

14.5 CHAIN-OF-CUSTODY FORM

The field portion of the custody documentation should include: (1) project name; (2) signatures of samplers; (3) sample number, date and time of collection, and whether the sample is grab or composite; (4) signatures of individuals handling samples; and (5) air bill or other shipping number.

A chain-of-custody form will be filled out and accompany the samples to the analytical laboratory. The form will also serve as a sample analysis request form, communicating to the laboratory the exact analysis (including method number) to be performed on each sample submitted. The chain-of-custody form will include the following information:

- Sample identification number;
- Signature of sample collector and other individuals in chain of possession;
- Date(s) of collection;
- Date(s) of relinquishment by individuals in chain of possession;
- Identification of analytical laboratory;
- Sample matrix;
- Sample container descriptions, number of sample containers per analysis, and types of analysis to be performed including analytical method numbers;
- Laboratory identification number (completed by laboratory);
- Integrity of cooler seals (to be noted by laboratory, if applicable); and
- Special instructions and remarks.

14.6 LABORATORY LOGBOOK

The laboratory will have an acceptable quality assurance and quality control program. Among the necessary procedures will be the maintenance of laboratory logbooks. Commercial laboratories selected will certify the use of and make available for inspection laboratory logbooks. The type of information to be recorded in the logbooks is specified in the laboratory QAP (Appendix D of the multi-site QAPP).

15.0 RE-SAMPLING

If during sampling any samples are broken or lost prior to analysis, the specific sample and media will be re-sampled by the same or an alternate method identified in this SAP and submitted for the parameters corresponding to the lost or broken sample containers. Re-sampling will be conducted within two weeks of the original sampling date.

16.0 SUBMITTAL OF ANALYTICAL RESULTS

The soil and groundwater analytical results will be submitted to the USEPA and the IDEM for review as part of the *VRP Phase II Site Investigation Report* and the *VRP Remediation Work Plan*. The analytical results will be submitted to the MCEDC in interim status reports following receipt from the laboratory. These reports will include the data validation results, as described in the multi-site QAPP.

The analytical results package will include sampling dates, analysis dates, analytical methods used, practical quantitation limits, quality control results, and signed copies of the chain-of-custody forms. The QA/QC results will include blank results, matrix spike/matrix spike duplicate results, surrogate recoveries (as appropriate for the analysis), tuning results (CC-MS), and initial calibration results.

Copies of the pertinent Field Logbook entries will be submitted in the reports to IDEM and USEPA if requested, and will also be copied to Michigan City Economic Development Corporation management for filing.

TABLES

1 Sample Container, Preservation, and Holding Time Requirements

TABLE 1
SAMPLE BOTTLES, METHODS, PRESERVATIVES, AND HOLD TIMES
Sampling and Analysis Plan
Royal Metals - Michigan City, Indiana

Sample Name[1]	Sample Matrix[1]	Number of Samples[4]	Sample Type	Containers & Preservative	Analytical Parameters[2]	Hold Times	Analytical Methods
SB-#:*[depth]*	Soil	8	Investigative	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
GW-#:*[date]*[3]	Groundwater	5	Screening	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MW-#:*[date]*	Groundwater	5	Investigative	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
DUP-#:*[depth]*	Soil	1	Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
DUP-#:*[date]*	Groundwater	1	Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
MS/MSD-#:*[depth]*	Soil	1	Matrix Spike/Matrix Spike Duplicate	1, 40-mL Vial with Methanol 1, 40-mL Vial Non-preserved 1, 4-ounce PTFE-lined container	VOCs	14 days (Methanol) 7-days (Non-Preserved & frozen upon receipt by lab) 3 days (Non-Preserved, 4° C)	IN-5035M Preservation SW-846 Method 8260
				1, 4 oz Jar Non-preserved (10 g) (4° C)	SVOCs	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 4 oz Jar Non-preserved (10 g) (4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082
MS/MSD-#:*[date]*	Groundwater	1	Matrix Spike/Matrix Spike Duplicate	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
EQ-#:*[date]*	Aqueous	1	Equipment Rinsate Sample	3, 40-mL Vials (HCl < pH 2, 4° C)	VOCs	14 days	SW-846 Method 8260
				2, 1-L Amber (Non-Preserved, 4° C)	SVOC	7 days Extract, 40 days Analysis	SW-846 Method 8270
				1, 500-mL Bottle (HNO_3, 4° C)	PPL Metals	6 months (24 hr Cr6, 28 days Hg)	SW-846 Methods 6010/7471
				1, 1-L Amber (Non-Preserved, 4° C)	PCBs	7 days Extract, 40 days Analysis	SW-846 Method 8082

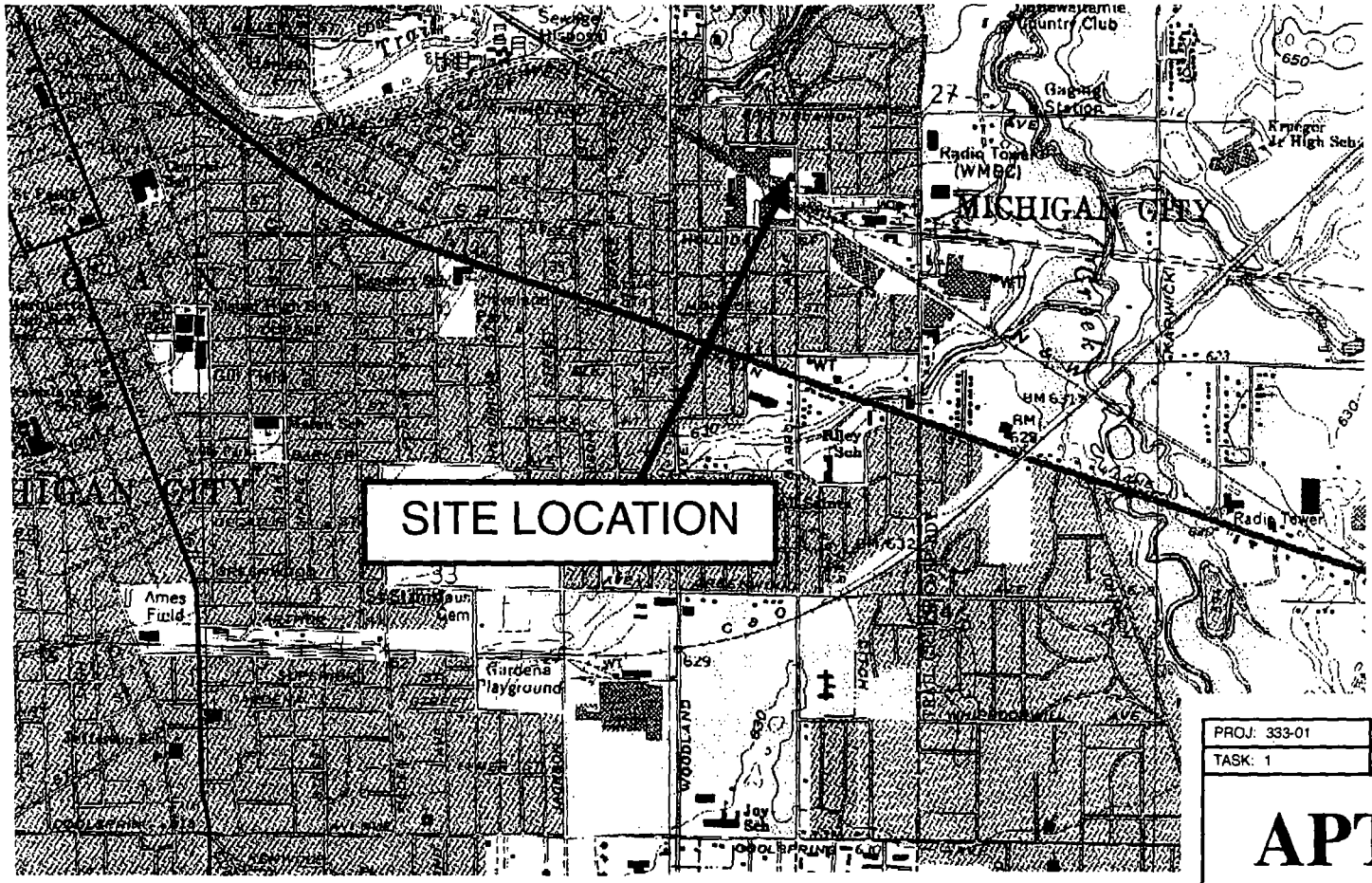
Notes:

1. The soil samples to be collected by APT from soil borings advanced by Top Flight Environmental Drilling Services.
2. Samples to be analyzed by Pace Analytical of Indianapolis, Indiana for volatile organic compounds (VOCs), semivolitile organic compounds (SVOCs), priority pollutant list (PPL) metals, and PCBs using the stated analytical method.
3. Groundwater screening samples (GW:*[date]*) will be collected from the Geoprobe boreholes.
4. Number of samples is based on one sampling event.

FIGURES

1 Site Location Map

2 Site Map With Proposed Monitoring Well and Soil Boring Locations



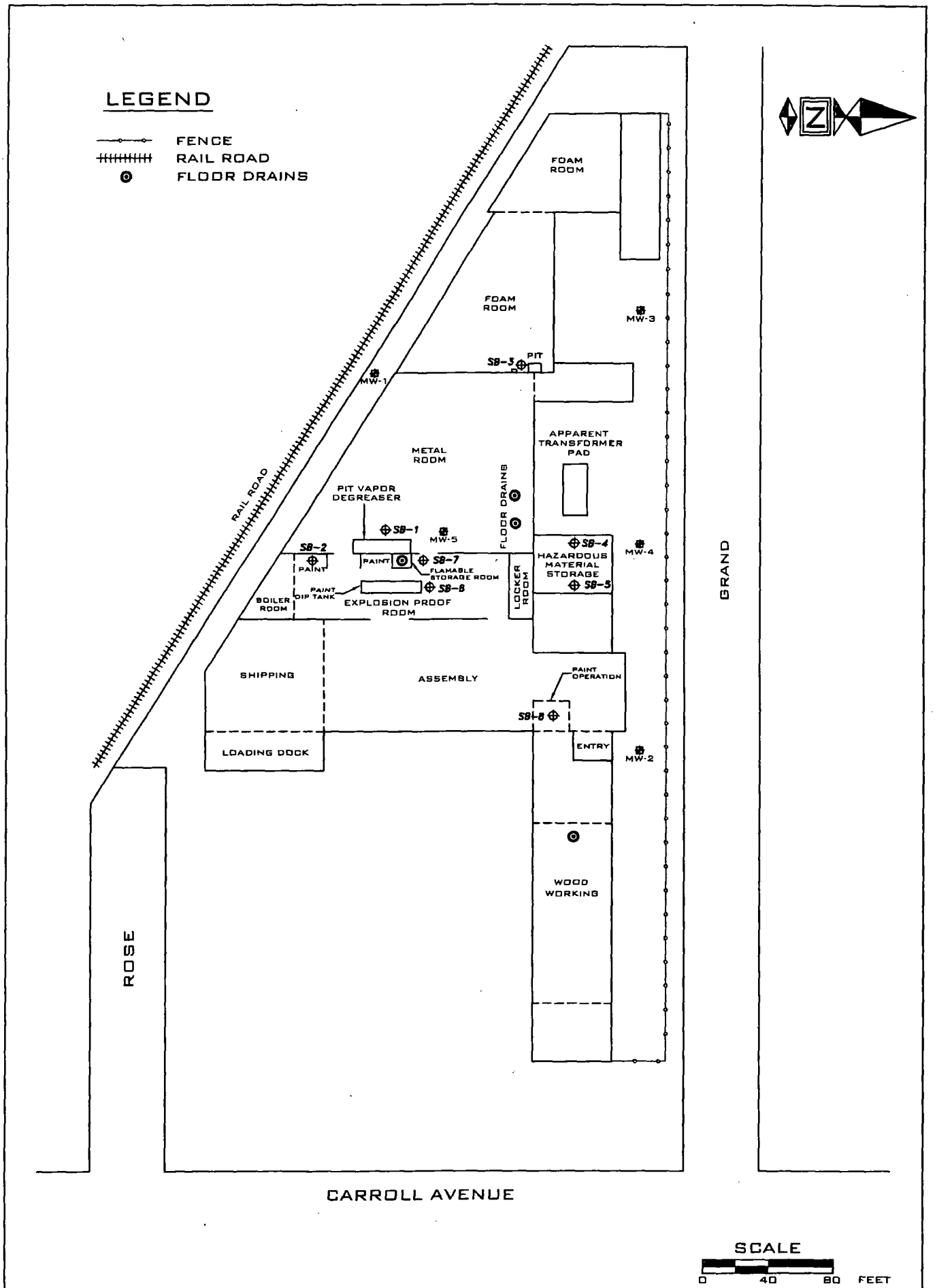
SCALE
0 2,000 4,000

PROJ: 333-01	DWG LOC: MICHIGAN CITY, INDIANA	
TASK: 1	DWG BY: AB	REV DATE:

APT, Limited

Figure 1
SITE LOCATION MAP

Royal Metals
Michigan City, Indiana
PREPARED FOR
Michigan City Economic
Development Corporation
Michigan City, Indiana



APT

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TASK 1

DWG:333.1.F2.MW88

Royal Metals
Michigan City, Indiana

PREPARED FOR

Figure 2

SITE MAP WITH

APT, LIMITED

July 5, 2002

Ms. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal – Multi-Site QAPP
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Ms. Spencer:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0).

Enclosed please find one copy of the *Multi-Site Quality Assurance Project Plan* for the three sites identified above. This QAPP has been developed in accordance with USEPA requirements and has been reviewed and approved by Ms. Jan Pels of the USEPA. Please note that Ms. Pels has the Title/Signature Page for your copy of the QAPP – it needs hers and your signatures. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196
(574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Enclosure: Multi-Site QAPP

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - Rev Multi-site QAPP to Diane Spencer at USEPA.doc

APT, LIMITED

July 5, 2002

Ms. Jan Pels
Quality Assurance Officer
Superfund Division
U.S. Environmental Protection Agency – Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

Transmittal – Revised Multi-Site QAPP
Indiana's Brownfields Assessment Demonstration Pilot
Assistance ID No. BP-97571501-0
Former Royal Metals, Schmock Oil, and Karwick Road Landfill Properties
Michigan City, Indiana

Ms. Pels:

APT, Limited (APT) has been retained by the City of Michigan City to provide environmental assessment services associated with a brownfield redevelopment project (Indiana's Brownfields Assessment Demonstration Pilot/Assistance ID No. BP-97571501-0). Enclosed please replacement pages for the *Multi-Site Quality Assurance Project Plan* for the three sites identified above. Enclosed are:

- ❑ The entire QAPP text body;
- ❑ Tables 2 and 3;
- ❑ APT SOP-1 (Appendix C);
- ❑ Appendix E (Laboratory SOPs).

The following changes have been made from the previous QAPP version dated April 2002:

- ❑ The QAPP distribution List has been added to the Table of Contents section, immediately following the List of Appendices;
- ❑ Pace Analytical Services, Inc. has been added to the Title/Signature Page;
- ❑ The QAPP text has been revised to identify Pace Analytical Services, Inc. as the laboratory for this project;
- ❑ An Organization Chart has been added (Page 4 of 37);
- ❑ Specific responsibilities have been described for the laboratory (Page 7 of 37);
- ❑ A new Appendix E (Laboratory SOPs) has been added, with pointers to this appendix in Sections 1.5.1.2 (Laboratory Precision Objectives) and 1.5.2.2 (Laboratory Accuracy Objectives);
- ❑ The % Recovery and % RPD table imbedded in the text of Section 1.5.5 has been eliminated, with a new pointer to Appendix E.

6910 North Main Street
Unit #17 – Building #2
Granger, Indiana 46530

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- ❑ The text in Section 2.3 has been changed to point to custody procedures defined in Appendix C versus referring to USEPA protocols;
- ❑ Pointers to Appendices D and E have been added to the text of Section 2.3.5, Section 2.5.2, and Section 4.2.1;
- ❑ Section 3.2.2 has been supplemented with a statement that Pace Analytical Services, Inc. is accredited through NELAP;
- ❑ Former Table 2 has been eliminated in favor of the tables included with the Laboratory SOPs included in Appendix E;
- ❑ Former Tables 3 and 4 have been renumber as Tables 2 and 3, reflecting the elimination of former Table 2;
- ❑ Table 3 (former Table 4) has been re-printed on 11 x 17" paper to improve readability.
- ❑ APT SOP-1 has been revised to include a discussion on soil sample collection procedures for Method IN5035 volatiles analysis; and
- ❑ The header throughout the document has been revised to reflect a revision date and document revision number.

Please note that the Title/Signature page for all six copies of the QAPP (two-USEPA, two-Michigan City, one-Pace, and one-APT) are included in the front pocket of your QAPP. These need yours and Ms. Spencer's signatures, with external copies being returned to me. I will then include them with the QAPPs and send them out to the remaining parties. If you have any questions, please contact me at your convenience:

APT, Limited
6910 North Main Street
Granger, Indiana 46530
(574) 257-8196 (574) 257-8595 (Fax)
E-mail: jeklanke@aptlimited.com.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Cc: Ms. Ramona Smith – USEPA (letter only)
Ms. Diane Spencer – USEPA (complete copy of QAPP)

Enclosure: Multi-Site QAPP Replacement Pages

S:\APT LTD\Projects - Active\MI City - Royal Metals-Schmock Oil.333\Transmittal - Rev Multi-site QAPP to USEPA.doc

Jan Pels
07/12/02 08:43 AM

To: "John E. Klanke" <jeklanke@aptlimited.com>
cc: Diane Spencer/R5/USEPA/US@EPA
Subject: Re: MI City QAPP

John:

I was just drafting a note to you when I got your email!

The QAPP looks great! There are only a few things missing....

- The organization chart is not included...

- The sample preparation SOPs are missing from Pace- We need the water and soil sample preparation SOPs for the SVOC, PCBs, ICP metals. Also, the soil Mercury method is missing.

- The Pace analytical SOPs for VOCs, SVOCs, PCBs, and metals do not include the precision and accuracy values. We need a table for each analytical method showing the analyte specific precision and accuracy for water and soils.

Please call if you or the lab have any questions on these items.

Thanks!
Jan
"John E. Klanke" <jeklanke@aptlimited.com>

"John E. Klanke" <jeklanke@aptlimited.com>
07/12/02 07:50 AM

To: Jan Pels/R5/USEPA/US@EPA
cc:
Subject: MI City QAPP

Jan,

Just following up to make sure you received QAPP for MI City projects OK. I still need some signature pages back from you before I can send out the remaining copies. MI City tells me they're ready to proceed with field work once we get approval from you folks on the QAPP.

John Klanke

Jan Pels
05/23/02 04:26 PM

To: jeklanke@aptlimited.com
cc: Diane Spencer/R5/USEPA/US@EPA
Subject: Re: Michigan City QAPP Comments

John:

Overall the QAPP looks great! One thing missing is the laboratory SOPs. We need a copy of the sample prep and analysis SOPs for all of the analytes that you expect to have analyzed. I think it was the VOCs, BNAs, PCBs and Metals. Any others that you expect should also be included.

I'd like to set up a conf. call to discuss some other minor comments. Next week is pretty busy, but anytime Tuesday morning between 8:00-10:00 would work; or Friday might work. I am anticipating another call on Friday, but I'm not sure what time yet.

Please let me know if either of these times works for you. If not, let's try for the week of June 3. Please suggest some times that are convenient for you!

Thanks, and have a good holiday weekend! (I'm out of the office tomorrow.)

Jan

3pm. 6/5/02 Rm 411

DIANE SPENCER
02/12/02 04:47 PM

To: GLORIA WILLIS/R5/USEPA/US@EPA
cc:
Subject: MC Brownfields Pilot

FYI
----- Forwarded by DIANE SPENCER/R5/USEPA/US on 02/12/02 04:54 PM -----

Thomas Stevenson <tbstevenson@attbi.com>
02/12/02 04:49 PM

To: DIANE SPENCER/R5/USEPA/US@EPA
cc:
Subject: MC Brownfields Pilot

Diane,

Thank you for your timely response to my questions. We hope to have the Phase I ESA report for the Greenspace pilot completed within a few weeks. In addition, I will call Jan Pels to set up a pre-QAPP meeting. Hopefully, the QAPPs and other plans will follow soon there after.

Thanks,

Tom Stevenson
Environmental Inc.
219-462-7576

DIANE SPENCER
02/12/02 02:50 PM

To: tbstevenson@attbi.com
cc: GLORIA WILLIS/R5/USEPA/US@EPA
Subject: Michigan City, IN pilot questions

Hi Tom --

I received your voice message and am responding via e-mail, per your suggestion, item-by-item.

On February 4, we spoke about the submittal of the quarterly report for Michigan City, IN. The report and subsequent budget indicated that dollars had been spent to conduct Phase II work on the former Karwick Road Municipal Landfill (greenspace) property. As I indicated, you must have an approved QAPP and field sampling plan, and provide a Health and Safety Plan prior to expending grant dollars for Phase II activities. In addition, a Phase I report must be provided to EPA. In this case, I do not have any of these materials or information. In response to your voice mail message -- do I want a copy of the Phase I report? --- yes, I do. Even if you did not use Federal dollars to complete the Phase I portion of the work, I need to see the information in the report so I can review the field sampling plan. Do you have a projected date for submittal of the plan?

Your second question referred to a pre-QAPP meeting. This is required for all projects and can be handled via conference call. Jan Pels handles the QAPPs in the Brownfields and Early Action Section. She can be reached at (312) 886-3009 to set up the call or meeting. This initial discussion assures that everyone understands what information is expected to be included in the QAPP.

In your last question, you inquired whether and how to submit the completed Phase I reports for Royal Metals and Schmock Oil Company. Feel free to submit the reports at any time. Only one copy of each is needed. You can submit them to either Gloria or myself. If you submit the reports to me, I will see that Gloria gets a copy of the transmittal letter for her records.

If you have other questions, feel free to call or e-mail me.

Diane M. Spencer
U.S. EPA Region 5
77 W. Jackson Blvd (SE-4J)
Chicago, IL 60604
Phone (312) 886-5867
Fax (312) 886-6741
spencer.diane@epa.gov

Sue Warnke
<suew@skyenet.net>
08/14/01 06:39 AM

To: Yvonne Hoffmaster <yvonneh@niia.net>, GLORIA WILLIS/R5/USEPA/US@EPA, "Williams, Gavin" <gwilliams@commerce.state.in.us>, "Weikert, Emily" <eweikert@commerce.state.in.us>, "Walus, Al" <alw@mcsan.org>, Walter Gipson <gipsonw@skyenet.net>, Virginia Orlowski <virginiao@niia.net>, Vic & Nancy Widelski <nvusw@home.com>, Vanessa Kavanaugh <vanessak@skyenet.net>, Tutti - ASAOCC <tutti@asaocc.org>, Tonyrod <tonyrod@adsnet.com>, Tom Przybylinski <thomasp@niia.net>, Todd Holloway <lindustries1@earthlink.net>, Todd Dickard <dickard@lpchamber.com>, TJenks <tjenks@bigplanet.com>, Thomas Fedder <thomasf@niia.net>, "Thalmann, Diane" <dlthalmann@nisource.com>, Terry Farmer <farmert@skyenet.net>, Tony Rodriguez <tonyr@mc-edc.com>, Sheila Brillson <mayorsheilab@niia.net>, Robert Schaefer <communitydynamics@home.com>, Robert Raisor <braisor@adsnet.com>, Rick Lutterbach <rlutterbach@alliance-bank.com>, Pat Jakelski <pjakelski@frechusa.com>, Linda Woloshansky <lwolo@crown.net>, Jeffrey Jones <JJones@purduenc.edu>, Jan Kostielney <jank101@skyenet.net>, James Dworkin <jdworkin@purduenc.edu>, "Dr. Linda Anast" <lanast@mcas.k12.in.us>, Kevin Beres <kberes@mcachamber.com>, Tatiana Temnikov <ttemnikov@compuserve.com>, Tara Lane <tlane@abcs.com>, Tanesha Clark <taneshac@niia.net>, Sue Anderson <sueanderson@netnitco.net>, Stacey Harris <lcleadership@netnitco.net>, DIANE SPENCER/R5/USEPA/US@EPA, Sherlonda Gray <sgray@mail.state.ky.us>, Shelley Dunleavy <shelleyd@niia.net>, Sharon O'Malley <somalley@nova.umuc.edu>, Shannon Igelski <sigelski@adsnet.com>, Scott Wills <swills@catalyst-marketing.com>, Scott Westphal <scottwestphal@skyenet.net>, Sammie Phillips <sammip@niia.net>, Sam Johns <sjohns@adsnet.com>, sales@bluemoon-video.com

cc:

Subject: E-Mail Accounts

Effective today, the following e-mail accounts are inactive
suew@netnitco.net
mcedc@netnitco.net
tonyr@netnitco.net

Please use the following accounts:
suew@mc-edc.com
mcedc@mc-edc.com
tonyr@mc-edc.com

Thanks!

Sue Warnke
Michigan City Economic Development Corp.
suew@mc-edc.com
(219) 873-1211 ext. 2

DIANE SPENCER
08/02/01 11:08 AM

To: Sue Warnke <suew@skyenet.net>
cc: GLORIA WILLIS/R5/USEPA/US@EPA, JOSEPH DUFFICY/R5/USEPA/US@EPA
Subject: Re: USEPA grant - workplan

I have reviewed the attached work plan for the Michigan City, IN Brownfields Assessment Pilot Grant. This revised work plan incorporates discussions with Sue Warnke, Tony Rodriguez and myself. The work plan is approved. I've printed a hard copy for my files and will provide you with a hard copy to accompany the grant application materials.

Diane M. Spencer
Brownfields Project Manager - Region 5
Ph: (312) 886-5867 Fax: (312) 886-6741
E-mail: spencer.diane@epa.gov

1/9/02 per Tony R. Tom Stevenson has replaced Sue Warnke

Sue Warnke <suew@skyenet.net>

Sue Warnke
<suew@skyenet.net>
08/02/01 06:52 AM

To: DIANE SPENCER
Subject: Re: USEPA grant - workplan

Diane, attached please find the revised workplan, with the changes you suggested below. Please let me know if this one is okay!
I really appreciate the time and effort you have put in to assisting us with this! This is our first grant and I have been using the "trial and error" method! Thanks for your patience.

Sue Warnke
Michigan City Economic Development Corp.

No scheduled date for QAPP

----- Original Message -----
From: <Spencer.Diane@epamail.epa.gov>
To: "Sue Warnke" <suew@skyenet.net>
Sent: Monday, July 30, 2001 2:00 PM
Subject: Re: USEPA grant - workplan

I just did a quick review. The QAPP deliverable date and Field Sampling Plan updates are okay. The greenspace portion of the workplan has been updated to reference the development of a new QAPP. However, it only has completion dates per task. For Task 3, in particular, delivery dates for the QAPP, FSP, and HSP are important. Also, is it your intent that the wells and probes will be installed by June 2002 or that analytical results will be available in a report during June 2002? Please include submittal dates and clarify the task completion deliverable and it's content.

Sue Warnke
<suew@skyenet
.net>
07/30/01

To: DIANE SPENCER/R5/USEPA/US@EPA
cc:
cc:

11:42 AM

bcc:
Fax to:
Subject: USEPA grant - workplan

Bob Schaefer and I just finished adding the items you suggested. Revised workplan is attached. please call with questions.

Sue Warnke
MCEDC
(219) 873-1211 ext. 2

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(See attached file: WORK PLAN FOR EPA DEMONSTRATION PILOT.doc)

WORK PLAN FOR EPA DEMONSTRATION PILOT.dc

DIANE SPENCER
07/30/01 02:00 PM

To: Sue Warnke
Subject: Re: USEPA grant - workplan

I just did a quick review. The QAPP deliverable date and Field Sampling Plan updates are okay. The greenspace portion of the workplan has been updated to reference the development of a new QAPP. However, it only has completion dates per task. For Task 3, in particular, delivery dates for the QAPP, FSP, and HSP are important. Also, is it your intent that the wells and probes will be installed by June 2002 or that analytical results will be available in a report during June 2002? Please include submittal dates and clarify the task completion deliverable and it's content.
Sue Warnke <suew@skyenet.net>

Sue Warnke
<suew@skyenet.net>
07/30/01 11:42 AM

To: DIANE SPENCER
Subject: USEPA grant - workplan

Bob Schaefer and I just finished adding the items you suggested. Revised workplan is attached. please call with questions.

Sue Warnke
MCEDC
(219) 873-1211 ext. 2

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WORK PLAN FOR EPA DEMONSTRATION PILOT.dc

WORK PLAN FOR THE CITY OF MICHIGAN CITY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOTS

PROJECT RENEW

Revitalizing Environmentally Neglected Emerging Workplaces

INTRODUCTION

Like many cities in the industrial Midwest, the City of Michigan City was a victim of the decline in manufacturing during the 60's and 70's as a result of the economic downturn at that time. Locally owned factories closed, many of which were located in vibrant neighborhoods where the employees walked to work. These closings resulted in lost jobs, a declining population, abandoned buildings and eventually deteriorated neighborhoods. These older facilities are situated on land in the City that is served by infrastructure which is already in place, such as water, sewer, natural gas, electricity and rail in many cases. Redevelopment and reuse of the buildings and properties will provide new opportunities for investment and ultimately create jobs, enhance the neighborhoods and increase home values. This process will help to encourage and promote sustainable urban development.

Parks and recreational opportunities in a community add a great deal to the overall quality of life. Developing strategic sites assures that all families in the community have access to recreational activities. Some locations, which may very well provide the right places to develop parks, have environmental problems associated with them. Transforming these sites into safe, clean, healthy recreational areas and educational centers will assist in restoring pride to the neighborhoods and the City as well as promote family oriented activities.

Formed by Mayor Brillson in 1996, the Michigan City Economic Development Corporation (MCEDC) has been the catalyst for economic development activities including brownfield redevelopment. The MCEDC works with potential new and existing businesses in providing data on buildings and sites in and around the City. A major component of their strategy has been the recognition of the aging, abandoned and vacant facilities and sites as brownfields and as potential places for future employment and recreation. The Mayor took another positive step in 1998 by forming the Michigan City Brownfield Task Force. This effort was created to develop a more formal strategy to address brownfields in the City. Several brownfield buildings and sites have since been redeveloped through partnerships with the City, MCEDC, the Urban Enterprise Association, the Northern Indiana Center for Land Reuse (NICLR), the State of Indiana and developers.

The goal of the Michigan City Brownfields Assessment Demonstration Pilots, Project RENEW, is to transform two former industrial facilities and their associated properties and one former City dump back to viable economically and environmentally safe uses. The City will use the EPA Brownfields Assessment Demonstration Pilot Grant to conduct environmental assessments of the buildings and properties, conduct site investigations, prepare corrective remediation plans, determine potential uses of the

facilities and land, coordinate and conduct public forums and provide overall project management during the process.

Both the Royal Metal and Schmock Oil facilities have absent irresponsible owners and delinquent property tax liabilities. Both facilities have already been condemned by the City's building inspector. The City, in cooperation with the LaPorte County Commissioners, will initiate a tax sale foreclosure process for each property, whereby the Commissioners convey legal ownership to the City or appropriate City agency. Following the completion of legal property transfer, the statutory process to perfect title in the name of the City or agency would conclude in six months or less. At that time, the City's redevelopment commission will begin to publicize the availability and sale of the properties through the competitive bidding process. The former City dump site on Karwick Road is already owned by the City. The development of the 23-acre Karwick Nature Park will be the responsibility of the City's Park and Recreation Department.

MANAGEMENT AND COORDINATION

The City of Michigan City, by and through its Board of Public Works and Safety, will enter into a contract with the Michigan City Economic Development Corporation (MCEDC), to serve as the managing entity of the Brownfields grant for coordinating the execution of tasks that comprise these pilot programs. The MCEDC will be responsible for providing a project manager to oversee the activities and tasks of both brownfield building projects as well as the greenspace project. This position will be responsible for coordinating the environmental tasks, remedial action plans, feasibility studies and community involvement for the two former brownfield buildings and properties. In addition, the project manager will oversee the tasks involved with the greenspace project which include reviewing existing conditions, conducting a geophysical survey, field investigations and assessments, data evaluation and reporting, a feasibility study and community involvement. The project manager will also be responsible for maintaining contact with the Indiana Department of Environmental Management (IDEM), as well as with the USEPA brownfield coordinator. The project manager will be responsible for completing the EPA Quarterly Reports and the final closeout report. In addition, the project manager will work with the appropriate City agencies and departments involved in the projects. The MCEDC will be responsible for securing the Requests for Proposals for the environmental tasks and will award this work to the appropriate responsible and experienced environmental company.

Projected allocation of the project manager's time for Part I is: 30% on management of the Brownfield Redevelopment Initiative including all reports, coordination of City agencies and departments, work with state and federal agencies; 29% on coordinating and overseeing the environmental assessments, site investigations and remedial action plans; 20% on conducting feasibility studies and determining best uses for the buildings and properties; and 21% on public information and community involvement.

It is anticipated that the project manager position will be filled by September 2001.

TASKS AND SCHEDULE

ROYAL METAL AND SCHMOCK OIL BUILDINGS AND LAND

Task 1: Phase I Environmental Assessment- RISC Pre-sampling Activities

Conducted by an environmental consulting firm, this task will include an assessment of existing site conditions through performance of Phase I Environmental Site Assessments on each property and evaluation of other RISC pre-sampling activities. The Phase I ESA's will be performed in general accordance with ASTM guidelines and will include site walk throughs, historical records reviews and interviews with persons familiar with past site uses. Based on the results of the Phase I ESA's, Conceptual Site Models (CSM) will be developed which identify acute hazards (if present), preliminary lists of chemicals of concern (COC's), potential affected media and exposure pathways or susceptible areas.

Activities	Deliverables	Submittal Date to EPA
Phase I ESA at both sites	ESA report	November 2001

Task 2: Phase II ESA Sampling-RISC Area Screening

This task will include soil and groundwater sampling to determine the presence or absence of constituents of concern (COC's). This task will be performed in accordance with RISC guidelines for Area Screening. The first subtask will be to develop a Quality Assurance Project Plan (QAPP) in accordance with requirements of both the Indiana Department of Environmental Management (IDEM) and the EPA. The data may ultimately be used to help define applicable regulatory strategies to address the site issues in the context of IDEM's Voluntary Remediation Program (VRP). The QAPP will include establishment of data quality objectives (DQO), a health and safety plan (HASP) and a sampling analysis plan (SAP). Requirements for quality assurance/quality control (QA/QC) and data quality assessment (DQA) will be addressed in the QAPP as appropriate.

Field sampling will include collection of groundwater samples and surface and subsurface soil samples at both the Royal Metal and Schmock properties. Sampling locations, depths and parameters will be selected in accordance with RISC default or non-default procedures, depending on the respective size of the investigation area. The scope of this work is estimated to include advancement of 20 borings using hydraulic push-probe techniques. COC's will be developed based on the results of the Phase I ESAs and will likely include one or more of the following parameters:

- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Polychlorinated biphenyls (PCBs)
- RCRA metals

For screening activities, it is likely that only VOCs and SVOCs will be included in the analytical suite since they are the most easily soluble in groundwater (and therefore the

most mobile) and also are typical COCs for a metal fabricating and finishing operation, which was the operation at Royal Metals for many years. Upon completion of the soil and groundwater sampling and receipt of laboratory results, the constituent concentrations for each of the two sites will be compared to RISC default and non-default closure criteria to determine if a nature and extent investigation will be required.

Activities	Deliverables	Submit data to EPA
Phase II ESA sampling	Quality Assurance Project Plan	January 2002
	Field Sampling analysis plan	March 2002
	Health and safety plan	April 2002
	2 Phase II reports	June 2002

Task 3: Site Investigation-Additional Soil and Groundwater Assessments (RISC Nature and Extent of Contamination Evaluation)

This task includes conducting site investigations to determine the nature and extent of contamination identified in Task II. The first step in this task is to develop the appropriate strategy, which includes revising the Conceptual Site Models, evaluating potential remedies and RISC defaults and identifying data gaps necessary to address in order to select appropriate remedies. The QAPP prepared as part of Task II will also be revised to address the sampling proposed as part of this Task.

Field activities will include soil and groundwater sampling to delineate the lateral and vertical extent of COCs, as well as evaluation of the potential chemical fate and migration. In addition, other media, such as surface water, sediments or air, will be sampled if potential impacts to these media are a concern. As part of the groundwater investigation, the point of compliance (POC) will be established in accordance with RISC guidelines. The groundwater evaluation may include both sampling and installation of potentially 10 groundwater monitoring wells depending on both RISC and VRP requirements.

Upon receipt of laboratory results, data assessment will be performed to determine the data validity and usability. A final report will be prepared which summarizes the extent of contamination, comparison to RISC closure levels and preliminary remedial alternatives if appropriate.

Activities	Deliverables	Submittal Date to EPA
Site Investigation Additional Assessments	Develop strategy-revise site model and QAPP	July 2002
	Conduct soil/groundwater sampling	August 2002
	Perform data assessment	September 2002
	Complete final report	October 2002

Task 4: Remedial Action Plan

This Task will include preparation of a remediation work plan in accordance with VRP guidance. This Task will be coordinated with the Feasibility Study in Task 5, since the actual remedial approach may be affected by the future use of the property. The work plan will provide an evaluation of several remedial alternatives, including institutional controls and a recommended alternative to be implemented for the sites. The evaluation of potential remedial options will consider the nature and extent of impacts, the potential for exposure to humans and/or the environment, as well as the planned use(s) of the properties.

Activities	Deliverables	Submittal Date to EPA
Remedial Action Plan	Prepare Plan	January 2003

Task 5: Feasibility Study

After the summary report and remedial action plan have been prepared, feasibility studies will be performed to evaluate the future uses of the properties. The Michigan City Economic Development Corporation, along with the project manager, will play the major role in determining the best uses of these properties. The MCEDC is recognized locally, regionally and statewide as being very aggressive in marketing the City for industrial growth. Since both of these facilities are extremely deteriorated, it would appear that they will be demolished and the sites cleared and marketed. Potential uses for the properties include high-tech users, machining operations, various other clean manufacturing/warehousing operations or a business incubator. The MCEDC will use their expertise to find the right uses and users to create jobs for the people living in the adjacent neighborhoods.

Activities	Deliverables	Submittal Date to EPA
Feasibility study	Market research/report	March 2003

Task 6: Community Involvement

A schedule will be developed for conducting public informational meetings regarding the Brownfield Projects. These meetings will begin before work commences and will be held in the project areas so that all families in those areas are aware of the plan. The meetings will focus on the assessments, clean up, ownership issues and potential uses of the properties. Committees will be formed in the neighborhoods to work closely with the project manager, the environmental consultants, the MCEDC and developers. Committees will consist of members from the Eastside Improvement Group and the Westside Improvement Group. Input will play a key role to assure that the residents and businesses feel part of the process and are comfortable with it. In addition, the City will utilize the local cable TV channel for programs dealing with the project so that the entire

City is aware of the developments. This informational effort will continue throughout the process.

Activities	Deliverables	Submit Data to EPA
Community Involvement	Develop outreach plan	October 2001
	Conduct neighborhood meetings	October/November 2001
	Follow up meetings	March 2002
	Cable TV program	June 2002
	Update meetings	September 2002
	Final meetings	May 2003

** Note—Rather than put dates on each meeting, it will be the goal of the project manager to conduct as many meetings as necessary during the course of the project, to keep the residents current on the status of the project.

BUDGET

Catagories	**MGT**	**Task 1**	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**TOTAL**
Personnel	12,000	2500	3000	3500	2500	8000	8500	$40,000
Travel	2500							$2,500
Equipment & Supplies	5000					2500	2500	$10,000
Contractual		7500	40,000	65,000	15,000	12,500	7500	$147,500
TOTALS	$19,500	$10,000	$43,000	$68,500	$17,500	$23,000	$18,500	$200,000

Notes To Budget:
The management amount was spread over all of the categories based on the estimated time that the project manager would spend on the individual tasks over the two-year period of the contract. The project manager will be a contracted individual or company and therefore, there are no fringe benefits or other payroll taxes. Travel dollars were budgeted to allow the project manager to attend a conference(s) that deals with brownfield redevelopment. In addition, the dollars budgeted for equipment and supplies for the project manager would include any hardware/software, reproduction/copies, maps etc. It is intended to provide the project manager with office space and administrative support from the Michigan City Economic Development Corporation as its in-kind funding support of the project. An environmental contractor will complete tasks 1-4. The project manager, the MCEDC and the contractor in preparing the feasibility study will complete task 5. The project manager, the MCEDC and the City of Michigan City, will complete task 6 with assistance from the contractor.

MEASURES OF SUCCESS

The process of assessing, cleaning up and revitalizing these two brownfields for reuse in the community sends a clear message to the citizens of Michigan City that the Mayor and City have committed to making the City a better, safer and healthier place to live, work and play. Specific measures of success will be:

- Two brownfield sites have been completely assessed
- Two brownfield sites have clean ups started or completed
- Adjacent neighborhoods have higher comfort level, feel safer, healthier
- Marketing efforts for both sites will begin-developers show interest
- Neighborhood home values on the rise
- Neighborhood pride on the increase
- The effort will illustrate the City's commitment to brownfield redevelopment

PART II: WORK PLAN FOR GREENSPACE DEMONSTRATION PILOT KARWICK NATURE PARK

Through a review of City owned properties, a 23 acre former City dump on the City's east side has been identified as a potential development of a recreational and educational nature park. The Michigan City Parks and Recreation Department is the local agency responsible for greenspace development and maintenance. For the proposed conversion of the former City dump into the Karwick Nature Park, the Parks and Recreation Department has taken the lead to coordinate all collaborative efforts with multiple community entities. In partnership with the Michigan City Economic Development Corporation (MCEDC), the department will work with the project manager and environmental contractor during the performance of the tasks associated with the grant.

The overall focus of this investigation will be to determine if there are any releases of chemicals of concern (COCs) to the environment and to evaluate any potential limitations to future development of the site for recreational purposes. The tasks will incorporate the applicable requirements with respect to data quality as described for the tasks of the Work Plan in Part I.

The project manager will be responsible for coordinating the environmental tasks, feasibility studies and community involvement, working closely with the Michigan City Parks and Recreation Department and the MCEDC. In addition, the project manager will be responsible for maintaining contact with the Indiana Department of Environmental Management (IDEM), the Indiana Department of Natural Resources and the USEPA brownfield coordinator.

Task 1: Review Existing Conditions

This task will include a review of existing site conditions, including a site reconnaissance, review of air photographs and historical maps and interviews with persons familiar with disposal and other uses at the site. Focus will be on determining the areas and respective depths of disposal as well as types of materials disposed. It is anticipated that this work will be completed and reported to the EPA by December 2001.

Activities	Deliverables	Submittal Date to EPA
Review existing Site conditions	Existing site conditions report	December 2001

Task 2: Depending on the findings of Task 1, a geophysical survey of the former dump area will be performed to determine the limits and potential depths and types of fill material. A site topographic survey will be conducted prior to performing the geophysical survey. A combination of geophysical survey methods appropriate for meeting the delineation objectives will be selected. This task will be completed and results reported to the EPA by February 2002.

Activities	Deliverables	Submittal Date to EPA
Site topographic study	Topographic Survey Report	February 2002
Geophysical Survey of site	Geophysical Survey Report	March 2002

Task 3: Field Investigations-groundwater screening and baseline assessment

Field investigations will include primarily perimeter groundwater and methane monitoring. Field sampling will include collection of groundwater samples and surface and subsurface soil samples. Sampling locations depth and parameters will be selected in accordance with RISC default or non-default procedures. The scope of this work will include advancement of 15 borings using hydraulic push-probe techniques and collection and analysis of groundwater samples at each boring location for constituents of concern (COCs). The first subtask will be to develop a Quality Assurance Project Plan in accordance with requirements of both the Indiana Department of Environmental Management (IDEM) and EPA. The results from the screening will be used to aid in locating permanent groundwater monitoring wells. It is assumed that a maximum of 10 monitoring wells will be installed. Level III QA/QC procedures and required QA/QC samples will be utilized for this task in accordance with IDEM VRP requirements. Gas probes for monitoring methane will also be installed around the perimeter. This task will be completed and reported to the EPA by June 2002.

Activities	Deliverables	Submittal Date to EPA
Field investigations and sampling	Quality Assurance Project Plan	April 2002
	Field Sampling Analysis Plan	May 2002
	Health and Safety Plan	June 2002
	Wells and Probes	June 2002
	Boring Report	July 2002

Task 4: Data Evaluation and Reporting

Following completion of the above tasks, the data will be evaluated and a final summarized site report will be completed. The report will document the work performed and will include a discussion of findings related to any COCs and will address potential limitations for future development of the site as a recreational area. Recommendations for any additional work, as necessary, will be included in the report package. It is expected that this report will be completed by September 2002 and reported to the EPA.

Activities	Deliverables	Submittal Date to EPA
Data Evaluation	Report to EPA	September 2002

Task: 5 Feasibility Study

The City's Park and Recreation Department along with a group of concerned citizens, have identified the use of this property as a nature park consisting of an outdoor educational classroom area, a wild flower demonstration site, a picnic area, a fishing site and nature pathways. There will be continuing studies to determine other uses of the property which will involve the project manager, the environmental contractor and the City's Park and Recreation Department.
This study will be completed by October 2002.

Activities	Deliverables	Submittal Date to EPA
Feasibility study	Market research/report	October 2002

Task: 6 Community Involvement

Several planning meetings have already been held by Mayor Brillson with City department heads, the school system, labor union representatives and other interested citizens to begin formulating a plan for use and development of the Karwick Nature Park.

The project manager will continue to conduct the community meetings throughout the process and will involve neighborhood residents and the adjacent school children and teachers as well as the overall community. Reports of this task activities will be made on a regular basis to the EPA.

Activities	Deliverables	Submittal Date to EPA
Community Involvement	Develop outreach plan	September 2001
	Conduct community meetings	Sept. – Nov. 2001
	Follow-up meetings	October 2002

BUDGET

Catagories	**MGT**	**Task 1**	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**TOTAL**
Personnel	3500	500	500	500	500	1000	2000	$8,500
Equipment & Supplies	1000							$1,000
Contractual		5000	5000	22,000	7000	1000	500	$40,500
TOTALS	$4500	$5,500	$5,500	$22,500	$7,500	$2,000	$2,500	$50,000

The management amounts were spread over all of the categories based on the estimated time that the project manager would spend on the individual tasks over the two-year period of the contract. The same project manager for the two brownfield projects will be utilized for the greenspace project. The City Parks and Recreation Department, the Karwick Nature Park committee and the MCEDC will assist the project manager with the feasibility study and community involvement tasks through in kind participation.

MEASURES OF SUCCESS

- A former City dump site has been assessed
- Clean up activities have been started
- Karwick Nature Park becomes a reality
- School children participate in the planning
- Neighborhood involvement
- Fishermen have new site
- Increased visitors to the City

Sue Warnke
<suew@skyenet.net>

07/30/01 11:42 AM

To: DIANE SPENCER
Subject: USEPA grant - workplan

Bob Schaefer and I just finished adding the items you suggested. Revised workplan is attached. please call with questions.

Sue Warnke
MCEDC
(219) 873-1211 ext. 2

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WORK PLAN FOR EPA DEMONSTRATION PILOT.dc

WORK PLAN FOR THE CITY OF MICHIGAN CITY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOTS

PROJECT RENEW

Revitalizing Environmentally Neglected Emerging Workplaces

INTRODUCTION

Like many cities in the industrial Midwest, the City of Michigan City was a victim of the decline in manufacturing during the 60's and 70's as a result of the economic downturn at that time. Locally owned factories closed, many of which were located in vibrant neighborhoods where the employees walked to work. These closings resulted in lost jobs, a declining population, abandoned buildings and eventually deteriorated neighborhoods. These older facilities are situated on land in the City that is served by infrastructure which is already in place, such as water, sewer, natural gas, electricity and rail in many cases. Redevelopment and reuse of the buildings and properties will provide new opportunities for investment and ultimately create jobs, enhance the neighborhoods and increase home values. This process will help to encourage and promote sustainable urban development.

Parks and recreational opportunities in a community add a great deal to the overall quality of life. Developing strategic sites assures that all families in the community have access to recreational activities. Some locations, which may very well provide the right places to develop parks, have environmental problems associated with them. Transforming these sites into safe, clean, healthy recreational areas and educational centers will assist in restoring pride to the neighborhoods and the City as well as promote family oriented activities.

Formed by Mayor Brillson in 1996, the Michigan City Economic Development Corporation (MCEDC) has been the catalyst for economic development activities including brownfield redevelopment. The MCEDC works with potential new and existing businesses in providing data on buildings and sites in and around the City. A major component of their strategy has been the recognition of the aging, abandoned and vacant facilities and sites as brownfields and as potential places for future employment and recreation. The Mayor took another positive step in 1998 by forming the Michigan City Brownfield Task Force. This effort was created to develop a more formal strategy to address brownfields in the City. Several brownfield buildings and sites have since been redeveloped through partnerships with the City, MCEDC, the Urban Enterprise Association, the Northern Indiana Center for Land Reuse (NICLR), the State of Indiana and developers.

The goal of the Michigan City Brownfields Assessment Demonstration Pilots, Project RENEW, is to transform two former industrial facilities and their associated properties and one former City dump back to viable economically and environmentally safe uses. The City will use the EPA Brownfields Assessment Demonstration Pilot Grant

to conduct environmental assessments of the buildings and properties, conduct site investigations, prepare corrective remediation plans, determine potential uses of the facilities and land, coordinate and conduct public forums and provide overall project management during the process.

Both the Royal Metal and Schmock Oil facilities have absent irresponsible owners and delinquent property tax liabilities. Both facilities have already been condemned by the City's building inspector. The City, in cooperation with the LaPorte County Commissioners, will initiate a tax sale foreclosure process for each property, whereby the Commissioners convey legal ownership to the City or appropriate City agency. Following the completion of legal property transfer, the statutory process to perfect title in the name of the City or agency would conclude in six months or less. At that time, the City's redevelopment commission will begin to publicize the availability and sale of the properties through the competitive bidding process. The former City dump site on Karwick Road is already owned by the City. The development of the 23-acre Karwick Nature Park will be the responsibility of the City's Park and Recreation Department.

MANAGEMENT AND COORDINATION

The City of Michigan City, by and through its Board of Public Works and Safety, will enter into a contract with the Michigan City Economic Development Corporation (MCEDC), to serve as the managing entity of the Brownfields grant for coordinating the execution of tasks that comprise these pilot programs. The MCEDC will be responsible for providing a project manager to oversee the activities and tasks of both brownfield building projects as well as the greenspace project. This position will be responsible for coordinating the environmental tasks, remedial action plans, feasibility studies and community involvement for the two former brownfield buildings and properties. In addition, the project manager will oversee the tasks involved with the greenspace project which include reviewing existing conditions, conducting a geophysical survey, field investigations and assessments, data evaluation and reporting, a feasibility study and community involvement. The project manager will also be responsible for maintaining contact with the Indiana Department of Environmental Management (IDEM), as well as with the USEPA brownfield coordinator. The project manager will be responsible for completing the EPA Quarterly Reports and the final closeout report. In addition, the project manager will work with the appropriate City agencies and departments involved in the projects. The MCEDC will be responsible for securing the Requests for Proposals for the environmental tasks and will award this work to the appropriate responsible and experienced environmental company.

Projected allocation of the project manager's time for Part I is: 30% on management of the Brownfield Redevelopment Initiative including all reports, coordination of City agencies and departments, work with state and federal agencies; 29% on coordinating and overseeing the environmental assessments, site investigations and remedial action plans; 20% on conducting feasibility studies and determining best uses for the buildings and

properties; and 21% on public information and community involvement.

It is anticipated that the project manager position will be filled by September 2001.

TASKS AND SCHEDULE

ROYAL METAL AND SCHMOCK OIL BUILDINGS AND LAND

Task 1: Phase I Environmental Assessment- RISC Pre-sampling Activities

Conducted by an environmental consulting firm, this task will include an assessment of existing site conditions through performance of Phase I Environmental Site Assessments on each property and evaluation of other RISC pre-sampling activities. The Phase I ESA's will be performed in general accordance with ASTM guidelines and will include site walk throughs, historical records reviews and interviews with persons familiar with past site uses. Based on the results of the Phase I ESA's, Conceptual Site Models (CSM) will be developed which identify acute hazards (if present), preliminary lists of chemicals of concern (COC's), potential affected media and exposure pathways or susceptible areas.

Activities	Deliverables	Submittal Date to EPA
Phase I ESA at both sites	ESA report	November 2001

Task 2: Phase II ESA Sampling-RISC Area Screening

This task will include soil and groundwater sampling to determine the presence or absence of constituents of concern (COC's). This task will be performed in accordance with RISC guidelines for Area Screening. The first subtask will be to develop a Quality Assurance Project Plan (QAPP) in accordance with requirements of both the Indiana Department of Environmental Management (IDEM) and the EPA. The data may ultimately be used to help define applicable regulatory strategies to address the site issues in the context of IDEM's Voluntary Remediation Program (VRP). The QAPP will include establishment of data quality objectives (DQO), a health and safety plan (HASP) and a sampling analysis plan (SAP). Requirements for quality assurance/quality control (QA/QC) and data quality assessment (DQA) will be addressed in the QAPP as appropriate.

Field sampling will include collection of groundwater samples and surface and subsurface soil samples at both the Royal Metal and Schmock properties. Sampling locations, depths and parameters will be selected in accordance with RISC default or non-default procedures, depending on the respective size of the investigation area. The scope of this work is estimated to include advancement of 20 borings using hydraulic push-probe techniques. COC's will be developed based on the results of the Phase I

ESAs and will likely include one or more of the following parameters:

- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Polychlorinated biphenyls (PCBs)
- RCRA metals

For screening activities, it is likely that only VOCs and SVOCs will be included in the analytical suite since they are the most easily soluble in groundwater (and therefore the most mobile) and also are typical COCs for a metal fabricating and finishing operation, which was the operation at Royal Metals for many years. Upon completion of the soil and groundwater sampling and receipt of laboratory results, the constituent concentrations for each of the two sites will be compared to RISC default and non-default closure criteria to determine if a nature and extent investigation will be required.

Activities	Deliverables	Submit data to EPA
Phase II ESA sampling	Quality Assurance Project Plan	January 2002
	Field Sampling analysis plan	March 2002
	Health and safety plan	April 2002
	2 Phase II reports	June 2002

Task 3: Site Investigation-Additional Soil and Groundwater Assessments (RISC Nature and Extent of Contamination Evaluation)

This task includes conducting site investigations to determine the nature and extent of contamination identified in Task II. The first step in this task is to develop the appropriate strategy, which includes revising the Conceptual Site Models, evaluating potential remedies and RISC defaults and identifying data gaps necessary to address in order to select appropriate remedies. The QAPP prepared as part of Task II will also be revised to address the sampling proposed as part of this Task.

Field activities will include soil and groundwater sampling to delineate the lateral and vertical extent of COCs, as well as evaluation of the potential chemical fate and migration. In addition, other media, such as surface water, sediments or air, will be sampled if potential impacts to these media are a concern. As part of the groundwater investigation, the point of compliance (POC) will be established in accordance with RISC guidelines. The groundwater evaluation may include both sampling and installation of potentially 10 groundwater monitoring wells depending on both RISC and VRP requirements.

Upon receipt of laboratory results, data assessment will be performed to determine the data validity and usability. A final report will be prepared which summarizes the extent of contamination, comparison to RISC closure levels and preliminary remedial alternatives if appropriate.

Activities	Deliverables	Submittal Date to EPA

Site Investigation Additional Assessments	Develop strategy-revise site model and QAPP	July 2002
	Conduct soil/groundwater sampling	August 2002
	Perform data assessment	September 2002
	Complete final report	October 2002

Task 4: Remedial Action Plan

This Task will include preparation of a remediation work plan in accordance with VRP guidance. This Task will be coordinated with the Feasibility Study in Task 5, since the actual remedial approach may be affected by the future use of the property. The work plan will provide an evaluation of several remedial alternatives, including institutional controls and a recommended alternative to be implemented for the sites. The evaluation of potential remedial options will consider the nature and extent of impacts, the potential for exposure to humans and/or the environment, as well as the planned use(s) of the properties.

Activities	Deliverables	Submittal Date to EPA
Remedial Action Plan	Prepare Plan	January 2003

Task 5: Feasibility Study

After the summary report and remedial action plan have been prepared, feasibility studies will be performed to evaluate the future uses of the properties. The Michigan City Economic Development Corporation, along with the project manager, will play the major role in determining the best uses of these properties. The MCEDC is recognized locally, regionally and statewide as being very aggressive in marketing the City for industrial growth. Since both of these facilities are extremely deteriorated, it would appear that they will be demolished and the sites cleared and marketed. Potential uses for the properties include high-tech users, machining operations, various other clean manufacturing/warehousing operations or a business incubator. The MCEDC will use their expertise to find the right uses and users to create jobs for the people living in the adjacent neighborhoods.

Activities	Deliverables	Submittal Date to EPA
Feasibility study	Market research/report	March 2003

Task 6: Community Involvement

A schedule will be developed for conducting public informational meetings regarding the Brownfield Projects. These meetings will begin before work commences and will be held in the project areas so that all families in those areas are aware of the plan. The meetings will focus on the assessments, clean up, ownership issues and potential uses of the properties. Committees will be formed in the neighborhoods to work closely with the project manager, the environmental consultants, the MCEDC and developers. Committees will consist of members from the Eastside Improvement Group and the Westside Improvement Group. Input will play a key role to assure that the residents and businesses feel part of the process and are comfortable with it. In addition, the City will utilize the local cable TV channel for programs dealing with the project so that the entire City is aware of the developments. This informational effort will continue throughout the process.

Activities	Deliverables	Submit Data to EPA
Community Involvement	Develop outreach plan	October 2001
	Conduct neighborhood meetings	October/November 2001
	Follow up meetings	March 2002
	Cable TV program	June 2002
	Update meetings	September 2002
	Final meetings	May 2003

** Note—Rather than put dates on each meeting, it will be the goal of the project manager to conduct as many meetings as necessary during the course of the project, to keep the residents current on the status of the project.

BUDGET

Catagories	**MGT**	**Task 1**	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**TOTAL**
Personnel	12,000	2500	3000	3500	2500	8000	8500	$40,000
Travel	2500							$2,500
Equipment & Supplies	5000					2500	2500	$10,000
Contractua l		7500	40,000	65,000	15,000	12,500	7500	$147,500
TOTALS	$19,500	$10,000	$43,000	$68,500	$17,500	$23,000	$18,500	$200,000

Notes To Budget:
The management amount was spread over all of the categories based on the estimated

time that the project manager would spend on the individual tasks over the two-year period of the contract. The project manager will be a contracted individual or company and therefore, there are no fringe benefits or other payroll taxes. Travel dollars were budgeted to allow the project manager to attend a conference(s) that deals with brownfield redevelopment. In addition, the dollars budgeted for equipment and supplies for the project manager would include any hardware/software, reproduction/copies, maps etc. It is intended to provide the project manager with office space and administrative support from the Michigan City Economic Development Corporation as its in-kind funding support of the project. An environmental contractor will complete tasks 1-4. The project manager, the MCEDC and the contractor in preparing the feasibility study will complete task 5. The project manager, the MCEDC and the City of Michigan City, will complete task 6 with assistance from the contractor.

MEASURES OF SUCCESS

The process of assessing, cleaning up and revitalizing these two brownfields for reuse in the community sends a clear message to the citizens of Michigan City that the Mayor and City have committed to making the City a better, safer and healthier place to live, work and play. Specific measures of success will be:

- Two brownfield sites have been completely assessed
- Two brownfield sites have clean ups started or completed
- Adjacent neighborhoods have higher comfort level, feel safer, healthier
- Marketing efforts for both sites will begin-developers show interest
- Neighborhood home values on the rise
- Neighborhood pride on the increase
- The effort will illustrate the City's commitment to brownfield redevelopment

PART II: WORK PLAN FOR GREENSPACE DEMONSTRATION PILOT KARWICK NATURE PARK

Through a review of City owned properties, a 23 acre former City dump on the City's east side has been identified as a potential development of a recreational and educational nature park. The Michigan City Parks and Recreation Department is the local agency responsible for greenspace development and maintenance. For the proposed conversion of the former City dump into the Karwick Nature Park, the Parks and Recreation Department has taken the lead to coordinate all collaborative efforts with multiple community entities. In partnership with the Michigan City Economic Development Corporation (MCEDC), the department will work with the project manager and environmental contractor during the performance of the tasks associated with the grant.

The overall focus of this investigation will be to determine if there are any releases of chemicals of concern (COCs) to the environment and to evaluate any potential limitations to future development of the site for recreational purposes. The tasks will incorporate the applicable requirements with respect to data quality as described for the tasks of the Work Plan in Part I.

The project manager will be responsible for coordinating the environmental tasks, feasibility studies and community involvement, working closely with the Michigan City Parks and Recreation Department and the MCEDC. In addition, the project manager will be responsible for maintaining contact with the Indiana Department of Environmental Management (IDEM), the Indiana Department of Natural Resources and the USEPA brownfield coordinator.

Task 1: Review Existing Conditions

This task will include a review of existing site conditions, including a site reconnaissance, review of air photographs and historical maps and interviews with persons familiar with disposal and other uses at the site. Focus will be on determining the areas and respective depths of disposal as well as types of materials disposed. It is anticipated that this work will be completed and reported to the EPA by December 2001.

Task 2: Depending on the findings of Task 1, a geophysical survey of the former dump area will be performed to determine the limits and potential depths and types of fill material. A site topographic survey will be conducted prior to performing the geophysical survey. A combination of geophysical survey methods appropriate for meeting the delineation objectives will be selected. This task will be completed and results reported to the EPA by February 2002.

Task 3: Field Investigations-groundwater screening and baseline assessment

Field investigations will include primarily perimeter groundwater and methane monitoring. Field sampling will include collection of groundwater samples and surface and subsurface soil samples. Sampling locations depth and parameters will be selected in accordance with RISC default or non-default procedures. The scope of this work will include advancement of 15 borings using hydraulic push-probe techniques and collection and analysis of groundwater samples at each boring location for constituents of concern (COCs). The first subtask will be to develop a Quality Assurance Project Plan in accordance with requirements of both the Indiana Department of Environmental Management (IDEM) and EPA. The results from the screening will be used to aid in locating permanent groundwater monitoring wells. It is assumed that a maximum of 10 monitoring wells will be installed. Level III QA/QC procedures and required QA/QC samples will be utilized for this task in accordance with IDEM VRP requirements. Gas probes for monitoring methane will also be installed around the perimeter. This task will be completed and reported to the EPA by June 2002.

Task 4: Data Evaluation and Reporting

Following completion of the above tasks, the data will be evaluated and a final summarized site report will be completed. The report will document the work performed and will include a discussion of findings related to any COCs and will address potential limitations for future development of the site as a recreational area. Recommendations for any additional work, as necessary, will be included in the report package. It is expected that this report will be completed by September 2002 and reported to the EPA.

Task: 5 Feasibility Study

The City's Park and Recreation Department along with a group of concerned citizens, have identified the use of this property as a nature park consisting of an outdoor educational classroom area, a wild flower demonstration site, a picnic area, a fishing site and nature pathways. There will be continuing studies to determine other uses of the property which will involve the project manager, the environmental contractor and the City's Park and Recreation Department.
This study will be completed by October 2002.

Task: 6 Community Involvement

Several planning meetings have already been held by Mayor Brillson with City department heads, the school system, labor union representatives and other interested citizens to begin formulating a plan for use and development of the Karwick Nature Park. The project manager will continue to conduct the community meetings throughout the process and will involve neighborhood residents and the adjacent school children and teachers as well as the overall community. Reports of this task activities will be made on a regular basis to the EPA.

BUDGET

Catagories	**MGT**	**Task 1**	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**TOTAL**
Personnel	3500	500	500	500	500	1000	2000	$8,500
Equipment & Supplies	1000							$1,000
Contractua l		5000	5000	22,000	7000	1000	500	$40,500
TOTALS	$4500	$5,500	$5,500	$22,500	$7,500	$2,000	$2,500	$50,000

The management amounts were spread over all of the categories based on the estimated time that the project manager would spend on the individual tasks over the two-year period of the contract. The same project manager for the two brownfield projects will be utilized for the greenspace project. The City Parks and Recreation Department, the Karwick Nature Park committee and the MCEDC will assist the project manager with the

feasibility study and community involvement tasks through in kind participation.

MEASURES OF SUCCESS

- A former City dump site has been assessed
- Clean up activities have been started
- Karwick Nature Park becomes a reality
- School children participate in the planning
- Neighborhood involvement
- Fishermen have new site
- Increased visitors to the City

DIANE SPENCER
07/19/01 12:56 PM

To: Sue Warnke
Subject: Re: Brownfields Assessment Grant -- Michigan City, IN

Sue:

Thanks for providing the work plan electronically. I can't find any meeting notes I may have taken during my visit with Tony and Bob on June 11, so I'm not sure if these items were discussed then or not. I must have also left the map of Michigan City, with the property locations at your offices too, as I haven't been able to locate it with my materials.

Could a couple of items in the work plan be clarified? Typically, the QAPP is submitted prior to the Field Sampling Plan (FSP). Since the QAPP contains the overall procedures which will be used for the field and sampling work, it's usually a comprehensive document. The FSP provides the details for the individual properties. I suggest you rethink and submit the QAPP first, followed by the FSP and Health and Safety Plan (H&SP). Will one QAPP, FSP, and H&SP address the greenspace too? The greenspace portion doesn't provide any information regarding a QAPP, FSP, or H&SP. It's okay to include everything in a single QAPP for the overall project. I'm just unsure whether that is the intent. The QAPP and sampling plan(s) will require U.S. EPA approval before you can proceed with Phase II work, so it's critical that it be submitted for review as soon as it is developed.

Thanks for your assistance in clarifying these items.

Diane M. Spencer
Brownfields Project Manager - Region 5
(312) 886-5867
spencer.diane@epa.gov

Sue Warnke <suew@skyenet.net>

Sue Warnke
<suew@skyenet.net>
07/18/01 10:14 AM

To: DIANE SPENCER
Subject: Re: Brownfields Assessment Grant -- Michigan City, IN

Diane - The application is completed and copies are being sent to Gloria and Madeline Rucker via Fed Ex today.
We were just confused about a few of the forms that were required. Next time I will contact you, thanks for the
offer. Attached is the final workplan that was included with both applications.
Have a great day!
Sue

----- Original Message -----
From: <Spencer.Diane@epamail.epa.gov>
To: <suew@skyenet.net>
Sent: Wednesday, July 18, 2001 10:13 AM
Subject: Brownfields Assessment Grant -- Michigan City, IN

> Hi Sue:

>
> I left a voice mail message for Tony R. yesterday, but am also following
up
> with you. I ran into Gloria Willis yesterday and she told me that she had
> a conference call with you and Tony to discuss the grant application.
> Hopefully, you were able to get the application items resolved, so you
> could get the application into our office. I was totally unaware that you
> were having difficulties. Please contact me if I can provide any
> assistance.
>
> As part of the application package, a work plan is needed. I met with
Tony
> on June 11 and went over a draft copy. I've not received a finalized
> version. Hopefully, that will/was sent as part of the complete package of
> materials. If you have an electronic copy of the work plan, I'd like you
> to route it to me. That way, I can do a final review and provide my
> concurrence to Gloria quickly, without waiting for someone within the
> Agency to route it to me. Basically, as the Project Officer, Gloria has
> signature authority on the cooperative agreement, but needs my technical
> assistance and review on the work plan and site work. She won't provide
> her approval to the financial staff without receiving my concurrence on
the
> work plan.
>
> Hope this isn't too confusing. Feel free to call me if you've got any
> questions.
>
> Diane M. Spencer
> Brownfields Project Manager - Region 5
> (312) 886-5867
> spencer.diane@epa.gov
>
>
>
>

WORK PLAN FOR EPA DEMONSTRATION PILOT.dc

Confirmation Report – Memory Send

Page : 001
Date & Time: 05-16-01 10:32am
Line 1 : 312 886 6741
Machine ID : USEPA REGION 5

Job number	:	857
Date	:	05-16 10:25am
To	:	☎912198731595
Number of pages	:	021
Start time	:	05-16 10:25am
End time	:	05-16 10:32am
Pages sent	:	021
Status	:	OK

Job number : 857 *** SEND SUCCESSFUL ***

United States Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, Illinois 60604

EPA

Office of Superfund
Emergency Response Branch
Brownfields & Early Action Section

Facsimile Cover Sheet
Telephone Number
(312) 886-6741

To: Tony Rodriguez
Office phone: (219) 873-1211 **Machine No: (219) 873-1595**

From: Diane M. Spencer
Office phone: (312) 886-5867 **Office code: SE-4J**

Date: May 16, 2001 **Number of pages, including cover: 21**

MESSAGE:
Tony – I've included the cover letter – with my name and information added due to a change in Project Managers. I've also included two requests for proposals which were received in the office. One is much longer and detailed than the other. You'll probably pick and choose items which you like from each and come up with your own request. The EPA doesn't approve proposal requests, but this should help in drafting something to meet your needs.

Please call me if you have any questions about the project. As I stated earlier this morning, I'd like to stop by and see the properties and get an overall sense of the project. Feel free to call for assistance.

United States Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, Illinois 60604

Office of Superfund
Emergency Response Branch
Brownfields & Early Action Section

Facsimile Cover Sheet
Telephone Number
(312) 886-6741

To: Tony Rodriguez
Office phone: (219) 873-1211 Machine No: (219) 873-1595

From: Diane M. Spencer
Office phone: (312) 886-5867 Office code: SE-4J

Date: May 16, 2001 Number of pages, including cover: 21

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Tony – I've included the cover letter – with my name and information added due to a change in Project Managers. I've also included two requests for proposals which were received in the office. One is much longer and detailed than the other. You'll probably pick and choose items which you like from each and come up with your own request. The EPA doesn't approve proposal requests, but this should help in drafting something to meet your needs.

Please call me if you have any questions about the project. As I stated earlier this morning, I'd like to stop by and see the properties and get an overall sense of the project. Feel free to call for assistance.

Jan Pels

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF
SE-4J

MAY 0 1 2001

Mr. Anthony Rodriguez, Director
Michigan City Economic Development Corporation
100 East Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City, Indiana
Brownfields Assessment Pilot

Dear Mr. Rodriguez:

Congratulations on your selection as a Brownfields Assessment Demonstration Pilot recipient. The U.S. Environmental Protection Agency, Region 5 Brownfields staff looks forward to working closely with you over the next several years. Two key contacts at the EPA during the term of your project are the Project Manager, ~~Jan Pels~~ Diane M. Spencer and the Project Officer, Gloria Willis. Jan Pels may be reached at (312) 886-3009 or via the Internet at ~~pels.jan@epa.gov~~ spencer.diane@epa.gov or via telefax at (312) 886-~~6741~~ 5567. Gloria Willis may be reached at (312) 886-7259 or via the Internet at willis.gloria@epa.gov or via telefax at (312) 886-0186.

The mechanism through which the funding will be provided to the City of Michigan City is called a Cooperative Agreement (CA). Several things need to will have to take place before the City of Michigan City will be awarded a CA and have access to funds. First, a work plan for the proposed activities will need to be developed and approved, as an attachment to the CA. The work plan should clearly describe the work that will be performed under the CA, and provide a budget. An example of an acceptable work plan is enclosed. We want to work closely with you to assure prompt approval of your work plan.

Second, you will need to fill out forms from the enclosed application packet for Federal funds. Note that we have attached a list of the forms in the packet which apply to this particular CA. The other forms in the packet are not needed. The work plan, when approved by the project manager, will become pat of the final CA application you submit. We need your completed application package, including the final approved work plan, sent to Madelin Rucker by July 14, 2001, in order for your funds to be available by September 30, 2001.

JPels 4/26/01 BCRS

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Gloria Willis will be contacting you in the near future to arrange a conference call to go over the application process and timetable for work plan review and approval. In the meantime, you should begin developing a draft work plan. Please understand that no costs can be incurred related to this project before a CA is awarded to you and signed and accepted by you and returned to U.S. EPA.

Please contact one of the staff members shown above if you have questions.

Sincerely,

Deborah Orr
Region 5 Brownfields Coordinator

cc: Gloria Willis, PO
Jan Pels, PM

Enclosures: Work Plan format
Application Package for Federal Funds
Sample Work Plan

LEGAL NOTICE
INVITATION FOR BIDS

The City of Canton is requesting formal proposals for environmental assessment consulting services. These services are being provided through a USEPA Brownfield Redevelopment Project and will focus on the thirty-three acre abandoned site in the Central Business District.

Interested bidders can receive copies of the bid package at the City Clerk's office between the hours of 8:00 a.m. and 5:00 p.m. or by sending a self addressed envelope with a check for $5.00 to cover shipping and handling to the following address:

City Clerk
210 East Chestnut
Canton, IL 61520

Information regarding submission and other relevant details are contained within the request for proposal (RFP) document. Sealed proposals must be received by 12:00 noon on June 10, 1999 and in the format outlined in the RFP document.

No phone calls please.

EEO/AA Employer.

[redacted]

To: Mike Gifford [redacted]

Fax: 312/ 896-7190

From: Rebecca Cors

Vandewalle & Associates — Member of The Lakeside Group
Madison, Wisconsin — phone 608/ 255-3988 — fax 608/ 255-0814

REQUEST FOR PROPOSALS

ENVIRONMENTAL ASSESSMENT AND PLANNING SERVICES FOR THE CITY OF CANTON USEPA BROWNFIELDS PILOT PROJECT

May 24, 1999

The U.S. Environmental Protection Agency (USEPA) has designated the City of Canton, Illinois as a "Brownfields Assessment Demonstration Pilot" and has awarded the community with a $200,000 pilot program grant. The primary focus of the Demonstration Pilot project in Canton is to conduct Phase I and Phase II Environmental Site Assessments and to develop Short-term and Long-term Redevelopment Plans for the 33-acre former International Harvester site in the heart of Downtown Canton. However, a number of other requirements and work elements for the grant must also be addressed.

Canton is currently seeking proposals from highly qualified and experienced engineering firms to perform the environmental assessment scope of services component of this USEPA grant. The proposal that will be submitted must satisfy all of the required work elements approved in the work plan for the City of Canton Brownfields Economic Redevelopment project.

GOALS AND OBJECTIVES FOR THE PILOT GRANT

The goal of the City of Canton Brownfields Assessment Pilot Project is to assess the thirty-three acre subject property for type, level, and location of contaminants and to bring at least ten (10) acres of the site into useable condition within two years.

The objectives of the Demonstration Pilot Project grant program include:

1. Determining the relevant assessment procedures;
2. Conducting Phase I and Phase II Environmental Site Assessment of the subject property;
3. Formulating and finalizing plans for short-term and long-term redevelopment; and
4. Conducting an on-going community involvement program that is headed by an appointed committee of local representatives and which will conclude with a workshop (in conjunction with USEPA) on the success of the Brownfields Program in a small sized, rural community.

SCOPE OF SERVICES TO CONDUCT ENVIRONMENTAL ASSESSMENT ACTIVITES AT THE SUBJECT PROPERTY

The scope of services to be provided by the Environmental Consultant for the project shall include the following:

1. Phase I Environmental Site Assessment. Phase I ESA will be conducted for the entire 33-acre subject property. The objective of the Phase I is to identify on site and off site contamination sources which have the potential to cause soil or groundwater contamination. The sources of contamination will then be evaluated to determine whether further evaluation under Phase II ESA activities is required.

The Phase I ESA report will be completed in conformance with ASTM E 1527-97 protocol. The work elements to be completed shall include a Site Visit, Historical Review, Regulatory Inventory Review, and Report Preparation. Report Preparation shall document the results of the Phase I ESA. The report will include:

a) Site background an identification of on site high risk areas and waste disposal areas.
b) Scientific literature review, identification of potential off site contamination sources, and a compilation of existing environmental data.
c) Site map showing: 1) areas of documented contamination; 2) areas of high-risk activities; and 3) waste disposal areas.
d) Recommendations on the need for further soil or groundwater assessments.

2. Phase II Environmental Site Assessment. It is expected that Phase II investigation will be necessary on specific areas of the site. However, the need for this will be determined by the Phase I ESA and the presence of suspected hot spots. It is known that hazardous substances are present on the site but the type, level and impacts on health and the environment, as well as on .ede· .lopmer ·re unknown.

   Based on the information collected during the Phase I ESA, approximately ten acres will be selected for further investigation. The selected area may be entered into the Illinois Site Remediation Program (SRP). As such, the work completed under the grant will be conducted in accordance with 35 Ill. Adm. Code 740. The following activities will be conducted under the Phase II ESA: a Quality Assurance Project Plan that includes a field sampling plan, data needs and analytical protocol; a Site-specific Health and Safety Plan in accordance with 40 CFR 1910.120; all field sampling and data analysis; and a Site Investigation Report which will summarize the results of the Phase II ESA. The Site Investigation Report will be submitted to the EPA for review and approval when the site is enrolled in the SRP.

3. Remediation Objective Analysis. Data collected during the Phase I and II ESAs will be used to determine remediation objectives in accordance with 35 Ill. Adm. Code 742. The remediation objectives will be presented in the Site Investigation Report or in a separate Remediation Objectives Report. The completed Remedial Objectives Report will be submitted to the EPA for review and approval when the site is enrolled in the SRP.

4. Remedial Action Plan. If the concentrations of any of the compounds detected at the sites are greater than the remediation objectives, a Remedial Action Plan will be prepared in accordance with 35 ILL. Adm. Code 740. The Plan will discuss the treatment, containment, removal actions and institutional controls that will be taken to achieve the remediation objectives. The Remedial Action Plan will be submitted to EPA for review and approval when the site is enrolled in the SRP.

5. Community Outreach Activities. Successful implementation of the project will require the Environmental Consultant to work closely with the City's Project Director, Clark Wilson, as well as other outside consultants hired to assist with project coordination, the community involvement program, and the redevelopment plan development. As such, the Environmental Consultant to the project will be expected to attend meetings of the Redevelopment Advisory Committee, a citizen advisory committee appointed to assist with the exchange of project information to the general public.

6. Agency Reporting Activities. The Environmental Consultant on the project may also be required to provide written information to City staff to be included in meeting summaries, working papers, and quarterly reports to USEPA.

MINIMUM QUALIFICATIONS FOR ENVIRONMENTAL CONSULTING FIRMS

Consulting firms submitting proposals to the City of Canton *shall* address the following minimum qualifications in their proposals:

1. Extensive experience in the identification of brownfields, including field-testing and analysis, and the development of remediation plans which are acceptable to environmental regulatory agencies without extensive reviews and revisions. Extensive experience is defined as having worked on brownfields projects in cooperation with the USEPA and having enrolled brownfields sites in the Illinois SRP program.

2. Experience working with planners on urban restoration projects involving remediation of brownfields. This experience would include knowledge of both innovative remedial techniques, as well as knowledge of innovative construction techniques at brownfields.

3. Working knowledge of the Fulton County region, and Canton in particular. Working knowledge is defined as having some prior experience on projects in either Canton or the greater Fulton County area.

4. Experience in community outreach and public relations to inform citizens about brownfields remediation issues. Experience presenting brownfields cases should be documented, including previous public presentations, workshops, conferences, etc.

5. Successful history of being a "team player" on multi-faceted development projects including working with other consultants, non-profit organizations, private developers, public officials, and the general public.

PROPOSAL SPECIFICS

In addition to the minimum qualifications information, all proposals submitted *shall* included the following information:

1. Work program to address Scope of Services outlined in this request for proposals.

2. Profiles and experience of all professional staff to be assigned to this project.

3. Cost detail for proposal including:
   - A not to exceed cost proposal for the scope of services to be performed
   - Hourly rates and charges, including any subcontractors and laboratory fees
   - Travel costs and related expenses

ADDITIONAL REQUIREMENTS FOR APPLICATIONS PER USEPA

Per the directives of the USEPA, all applicants shall provide evidence of their fulfillment of or commitment to the following:

1. Use of recycled paper for all reports and documents to be submitted to USEPA.

2. Ensure that best efforts are made to achieve "Fair Share" goals for WBE/MBE in selection of any subcontractors. Any bidding by prime contractors for subcontractor services shall include "fair share" goals. The fair share goals are as follows: MBE=2%, WBE= 2%

Firms shall submit five (5) bound copies of their proposals to:

Clark Wilson, Zoning Administrator
City of Canton
210 East Chestnut
Canton, IL 61520

Submittal deadline is June 10, 1999 by 12:00 P.M.

Respondents shall be evaluated on the completeness of their applications, as well as their experience, content and cost considerations. The City reserves the right to reject any and all bids based upon their evaluation of all of these considerations.

Request For Proposals
To Obtain
A Wayne County Brownfield Redevelopment Authority
Environmental Consultant

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Part 1. GENERAL INFORMATION

1.1 INTRODUCTION

Wayne County Brownfield Redevelopment Authority (WCBRA), is seeking an environmental consultant to provide project management and environmental consulting services as generally described in the Agreement between EPA and WCBRA as documented in Appendix A and per the Work Statement in Appendix C.

1.2 PURPOSE

The successful firm will provide project management services, environmental consulting advice, environmental testing, perform environmental assessments, as outlined in the agreement between EPA and the WCBRA provider in Appendix A and further documented in the Work Statement in Appendix B. The consultant will utilize all government supported testing and evaluation support that may be offered by EPA, MDEQ or Army Corp. of Engineers at reduced or no cost. Included in the scope of work will be the following.

1. Prepare all status and financial reports required by EPA
2. Attend meetings of Technical Advisory Committee and Citizens Advisory Committee
3. Prepare minutes of all meetings
4. Prepare and maintain schedules
5. Oversee all site assessment studies and prepare commensurate reports
6. Provide testing services, as required and upon approval of the WCBRA Technical Committee
7. Attend WCBRA meetings, as requested

1.3 PROPOSAL

Proposal should include the following in section 3 of the proposal:

1. Project Management Approval
2. Utilization of Government Services
3. Site Assessment Approach
4. Proposed methods for Implementing the agreement
5. Provide typical work plan and schedule for implementing phase 1 and phase 2 site assessments.

1.4 THE COUNTY CONTACT AND PROPOSAL DUE DATE

All proposals must received no later than 4:00 p.m., November 10, 1998. Those mailing proposals should allow normal delivery time to assure timely receipt of their proposal. No allowance will be made for proposals that are not received by the county as of the time and date specified in the first sentence of this paragraph. The vendor shall submit five (5) copies of the proposal to:

Wayne County Purchasing Division
Room 146, Wayne County Building
600 Randolph Street
Detroit, Michigan 48226

No extensions will be granted to allow a vendor to submit a proposal after the deadline for submission.

1.5 ANTICIPATED PROPOSAL SCHEDULE

November 4, 1998 ..... Pre-bid Conference
November 10, 1998 ..... Proposals due
November 17, 1998 ..... Finalist selected and notified
November 23-24, 1998 ..... Presentations
November 25, 1998 ..... Consultant selected

1.6 WCBRA USE OF PROPOSAL IDEAS

WCBRA reserves the right to use any and all ideas presented in any proposal in response to this RFP unless the proponent identifies such ideas as proprietary in their proposal. In no event will an objection be considered valid with respect to the use of such ideas that are not the proprietary information of the proponent and so designated in the proposal; which were known to WCBRA before submission of such proposal; or properly became known to WCBRA thereafter through other sources or through acceptance of any proposal.

1.7 DISCLOSURE OF DATA

The proposal submitted in response to this RFP might contain copyright and/or patent related data that the proponent or its subcontractor does not want used or disclosed for any purpose other than evaluation of the proposal. The use and disclosure of such technical data may be so restricted, provided the data is clearly marked as "trade secret" or "confidential". If a contract is awarded to the proponent, WCBRA shall have the right to use or disclose the technical data to the extent otherwise provided in the contract or by law. WCBRA does not assume liability for the use of the data, whether marked or not. This data is considered to be public information.

1.8 NEWS RELEASES

News releases pertaining to this proposal or future services will not be made without prior written WCBRA approval, and then only in accordance with explicit written instruction from WCBRA. No results of the program are to be released without prior approval o the County and then only to persons designated.

Part 2. PROCUREMENT PROCEDURES

2.1 PROPOSAL SUBMISSION

All proposals must be submitted in conformance with the instructions, conditions and requirements included in this RFP. All information required on the proposal envelope must be provided. Submission of a proposal is a conclusive presumption that the Offeror is familiar with the Request for Proposals, and that he/she understands and agrees to abide by each and all of the stipulations and requirements. Each proposal should be prepared simply and economically, providing a straightforward concise description of the Offeror's approach and ability to meet the County's needs, as stated in the RFP. Each of the five (5) copies of the proposal is to be bound for ease of handling.

2.2 PRE-BID CONFERENCE

A pre-bid conference will be held on October 27, 1998, at 2 p.m., in Room 300 Board Room, Wayne County Building, 600 Randolph, Detroit, Michigan. The purpose of the conference will be to:

- provide prospective Offeror's with additional information about the WCBRA RFP, and
- for a response to questions asked by prospective Offeror's in attendance.

WCBRA will record the questions asked during the conference and the County's responses.

2.3 WRITTEN QUESTIONS AND ANSWERS

Any explanation desired by an Offeror regarding the meaning or interpretation of any RFP provision must be submitted in writing to the County Information Professing Department in an envelope clearly marked RFP for Environmental Assessment Pilot Project. Questions may be transmitted by FAX to the Wayne County Planning Division, attention: Albert A. Bogdan, Director, at (313) 224-7450, but must include a cover sheet clearly identifying that the transmission is to the Planning Division, showing the number of pages transmitted, and clearly marked RFP for Environmental Assessment Pilot Project. The County assumes no liability for assuring accurate or complete FAX transmission or receipt.

Under no circumstances will questions be entertained except in writing or at the Pre-bid conference.

The County will respond in writing to all questions received at or before Pre-bid conference. Only those responses received in writing from the County will be considered binding. Any information given to Offeror's concerning the RFP will be furnished in writing to all parties who attend the Pre-bid conference.

2.4 ORAL PRESENTATIONS

At the County's option, oral presentations by Offeror's may be requested for the purpose of explaining or clarifying any unusual or significant elements related to the proposals. Offeror's shall not be allowed to alter or amend their proposals, or conduct negotiations during the presentation process. The County reserves its rights to require and conduct oral presentations with Offeror's who submit proposals determined to have a reasonable probability of being selected for award. Key personnel proposed by Offeror's may be requested to participate in such an oral presentation.

2.5 PROPOSAL PRESENTATION COSTS

The Offeror shall wholly absorb all costs incurred in the preparation and presentation of the proposal, including attendance at pre-bid conference or any oral presentation

2.6 PRICES AND NOTATIONS

All prices and notations must be typed or in ink. No erasures are permitted. Mistakes may e crossed out and the person signing the proposal must initial corrections in ink.

2.7 REJECTIONS AND MODIFICATION

Clarifications, modifications or amendments may be made to the RFP at the discretion of the County. Should any such changes be made, all recipients of the RFP will receive copies of the text of such changes.

Proposals may be withdrawn or modified in writing prior to the proposal submission deadline. Proposals that are re-submitted or modified shall be sealed and submitted to the Wayne County Purchasing Division at the address in Section 1.2 prior to the submission deadline. The County reserves the right to reject any such modification with or without review.

The County reserves the right to accept or reject any or all proposals, or to accept any proposal in part or reject it in part. The County reserves the right to waive any informality or irregularity in proposals received if it is determined by the County Executive or designed that the best interest of the County will be served by doing so. Vendors may be excluded from further consideration for failure to comply with the specifications of this RFP.

2.8 ELECTRONICALLY TRANSMITTED PROPOSALS

Electronically transmitted proposals will not be accepted or considered.

2.9 ALTERNATE PROPOSALS

Offeror's may offer alternate proposals, which are at variance from the express specifications of the RFP. The County reserves the right to consider and accept such proposals, if, in the judgement of the WCBRA or its designee, the alternate proposal will produce services equal to or better than those which would be supplied by following the express specifications of the proposal, and acceptance of the alternate proposal is deemed to serve the best interests of the County. An alternate proposal must clearly describe all variances from any express specifications.

2.10 COUNTY - BASED ADVANTAGE

The County has a program that gives an advantage to businesses located within Wayne County which are County Based Enterprises. The County shall add points to proposals submitted by County Based enterprises equal to 4.5% of the total possible rating points. Appendix C provides a copy of the Affidavit of Wayne County Based Enterprise Eligibility.

2.11 AUTHORIZATION TO SUBMIT PROPOSAL

An authorized officer and/or employee of the company appearing on the RFP must sign the proposal. The signature represents a binding commitment by the company to provide such services offered to the County should it be determined to be the responsive and responsible Offeror. The Offeror must complete, sign and have notarized the form regarding Authorization to Submit Proposals contained in Appendix C.

2.12 GENERAL SELECTION PROCESS

A committee will evaluate the proposals received and identify the proposal that is the most responsive, responsible and offers the best service to the County. The committee shall have the right

to reject any proposal not complying with the format, content, submit and other requirements of the RFP.

The County reserves the right in the selection process to award the desired program in whole, in part or to elect to cancel the RFP.

The County will use the following criteria and information in assessing the proposals. However the County reserves the right to judge proposals using any additional standards it deems appropriate. The criteria are:

Cost of services 20%
Vendor qualifications, financial viability, project references 15%
Vendor experience with comparable projects 25%
Degree of proposal match to EPA Agreement 25%
History of maximizing the utilization of available resources 15%

2.13 CONSIDERATION OF PROPOSALS

The opening of a proposal is not an acceptance of the Offeror as a responsible Offeror; nor does it form a contract with the County. The County may request additional information in order to make its assessment of the proposal. The Offeror must provide any requested information to the County within three (3) business days of receipt of such a request.

2.14 AWARD

The County's preference is to award all of the items requested to a single Offeror. Partnerships/joint ventures are encouraged to provide expanded opportunities to minority firms.

The county reserves the right to reject any or all proposals, and to select in whole or in part.

No proposal will be accepted from, or contract awarded to, any company or person who is in arrears to the County upon debt through contract or who is the defaulter of security or otherwise upon an obligation to the County or who may in other respects be disqualified. The Offeror to whom the award is made will be notified at the earliest possible date by written notice mailed to or delivered at the office of the Offeror designated in the RFP process.

Provision of the RFP and the contents of the successful response will be used for the establishment of the final contractual obligations. The County retains the right of canceling the award if the successful Offeror fails to accept such obligations. The County and the successful Offeror shall enter into a written contract for the work to be performed. If, for some reason, agreement with the successful Offeror cannot be reached to the satisfaction of the county, negotiations may begin with another Offeror within fourteen (14) days after the initial; Offeror selection.

It is understood that this RFP and the Offeror's proposal will be attached and expressly included by reference in the contract signed by the County ad the successful Offeror.

2.15 PROPOSALS BINDING

All proposals shall be binding upon the Offeror, if accepted by the County, for 120 calendar days from te proposal submission deadline. No proposals may be withdrawn during this 120-day period. Negligence on the part of the Offeror in preparing the proposal confers no right of withdrawal after the time fixed for submission of the proposals.

All prices proposed by the Offeror must be firm for six (6) months from the due date of the proposals.

2.16 TERM

The term of the contract commences upon the executive of a contract by the authorized parties, after Commission approval has been obtained. The contract duration will be for a period of up to twenty two months.

2.17 NON - DISCRIMINATION

The County will not contract with any person or firm that discriminates against employees or applicants for employment because of any factor not related to job performance. The Offeror must comply with all federal, state, and local laws and policies that prohibit discrimination in employment practices. The anti-discrimination policies of the Equal Contracting Opportunity Ordinance, Enrolled Ordinance No. 93-738, are incorporated into County Contracts. The Offeror must include, in its subcontracts, provisions that prohibit subcontractors from discriminating in their employment practices.

All Offeror's must comply with the Equal Employment Opportunity provisions of the County's Fair Employment Practices Resolution. Contact the County Human Relations Division at (313) 224-5021 for more information about these requirements.

2.18 CASH DISCOUNTS AND LATE FEES

The County will not consider cash discounts for prompt payment in determining the most responsive and responsible Offeror.

The County does not pay late fees or charges.

2.19 ETHICS IN CONTRACTING

All Offeror's and contractors must comply with the Wayne County Ethics Ordinance, Enrolled Ordinance No. 94-504.

2.20 TAXES

The County is exempt from federal excise and state sales taxes, and such taxes mus not be included in the proposal price. Federal Excise Tax Exemption Certificates will be furnished upon request.

2.21 ASSURANCE OF MEETING DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

This proposal contains the requirements for Disadvantaged Business Enterprise (DBE) participation for this activity. The successful bidder must comply with these requirements as outlined. Wayne County has committed to a goal of thirty percent (30%) DBE participation on all projects. The Bidder shall make good faith efforts to subcontract thirty percent (30%) of the prime contract to DBE's. All DBE Contractors must be certified and verified by the Wayne County Division of Human Relations. DBE Contractors who are either certified , or certifiable by the Wayne County Division of Human Relations, are encouraged to submit responses in their own right.

Part 3. PROPOSAL FORMAT

To expedite and simplify proposal evaluation and to assure that each proposal receives the same orderly review, all proposals shall adhere to the format described in this section. Proposals shall contain all of the elements of information specified, without exception. Proposal sections and pages shall be appropriately numbered. Any and all variances from the specifications that may be proposed must be specifically noted.

- Proposals shall include a table of contents listing all sections, figures, and tables.
- All proposals must be typewritten and bound.
- Pages shall be on standard 8 ½" by 11" paper, single-spaced, single-sided, and numbered.
- Figures and tables must be numbered and referenced in the text by that number. They should be placed as close as possible to the referencing text.
- No proposal may be more than 25 pages excluding the cover pages, table of contents, and county forms.

Proposals shall be organized according to the following format:

Section 1. Transmittal Letter
Section 2. Executive Summary < 2pages
Section 3. Company Background
Section 4. Procurement and Implementation Proposal
Section 5. Cost Proposal

3.1 TRANSMITTAL LETTER (Proposal Section 1)

The transmittal letter must be written on the Offeror's official business stationary, and must be signed by an official who is authorized to legally bind the Offeror. The following items must be included:

- The name, address, telephone and FAX numbers of the Offeror's contact person with whom the County can communicate regarding the submitted proposal.
- A statement that acknowledges and agrees to the procurement rules and procedures, contract terms and conditions, and all other rights reserved to the County as specified in the RFP. If there are any exceptions, partial acceptance must be clearly indicated with

justifications.

- A statement certifying that the rate structure and prices in the proposal have been arrived at independently without consultation, communication or agreement for the purposes of restricting competition; that the prices quoted in the cost proposal have to been disclosed by the Offeror, and will not be disclosed prior to the proposal submission date; and that no attempt has been made by the Offeror to induce any other person or firm to submit or not submit a proposal for the purpose of restricting competition;
- If the Offeror proposes the use of partner(s) or subcontractor(s), a statement that the prime contractor accepts full responsibility for the performance of the partner(s) or subcontractor(s);
- If the Offeror proposes the use of partner(s) or subcontractor(s), a statement from each partner or subcontractor must be attached to the transmittal letter stating the scope and percentage of work to be performed by the partner or subcontractor, and their capability and willingness to perform the work indicated. The statement must be signed by an individual authorized to legally bind the partner or subcontractor;
- The Offeror's assurance that the proposal as submitted shall remain in full force and effect for a specified period of time, which must be at least one hundred-twenty (120) days from the proposal due date specified in Section 1.2, and that the prices stated shall eb firm for six (6) months from the proposal due date; and

The Offeror may also include other information that it deems appropriate.

3.2 EXECUTIVE SUMMARY (Proposal Section 2)

The Executive Summary shall condense and highlight the contents of the proposal is such a way as to provide the selection committee with a broad understanding of the Offeror's proposal. Offeror's must present their understanding of the issues being addressed by the RFP, the objectives and intended results of the program, and the scope of work. Offeror's should summarize how their proposal meets the requirements of the RFP, and why they are best qualified to perform the work. Compare your firm and proposal against the five primary selection criteria strengths of item 2.12.

3.3 COMPANY BACKGROUND (Proposal Section 3)

This section of the Proposal must consist of the following sub-sections of 3.3.

3.3.1 OFFEROR IDENTIFICATION AND INFORMATION

The Offeror must provide the full name of its organization; address of organization headquarters; entity organization (for-profit or non-profit corporation, individual, partnership); state in which incorporated or otherwise organized to do business; year in which Offeror first organized to do business and whether the name and form o the organization has changed in the interim; and Federal Employer Identification Number.

Identify all products and services provided by the organization, including products and services not specifically related to this RFP.

Include the names, titles, addresses, telephone and FAX numbers of the personnel within your organization authorized to negotiate and execute a contract with the County. Identify the name, firm, address, telephone and FAX numbers of your legal representative.

3.3.2 FINANCIAL INFORMATION

The County reserves the right to request financial and related information that it deems necessary to complete its assessment of a Offeror, its, parent, partner(s), and its subcontractor(s).

3.3.3 CHANGE OF OWNERSHIP

If any change in ownership or control of the company is anticipated during the twelve (12) months following the proposal due date, the Offeror must describe the circumstances of such change and indicate when the change is likely to occur.

3.3.4 OFFICE LOCATION

The Offeror's office location responsible for performance pursuant to award of a contract with the County must be identified.

3.3.5 PRIOR AND EXISTING CONTRACTS

If the organization, its predecessor, or any party named in the proposal has contracted with the County, the Offeror shall identify such contract(s). If no such contracts exist, so declare.

3.4 PROCUREMENT AND IMPLEMENTATION PROPOSAL

Offeror's may submit proposals to provide service in the category defined by the County in Appendix A. Each component on which you are proposing should include sections on qualifications, staff, availability, methodology and cost as described in the sub-sections of 3.4.

3.4.1 OFFEROR'S QUALIFICATIONS AND EXPERIENCE

The Offeror shall provide a summary matrix listing previous programs similar in size, scope and complexity. Offeror's must provide narrative descriptions of each program which highlight the similarities between their experience and this program. Offeror and subcontractor experience must be listed separately. Offeror's must identify programs on which they gained experience in the following area:

- Project management of complex site assessments projects
- Effective utilization of all available testing and other resources
- Working with multi-government management team

3.4.2 PROJECT NARRATIVE DESCRIPTIONS

For each project offered as experience related to this proposal, Offeror shall provide a narrative description of the work performed; the time period of the program; the staff months expended; the service level guarantees; Offeror's responsibilities and a customer reference (including current telephone and FAX numbers). Narrative descriptions submitted for subcontractors must be specifically identified as subcontractor projects.

Each narrative shall describe whether the work was performed as the prime contractor or as a subcontractor. If the work was performed as a subcontractor, the description shall identify what share of contract costs; program responsibilities and time period were performed as a subcontractor. Current programs should include a brief statement of the scope of the program, including length of the contract period and staffing levels committed.

3.4.3 STAFF QUALIFICATIONS

The Offeror shall provide a staff skill matrix to summarize relevant experience of the proposed staff. Additionally, the Offeror must provide a narrative description of experience each key staff member has in the areas relevant to this RFP. Offeror and subcontractor experience shall be shown separately. Descriptions should focus on key staff experience in the areas listed below:

- Environmental Assessment Experience
- Efficient utilization of all available testing and other resources
- working with multi-government management team

The Offeror's staff qualifications section shall include the proposed project team organization charts, descriptions of key positions, and resumes of proposed personnel.

The organizational charts shall depict the project organization at the team leader level, functional responsibilities, and key personnel. Following the chart, please describe the functional responsibilities, interactions and reporting requirements of each organizational unit at each level.

For those units that have interfaces outside the Offeror's organization, in particular with County personnel, the interface description must indicate what is expected in terms of participation and respond to such input. At a minimum, resumes shall be required for the key positions of Project Manager, Deputy Project Manager, Technical Managers, and key personnel.

In addition to assessing the experience of specific individuals, the County will consider the resumes as a key indicator of the Offeror's understanding of the skill mix required to carry out the requirements of this RFP. Representative resumes which substantiate the Offeror possesses resources sufficient to carry out the requirements of the RFP should also be supplied.

All resumes combined must not be longer than three (3) pages and shall include, at a minimum, academic background and degrees, professional certifications, previous participation in such programs, and previous participation in the development and implementation of government and private sector automated systems. At least three (3) references (name, address and telephone number) that can attest to the competence and skill level of the individual should be supplied.

3.4.4 COST PROPOSALS

The work will be performed on a time and materials basis. Therefore, the consultant is requested to provide an hourly rate including overhead projection for each skill to be utilized on the job. However, to the extent feasible the consultant is encouraged to provide a not to exceed price for specific activities (i.e., phase I assessment, project management services, meeting attendance, and so on). In addition, the consultant is requested to indicate:

1. Whether the hourly rate includes time of travel to sites and meetings,
2. Whether it bills mileage and other ancillary costs separately and, if so, provide the rate schedule,
3. How attendance at technical and other meetings would be charged
4. How project management functions would be charged
5. How phase 1 assessments, phase 2 assessments, testing and other subcontracted services will be charged

Project ReNEW

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

A Michigan City Brownfields Project

10/29/04

RECEIVED
OCT 28 2004
BEAS REGION 5
U.S. EPA

October 11, 2004

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 12/OCTOBER 11, 2004

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 12 for Fiscal Year 2004 Fourth Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided. This is the final progress report for the assessment project.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Planning & Redevelopment Department
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

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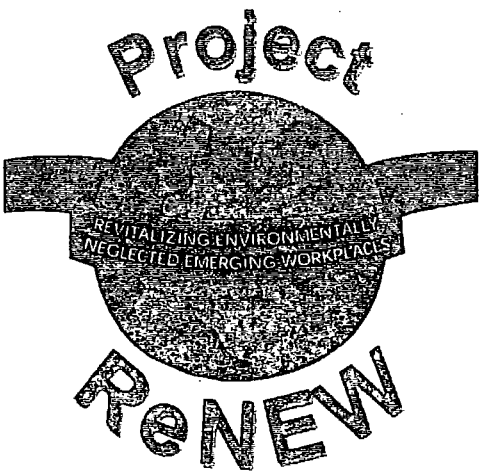
OCTOBER 11, 2004

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 12

RECEIVED
OCT 28 2004
BEAS REGION 5
U.S. EPA



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
TWO CADENCE PARK PLAZA
MICHIGAN CITY, INDIANA 46360

1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Fiscal Year 2004 Fourth Quarter (July 1-September 30, 2004) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks conducted during the Fiscal Year 2004 Fourth Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were conducted during the Fiscal Year 2004 Fourth Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)

- The Remediation Work Plan (RWP), including the results of the Phase II assessment activities and evaluation of remedial alternatives, continued to be prepared for the former Schmock Oil Company facility. On August 27, 2004, the RWP was submitted to the IDEM and the U.S. EPA for review/comment. (Tasks 4 and 5 of the Work Plan)

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were conducted during the Fiscal Year 2004 Fourth Quarter of Project ReNEW. (Several of these tasks were approved for implementation by the U.S. EPA, but were funded locally since the brownfields grant funding was expended during this quarter.)

- On July 2, 2004, a final project meeting was held at the former Royal Metals facility attended by representatives from the MCEDC, the City of Michigan City, LaPorte County and project consultants to discuss the status of the project. Discussions included the results of the environmental assessments, proposed site closure sampling activities and future redevelopment plans. It was also decided that due to the poor structural condition of the former Royal Metals facility, the buildings would be razed in the near future. (Tasks 5 and 6 of the Work Plan)

- The RWP, including the results of the Phase II assessment activities and evaluation of remedial alternatives, continued to be prepared for the former Schmock Oil Company facility. On August 27, 2004, the RWP was submitted to the IDEM and the U.S. EPA for review/comment. (Tasks 4 and 5 of the Work Plan)

- On August 31, 2004, the verbal approval to continue with field activities (third quarterly groundwater monitoring event) detailed in the Royal Metals Sampling and Analysis Plan (SAP) for Completion Sampling and RWP was received from the IDEM. (Task 3 of the Work Plan)

- On September 14, 2004, the third quarterly groundwater monitoring event, detailed in the Royal Metals SAP for Completion Sampling and RWP, was conducted. (Task 3 of the Work Plan)

- Data reduction/assessment activities from the completion sampling events at the former Royal Metals facility were conducted. (Task 3 of the Work Plan)

- Additional project management and community outreach activities were conducted. (Task 6 of the Work Plan)

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 Fourth Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The only Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 Fourth Quarter of Project ReNEW was the former Schmock Oil facility RWP which was submitted to the IDEM and the U.S. EPA. These documents were submitted under separate cover. With the submittal of this RWP, all Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables have been submitted to the U.S. EPA.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project (as detailed in the Brownfields Project Work Plan and Revised Work Plan) is 95% complete at the end of the Fiscal Year 2004 Fourth Quarter. The project was behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the selection of the environmental consultant (conducted during the Fiscal Year 2002 First Quarter). Several project tasks will continue to be implemented by the City of Michigan City in order to move the Brownfield Sites into redevelopment. These tasks include the remediation of the former Schmock Oil Company facility (which is not part of the assessment grant activities) and the completion of the closure sampling at the former Royal Metals facility (which was part of grant activities). These remaining tasks will be locally funded and completed in the near future.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, 100 % of the project budget has been expended. There were no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-September 30, 2004)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$39,932.60	$67.40	$40,000
Fringe Benefits	$0	$0	$0	$0
Travel	$3,716	$3,716	$0	$3,716
Equipment	$2,000	$2,000	$0	$2,000
Supplies	$6,058	$6,058	$0	$6,058
Contractual	$148,226	$146,356.35	$1,869.65	$148,226
Others	$0	$0	$0	$0
Total Expenses	$200,000	$198,062.95	$1,937.05	$200,000

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fiscal Year 2004 Fourth Quarter, field activities (completion of the third quarterly groundwater monitoring event) detailed in the Royal Metals SAP for Completion Sampling and RWP were continued. Additionally, the RWP for the former Schmock Oil Company facility was submitted to the IDEM and U.S. EPA for review/approval.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Fiscal Year 2002 Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. During the Fiscal Year 2003 Fourth Quarter of the Brownfields pilot project, there was $4,822.09 assessment dollars leveraged for the "low-flow" groundwater sampling event at the former Royal Metals Facility; and, during Fiscal Year 2004 Second and Third Quarters, there was $8,600.37 and $13,032.44 assessment dollars, respectively, leveraged for on-

site/off-site contaminant delineation activities and a pilot study conducted at the former Schmock Oil Company facility. In addition, during Fiscal Year 2004 Fourth Quarter, there was $19,435.33 assessment dollars leveraged for the preparation/submittal of the RWP for the former Schmock Oil Company facility, the implementation of the third quarterly confirmatory groundwater monitoring event at the former Royal Metals facility and for project management activities (refer to Table 2). Thus, during the duration of Project ReNEW, a total of $113,290.23 has been leveraged from local funding and six temporary cleanup jobs created.

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$46,340.23	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$46,340.23	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

The main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project were ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.) There have been no modifications to the Work Plan during the Fiscal Year 2004 Fourth Quarter for the Greenspace Project.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks conducted during the Fiscal Year 2004 Fourth Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

There were no funded activities/tasks conducted during the Fiscal Year 2004 Fourth Quarter of the Project ReNEW-Greenspace Project, since the EPA Pilot funds were expended during the Fiscal Year 2004 Second Quarter.

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were conducted during the Fiscal Year 2004 Fourth Quarter of the Project ReNEW-Greenspace Project. (The entire Greenspace project budget was expended during the Fiscal Year 2004 Second Quarter; therefore, the following activities are non-funded.)

- During August 2004, site closure/assessment field activities (third quarterly groundwater monitoring well sampling event) continued at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP and the RWP. (Task 3 of the Work Plan)

- Data reduction/assessment activities from the completion sampling events at the former Karwick Road Municipal Landfill site were conducted. (Task 4 of the Work Plan)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)

- Additional project management and community outreach activities were conducted. (Task 6 of the Work Plan)

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 Fourth Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 Fourth Quarter of Project ReNEW. However, all Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables have been submitted to the U.S. EPA.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 80% complete at the end of the Fiscal Year 2004 Fourth Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work

Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks were ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation and implementation of project work plans (QAPP, SAP and HSP), Task 4-Preparation of report and Task 6-Community Outreach Activities]. Additionally, several work tasks (presented in the U.S. EPA approved SAP and the RWP) are being/will be conducted which will not be funded by the Greenspace Grant (due to expenditure of the grant funding during the Fiscal Year 2004 Second Quarter). These additional tasks will be locally funded and completed in the near future.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, 100% of the Greenspace project budget was expended during Fiscal Year 2004 Second Quarter. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. Several additional assessment/site closure sampling activities (detailed in the U.S. EPA approved SAP and the RWP) will also be funded locally (City of Michigan City) to assist in the closure/redevelopment of the Greenspace site.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-September 30, 2004)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$40,500	$0	$40,500
Others	$0	$0	$0	$0
Total Expenses	$50,000	$50,000	$0	$50,000

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Fiscal Year 2004 Fourth Quarter of the Greenspace Project, site closure/assessment field activities (quarterly groundwater monitoring well sampling event) continued to be conducted at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP and the RWP.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters, Fiscal Year 2003 First-Fourth Quarters and Fiscal Year 2004 First-Third Quarters of the Greenspace Project, $84,941.60 was locally funded for assessment activities. In addition, during the Fiscal Year 2004 Fourth Quarter of the Greenspace Project, $7,747.92 was locally funded for assessment, project management and community outreach activities for a project total of $92,689.52.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$92,689.52	$0	$0	Michigan City Parks & Recreation Department/MCEDC/ Michigan City Board of Public Works
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$92,689.52	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park. Additionally, the City of Michigan City was recently awarded an Indiana Department of Natural Resources Lake Michigan Coastal Zone Management Grant (for implementation in Summer 2004) for the continued development of the Karwick Road Nature Park.

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #12 (Qtr 4/September/04) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	9	9
AP 2	Properties Reported on Inventories:	9	9
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	1
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Initiative Funding Received from other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$27,183.25	$205,979.75
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal Action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 □Federal □Local, □State, □Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: ____No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept/03

Phase II funded by X EPA Pilot $ 62,133.75 □Federal X Local, □State, □Private $22,082.81 (City of Michigan City funded)

Is cleanup required? ___No _X_Yes (Building demolition and impacted groundwater)

Phase III (Remediation) Cleanup Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by X EPA Pilot $ 14,682.91 □Federal X Local, □State, □Private $ 8,937.93 .(City of Michigan City funded.)

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 □Federal □Local, □State, □Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ 68,409.34 □Federal X Local , □State, □Private $13,419.52. (City of Michigan City funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by □ EPA Pilot $_____ □Federal □Local, □State, □Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 □Federal □Local, □State, □Private $ ____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/May/03

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_ No ___Yes Date: (quarter/mo/year)____

Phase II funded by X EPA Pilot $ 39,000 □Federal X Local, □State, □Private $ 92,689.52 (total to date).
(MI City Parks & Recreation/MCEDC/MI City BPW funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_ No ___Yes Date: (quarter/mo/year)____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)____

Cleanup Plans funded by □ EPA Pilot $ ____ □Federal □Local, □State, □Private $ ____.

Redevelopment Jobs Leveraged:____

Redevelopment/Construction Dollars Leveraged:____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:____

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-TWELFTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH SEPTEMBER 30, 2004

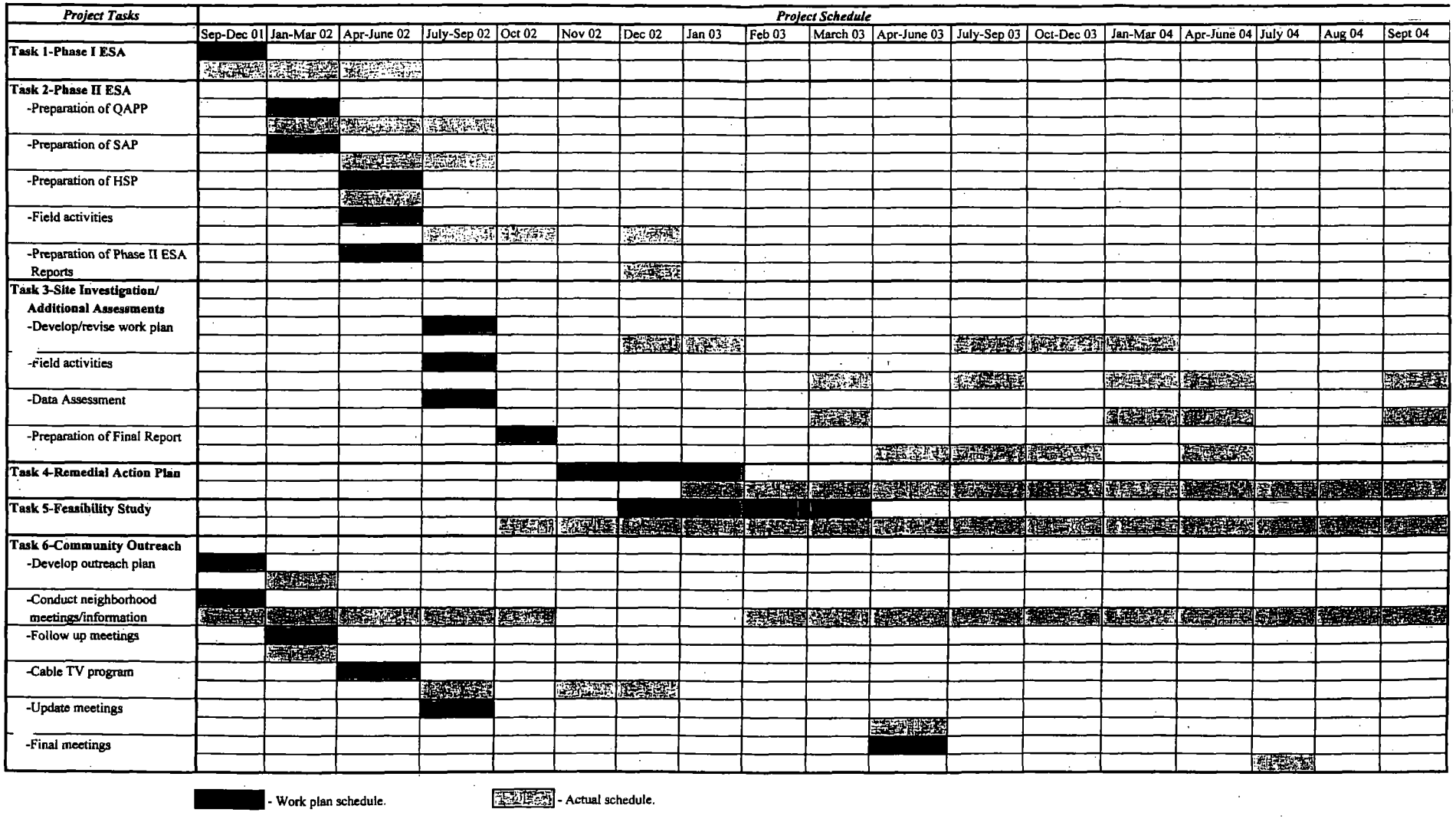
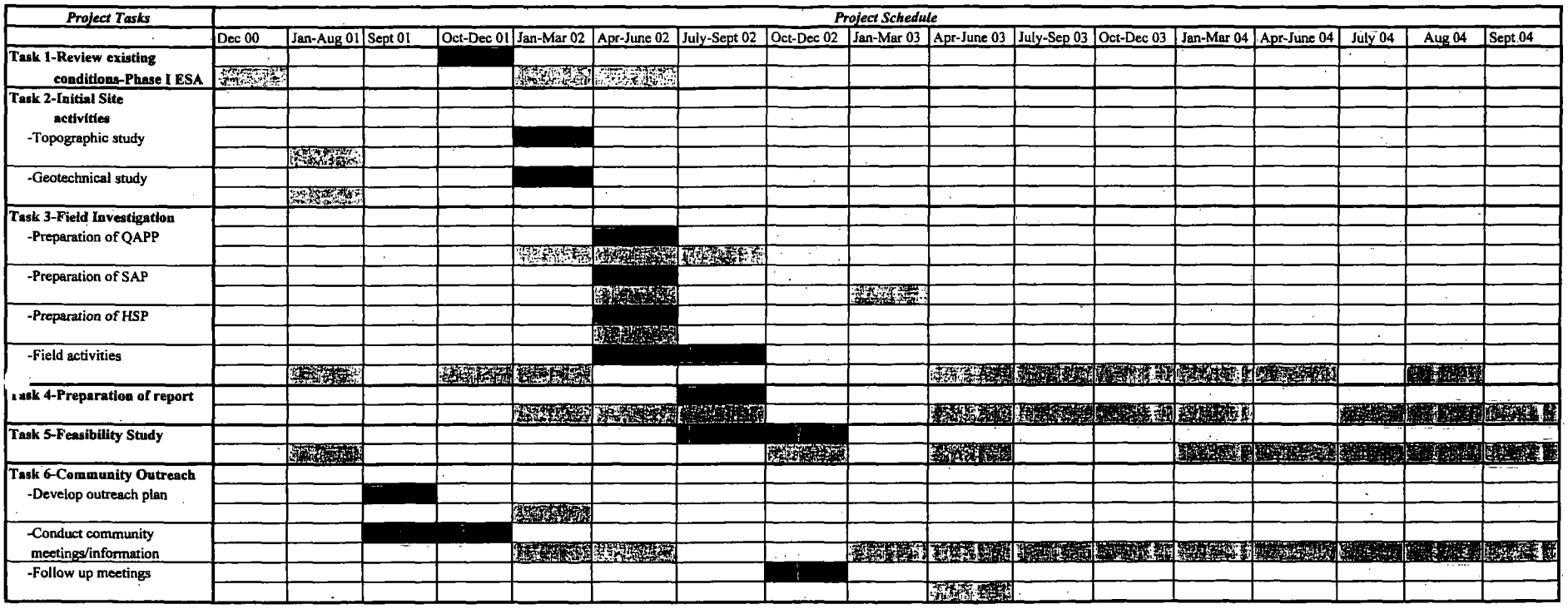


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-TWELFTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH SEPTEMBER 30, 2004



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 4, 2004

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [U.S. EPA] has received and reviewed your Superfund Fiscal Year 2004 Third Quarter Progress report dated July 27, 2004, for the City of Michigan City, Indiana.

After reviewing the report, U.S. EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2004 Third Quarter Progress report submittal is accepted and approved by the U.S. EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

Recycled/Recyclable . Printed with Vegetable Oil Based Inks on 100% Recycled Paper (50% Postconsumer)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

November 4, 2004

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [U.S. EPA] has received and reviewed your Superfund Fiscal Year 2004 Fourth Quarter Progress report dated October 11, 2004, for the City of Michigan City, Indiana.

After reviewing the report, U.S. EPA found there were no major concerns or issues raised by the report. Therefore, your Fiscal Year 2004 Fourth Quarter Progress report submittal is accepted and approved by the U.S. EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

November 14, 2003

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2003 fourth quarter progress report dated October 24, 2003, for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2003 third quarter progress report submittal is accepted and approved by the US EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 18, 2003

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2003 third quarter progress report dated July 21, 2003, for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2003 third quarter progress report submittal is accepted and approved by the US EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

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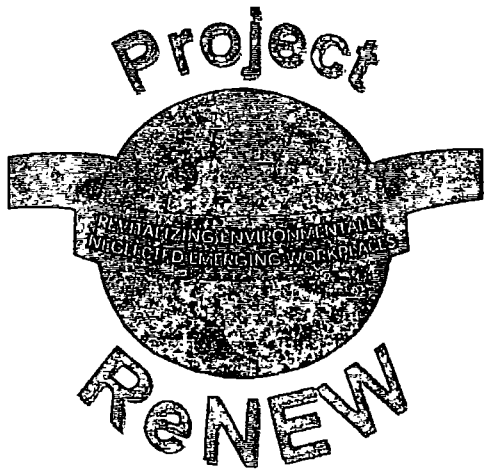
RECEIVED
APR 28 2004
BEAS REGION 5
U.S. EPA

APRIL 22, 2004

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 10



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
TWO CADENCE PARK PLAZA
MICHIGAN CITY, INDIANA 46360

A Michigan City Brownfields Project

RECEIVED
APR 28 2004
BEAS REGION 5
U.S. EPA

April 22, 2004

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 10/APRIL 22, 2004

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 10 for Fiscal Year 2004 Second Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #10 (Qtr 2/March/04) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	9	9
AP 2	Properties Reported on Inventories:	9	9
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations:		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Initiative Funding Received from other Sources:		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$22,413.22	$158,727.47
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal Action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: __No _X_Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: ____No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept/03

Phase II funded by X EPA Pilot $ 62,133.75 ☐Federal X Local, ☐State, ☐Private $9,050.37. (City of Michigan City funded)

Is cleanup required? ___No _X_Yes (Building demolition and impacted groundwater)

Phase III (Remediation) Cleanup Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by X EPA Pilot $ 2,800.00 ☐Federal X Local, ☐State, ☐Private $ 66,950 .

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal X Local , ☐State, ☐Private $4,822.09. (City of Michigan City funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/May/03

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ 48,500 ☐Federal X Local, ☐State, ☐Private $ 77,905.01 (total to date).
(MI City Parks & Recreation/MCEDC funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

During the Fiscal Year 2004 Second Quarter (January 1-March 31, 2004), the City of Michigan City received the official approval (awarded on February 6, 2004) of the Sampling and Analysis Plan (SAP) for Completion Sampling at the former Royal Metals facility from the U.S. Environmental Protection Agency (U.S. EPA) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2004 Second Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2004 Second Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)
- On February 6, 2004, the approval of the SAP for Completion Sampling at the former Royal Metals facility was received from the U.S. EPA. (Task 3 of the Work Plan)
- On February 17, 2004, the verbal approval to initiate field activities detailed in the Royal Metals Remediation Work Plan (RWP), submitted on December 12, 2003 to the Indiana Department of Environmental Management (IDEM), was received. (Task 3 of the Work Plan)
- During March 2004, initiated field activities (off-site groundwater screening activities and

completion of the first quarterly groundwater monitoring event) presented in the Royal Metals SAP for Completion Sampling and RWP. (Task 3 of the Work Plan)

- The RWP, including the results of the Phase II assessment activities, began to be prepared for the former Schmock Oil Company facility. (Task 4 of the Work Plan)

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2004 Second Quarter of Project ReNEW.

- During March 2004, initiated on-site soil delineation and on-site/off-site groundwater plume delineation activities at the former Schmock Oil Company facility.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 Second Quarter of Project ReNEW.

1.4 Deliverables/Work Products

There were no Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 Second Quarter of Project ReNEW.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 90% complete at the end of the Fiscal Year 2004 Second Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the selection of the environmental consultant (conducted during the Fiscal Year 2002 First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 87.5 % of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-March 31, 2004)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$35,410.46	$2,039.61	$37,450.07
Fringe Benefits	$0	$0	$0	$0
Travel	$3,716	$3,716	$0	$3,716
Equipment	$2,000	$2,000	$0	$2,000
Supplies	$6,058	$6,058	$0	$6,058
Contractual	$148,226	$113,368.11	$12,421.92	$125,790.03
Others	$0	$0	$0	$0
Total Expenses	$200,000	$160,552.57	$14,461.53	$175,014.10

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently reported to be nine properties (including the former Schmock Oil Company and the

former Royal Metals facilities).

- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.

- During the Fiscal Year 2004 Second Quarter, field activities (off-site groundwater screening activities and completion of the first quarterly groundwater monitoring event) detailed in the Royal Metals SAP for Completion Sampling and RWP were initiated. Additional on-site/off-site contaminant delineation activities were initiated at the former Schmock Oil Company facility (non-grant funded activities), and the RWP for the former Schmock Oil Company facility began to be prepared.

- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Fiscal Year 2002 Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. During the Fiscal Year 2003 Fourth Quarter of the Brownfields pilot project, there was $4,822.09 assessment dollars leveraged for the "low-flow" groundwater sampling event at the former Royal Metals Facility; and, during Fiscal Year 2004 Second Quarter, there was $8,600.37 assessment dollars leveraged for on-site/off-site contaminant delineation activities conducted at the former Schmock Oil Company facility (refer to Table 2). During the duration of Project ReNEW, a total of $80,822.46 has been leveraged from local funding and six temporary cleanup jobs created.

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$13,872.46	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$13,872.46	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the

Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.) There have been no modifications to the Work Plan during the Fiscal Year 2004 Second Quarter for the Greenspace Project.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2004 Second Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2004 Second Quarter of the Project ReNEW-Greenspace Project.

- On February 24, 2004, the RWP (including the results of the Phase II assessment activities) was submitted to the IDEM (with a copy to the U.S. EPA) for their review and approval for the former Karwick Road Municipal Landfill site. (Task 4 of the Work Plan) [Note that only a portion of the RWP preparation was funded by the Greenspace grant. The remainder of the funding came from a local source (City of Michigan City) since the entire Greenspace project budget has been expended.]

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2004 Second Quarter of the Project ReNEW-Greenspace Project. (The entire Greenspace project budget was expended during the Fiscal Year 2004 Second Quarter; therefore, the following activities are non-funded.)

- On February 24, 2004, the RWP was submitted to the IDEM (with a copy to the U.S. EPA) for their review and approval for the former Karwick Road Municipal Landfill site. (Task 4 of the Work Plan) [As previously presented, a portion of the preparation of the RWP was funded by the Greenspace grant and the remainder of the funding was provided from a local source (City of Michigan City).]

- During March 2004, site closure/assessment field activities (quarterly groundwater monitoring well sampling and surface water sampling events) continued at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP and the RWP. (Task 3 of the Work Plan)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)

- On March 30, 2004, a meeting was attended by representatives from the MCEDC, the Michigan City Planning and Redevelopment Department and project consultants to discuss the status of the project. Discussions included the results of the environmental assessments, proposed site closure sampling activities and future redevelopment plans. (Task 5 of the Work Plan)

- Additional project management and community outreach activities were conducted.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 Second Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 Second Quarter of Project ReNEW with the exception of the RWP for the former Karwick Road Municipal Landfill site which was submitted to the IDEM and the U.S. EPA (under separate cover).

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 65% complete at the end of the Fiscal Year 2004 Second Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work

Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks were ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation and implementation of project work plans (QAPP, SAP and HSP), Task 4-Preparation of report and Task 6-Community Outreach Activities]. Additionally, several work tasks (presented in the U.S. EPA approved SAP and the RWP) are being/will be conducted which will not be funded by the Greenspace Grant (due to expenditure of the grant funding prior to the completion of the Greenspace Project). These additional tasks will be locally funded.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, 100% of the Greenspace project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. Several additional assessment/site closure sampling activities (detailed in the U.S. EPA approved SAP and the RWP) will also be funded locally (City of Michigan City) to assist in the closure/redevelopment of the Greenspace site.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-March 31, 2004)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$36,703.28	$3,796.72	$40,500
Others	$0	$0	$0	$0
Total Expenses	$50,000	$46,203.28	$3,796.72	$50,000

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).

- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).

- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.

- During the Fiscal Year 2004 Second Quarter of the Greenspace Project, the former Karwick Road Municipal Landfill site RWP was submitted to the IDEM (with a copy to the U.S. EPA) for their review and approval. In addition, site closure/assessment field activities (quarterly groundwater monitoring well sampling and surface water sampling events) continued to be conducted in accordance with the U.S. EPA approved SAP and the RWP.

- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters, Fiscal Year 2003 First-Fourth Quarters and Fiscal Year 2004 First Quarter of the Greenspace Project, $64,092.16 was locally funded for assessment activities. In addition, during the Fiscal Year 2004 Second Quarter of the Greenspace Project, $13,812.85 was locally funded for assessment, project management and community outreach activities for a total of $77,905.01.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$77,905.01	$0	$0	Michigan City Parks & Recreation Department/MCEDC
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$77,905.01	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park. Additionally, the City of Michigan City has recently been awarded an Indiana Department of Natural Resources Lake Michigan Coastal Zone Management Grant (for implementation in Summer 2004) for the continued development of the Karwick Road Nature Park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-TENTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH MARCH 31, 2004

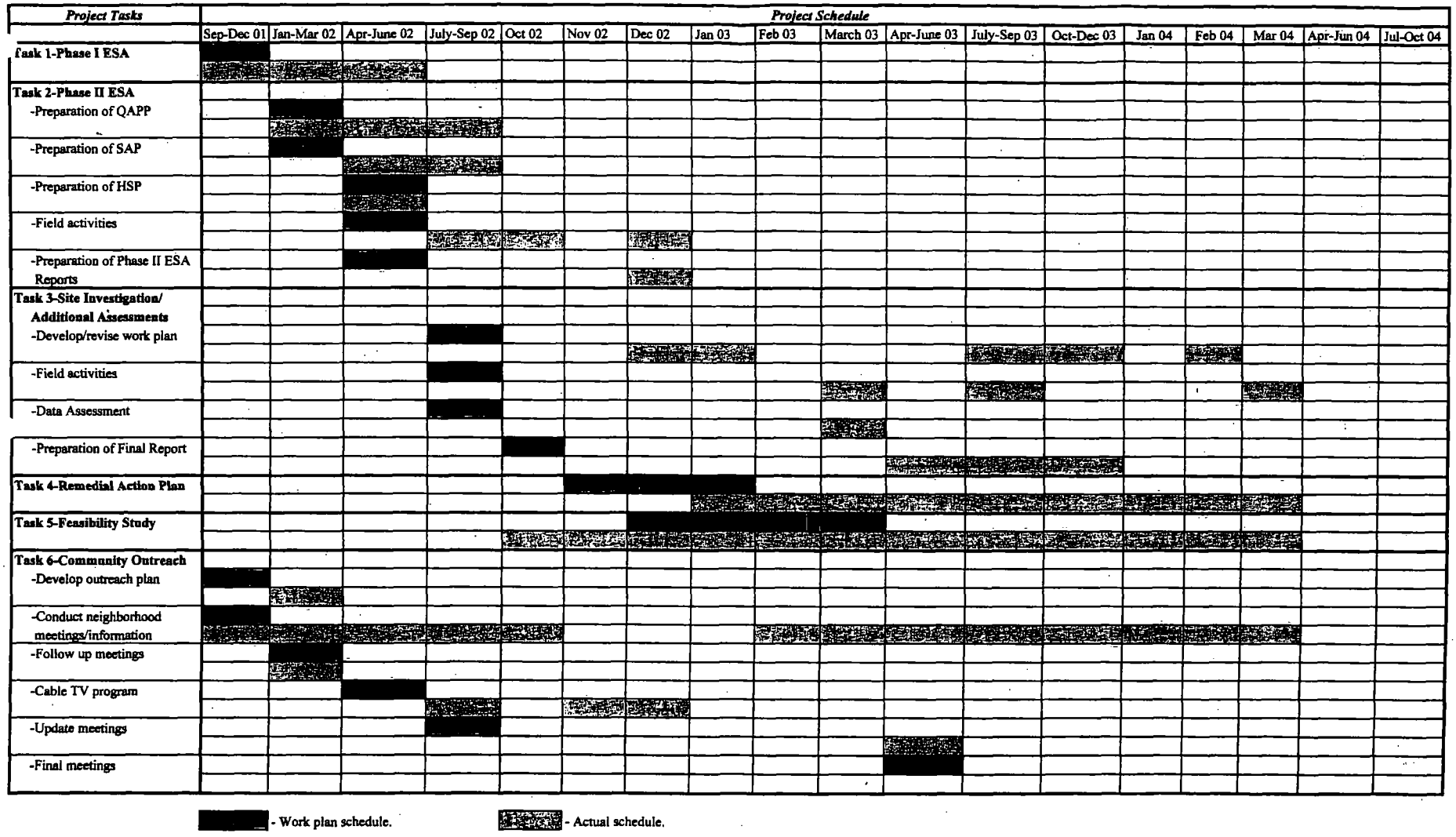
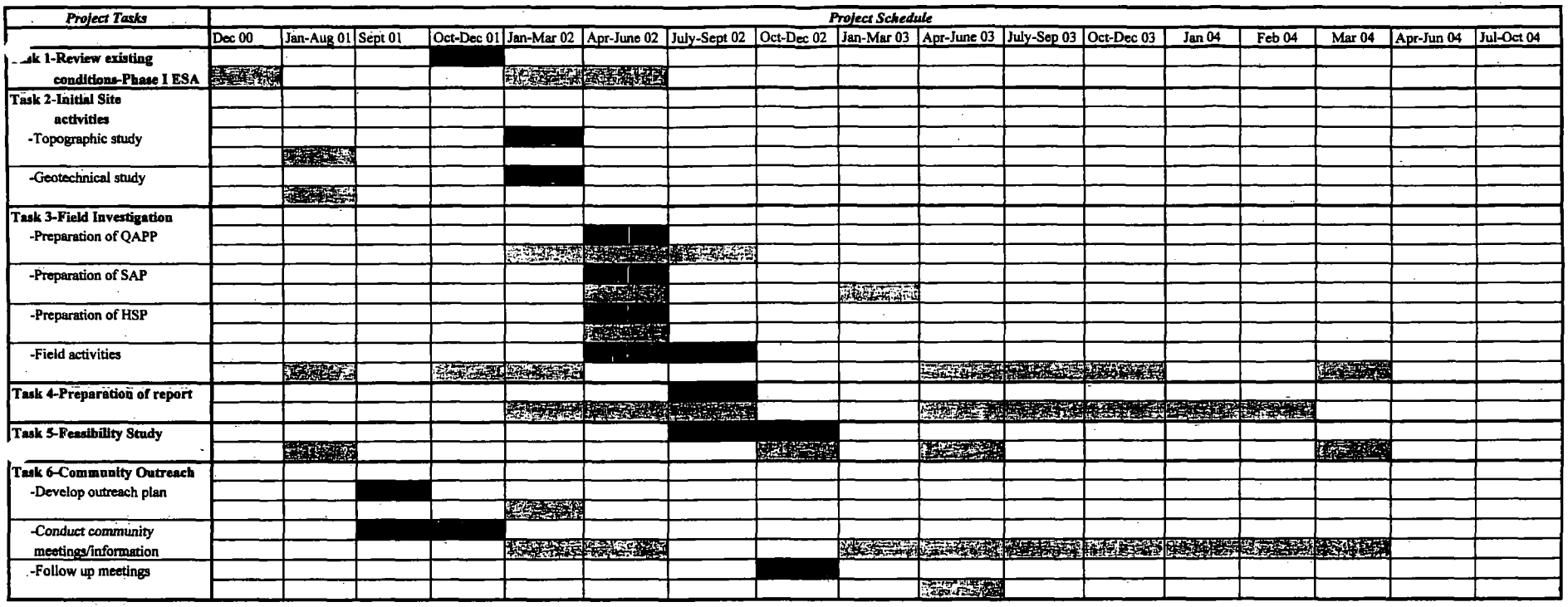


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-TENTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH MARCH 31, 2004



Diane Spencer
04/16/2004 07:21 AM

To: Thomas Stevenson <tbstevenson@comcast.net>
cc:
Subject: Re: Request for Time Extension-Michigan City, IN Brownfields Pilot

I've reveiwed your extension request and notified Romona that I support/agree with the need to extend the grant period.

The next step: Romona will work with the finance office -- I think the assigned person is Karen Sykes -- who will, ultimately, update the grant and sent you a copy with the revised date.

Call me or e-mail if you have questions or concerns.
-----Thomas Stevenson <tbstevenson@comcast.net> wrote: -----

To: ROMONA SMITH/R5/USEPA/US@EPA
From: Thomas Stevenson <tbstevenson@comcast.net>
Date: 04/16/2004 12:24AM
cc: Diane Spencer/R5/USEPA/US@EPA, John Pugh <johnp@emichigancity.com>, Kevin Kieft <kkieft@emichigancity.com>, Tony Rodriguez <tonyr@mc-edc.com>, Michael Palm <envincmlpalm@comcast.net>
Subject: Request for Time Extension-Michigan City, IN Brownfields Pilot

Mrs. Smith
Attached is a request for a time extension for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project. The rationale for the request is included in the attachment. Please contact me if you have any questions or comments. Thank you for your assistance in this matter and the project.
Sincerely,
Tom Stevenson
Environmental Inc.
219-462-7576

219-617-4211 (cell) TIMEEXTENSION.doc

REQUEST FOR TIME EXTENSION FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0

BROWNFIELD PILOT

Former Schmock Oil Facility

Due to the decision by the City of Michigan City to remediate the Former Schmock Oil Facility, the Remediation Work Plan (RWP) is currently being prepared (Task 4 of the Work Plan). The remedial alternatives which are being evaluated for VOC impacted groundwater are plume stability monitoring and the installation of a groundwater air sparging/soil vapor extraction system. Following the completion of the pilot study, a remedial alternative will be selected, and the RWP will be finalized/implemented. Thus, the approved work tasks and budget for the Former Schmock Oil Facility will remain unchanged. However, based on the decision to prepare the RWP, a time extension for the Brownfields Project is requested until October 31, 2004.

Former Royal Metals Facility

The RWP for the Former Royal Metals Facility was submitted to the Indiana Department of Environmental Management (IDEM) on December 12, 2003. Since environmental assessment activities indicated that there were no constituents detected in site soil and/or groundwater which were above the IDEM Voluntary Remediation Program (VRP) Tier II cleanup goals for the industrial land-use scenario (IDEM VRP Resource Guide, July 1996), the RWP recommended that soil and groundwater closure sampling be conducted to verify that impacted soil/groundwater are not present at the site. An Addendum to the Sampling and Analysis Plan (SAP) for the Former Royal Metals Facility (detailing the soil and groundwater closure sampling activities) was prepared and submitted to the U.S. EPA for review and approval. The SAP Addendum was approved by the U.S. EPA on February 6, 2004. The work tasks detailed in the SAP Addendum will be conducted in accordance with Task 3-Site Investigation/Additional Soil and Groundwater Assessments of the Work Plan. Due to the IDEM not reviewing/approving the RWP within the standard 60 to 90 day review period (the IDEM consultant contracts had not been renewed and, therefore, the RWP has not been reviewed/approved), the majority of the closure sampling activities presented within the SAP Addendum/RWP have not been completed. (The IDEM did verbally approve the off-site groundwater screening activities and completion of the first quarterly groundwater monitoring event which were conducted in March 2004). Based on the above project details, there is no requested change to the Work Plan or budget for the Former Royal Metals Facility. However, due to the RWP not being reviewed/approved within the standard time frame, a time extension for the Brownfields Project is requested until October 31, 2004. This will allow adequate time for the IDEM to review/approve the RWP and for the initiation/completion of several of the field activities which were detailed in the SAP Addendum/RWP.

GREENSPACE PILOT

Former Karwick Road Municipal Landfill

As of February 2004, the budget for the Greenspace Project has been expended. The remainder of project (completion of the implementation of completion sampling at the former Karwick Road Municipal Landfill site) is being conducted via local funding (Michigan City). Therefore, the approved work tasks, budget and schedule for the Greenspace Project will remain unchanged.

Project ReNEW

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

A Michigan City Brownfields Project

COPY

November 22, 2002

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: STATUS OF THE CITY OF MICHIGAN CITY, INDIANA'S U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0

Dear Mrs. Smith:

This letter is an update of the status of the City of Michigan City, Indiana's Brownfields/Greenspace Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces), specifically relating to the Work Plan for the Greenspace site (the former Karwick Road Municipal Landfill). Following a review of the preliminary analytical results for the site, discussions with the Project Manager with the Indiana Department of Environmental Management-Voluntary Remediation Program (IDEM-VRP) and a project meeting attended by Michigan City officials and the Project ReNEW Team, a revised scope of work (SOW) has been developed. Based on a November 18, 2002 telephone conversation between Mrs. Diane Spencer-U.S. EPA Brownfields Project Manager and Mr. Thomas Stevenson-Project ReNEW Project Coordinator, it was determined that most of the tasks/activities to be conducted during the implementation of the revised SOW are also tasks presented in the Work Plan (presented within the grant application). Thus, this letter identifies activities/tasks which will be conducted at the site (both funded and non-funded). The tasks/activities which were originally presented in the Work Plan will be grant funded activities, and the non-Work Plan tasks/activities will be locally funded. Once the grant funds are expended, the remaining tasks will be locally funded.

Revision to Sampling and Analysis Plan (SAP)

Prior to the implementation of any additional assessment activities at the site, a revised site-specific SAP will be prepared and submitted to the U.S. EPA for review and approval. The SAP will detail the field activities presented in the following section. (Presented as Task 3 of the Work Plan.)

Phase II Environmental Site Assessment (ESA) Field Activities

During a site meeting with the IDEM-VRP Project Manager to discuss preliminary results and develop a

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

strategy for further site characterization (potentially leading to site closure), the following field activities were discussed and will be implemented at the site. (Presented as Task 3 of the Work Plan and as non-funded activities.)

- Install an additional monitoring well on an adjacent property to evaluate the potential for off-site impacts. (Thus, a total of nine monitoring wells would have been installed.)

- Collect groundwater samples from the site wells on a quarterly basis for eight consecutive quarters in order to verify constituent concentrations and characterize groundwater variations over a two-year baseline period. The groundwater samples will be analyzed for volatile organic compounds (VOCs), semi-VOCs and Priority Pollutant List (PPL) metals.

- Advance forty soil borings on a random basis across the site to sufficiently characterize the surface and subsurface soils at the site. The eighty soil samples (one surface and one subsurface soil sample from each boring) will be analyzed for VOCs, semi-VOCs and PPL metals.

- Collect four background surface water and four background sediment samples from Trail Creek and Cheney Run (upstream/upgradient of the site). Collect six surface water and six sediment samples from on-site locations of Trail Creek and Cheney Run. The water samples will be analyzed for VOCs and semi-VOCs, and the sediment samples will be analyzed for semi-VOCs, PPL metals and polychlorinated biphenyls (PCBs). The analytical results will be used to statistically compare "upstream/upgradient" background conditions to "on-site" conditions.

- Collect six surface water samples from on-site locations of Trail Creek and Cheney Run on a quarterly basis for four consecutive quarters in order to verify constituent concentrations and characterize surface water variations over a one-year baseline period. The water samples will be analyzed for VOCs and semi-VOCs.

Preparation of Report

Following the completion of the Phase II ESA field activities and receipt/evaluation of the analytical results, an IDEM-VRP Remediation Work Plan (RWP) will be prepared presenting results/conclusions of site assessment activities and a recommendation for either site closure (i.e., No Further Action) or a remedial alternative(s). (Presented as Task 4 of the Work Plan.)

Community Involvement

Continued community outreach activities will be conducted throughout the project. (Presented as Task 6 of the Work Plan.)

If there are any questions or comments regarding this submittal or the project, please contact me at 219-873-1211 or Mr. Thomas Stevenson at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

MC-10J

JUN 21 2004

Charles E. Oberlie, Mayor
City of Michigan City
100 East Michigan Blvd.
Michigan City, Indiana 46360

Re: Brownfield Assessment Pilot Assistance Agreement {BP975715-01}

Dear Mayor Oberlie:

I have approved your request of April 16, 2004, to extend the budget and project period through October 31, 2004, for your Brownfield Assessment Pilot Assistance award.

Please review and return a signed copy of the enclosed amendment to the Assistance Section (MC-10J) within 21 days of receipt. The second copy is for your records.

If you have any questions, please contact the Project Officer identified on page one of the assistance amendment.

Sincerely yours,

Alicia Ward, Acting Chief
Assistance Section

Enclosure

cc: Tony Rodriquez, Project Manager

bcc: Romona Smith, Project Officer, SM-5J
Diane Spencer, Brownfield Manager, SE-4J

U.S. ENVIRONMENTAL PROTECTION AGENCY

Assistance Amendment

ASSISTANCE ID NO.			DATE OF AWARD
PRG	DOC ID	AMEND#	JUN 21 2004
BP -	97571501	- 2	

TYPE OF ACTION: No Cost Amendment

MAILING DATE: JUN 28 2004

PAYMENT METHOD: ASAP

ACH#: 1818942

RECIPIENT TYPE:
Municipal

Send Payment Request to:
Comptroller Branch
77 W. Jackson Blvd., MF-10J
Chicago, Illinois 60604

RECIPIENT:
City of Michigan City Indiana
100 East Michigan Blvd.
Michigan City, IN 46360
EIN: 35-6001108

PAYEE:
City of Michigan City Indiana
100 East Michigan Blvd.
Michigan City, IN 46360

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Tony Rodriguez 100 East Michigan Blvd. Michigan City, IN 46360 **E-Mail:** **Phone:** (219) 873-1211	Romona Smith Superfund Divison SM-5J **E-Mail:** smith.romona@epa.gov **Phone:** (312) 886-6139	Karen Sykes Assistance Section, MC-10J **E-Mail:** sykes.karen@epa.gov **Phone:** (312) 886-7571

PROJECT TITLE AND EXPLANATION OF CHANGES
BROWNFIELD ASSESSMENT PILOT - MICHIGAN CITY
This amendment approves a budget & project period extension for Michigan City through October 31, 2004.

Time Extension (Amendment);

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
09/15/2001 - 10/31/2004	09/15/2001 - 10/31/2004	$250,000.00	$250,000.00

NOTE: **The Agreement must be completed in duplicate and the Original returned to the appropriate Grants Management Office listed below, within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. Receipt of a written refusal or failure to return the properly executed document within the prescribed time, may result in the withdrawal of the offer by the Agency. Any change to the Agreement by the Recipient subsequent to the document being signed by the EPA Award Official, which the Award Official determines to materially alter the Agreement, shall void the Agreement.**

OFFER AND ACCEPTANCE

The United States, acting by and through the U.S. Environmental Protection Agency (EPA), hereby offers Assistance/Amendment to the City of Michigan City Indiana for 100.00 % of all approved costs incurred up to and not exceeding $250,000 for the support of approved budget period effort described in application (including all application modifications) cited in the Project Title and Description above, signed 04/16/2004 included herein by reference.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	ORGANIZATION / ADDRESS
U.S. EPA Region 5 Mail Code MCG10J 77 West Jackson Blvd. Chicago, IL 60604-3507	U.S. EPA, Region 5 Superfund Divison 77 West Jackson Blvd., S-6J Chicago, IL 60604-3507

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

SIGNATURE OF AWARD OFFICIAL	TYPED NAME AND TITLE	DATE
Michael O. Phillips for	ALICIA WARD, ACTING CHIEF, ASSISTANCE SECTION	6/21/04

This agreement is subject to applicable U.S. Environmental Protection Agency statutory provisions and assistance regulations. In accepting this award or amendment and any payments made pursuant thereto, (1) the undersigned represents that he is duly authorized to act on behalf of the recipient organization, and (2) the recipient agrees (a) that the award is subject to the applicable provisions of 40 CFR Chapter 1, Subchapter B and of the provisions of this agreement (and all attachments), and (b) that acceptance of any payments constitutes an agreement by the payee that the amounts, if any found by EPA to have been overpaid will be refunded or credited in full to EPA.

BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION

SIGNATURE	TYPED NAME AND TITLE	DATE
	SHEILA H. BRILLSON, MAYOR, MICHIGAN CITY	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

May 13, 2004

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [U.S. EPA] has received and reviewed your Superfund Fiscal Year 2004 Second Quarter Progress report dated April 22, 2004, for the City of Michigan City, Indiana.

After reviewing the report, U.S. EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2004 Second Quarter Progress report submittal is accepted and approved by the U.S. EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

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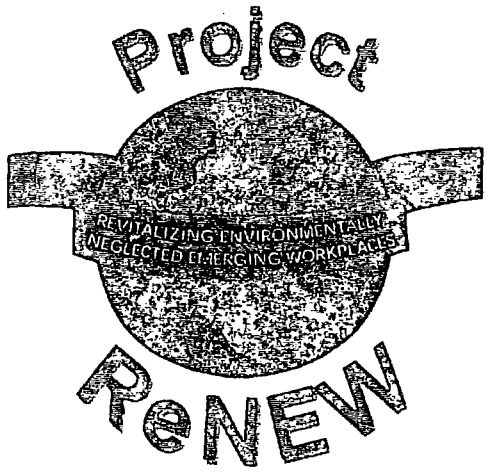
8/3/04

JULY 19, 2004

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 11



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
TWO CADENCE PARK PLAZA
MICHIGAN CITY, INDIANA 46360

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Fiscal Year 2004 Third Quarter (April 1-June 30, 2004) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2004 Third Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2004 Third Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)

- On May 21, 2004, the Response to Comments Document [comments made by the Indiana Department of Environmental Management (IDEM) to the Royal Metals Remediation Work Plan (RWP), originally submitted on December 12, 2003 to the IDEM] and RWP replacement pages were submitted to the IDEM for review/comment. (Task 3 of the Work Plan)

- On June 8, 2004, the verbal approval to continue with field activities (second quarterly groundwater monitoring event) detailed in the Royal Metals SAP for Completion Sampling and RWP was received from the IDEM. (Task 3 of the Work Plan)

- On June 16, 2004, the second quarterly groundwater monitoring event, detailed in the Royal Metals SAP for Completion Sampling and RWP, was conducted. (Task 3 of the Work Plan)

- On June 22, 2004, the Response to Comments Document and RWP replacement pages for the Royal Metals RWP were submitted to the U.S. EPA. (Task 3 of the Work Plan)

- The RWP, including the results of the Phase II assessment activities and evaluation of remedial alternatives, continued to be prepared for the former Schmock Oil Company facility. (Tasks 4 and 5 of the Work Plan)

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2004 Third Quarter of Project ReNEW.

- Completed on-site/off-site soil and groundwater plume delineation activities and field activities for remedial alternative evaluation at the former Schmock Oil Company facility.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 Third Quarter of Project ReNEW.

1.4 Deliverables/Work Products

There were no Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 Third Quarter of Project ReNEW with the exception of the Response to Comments Document and RWP replacement pages for the Royal Metals RWP which were submitted to the IDEM and the U.S. EPA. These documents were submitted under separate cover.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 85% complete at the end of the Fiscal Year 2004

Third Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the selection of the environmental consultant (conducted during the Fiscal Year 2002 First Quarter). Remaining project tasks include the completion of the RWP for the former Schmock Oil Company facility and the completion of the closure sampling at the former Royal Metals facility. The majority of the remaining tasks will be locally funded.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 99 % of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-June 30, 2004)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$37,450.07	$2,482.53	$39,932.60
Fringe Benefits	$0	$0	$0	$0
Travel	$3,716	$3,716	$0	$3,716
Equipment	$2,000	$2,000	$0	$2,000
Supplies	$6,058	$6,058	$0	$6,058
Contractual	$148,226	$125,790.03	$20,566.32	$146,356.35
Others	$0	$0	$0	$0
Total Expenses	$200,000	$175,014.10	$23,048.85	$198,062.95

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fiscal Year 2004 Third Quarter, field activities (completion of the second quarterly groundwater monitoring event) detailed in the Royal Metals SAP for Completion Sampling and RWP were continued. Additional on-site/off-site contaminant delineation activities were completed at the former Schmock Oil Company facility (non-grant funded activities), and the RWP for the former Schmock Oil Company facility is close to completion.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Fiscal Year 2002 Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. During the Fiscal Year 2003 Fourth Quarter of the Brownfields pilot project, there was $4,822.09 assessment dollars leveraged for the "low-flow" groundwater sampling event at the former Royal Metals Facility; and, during Fiscal Year 2004 Second

and Third Quarters, there was $8,600.37 and $13,032.44 assessment dollars, respectively, leveraged for on-site/off-site contaminant delineation activities and a pilot study conducted at the former Schmock Oil Company facility (refer to Table 2). During the duration of Project ReNEW, a total of $93,854.90 has been leveraged from local funding and six temporary cleanup jobs created.

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$26,904.90	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$26,904.90	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.) There have been no modifications to the Work Plan during the Fiscal Year 2004 Third Quarter for the Greenspace Project.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2004 Third Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

There were no funded activities/tasks completed during the Fiscal Year 2004 Third Quarter of the Project ReNEW-Greenspace Project, since the EPA Pilot funds were expended during the Fiscal Year 2004 Second Quarter.

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2004 Third Quarter of the Project ReNEW-Greenspace Project. (The entire Greenspace project budget was expended during the Fiscal Year 2004 Second Quarter; therefore, the following activities are non-funded.)

- During June 2004, site closure/assessment field activities (quarterly groundwater monitoring well sampling and surface water sampling events) continued at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP and the RWP. (Task 3 of the Work Plan)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)

- Additional project management and community outreach activities were conducted. (Task 6 of the Work Plan)

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 Third Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 Third Quarter of Project ReNEW.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 70% complete at the end of the Fiscal Year 2004 Third Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks were ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation

and implementation of project work plans (QAPP, SAP and HSP), Task 4-Preparation of report and Task 6-Community Outreach Activities]. Additionally, several work tasks (presented in the U.S. EPA approved SAP and the RWP) are being/will be conducted which will not be funded by the Greenspace Grant (due to expenditure of the grant funding during the Fiscal Year 2004 Second Quarter). These additional tasks will be locally funded.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, 100% of the Greenspace project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. Several additional assessment/site closure sampling activities (detailed in the U.S. EPA approved SAP and the RWP) will also be funded locally (City of Michigan City) to assist in the closure/redevelopment of the Greenspace site.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-June 30, 2004)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$40,500	$0	$40,500
Others	$0	$0	$0	$0
Total Expenses	$50,000	$50,000	$0	$50,000

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).

- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).

- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.

- During the Fiscal Year 2004 Third Quarter of the Greenspace Project, site closure/assessment field activities (quarterly groundwater monitoring well sampling and surface water sampling events) continued to be conducted at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP and the RWP.

- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters, Fiscal Year 2003 First-Fourth Quarters and Fiscal Year 2004 First/Second Quarters of the Greenspace Project, $77,905.01 was locally funded for assessment activities. In addition, during the Fiscal Year 2004 Third Quarter of the Greenspace Project, $7,036.59 was locally funded for assessment, project management and community outreach activities for a project total of $84,941.60.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$84,941.60	$0	$0	Michigan City Parks & Recreation Department/MCEDC/ Michigan City Board of Public Works
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$84,941.60	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park. Additionally, the City of Michigan City has recently been awarded an Indiana Department of Natural Resources Lake Michigan Coastal Zone Management Grant (for implementation in Summer 2004) for the continued development of the Karwick Road Nature Park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-TENTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH JUNE 30, 2004

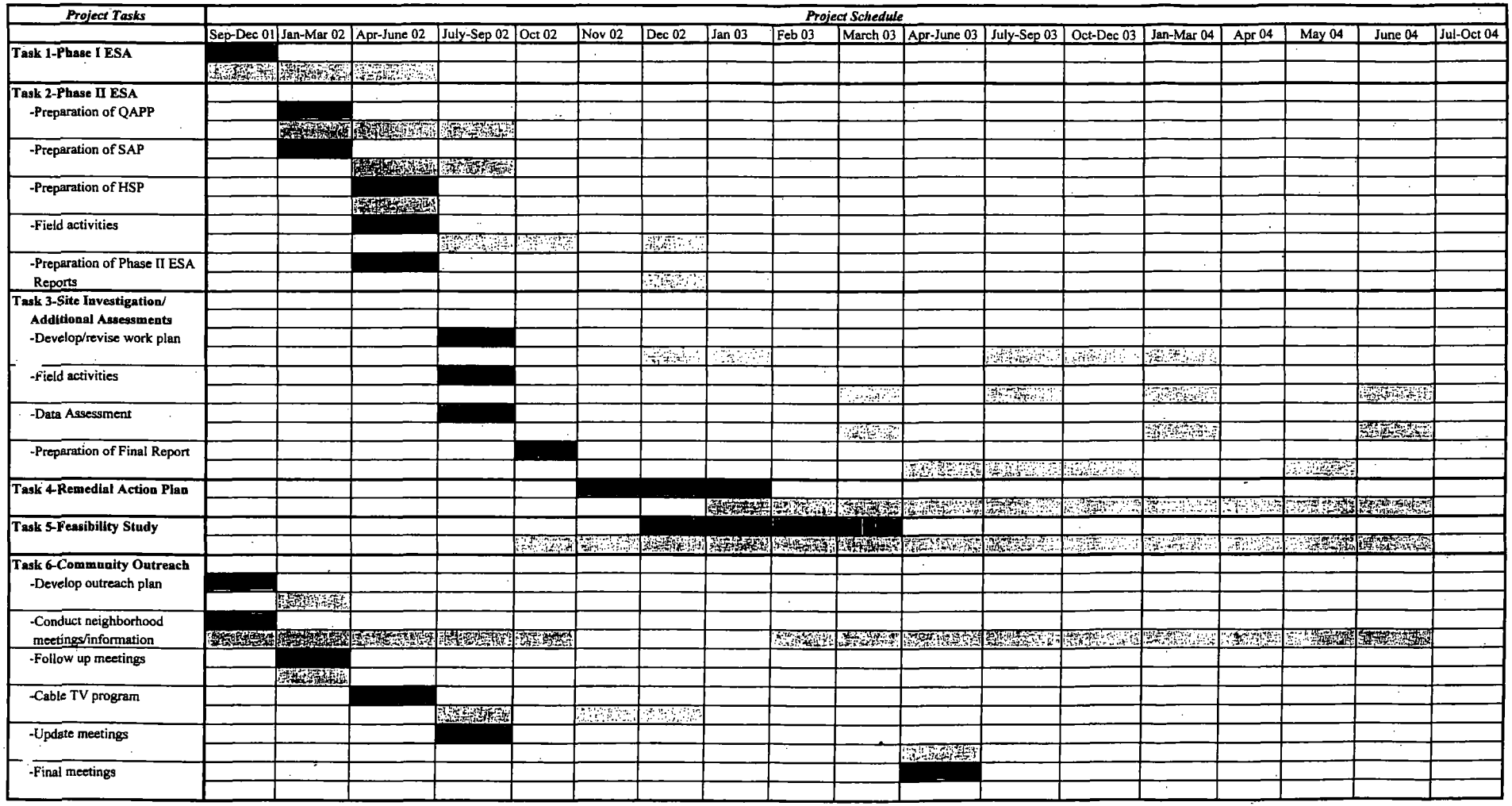
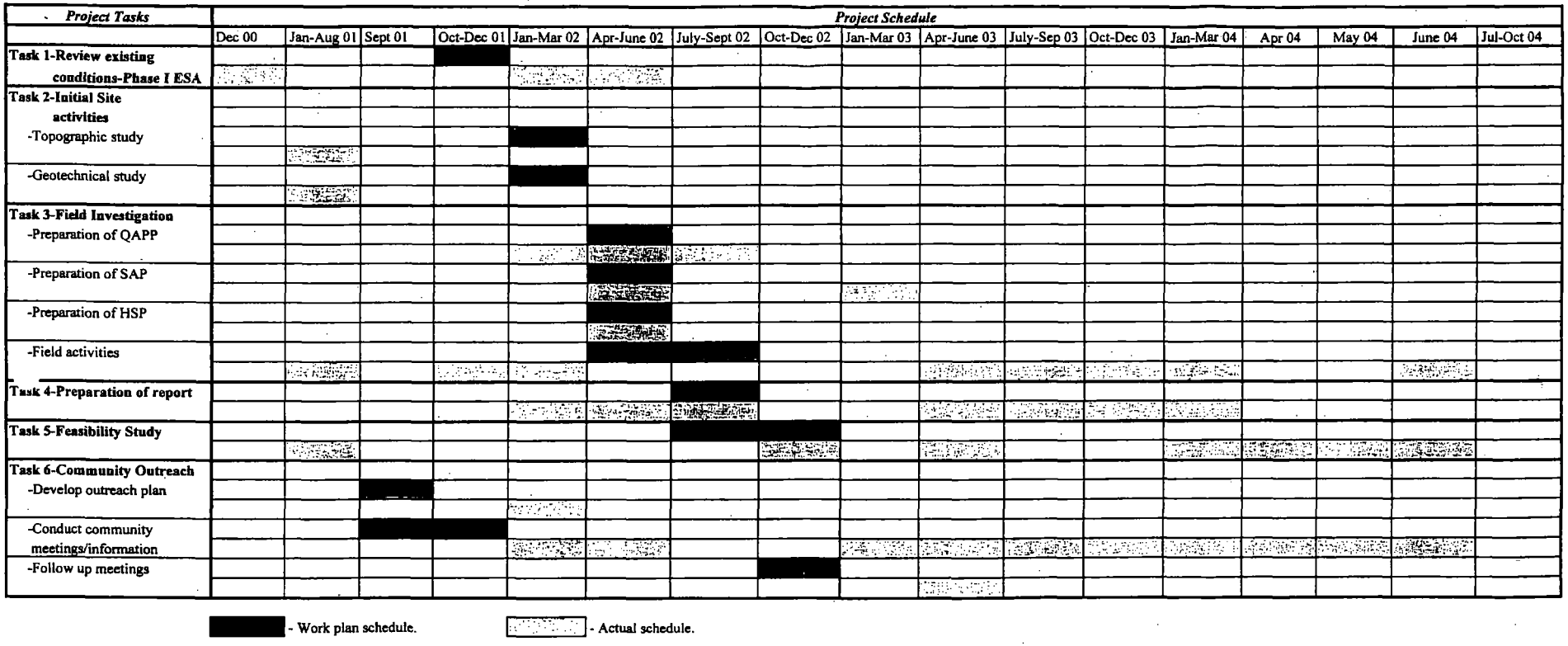


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-TENTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH JUNE 30, 2004



A Michigan City Brownfields Project

July 19, 2004

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 11/JULY 19, 2004

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 11 for Fiscal Year 2004 Third Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Planning & Redevelopment Department
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #11 (Qtr 3/June/04) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	9	9
AP 2	Properties Reported on Inventories:	9	9
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Funding Received from the Following Sources:		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$20,069.03	$178,796.50
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal Action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Sept/03

Phase II funded by X EPA Pilot $ 62,133.75 ☐Federal X Local, ☐State, ☐Private $22,082.81 (City of Michigan City funded)

Is cleanup required? ___No _X_ Yes (Building demolition and impacted groundwater)

Phase III (Remediation) Cleanup Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by X EPA Pilot $ 12,813.26 ☐Federal X Local, ☐State, ☐Private $ 66,950.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X___ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 □Federal □Local, □State, □Private $_____.

QAPP: ___No _X___ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X___ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X___Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X___No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown □Federal X Local , □State, □Private $4,822.09. (City of Michigan City funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by □ EPA Pilot $_____ □Federal □Local, □State, □Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/May/03

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ 48,500 ☐Federal X Local, ☐State, ☐Private $ 84,941.60 (total to date).
(MI City Parks & Recreation/MCEDC/MI City BPW funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

February 24, 2004

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [U.S. EPA] has received and reviewed your Superfund Fiscal Year 2004 First Quarter Progress report dated January 23, 2004, for the City of Michigan City, Indiana.

After reviewing the report, U.S. EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2004 First Quarter Progress report submittal is accepted and approved by the U.S. EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

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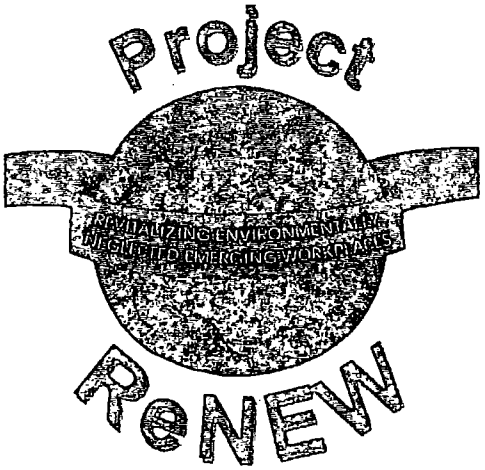
JANUARY 23, 2004

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 9



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
TWO CADENCE PARK PLAZA
MICHIGAN CITY, INDIANA 46360

A Michigan City Brownfields Project

January 23, 2004

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 9/JANUARY 23, 2004

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 9 for Fiscal Year 2004 First Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #9 (Qtr 1/December/03) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	9	9
AP 2	Properties Reported on Inventories:	9	9
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	1
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1 Schmuck Oil
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	~~$66,950~~ $136,314
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Initiative Funding Received from other Source		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$1,237.40	$136,314.25
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal X Local , ☐State, ☐Private $4,822.09. (City of Michigan City funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal Action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Sept/03

Phase II funded by X EPA Pilot $ 62,133.75 ☐Federal X Local, ☐State, ☐Private $450.00. (City of Michigan City funded)

Is cleanup required? ___No _X_ Yes (Building demolition.)

Phase III (Remediation) Cleanup Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal X Local, ☐State, ☐Private $ 66,950 .

Redevelopment Jobs Leveraged: _____

Redevelopment/Construction Dollars Leveraged: _____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No __X__ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __No __X__ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ____No __X__ Yes Date: (quarter/mo/year) Qtr. 3/May/03

Phase II Site Assessment Started: ___No __X__Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal X Local, ☐State, ☐Private $ 64,092.16 (total to date).
(MI City Parks & Recreation/MCEDC funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

During the Fiscal Year 2004 First Quarter (October 1-December 31, 2003), the City of Michigan City received the official approval (awarded on November 20, 2003) of the Revised Work Plan by the U.S. Environmental Protection Agency (U.S. EPA). The Revised Work Plan requested approval of minor work task additions/revisions and a time extension to the Work Plan of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

During the Fiscal Year 2004 First Quarter, the Sampling and Analysis Plan (SAP) for the closure sampling at the former Royal Metals facility was submitted to the U.S. EPA for review and approval.

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2004 First Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2004 First Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)

- On October 16, 2003, the Phase II Site Investigation Report (SIR) for the former Schmock Oil Company facility was submitted to the U.S. EPA. (Task 3 of the Work Plan)

- The Brownfields 2003 Conference (located in Portland, Oregon from October 26-29, 2003) was attended by representatives of the Project ReNew team.

- On December 9, 2003, a meeting was attended by representatives from the MCEDC, their project environmental consultants and the Indiana Department of Environmental Management (IDEM) to discuss the status of the former Royal Metals facility. Discussions included the results of the environmental assessments, proposed site closure sampling activities and future redevelopment plans. (Tasks 3, 4 and 5 of the Work Plan)

- On December 18, 2003, the SAP for closure sampling at the former Royal Metals facility was submitted to the U.S. EPA for review and approval. (Task 3 of the Work Plan)

- On December 18, 2003, the Remediation Work Plan (RWP) for the former Royal Metals facility was submitted to the IDEM and the U.S. EPA for review and approval. The RWP included the results of the Phase II environmental site assessment (ESA) activities. (Tasks 3 and 4 of the Work Plan)

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Fiscal Year 2004 First Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 First Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Fiscal Year 2004 First Quarter of Project ReNEW: (1) the Phase II SIR for the former Schmock Oil Company facility was submitted to the U.S. EPA; (2) the SAP for closure sampling at the former Royal Metals facility was submitted to the U.S. EPA; and, (3) the RWP for the former Royal Metals facility was submitted to the IDEM and the U.S. EPA. All of these documents were submitted under separate cover.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 80 % complete at the end of the Fiscal Year 2004 First Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the selection of the environmental consultant (conducted during the Fiscal Year 2002 First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 80.3 % of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-December 31, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$32,935.66	$2,474.80	$35,410.46
Fringe Benefits	$0	$0	$0	$0
Travel	$3,716	$1,216.05	$2,499.95	$3,716
Equipment	$2,000	$2,000	$0	$2,000
Supplies	$6,058	$6,058	$0	$6,058
Contractual	$148,226	$109,900.01	$3,468.10	$113,368.11
Others	$0	$0	$0	$0
Total Expenses	$200,000	$152,109.72	$8,442.85	$160,552.57

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently reported to be nine properties (including the former Schmock Oil Company and the former Royal Metals facilities).
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fiscal Year 2004 First Quarter, the Phase II SIR for the former Schmock Oil Company facility was submitted to the U.S. EPA. Additionally, the RWP and the SAP for closure sampling at the former Royal Metals facility was submitted to the U.S. EPA. The RWP was also submitted to the IDEM.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Fiscal Year 2002 Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. During the Fiscal Year 2003 Fourth Quarter of the Brownfields pilot project, there was $4,822.09 assessment dollars leveraged for the "low-flow" groundwater sampling event at the former Royal Metals Facility (refer to Table 2). However, during the Fiscal Year 2004 First Quarter of the Brownfields pilot project, there was no funding leveraged (refer to

Table 2) nor jobs created (refer to Table 3). During the duration of Project ReNEW, a total of $72,222.09 has been leveraged from local funding and six temporary cleanup jobs created.

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$5,272.09	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$5,272.09	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.)

During the Fiscal Year 2003 Third Quarter, the SAP for the Greenspace Project was approved for implementation by the U.S. EPA. During the Fiscal Year 2004 First Quarter, the City of Michigan City received the official approval (awarded on November 20, 2003) of the Revised Work Plan by the U.S. EPA. The Revised Work Plan requested a time extension for the Greenspace Project.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2004 First Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2004 First Quarter of the Project ReNEW-Greenspace Project.

- On November 10-11 and on December 22, 2003, the environmental consultant continued Phase II ESA field activities (quarterly groundwater monitoring well sampling and surface water sampling events, respectively) at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP. (Task 3 of the Work Plan)
- The RWP (including the results of the Phase II ESA activities) continued to be prepared for the

former Karwick Road Municipal Landfill site. (Task 4 of the Work Plan)

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2004 First Quarter of the Project ReNEW-Greenspace Project. (The Greenspace budget for project management/community outreach activities has been expended; therefore, the following activities are non-funded.)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)
- Additional project management and community outreach activities were conducted.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2004 First Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2004 First Quarter of Project ReNEW.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 50% complete at the end of the Fiscal Year 2004 First Quarter. As previously stated, several of the initial tasks

of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks were ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation and implementation of project work plans (QAPP, SAP and HSP), Task 4-Preparation of report and Task 6-Community Outreach Activities]. Additionally, several work tasks (presented in the U.S. EPA approved SAP) will be conducted which will not be funded by the Greenspace Grant (due to expenditure of the grant funding prior to the completion of the Greenspace Project). These additional tasks will be locally funded.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 92.4 % of the project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. The U.S. EPA Grant funded activities/tasks conducted during Fiscal Year 2004 First Quarter were for the implementation of the U.S. EPA approved SAP.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-December 31, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$21,519.37	$15,183.91	$36,703.28
Others	$0	$0	$0	$0
Total Expenses	$50,000	$31,019.37	$15,183.91	$46,203.28

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently reported to be nine properties (including the former Karwick Road Municipal Landfill site).
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Fiscal Year 2004 First Quarter of the Greenspace Project, additional Phase II ESA activities were conducted at the site, and the RWP continued to be prepared.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters and Fiscal Year 2003 First-Fourth Quarters of the Greenspace Project, $62,854.76 was locally funded for assessment activities. In addition, during the Fiscal Year 2004 First Quarter of the Greenspace Project, $1,237.40 was locally funded for assessment activities (for project management and community outreach activities) for a total of $64,092.16.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$64,092.16	$0	$0	Michigan City Parks & Recreation Department/MCEDC
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$64,092.16	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-NINTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH DECEMBER 31, 2003

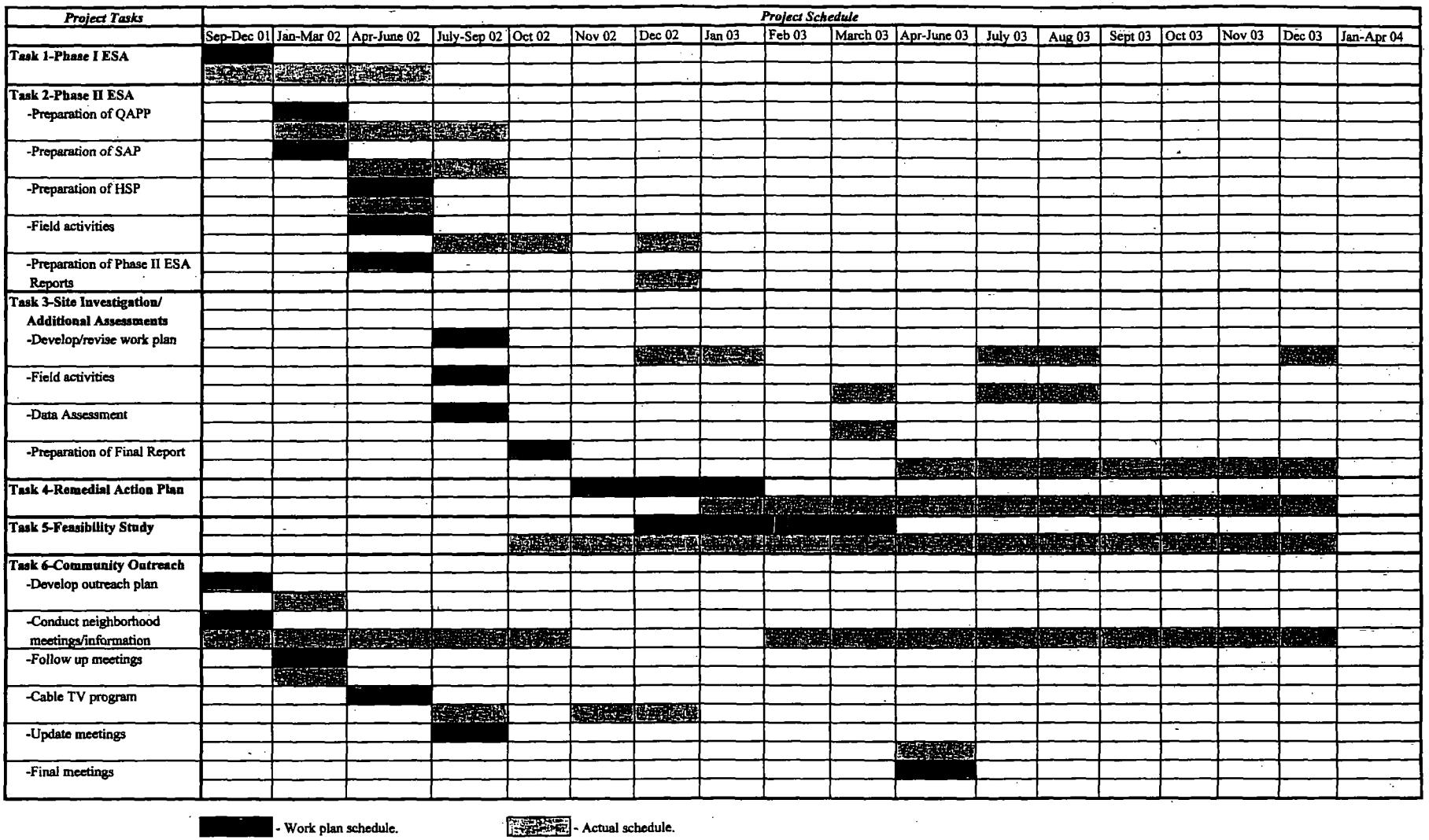
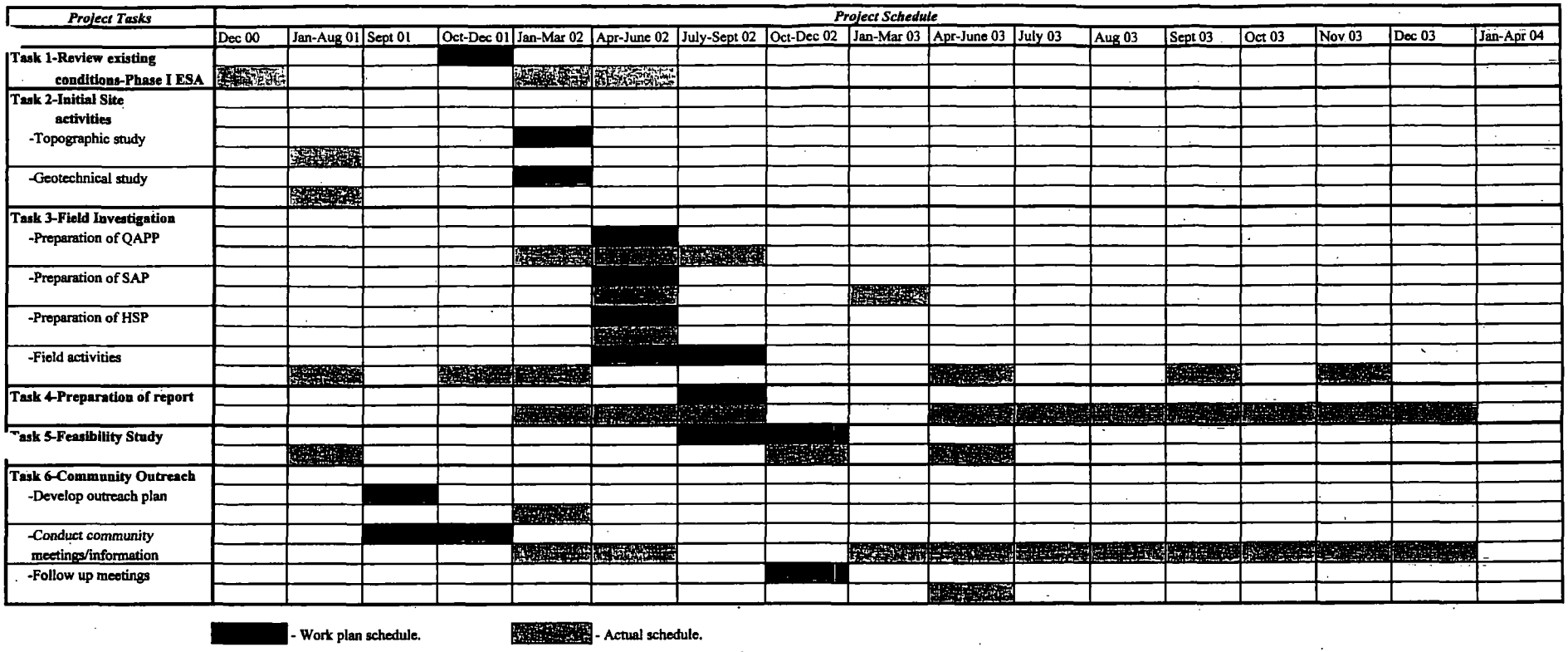


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-NINTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH DECEMBER 31, 2003



RECEIVED
OCT 29 2003
BEAS REGION 5
U.S. EPA

OCTOBER 24, 2003

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 8

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

Project ReNEW

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

A Michigan City Brownfields Project

11/5/03

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U.S. EPA

October 24, 2003

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 8/OCTOBER 24, 2003

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 8 for Fiscal Year 2003 Fourth Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #8 (Qtr 4/September/03) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	1	1
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Initiative Funding Received from other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$6,725.48	$135,076.85
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal X Local , ☐State, ☐Private $4,822.09. (City of Michigan City funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal ☐Local, ☐State, ☐Private $ _____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:___

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal Action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept/03

Phase II funded by X EPA Pilot $ 61,828.15 ☐Federal X Local, ☐State, ☐Private $450.00. (City of Michigan City funded)

Is cleanup required? ___No _X_Yes (Building demolition.)

Phase III (Remediation) Cleanup Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal X Local, ☐State, ☐Private $ 66,950 .

Redevelopment Jobs Leveraged: _____

Redevelopment/Construction Dollars Leveraged: _____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ____No _X_ Yes Date: (quarter/mo/year) Qtr. 3/May/03

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal X Local, ☐State, ☐Private $ 62,854.76 (total to date). (MI City Parks & Recreation/MCEDC funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

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Attachment

Attachment I	Revised Work Plan

1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

During the Fiscal Year 2003 Fourth Quarter (July 1-September 30, 2003), the City of Michigan City submitted a Revised Work Plan to the U.S. Environmental Protection Agency (U.S. EPA) requesting approval of minor work task additions/revisions and a time extension to the Work Plan of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)]. (Attachment I presents the Revised Work Plan.)

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)

- On July 22, 2003, a Project ReNEW meeting was held (attended by representatives of the City of Michigan City departments and Project ReNEW team members) to review the progress of the project and discuss upcoming tasks and timelines. Based on the outcome of the meeting, a Revised Work Plan was prepared and submitted on August 14, 2003 to the U.S. EPA for review/approval (presented as Attachment I). (Task 3 of the Work Plan)

- On August 4, 2003, the drummed investigation-derived waste materials were removed from the

former Royal Metals and former Schmock Oil facilities and properly disposed off. (Task 3 of the Work Plan)

- On September 19, 2003, the Phase II Environmental Site Assessment (ESA) Report for the former Schmock Oil Company facility was completed. (Task 3 of the Work Plan)

- On September 26, 2003, the Draft Remediation Work Plan for the former Royal Metals facility (including the results of the Phase II ESA activities) was submitted to the MCEDC for review/comment. (Task 4 of the Work Plan)

- Potential site developers toured the former Royal Metals and former Schmock Oil facilities to evaluate potential redevelopment issues/concerns of the facility. (Task 5 of the Work Plan)

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW.

- On July 31, 2003, a "low-flow" groundwater sampling event was conducted at the former Royal Metals facility to demonstrate that elevated metals concentrations detected from groundwater samples collected from monitoring wells during the previous sampling event were due to suspended solids/sediments. The analytical results of the "low-flow" groundwater sampling event confirmed this theory.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW.

1.4 Deliverables/Work Products

There were no Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW with the exception of the Former Schmock Oil Company Facility Phase II ESA Report (submitted under separate cover to the U.S. EPA).

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 75 % complete at the end of the Fiscal Year 2003 Fourth Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT, Limited (APT), of Granger, Indiana (conducted during the Fiscal Year 2002 First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 76 % of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-September 30, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$29,128.85	$3,806.81	$32,935.66
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$1,216.05	$0	$1,216.05
Equipment	$2,000	$2,000.00	$0	$2,000.00
Supplies	$8,000	$6,058.27	$0	$6,058.27
Contractual	$147,500	$96,849.89	$13,050.12	$109,900.01
Others	$0	$0	$0	$0
Total Expenses	$200,000	$135,253.06	$16,856.93	$152,109.99

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fiscal Year 2003 Fourth Quarter, continued preparation of the Remediation Work Plan for the former Royal Metals facility was conducted, and the Phase II ESA Report for the former Schmock Oil Company facility was completed/finalized.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Fiscal Year 2002 Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. During the Fiscal Year 2003 Fourth Quarter of the Brownfields pilot project, there was $4,822.09 assessment dollars leveraged for the "low-flow" groundwater sampling event at the former Royal Metals Facility (refer to Table 2). However, no jobs were created during the Fiscal Year 2003 Fourth Quarter (refer to Table 3). During the duration of Project ReNEW, a total of $72,222.09 has been leveraged from local funding and six temporary cleanup jobs created.

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$5,272.09	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$5,272.09	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the

Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.)

During the Fiscal Year 2003 Third Quarter, the Sampling and Analysis Plan (SAP) for the Greenspace Project was approved for implementation by the U.S. EPA. During the Fiscal Year 2003 Fourth Quarter, the City of Michigan City submitted a Revised Work Plan to the U.S. EPA requesting a time extension for the Greenspace Project (refer to Attachment I for the Revised Work Plan).

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 Fourth Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 Fourth Quarter of the Project ReNEW-Greenspace Project.

- During the week of September 15, 2003, APT continued Phase II ESA field activities (surface water sampling of Trail Creek and Cheney Run) at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP. (Task 3 of the Work Plan)
- The Remediation Work Plan (including the results of the Phase II ESA activities) continued to be prepared for the former Karwick Road Municipal Landfill site. (Task 4 of the Work Plan)

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2003 Fourth Quarter of the Project ReNEW-Greenspace Project. (The Greenspace budget for project management/community outreach activities has been expended; therefore, the following activities are non-funded.)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)

- Additional project management and community outreach activities were conducted.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2003 Fourth Quarter of Project ReNEW.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 40% complete at the end of the Fiscal Year 2003 Fourth Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks were ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation and implementation of project work plans (QAPP, SAP and HSP), Task 4-Preparation of report and Task 6-Community Outreach Activities]. Additionally, several work tasks (presented in the U.S. EPA approved SAP) will be conducted which will not be funded by the Greenspace Grant (due to expenditure of the grant funding

prior to the completion of the Greenspace Project). These additional tasks will be locally funded.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 62 % of the project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. The U.S. EPA Grant funded activities/tasks conducted during Fiscal Year 2003 Fourth Quarter were for the implementation of the U.S. EPA approved SAP.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-September 30, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$11,081.85	$10,437.52	$21,519.37
Others	$0	$0	$0	$0
Total Expenses	$50,000	$20,581.85	$10,437.52	$31,019.37

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Fiscal Year 2003 Fourth Quarter of the Greenspace Project, additional Phase II ESA activities were conducted at the site.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters and Fiscal Year 2003 First/Second/Third Quarters of the Greenspace Project, $60,951.37 was locally funded for assessment activities. In addition, during the Fiscal Year 2003 Fourth Quarter of the Greenspace Project, $1,903.39 was locally funded for assessment activities (for project management and community outreach activities) for a total of $62,854.76.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$62,854.76	$0	$0	Michigan City Parks & Recreation Department/MCEDC
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$62,854.76	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-SEVENTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH SEPTEMBER 30, 2003

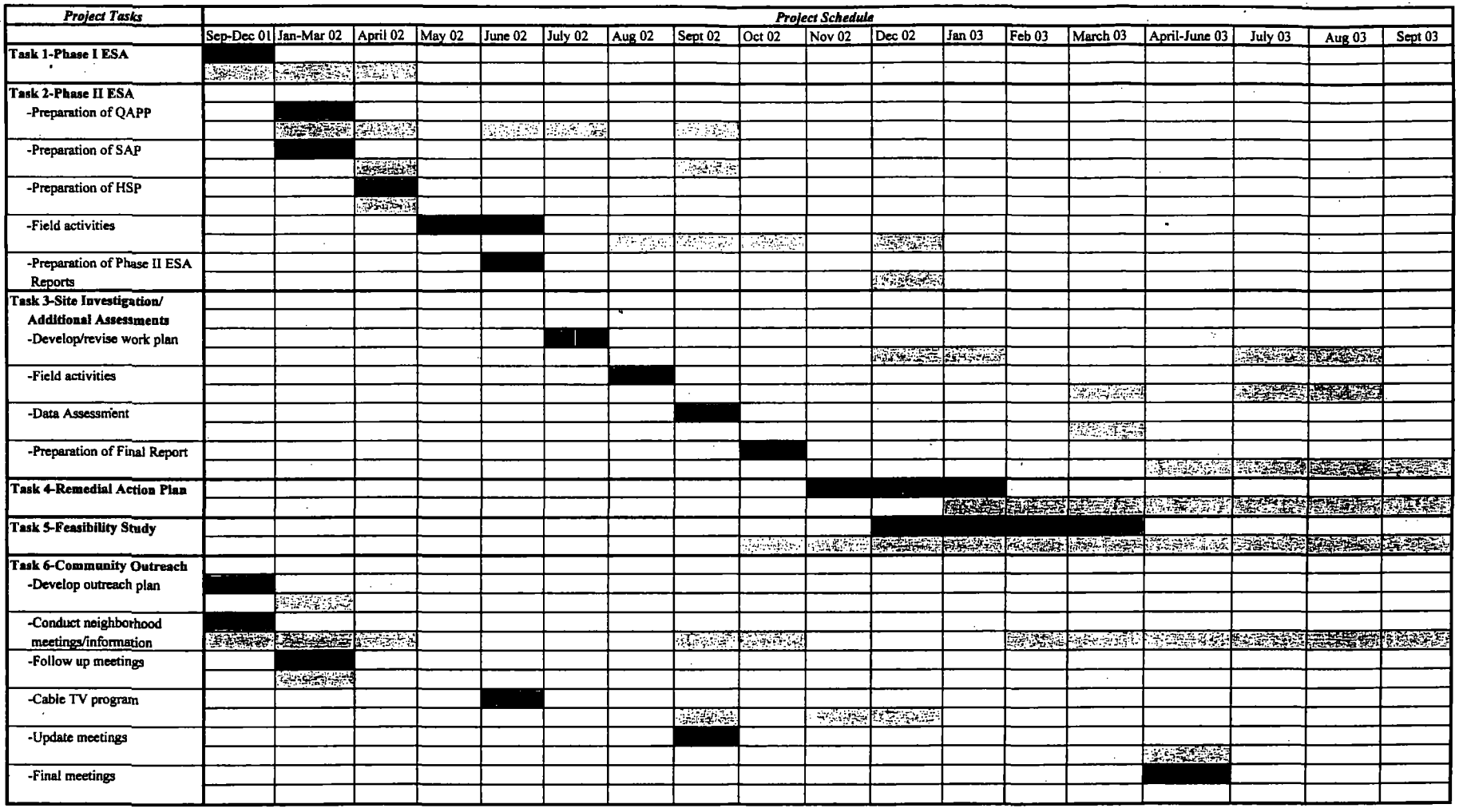


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-SEVENTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH SEPTEMBER 30, 2003

Project Tasks	*Project Schedule*																
	Dec 00	Jan-Aug 01	Sept 01	Oct-Dec 01	Jan-Mar 02	Apr-June 02	July-Sept 02	Oct-Dec 02	Jan 03	Feb 03	March 03	April 03	May 03	June 03	July 03	Aug 03	Sept 03
Task 1-Review existing conditions-Phase I ESA																	
Task 2-Initial Site activities																	
-Topographic study																	
-Geotechnical study																	
Task 3-Field Investigation																	
-Preparation of QAPP																	
-Preparation of SAP																	
-Preparation of HSP																	
-Field activities																	
Task 4-Preparation of report																	
Task 5-Feasibility Study																	
Task 6-Community Outreach																	
-Develop outreach plan																	
-Conduct community meetings/Information																	
-Follow up meetings																	

- Work plan schedule.

- Actual schedule.

ATTACHMENT I

REVISED WORK PLAN

REVISED WORK PLAN FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0

BROWNFIELD PILOT

WORK TASKS

Former Schmock Oil Facility

The Phase II Environmental Site Assessment (ESA) Report is currently being prepared for submittal to the U.S. EPA for review/approval (Task 3 of the Work Plan). Thus, there is no requested change to the Work Plan for the Former Schmock Oil Facility.

Former Royal Metals Facility

Based on the results of Phase II ESA (Task 2 of the Work Plan), there were no constituents detected in site soil and/or groundwater which were above the Indiana Department of Environmental Management's (IDEM) Voluntary Remediation Program (VRP) Tier II cleanup goals for the industrial land-use scenario (IDEM VRP Resource Guide, July 1996). With the positive Phase II ESA results and per the site closure requirements of the IDEM VRP, soil and groundwater closure sampling will be conducted to verify that impacted soil/groundwater are not present at the site. Specifically, 18 surface and 18 subsurface soil samples will be collected within the identified areas of environmental concern and throughout the site, and the five groundwater monitoring wells will be sampled on a quarterly basis for four quarters. The soil and groundwater samples will be analyzed for VOCs, semi-VOCs and metals per the QAPP. Following the completion of the confirmatory sampling, a VRP Completion Report will be generated for the site. Therefore, an Addendum to the SAP for the Former Royal Metals Facility (detailing the soil and groundwater closure sampling activities) will be prepared and submitted to the U.S. EPA for review and approval. These tasks will be conducted in accordance with Task 3-Site Investigation/Additional Soil and Groundwater Assessments of the Work Plan.

Both Brownfield Sites

Travel-Attendance at the National Brownfields Conference 2003: Growing a Greener America Conference in Portland, Oregon from October 27-29, 2003.

BUDGET

The current approved project budget (by category) versus the revised budget is presented in Table 1.

Table 1
Summary of Brownfields Pilot Budget Versus Revised Budget

Budget Category	Budgeted Amount	Revised Budget
Personnel	$40,000	$40,000
Fringe Benefits	$0	$0
Travel	$2,500	$3,716.05
Equipment	$2,000	$2,000.00
Supplies	$8,000	$6,058.27
Contractual	$147,500	$148,225.68
Others	$0	$0
Total Expenses	$200,000	$200,000

SCHEDULE

Based on the anticipated schedule of the above detailed work tasks, a time extension for the Brownfields Project is requested until April 30, 2004. This will allow adequate time to prepare and submit the SAP Addendum for the Former Royal Metals Facility to the U.S. EPA for review and approval and the initiation of several of the field activities which will be detailed in the SAP Addendum (Task 3-Site Investigation/Additional Soil and Groundwater Assessments).

GREENSPACE PILOT

WORK TASKS

All remaining work tasks for the Michigan City's Greenspace site (the former Karwick Road Municipal Landfill site) are being conducted in accordance with the SAP which was approved for implementation by the U.S. EPA on May 28, 2003.

BUDGET

The current approved project budget for the Greenspace Project will remain unchanged.

SCHEDULE

Based on the anticipated schedule of the work tasks detailed in the previously approved SAP, a time extension for the Greenspace Project is requested until April 30, 2004.

JULY 21, 2003

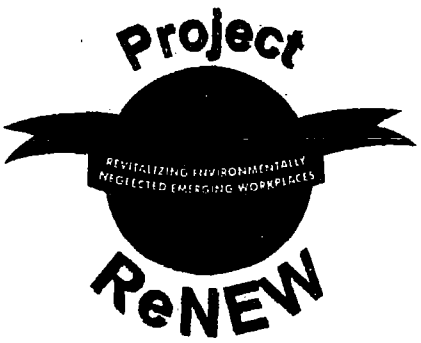
U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 7

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360



A Michigan City Brownfields Project

July 21, 2003

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 7/JULY 21, 2003

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 7 for Fiscal Year 2003 Third Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #7 (Qtr 3/June /03) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields related Initiative Funding Received from other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$1,827.66	$128,351.37
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $ _____.

Is cleanup required? X No ___Yes see attach. sheet

Phase III (Remediation) Cleanup Started: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal ☐Local, ☐State, ☐Private $ _____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal Action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No _X_ Yes (Building demolition.)

Phase III (Remediation) Cleanup Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_ No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal X Local, ☐State, ☐Private $ 66,950.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: **Former Karwick Road Municipal Landfill**

Address: **Karwick Road**

City, State, Zipcode: **Michigan City, IN 46360**

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community. Two community-wide project meetings have been held.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No __X__ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __No __X__ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ____No __X__ Yes Date: (quarter/mo/year) Qtr. 3/May/03

Phase II Site Assessment Started: ___No __X__Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal X Local, ☐State, ☐Private $ 60,951.37 (total to date). (MI City Parks & Recreation/MCEDC funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Fiscal Year 2003 Third Quarter (April 1-June 30, 2003) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 Third Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 Third Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)
- On April 30, 2003, the second Project ReNEW Community Meeting was held at the City Hall of Michigan City. (Task 6 of the Work Plan)
- The preparation of the Phase II Environmental Site Assessment (ESA) Report for the former Schmock Oil Company facility was initiated. (Task 3 of the Work Plan)
- The Remediation Work Plan (including the results of the Phase II ESA activities) continued to be prepared for the former Royal Metals facility. (Task 4 of the Work Plan)
- Potential site developers toured the former Royal Metals facility to evaluate potential redevelopment issues/concerns of the facility. (Task 5 of the Work Plan)

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Fiscal Year 2003 Third Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 Third Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Fiscal Year 2003 Third Quarter of Project ReNEW: (1) As discussed, the second community-wide Project ReNEW Community Meeting was held at the City Hall of Michigan City on April 30, 2003. Attachment I presents copies of several deliverables associated with the community meeting: (a) Michigan City News-Dispatch meeting advertisement; (b) meeting announcement; (c) meeting attendees sign-in sheet; (d) meeting agenda; (e) Project ReNEW Community Meeting presentation/project status; (f) community meeting report; and, (g) transmittal letter of community meeting information to Ms. Diane Spencer-U.S. Environmental Protection Agency's (U.S. EPA) Brownfields Project Manager.; and, (2) Attachment II presents a copy of a May 1, 2003 Michigan City News-Dispatch article summarizing the Project ReNEW Community Meeting and a May 2, 2003 Michigan City News-Dispatch editorial regarding the project.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 70% complete at the end of the Fiscal Year 2003 Third Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the

extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT, Limited (APT), of Granger, Indiana (conducted during the Fiscal Year 2002 First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 67.6% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-June 30, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$24,553.03	$4,575.82	$29,128.85
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$1,216.05	$0	$1,216.05
Equipment	$2,000	$2,000.00	$0	$2,000.00
Supplies	$8,000	$5,983.27	$75.00	$6,058.27
Contractual	$147,500	$87,122.26	$9,727.63	$96,849.89
Others	$0	$0	$0	$0
Total Expenses	$200,000	$120,874.61	$14,378.45	$135,253.06

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not

reported.

- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fiscal Year 2003 Third Quarter, continued preparation of the Remediation Work Plan for the former Royal Metals facility was conducted, and the preparation of the Phase II ESA Report for the former Schmock Oil Company facility was initiated.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information and the second edition of the Project ReNEW Newsletter "ReNEWS". The second Project ReNEW community meeting was held for both Michigan City Brownfields Sites.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Fiscal Year 2002 Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. However, during the Fiscal Year 2003 Third Quarter of the Brownfields pilot project, there was no funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$450	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$450	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.)

During the Fiscal Year 2003 Third Quarter, the Sampling and Analysis Plan (SAP) for the Greenspace Project was submitted to the U.S. EPA for review/approval. The SAP was approved for implementation by the U.S. EPA during the Fiscal Year 2003 Third Quarter.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 Third Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 Third Quarter of the Project ReNEW-Greenspace Project.

- On April 4, 2003, APT submitted the SAP for the Michigan City's Greenspace site (the former Karwick Road Municipal Landfill site) to the U.S. EPA for their review and approval. The SAP was approved for implementation by the U.S. EPA on May 28, 2003. (Task 3 of the Work Plan)
- The Remediation Work Plan (including the results of the Phase II ESA activities) continued to be prepared for the former Karwick Road Municipal Landfill site. (Task 4 of the Work Plan)
- During the week of June 23, 2003, APT initiated Phase II ESA field activities at the former Karwick Road Municipal Landfill site in accordance with the U.S. EPA approved SAP. (Task 3 of the Work Plan)

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2003 Third Quarter of the Project ReNEW-Greenspace Project. (The Greenspace budget for project management/community outreach activities has been expended; therefore, the following activities are non-funded.)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)
- On April 30, 2003, the second Project ReNEW Community Meeting was held at the City Hall of Michigan City. (Task 6 of the Work Plan)
- Additional project management and community outreach activities were conducted.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 Third Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The following Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Fiscal Year 2003 Third Quarter of Project ReNEW: (1) As discussed, the second community-wide Project ReNEW Community Meeting was held at the City Hall of Michigan City on April 30, 2003. Attachment I presents copies of several deliverables associated with the community meeting: (a) Michigan City News-Dispatch meeting advertisement; (b) meeting announcement; (c) meeting attendees sign-in sheet; (d) meeting agenda; (e) Project ReNEW Community Meeting presentation/project status; (f) community meeting report; and, (g) transmittal letter of community meeting information to Ms. Diane Spencer-U.S. EPA's Brownfields Project Manager.; (2) Attachment II presents a copy of a May 1, 2003 Michigan City News-Dispatch article summarizing the Project ReNEW Community Meeting and a May 2, 2003 Michigan City News-Dispatch editorial regarding the project.; and, (3) the SAP for the former Karwick Road Municipal Landfill was submitted to the U.S. EPA under separate cover on April 4, 2003.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 35% complete at the end of the Fiscal Year 2003 Third Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and,

thus, several tasks were ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation and implementation of project work plans (QAPP, SAP and HSP), Task 4-Preparation of report and Task 6-Community Outreach Activities].

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 41.2% of the project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. The U.S. EPA Grant funded activities/tasks conducted during Fiscal Year 2003 Third Quarter were for the implementation of the U.S. EPA approved SAP.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-June 30, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$5,229.58	$5,852.27	$11,081.58
Others	$0	$0	$0	$0
Total Expenses	$50,000	$14,729.58	$5,852.27	$20,581.85

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Fiscal Year 2003 Third Quarter of the Greenspace Project, the site-specific SAP was approved by the U.S. EPA; thus, additional Phase II ESA activities were conducted at the site.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information and the second edition of the Project ReNEW Newsletter "ReNEWS". The second Project ReNEW community meeting was held for the Michigan City Greenspace Site.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters and Fiscal Year 2003 First/Second Quarters of the Greenspace Project, $59,123.71 was locally funded for assessment activities. In addition, during the Fiscal Year 2003 Third Quarter of the Greenspace Project, $1,827.66 was locally funded for assessment activities (including project management and community outreach activities) for a total of $60,951.37.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$60,951.37	$0	$0	Michigan City Parks & Recreation Department/MCEDC
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$60,951.37	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-SEVENTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH JUNE 30, 2003

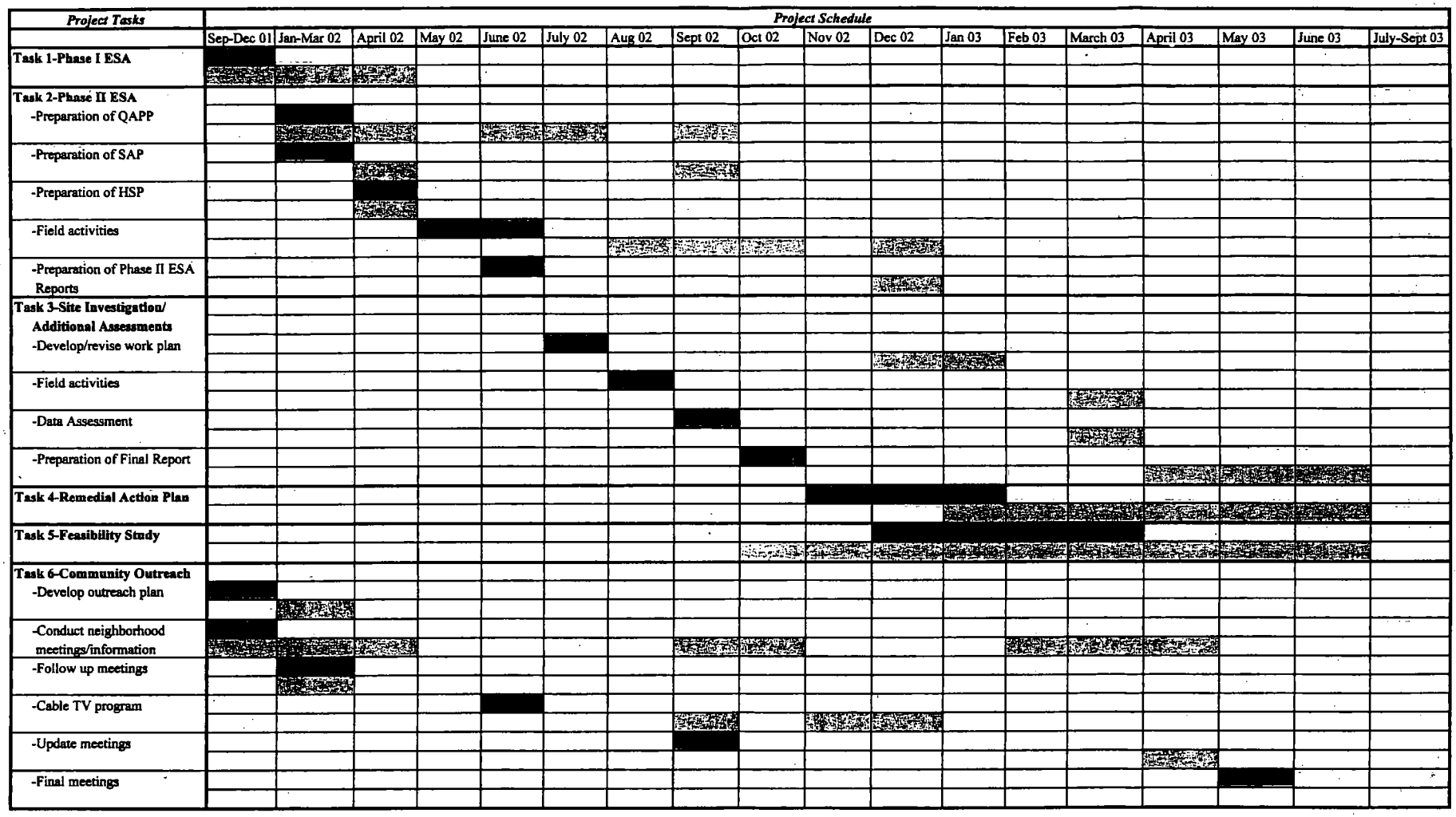
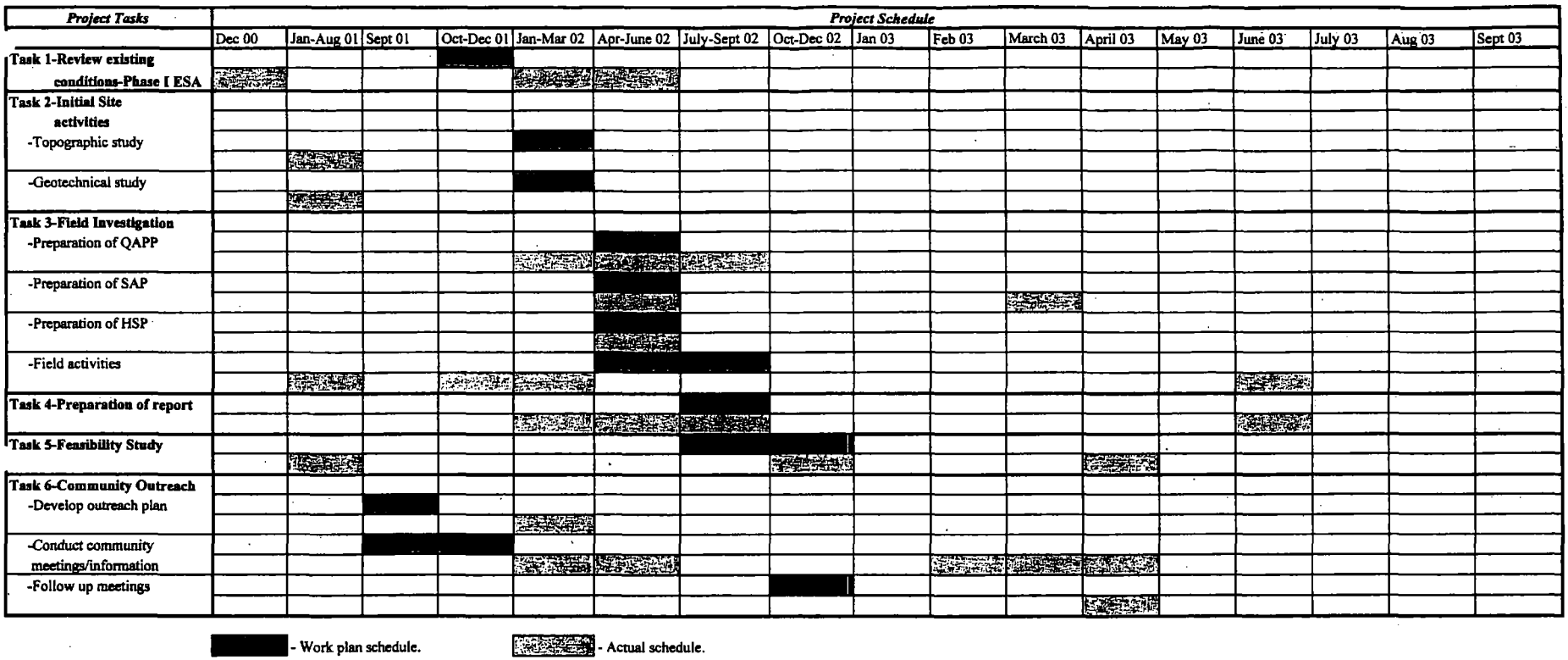


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-SEVENTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH JUNE 30, 2003



ATTACHMENT I

DELIVERABLES FROM SECOND PROJECT ReNEW COMMUNITY MEETING

COMMUNITY MEETING
Project ReNEW
Revitalizing Environmentally Neglected Emerging Workplaces

Mayor Brillson and Tony Rodriguez, Executive Director of the Michigan City Economic Development Corporation, are inviting the public to a community-wide meeting to discuss the progress of Project ReNEW, the community/ neighborhood based environmental assessment project funded through a $250,000 U.S. Environmental Protection Agency (USEPA) Brownfields Assessment Grant awarded to the City in 2001.

The meeting will be held on **April 30th at 9:00AM** in the main lobby of **City Hall**, 100 E. Michigan Boulevard. Refreshments will be served.

The following will be discussed:

- Review of EPA grant
- Overview of Project ReNEW
- Review of sites
- Royal Metals facility-600 North Carroll Ave.
- Schmock Oil facility-1111 W. Garfield St.
- Former City landfill-Karwick Road
- Work tasks completed to date
- Results of assessments
- Potential uses of properties
- Next steps

Please join your neighbors to learn more about this proactive community effort. For more information, contact Tony Rodriguez, Executive Director, Michigan City Economic Development Corporation at 219-873-1211.

PROJECT ReNEW
Community Meeting
Wednesday April 30, 2003
9:00AM
City Hall

PLEASE SIGN IN

Carol Davis - Westside Association	
Margaret Brooks	
Connie Bauer - 619 Hobart St	EastSide Association
Bee Jay Schwarz	
Boyd Phelps	City Engineer
DICK UZZELL	Technical Engineers Local Union 130 U.A.
Kevin Beres	Mc Chamber
Kate Ainsworth	Southwood Neighborhood Assn.
Tammy Steinhagen	Unity / IFG
Patricia Bay	Southwood Neighborhood Assoc.
Don Wentland	Ripley St.
CHUCK LUNGREN	1ST WARD COUNCILMAN
Katherine Dwan-Evans	Property owner near Smock
Lori Wilson Patterson	" " " "
Joe Hoyle	PARKS + REC
Ken Pierce	

Sign In
Please

NAME	ORGANIZATION / AFFILIATION
Dave Biela	S:

Project ReNEW Status Update

Former Royal Metals Site
600 N. Carroll Avenue
Michigan City, Indiana

- Former metal furniture manufacturing – abandoned since 1980s
- Accepted into Indiana Voluntary Remediation Program (VRP) January 2002
- Phase I Environmental Assessment (January 2002)
  - Nine Areas of Environmental Concern (AECs) plus groundwater
- Phase II Environmental Assessment (Sept. through Dec. 2002)
  - Constituents of concern are VOCs, SVOCs, metals, PCBs
  - Not all areas accessible due to partially collapsed building
  - Eight soil borings to water table, and five monitoring wells
    - One soil sample per soil boring
    - Groundwater screening samples from five of the eight soil borings (SB-1, -2, -4, -6, -7)
    - One groundwater sample per monitoring well
  - No VOCs or SVOCs present in soils/groundwater above VRP cleanup criteria
  - Lead detected in groundwater at one boring and three well locations above VRP cleanup criteria
    - SB-2 (74 ppb), MW-1 (114 ppb), MW-2 (78 ppb), MW-3 (79 ppb)
    - VRP Non-Residential cleanup criteria 42 ppb
    - Likely due to suspended sediment in sample – lead is naturally occurring mineral in soils
  - Arsenic detected in groundwater at one boring location above VRP cleanup criteria
    - SB-2 (68 ppb)
    - VRP Non-Residential cleanup criteria 50 ppb
    - Likely due to suspended sediment in sample – lead is naturally occurring mineral in soils
  - Groundwater at 5-10 feet below the ground surface, flow is toward Lake Michigan (north)
  - No health risk as drinking water obtained from Lake Michigan
- Currently preparing "No Further Action" Remediation Work Plan for submittal to IDEM
  - Anticipated submittal date late April 2003
  - No remediation planned

Project ReNEW Status Update

Former Schmock Oil Site
1111 West Garfield Street
Michigan City, Indiana

- Former used oil recycling – abandoned since 1999
- Site razed and graded, currently a vacant lot
- Accepted into Indiana Voluntary Remediation Program (VRP) January 2002
- Phase I Environmental Assessment (January 2002)
  - Five Areas of Environmental Concern (AECs) plus groundwater
- Phase II Environmental Assessment (Aug. through Nov. 2002)
  - Constituents of concern are VOCs, SVOCs, metals
  - Eight soil borings to water table, and five monitoring wells
    - One soil sample per soil boring
    - Groundwater screening samples from five of the eight soil borings (SB-2, -4, -5, -6, -7)
    - One groundwater sample per monitoring well
  - No SVOCs or metals present in soils/groundwater above VRP cleanup criteria
  - Two areas of VOC impact – petroleum hydrocarbons north, chlorinated solvents southeast
    - Benzene detected above VRP cleanup criteria in groundwater at one well and three boring locations
      - SB-4 (2500 ppb), SB-5 (690 ppb), SB-7 (2600 ppb), MW-5 (2700 ppb)
      - VRP Non-Residential cleanup criteria 99 ppb
    - Vinyl chloride detected in groundwater at one well location above VRP cleanup criteria
      - MW-4 (170 ppb)
      - VRP Non-Residential cleanup criteria 2 ppb
  - Extent of groundwater impacts not defined
  - Possible off-site source(s) of impacts
  - Groundwater at 5-10 feet below the ground surface, flow is toward northeast
  - No health risk as drinking water obtained from Lake Michigan
- Supplemental assessment (March 2003)
  - Objective to define extent of previously identified groundwater impacts
  - Constituents of concern are VOCs
  - Six soil borings to water table, and five monitoring wells
    - Groundwater screening samples in bores (Geoprobe)
    - One groundwater sample per monitoring well
  - Currently waiting on results of laboratory analysis

Project ReNEW Status Update

Former Karwick Road Municipal Landfill
Michigan City, Indiana

- Parks and Recreation Department proposed *Nature Park 2000*
- Buried refuse discovered during geotechnical exploration January 2001
- Discussions with IDEM indicated that site was unique – soil closure would be difficult due to nature of site, but groundwater could be addressed with long-term monitoring
- Phase I Environmental Assessment (March 2002)
  - Two Areas of Environmental Concern (AECs): buried refuse and site-wide groundwater
- Groundwater Screening Assessment (July 2001)
  - Constituents of concern are VOCs, SVOCs, metals
  - Eight Geoprobe borings to base of debris/fill
    - One soil sample in boring GB-3
    - Groundwater screening samples in all eight borings
  - Landfill debris & fill material uppermost 6 – 20 feet
  - Water table 11 – 16 feet BGS, and generally coincident with base of fill/debris – historic topographic maps show area as a floodplain/wetland prior to landfilling
  - No VOCs or SVOCs detected above VRP cleanup criteria in any groundwater samples
  - Methylene chloride detected in soil sample above RISC cleanup criterion of 1.8 ppm
    - GB-3 (39 ppm)
  - Arsenic detected in two groundwater samples above VRP cleanup criterion of 50 ppb
    - GB-2 (509 ppb), GB-3 (224 ppb)
  - Lead detected in three groundwater samples above RISC cleanup criterion of 42 ppb
    - GB-1 (2,009 ppb), GB-2 (16,200 ppb), GB-3 (1,270 ppb), GB-6 (138 ppb)
  - Cadmium, chromium, copper, and mercury in one sample above cleanup criteria
    - GB-2 (79 ppb, 1050 ppb, 5860 ppb, and 24 ppb, respectively)
    - Cleanup criteria are 51 ppb, 51 ppb (Cr +6), 3800 ppb, and 6 ppb, respectively
- Baseline Groundwater Assessment (Dec. 2001 – Jan. 2002)
  - Constituents of concern are VOCs, SVOCs, metals
  - Eight monitoring wells with one sample per well
  - No VOCs or SVOCs detected above VRP cleanup criteria
  - Lead detected above VRP cleanup criterion of 42 ppb in groundwater at five locations
    - MW-2 (171 ppb), MW-4 (222 ppb), MW-6 (52 ppb), MW-7 (866 ppb), MW-8 (279 ppb)
  - Groundwater flow is westward toward Trail Creek
  - No human health risk as drinking water obtained from Lake Michigan
  - Potential ecological risk to Trail Creek

- Accepted into VRP February 2002
  - Groundwater and subsurface soils media of concern
  - Surface/subsurface soils not addressed via VRP due to difficulty of demonstrating closure criteria across large site where nature & location of debris types unknown
- Proposed strategy developed in site meeting with IDEM
  - Randomly placed soil borings for subsurface soil closure
  - Sample existing monitoring wells for four consecutive quarters to obtain groundwater closure
  - Surface water and sediment sampling for four quarters to demonstrate lack of ecological impacts
- Currently USEPA evaluating Sampling and Analysis Plan for proposed work scope
- Will prepare and submit Remediation Work Plan to IDEM upon approval of work by USEPA
  - Anticipated submittal date late May 2003
  - No remediation planned

PROJECT ReNEW
COMMUNITY MEETING
APRIL 30, 2003
REPORT

The Project ReNEW team determined that it would conduct another of its community meetings to bring the citizenry up to date on the status of the Project. The specific purposes of this meeting were to provide the details of the environmental testing results performed at the three locations and to discuss the potential reuses of these properties. The meeting took place on April 30th at City Hall.

Mayor Brillson opened the meeting at 9:00AM and provided the audience with an overall review of the Project and associated EPA grant and the City's ongoing Brownfield initiatives. Tony Rodriguez, Executive Director of the Michigan City Economic Development Corporation, gave a power point presentation dealing with the EPA grant process and a review of the Project, the three sites and the work tasks completed to date. John Klanke of Advanced Pollution Technologies (APT) provided a detailed power point presentation relative to the testing and assessment results. Kevin Kieft, Neighborhood Planner, City of Michigan City, led a discussion regarding potential reuses of the properties. The meeting adjourned at 10:15AM.

Attendance at the meeting was encouraging. Of the 27 in attendance, 19 represented neighborhood groups, business interests, adjacent neighbors, labor unions and the media. The others in attendance were City department heads and those associated with the Project.

QUESTIONS

1. Has the benzene (contaminants) reached beyond the Schmock Oil property lines onto adjacent private property?
2. What is the time frame for the Karwick Road project?
3. Will any subsequent building on the Schmock Oil site disrupt the soil conditions?
4. Will the properties be continually monitored, even past future building on them?
5. Are we testing at industrial levels as to oppose to residential levels at Schmock Oil?
6. Have you done samplings on all of the Karwick property or just the landfill area?
7. Is there a possibility of leaching across Trail Creek to the west side, from the Karwick property?
8. Where do we stand on the Josam property? Because of the fire there and water used to extinguish it, did that cause any additional problems? Who is paying for

the Josam clean up? (It was noted that the Josam project is not part of Project ReNEW)

POTENTIAL REUSE DISCUSSION

Royal Metal

1. Because of its residential location, the outside grounds of this property are extensive. Please make sure that the grassy areas are trimmed and kept in better shape. Also, there needs to be more lighting around the site.
2. The building is a public hazard. Will the structure be removed?
3. We all realize that there will be a cost to tear down the building. Once it's down and cleaned up, I would like to see small businesses there.

Schmock Oil

1. Could the Schmock Oil property be used for a park since it was tested on the industrial level? I suggest that it is eventually used as a park since the closest park at this time is too far away for our children.
2. We need more play areas for our children and we need more businesses too. Could this property be divided to provide both?
3. Both Royal Metal and Schmock could and should be used for new businesses and new jobs.

Karwick Road

1. I would like to see this property used for young people activities, or as a fish museum.
2. I live next door and hope I live long enough to see it become a park.
3. Like to see it preserved as a green space.
4. It's great that you're preserving this as green space. That should be the goal. It could be used for bird watching and fishing.

As a result of this meeting, the Michigan City News-Dispatch had a front page headline and story about Project ReNEW in its May 1, 2003 edition. In addition, the News-Dispatch had a positive and supporting editorial about the Project in its May 20th edition. WEFM radio station gave a positive report on the Project during its April 30th news programs.

A Michigan City Brownfields Project

Ms. Diane M. Spencer
Brownfields Project Manager
U.S. EPA Region 5
77 W. Jackson Blvd. (SE-4J)
Chicago, IL 60604

May 13, 2003

Diane,
As you requested, attached is the information that was available for our Project ReNEW community meeting held on April 30, 2003 at Michigan City's City Hall. These include an agenda, a copy of the March 2003 ReNewsletter, the power point presentation of Tony Rodriguez, Executive Director of the Michigan City Economic Development Corporation and a copy of the power point presentation of John Klanke of Advanced Pollution Technologies.

The purpose of this meeting was two-fold: to provide an update on the status and results of the environmental testing that has been completed on the three sites and to engage the public in a discussion relative to potential future reuses of the properties.

The audience numbered 27, which included 19 persons who represented neighborhood groups, business interests, adjacent neighbors, labor unions and the media. The others in attendance were City department heads and those associated with the Project. We were encouraged by the number of questions and amount of interest that were generated during the meeting. Subsequently, the Michigan City News-Dispatch ran a front-page headline and story about Project ReNEW and the meeting in their May 1st edition. In addition, the newspaper wrote a positive and supportive editorial about the Project in its May 20th edition.

It is unfortunate that you were not able to attend the meeting because I feel that you would have been pleased with the excitement and interest it generated.

On behalf of our Project ReNEW team, thanks again for all of your support and assistance.

Sincerely

Robert J. Schaefer

CC: Tony Rodriguez, Tom Stevenson

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

ATTACHMENT II

MICHIGAN CITY NEWS-DISPATCH ARTICLES/EDITORIALS

Rain postpones games
SPORTS
section B

The News-Dispatch

MICHIGAN CITY, INDIANA **THURSDAY, MAY 1, 2003** **2 SEC**

Project ReNew a 'road map'

Results from tainted sites mean quicker, cheaper cleanup for city

BY RICK A. RICHARDS
The News-Dispatch

Three environmentally tainted properties in Michigan City aren't as tainted as city officials feared. That means cleanup of the three sites will be cheaper — and quicker — than they had originally thought.

At a morning news conference in the lobby of City Hall, Mayor Sheila Brillson announced Project ReNew, a coordinated effort to clean up the former Royal Metals building at 600 N. Carroll Ave., the former Schmock Oil recycling site at 1111 W. Garfield, and the former city landfill on Karwick Road.

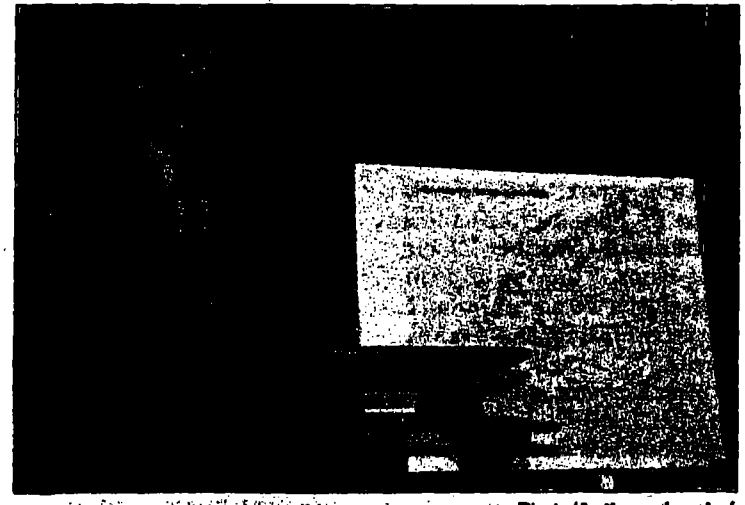
"I am extremely pleased with the results," said Brillson. "The results are much better than we expected."

Each of the three sites has undergone a complete evaluation, including soil borings and tests of groundwater, said John Klanke of Advance Pollution Technologies, the firm hired by the city to assess each property.

Klanke said that while there are problem spots at each site, the problems are isolated and can be corrected.

At the Royal Metals site, which has been abandoned since the 1980s, Klanke said most of the areas of concern are inside the badly decayed building. Based on the results

● See **RESULTS,** Page A5



Photo/Anthony Lambré

John Klanke of Advanced Pollution Technologies delivers an environmental assessment report on the three Brownfield sites Wednesday during a city hall press conference.

Results

● **CONTINUED** from Page A1

of soil and groundwater tests, he said there are no contaminants present that would prevent the property from being rehabilitated into a viable industrial site.

"It looks terrible on the outside, but it's actually pretty clean," said Klanke.

At the Schmock Oil site, there are problems with benzene and volatile chemicals at two locations, but Klanke said both sites can be cleaned. The former Schmock Oil building has been razed, and Klanke told neighbors of the site that there was no reason for them to be concerned about chemicals spreading from the site.

The city's former landfill on Karwick Road, nearly 40 years after it was closed there are still a few problem areas, said Klanke. Soil borings showed most of the material buried there is common household trash, although there are some heavy metals present. "The issue, however, isn't that significant," said Klanke.

The major project is exposed refuse, including appliances, and a pockmarked terrain that makes it hazardous for people to walk through the area.

Brillson said she hopes remediation goes well at the form landfill stile. She said she wants the 25-acre site turned into a hiking and nature preserve, something Klanke said isn't beyond the realm of possibility.

The mayor said Project ReNew — Revitalizing Environmentally Neglected Emerging Workplaces — has given the city a road map on what it needs to do to restore the three properties.

"After the Josam property, we felt these were the three worst in the city," said Brillson. "The reason a lot of cities don't do this is because they don't want to find out the bad news."

But in this case, Brillson said, the news wasn't as bad as anticipated. "There is an awful lot of red tape to go through, but now we have a path."

What's next is for a series of public hearings to be held, for both the Indiana Department of Environmental Management and the U.S. Environmental Protection Agency to sign of on the properties once they're cleaned. The process could take anywhere from two to four years or more.

The Project ReNew assessment of the three properties was paid for through a $250,000 grant given to the city by the EPA.

❑

Contact City Editor Rick A. Richards at rrichards@thenewsdispatch.com.

The
News-Dispatch
Michigan City, Indiana

The Opinion Page is a forum for debate on matters of interest and importance to our readers. Editorials of The News-Dispatch are the product of the editorial board. Opinions expressed in columns, letters and editorials from other newspapers are not necessarily those of The News-Dispatch.

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Environmental testing

City studies sites, finds problems manageable

Michigan City took a big step forward on Wednesday when it announced the results of environmental testing at three troubled sites in the city.

Outside of the Josam property on U.S. 12 — which is the city's biggest environmental problem — concern over the former Royal Metals site on Carroll Avenue, the Schmock Oil site on Garfield Street and the former city landfill on Karwick Road had the potential to contain a witch's brew of toxic chemicals and other nasty stuff.

Our Opinion

Three sites with environmental problems were examined, and while it will take years to clean them and put them back into use, the study was the only approach.

The good news is that while there are problems, they can be easily fixed. The bad news is it will take years before the city can get the clean bill of health it needs from the Indiana Department of Environmental Management so it can begin marketing the sites as viable for development.

This is a classic case of trying to decide whether the glass is half-full or half-empty. In this case, the city is correctly looking at it as half-full.

Mayor Sheila Brillson admitted she didn't know what environmental consultant Advance Pollution Technologies would find when it analyzed soil borings and groundwater samples. "The reason a lot of cities don't do this is because they don't want to find out the bad news," Brillson said.

And rather than looking back and trying to place blame on who caused the problems — lead, volatile chemicals, PCBs and benzene were found in isolated areas — Brillson prefers to look ahead. That's the right approach.

Most of the problems were created decades ago when environmental law either didn't exist or was in its infancy. At the landfill, for instance, the thinking in the early 1960s that burying things was good enough. But the rules have changed over the years and what was legal a generation ago may not be legal now.

What's important is that Michigan City now knows the extent of the problems with the three sites and it has a road map to follow to fix them.

But make no mistake — fixing the problems will take time and money. If everything goes perfectly (and what does in an environmental clean-up?), it will be two years before any of the sites are ready for a new use. More likely, it will be three or four years, once public hearings and tests and all the red tape are taken care of.

Brillson admits there is a lot of red tape ahead of the city, but is confident the results will be worth it. And give the mayor credit for looking into something that had the potential to be a huge embarrassment to the city.

"I just didn't think we could ignore it any more," Brillson said. And even if the results would have been different, she would still be right.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

May 15, 2003

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2003 second quarter progress report [your sixth report] dateted April 28, 2003, for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2003 first quarter progress report submittal is accepted and approved by the US EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 50% Recycled Paper (20% Postconsumer)

APRIL 28, 2003

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 6

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

Project ReNEW

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

A Michigan City Brownfields Project

5/2/03

April 28, 2003

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 6/APRIL 28, 2003

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 6 for Fiscal Year 2003 Second Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #6 (Qtr 2/March /03) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Leveraged Funding Received from other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$1,281.47	$126,523.71
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site and local cable TV programs were established/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $ _____.

Is cleanup required? ___No _X_Yes (Building demolition.)

Phase III (Remediation) Cleanup Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal X Local, ☐State, ☐Private $ 66,950.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW. Two separate editions of the Project ReNEW Newsletter "ReNEWS" have beeen distributed throughout the community.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 □Federal □Local, □State, □Private $ _____.

QAPP: __No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): _X_No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by □ EPA Pilot $ _____ □Federal X Local, □State, □Private $ 59,123.71 (total to date). (MI City Parks & Recreation/MCEDC funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by □ EPA Pilot $ _____ □Federal □Local, □State, □Private $ _____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

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Attachment

Attachment I	Project ReNEW Newsletter "ReNEWS"-March 2003

1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Fiscal Year 2003 Second Quarter (January 1-March 31, 2003) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 Second Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 Second Quarter of Project ReNEW.

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on both of Michigan City's Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) regarding the status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletters. The web site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)

- On January 17, 2003, APT, Limited (APT), of Granger, Indiana, submitted the Sampling and Analysis Plan (SAP) Addendum for the former Schmock Oil Company facility (to define the nature and extent of contamination at the site) to the U.S. Environmental Protection Agency (EPA) for their review and approval. The SAP Addendum was approved for implementation by the U.S. EPA on March 4, 2003. (Task 3 of the Work Plan)

- On February 21, 2003, a Project ReNEW/Brownfields site sign was installed at the former Royal Metals facility. (Task 6 of the Work Plan)

- On March 11, 2003, the second edition of the Project ReNEW community informational newsletter entitled "ReNEWS" was printed. The newsletter was distributed to the Michigan City City Hall, the public library, the Senior Center, the Eastside/Westside Neighborhood Centers and several

neighborhood schools. Additionally, the newsletter was posted on the Project ReNEW web site. (Task 6 of the Work Plan)

- From March 17-21, 2003, APT continued Phase II Environmental Site Assessment (ESA) field activities at the former Schmock Oil Company facility in accordance with the SAP Addendum. (Task 3 of the Work Plan)
- The Remediation Work Plan (including the results of the Phase II ESA activities) continued to be prepared for the former Royal Metals facility. (Task 4 of the Work Plan)
- Data reduction from Phase II ESA activities for the former Schmock Oil Company facility was conducted. (Task 3 of the Work Plan)
- Potential site developers toured the former Royal Metals facility to evaluate potential redevelopment issues/concerns of the facility. (Task 5 of the Work Plan)

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Fiscal Year 2003 Second Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 Second Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Fiscal Year 2003 Second Quarter of Project ReNEW: (1) the SAP Addendum for the former Schmock Oil Company facility was submitted to the U.S. EPA under separate cover on January 17, 2003; and, (2) the second edition of the Project ReNEW community informational newsletter entitled "ReNEWS" was printed for community distribution. A copy of the newsletter is provide as Attachment I.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 60% complete at the end of the Fiscal Year 2003 Second Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT (conducted during the Fiscal Year 2002 First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 60.5% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-March 31, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$20,687.25	$3,865.78	$24,553.03
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$1,216.05	$0	$1,216.05
Equipment	$2,000	$2,000.00	$0	$2,000.00
Supplies	$8,000	$5,243.27	$740.00	$5,983.27
Contractual	$147,500	$68,548.14	$18,574.12	$87,122.26
Others	$0	$0	$0	$0
Total Expenses	$200,000	$97,694.71	$23,179.90	$120,874.61

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fiscal Year 2003 Second Quarter, additional Phase II ESA field activities were conducted at the former Schmock Oil Company facility in accordance with the U.S. EPA approved SAP Addendum. Continued preparation of the Remediation Work Plan for the former Royal Metals facility and data reduction from the Phase II ESA activities for the former Schmock Oil Company facility was conducted.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information and the second edition of the Project ReNEW Newsletter "ReNEWS" was distributed throughout the community. The second Project ReNEW community meeting is anticipated to be held during the Fiscal Year 2003 Third Quarter.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. However, during the Fiscal Year 2003 Second Quarter of the Brownfields pilot project, there was no funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$450	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$450	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being

conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.)

During the Fiscal Year 2002 Fourth Quarter and Fiscal Year 2003 First Quarter of the Greenspace Project, discussions regarding the revision of the Work Plan (specifically the site-specific SAP) were conducted. During the Fiscal Year 2003 Second Quarter, the SAP for the Greenspace Project was prepared, and it is anticipated that the SAP will be submitted to the U.S. EPA during the Fiscal Year 2003 Third Quarter for review/approval.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 Second Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 Second Quarter of the Project ReNEW-Greenspace Project.

- During March 2003, the SAP for Michigan City's Greenspace site (the former Karwick Road Municipal Landfill site) was prepared. (Task 3 of the Work Plan)

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2003 Second Quarter of the Project ReNEW-Greenspace Project. (The Greenspace budget for project management/community outreach activities has been expended; therefore, the following activities are non-funded.)

- The Project ReNEW web site continued to be maintain to provide information to the citizens of Michigan City and other interested parties on Michigan City's Greenspace site regarding the status of the environmental assessment being conducted at the site and the Project ReNEW Newsletters. The

site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)

- On March 11, 2003, the second edition of the Project ReNEW community informational newsletter entitled "ReNEWS" was printed. The newsletter was distributed to the Michigan City City Hall, the public library, the Senior Center, the Eastside/Westside Neighborhood Centers and several neighborhood schools. Additionally, the newsletter was posted on the Project ReNEW web site. (Task 6 of the Work Plan)

- Additional project management and community outreach activities were conducted.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 Second Quarter of Project ReNEW.

4.4 Deliverables/Work Products

There were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2003 Second Quarter of Project ReNEW with the exception of the second edition of the Project ReNEW community informational newsletter entitled "ReNEWS". A copy of the newsletter is provide as Attachment I.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 75% complete at the end of the Fiscal Year 2003 Second Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace

Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. The majority of project activities is currently on-hold until a SAP for the Greenspace Project has been submitted to the U.S. EPA for review/approval (anticipated for Fiscal Year 2003 Third Quarter).

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 29.5% of the project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. The U.S. EPA Grant funded activities/tasks conducted during Fiscal Year 2003 Second Quarter were for the preparation of the SAP. There will be no additional U.S. EPA Grant funded activities/tasks conducted until the SAP has been approved by the U.S. EPA for the Greenspace Project (anticipated for Fiscal Year 2003 Third Quarter).

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-March 31, 2003)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$3,729.58	$1,500.00	$5,229.58
Others	$0	$0	$0	$0
Total Expenses	$50,000	$13,229.58	$1,500.00	$14,729.58

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Fiscal Year 2003 Second Quarter of the Greenspace Project, preparation of the site-specific SAP was initiated, and it is anticipated that the SAP for the Greenspace Project will be submitted to the U.S. EPA during the Fiscal Year 2003 Third Quarter for review/approval.
- Regarding the Community Outreach phase of Project ReNEW, the Project ReNEW web site has continually been updated with additional information and the second edition of the Project ReNEW Newsletter "ReNEWS" was distributed throughout the community. The second Project ReNEW community meeting is anticipated to be held during the Fiscal Year 2003 Third Quarter.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third/Fourth Quarters and Fiscal Year 2003 First Quarter of the Greenspace Project, $57,842.24 was locally funded for assessment activities. In addition, during the Fiscal Year 2003 Second Quarter of the Greenspace Project, $1,281.47 was locally funded for assessment activities (including project management and community outreach activities) for a total of $59,123.71.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$59,123.71	$0	$0	Michigan City Parks & Recreation Department/MCEDC
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$59,123.71	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-SIXTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH MARCH 31, 2003

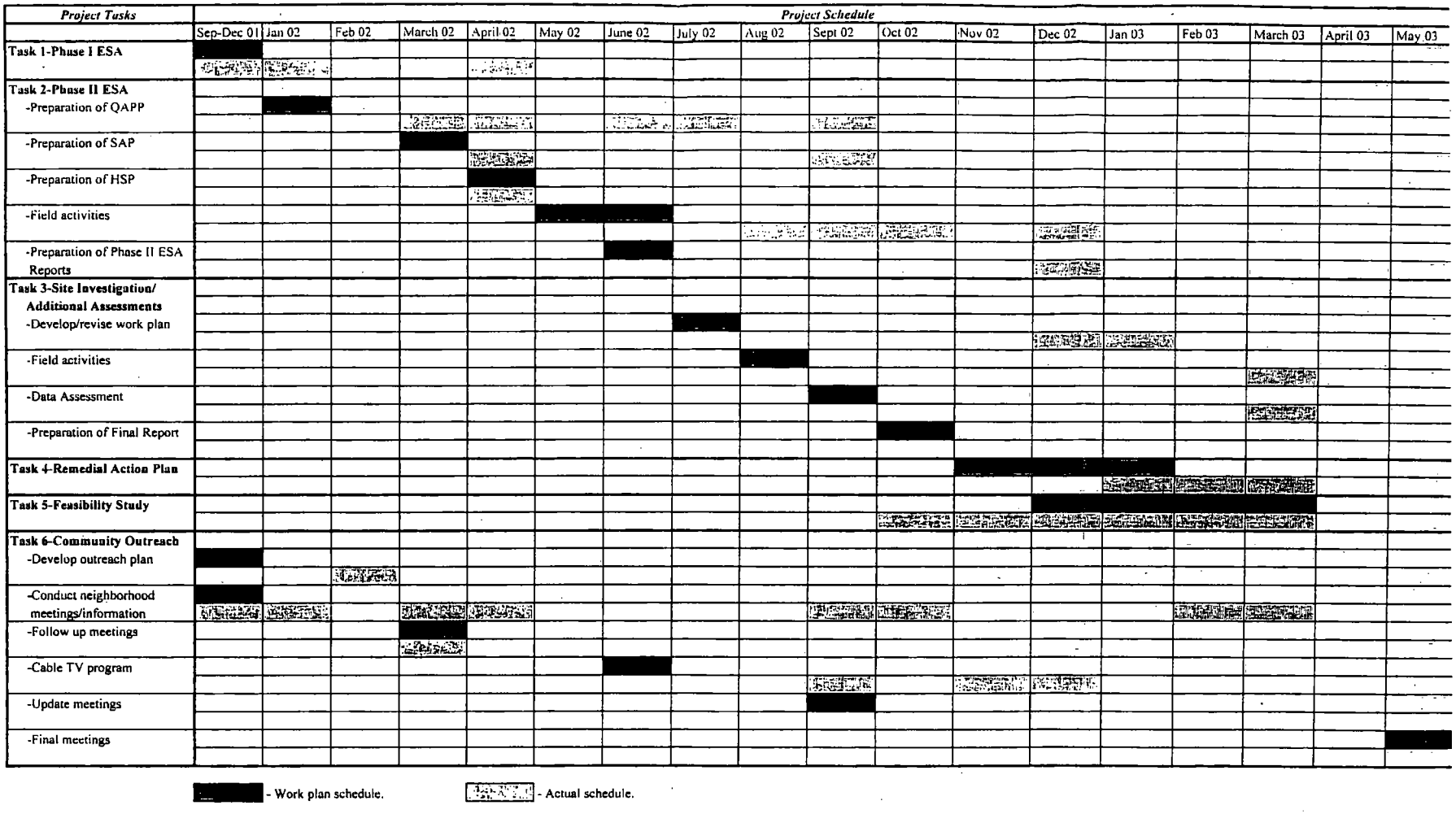
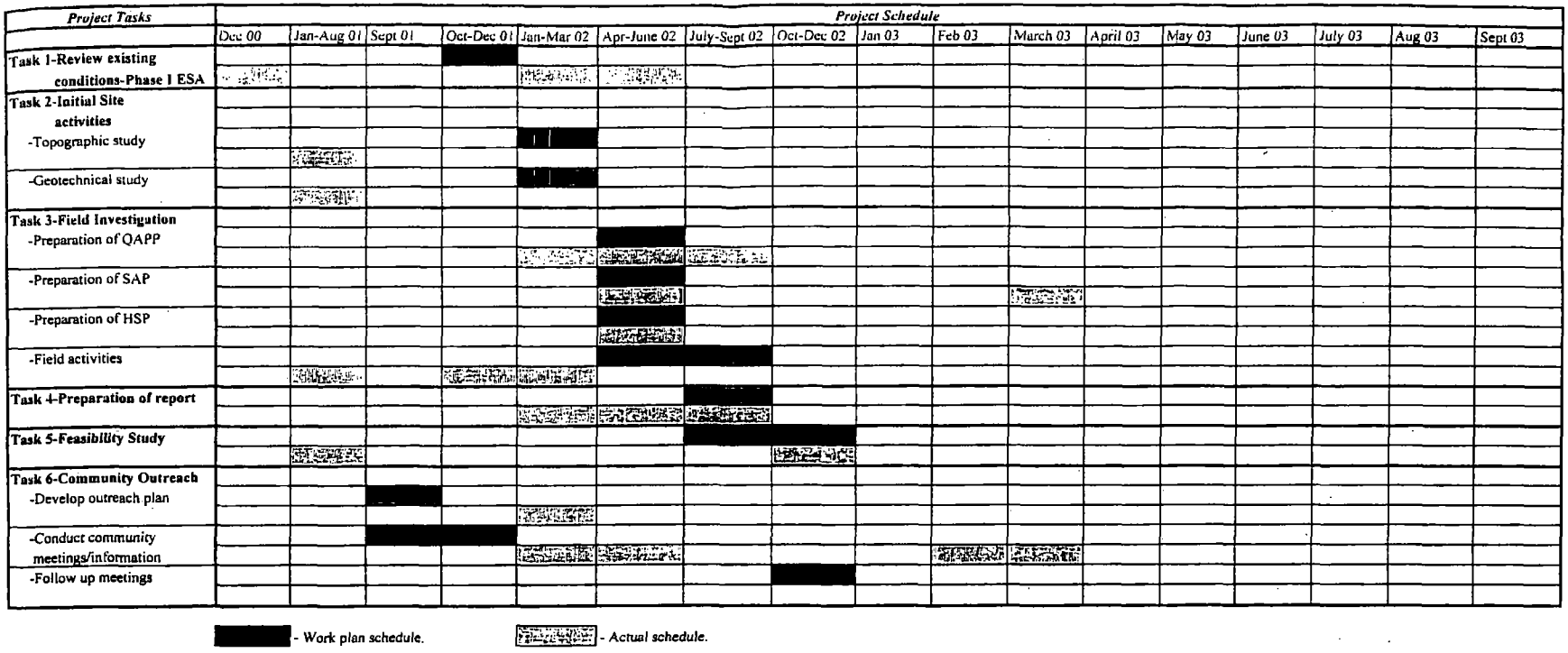


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-SIXTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH MARCH 31, 2003



ATTACHMENT I

PROJECT ReNEW NEWSLETTER "ReNEWS"-MARCH 2003

Project ReNEW
REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

NEWS

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

Newsletter for Michigan City Project ReNEW *March 2003*

Much progress has been made in performing the environmental site assessments on the three brownfield sites involved in the US EPA $250,000 grant awarded to the City in 2001. Informational signs have been placed at each site.

Former City Landfill-Karwick Road

Phase I and Phase II site assessments were completed at the site in August 2002. Based on the results, only minor impacts to subsurface soils and groundwater were detected. Additional testing will take place in Spring 2003 to confirm that past waste disposal activities that took place there from 1950-1970 did not adversely impact site soils and groundwater. The site will eventually be developed into the Karwick Nature Park to be utilized and enjoyed by the citizens of Michigan City.

Royal Metals-600 North Carroll Avenue

A Phase I site assessment was completed in January 2002 which determined the processes at this facility from 1929 to 1982. A Phase II assessment was subsequently completed and included the collection and analysis of subsurface soil samples and groundwater samples. Minor impacts to the site were detected. It is anticipated that minimal assessment activities will be required. The City has condemned the building because of poor structural conditions. Eventually, this site can be developed into a potential business location.

Schmock Oil –1111 West Garfield

A Phase I assessment was completed in January 2002. In April 2002, the building was demolished due to poor structural conditions. The Phase II assessment included the collection and analysis of soil and groundwater samples. Impacts to the soils and groundwater were detected; therefore, additional assessments are scheduled to determine the magnitude and extent of these impacts. A remediation strategy will be developed and sources of clean-up funding will be identified.

Project ReNEW Phase II

In December 2002 the City, through the Michigan City Economic Development Corporation (MCEDC), completed an Initial Proposal to the US EPA for another $200,000 grant which would have been used for environmental assessments on other sites in the City. Unfortunately, this proposal was not selected; however, the City and the MCEDC will aggressively continue to pursue additional grants and funding to help address the remaining brownfields in the City.

CITY OF MICHIGAN CITY'S U.S. ENVIRONMENTAL PROTECTION AGENCY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT

PROJECT RENEW SITES

Royal Metals Facility,
600 North Carroll Avenue

Schmock Oil Corporation Facility,
1111 West Garfield Street

Michigan City Municipal Landfill,
Karwick Road

Project ReNEW Hot Line
219-873-1211 (Ext. 4)

Project ReNEW Hot Link on the MCEDC web site at www.michigancity.org/busdevelop/mcedc/index.htm

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

February 25, 2003

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2002 fifth quarter [US EPA FY'03 first quarter] progress report [dated January 22, 2003] for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2003 first quarter progress report submittal is accepted and approved by the US EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

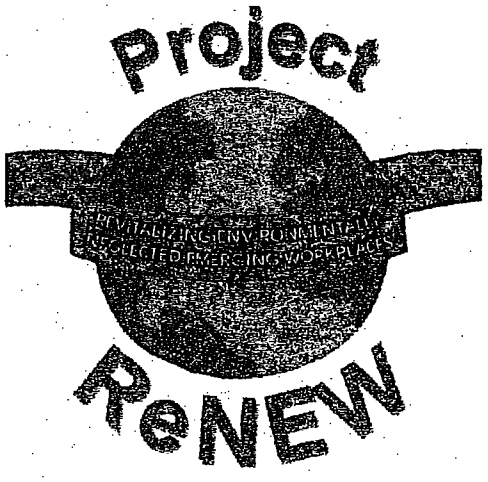
Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 50% Recycled Paper (20% Postconsumer)

January 22, 2003

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 5



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

A Michigan City Brownfields Project

January 22, 2003

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 5/JANUARY 22, 2003

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 5 for Fiscal Year 2003 First Quarter) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project ReNEW: City of Michigan City, IN **Date** Quarterly Report #5 (Qtr 1/Dec./02) **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	**This Quarter:**	**Cumulative:**
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	**CUMULATIVE**
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Leveraging Received from other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$3,098.16	$125,242.24
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition. On October 9, 2002, LaPorte County, Indiana, obtained ownership of the site.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site and local cable TV programs were established/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Sept./02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by X EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No _X_Yes (Building demolition.)

Phase III (Remediation) Cleanup Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 3/April/02 (Building demolition.)

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal X Local, ☐State, ☐Private $ 66,950.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: **Former Karwick Road Municipal Landfill**

Address: **Karwick Road**

City, State, Zipcode: **Michigan City, IN 46360**

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot-line", web site, site sign and local cable TV programs were established/installed/presented to allow interested citizens the opportunity to obtain information regarding the project and assist in the marketing/development of the site. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 2/March/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): _X_No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal X Local, ☐State, ☐Private $ 57,842.24 (total to date).
(MI City Parks & Recreation/MCEDC funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Fiscal Year 2003 First Quarter (October 1-December 31, 2002) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 First Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fiscal Year 2003 First Quarter of Project ReNEW.

- On October 9, 2002, LaPorte County, Indiana, obtained ownership of one of the two Michigan City Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue).
- On October 16, 2002, the Project ReNEW web site was accessible to the citizens of Michigan City and other interested parties. The web site provides information on both of Michigan City's Brownfield sites (the former Royal Metals facility; and, the former Schmock Oil Company facility located at 1111 West Garfield Street), status of the environmental assessments being conducted at the sites and the Project ReNEW Newsletter. The site is accessed via a hot link from the Michigan City Economic Development Corporation's (MCEDC) web site. (Tasks 5 and 6 of the Work Plan)
- From October 21-October 24, 2002, APT, Limited (APT), of Granger, Indiana, continued the Phase II Environmental Site Assessment (ESA) field activities at the former Schmock Oil Company facility in accordance with the site-specific Sampling and Analysis Plan (SAP). (Task 2 of the Work Plan)
- On November 13, 2002, an edition of City Views was videotaped by Michigan City Television/Video Tech Communications, Inc. at the former Royal Metals facility. The edition focused on the Michigan City Brownfields activities, providing information to the citizens of Michigan City on the progress of the project while assisting in the future marketing/development of the Brownfield sites. This particular edition of City Views was broadcasted on local cable TV from November 15 through November 22, 2002. (Tasks 5 and 6 of the Work Plan)

- From December 12-20, 2002, APT continued the Phase II ESA field activities at the former Royal Metals facility in accordance with the site-specific SAP. (Task 2 of the Work Plan)

- On December 12, 2002, Phase II ESA field activities at the former Royal Metals facility were video-taped by Michigan City Television/Video Tech Communications, Inc. This video footage will be used (along with other footage obtained at earlier dates) to develop a Project ReNEW Info-mercial to inform the citizens of Michigan City of the progress of the project and assist in the future marketing/development of the sites. (Tasks 5 and 6 of the Work Plan)

- The preparation of the Phase II ESA Reports was initiated for both Michigan City Brownfield sites. (Task 2 of the Work Plan)

- In December 2002, initial discussions were conducted regarding the need for additional assessment activities at the former Schmock Oil Company facility to define the nature and extent of contamination at the site.

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Fiscal Year 2003 First Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 First Quarter of Project ReNEW.

1.4 Deliverables/Work Products

There were no Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2003 First Quarter of Project ReNEW.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 50% complete at the end of the Fiscal Year 2003 First

Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT (conducted during the Fiscal Year 2002 First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 48.8% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-December 31, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$17,449.75	$3,237.50	$20,687.25
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$1,216.05	$0	$1,216.05
Equipment	$2,000	$2,000.00	$0	$2,000.00
Supplies	$8,000	$4,679.45	$563.82	$5,243.27
Contractual	$147,500	$38,939.78	$29,608.36	$68,548.14
Others	$0	$0	$0	$0
Total Expenses	$200,000	$64,285.03	$33,409.68	$97,694.71

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.

- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.

- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.

- During the Fiscal Year 2003 First Quarter, additional Phase II ESA field activities were conducted at both Michigan City Brownfields Pilot Sites and preparation of the Phase II ESA Reports was initiated. It is anticipated that the Phase II ESA field tasks and data evaluation will be completed during the next quarter for the former Royal Metals facility. Additionally, it is anticipated that a SAP Addendum for the former Schmock Oil Company facility will be prepared and submitted to the U.S. Environmental Protection Agency (U.S. EPA) during the Fiscal Year 2003 Second Quarter for review/approval.

3.2 Measures of Success-Pilot Program Indicators

During the Fiscal Year 2002 Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. However, during the Fiscal Year 2003 First Quarter of the Brownfields pilot project, there was no funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$450	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$450	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by the U.S. EPA Grant.)

During the Fiscal Year 2002 Fourth Quarter and Fiscal Year 2003 First Quarter of the Greenspace Project, discussions regarding the revision of the Work Plan (specifically the site-specific SAP) were conducted. It is anticipated that a revised SAP for the Greenspace Project will be prepared and submitted to the U.S. EPA during

the Fiscal Year 2003 Second Quarter for review/approval.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fiscal Year 2003 First Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

There were no funded activities/tasks completed during the Fiscal Year 2003 First Quarter of the Project ReNEW-Greenspace Project.

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fiscal Year 2003 First Quarter of the Project ReNEW-Greenspace Project. (The Greenspace budget for project management/community outreach activities has been expended; therefore, the following activities are non-funded.)

- On October 16, 2002, the Project ReNEW web site was accessible to the citizens of Michigan City and other interested parties. The web site provides information on the Michigan City's Greenspace site (the former Karwick Road Municipal Landfill site), status of the environmental assessment being conducted at the site and the Project ReNEW Newsletter. The site is accessed via a hot link from the MCEDC's web site. (Tasks 5 and 6 of the Work Plan)

- On November 6, 2002, a Karwick Road Nature Park meeting was held (attended by the Karwick Road Nature Park Project Team Members including representatives of the City of Michigan City departments, the Michigan City Area Schools and Project ReNEW team members) to review the progress of the project and discuss upcoming tasks and timelines. Based on the outcome of the meeting, a revised SAP for the Greenspace Project will be prepared and submitted to the U.S. EPA for review/approval. (Task 3 of the Work Plan)

- On November 13, 2002, an edition of City Views was videotaped by Michigan City Television/Video Tech Communications, Inc. at the former Karwick Road Municipal Landfill site. The edition focused on the Michigan City Brownfields/Greenspace activities, providing information to the citizens of Michigan City on the progress of the project while assisting in the future marketing/development of the

Brownfield/Greenspace sites. This particular edition of City Views was broadcasted on local cable TV from November 15 through November 22, 2002. (Tasks 5 and 6 of the Work Plan)

- Additional project management and community outreach activities were conducted.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fiscal Year 2003 First Quarter of Project ReNEW.

4.4 Deliverables/Work Products

There were no Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables completed during the Fiscal Year 2003 First Quarter of Project ReNEW.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 75% complete at the end of the Fiscal Year 2003 First Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. The majority of project activities is currently on-hold until a revised SAP for the Greenspace Project has been submitted to the U.S. EPA for review/approval.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 26.5% of the project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks were funded by non-EPA Pilot funds. There will be no U.S. EPA Grant funded activities/tasks conducted until a revised SAP has been approved by the U.S. EPA for the Greenspace Project.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-December 31, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,500.00	$0	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$1,000.00	$0	$1,000.00
Contractual	$40,500	$3,729.58	$0	$3,729.58
Others	$0	$0	$0	$0
Total Expenses	$50,000	$13,229.58	$0	$13,229.58

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.

- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.

- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.

- During the Fiscal Year 2003 First Quarter of the Greenspace Project, discussions regarding the revision of the Work Plan (specifically the site-specific SAP) were conducted. It is anticipated that a revised SAP for the Greenspace Project will be prepared and submitted to the U.S. EPA during the Fiscal Year 2003 Second Quarter for review/approval.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Fiscal Year 2002 Third and Fourth Quarters of the Greenspace Project, $54,744.08 was locally funded for assessment activities. In addition, during the Fiscal Year 2003 First Quarter of the Greenspace Project, $3,098.16 was locally funded for assessment activities (including project management and community outreach activities) for a total of $57,842.24.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$57,842.24	$0	$0	Michigan City Parks & Recreation Department/MCEDC
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$57,842.24	$0	$0	

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-FIFTH PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH DECEMBER 31, 2002

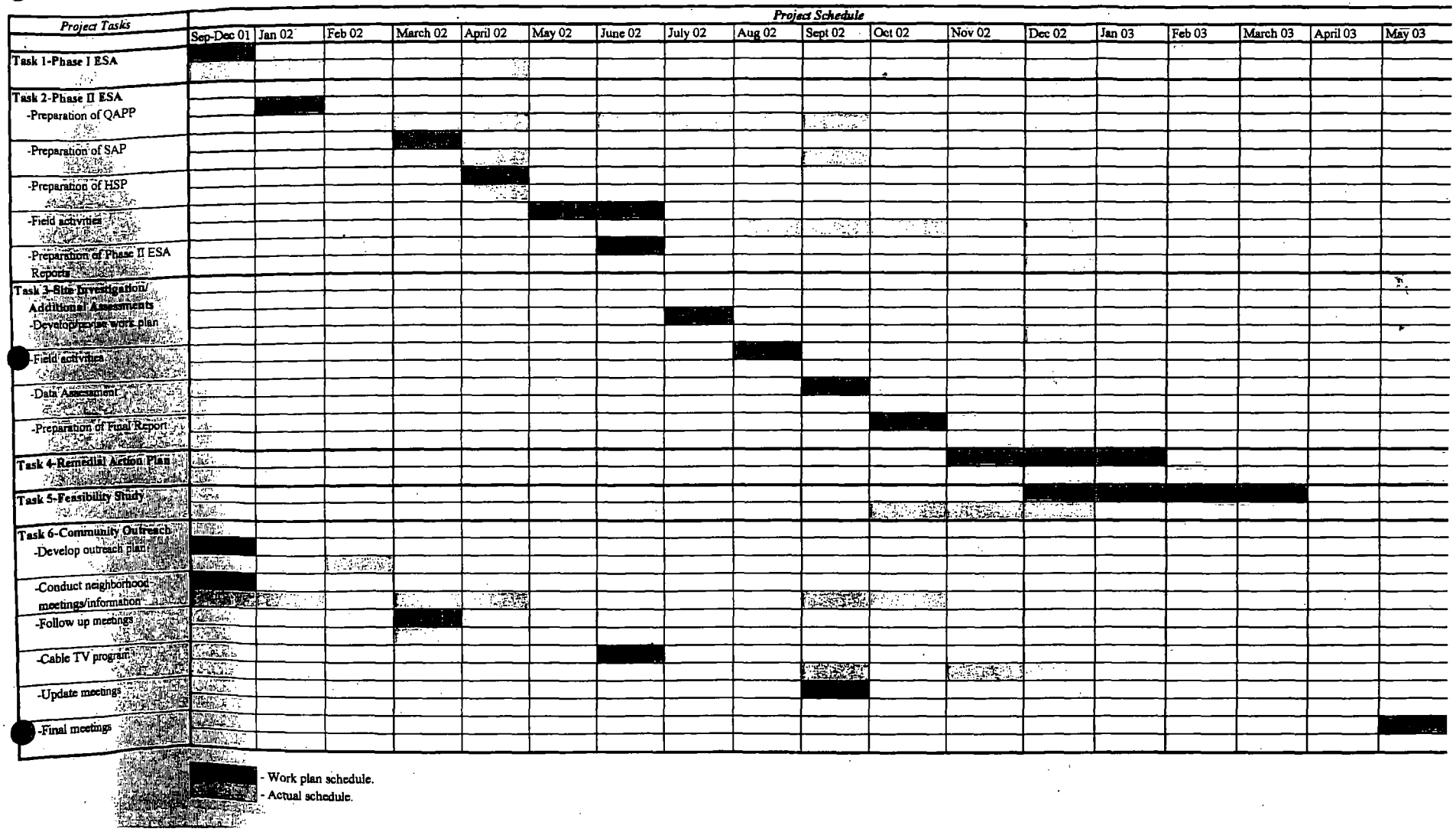

FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-FIFTH PROGRESS REPORT-DECEMBER 1, 2000 THROUGH DECEMBER 31, 2002

Project Tasks	*Project Schedule*																	
	Dec 00	Jan-Mar 01	Apr-Jun 01	Jul-Aug 01	Sept 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	March 02	April 02	May 02	June 02	July 02	Aug 02	Sept 02	Oct-Dec 02
Task 1-Review existing conditions-Phase I ESA																		
Task 2-Initial Site activities																		
-Topographic study																		
-Geotechnical study																		
Task 3-Field Investigation																		
-Preparation of QAPP																		
-Preparation of SAP																		
-Preparation of HSP																		
-Field activities																		
sk 4-Preparation of report																		
Task 5-Feasibility Study																		
Task 6-Community Outreach																		
-Develop outreach plan																		
-Conduct community meetings/information																		
-Follow up meetings																		

- Work plan schedule.
- Actual schedule.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

November 20, 2002

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2002 fourth quarter progress report [dated October 29, 2002] for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2002 fourth quarter progress report submittal is accepted and approved by the US EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois/Indiana Brownfields Project Officer

cc: D. Spencer, U.S. EPA

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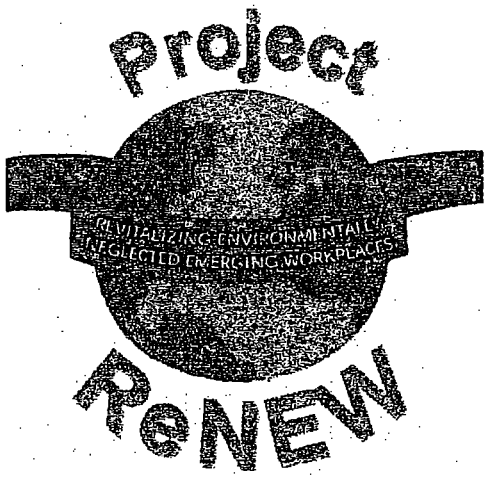
11/13/02

October 29, 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 4



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project RENEW: City of Michigan City, IN **Date** Quarterly Report #4 (Qtr 4/Sept./02) (Q/Mo/Yr)
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:		1
AP 9	Properties with Cleanup Activities Completed:		
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:		6 temporary demolition jobs
AP 12	Cleanup Dollars Leveraged:		$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2	Brownfields-related Initiative Funding Received from other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$4,323.63	$121,694.08
SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition.

Planned reuse: Unknown

***Communities/groups involvement*:** The Project ReNEW telephone "hot-line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/Dec/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/April/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No **X** Yes Date: (quarter/mo/year) **Qtr. 4/July/02**

Sampling Plan(s): ___No **X** Yes Date: (quarter/mo/year) **Qtr. 4/July/02**

Phase II Site Assessment Started: ___No **X** Yes Date: (quarter/mo/year) **Qtr. 4/Sept./02**

Phase II Site Assessment Completed: X No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW "hot-line" was established to allow interested citizens the opportunity to ask question/express concerns regarding the project. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/12/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No **X** Yes Date: (quarter/mo/year) **Qtr. 4/July/02**

Sampling Plan(s): ___No **X** Yes Date: (quarter/mo/year). **Qtr. 4/July/02**

Phase II Site Assessment Started: ___No **X** Yes Date: (quarter/mo/year) **Qtr. 4/Aug/02**

Phase II Site Assessment Completed: X No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____
Cleanup Plans funded **by** ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project. Presentations werw made to several advanced environmental science classes at Marquette High School in Michigan City.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 2/3/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) **Qtr. 4/July/02**

Sampling Plan(s): _X_No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $ _____ ☐Federal ☒**Local,** ☐State, ☐Private $ 54,744.08 (total to date).
(MI City Parks & Recreation funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____
Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal ☐Local, ☐State, ☐Private $ _____.

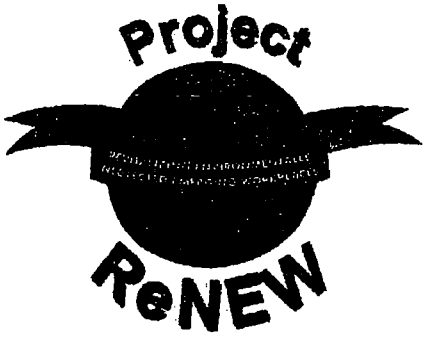
Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

Rec.
11/6/02



A Michigan City Brownfields Project

October 29, 2002

Mrs. Romona Smith
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 4/OCTOBER 29, 2002

Dear Mrs. Smith:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 4) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
Michigan City Board of Public Works and Safety, c/o City Clerk's Office
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Pilot Name: City of Michigan City, Indiana **Date:** Quarter 4-July/August/September 2002

Address: 100 East Michigan Boulevard

City, State, Zipcode: Michigan City, Indiana 46360

Zone (Federal EC/EZ, State or Local): NA

Number of:

Properties Estimated in Pilot Area: Not reported

Properties Reported on Inventories: Not reported

Properties Targeted by Pilot: 3

Properties with Assessments Started: 3

Properties with Assessments Completed: 0

Properties that do not Require Cleanups: Currently unknown

Properties with Cleanup Activities Started: 1

Properties with Cleanup Activities Completed: 0

Properties with Redevelopment Underway: 0

Redevelopment Jobs Leveraged: 0

Redevelopment/Construction Dollars Leveraged: 0

Cleanup/Construction Jobs Leveraged: 6 (temporary jobs created for cleanup)-During 3rd Quarter. 0-During 4th Quarter.

Cleanup Dollars Leveraged: $66,950-During 3rd Quarter. $0-During 4th Quarter.

(9/10/99)

Brownfields Pilot Property Profile

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approximately 89,000 square foot building) was used from approximately 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping and office activities. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: Continued community outreach activities.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: ___No __X__ Yes Date: Quarter 2/January/2002 (Report submitted to EPA during Quarter 3/April/2002)

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ___No __X__ Yes Date: Quarter 2/March/2002-Began preparation. Quarter 3/April/2002-Submitted QAPP to EPA for review/comment. Quarter 4/July/2002-Multi-Site QAPP approved by EPA.

Sampling Plan(s): ___No __X__ Yes Date: Quarter 2/March/2002-Began preparation. Quarter 3/April/2002-Submitted HSP/SAP to EPA for review/comment. Quarter 4/July/2002-SAP approved by EPA.

Phase II Site Assessment Started: ___No __X__Yes Date: Quarter 4/September/2002

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Brownfields Pilot Property Profile

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: One acre

Site Description/History/Ownership: The site (with an approximately 24,000 square foot building) was originally used for sheet rock manufacturing and then as a facility that blended/stored fuels, oils, petroleum products and solvents. In 2000, the U.S. EPA conducted an Emergency Response & Time Critical Removal Action at the facility to remove over 200 drums and 25 large storage tanks containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, and the building on the site has been condemned by the City of Michigan City due to its poor structural condition. The building was demolished in April 2002.

Planned reuse: Currently unknown.

Communities/groups involvement: The Project ReNEW/Brownfields site sign was installed at the Brownfields site. Continued community outreach activities.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: ___No __X__ Yes Date: Quarter 2/January/2002 (Report submitted to EPA during Quarter 3/April/2002)

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: ____No __X__ Yes Date: Quarter 2/March/2002-Began preparation. Quarter 3/April/2002-Submitted QAPP to EPA for review/comment. Quarter 4/July/2002-Multi-Site QAPP approved by EPA.

Sampling Plan(s): ____No __X__ Yes Date: Quarter 2/March/2002-Began preparation. Quarter 3/April/2002-Submitted HSP/SAP to EPA for review/comment. Quarter 4/July/2002-SAP approved by EPA.

Phase II Site Assessment Started: ____No __X__Yes Date: Quarter 4/August/2002

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____

Is cleanup required? ___No __X__Yes (Demolition of site building. Additional cleanup is currently unknown.)

Phase III (Remediation) Cleanup Started: ___No __X__Yes Date: Quarter 3/April/2002-Demolition of site building.

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☒Local, ☐State, ☐Private $66,950 (building demolition)

Greenspace Pilot Property Profile

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approximately 30 years. The site is no longer used for waste disposal purposes and is owned by the City of Michigan City.

Planned reuse: Greenspace for the Karwick Road Nature Park.

Communities/groups involvement: The Project ReNEW/Greenspace site sign was installed at the Greenspace site. Continued community outreach activities.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ____No __X__Yes Date: Quarter 2/March/2002

Phase I Site Assessment Completed: ____No __X__ Yes Date: Quarter 2/March/2002 (Report submitted to EPA during Quarter 3/April/2002)

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____

QAPP: ____No __X__ Yes Date: Quarter 2/March/2002-Began preparation. Quarter 3/April/2002-Submitted QAPP to EPA for review/comment. Quarter 4/July/2002-Multi-Site QAPP approved by EPA.

Sampling Plan(s): __X__No ____ Yes Date: Quarter 2/March/2002-Began preparation. Quarter 3/April/2002-Submitted HSP/SAP to EPA for review/comment. Quarter 4-SAP not approved by EPA.

Phase II Site Assessment Started: ____No __X__Yes Date: Prior to Quarter 1/July/2001

Phase II Site Assessment Completed: __X__No ____Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal ☒Local, ☐State, ☐Private $54,744.08

Is cleanup required? ____No ____Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ____Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ____Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Fourth Quarter (July 1-September 30, 2002) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fourth Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Fourth Quarter of Project ReNEW.

- On July 5, 2002, APT, Limited (APT), of Granger, Indiana, submitted the multi–site Quality Assurance Project Plan (QAPP)-Revision 1 to the U.S. Environmental Protection Agency (U.S. EPA) for review/comment for both Michigan City Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) (Task 2 of the Work Plan).

- On July 15, 2002, the site-specific Sampling and Analysis Plans (SAP) for both Michigan City Brownfield sites were approved by the U.S. EPA (Task 2 of the Work Plan).

- On July 29, 2002, the multi–site QAPP for both Michigan City Brownfield sites was approved by the U.S. EPA (Task 2 of the Work Plan).

- From August 26-September 3, 2002, Phase II Environmental Site Assessment (ESA) field activities at the former Schmock Oil Company facility were conducted (Task 2 of the Work Plan).

- On August 28, 2002, the City of Michigan City appeared before the LaPorte County, Indiana Superior Court to obtain legal access into the former Royal Metals facility to allow Phase II ESA field activities to be conducted.

- On September 3, 2002, the LaPorte County, Indiana Superior Court issued an order (effective from September 3-October 2, 2002) that the City of Michigan City (through its agents or employees) may enter the former Royal Metals facility for the purpose of conducting Phase II ESA field activities.

- On September 16, 2002, a Project ReNEW/Brownfields site sign was installed at the former Schmock Oil Company facility (Task 6 of the Work Plan). Due to potential legal issues, a sign was not installed at the former Royal Metals facility.

- On September 20, 2002, due to site accessibility issues with the former Royal Metals facility, a soil sampling standard operating procedure (SOP) within the multi-site QAPP and the SAP for Royal Metals was revised to include a discussion on soil sampling procedures using a manually-driven push probe. These revisions were verbally approved by the U.S. EPA (Task 2 of the Work Plan).

- From September 25-October 2, 2002, Phase II ESA field activities at the former Royal Metals facility were conducted (Task 2 of the Work Plan).

- On September 26, 2002, Phase II ESA field activities at the former Royal Metals facility were video-taped by Michigan City Television/Video Tech Communications, Inc. This video footage will be used (along with other footage obtained at future dates) to develop a Project ReNEW Info-mercial to inform the citizens of Michigan City of the progress of the project and assist in the future marketing/development of the sites (Task 6 of the Work Plan).

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Fourth Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fourth Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Fourth Quarter of Project ReNEW: (1) Revision pages to the multi–site QAPP (Revision 1) for the two Michigan City Brownfield sites (and the Greenspace site) were submitted to the U.S. EPA under separate cover on July 5, 2002.; (2) The revised soil sampling SOP to be incorporated into the multi-site QAPP (Revision 1) for the two Michigan City Brownfield sites (and the Greenspace site) was submitted to the U.S. EPA under separate cover on September 20, 2002.; and, (3) The revised SAP for the former Royal Metals facility (including the revised soil sampling SOP) was submitted to the U.S. EPA under separate cover on September 20, 2002.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 40% complete at the end of the Fourth Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT, Limited (conducted during the First Quarter).

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 32.1% of the project budget has been expended. (Note that the project budget is less than the project percent complete due to the fact that the analytical laboratory's final invoice has not been submitted at this time.) There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (September 15, 2001-September 30, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$12,325.69	$5,124.06	$17,449.75
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$1,216.05	$0	$1,216.05
Equipment	$2,000	$2,000.00	$0	$2,000.00
Supplies	$8,000	$2,306.11	$2,373.34	$4,679.45
Contractual	$147,500	$11,457.13	$27,482.65	$38,939.78
Others	$0	$0	$0	$0
Total Expenses	$200,000	$29,304.98	$34,980.05	$64,285.03

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- Appendix A presents a photograph of the Project ReNEW/Brownfields site sign at the former Schmock Oil Company facility.
- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Fourth Quarter, the multi-site QAPP and the site-specific SAPs were approved by the U.S. EPA. Therefore, Phase II ESA field activities were initiated at both Michigan City Brownfields Pilot Sites. The installation of the Project ReNEW/Brownfields site sign at the former Schmock Oil Company facility continued to inform the Michigan City community of the project. It is anticipated that the initial Phase II ESA tasks and data evaluation will be completed during the Fifth Quarter.

3.2 Measures of Success-Pilot Program Indicators

During the Third Quarter of the Brownfields pilot project (April 1-June 30, 2002), there had been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3) due to the condemnation and emergency demolition of the former Schmock Oil Company facility building. Of the funding leveraged during the Third Quarter, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials. However, during the Fourth Quarter of the Brownfields pilot project, there was no funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$450	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$450	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	6	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

The main modification to the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) Work Plan has been the project scheduling and funding. Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by U.S. EPA Grant.)

During the Fourth Quarter of the Greenspace Project, initial discussions regarding the revision of the Work Plan were conducted. It is anticipated that a revised Work Plan for the Greenspace Project will be prepared and submitted to the U.S. EPA during the Fifth Quarter for review/approval.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Fourth Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Fourth Quarter of the Project ReNEW-Greenspace Project.

- On July 5, 2002, APT submitted the multi-site QAPP-Revision 1 to the U.S. EPA for review/comment for the Michigan City Greenspace site (the former Karwick Road Municipal Landfill site) to the U.S. EPA (Task 3 of the Work Plan).

- On July 29, 2002, the multi–site QAPP for the Michigan City Greenspace and Brownfield sites were approved by the U.S. EPA (Task 3 of the Work Plan).

- On September 16, 2002, a Project ReNEW/Greenspace site sign was installed at the former Karwick Road Municipal Landfill (Task 6 of the Work Plan).

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Fourth Quarter of the Project ReNEW-Greenspace Project.

- APT continued to prepare the Phase II ESA report per the Indiana Voluntary Remediation Program (VRP) Guidelines.

- Additional project management and community outreach activities (i.e., development of Project ReNEW Web site) were conducted. (The Greenspace budget for project management/community outreach activities has been expended.)

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Fourth Quarter of Project ReNEW.

4.4 Deliverables/Work Products

The following Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Fourth Quarter of Project ReNEW: (1) Revision pages to the multi–site QAPP (Revision 1) for the Greenspace site (and the two Michigan City Brownfield sites) were submitted to the U.S. EPA under separate cover on July 5, 2002.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that

were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 75% complete at the end of the Fourth Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities].

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 26.5% of the project budget has been expended. The main budget discrepancy from the Work Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks are being funded by non-EPA Pilot funds.

Table 4
Summary of Greenspace Pilot Expenses by Category (September 15, 2001-September 30, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$6,162.82	$2,337.18	$8,500
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$783.94	$216.06	$1,000
Contractual	$40,500	$3,729.58	$0	$3,729.58
Others	$0	$0	$0	$0
Total Expenses	$50,000	$10,676.34	$2,553.24	$13,229.58

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- Appendix A presents a photograph of the Project ReNEW/Greenspace site sign at the former Karwick Road Municipal Landfill site.
- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Fourth Quarter, the multi-site QAPP was approved by the U.S. EPA. The installation of the Project ReNEW/Greenspace site sign at the former Karwick Road Municipal Landfill continued to inform the Michigan City community of the project. It is anticipated that a revised Work Plan will be prepared and submitted to the U.S. EPA during the Fifth Quarter for review/approval.

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5). During the Third Quarter of the Greenspace Project, $50,420.45 was locally funded for assessment activities, while $4,323.63 was locally funded for assessment activities during the Fourth Quarter of the project (for a total of $54,744.08).

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$54,744.08	$0	$0	Michigan City Parks & Recreation Department
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$54,744.08	$0	$0	-

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-FOURTH QUARTERLY PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH SEPTEMBER 30, 2002

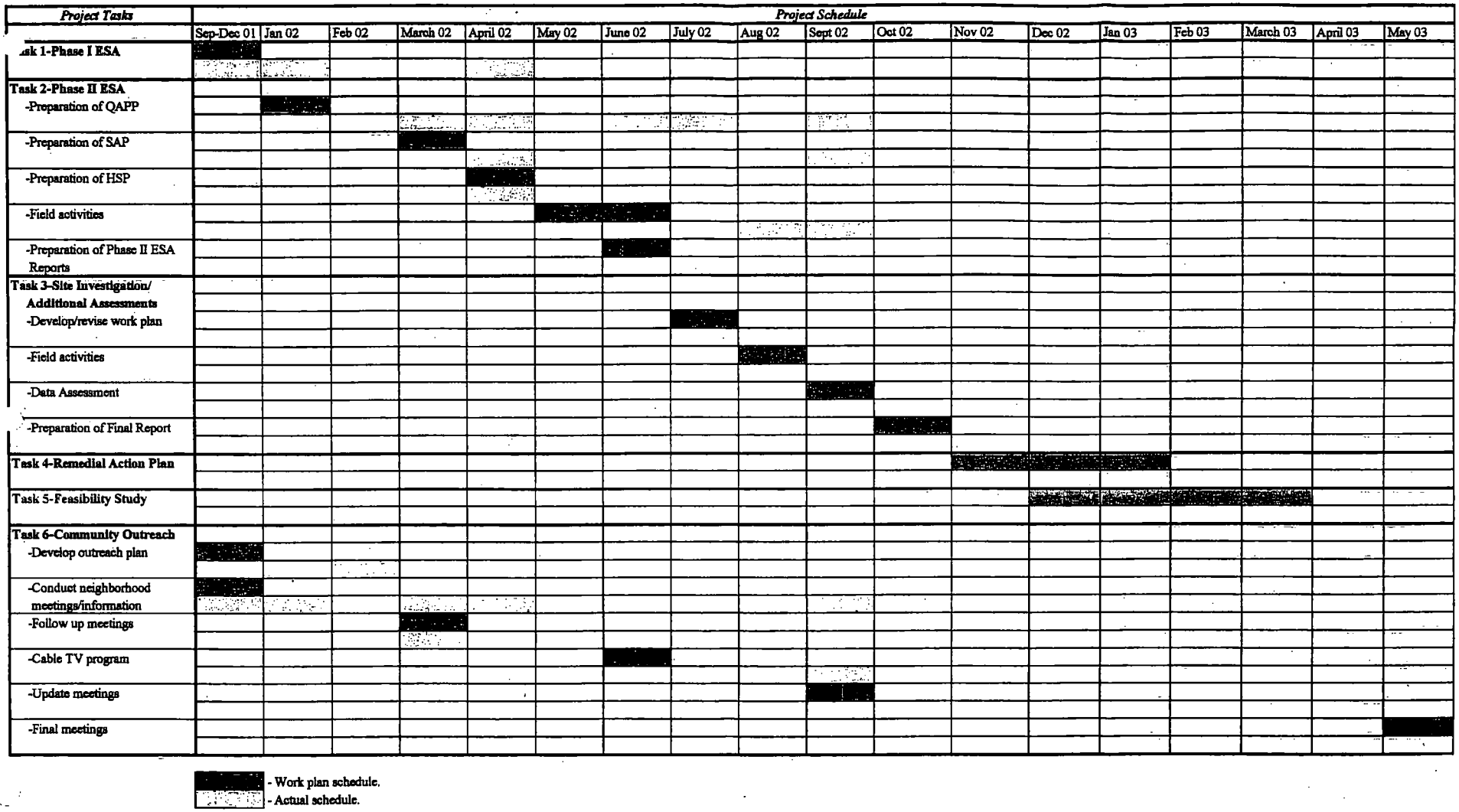
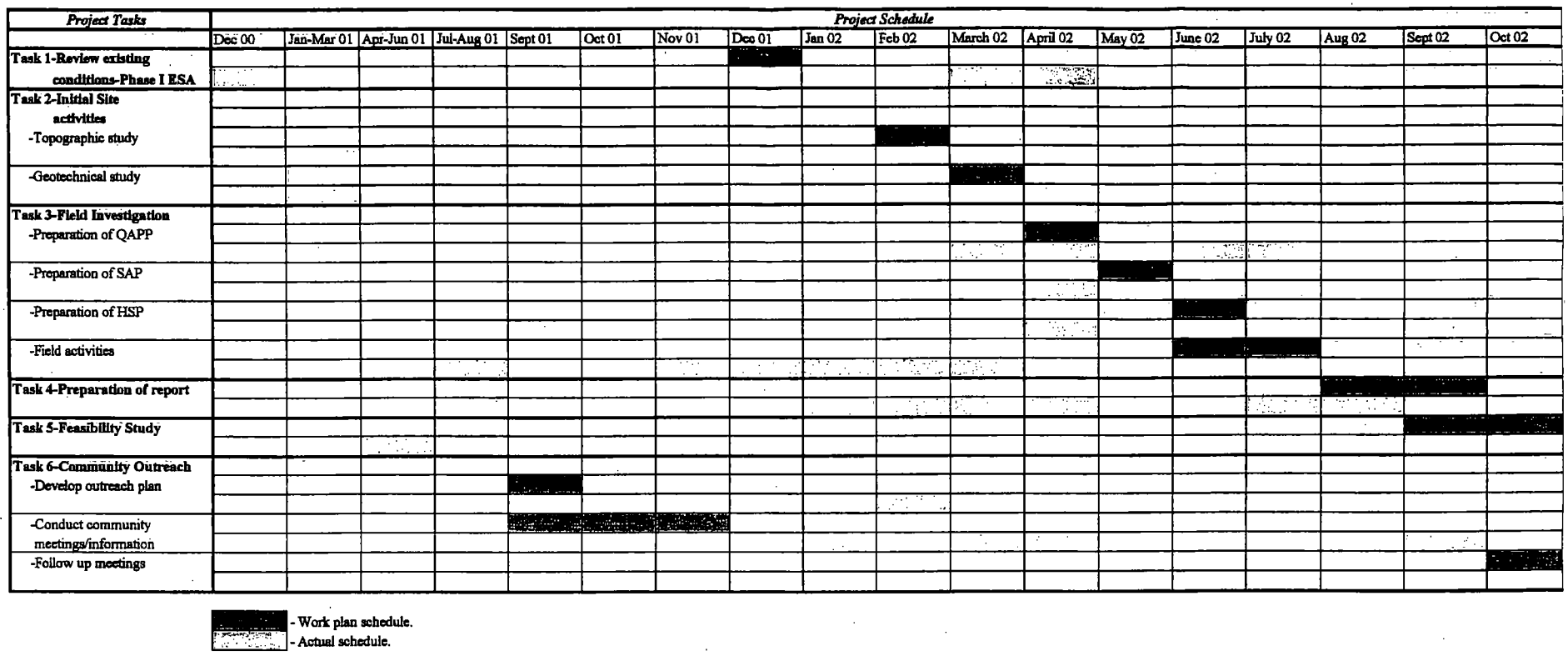


FIGURE 2

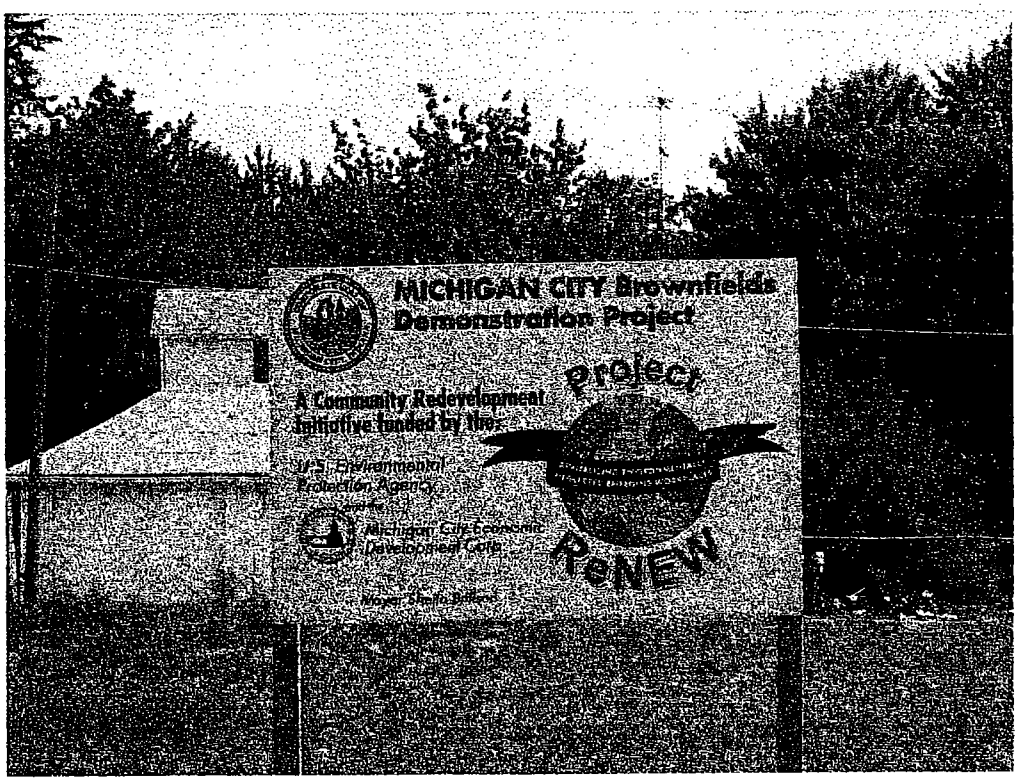
CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-FOURTH QUARTERLY PROGRESS REPORT-DECEMBER 1, 2000 THROUGH SEPTEMBER 30, 2002



APPENDIX A

SITE PHOTOGRAPHS

Photograph of Project ReNEW sign constructed on the Greenspace Site-former Karwick Road Municipal Landfill.



Photograph of Project ReNEW sign constructed on the former Schmock Oil Company Brownfield Site.

Rec 6/19/02

Michigan City, IN

The place is here, the time is now!

June 7, 2002

Mrs. Diane Spencer
Project Manager
Superfund Division
U.S. Environmental Protection Agency (U.S. EPA)-Region 5
77 West Jackson Boulevard (SM-4J)
Chicago, Illinois 60604

SUBJECT: CITY OF MICHIGAN CITY, INDIANA'S U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0

Dear Mrs. Spencer:

This letter is to clarify the City of Michigan City's understanding of the current work/budgetary status of the Michigan City Greenspace Pilot. Several of the work tasks identified in the Greenspace Work Plan had been conducted prior to the City of Michigan City receiving the grant funding. We were not aware that the grant funding could not be utilized for work conducted prior to the execution of the Cooperative Agreement between the U.S. EPA and the City of Michigan City. Further, we understand that Greenspace grant funding can not be utilized for Phase II environmental site assessment field activities prior to the approval by the U.S. EPA of project work plans (including a Quality Assurance Project Plan, a Sampling and Analysis Plan and a Health and Safety Plan). We apologize for the misunderstanding and will correct these inconsistencies in future submittals of the quarterly progress reports.

If there are any questions or comments regarding the contents of this letter and/or the project, please contact Mr. Anthony Rodriguez, Executive Director of the Michigan City Economic Development Corporation, at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Sheila H. Brillson, Mayor
City of Michigan City

mayorsheilab@niia.net Sheila Brillson, Mayor emichigancity.com

City of Michigan City • City Hall • 100 East Michigan Boulevard, Michigan City, IN 46360 • 219-873-1400 • Fax 219-873-1515

ENVIRONMENTAL INCORPORATED
FAX COVER PAGE

TO: Diane Spencer
U.S. EPA-Region 5

FAX NO: 312-886-6741

FROM: Tom Stevenson

DATE: November 14, 2002

NOTE: This transmittal consists of 4 pages including this page. If all pages are not received, please contact the sender at (219) 462-7576.

SERVICE ORDER NO: MCED0101

COMMENTS: Diane,

After further review of the site profiles, I have added a few items that I do not know if you wanted to included. I will be out the rest of the day, but can be page at 219-929-3454 if you want to discuss. Thanks

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Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: Project RENEW: City of Michigan City, IN **Date** Quarterly Report #4 (Qtr 4/Sept./02) *(Q/Mo/Yr)*
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) _____

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	0	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	0	0
AP 6	Properties with Assessments Completed using other funding:	0	0
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	0	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:		
AP 11	Cleanup/Construction Jobs Leveraged:	0	6
AP 12	Cleanup Dollars Leveraged:	0	$66,950
AP 13	Redevelopment Jobs Leveraged:		
AP 14	Redevelopment/Construction Dollars Leveraged		

		THIS QUARTER	CUMULATIVE
SC 1A	Number of Partnerships with other Federal Agencies		
SC 1B	Number of Partnerships with State and Tribal Government Agencies		
SC 1C	Number of Partnerships with local Government Agencies		
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies	$4,323.63	$121,694.08

Brownfields Pilot Property Profile for each site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW "hot-line" was established to allow interested citizens the opportunity to ask question/express concerns regarding the project. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

Project ReNew sign installed at site.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/12/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Phase II Site Assessment Started: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 4/Aug/02

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No X Yes (Building demolition)

Phase III (Remediation) Cleanup Started: ___No X Yes Date: (quarter/mo/year) Qtr. 3/4/02 (Building Demolition.)

Phase III (Remediation) Cleanup Completed: X No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal X Local, ☐State, ☐Private $ 66,950 (Building Demolition)

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Brownfields Pilot Property Profile for each site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project. Presentations werw made to several advanced environmental science classes at Marquette High School in Michigan City.

Project ReNew sign installed at site.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 2/3/02

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: __No _X_ Yes Date: (quarter/mo/year) Qtr. 4/July/02

Sampling Plan(s): _X_No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: ___No _X_Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal X☐Local, ☐State, ☐Private $ 54,744.08 (total to date).
(MI City Parks & Recreation funded)

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

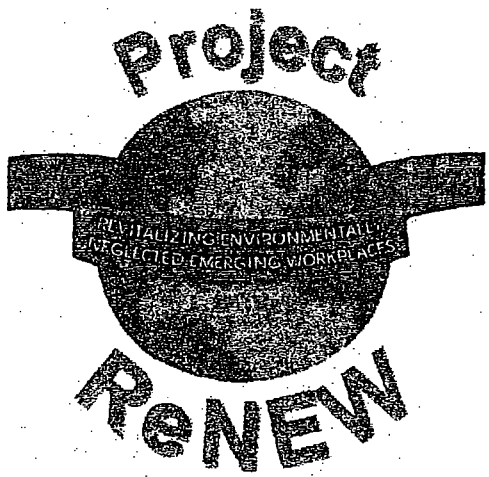
Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

8/16/02

July 30, 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 3



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 3.75

Site Description/History/Ownership: The site (with an approx. 89,000 sq. ft. building) was used from approx. 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping, and office activities. The property is currently unused. The property is tax delinquent, and building(s) have been condemned by the City of Michigan City due to poor structural condition.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW telephone "hot-line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/12/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $ _____.

QAPP: X No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): X No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: X No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: X No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $ _____ ☐Federal ☐Local, ☐State, ☐Private $ _____.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $ _____ ☐Federal ☐Local, ☐State, ☐Private $ _____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 1 acre

Site Description/History/Ownership: The site (approx. 24,000 sq. ft. building) was originally used for sheet rock manufacturing. Later uses included blending/storing fuels, oils, petroleum products and solvents. U.S. EPA conducted a Removal action of over 200 drums and 25 storage tanks, containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, with the building condemned by the City of Michigan City due to poor structural quality. The building was demolished, using local funds, in April 2002.

Planned reuse: Unknown

Communities/groups involvement: The Project ReNEW "hot-line" was established to allow interested citizens the opportunity to ask question/express concerns regarding the project. Presentations were made to several advanced environmental science classes at Marquette High School in Michigan City describing Project ReNEW.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: (quarter/mo/year) Qtr. 1/12/01

Phase I Site Assessment Completed: ___No _X_ Yes Date: (quarter/mo/year) Qtr. 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: _X_No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): _X_No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: ___No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____
Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged: 6 (building demolition - temporary jobs)

Cleanup Dollars Leveraged: $66,950 (building demolition and disposal)

Brownfields Pilot Property Profile for **each** site targeted for redevelopment under the brownfields pilot program.

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, IN 46360

Site Acreage: 23.5

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approx. 30 years. The site is no longer used for waste disposal. The property is owned by the City of Michigan City.

Planned reuse: Karwick Road Nature Park greenspace

Communities/groups involvement: The Project ReNEW telephone "hot line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project. Presentations werw made to several advanced environmental science classes at Marquette High School in Michigan City.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: (quarter/mo/year) Qtr. 2/3/02

Phase I Site Assessment Completed: ___No __X__ Yes Date: (quarter/mo/year) Qtr 3/4/02

Phase I funded by X EPA Pilot $ 1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): __X__No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: ___No __X__Yes Date: (quarter/mo/year) Prior to grant

Phase II Site Assessment Completed: ___No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☐ EPA Pilot $_____ ☐Federal X **Local,** ☐State, ☐Private $ 50,420.45.

Is cleanup required? ___No ___Yes

Phase III (Remediation) Cleanup Started: ___No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: ___No ___Yes Date: (quarter/mo/year)_____
Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Redevelopment Jobs Leveraged:_____

Redevelopment/Construction Dollars Leveraged:_____

Cleanup/Construction Jobs Leveraged:_____

Cleanup Dollars Leveraged:_____

Brownfields Pilot Profile

Provide the information requested below for pilot profile. This is to be prepared quarterly by the Project Manager, attached to the Quarterly Report and sent to Jim Maas at Headquarters.

Pilot Name: City of Michigan City, IN **Date** Quarterly Report # 3/6/02 **(Q/Mo/Yr)**
Address: 100 East Michigan Blvd.
City, State, Zipcode: Michigan City, IN 46360
Zone (Federal EC/EZ, State or Local) N/A

	Number of:	This Quarter:	Cumulative:
AP 1	Properties Estimated in Pilot Area:	not reported	not reported
AP 2	Properties Reported on Inventories:	not reported	not reported
AP 3	Properties Targeted by Pilot:	3	3
AP 4	Properties with Assessments Started using Pilot funds in whole or in part:	3	3
AP 5	Properties with Assessments Completed using Pilot funds in whole or in part:	3	3
AP 6	Properties with Assessments Completed using other funding:	1 (Karwick Road Ldfl.: combination local and Fed $$)	1
AP 7	Properties that do not Require Cleanups:		
AP 8	Properties with Cleanup Activities Started:	1	1
AP 9	Properties with Cleanup Activities Completed:	0	0
AP 10	Properties with Redevelopment Underway:	0	0
AP 11	Cleanup/Construction Jobs Leveraged:	6 (temporary demo. jobs)	6
AP 12	Cleanup Dollars Leveraged:	$66,950 (building demo)	$66,950
AP 13	Redevelopment Jobs Leveraged:	0	0
AP 14	Redevelopment/Construction Dollars Leveraged	0	0

		THIS QUARTER	CUMULATIVE
SC 1	Number of Brownfields-related Partnerships with Other Organizations		
SC 1A	Number of Partnerships with other Federal Agencies	not reported	
SC 1B	Number of Partnerships with State and Tribal Government Agencies	not reported	
SC 1C	Number of Partnerships with local Government Agencies	not reported	
SC 1D	Number of Partnerships with Private Entities and non-governmental Organizations	not reported	
SC 2	Brownfields-related Leveraging Funding Received from Other Sources		
SC 2A	Funding Received from Other Federal Agencies		
SC 2B	Funding Received from State and Tribal Government Agencies		
SC 2C	Funding Received from Local Government Agencies		

SC 2D	Funding Received from Private Entities and Non-governmental Organizations		

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Third Quarter (April 1-June 30, 2002) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Third Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Third Quarter of Project ReNEW.

- On April 2, 2002, the Project ReNEW telephone "hot-line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project (Task 6 of the Work Plan).
- On April 9, 2002, Mr. Thomas Stevenson-Project ReNEW Project Coordinator gave a presentation describing Project ReNEW to several advanced environmental science classes at Marquette High School in Michigan City (Task 6 of the Work Plan).
- On April 10, 2002, APT, Limited, of Granger, Indiana, submitted the Phase I Environmental Site Assessment (ESA) Reports (dated January 2002) for both Michigan City Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) to the U.S. Environmental Protection Agency (EPA) (Task 1 of the Work Plan).
- On April 16, 2002, APT, Limited submitted the multi-site Quality Assurance Project Plan (QAPP) for review/comment to Ms. Jan Pels-U.S. EPA QAPP Project Manager (Task 2 of the Work Plan).
- On April 23, 2002, APT, Limited submitted site-specific Health and Safety Plans (HSP) for both Michigan City Brownfield sites to Ms. Diane Spencer-U.S. EPA Project Manager (Task 2 of the Work Plan).
- On April 30, 2002, APT, Limited submitted site-specific Sampling and Analysis Plans (SAP) for both

Michigan City Brownfield sites for review/comment to Ms. Diane Spencer (Task 2 of the Work Plan).

- From May 29-30, 2002, Mr. Anthony Rodriguez, Executive Director of the Michigan City Economic Development Corporation (MCEDC) attended the U.S. EPA Brownfields All Pilots Meeting 2002 in Chicago, Illinois.

- On June 5, 2002, a QAPP telephone conference meeting was held between Ms. Jan Pels, Ms. Diane Spencer, Mr. Anthony Rodriguez, Mr. Thomas Stevenson and Mr. John Klanke-APT Project ReNEW Project Manager to discuss the U.S. EPA's comments/suggestions to the QAPP. The QAPP-Revision 1 will be prepared/submitted to the U.S. EPA during the Fourth Quarter.

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Third Quarter of Project ReNEW.

- The building at the former Schmock Oil Company facility was deemed structurally unsound and condemned by the City of Michigan City's Board of Public Works and Safety. Thus, in April 2002, an emergency demolition of the building was conducted.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Third Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Third Quarter of Project ReNEW: (1) The Phase I ESA reports for the two Michigan City Brownfield sites-the former Royal Metals facility and the former Schmock Oil Company facility were submitted to the U.S. EPA under separate cover on April 10, 2002.; (2) The multi–site QAPP for the two Michigan City Brownfield sites (and the Greenspace site) was submitted to the U.S. EPA under separate cover on April 16, 2002.; (3) The site-specific HSPs for the two Michigan City Brownfield sites were submitted to the U.S. EPA under separate cover on April 23, 2002.; and, (4) The site-specific SAPs for the two Michigan City Brownfield sites were submitted to the U.S. EPA under separate cover on April 30, 2002.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 15% complete at the end of the Third Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT, Limited (conducted during the First Quarter). However, it is anticipated that the work plans (multi-site QAPP and site-specific SAPs) will be approved during the Fourth Quarter and Phase II ESA activities at the two Michigan City Brownfields Pilot Sites will be initiated soon thereafter.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 14.7% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (Report period September 15, 2001-June 30, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$8,946.26	$3,379.43	$12,325.69
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$679.73	$536.32	$1,216.05
Equipment	$2,000	$2,000.00	$0	$2,000.00
Supplies	$8,000	$2,189.43	$116.68	$2,306.11
Contractual	$147,500	$3,000.00	$8,457.13	$11,457.13
Others	$0	$0	$0	$0
Total Expenses	$200,000	$16,815.42	$12,489.56	$29,304.98

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Third Quarter, the Phase I ESA Reports for both Michigan City Brownfields Pilot Sites were submitted to the U.S. EPA. Additionally, the initial submittals of the multi-site QAPP, the site-specific SAPs and the site-specific HSPs to the U.S. EPA were completed. It is anticipated that the work plans will be approved during the Fourth Quarter and Phase II ESA activities at the two Michigan City Brownfields Pilot Sites will be initiated soon thereafter.

3.2 Measures of Success-Pilot Program Indicators

Due to the condemnation and emergency demolition of the former Schmock Oil Company facility building, there has been a total of $67,400 local funding leveraged (refer to Table 2) and six temporary jobs created for cleanup (refer to Table 3). Of the funding leveraged, the assessment dollars ($450) were for an asbestos containing building material assessment and the cleanup dollars ($66,950) were for the actual demolition of the building and disposal of demolition materials.

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$450	$66,950	$0	City of Michigan City
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$450	$66,950	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	6	0	6
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites. However, with the demolition of the structurally unsound former Schmock Oil Company building, this particular site is one step closer to the ultimate project goal of site redevelopment.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Third Quarter of the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) with the exception of two items: (1) Project Schedule-Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule. (Note that these tasks conducted prior to the receipt of the Greenspace Project Grant from the U.S. EPA were not funded by U.S. EPA Grant.); and, (2) The Work Plan does not specifically state that a Phase I ESA will be conducted at the site. However, per the request of the U.S. EPA (accepted as Task 1-Review Existing Conditions of the Greenspace Work Plan), a Phase I ESA was conducted and completed at the Greenspace Site during the Second Quarter with the Phase I ESA report being submitted to the U.S. EPA during the Third Quarter.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Third Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Third Quarter of the Project ReNEW-Greenspace Project.

- On April 2, 2002, the Project ReNEW telephone "hot-line" was established to allow interested citizens the opportunity to ask questions/express concerns regarding the project (Task 6 of the Work Plan).
- On April 9, 2002, Mr. Thomas Stevenson-Project ReNEW Project Coordinator gave a presentation

describing Project ReNEW to several advanced environmental science classes at Marquette High School in Michigan City (Task 6 of the Work Plan).

- On April 10, 2002, APT, Limited submitted the Phase I ESA Report (dated March 2002) for the Michigan City Greenspace site (the former Karwick Road Municipal Landfill site) to the U.S. EPA (Task 1 of the Work Plan).

- From May 29-30, 2002, Mr. Anthony Rodriguez, Executive Director of the MCEDC attended the U.S. EPA Brownfields All Pilots Meeting 2002 in Chicago, Illinois.

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the Third Quarter of the Project ReNEW-Greenspace Project.

- On April 16, 2002, APT, Limited submitted the multi–site QAPP for review/comment to Ms. Jan Pels-U.S. EPA QAPP Project Manager (Task 3 of the Work Plan).

- On April 23, 2002, APT, Limited submitted the site-specific HSP for the Michigan City Greenspace site to Ms. Diane Spencer-U.S. EPA Project Manager (Task 3 of the Work Plan).

- On April 30, 2002, APT, Limited submitted the site-specific SAP for the Michigan City Greenspace site for review/comment to Ms. Diane Spencer (Task 3 of the Work Plan).

- APT, Limited continued to prepare the Phase II ESA report per the Indiana Voluntary Remediation Program (VRP) Guidelines.

4.3 Problems Encountered/Assistance Needed

The only problem encountered was a misunderstanding of the grant funded and non-funded activities/tasks for the Greenspace Project. This misunderstanding was corrected within this Third Quarterly Progress Report for the Project ReNEW-Greenspace Project.

4.4 Deliverables/Work Products

The following Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Third Quarter of Project ReNEW: (1) The Phase I ESA report

for the Michigan City Greenspace site-the former Karwick Road Municipal Landfill site was submitted to the U.S. EPA under separate cover on April 10, 2002.; (2) The multi–site QAPP for the Michigan City Greenspace site (and the two Brownfield sites) was submitted to the U.S. EPA under separate cover on April 16, 2002.; (3) The site-specific HSP for the Michigan City Greenspace site was submitted to the U.S. EPA under separate cover on April 23, 2002.; and, (4) The site-specific SAP for the Michigan City Greenspace site was submitted to the U.S. EPA under separate cover on April 30, 2002. [Please note that the multi–site QAPP (Greenspace portion) and the site-specific SAP and HSP for the Greenspace Site are non-funded work products.]

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. (Please note that the figure includes project work activities/tasks that were not funded by the U.S. EPA Greenspace Grant.) Based on this comparison, the project is approximately 70% complete at the end of the Third Quarter. As previously stated, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. During the Third Quarter, the multi-site QAPP and the site-specific SAP and HSP were prepared and submitted to the U.S. EPA for review/approval. (As stated, the preparation of these workplans for the Greenspace Project was not funded by the U.S. EPA Greenspace Grant.)

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 21.35% of the project budget has been expended. The main budget discrepancy from the Work

Plan is that due to several project tasks being conducted prior to the award of the Greenspace Project Grant to the City of Michigan City, these tasks are being funded by non-EPA Pilot funds (as detailed in Section 6.2).

Table 4
Summary of Greenspace Pilot Expenses by Category (Report period September 15, 2001-June 30, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$4,473.11	$1,689.71	$6,162.82
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$725.60	$58.34	$783.94
Contractual	$40,500	$3,729.58	$0	$3,729.58
Others	$0	$0	$0	$0
Total Expenses	$50,000	$8,928.29	$1,748.05	$10,676.34

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the

Karwick Road Nature Park.

- During the Third Quarter, the Phase I ESA Report for the Michigan City Greenspace Pilot Site was submitted to the U.S. EPA. Additionally, the initial submittals of the multi-site QAPP, the site-specific SAP and the site-specific HSP to the U.S. EPA were completed, and the preparation of the Phase II ESA report continued. (The preparation of the Greenspace work plans and the Phase II ESA report are non-funded tasks.)

6.2 Measures of Success-Pilot Program Indicators

As previously stated, several of the tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, all of these tasks were funded locally (as illustrated in Table 5).

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$50,420.45	$0	$0	Michigan City Parks & Recreation Department
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$50,420.45	$0	$0	-

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-THIRD QUARTERLY PROGRESS REPORT-SEPTEMBER 15, 2001 THROUGH JUNE 30, 2002

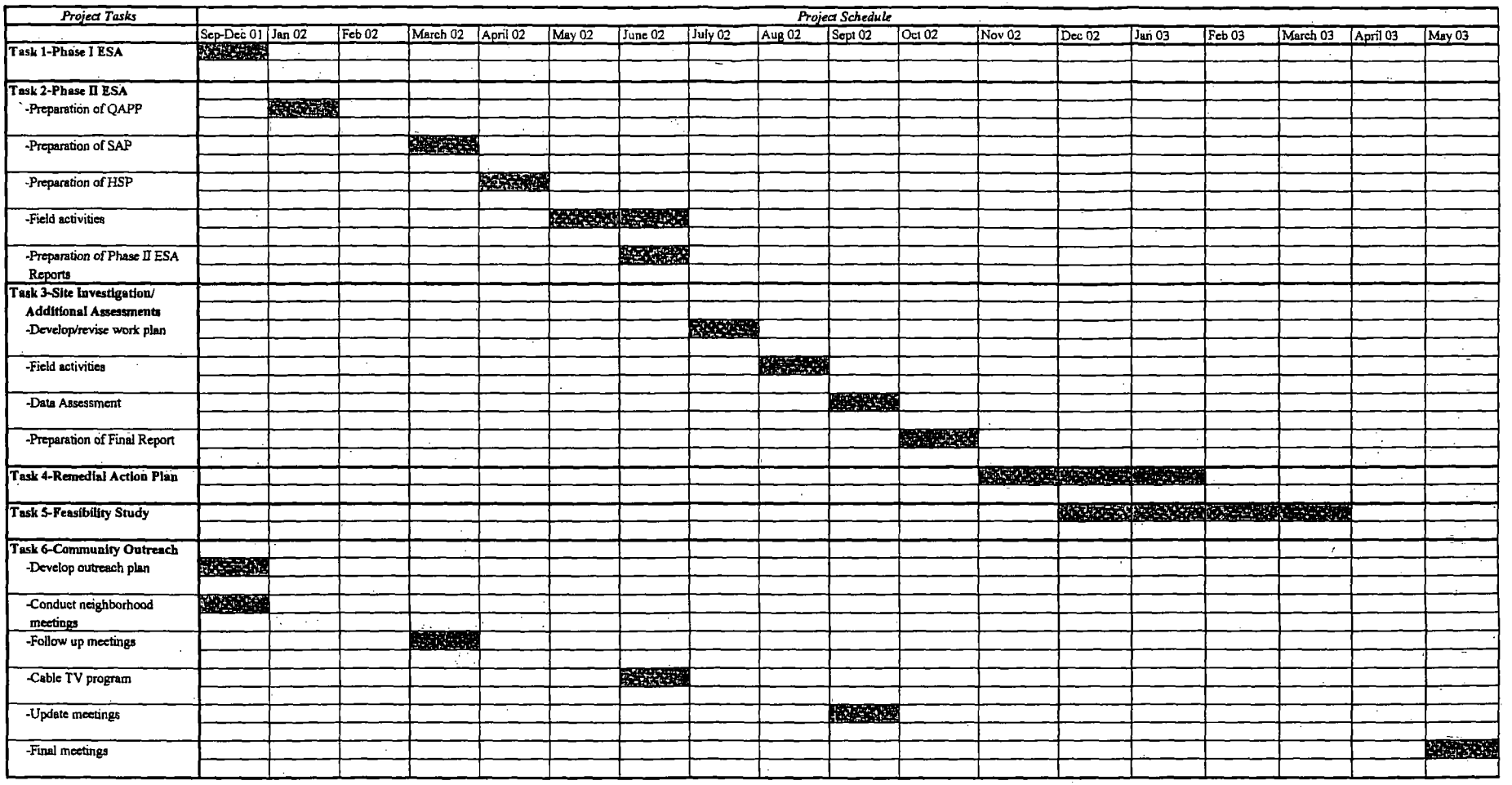

FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-THIRD QUARTERLY PROGRESS REPORT-DECEMBER 1, 2000 THROUGH JUNE 30, 2002

Project Tasks	*Project Schedule*																	
	Dec 00	Jan-Mar 01	Apr-Jun 01	Jul-Aug 01	Sept 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	March 02	April 02	May 02	June 02	July 02	Aug 02	Sept 02	Oct 02
Task 1-Review existing conditions-Phase I ESA																		
Task 2-Initial Site activities																		
-Topographic study																		
-Geotechnical study																		
Task 3-Field Investigation																		
-Preparation of QAPP																		
-Preparation of SAP																		
-Preparation of HSP																		
-Field activities																		
Task 4-Preparation of report																		
Task 5-Feasibility Study																		
Task 6-Community Outreach																		
-Develop outreach plan																		
-Conduct community meetings																		
-Follow up meetings																		

- Work plan schedule.
- Actual schedule.

ROMONA SMITH
06/04/02 09:39 AM

To: Diane Spencer/R5/USEPA/US@EPA
cc: CECILIA MOORE/R5/USEPA/US@EPA
Subject: Re: Michigan City

Diane:

The conversation/conference call will be fine, that is, if I'm able to attend.

However, when it comes to the technical portion of the quarterly report, which I'm most concerned about at this time. I am once again requesting, that you provide me with your written documentation specifically identifying what the issues are. A two minute conversation with a Recipient during the Brownfiedls Conference does not suffice nor compares to your note of having numerous comments/issues. And how could I have spoken or commented on those comments/issues if you have not made them known to me?

Before the conference call I would very much appreciate if you could provide me with an outline of what the issues are, as well as, your numerous comments/issues that you mentioned, but not yet identified to me as it relates to the recipeint's quarterly report submittal. Thanks!

Diane Spencer

Diane Spencer
05/30/2002 02:37 PM

To: ROMONA SMITH/R5/USEPA/US@EPA
cc:
Subject: Re: Michigan City

I thought this might have been resolved after you spoke w/Tony today. He is setting up a conference call for sometime next week -- likely Monday or Tuesday -- to further discuss the quarterly reports. I've discussed the reports with Michigan City's consultant, but this way -- all parties can be in on the same discussion. Once he gets it set up, I'll let you know the time. Hopefully, this conversation can be a way for you to include documentation in the file.
ROMONA SMITH

ROMONA SMITH
05/30/02 01:50 PM

To: Diane Spencer/R5/USEPA/US@EPA
cc:
Subject: Re: Michigan City

Diane:

During our conversation earlier this week; and based on your two-way memo you indicated that you had numerous issues with the Michigan City's quarterly report submittal. Also, during our conversation of yesterday [May 29th] you once again reinterated that the City had issues as it related to their quarterl report submittal. I was under the impression based on your response to my letter that you had provided me with an outline of what exactly those issues where. Now, to my understanding, you haven't documented them, and you've only verbally discussed them with the recipient.

What I will need from you [and this applies to all future BF's reports] is an outline of what exactly the issues are, so that I can provide Michigan City with our written comments, as well as having them documented and identified in Michigan's City's Official Grant File Folder. Thanks!

Diane Spencer

Diane Spencer
05/30/2002 06:50 AM

To: ROMONA SMITH/R5/USEPA/US@EPA
cc:
Subject: Re: Michigan City

I discussed the quarterly reports (both reports that they submitted so far) over the phone. I don't have anything written up.
ROMONA SMITH

ROMONA SMITH
05/29/02 01:27 PM

To: Diane Spencer/R5/USEPA/US@EPA
cc:
Subject: Michigan City

Diane:

I was in the process of preparing a revised response letter to Michigan City and I pulled your response memo to me regarding your quarterly report comments. I have your hand written comments on the two-way memo regarding you having numerous comments, however, I do not have anything in writing regarding what your specific comments were.

Could you please provide me with your comments so that I can include them in the revised response letter to Michigan City. Thanks!

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05/30/02 01:50 PM

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Could you please provide me with your comments so that I can include them in the revised response letter to Michigan City. Thanks!

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

May 22, 2002

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2002 second quarter progress report [dated April 29, 2002] for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2002 second quarter progress report submittal is accepted and approved by the US EPA.

However, I would like to bring to your attention that Gloria Willis is no longer the US EPA Project Officer assigned to this Cooperative Agreement. I shall be serving as your Project Officer. You may continue using the same mailing address for Mrs. Willis to provide me with mailed documents.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

Romona R. Smith
Illinois Project Officer

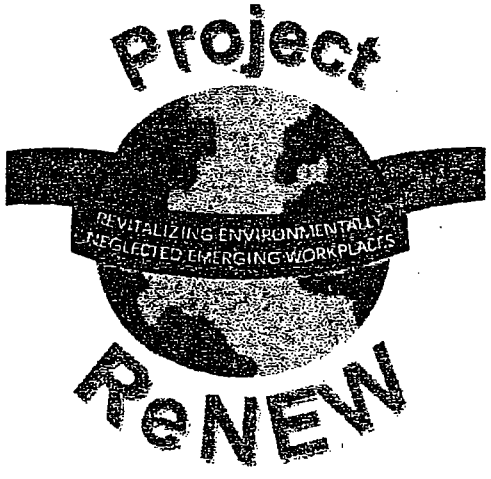
cc: D. Spencer, U.S. EPA

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 50% Recycled Paper (20% Postconsumer)

6/3/02

April 29, 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 2



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Second Quarter (January 1-March 31, 2002) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Second Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Second Quarter of Project ReNEW.

- The Michigan City Economic Development Corporation (MCEDC), serving as the managing entity for Project ReNEW, selected and entered into a contract with Community Dynamics Corporation (Community Dynamics), of Michigan City, Indiana, to provide communications and marketing services for the Project ReNEW community involvement task (Task 6 of the Work Plan). Mr. Robert Schaefer, President of Community Dynamics, has been selected as the Project ReNEW Community Outreach Coordinator.

- On January 18, 2002, Voluntary Remediation Program (VRP) Applications were submitted to the Indiana Department of Environmental Management (IDEM) for both Michigan City Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) for enrollment into the IDEM VRP.

- The Project ReNEW Community Outreach Coordinator attended the Michigan City Westside/Eastport Target Team Meeting (January 21, 2002) and gave an update presentation on Project ReNEW (Task 6 of the Work Plan) and announced the Project ReNEW Community Meeting (to be held at the Michigan City Public Library on March 13, 2002).

- APT, Limited, of Granger, Indiana, completed the Phase I Environmental Site Assessment (ESA) activities (Task 1 of the Work Plan) at both Michigan City Brownfield sites in accordance with the

American Society for Testing and Materials (ASTM) E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

- A Community Involvement Outreach Plan was developed and finalized in February 2002 (Task 6 of the Work Plan). The plan outlined four specific community involvement areas to be addressed during Project ReNEW: (1) community meetings; (2) marketing; (3) communication/information; and, (4) community involvement.

- In February 2002, the Project ReNEW logo was developed. The logo will appear on all project correspondences, presentations, press releases, community newsletters and on signs which are scheduled to be installed at the two Brownfields sites during the Third Quarter.

- On March 5, 2002, Mr. Anthony Rodriguez, Executive Director of the MCEDC, and Mr. Thomas Stevenson, Project ReNEW Project Coordinator, discussed Project ReNEW and announced the Project ReNEW Community Meeting on a local Michigan City radio station (WEFM).

- The Project ReNEW Community Outreach Coordinator meet with the directors of the Michigan City Westside and Eastport Improvement Groups (March 6, 2002) to discuss Project ReNEW (Task 6 of the Work Plan) and deliver announcements of the Project ReNEW Community Meeting.

- During a two week period (March 1-March 13, 2002) prior to the Project ReNEW Community Meeting, a total of 400 announcements were delivered to potentially interested parties (i.e., Michigan City Westside and Eastport Improvement Group Centers, the Michigan City Senior Center, the Michigan City Public Library, Krueger Middle School). In addition, meeting notices were printed in two editions of the Michigan City News-Dispatch (March 7 and 11).

- In March 2002, the first edition of the Project ReNEW community informational newsletter "ReNEWS" was printed. A total of 500 copies of the newsletter was distributed throughout the community of Michigan City.

- On March 13, 2002, the Project ReNEW Community Meeting (Task 6 of the Work Plan) was held at the Michigan City Public Library. The meeting was attended by 20 people including Ms. Diane Spencer-U.S. EPA's Brownfields Project Manager, Ms. Sheila Brillson-Mayor of Michigan City, several Michigan City Council people and concerned citizens.

- On March 19, 2002, a Pre-Quality Assurance Project Plan (QAPP) telephone conference meeting was held between Ms. Jan Pels-U.S. EPA QAPP Project Manager, Mr. John Klanke-APT Project ReNEW Project Manager and Mr. Thomas Stevenson- Project ReNEW Project Coordinator. Thus, during the Second Quarter, preparation of the multi-site QAPP, the site-specific Sampling and Analysis Plans (SAP) and the site-specific Health and Safety Plans (HSP) was begun.

- On March 20, 2002, Voluntary Remediation Agreements (VRA) were received from the IDEM VRP (dated March 18, 2002, and approved/executed by the IDEM on March 15, 2002) for both Michigan City Brownfield sites.

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Second Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Second Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Second Quarter of Project ReNEW: (1) The Phase I ESA reports for the two Michigan City Brownfield sites-the former Royal Metals facility and the former Schmock Oil Company facility. (These reports were submitted to the U.S. EPA under separate cover on April 10, 2002.); (2) Attachment A presents the VRP Applications which were submitted to the IDEM for both Michigan City Brownfield sites for enrollment into the IDEM VRP.; (3) Attachment B presents the VRAs for both Brownfield sites.; (4) A Community Involvement Outreach Plan was developed and finalized in February 2002. Attachment C presents a copy of the plan.; and, (5) The first community-wide Project ReNEW Community Meeting was held at the Michigan City Public Library on March 13, 2002. Attachment D presents copies of several deliverables associated with the community meeting: (a) Michigan City News-Dispatch meeting advertisement; (b) meeting announcement; (c) meeting attendees sign-in sheet; (d) meeting agenda; (e) Mayor of Michigan City opening remarks; (f) Project ReNEW Community Meeting presentation; and, (g) list of questions from the meeting attendees. Additionally, Attachment E presents an article on Project ReNEW published in the January/February 2002 edition of the Lakeview, a Michigan City Area Chamber of Commerce publication. Attachment F presents a copy of the March 2002 edition of the Project ReNEW community informational newsletter "ReNEWS"; Attachment G presents a March 17, 2002 Michigan City News-Dispatch article on Brownfields including information on Project ReNEW; and, Attachment H presents a copy of the Project ReNEW logo.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 10% complete at the end of the Second Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT, Limited (conducted during the First Quarter). However, the schedule of the future project activities will be expedited (as much as possible) in order to complete the project tasks within the overall project schedule presented in the Work Plan.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 10.6% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (Report period October 1, 2001-March 31, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$2,695.00	$10,724.37	$13,419.37
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$679.73	$0	$679.73
Equipment	$2,000	$0	$2,000.00	$2,000.00
Supplies	$8,000	$0	$2,171.78	$2,171.78
Contractual	$147,500	$0	$3,000.00	$3,000.00
Others	$0	$0	$0	$0
Total Expenses	$200,000	$3,374.73	$17,896.15	$21,270.88

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Second Quarter, Phase I ESA activities were completed, the Community Outreach Plan was finalized, and the Project ReNEW Community Meeting was held for both of the Michigan City Brownfield sites. Additionally, with the Pre-QAPP meeting being held and the initial preparations of the multi-site QAPP, the site-specific SAPs and the site-specific HSPs being conducted during the Second Quarter, these plans will be submitted to the EPA during the Third Quarter. With the approval of these plans, it is anticipated that Phase II ESA activities at the two Michigan City Brownfields Pilot Sites will be initiated soon thereafter.
- Both of the Michigan City Brownfields Pilot Sites were accepted into the IDEM VRP. Of particular significance of the acceptance of the sites into the VRP is the opportunity for the City of Michigan City to elect either to comply with the 1996 VRP Resource Guidance or the IDEM's Risk-Integrated System of Closure (RISC) Policy in accordance with the RISC Transition Policy.

3.2 Measures of Success-Pilot Program Indicators

At this stage of the Brownfields pilot project, there has not been any funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$0	$0	$0	-
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$0	$0	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites. During the community-wide Project ReNEW Community Meeting (and other neighborhood meetings), there was a genuine interest in the Brownfields Project and anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Second Quarter of the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) with the exception of two items: (1) Project Schedule-Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. ~~Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule.~~; and, (2) The Work Plan does not include the completion of a Phase LESA at the site. ~~However, per the request of the U.S. EPA, a Phase I ESA was conducted and completed at the Greenspace Site during~~ the Second Quarter.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Second Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Second Quarter of the Project ReNEW-Greenspace Project.

- APT, Limited completed Phase II ESA activities (Task 3 of the Work Plan) at the former Karwick Road Municipal Landfill which included the collection of soil/groundwater samples using a Geoprobe drilling rig and the installation/sampling of groundwater monitoring wells to define the site hydrogeologic regime and groundwater quality. Phase II ESA reporting activities (Task 4 of the Work Plan) were initiated.

- The MCEDC, serving as the managing entity for Project ReNEW, selected and entered into a contract with Community Dynamics to provide communications and marketing services for the Project ReNEW community involvement task (Task 6 of the Work Plan). Mr. Robert Schaefer, President of Community

Dynamics, has been selected as the Project ReNEW Community Outreach Coordinator.

- The Project ReNEW Community Outreach Coordinator attended the Michigan City Westside/Eastport Target Team Meeting (January 21, 2002) and gave an update presentation on Project ReNEW and announced the Project ReNEW Community Meeting (to be held at the Michigan City Public Library on March 13, 2002).

- APT, Limited completed the Phase I ESA activities at the former Karwick Road Municipal Landfill site in accordance with the ASTM E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

- A Community Involvement Outreach Plan was developed and finalized in February 2002 (Task 6 of the Work Plan). The plan outlined four specific community involvement areas to be addressed during Project ReNEW: (1) community meetings; (2) marketing; (3) communication/information; and, (4) community involvement.

- In February 2002, the Project ReNEW logo was developed. The logo will appear on all project correspondences, presentations, press releases, community newsletters and on a sign which is scheduled to be installed at the Greenspace Site during the Third Quarter.

- On March 5, 2002, Mr. Anthony Rodriguez, Executive Director of the MCEDC, and Mr. Thomas Stevenson, Project ReNEW Project Coordinator, discussed Project ReNEW and announced the Project ReNEW Community Meeting on a local Michigan City radio station (WEFM).

- The Project ReNEW Community Outreach Coordinator meet with the directors of the Michigan City Westside and Eastport Improvement Groups (March 6, 2002) to discuss Project ReNEW (Task 6 of the Work Plan) and deliver announcements of the Project ReNEW Community Meeting.

- During a two week period (March 1-March 13, 2002) prior to the Project ReNEW Community Meeting, a total of 400 announcements were delivered to potentially interested parties (i.e., Michigan City Westside and Eastport Improvement Group Centers, the Michigan City Senior Center, the Michigan City Public Library, Krueger Middle School). In addition, meeting notices were printed in two editions of the Michigan City News-Dispatch (March 7 and 11).

- In March 2002, the first edition of the Project ReNEW community informational newsletter "ReNEWS" was printed. A total of 500 copies of the newsletter was distributed throughout the community of Michigan City.

- On March 13, 2002, the Project ReNEW Community Meeting (Task 6 of the Work Plan) was held at the Michigan City Public Library. The meeting was attended by 20 people including Ms. Diane Spencer-U.S. EPA's Brownfields Project Manager, Ms. Sheila Brillson-Mayor of Michigan City, several Michigan City Council people and concerned citizens.

- On March 19, 2002, a Pre-QAPP telephone conference meeting was held between Ms. Jan Pels-U.S.

EPA QAPP Project Manager, Mr. John Klanke-APT Project ReNEW Project Manager and Mr. Thomas Stevenson- Project ReNEW Project Coordinator. Thus, during the Second Quarter, preparation of the multi-site QAPP, the site-specific SAP and the site-specific HSP was begun.

- The VRA was received from the IDEM VRP (dated March 18, 2002, and approved/executed by the IDEM on March 15, 2002) for the Michigan City Greenspace Site.

4.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Second Quarter of the Project ReNEW-Greenspace Project.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Second Quarter of the Project ReNEW-Greenspace Project.

4.4 Deliverables/Work Products

The following Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Second Quarter of Project ReNEW: (1) The Phase I ESA report for the Michigan City Greenspace Site-the former Karwick Road Municipal Landfill. (The report was submitted to the U.S. EPA under separate cover on April 10, 2002.); (2) A Community Involvement Outreach Plan was developed and finalized in February 2002. Attachment C presents a copy of the plan.; (3) The first community-wide Project ReNEW Community Meeting was held at the Michigan City Public Library on March 13, 2002. Attachment D presents copies of several deliverables associated with the community meeting: (a) Michigan City News-Dispatch meeting advertisement; (b) meeting announcement; (c) meeting attendees sign-in sheet; (d) meeting agenda; (e) Mayor of Michigan City opening remarks; (f) Project ReNEW Community Meeting presentation; and, (g) list of questions from the meeting attendees.; and, (4) Attachment I presents the VRA for the Greenspace Site. Additionally, Attachment E presents an article on Project ReNEW published in the January/February 2002 edition of the Lakeview, a Michigan City Area Chamber of Commerce publication. Attachment F presents a copy of the March 2002 edition of the Project ReNEW community informational

newsletter "ReNEWS"; Attachment G presents a March 17, 2002 Michigan City News-Dispatch article on Brownfields including information on the Project ReNEW-Greenspace Project; and, Attachment H presents a copy of the Project ReNEW logo.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. Based on this comparison, the project is approximately 60% complete at the end of the Second Quarter. As stated in the First Quarterly Progress Report, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. During the Second Quarter, several of the Community Outreach Activities (Task 6) were completed (development of the Community Involvement Outreach Plan and conducting the Project ReNEW Community Meeting). In addition, as presented herein, the Pre-QAPP meeting was held in the Second Quarter with the anticipation of the multi-site QAPP, site-specific SAP and site-specific HSP being prepared and submitted to the U.S. EPA for review during the Third Quarter.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 100% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan. It was anticipated that the U.S. EPA Greenspace Pilot Grant Funds would not be sufficient to complete all of the project tasks. Future project activities are being/will be supplemented (funded) by non-EPA Pilot funds (as detailed in Section 6.2).

Table 4
Summary of Greenspace Pilot Expenses by Category (Report period December 1, 2000-March 31, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,110.15	$389.85	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$0	$1,000.00	$1,000.00
Contractual	$40,500	$36,151.15	$4,348.85	$40,500
Others	$0	$0	$0	$0
Total Expenses	$50,000	$44,261.30	$5,738.70	$50,000.00

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Second Quarter, Phase I ESA activities were completed, the Community Outreach Plan was finalized, and the Project ReNEW Community Meeting was held for the Greenspace Site. Additionally, with the Pre-QAPP meeting being held and the initial preparations of the multi-site QAPP, the site-

specific SAP and the site-specific HSP being conducted during the Second Quarter, these plans will be submitted to the EPA during the Third Quarter. Additionally, the preparation/submittal of the Phase II ESA report and conclusion of community outreach activities are scheduled to be conducted in the Third and Fourth Quarters (April-October 2002).

- The Michigan City Greenspace Pilot Site was accepted into the IDEM VRP. Of particular significance of the acceptance of the site into the VRP is the opportunity for the City of Michigan City to elect either to comply with the 1996 VRP Resource Guidance or the IDEM's RISC Policy in accordance with the RISC Transition Policy.

6.2 Measures of Success-Pilot Program Indicators

Additional project funding for the Greenspace Project was provided by Local Funding. A summary of the funding leveraged is presented in Table 5.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$616.49	$0	$0	Michigan City Parks & Recreation Department
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$616.49	$0	$0	-

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

Brownfields Pilot Profile

Pilot Name: City of Michigan City, Indiana **Date:** Quarter 2-Jan/Feb/March, 2002

Address: 100 East Michigan Boulevard

City, State, Zipcode: Michigan City, Indiana 46360

Zone (Federal EC/EZ, State or Local): NA

Number of:

Properties Estimated in Pilot Area: Not reported

Properties Reported on Inventories: Not reported

Properties Targeted by Pilot: 3

Properties with Assessments Started: 3

Properties with Assessments Completed: 0

Properties that do not Require Cleanups: Currently unknown

Properties with Cleanup Activities Started: 0

Properties with Cleanup Activities Completed: 0

Properties with Redevelopment Underway: 0

Redevelopment Jobs Leveraged: 0

Redevelopment/Construction Dollars Leveraged: 0

Cleanup/Construction Jobs Leveraged: 0

Cleanup Dollars Leveraged: 0

(9/10/99)

Brownfields Pilot Property Profile

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approximately 89,000 square foot building) was used from approximately 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping and office activities. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: A community-wide Project ReNEW Meeting was held on March 13, 2002 at the Michigan City Public Library. Additional informational meetings have also been conducted with interested neighborhood/citizen groups.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: ___No __X__ Yes Date: Quarter 2/January/2002

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Sampling Plan(s): __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Brownfields Pilot Property Profile

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: One acre

Site Description/History/Ownership: The site (with an approximately 24,000 square foot building) was originally used for sheet rock manufacturing and then as a facility that blended/stored fuels, oils, petroleum products and solvents. In 2000, the U.S. EPA conducted an Emergency Response & Time Critical Removal Action at the facility to remove over 200 drums and 25 large storage tanks containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: A community-wide Project ReNEW Meeting was held on March 13, 2002 at the Michigan City Public Library. Additional informational meetings have also been conducted with interested neighborhood/citizen groups.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: ___No __X__ Yes Date: Quarter 2/January/2002

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Sampling Plan(s): __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Greenspace Pilot Property Profile

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approximately 30 years. The site is no longer used for waste disposal purposes and is owned by the City of Michigan City.

Planned reuse: Greenspace for the Karwick Road Nature Park.

Communities/groups involvement: A community-wide Project ReNEW Meeting was held on March 13, 2002 at the Michigan City Public Library. Additional informational meetings have also been conducted with interested neighborhood/citizen groups.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: Quarter 2/February/2002

Phase I Site Assessment Completed: ___No _X_ Yes Date: Quarter 2/March/2002

Phase I funded by ☒EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____

QAPP: _X_No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Sampling Plan(s): _X_No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Phase II Site Assessment Started: ☒ No ☒ Yes Date: ~~Quarter 1/Jan-Dec, 2001~~

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒EPA Pilot ~~$39,000~~ ☐Federal ☒Local, ☐State, ☐Private $616.49 [Michigan City Parks & Recreation Dept.]

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

2/12/02

January 29, 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 1

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the First Quarter of the Brownfields Assessment Demonstration Pilot Project (Brownfields Project).

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the First Quarter of the Brownfields Project.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the First Quarter of the Brownfields Project.

4th qtr FY01 activity

- The attendance/participation of/at the Brownfields 2001 Conference (located in Chicago, Illinois from September 24-26, 2001) by Mrs. Sheila Brillson, Mayor of the City of Michigan City, and Mr. Anthony Rodriguez, Executive Director of the Michigan City Economic Development Corporation (MCEDC).
- The City of Michigan City, by and through the City of Michigan City Board of Public Works and Safety, entered into a contract with the MCEDC to serve as the managing entity of the Brownfields Project.
- The MCEDC selected and entered into a contract with Environmental Incorporated, of Michigan City, Indiana to provide project coordination services. Mr. Thomas Stevenson, Vice President/Project Manager of Environmental Incorporated, has been selected as the Brownfields Project Coordinator for the City of Michigan City.
- The MCEDC selected and entered into a contract with Advanced Pollution Technologists, LTD, (APT) of Mishawaka, Indiana to provide environmental consulting services for the Brownfields Project.
- APT started Phase I Environmental Site Assessment (ESA) activities (Task 1 of the Work Plan) at both Michigan City sites (the former Royal Metals facility located at 600 North Carroll Avenue; and,

the former Schmock Oil Company facility located at 1111 West Garfield Street) in accordance with the American Society for Testing and Materials (ASTM) E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". The Phase I ESA reconnaissance at each site was conducted on December 19, 2001.

- The Michigan City Brownfields Project Coordinator attended the Michigan City Westside/Eastside Target Team Meeting (November 29, 2001) and gave an introductory presentation of the Brownfields Project. The presentation answered the following questions/provided the following information to the attendees: (1) What are Brownfields?; (2) What is the U.S. EPA Brownfields Assessment Demonstration Pilot Project?; (3) What is the project goal?; (4) Where are the project sites?; (5) What are the project work tasks?; and, (6) Who are the contracts for the project?

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the First Quarter of the Brownfields Project.

- Conducted initial contacts with representatives from the Michigan City Area Schools and Marquette High School of Michigan City to determine if there was any interest by these schools in the potential involvement of Michigan City area students by offering to conduct informational presentations/demonstrations. This could include video presentations of each Brownfields site, the field activities conducted during the project, the rationale for site assessment and potential cleanup work conducted and the steps involved in the ultimate decisions for site redevelopment. In general, it is believed that students would benefit from an introduction to the overall concept of the Brownfields Pilot Grant Program which is the promoting/funding of environmental investigation and cleanup alternative evaluation of abandoned facilities (i.e., Brownfields) in order to enhance economic development.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the First Quarter of the Brownfields Project.

1.4 Deliverables/Work Products

There have been no Brownfields Project Work Plan approved deliverables nor Cooperative Agreement Work Plan required deliverables completed during the First Quarter of the Brownfields Project. However,

Attachment A presents a press release from the Mayor of Michigan City announcing the Award of the Brownfields Assessment Demonstration Pilot Grant to the City of Michigan City. Attachment B presents a Michigan City News-Dispatch article on the Brownfields Assessment Demonstration Pilot Grant award. In addition, Attachment C presents a summary of the presentation given at the Michigan City Westside/Eastside Target Team Meeting, and Attachment D presents the Brownfields Project introductory information presented to and discussed with Michigan City area school representatives.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 2% complete at the end of the First Quarter. The project is current slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted (i.e., preparation and submittal of Request for Proposal document to qualified environmental contractors, review of environmental contractor proposals, environmental contractor interview process, final evaluation/selection of environmental contractor and contracting with selected environmental contractor). However, the schedule of the future project activities will be expedited in order to complete the project tasks within the overall project schedule presented in the Work Plan.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 1.7% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (Report period October 1-December 31, 2001)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$0	$2,695.00	$2,695.00
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$0	$679.73	$679.73
Equipment	$2,000	$0	$0	$0
Supplies	$8,000	$0	$0	$0
Contractual	$147,500	$0	$0	$0
Others	$0	$0	$0	$0
Total Expenses	$200,000	$0	$3,374.73	$3,374.73

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- Attachment E presents photographs of both Michigan City Brownfields Assessment Demonstration Pilot Project Sites.
- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- For both of the Michigan City Brownfields Pilot Sites, the Phase I ESA activities have been initiated. Phase I ESA activities will culminate in the submittal of the Phase I ESA report including recommendations for Phase II ESA activities, scheduled for Quarter 2 (January 1-March 31, 2002).

The development and implementation (initial stages) of the Community Outreach Plan are also being conducted in Quarter 2.

3.2 Measures of Success-Pilot Program Indicators

At this stage of the Brownfields pilot project, there has not been any funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$0	$0	$0	-
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$0	$0	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites. During the initial discussions/presentations with/to the local community group/Michigan City area school representatives, there was a genuine interest in the Brownfields Project and anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the First Quarter of the Greenspace Assessment Demonstration Pilot Project (Greenspace Project) with the exception of two items: (1) Project Schedule-Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule.; and, (2) The Work Plan states that a Geophysical Survey of the Site will be conducted during Task 2 of the Greenspace Project. Although the specific objectives of this study (to determine the limits and potential depths and types of fill material at the site) have remained unchanged, the actual task that was conducted was a Geotechnical Study of the site.

activities prior grant award not to be funded

attachment dated 2/13/01 prior to grant award

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the First Quarter of the Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the First Quarter of the Greenspace Project.

- Haas & Associates, LLC, completed Task 1 of the Work Plan (a review of existing site conditions) and contracted with Air Maps, Inc., of Elkhart, Indiana, to conduct the topographic survey of the site and with Great Lakes Engineering & Testing, Inc., of Chicago, Illinois, to conduct the geotechnical study of the site (both aspects of Task 2 of the Work Plan). The topographic survey and the geotechnical study of the site were completed during Quarter 1 of the Greenspace Project.

- The City of Michigan City Board of Public Works and Safety, at the recommendation of the Michigan City Parks & Recreation Department (MCP&R), selected and entered into a contract with Advanced Pollution Technologists, LTD, (APT) of Mishawaka, Indiana to provide environmental consulting services for the Greenspace Project.

- APT started Phase II ESA activities (Task 3 of the Work Plan) at the former Karwick Road Municipal Landfill which included the collection of soil/groundwater samples using a Geoprobe drilling rig and the installation of groundwater monitoring wells to define the site hydrogeologic regime and groundwater quality.

- Held a Karwick Road Nature Park meeting (attended by the Karwick Road Nature Park Project Team Members including representatives of the City of Michigan City departments, the Michigan City Area Schools, the Steelheaders and the International Brotherhood of Electrical Workers) to review the progress of the project and discuss upcoming tasks and timelines. A Conceptual Plan for the Karwick Road Nature Park (aspect of Task 5 of the Work Plan) has been developed.

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the First Quarter of the Greenspace Project.

- On November 16, 2001, APT, on behalf of the MCP&R, submitted a Voluntary Remediation Program (VRP) application to the Indiana Department of Environmental Management (IDEM) to enter the Greenspace site into the IDEM-VRP.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the First Quarter of the Greenspace Project.

4.4 Deliverables/Work Products

The following Work Plan approved deliverables completed during the First Quarter of the Greenspace Project are as follows: (1) site topographic map prepared by Air Maps, Inc. (presented as Attachment F); and, (2) site geotechnical study prepared by Great Lakes Engineering & Testing, Inc. (presented as Attachment G). In addition, copies of the IDEM-VRP Application for the Greenspace site (Attachment H), Karwick Road Nature Park Project Team Members Meeting Minutes (Attachment I) and the Conceptual Plan for the Karwick Road Nature Park (Attachment J) are attached.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Greenspace Project. Based on this comparison, the project is approximately 50% complete at the end of the First Quarter. As previously stated, several of the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still need to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. These items are scheduled to be conducted during Quarters 2-3 of the Greenspace Project (January-June 2002).

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 88.5% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan. It was anticipated that the U.S. EPA Greenspace Pilot Grant Funds would

not be sufficient to complete all of the project tasks. Future project activities will be supplemented (funded) by non-EPA Pilot funds.

Table 4
Summary of Greenspace Pilot Expenses by Category (Report period December 1, 2000-December 31, 2001)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$0	$8,110.15	$8,110.15
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$0	$0	$0
Contractual	$40,500	$0	$36,151.15	$36,151.15
Others	$0	$0	$0	$0
Total Expenses	$50,000	$0	$44,261.30	$44,261.30

Can't fund without proper documents which haven't been submitted .. not eligible prior to grant use in Table 5 for local funding ?

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick

Road Nature Park.

- For the Michigan City Greenspace Pilot Site, assessment activities (Phase II ESA) are ongoing. The preparation/submittal of project work plans/Phase II ESA report and development and implementation of a feasibility study and a Community Outreach Plan are scheduled to be conducted in Quarters 2-5 (January-October 2002).

6.2 Measures of Success-Pilot Program Indicators

At this stage of the pilot project, there has not been any funding leveraged (refer to Table 5) nor jobs created (refer to Table 6).

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$0	$0	$0	-
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$0	$0	$0	-

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

Brownfields Pilot Profile

Pilot Name: City of Michigan City, Indiana **Date:** Quarter 1-Oct/Nov/Dec, 2001

Address: 100 East Michigan Boulevard

City, State, Zipcode: Michigan City, Indiana 46360

Zone (Federal EC/EZ, State or Local): NA

Number of:

Properties Estimated in Pilot Area: Not reported

Properties Reported on Inventories: Not reported

Properties Targeted by Pilot: 3

Properties with Assessments Started: X 2 ?

Properties with Assessments Completed: 0

Properties that do not Require Cleanups: Currently unknown

Properties with Cleanup Activities Started: 0

Properties with Cleanup Activities Completed: 0

Properties with Redevelopment Underway: 0

Redevelopment Jobs Leveraged: 0

Redevelopment/Construction Dollars Leveraged: 0

Cleanup/Construction Jobs Leveraged: 0

Cleanup Dollars Leveraged: 0

(9/10/99)

Brownfields Pilot Property Profile

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approximately 89,000 square foot building) was used from approximately 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping and office activities. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: Pilot project was introduced at the Michigan City Westside/Eastside Target Team Meeting. Meetings/discussions with representatives from the Michigan City Area Schools to discuss the project and the potential involvement of Michigan City area students (via informational presentations/ demonstrations, etc.).

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: __X__No ___ Yes Date: (quarter/mo/year) _____

Phase I funded by ☒EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): __X__No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Brownfields Pilot Property Profile

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: One acre

Site Description/History/Ownership: The site (with an approximately 24,000 square foot building) was originally used for sheet rock manufacturing and then as a facility that blended/stored fuels, oils, petroleum products and solvents. In 2000, the U.S. EPA conducted an Emergency Response & Time Critical Removal Action at the facility to remove over 200 drums and 25 large storage tanks containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: Pilot project was introduced at the Michigan City Westside/Eastside Target Team Meeting. Meetings/discussions with representatives from the Michigan City Area Schools to discuss the project and the potential involvement of Michigan City area students (via informational presentations/ demonstrations, etc.).

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: __X__No ___ Yes Date: (quarter/mo/year) _____

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): __X__No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

Received on 5/20/02

DATE: May 2, 2002

SUBJ: Review of the Michigan City, Indiana 2nd Quarter Progress Report

FROM: Romona R. Smith [SM-5J]
Illinois Project Officer

TO: Diane Spencer
Brownfield Pilot Manager

I am requesting that you review and comment(s) on the Michigan City 2nd quarter progress report dated April 29, 2002. In cover letter prepared by Michigan City it indicated that they had provided you with a copy of their quarterly report. If not, please let me know and I'll have copies made. If you do have a copy, I am asking that you please review the document, particularly the scope of work and cost/budget information, and provide me with your comments by COB March 15, 2002. ?

Please provide me with a response by checking one of the appropriate boxes below and returning this memo to me. **PLEASE KEEP THIS COPY OF THE REPORT FOR YOUR RECORDS.** Your comments will be incorporated with a response letter to Michigan City notifying them of any issues or items of concern. If you have any questions, telephone me at 6-6139.

Attachments

SITE(s) NAME: Michigan City [CA #: BP 975715-01]

BPM'S RESPONSE:

[ ] Report(s) is accurate and acceptable as written.

[X] I have the following comments on the report(s). [Please see my attached comments on the report(s)].

numerous comments discussed w/ Tony R. (Michigan City) revel. depart) on 5/16/02

BPM'S SIGNATURE: D. M. Spencer **DATE:** 5/20/02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 8, 2002

REPLY TO THE ATTENTION OF:

SM - 5J

Anthony Rodriguez, Executive Director
Michigan City Economic Development Corporation
100 E. Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City Superfund Brownfields Assessment Pilot
Cooperative Agreements # BP975715-01

Dear Mr. Rodriguez:

This letter is written to notify you that the U.S. Environmental Protection Agency [US EPA] has received and reviewed your Superfund Fiscal Year 2002 second quarter progress report [dated July 30, 2002] for the City of Michigan City, Indiana.

After reviewing the report, US EPA found there were no major concerns or issues raised by the report. Therefore, your fiscal year 2002 second quarter progress report submittal is accepted and approved by the US EPA.

If you have any questions or comments feel free to contact me at [312] 886-6139.

Sincerely,

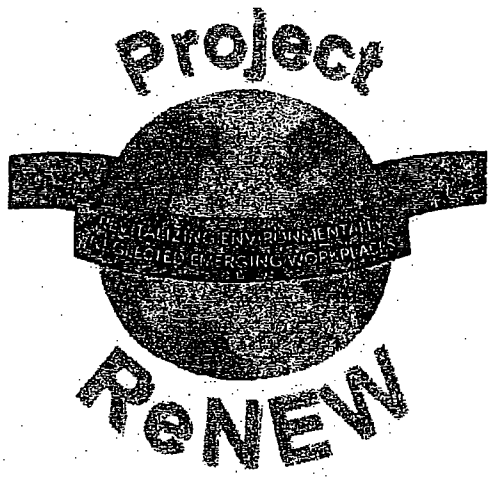
Romona R. Smith
Illinois/Indiana Brownfield Project Officer

cc: D. Spencer, U.S. EPA

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 50% Recycled Paper (20% Postconsumer)

April 29, 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 2



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Second Quarter (January 1-March 31, 2002) of the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project [entitled Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces)].

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Second Quarter of Project ReNEW.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the Second Quarter of Project ReNEW.

- The Michigan City Economic Development Corporation (MCEDC), serving as the managing entity for Project ReNEW, selected and entered into a contract with Community Dynamics Corporation (Community Dynamics), of Michigan City, Indiana, to provide communications and marketing services for the Project ReNEW community involvement task (Task 6 of the Work Plan). Mr. Robert Schaefer, President of Community Dynamics, has been selected as the Project ReNEW Community Outreach Coordinator.

- On January 18, 2002, Voluntary Remediation Program (VRP) Applications were submitted to the Indiana Department of Environmental Management (IDEM) for both Michigan City Brownfield sites (the former Royal Metals facility located at 600 North Carroll Avenue; and, the former Schmock Oil Company facility located at 1111 West Garfield Street) for enrollment into the IDEM VRP.

- The Project ReNEW Community Outreach Coordinator attended the Michigan City Westside/Eastport Target Team Meeting (January 21, 2002) and gave an update presentation on Project ReNEW (Task 6 of the Work Plan) and announced the Project ReNEW Community Meeting (to be held at the Michigan City Public Library on March 13, 2002).

- APT, Limited, of Granger, Indiana, completed the Phase I Environmental Site Assessment (ESA) activities (Task 1 of the Work Plan) at both Michigan City Brownfield sites in accordance with the

American Society for Testing and Materials (ASTM) E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

- A Community Involvement Outreach Plan was developed and finalized in February 2002 (Task 6 of the Work Plan). The plan outlined four specific community involvement areas to be addressed during Project ReNEW: (1) community meetings; (2) marketing; (3) communication/information; and, (4) community involvement.

- In February 2002, the Project ReNEW logo was developed. The logo will appear on all project correspondences, presentations, press releases, community newsletters and on signs which are scheduled to be installed at the two Brownfields sites during the Third Quarter.

- On March 5, 2002, Mr. Anthony Rodriguez, Executive Director of the MCEDC, and Mr. Thomas Stevenson, Project ReNEW Project Coordinator, discussed Project ReNEW and announced the Project ReNEW Community Meeting on a local Michigan City radio station (WEFM).

- The Project ReNEW Community Outreach Coordinator meet with the directors of the Michigan City Westside and Eastport Improvement Groups (March 6, 2002) to discuss Project ReNEW (Task 6 of the Work Plan) and deliver announcements of the Project ReNEW Community Meeting.

- During a two week period (March 1-March 13, 2002) prior to the Project ReNEW Community Meeting, a total of 400 announcements were delivered to potentially interested parties (i.e., Michigan City Westside and Eastport Improvement Group Centers, the Michigan City Senior Center, the Michigan City Public Library, Krueger Middle School). In addition, meeting notices were printed in two editions of the Michigan City News-Dispatch (March 7 and 11).

- In March 2002, the first edition of the Project ReNEW community informational newsletter "ReNEWS" was printed. A total of 500 copies of the newsletter was distributed throughout the community of Michigan City.

- On March 13, 2002, the Project ReNEW Community Meeting (Task 6 of the Work Plan) was held at the Michigan City Public Library. The meeting was attended by 20 people including Ms. Diane Spencer-U.S. EPA's Brownfields Project Manager, Ms. Sheila Brillson-Mayor of Michigan City, several Michigan City Council people and concerned citizens.

- On March 19, 2002, a Pre-Quality Assurance Project Plan (QAPP) telephone conference meeting was held between Ms. Jan Pels-U.S. EPA QAPP Project Manager, Mr. John Klanke-APT Project ReNEW Project Manager and Mr. Thomas Stevenson- Project ReNEW Project Coordinator. Thus, during the Second Quarter, preparation of the multi-site QAPP, the site-specific Sampling and Analysis Plans (SAP) and the site-specific Health and Safety Plans (HSP) was begun.

- On March 20, 2002, Voluntary Remediation Agreements (VRA) were received from the IDEM VRP (dated March 18, 2002, and approved/executed by the IDEM on March 15, 2002) for both Michigan City Brownfield sites.

1.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Second Quarter of Project ReNEW.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Second Quarter of Project ReNEW.

1.4 Deliverables/Work Products

The following Brownfields Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Second Quarter of Project ReNEW: (1) The Phase I ESA reports for the two Michigan City Brownfield sites-the former Royal Metals facility and the former Schmock Oil Company facility. (These reports were submitted to the U.S. EPA under separate cover on April 10, 2002.); (2) Attachment A presents the VRP Applications which were submitted to the IDEM for both Michigan City Brownfield sites for enrollment into the IDEM VRP.; (3) Attachment B presents the VRAs for both Brownfield sites.; (4) A Community Involvement Outreach Plan was developed and finalized in February 2002. Attachment C presents a copy of the plan.; and, (5) The first community-wide Project ReNEW Community Meeting was held at the Michigan City Public Library on March 13, 2002. Attachment D presents copies of several deliverables associated with the community meeting: (a) Michigan City News-Dispatch meeting advertisement; (b) meeting announcement; (c) meeting attendees sign-in sheet; (d) meeting agenda; (e) Mayor of Michigan City opening remarks; (f) Project ReNEW Community Meeting presentation; and, (g) list of questions from the meeting attendees. Additionally, Attachment E presents an article on Project ReNEW published in the January/February 2002 edition of the Lakeview, a Michigan City Area Chamber of Commerce publication. Attachment F presents a copy of the March 2002 edition of the Project ReNEW community informational newsletter "ReNEWS"; Attachment G presents a March 17, 2002 Michigan City News-Dispatch article on Brownfields including information on Project ReNEW; and, Attachment H presents a copy of the Project ReNEW logo.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 10% complete at the end of the Second Quarter. The project is still slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted prior to the award of the environmental contract to APT, Limited (conducted during the First Quarter). However, the schedule of the future project activities will be expedited (as much as possible) in order to complete the project tasks within the overall project schedule presented in the Work Plan.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 10.6% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (Report period October 1, 2001-March 31, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$2,695.00	$10,724.37	$13,419.37
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$679.73	$0	$679.73
Equipment	$2,000	$0	$2,000.00	$2,000.00
Supplies	$8,000	$0	$2,171.78	$2,171.78
Contractual	$147,500	$0	$3,000.00	$3,000.00
Others	$0	$0	$0	$0
Total Expenses	$200,000	$3,374.73	$17,896.15	$21,270.88

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- During the Second Quarter, Phase I ESA activities were completed, the Community Outreach Plan was finalized, and the Project ReNEW Community Meeting was held for both of the Michigan City Brownfield sites. Additionally, with the Pre-QAPP meeting being held and the initial preparations of the multi-site QAPP, the site-specific SAPs and the site-specific HSPs being conducted during the Second Quarter, these plans will be submitted to the EPA during the Third Quarter. With the approval of these plans, it is anticipated that Phase II ESA activities at the two Michigan City Brownfields Pilot Sites will be initiated soon thereafter.
- Both of the Michigan City Brownfields Pilot Sites were accepted into the IDEM VRP. Of particular significance of the acceptance of the sites into the VRP is the opportunity for the City of Michigan City to elect either to comply with the 1996 VRP Resource Guidance or the IDEM's Risk-Integrated System of Closure (RISC) Policy in accordance with the RISC Transition Policy.

3.2 Measures of Success-Pilot Program Indicators

At this stage of the Brownfields pilot project, there has not been any funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$0	$0	$0	-
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$0	$0	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites. During the community-wide Project ReNEW Community Meeting (and other neighborhood meetings), there was a genuine interest in the Brownfields Project and anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the Second Quarter of the Greenspace Assessment Demonstration Pilot Project (Project ReNEW-Greenspace Project) with the exception of two items: (1) Project Schedule-Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. ~~Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule.~~, and, (2) The Work Plan does not include the completion of a Phase I ESA at the site. ~~However, per the request of the U.S. EPA, a Phase I ESA was conducted and completed at the Greenspace Site during the Second Quarter.~~

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the Second Quarter of the Project ReNEW-Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the Second Quarter of the Project ReNEW-Greenspace Project.

- APT, Limited completed Phase II ESA activities (Task 3 of the Work Plan) at the former Karwick Road Municipal Landfill which included the collection of soil/groundwater samples using a Geoprobe drilling rig and the installation/sampling of groundwater monitoring wells to define the site hydrogeologic regime and groundwater quality. Phase II ESA reporting activities (Task 4 of the Work Plan) were initiated.

- The MCEDC, serving as the managing entity for Project ReNEW, selected and entered into a contract with Community Dynamics to provide communications and marketing services for the Project ReNEW community involvement task (Task 6 of the Work Plan). Mr. Robert Schaefer, President of Community

Dynamics, has been selected as the Project ReNEW Community Outreach Coordinator.

- The Project ReNEW Community Outreach Coordinator attended the Michigan City Westside/Eastport Target Team Meeting (January 21, 2002) and gave an update presentation on Project ReNEW and announced the Project ReNEW Community Meeting (to be held at the Michigan City Public Library on March 13, 2002).

- APT, Limited completed the Phase I ESA activities at the former Karwick Road Municipal Landfill site in accordance with the ASTM E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process".

- A Community Involvement Outreach Plan was developed and finalized in February 2002 (Task 6 of the Work Plan). The plan outlined four specific community involvement areas to be addressed during Project ReNEW: (1) community meetings; (2) marketing; (3) communication/information; and, (4) community involvement.

- In February 2002, the Project ReNEW logo was developed. The logo will appear on all project correspondences, presentations, press releases, community newsletters and on a sign which is scheduled to be installed at the Greenspace Site during the Third Quarter.

- On March 5, 2002, Mr. Anthony Rodriguez, Executive Director of the MCEDC, and Mr. Thomas Stevenson, Project ReNEW Project Coordinator, discussed Project ReNEW and announced the Project ReNEW Community Meeting on a local Michigan City radio station (WEFM).

- The Project ReNEW Community Outreach Coordinator meet with the directors of the Michigan City Westside and Eastport Improvement Groups (March 6, 2002) to discuss Project ReNEW (Task 6 of the Work Plan) and deliver announcements of the Project ReNEW Community Meeting.

- During a two week period (March 1-March 13, 2002) prior to the Project ReNEW Community Meeting, a total of 400 announcements were delivered to potentially interested parties (i.e., Michigan City Westside and Eastport Improvement Group Centers, the Michigan City Senior Center, the Michigan City Public Library, Krueger Middle School). In addition, meeting notices were printed in two editions of the Michigan City News-Dispatch (March 7 and 11).

- In March 2002, the first edition of the Project ReNEW community informational newsletter "ReNEWS" was printed. A total of 500 copies of the newsletter was distributed throughout the community of Michigan City.

- On March 13, 2002, the Project ReNEW Community Meeting (Task 6 of the Work Plan) was held at the Michigan City Public Library. The meeting was attended by 20 people including Ms. Diane Spencer-U.S. EPA's Brownfields Project Manager, Ms. Sheila Brillson-Mayor of Michigan City, several Michigan City Council people and concerned citizens.

- On March 19, 2002, a Pre-QAPP telephone conference meeting was held between Ms. Jan Pels-U.S.

EPA QAPP Project Manager, Mr. John Klanke-APT Project ReNEW Project Manager and Mr. Thomas Stevenson- Project ReNEW Project Coordinator. Thus, during the Second Quarter, preparation of the multi-site QAPP, the site-specific SAP and the site-specific HSP was begun.

- The VRA was received from the IDEM VRP (dated March 18, 2002, and approved/executed by the IDEM on March 15, 2002) for the Michigan City Greenspace Site.

4.2.2 Non-Funded Activities

There were no non-funded activities/tasks completed during the Second Quarter of the Project ReNEW-Greenspace Project.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the Second Quarter of the Project ReNEW-Greenspace Project.

4.4 Deliverables/Work Products

The following Greenspace Project Work Plan approved deliverables and/or Cooperative Agreement Work Plan required deliverables were completed during the Second Quarter of Project ReNEW: (1) The Phase I ESA report for the Michigan City Greenspace Site-the former Karwick Road Municipal Landfill. (The report was submitted to the U.S. EPA under separate cover on April 10, 2002.); (2) A Community Involvement Outreach Plan was developed and finalized in February 2002. Attachment C presents a copy of the plan.; (3) The first community-wide Project ReNEW Community Meeting was held at the Michigan City Public Library on March 13, 2002. Attachment D presents copies of several deliverables associated with the community meeting: (a) Michigan City News-Dispatch meeting advertisement; (b) meeting announcement; (c) meeting attendees sign-in sheet; (d) meeting agenda; (e) Mayor of Michigan City opening remarks; (f) Project ReNEW Community Meeting presentation; and, (g) list of questions from the meeting attendees.; and, (4) Attachment I presents the VRA for the Greenspace Site. Additionally, Attachment E presents an article on Project ReNEW published in the January/February 2002 edition of the Lakeview, a Michigan City Area Chamber of Commerce publication. Attachment F presents a copy of the March 2002 edition of the Project ReNEW community informational

newsletter "ReNEWS"; Attachment G presents a March 17, 2002 Michigan City News-Dispatch article on Brownfields including information on the Project ReNEW-Greenspace Project; and, Attachment H presents a copy of the Project ReNEW logo.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Project ReNEW-Greenspace Project. Based on this comparison, the project is approximately 60% complete at the end of the Second Quarter. As stated in the First Quarterly Progress Report, several of the initial tasks of the Project ReNEW-Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still needed to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. During the Second Quarter, several of the Community Outreach Activities (Task 6) were completed (development of the Community Involvement Outreach Plan and conducting the Project ReNEW Community Meeting). In addition, as presented herein, the Pre-QAPP meeting was held in the Second Quarter with the anticipation of the multi-site QAPP, site-specific SAP and site-specific HSP being prepared and submitted to the U.S. EPA for review during the Third Quarter.

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 100% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan. It was anticipated that the U.S. EPA Greenspace Pilot Grant Funds would not be sufficient to complete all of the project tasks. Future project activities are being/will be supplemented (funded) by non-EPA Pilot funds (as detailed in Section 6.2).

Table 4
Summary of Greenspace Pilot Expenses by Category (Report period December 1, 2000-March 31, 2002)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$8,110.15	$389.85	$8,500.00
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$0	$1,000.00	$1,000.00
Contractual	$40,500	$36,151.15	$4,348.85	$40,500
Others	$0	$0	$0	$0
Total Expenses	$50,000	$44,261.30	$5,738.70	$50,000.00

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick Road Nature Park.
- During the Second Quarter, Phase I ESA activities were completed, the Community Outreach Plan was finalized, and the Project ReNEW Community Meeting was held for the Greenspace Site. Additionally, with the Pre-QAPP meeting being held and the initial preparations of the multi-site QAPP, the site-

specific SAP and the site-specific HSP being conducted during the Second Quarter, these plans will be submitted to the EPA during the Third Quarter. Additionally, the preparation/submittal of the Phase II ESA report and conclusion of community outreach activities are scheduled to be conducted in the Third and Fourth Quarters (April-October 2002).

- The Michigan City Greenspace Pilot Site was accepted into the IDEM VRP. Of particular significance of the acceptance of the site into the VRP is the opportunity for the City of Michigan City to elect either to comply with the 1996 VRP Resource Guidance or the IDEM's RISC Policy in accordance with the RISC Transition Policy.

6.2 Measures of Success-Pilot Program Indicators

Additional project funding for the Greenspace Project was provided by Local Funding. A summary of the funding leveraged is presented in Table 5.

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$616.49	$0	$0	Michigan City Parks & Recreation Department
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$616.49	$0	$0	-

At this stage of the pilot project, there has not been any jobs created (refer to Table 6).

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-SECOND QUARTERLY PROGRESS REPORT-OCTOBER 1, 2001 THROUGH MARCH 31, 2002

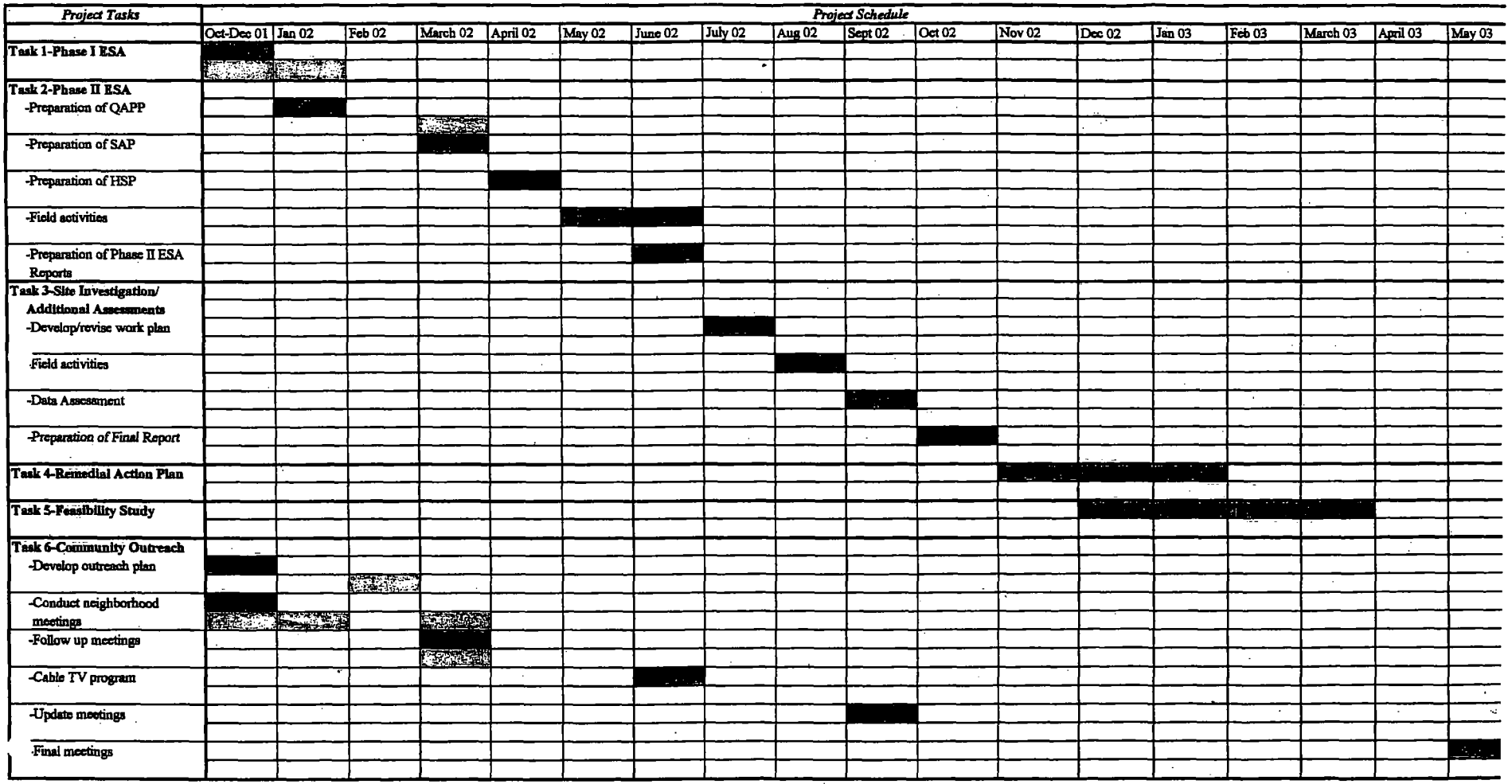
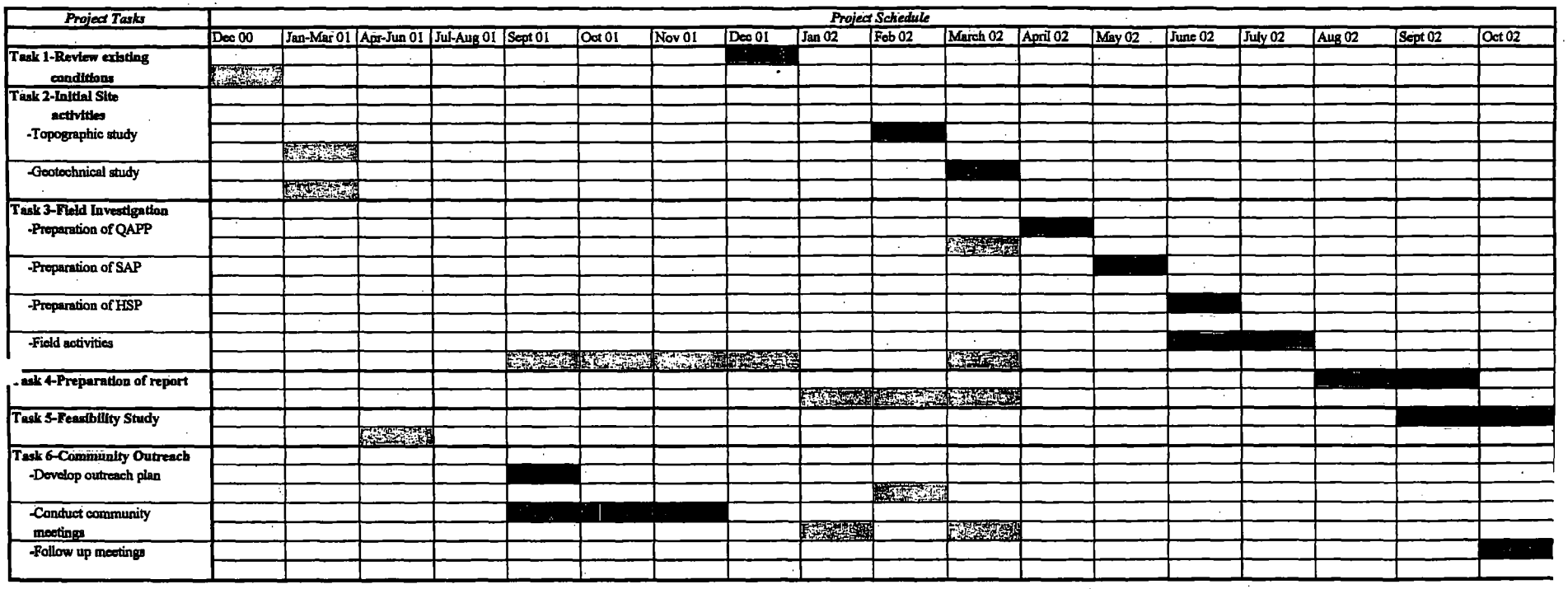


FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-SECOND QUARTERLY PROGRESS REPORT-DECEMBER 1, 2000 THROUGH MARCH 31, 2002



ATTACHMENT A

BROWNFIELD SITES IDEM VRP APPLICATIONS

Michigan City, IN
The place is here, the time is now!

January 18, 2002

Indiana Department of Environmental Management
Cashiers Office IGCN-1340
100 North Senate Avenue
P.O. Box 7060
Indianapolis, Indiana 46207-7060

To whom it may concern:

The City of Michigan City, Indiana would like to enroll two sites into the Indiana Department of Environmental Management's Voluntary Remediation Program (IDEM-VRP). Both of the Michigan City sites (the former Royal Metals facility and the former Schmock Brothers Oil Company facility) are part of the U.S. EPA Brownfields Assessment Demonstration Pilot Project which was awarded to Michigan City in April 2001. At the time of this VRP Application submittal, both sites have had Phase I Environmental Site Assessments (ESA) conducted and are currently moving forward into the Phase II ESA stage of the project. We understand that the end of non-rule Risk Integrated System of Closure (RISC) Policy transition period is on February 15, 2002. However, in order to have the option to potentially select the RISC Guidance or the 1996 VRP Guidance for these sites, the City of Michigan City is willing to receive the draft Voluntary Remediation Agreement (VRA) from the IDEM without the estimated IDEM project coordination/document review cost.

Per the VRP Application requirements, attached are two copies of the application for each of the above mentioned sites. Since the City of Michigan City is submitting the applications, we as a municipal government are not required to submit the application fee. If there are any questions or comments regarding these applications or the sites, please contact Mr. Anthony Rodriguez, Executive Director of the Michigan City Economic Development Corporation, at 219- 873-1211.

Sincerely,

Sheila H. Brillson
Mayor, City of Michigan City

mayorsheilab@niia.net Sheila Brillson, Mayor Fax 219-873-1515

State Form 47271 (R2 / 8-01) Approved by State Board of Accounts, 2001

CONFIDENTIAL

Voluntary Remediation Program Application

Return Completed Application To:	Indiana Department of Environmental Management Cashier's Office IGCN-1340 100 North Senate Avenue P.O. Box 7060 Indianapolis, IN 46207-7060 (317) 233-0604	Project Number: 6_____ Account #: 2680-110000-421400

Pursuant to IC 13-25-5-2, this application for the Voluntary Remediation Program (VRP) will result in a solid waste management unit or Voluntary Remediation Agreement (VRA) as limited by this application for participation and the attachments. If the application is not complete, the VRP is not offered. If you have any material information not disclosed in the VRP application, VRA or attachments, you must notify IDEM immediately. If you

Section 1 - VRP Project Information

Voluntary Remediation Applicant (Name to appear on the Covenant Not To Sue)		Applicant's Billing Contact (If Same As Applicant, Please Mark Here ( ))	
Applicant Name:	City of Michigan City, IN	Company Name:	M.C. Economic Develop. Corp.
Mailing Address:	100 E. Michigan Blvd.	Mailing Address:	100 E. Michigan Blvd.
City/State/Zip:	Michigan City, IN 46360	City/State/Zip:	Michigan City, IN 46360
Phone/Fax:	219-873-1200/219-873-1515	Phone/Fax:	219-873-1211/219-873-1595
E-Mail:	mayorsheilab@niia.net	E-Mail:	tonyr@mc-edc.com

VRP Project Name and Location		Applicant's Technical Contact (All Correspondence Will Be Sent to Person Identified)	
Facility Name:	Schmock Oil Company	Company:	M.C. Economic Develop. Corp.
Mailing Address:	1111 W. Garfield Street	Contact Person:	Anthony Rodriguez
City:	Michigan City	Mailing Address:	100 E. Michigan Blvd.
Zip Code:	46360	City/State/Zip:	Michigan City, IN 46360
County:	LaPorte	Phone/Fax:	219-873-1211/219-873-1595
EPA ID Number:	IND016520074	E-Mail:	tonyr@mc-edc.com

Applicable Facility Standard Industry Code(s) & Description(s):

SIC Number: 5172
Description: Petroleum and petroleum products wholesalers

SIC Number: 5983
Description: Fuel oil dealers

*Please provide information on an additional page if there are not enough spaces for entries.

Anticipated Future Facility Use:

() Residential
(X) Non-Residential
() Currently Undetermined

Years of Current Facility Operation:

19 Years (Current Operation) () Unknown

40 Total years site has been in use (Current and historic)

Current Site Status

(X) Inactive Operations () Active Operations () Residential
(X) Commercial/Industrial () Undergoing Property Transfer

Official State Use Only — Date Stamp

Other IDEM Offices:

Does this site have a previous history with the Voluntary Remediation Program? () Yes (if yes, please attach appropriate page from Section 4)

(X) No

Is this application the result of a referral from, or under the jurisdiction of, another IDEM office?

(X) Yes (If yes, indicate which office.) () No

() Brownfields Program

() RCRA / Corrective Action

(X) Emergency Response/ Remedial Response Program

(X) Leaking Underground Storage Tanks (LUST) / Underground Storage Tanks (UST)

() State Cleanup Section

(X) Office of Enforcement

() Office of Solid Waste (Landfills)

() Other Office: Office:_____ Incident# (if applicable)_____

IDEM Contact Name:_____ Phone #:_____

***If you checked any of the programs above, please attach appropriate pages from Section 3 in Attachment D.**

Ultimate Goal of Remediation Action	**Contaminant Source Size (defined to appropriate Health Protective Level's):**
() Limited Portion(s) of the Property	(X) Currently Undetermined
(X) Entire Property	() less than or equal to 0.50 acre
	() greater than 0.50 acre

Known or Anticipated VRP Project Hazards/Conditions:

(X) None () Infectious Materials () Radioactivity () Confined Spaces () Explosive Conditions

() Reactive Materials () Known Off-Site Contamination () Other: _____

Project Investigation Status:	**Project Remediation Status:**
() None	(X) None
(X) Ongoing	() Ongoing
() Complete	() Complete

Site Tax Status

1. Are you applying for an Indiana State Tax Credit? () Yes (X) No
2. Are you submitting this application for the purpose of receiving a waiver of state taxes from the State Tax Commission? () Yes (X) No

Documents Anticipated To Be Submitted for VRP Review: (Please Check all that will apply)

() Phase II Investigation Work Plan

() Phase II Investigation Report

(X) Remediation Work Plan (VRP requirement)

() Site Specific Risk Assessment

(X) Remediation Completion Report (VRP requirement)

Property Ownership

Do you own this property? () Yes (X) No (If no, answer next question)

If not, do you have legal access rights to this property from the property owner?

() Yes (X) No

Tax delinquent Property.

Constituents of Concern, Media and Cleanup Goals
(CHECK ALL THAT MAY APPLY)

		1999 TRRP GUIDANCE				RISC GUIDANCE			
CONSTITUENTS OF CONCERN	MEDIA	TIER I	TIER I Residential	TIER I Non-Residential	Tier II	Residential Default	Non-Residential Default	Nondefault	Undetermined
BTEX	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER VOCs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
PAHs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER SVOCs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
LEAD	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER METALS	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
CYANIDE	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								

*Continued on next page

Constituents of Concern, Media and Cleanup Goals
(CHECK ALL THAT MAY APPLY)
(CONTINUED)

		1996 VRP GUIDANCE				RISC GUIDANCE			
CONSTITUENTS OF CONCERN	MEDIA	TIER I	TIER II Residential	TIER II Non-Residential	Tier II	Residential Default	Non-Residential Default	Non-default	Undetermined
PCBs	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								
PESTICIDES/ HERBICIDES	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								
PETROLEUM	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								

Local Drinking Water Supply:

	Surface	Groundwater
Municipal	(X)	( )
Private/Residential	( )	( )

Local Drinking Water Supply Distance From Facility:

_____ Feet 2.25 Mile(s)

Is the site in a designated Wellhead Protection Area?
( ) Yes (X) No

Is the site in a designated Sole Source Aquifer?
( ) Yes (X) No

Local Surface Water Bodies Near Facility: (check closest)

( ) Wetland(s) ( ) Stream(s) ( ) River(s) (X) Lake(s) ( ) Pond(s)

Local Surface Water Bodies Distance From Facility:

_____ Feet 1.0 Mile(s)

On- site Water Supply and Usage:

( ) **Well(s) -** ( ) Drinking ( ) Production ( ) Both

(X) **Municipal -** ( ) Drinking ( ) Production (X) Both

Site Specific Depth to Groundwater:

_____ feet (X) Currently Unknown

Site Specific Principal Groundwater Flow Direction: ( ) Unknown (X)

( ) NW ( ) N ( ) NE ( ) E ( ) SE ( ) S ( ) SW ( ) W

Chronological Summary and Conclusions:

Facility Operational History:

Snyder & Associates (circa 1960-1970) occupied the facility as a manufacturer of side rock. In 1975, Gatway Ind. occupied the facility as a wholesaler. From 1980-1999, Schmock Oil Company occupied the facility as a blender/storer of fuels, oils, petroleum products and solvents.

Past Spill History (If no incidents have occurred, please mark here ( )):

On March 1, 1989, an unknown amount of motor oil spilled at the facility. The spill received IDEM Incident No. 198903004. Based on the incident report, the spill was cleaned-up.
From 1/17/2000-3/17/2000, the USEPA conducted an Emergency Response & Time Critical Removal Action at the facility to "clean-up" over 200 drums and 25 large storage tanks containing solvents and flammable liquids. This incident was given CERCLIS Incident No. INSFN0507960.

Geologic Information:

Facility soil type is identified as Urban land-Oakville complex (USDA-SCS, 1982). Urban land is defined as areas that have been filled in with earth, slag, trash, cinders or any combination of these and then smoothed over. Urban land also includes sand dune areas that have been removed and/or leveled. Oakville soil consists of fine grained sand, typically ranging in color from black, gray-brown to yellow-brown. This unit usually ranges up to 55% urban land and about 45% Oakville soils.

Hydrogeologic Information:

Current site information is unknown. Per Hill etal. (1979), LaPorte County has two units of unconsolidated deposits immediately south of Lake Michigan. The lower most water-bearing unit is a calcareous clayey to silty-clayey glacial till which produces limited quantities of water from thin sand/gravel lenses. The upper unit consists primarily of dune sand, sandy lacustrine material and shoreline deposits. This unit is an unconfined aquifer with recharge being derived directly from precipitation.

Off-Site Migration & Pathways (If not impacted, please mark here ( ); If unknown please mark here (X)):

Miscellaneous Environmental Information:
() Previous Facility Study (please include Title, Author & Date): _____

_____

() Other (please include Title, Author, and Date): _____

_____

(X) U.S. Geological Survey (X) State Reports (X) Soil Conservation Service () Past Voluntary Site Specific Data Collection
(X) Regulatory Reporting (X) Other Governmental Agencies (X) Other: APT-Preliminary findings of Phase I Environmental Site Assessment (Jan 02

Do the conditions regarding hazardous substances or petroleum, as described in this application, constitute an imminent or substantial threat to human health or the environment? If so, please explain below: (X) No () Yes

Section 2 - Statement of Certification

Pursuant to Indiana Code 13-25-5-2, your application to the Voluntary Remediation Program (VRP) will be confidential until the Voluntary Remediation Agreement (VRA) is signed. At that time, the application will become public information. Any material submitted to or generated by the VRP after the issuance of the VRA will also be considered IDEM public record.

I, Sheila H. Brillson, do hereby attest and certify that the information included herein is, to the best
(Print or Type Name of Applicant)

of my knowledge and belief, accurate and complete.

Sheila Brillson — January 18, 2002

Signature of Applicant — *Date*

Attachment Information:

This application will not be considered complete, and may be rejected, unless the following Attachments are included:

Attachment A: Please attach a *detailed* site map illustrating identified area(s) targeted for VRP efforts. For an explanation of a detailed site map, please see Attachment A Instructions.

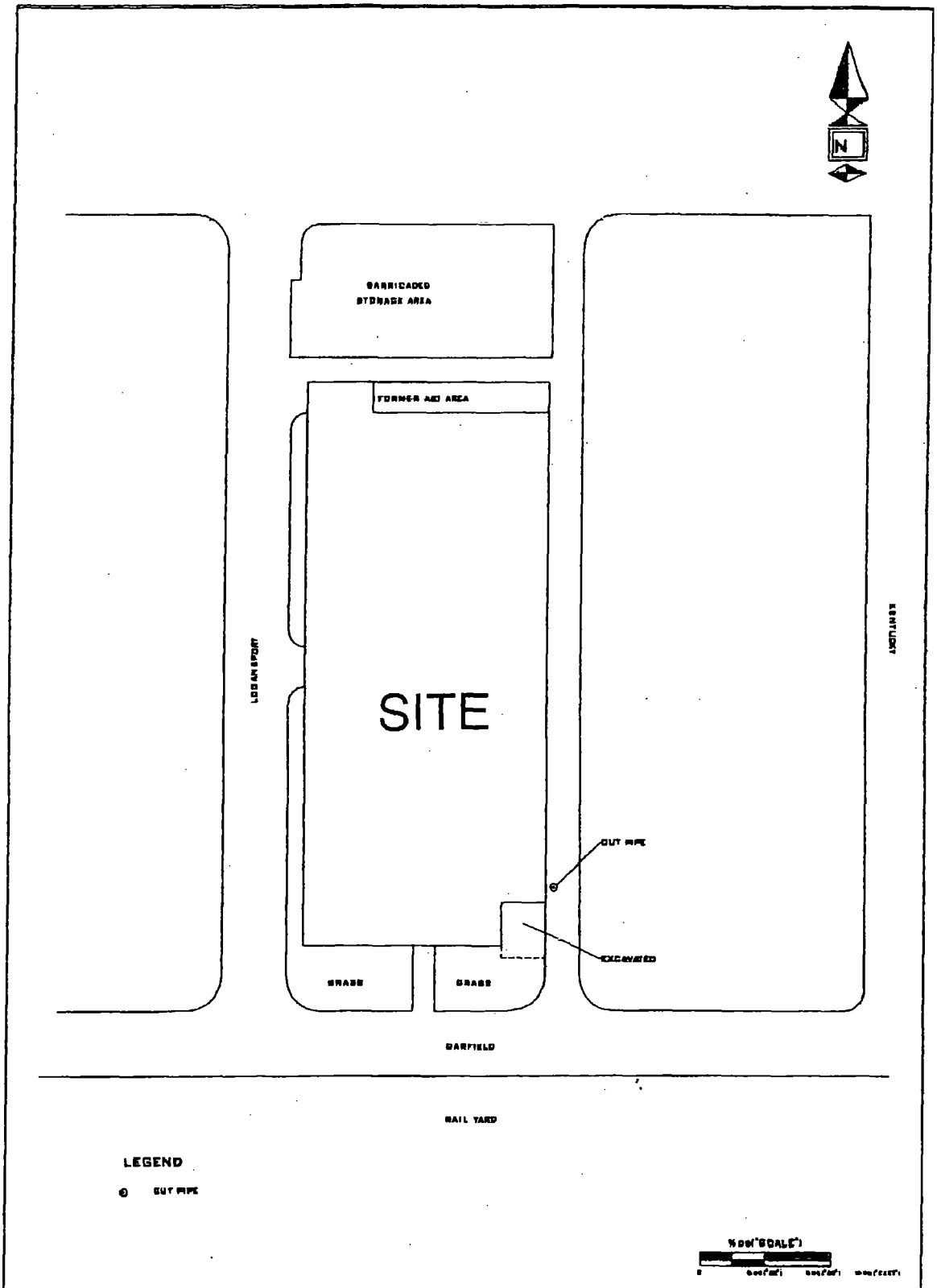
Attachment B: Provide a clean copy (without company headers, footers, or watermarks) of the legal description of the entire facility. If a portion of the facility is slated for remediation, then the area must be identified on an appropriate site map(s) and that area's legal description will have to be provided in either written or digital format (please include the facility street address, township, range, section, direction lines, distances, etc...). A professional survey or GPS collected UTM coordinates of the area can also be provided as supplemental information, or if currently not available, program participants must supply it in the Completion Report at the end of the project. This information will be reflected in the Certificate of Completion and Covenant Not to Sue.

Attachment C: Please check Application Form Instructions and provide the pertinent Facility Universal Transverse Mercator (UTM) coordinates information and include as Attachment C.

Attachment D: Additional pages from Section 3 (*if applicable*).

ATTACHMENT A

FACILITY MAP



APT	PROPERTY OF APT		Schrock Oil Michigan City, Indiana	
			PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	SITE MAP

ATTACHMENT B

LEGAL DESCRIPTION

PIONEER [illegible] CO.

Note: This form approved by Indiana State Bar Association for use in Indiana. Use of this form constitutes practice of law and is limited to practicing lawyers.

1576-79 2.50 Chg
Form No. 6

Michigan [illegible], Indiana 46360

80-09831

CORPORATE WARRANTY DEED

THIS INDENTURE WITNESSETH, That PRAIRIE STATE ASSOCIATES, INC., ("Grantor"), a corporation organized and existing under the laws of the State of ILLINOIS, CONVEYS AND WARRANTS to SCHMOCK BROTHERS OIL COMPANY, INCORPORATED of County, in the State of Indiana, for the sum of Ten and no/100---------- Dollars ($ 10.00) and other valuable consideration, the receipt of which is hereby acknowledged, the following described real estate in LAPORTE County, in the State of Indiana:

Lots 3, 6, 7, 10, 11, 14 and 15 in Block 31 in Tuthill and Schwager's Fifth Addition to Michigan City, which is recorded in Plat Book 5 page 31, in the Office of the Recorder of LaPorte County, Indiana, AND the East 14 feet of vacated Logansport Street lying North of the extended South lot line of Lot 15 in Block 31, and South of the Extended North lot line of Lot 3 in Block 31 all in Tuthill and Schwager's Fifth Addition to Michigan City.

No Gross Income Tax due or payable at this time.

1111 W. Garfield St. - Michigan City, IN 46360

DULY ENTERED FOR TAXATION

NOV 12 1980

Auditor of LaPorte County, Indiana

NOV 12 11 10 AM '80

[illegible] DALEY
RECORDER LAPORTE CO.

The undersigned persons executing this deed on behalf of Grantor represent and certify that they are duly elected officers of Grantor and have been fully empowered, by proper resolution of the Board of Directors of Grantor, to execute and deliver this deed; that Grantor has full corporate capacity to convey the real estate described herein; and that all necessary corporate action for the making of such conveyance has been taken and done.

IN WITNESS WHEREOF, Grantor has caused this deed to be executed this 12-3 day of JUNE, 1979.

PRAIRIE STATE ASSOCIATES, INC.
(Name of Corporation)

(SEAL) ATTEST:

By [signature] Signature
Calvin D. Wittenkeller, President
Printed Name, and Office

By [signature] Signature
Donald H. Sullivan, Secretary
Printed Name, and Office

STATE OF ~~INDIANA~~ ILLINOIS
COUNTY OF COOK
SS:

Before me, a Notary Public in and for said County and State, personally appeared Calvin D. Wittenkeller and Donald H. Sullivan the President and Secretary respectively of Prairie State Associates, Inc., who acknowledged execution of the foregoing Deed for and on behalf of said Grantor, and who, having been duly sworn, stated that the representations therein contained are true.

Witness my hand and Notarial Seal this 12th day of JUNE, 1979.

My Commission Expires
January 25, 1980

Signature [signature]
Printed JAMES PAPPAS, Notary Public

This instrument was prepared by JAMES PAPPAS, attorney at law.
1492 Aberdeen, Chicago Heights, IL 60411

ATTACHMENT C

FACILITY UTM COORDINATES

FACILITY UTM COORDINATES FOR SCHMOCK OIL COMPANY

The following Universal Transverse Mercator (UTM) coordinates were determined via USGS topographic map interpolation from the southwestern property boundary:

Northing: 4616653.6

Easting: 507739.5

ATTACHMENT D

CO-APPLICANT PAGE/IDEM INFORMATION

CO-APPLICANT ATTACHMENT

Pursuant to Indiana Code 13-25-5-2, this application to the Voluntary Remediation Program (VRP) will receive confidential treatment up until the Voluntary Remediation Agreement (VRA) is signed. Neither this application nor any information which comes from this application will be made available to the public until the VRA is signed. However, any material submitted to or generated by the VRP after the VRA is signed will be considered IDEM public record.

Section 1 - VRP Facility Declarations

Voluntary Remediation Applicant (Name to appear on the Covenant Not To Sue)		Applicant's Billing Contact (If Same As Applicant, Please Mark Here X)	
Applicant Name:	M.C. Economic Develop. Corp.	Owner Name:	M.C. Economic Develop. Corp.
Mailing Address:	100 E. Michigan Blvd.	Mailing Address:	100 E. Michigan Blvd.
City, State, Zip:	Michigan City, IN 46360	City, State, Zip:	Michigan City, IN 46360
Phone & Fax:	219-873-1211/219-873-1595	Phone & Fax:	219-873-1211/219-873-1595
E-Mail:	tonyr@mc-edc.com	E-Mail:	tonyr@mc-edc.com

VRP Project Name and Location		Applicant's Technical Contact (All Correspondence Will Be Sent to Person Identified)	
Facility Name:	Schmock Oil Company	Company:	M.C. Economic Develop. Corp.
Mailing Address:	1111 W. Garfield Street	Contact Person:	Anthony Rodriguez
City:	Michigan City	Mailing Address:	100 E. Michigan Blvd.
Zip Code:	46360	City, State, Zip:	Michigan City, IN 46360
County:	LaPorte	Phone & Fax:	219-873-1211/219-873-1595
EPA ID Number:	IND016520074	E-Mail:	tonyr@mc-edc.com

Pursuant to Indiana Code 13-25-5-2, your application to the Voluntary Remediation Program (VRP) will be confidential until the Voluntary Remediation Agreement (VRA) is signed. At that time, the application will become public information. Any material submitted to or generated by the VRP after the issuance of the VRA will also be considered IDEM public record.

I, Anthony Rodriguez, do hereby attest and certify that the information included herein is, to the best
(Print or Type Name of Applicant)

of my knowledge and belief, accurate and complete.

Signature of Applicant — *Date*: January 18, 2002

EMERGENCY RESPONSE / REMEDIAL RESPONSE PROGRAM

1. Has this spill / release been reported to IDEM? X Yes 0 No

   If yes, what is the Spill Incident Number(s): 198903004

   IDEM contact person(s): Unknown

   Contact's phone number: Unknown

2. Is this spill / release to be addressed in the VRP? 0 Yes X No

3. Has the IDEM contact person been notified in writing that this spill / release will be addressed in the VRP?

   0 Yes (if yes, please attach copy of the letter) 0 No

   Not applicable.

4. If this spill / release is to be addressed in the VRP, please provide a summary of the spill / release below.

On March 1, 1989, an unknown amount of motor oil spilled at the facility. Based on the incident report, the spill was "cleaned-up". Therefore, the documented spill/release will not be addressed in the VRP.

LEAKING UNDERGROUND STORAGE TANKS (LUST) & UNDERGROUND STORAGE TANKS (UST)

1. Is the UST(s) the source of the contamination to be addressed as part of the VRP? ( ) Yes (X) No
2. Did / Does the UST contain petroleum products? ( ) Yes ( ) No Unknown.
3. Is the UST regulated? (X) Yes ( ) No
4. Has the regulated UST been registered with IDEM? (X) Yes ( ) No ( ) N/A

   If yes, indicate the UST Facility I.D. Number: Unknown
5. Has a UST petroleum release ever been reported to IDEM? ( ) Yes (X) No ( ) N/A

   If yes, indicate the LUST Incident Number: _____
6. Has the LUST section been notified in writing that you are applying to the VRP?

   ( ) Yes (if yes, please attach copy of the letter) (X) No
7. Do you intend to apply for Excess Liability Trust Fund (ELTF) reimbursement with respect to this cleanup?

   ( ) Yes ( ) No (X) N/A
8. If you have already applied for ELTF reimbursement, indicate ELTF number. N/A
9. Please provide a summary of the site issues to be addressed below:

The Schmock Oil Company is a registered UST facility with two tanks listed. The current status of the tanks is listed as "permanently out of service". Neither the installation dates, their closure dates, sizes nor contents were documented.

OFFICE OF ENFORCEMENT (OE)

1. Is the site / facility that is subject to enforcement to be addressed in the VRP?

   X Yes ( ) No (if No, skip all other questions on this page)

2. Is the site under any of the following types of enforcement:

	Formal		Informal
X	Notice of Violation	( )	Violation Letter
X	Agreed Order		
( )	Commissioner's Order		

3. What is the Case Number(s)? H-13368

4. Who is the OE contact person and what is their phone number?

   Contact Name: Richard Milton (Obtained from Notice of Violation)

   Phone Number: 317-232-4463

5. If this enforcement site is to be addressed in the VRP, has the OE contact person been notified in writing?

   ( ) Yes (if yes, please attach copy of the letter) X No

6. Provide a summary of the site issues to be addressed below.

A copy of the Notice of Violation and Agreed Order (obtained from the IDEM web site) has been attached. The status of these enforcement actions is unknown.

VIA CERTIFIED MAIL #_____ VIA CERTIFIED MAIL #_____

NOTICE OF VIOLATION

Ms. Pamela Werdine, President
Schmock Oil Company
1111 W. Garfield Street
Michigan City, IN 46360

Mr. David Werdine, Resident Agent
Schmock Oil Company
321 Euclid Ave.
Michigan City, IN 46360

Cause No. H-13368

Designated representatives of the Indiana Department of Environmental Management (IDEM) conducted an inspection of Schmock Oil Company, located at 1111 W. Garfield Street, Michigan City, Indiana, on November 25, 1996. The U.S. EPA I.D. number of your facility is IND 016 520 074.

The inspection revealed violations of the Indiana Code, and the Hazardous Waste Management Rules under 329 IAC 3.1. This article incorporates July 1, 1995 federal standards for the management of hazardous waste, which have been published in 40 CFR 260 through 40 CFR 273.

The violations observed are as stated in Finding No. 6 of the enclosed proposed Agreed Order.

In accordance with Indiana Code (IC) 13-30-3-3, the Commissioner is required to notify you in writing that the Commissioner believes a violation exists and offer you an opportunity to enter into an Agreed Order providing for the actions required to correct the violations and for the payment of a civil penalty. The Commissioner is not required to extend this offer for more than sixty (60) days.

If settlement is not reached within sixty (60) days of your receipt of this Notice, the Commissioner may issue an order pursuant to IC 13-30-3-41 containing the actions you must take to achieve compliance, the required time frames, and an appropriate civil penalty. Pursuant to IC 13-30-4-1, the Commissioner may assess penalties of up to $25,000 per day of any violation.

The timely entry into an Agreed Order will prevent the necessity of an Order of the Commissioner being issued under IC 13-30-3-4 or the filing of a civil court action under IC 13-14-10-2 or IC 13-14-2-6. The advantages of entering into an Agreed Order are:

1. You may not be required to admit that any violation occurred.

2. Normally, the civil penalty will be less than that imposed under an Order of the Commissioner.

Please contact the Enforcement Case Manager, Richard R. Milton, at 317/232-4463, within fifteen (15) days after receipt of this Notice regarding your intent to settle this matter. If you are willing to resolve this matter as provided for in the enclosed Agreed Order, please sign and return it to Mr. Milton, Office of Enforcement, at the above address within the 60- day settlement period.

FOR THE COMMISSIONER:

Date: _____ ___signed 9/22/97_____

David J. Hensel, Director
Office of Enforcement

Enclosure

cc: Lake County Health Department
Mr. Loraine Seyfried, Office of Legal Council (with enclosure)
Mr. Scott Ormsby, Office of Solid and Hazardous Waste Management (with enclosure)
Nancy L. Johnston, Office of Enforcement (with original enclosure)
Ms. Kay Nelson, Northwest Regional Office (with enclosure)

Converted by Andrew Scriven

STATE OF INDIANA) BEFORE THE INDIANA DEPARTMENT
) SS: OF ENVIRONMENTAL MANAGEMENT
COUNTY OF MARION)

COMMISSIONER OF THE DEPARTMENT)
OF ENVIRONMENTAL MANAGEMENT,)
)
Complainant,)
) CAUSE NO. H-13368 v.)
Schmock Oil Company,)
)
Respondent.)

AGREED ORDER

The Complainant and the Respondent, desire to settle and compromise this action without hearing or adjudication of any issue of fact or law, and consent to the entry of the following Findings of Fact and Order.

I. FINDINGS OF FACT

1. Complainant is the Commissioner (hereinafter referred to as "Complainant") of the Indiana Department of Environmental Management, a department of the State of Indiana established by IC 13-13-1-1.

2. Respondent is Schmock Oil Company, (hereinafter referred to as "Respondent"), is a company doing business at 1111 W. Garfield Street, Michigan City, Indiana.

3. The Indiana Department of Environmental Management (hereinafter referred to as "IDEM") has jurisdiction over the parties and subject matter of this action.

4. Respondent submitted notification as a transporter of hazardous waste to the U.S. EPA on April 11, 1984, and was assigned the I.D. # IND 016 520 074.

5. Pursuant to IC 13-30-3-3, IDEM issued a Notice of Violation via Certified Mail to:

Ms. Pamela Werdine, President Mr. David Werdine, Resident Agent
Schmock Oil Company Schmock Oil Company
1111 W. Garfield Street 321 Euclid Ave. Michigan City, Indiana 46360 Michigan City, Indiana 46360

6. On November 25, 1996, Mr. Scott Ormsby of the Office of Solid and Hazardous Waste Management (OSHWM) of IDEM, conducted a Compliance Evaluation Inspection (CEI) of the facility. IDEM contends that the following violations had occurred or were in existence at the time of inspection:

a. Pursuant to 40 CFR 263.20, a transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest signed in accordance with the provisions of 40 CFR 262.20. Based on information gathered by IDEM, Respondent accepted approximately 1,500 gallons of spent mineral spirits (D001) contaminated with gasoline from Caster Maintenance Company of Gary, Indiana, without the required accompanying manifest.

b. Pursuant to 40 CFR 263.12, a transporter who stores hazardous waste at a transfer facility for a period of greater than 10 days is subject to regulation under 40 CFR Parts 264, 268, and 270 with respect to the storage of those wastes. Based on information gathered by IDEM, Respondent stored hazardous waste for greater than 10 days without complying with 40 CFR Parts 264, 268, and 270. Respondent also engaged in the operation of a hazardous waste facility without first having obtained a permit from the department as required by IC 13-30-2- 1(10) and failed to notify the commissioner of these waste activities pursuant to 329 IAC 3.1-1-11.

c. Pursuant to 40 CFR 265.190, the requirements of 40 CFR 265 Subpart J, apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste. Based on information gathered by IDEM, Respondent stored hazardous waste (D001) in a 5,000 gallon tank that did not meet the requirements of 40 CFR 265 Subpart J.

d. Pursuant to 40 CFR 262.11, a person who generates a solid waste, as defined in 40 CFR 261.1, must determine if that waste is a hazardous waste. Based on information gathered by IDEM, Respondent failed to make a proper waste determination on the spent mineral spirits (D001) received from Caster Maintenance Company and then subsequently offered to Altom Transportation

e. Pursuant to 329 IAC 3.1-7-3 and 329 IAC 3.1-12-1, a generator who offers for transport hazardous waste for off-site treatment, storage, disposal, or recovery must complete the manifest adopted by the board on EPA form 8700-22 and the accompanying Land Disposal Restriction (LDR) notification as required in 40 CFR 268.7. Based on information gathered by the department, Respondent offered waste mineral spirits (D001) for transport without the required manifest or LDR notification.

f. Pursuant to 40 CFR 262.12(c), a generator must not offer his hazardous waste to transporters that have not received an EPA identification number. Based on information gathered by IDEM, Respondent generated a hazardous waste (D001) and then offered that waste to a transporter (Altom Transportation) that did not have an EPA identification number.

g. Pursuant to IC 13-30-2-1, a person may not cause or allow any contaminant or waste either alone or in combination with contaminants from other sources into the environment. Based on information gathered by IDEM, Respondent allowed hazardous waste to enter the environment when the spent mineral spirits (D001) were mixed with used oils in fuel blending and then burned for energy recovery.

7. In recognition of the settlement reached, Respondent waives any right to administrative and judicial review of this Agreed Order.

II. ORDER

WHEREFORE, based upon the Findings of Fact and upon consent of the parties, it is hereby ORDERED that:

1. This Agreed Order shall be effective ("effective date") when it is approved by the Complainant or his delegatee, and has been received by the Respondent. This Agreed Order shall have no force or effect until the effective date.

2. Pursuant to 40 CFR 263.20, Respondent shall not accept any hazardous waste without the required accompanying hazardous waste manifest (EPA Form 8700- 22 and, if necessary, EPA Form 8700-22A).

3. Pursuant to 40 CFR 263.12, Respondent shall not store any hazardous waste for greater than 10 days at its transfer facility.

4. Respondent shall cease all activities which would require a permit under 40 CFR Parts 264, or 270.

5. All submittals required by this Agreed Order, unless notified otherwise in writing, shall be sent to :

Richard R. Milton, Case Manager
Office of Enforcement
Indiana Department of
Environmental Management
P.O. Box 6015
Indianapolis, Indiana 46206-6015

6. Respondent is assessed a Civil Penalty of $1,000. Said Penalty amount shall be due and payable to the Environmental Management Special Fund within thirty (30) days of the effective date of this Agreed Order. This penalty reflects a significant reduction by IDEM based upon evidence submitted by the Respondent which adequately demonstrated an inability to pay a penalty in the amount commensurate with the alleged violations.

7. In the event that the civil penalty required by paragraph 6 is not paid within thirty (30) days of the effective date of this Agreed Order, Respondent shall pay interest on the unpaid balance at the rate established by IC 24-4.6-1-101. The interest shall continue to accrue until the civil penalty is paid in full.

8. This Agreed Order shall apply to and be binding upon the Respondent, its officers, directors, principals, agents, successors, subsidiaries, and assigns. The signatories to this Order certify that they are fully authorized to execute this document and legally bind the parties they represent. No change in ownership, corporate, or partnership status of the Respondent shall in any way alter its status or responsibilities under this Order.

9. In the event that any terms of this Agreed Order are found to be invalid, the remaining terms shall remain in full force and effect and shall be construed and enforced as if the Agreed Order did not contain the invalid terms.

10. The Respondent shall provide a copy of this Order, if in force, to any subsequent owners or successors before ownership rights are transferred. Respondent shall by contract require that all contractors, firms, and other persons acting for it comply with the terms of this Order.

11. This Agreed Order shall remain in effect until IDEM issues a Resolution of Cause letter to Respondent.

TECHNICAL RECOMMENDATION: RESPONDENT:
Department of Environmental Management

By: _ By: _
Nancy L. Johnston, Chief
Hazardous Waste Section
Office of Enforcement

Date: _ Date:

LEGAL RECOMMENDATION: COUNSEL FOR RESPONDENT:
Department of Environmental Management

By: _ By: _
Loraine Seyfried
Office of Legal Counsel
Department of Environmental
Management

Date: _ Date: _

APPROVED AND ADOPTED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

THIS DAY OF , 199_.

FOR THE COMMISSIONER:

_____
David J. Hensel
Director
Office of Enforcement

Converted by Andrew Scriven

State Form 47271 (R2 / 8-01) Approved by State Board of Accounts, 2001

CONFIDENTIAL

Voluntary Remediation Program Application

Return Completed Application To:	Indiana Department of Environmental Management Cashier's Office IGCN-1340 100 North Senate Avenue P.O. Box 7060 Indianapolis, IN 46207-7060 (317) 233-0604	Project Number: 6|_|_|_|_|_|_| Account #: 2680-110000-421400

Pursuant to Indiana Code 13-25-5, this application to the Voluntary Remediation Program (VRP) will receive confidential treatment in drafting a Voluntary Remediation Agreement (VRA). Note: The applicant's name, any information provided in the application will be made available for public review if the VRA is signed. However, any material submitted to or generated by the VRE after the VRA is signed will become part of IDEM public records.

Section 1 - VRP Project Information

Voluntary Remediation Applicant (Name to appear on the Covenant Not To Sue)		Applicant's Billing Contact (If Same As Applicant, Please Mark Here ( ))	
Applicant Name:	City of Michigan City, IN	Owner Name:	M.C. Economic Develop. Corp.
Mailing Address:	100 E. Michigan Blvd.	Mailing Address:	100 E. Michigan Blvd.
City, State, Zip:	Michigan City, IN 46360	City, State, Zip:	Michigan City, IN 46360
Phone & Fax:	219-873-1200/219-873-1515	Phone & Fax:	219-873-1211/219-873-1595
E-Mail:	mayorsheilab@niia.net	E-Mail:	tonyr@mc-edc.com

VRP Project Name and Location		Applicant's Technical Contact (All Correspondence Will Be Sent to Person Identified)	
Facility Name:	Royal Metals	Company:	M.C. Economic Develop. Corp.
Mailing Address:	600 N. Carroll Avenue	Contact Person:	Anthony Rodriguez
City:	Michigan City	Mailing Address:	100 E. Michigan Blvd.
Zip Code:	46360	City, State, Zip:	Michigan City, IN 46360
County:	LaPorte	Phone & Fax:	219-873-1211/219-873-1595
EPA ID Number:	Unknown	E-Mail:	tonyr@mc-edc.com

Applicable Facility Standard Industry Code(s) & Description(s):

SIC Number: 5021
Description: Office Furniture

SIC Number: _____
Description: _____

*Please provide information on an additional page if there are not enough spaces for entries.

Anticipated Future Facility Use:

( ) Residential
(X) Non-Residential
( ) Currently Undetermined

Years of Current Facility Operation:

_____ Years (Current Operation) (X) Unknown

_____ Total years site has been in use (Current and historic)

Current Site Status

(X) Inactive Operations ( ) Active Operations ( ) Residential
(X) Commercial/Industrial ( ) Undergoing Property Transfer

For Official State Use Only — Date Stamp

Other IDEM Offices:

Does this site have a previous history with the Voluntary Remediation Program? () *Yes (if yes, please attach appropriate page from Section 4)*

(X) No

Is this application the result of a referral from, or under the jurisdiction of, another IDEM office?

() Yes (If yes, indicate which office.) (X) No

() Brownfields Program

() RCRA / Corrective Action

() *Emergency Response/ Remedial Response Program*

() Leaking Underground Storage Tanks (LUST) / Underground Storage Tanks (UST)

() State Cleanup Section

() Office of Enforcement

() Office of Solid Waste (Landfills)

() Other Office: Office:_____ Incident# (if applicable)_____

IDEM Contact Name:_____ Phone #:_____

***If you checked any of the programs above, please attach appropriate pages from Section 3 in Attachment D.**

Ultimate Goal of Remediation Action	**Contaminant Source Size (defined to appropriate Health Protective Level's):**
() Limited Portion(s) of the Property	(X) Currently Undetermined
(X) Entire Property	() less than or equal to 0.50 acre
	() greater than 0.50 acre

Known or Anticipated VRP Project Hazards/Conditions:

(X) None () Infectious Materials () Radioactivity () Confined Spaces () Explosive Conditions

() Reactive Materials () Known Off-Site Contamination () Other: _____

Project Investigation Status:	**Project Remediation Status:**
() None	(X) None
(X) Ongoing	() Ongoing
() Complete	() Complete

Site Tax Status

1. Are you applying for an Indiana State Tax Credit? () Yes (X) No
2. Are you submitting this application for the purpose of receiving a waiver of state taxes from the State Tax Commission? () Yes (X) No

Documents Anticipated To Be Submitted for VRP Review: (Please Check all that will apply)

() Phase II Investigation Work Plan

() Phase II Investigation Report

(X) Remediation Work Plan (VRP requirement)

() Site Specific Risk Assessment

(X) Remediation Completion Report (VRP requirement)

Property Ownership

Do you own this property? () Yes (X) No (If no, answer next question)

If not, do you have legal access rights to this property from the property owner?

() Yes (X) No

Tax delinquent property.

Constituents of Concern, Media and Cleanup Goals
(CHECK ALL THAT MAY APPLY)

		TRRP GUIDANCE				RISC GUIDANCE			
CONSTITUENTS OF CONCERN	MEDIA	TIER I	TIER II Residential	TIER II Non-Residential	Tier II	Residential Default	Non-Residential Default	Non-Critical	Undetermined
BTEX	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER VOCs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
PAHs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER SVOCs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
LEAD	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
OTHER METALS	Surface Soils								X
	Subsurface Soils								X
	Groundwater								X
	Sediments								
CYANIDE	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								

*Continued on next page

Constituents of Concern, Media and Cleanup Goals
(CHECK ALL THAT MAY APPLY)
(CONTINUED)

CONSTITUENTS OF CONCERN	MEDIA	TIER I GUIDANCE				RISC GUIDANCE			
		TIER I	TIER I Residential	TIER II Non-Residential	TIER III	Residential Default	Non-Residential Default	Nonpotable	Undetermined
PCBs	Surface Soils								X
	Subsurface Soils								X
	Groundwater								
	Sediments								
PESTICIDES/ HERBICIDES	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								
PETROLEUM	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								
OTHER	Surface Soils								
	Subsurface Soils								
	Groundwater								
	Sediments								

Local Drinking Water Supply:

	Surface	Groundwater
Municipal	X	0
Private/Residential	0	0

Local Drinking Water Supply Distance From Facility:

_____ Feet 1.75 Mile(s)

Is the site in a designated Wellhead Protection Area?
0 Yes X No

Is the site in a designated Sole Source Aquifer?
0 Yes X No

Local Surface Water Bodies Near Facility: (check closest)

0 Wetland(s) X Stream(s) 0 River(s) 0 Lake(s) 0 Pond(s)

Local Surface Water Bodies Distance From Facility:

_____ Feet 0.50 Mile(s)

On- site Water Supply and Usage:

0 **Well(s) -** 0 Drinking 0 Production 0 Both

X **Municipal -** 0 Drinking 0 Production X Both

Site Specific Depth to Groundwater:

_____ feet X Currently Unknown

Site Specific Principal Groundwater Flow Direction: X Unknown

0 NW 0 N 0 NE 0 E 0 SE 0 S 0 SW 0 W

Chronological Summary and Conclusions:

Facility Operational History:

The Royal Metal Manufacturing Company (circa 1929-1975) used the facility to manufacture metal furniture. Identified operations include: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping and office activities.

Past Spill History (If no incidents have occurred, please mark here (X)):

Geologic Information:

Facility soil type is identified as Urban land-Oakville complex (USDA-SCS, 1982). Urban Land is defined as areas that have been filled in with earth, slag, trash, cinders or any combination of these and then smoothed over. Urban land also includes sand dune areas that havebeen removed and/or leveled. Oakville soil consists of fine grained sand, typically ranging in color from black, gray-brown to yellow-brown. This unit usually ranges up to 55% urban land and about 45% Oakville soils.

Hydrogeologic Information:

Current site information is unknown. Per Hill etal. (1979), LaPorte County has two units of unconsolidated deposits immediately south of Lake Michigan. The lower most water-bearing unit is a calcareous clayey to silty-clayey glacial till which produces limited quantities of water from thin sand/gravel lenses. The upper unit consists primarily of dune sand, sandy lacustrine material and shoreline deposits. This unit is an unconfined aquifer with recharge being derived directly from precipitation.

Off-Site Migration & Pathways (If not impacted, please mark here (); If unknown please mark here (X)):

Miscellaneous Environmental Information:
() Previous Facility Study ~~(please include Title, Author & Date):~~ _____

_____

() Other (please include Title, Author, and Date):_____

_____

() U.S. Geological Survey () State Reports (X) Soil Conservation Service () Past Voluntary Site Specific Data Collection
() Regulatory Reporting () Other Governmental Agencies (X) Other: APT-Preliminary findings of Phase I Environmental Site Assessment (Jan. 02

Do the conditions regarding hazardous substances or petroleum, as described in this application, constitute an imminent or substantial threat to human health or the environment? If so, please explain below: (X) No () Yes

Section 2 - Statement of Certification

Pursuant to Indiana Code 13-25-5-2, your application to the Voluntary Remediation Program (VRP) will be confidential until the Voluntary Remediation Agreement (VRA) is signed. At that time, the application will become public information. Any material submitted to or generated by the VRP after the issuance of the VRA will also be considered IDEM public record.

I, Sheila H. Brillson, do hereby attest and certify that the information included herein is, to the best
(Print or Type Name of Applicant)

of my knowledge and belief, accurate and complete.

Sheila Brillson — January 18, 2002
Signature of Applicant — *Date*

Attachment Information:

This application will not be considered complete, and may be rejected, unless the following Attachments are included:

Attachment A: Please attach a *detailed* site map illustrating identified area(s) targeted for VRP efforts. For an explanation of a detailed site map, please see Attachment A instructions.

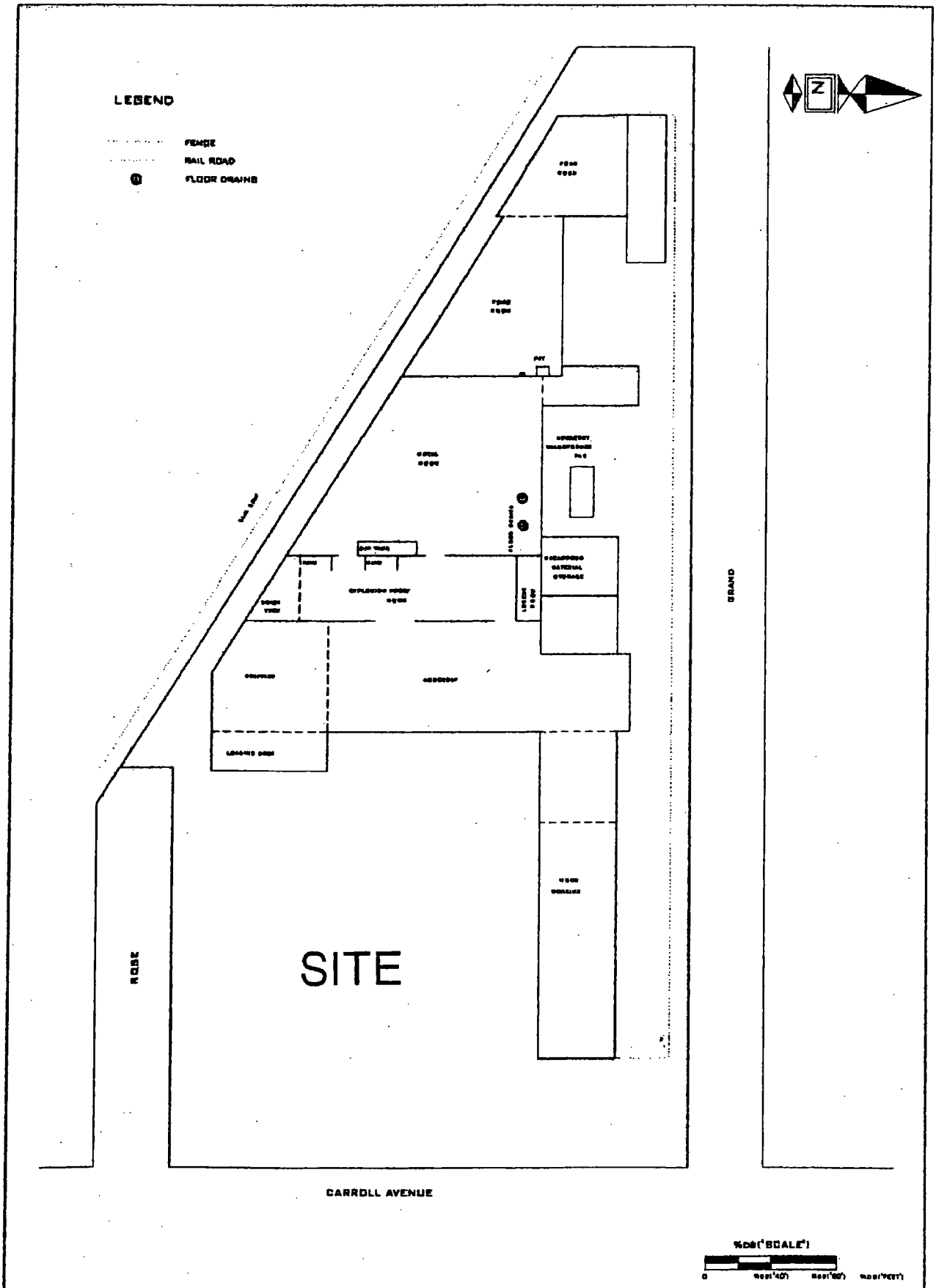
Attachment B: Provide a clean copy (without company headers, footers, or watermarks) of the legal description of the entire facility. If a portion of the facility is slated for remediation, then the area must be identified on an appropriate site map(s) and that area's legal description will have to be provided in either written or digital format (please include the facility street address, township, range, section, direction lines, distances, etc...). A professional survey or GPS collected UTM coordinates of the area can also be provided as supplemental information, or if currently not available, program participants must supply it in the Completion Report at the end of the project. This information will be reflected in the Certificate of Completion and Covenant Not to Sue.

Attachment C: Please check Application Form Instructions and provide the pertinent Facility Universal Transverse Mercator (UTM) coordinates information and include as Attachment C.

Attachment D: Additional pages from Section 3 (*if applicable*).

ATTACHMENT A

FACILITY MAP



APT	PROPERTY OF APT	Royal Metals Michigan City, Indiana	
		PREPARED FOR Michigan City Economic Development Corporation Michigan City, Indiana	SITE MAP

ATTACHMENT B

LEGAL DESCRIPTION

AND GUARANTY CORP.
LAPORTE, INDIANA

29487

6.50
Ch

Tax Bill to be sent to Grantees at: P.O.Box 8904
Michigan City, IN 46360

89-01705

CORPORATE WARRANTY DEED

THIS INDENTURE WITNESSETH, That INTERROYAL CORPORATION, a Delaware Corporation, a corporation duly organized and existing under the laws of the State of Delaware and located in LaPorte County, State of Indiana, Conveys and Warrants to FABRICRAFTS, INC., an Indiana Corporation, of LaPorte County, State of Indiana, for and in consideration of the sum of Ten ($10.00) Dollars and other good and valuable consideration, the receipt of which is hereby acknowledged, the following described REAL ESTATE in LaPorte County, in the State of Indiana, to-wit:

Blocks Twenty-six (26), Twenty-seven (27), Twenty-eight (28), and Twenty-nine (29), vacated alleys in Blocks Twenty-six (26), Twenty-seven (27), Twenty-eight (28), and Twenty-nine (29), vacated Calumet Avenue from Grand Street to New York, Chicago and St. Louis Railroad, vacated Ashland Avenue from Grand Street to the North line of Walker Street, formerly known as Rose Street, vacated Walker Street, formerly known as Rose Street, from the Western right-of-way line of Ashland Avenue to the Northerly right-of-way of the New York, Chicago and St. Louis Railroad and the vacated Walker Street, formerly known as Rose Street, from the Western right-of-way line of Carroll Avenue to the Western right-of-way line of Ashland Avenue, and vacated Ashland Avenue from the Southern right-of-way line of Walker Street, formerly known as Rose Street, to the Northern right-of-way line of the New York, Chicago and St. Louis Railroad, all in the Ridgeland Addition to Michigan City, Indiana as recorded in Plat Book 3, pages 52 and 53 in the Office of the Recorder of LaPorte County, Indiana, more particularly described as follows: Beginning at the Northeast corner of Lot One (1) in Block Twenty-nine (29), in Ridgeland Addition as recorded in Plat Book 3, pages 52 and 53, in the Office of the Recorder of LaPorte County, Indiana, said point being also the intersection of the Southerly right-of-way line of Grand Street, and the Westerly right-of-way line of Carroll Avenue, in the City of Michigan City, Indiana; thence South Zero degrees Zero minutes Zero seconds (S00°00'00") along the Westerly right-of-way line of Carroll Avenue, a distance of Five Hundred Seventy-eight and Eleven hundredths (578.11) feet to the Northerly right-of-way line of the New York, Chicago and St. Louis Railroad; thence North Fifty-seven degrees Nineteen minutes West (N57°19§W), along said Northerly right-of-way line, a distance of Nine Hundred Twenty-two and Six hundredths (922.06) feet to the Easterly right-of-way line of Ridgeland Avenue; thence North Zero degrees Zero minutes Zero seconds (N00°00'00") along said Easterly right-of-way line, a distance of Seventy-seven and Sixty-five hundredths (77.65) feet to the Southerly right-of-way line of Grand Street; thence North Eighty-nine degrees Forty-eight minutes Ten seconds East (N89°48'10"E), along said Southerly right-of-way line, a distance of Seven Hundred Seventy-six and Six hundredths (776.06) feet to the place of beginning.

Subject to all taxes.

Subject to all conditions, covenants, limitations, assessments, easements and restrictions of record, if any.

GRANTOR certifies under oath that no Indiana Gross Income Tax is due or payable in respect to the transfer made by this deed.

IN WITNESS WHEREOF, the said INTERROYAL CORPORATION, has caused this Deed to be executed by HAIG R. DADOURIAN, its President, and attested by SALVATORE M. SICA, its Secretary, and its corporate seal to be hereunto affixed, this 3rd day of February, 1989.

DULY ENTERED FOR TAXATION
SUBJECT TO FINAL ACCEPTANCE FOR TRANSFER

FEB 17 1989

Betty J. Shail
Auditor of the State County, Indiana

INTERROYAL CORPORATION,
A Delaware Corporation

BY: Haig R. Dadourian
President

FEB 17 2 25 PM '89
ANNE E. SALEY
RECORDER LAPORTE CO.

ATTEST:

Salvatore Mosca
Secretary

STATE OF NEW YORK)
) SS:
COUNTY OF NEW YORK)

Before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named HAIG R. DADOURIAN, President and SALVATORE M. SCA, Secretary, to me known to be such President and Secretary of said Corporation and acknowledged the execution of the foregoing Deed for and on behalf of said Corporation and by its authority.

WITNESS my hand and Notarial seal this 3rd day of February, 1989.

Barbara A. Mangold
BARBARA A. MANGOLD
(Printed Name)
Notary Public
Resident of QUEENS County

My Commission expires:
JULY 31, 1990

BARBARA A. MANGOLD
NOTARY PUBLIC, State of New York
No. 41-4608988
Qualified in Queens County
Commission Expires July 31, 19 90

This instrument prepared by: CRAIG V. BRAJE, Attorney at Law, 621 Franklin Square, Michigan City. IN 46360

ATTACHMENT C

FACILITY UTM COORDINATES

FACILITY UTM COORDINATES FOR ROYAL METALS

The following Universal Transverse Mercator (UTM) coordinates were determined via USGS topographic map interpolation from the northeastern property boundary:

Northing: 4618219.1

Easting: 510821.0

ATTACHMENT D

CO-APPLICANT PAGE

Section 3- Application Attachment Pages

CO-APPLICANT ATTACHMENT

Pursuant to Indiana Code 13-25-5-2, this application to the Voluntary Remediation Program (VRP) will receive confidential treatment up until the Voluntary Remediation Agreement (VRA) is signed. Neither this application nor any information which comes from this application will be made available to the public until the VRA is signed. However, any material submitted to or generated by the VRP after the VRA is signed will be considered IDEM public record.

Section 1 - VRP Facility Declarations

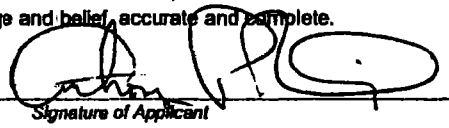
Voluntary Remediation Applicant (Name to appear on the Covenant Not To Sue)		Applicant's Billing Contact (If Same As Applicant, Please Mark Here X)	
Applicant Name:	M.C. Economic Develop. Corp.	Owner Name:	M.C. Economic Develop. Corp.
Mailing Address:	100 E. Michigan Blvd.	Mailing Address:	100 E. Michigan Blvd.
City, State, Zip:	Michigan City, IN 46360	City, State, Zip:	Michigan City, IN 46360
Phone & Fax:	219-873-1211/219-873-1595	Phone & Fax:	219-873-1211/219-873-1595
E-Mail:	tonyr@mc-edc.com	E-Mail:	tonyr@mc-edc.com

VRP Project Name and Location		Applicant's Technical Contact (All Correspondence Will Be Sent to Person Identified)	
Facility Name:	Royal Metals	Company:	M.C. Economic Develop. Corp.
Mailing Address:	600 N. Carroll Avenue	Contact Person:	Anthony Rodriguez
City:	Michigan City	Mailing Address:	100 E. Michigan Blvd.
Zip Code:	46360	City, State, Zip:	Michigan City, IN 46360
County:	LaPorte	Phone & Fax:	219-873-1211/219-873-1595
EPA ID Number:	Unknown	E-Mail:	tonyr@mc-edc.com

Pursuant to Indiana Code 13-25-5-2, your application to the Voluntary Remediation Program (VRP) will be confidential until the Voluntary Remediation Agreement (VRA) is signed. At that time, the application will become public information. Any material submitted to or generated by the VRP after the issuance of the VRA will also be considered IDEM public record.

I, Anthony Rodriguez, do hereby attest and certify that the information included herein is, to the best
(Print or Type Name of Applicant)

of my knowledge and belief, accurate and complete.



Signature of Applicant

January 18, 2002

Date

ATTACHMENT B

BROWNFIELD SITES IDEM VRAS

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

March 18, 2002

Mr. Anthony Rodriquez
M.C. Economic Development Corp.
100 East Michigan Blvd.
Michigan City, IN 46360

RECEIVED
3-20-02

Re: Voluntary Remediation Agreement
Royal Metals
600 North Carroll Avenue
Michigan City, IN
VRP #: 6020115

Dear Mr. Rodriguez:

Please find enclosed a copy of the Voluntary Remediation Agreement (VRA) for the Royal Metals site in Michigan City, Indiana. The VRA has been signed by the Assistant Commissioner of the Indiana Department of Environmental Management.

If an investigation report and/or remediation work plan report has been completed for the site according to IDEM Voluntary Remediation Program outlines, it may be submitted at this time. Please let me know if there are any other documents associated with your remediation that should also be included in our review.

If you have any questions please contact me at (317) 234-0971, 1-800-451-6027, or at bwiering@dem.state.in.us.

Sincerely,

Bill Wieringa, Project Manager
Voluntary Remediation Program
Office of Land Quality

Voluntary Remediation Agreement
Relating to Royal Metals

City of Michigan City, IN &	
M.C. Economic Development Corp.	)
Michigan City, Indiana	)
	)
Applicants	)
	)
Voluntary Remediation at:	)
Royal Metals	)
Michigan City, IN	)
	)
IDEM Project # 6020115	)
	)
Proceeding under	)
the Environmental	)
Management Act	)
(Indiana Code 13-25-5)	)

I. INTRODUCTION

1. The Indiana Department of Environmental Management ("IDEM"), by its Commissioner or his or her designee ("Commissioner"), and City of Michigan City, IN & M.C. Economic Development Corp. ("Applicant"), hereby enter into this Voluntary Remediation Agreement ("Agreement"), pursuant to IC § 13-25-5-8, for the purpose of remediating the release of hazardous substances or petroleum at Royal Metals, Michigan City, LaPorte County, Indiana.

II. JURISDICTION

2. This Agreement is entered into by and between Applicant and IDEM, by its Commissioner, pursuant to IC § 13-25-5-8, hereafter collectively referred to as the "Parties."

3. The Parties agree to the following terms and conditions for the evaluation and implementation of the Voluntary Remediation Work Plan ("Remediation Work Plan"), to waive their rights to administrative and judicial review of the binding effect and enforceability of the Agreement, and to not contest the jurisdiction of IDEM to enter into this Agreement. However, the Applicant reserves all rights it may have under common law, Indiana law, and federal law to seek contribution or indemnity from others not signatories to this Agreement.

4. By entering into this Agreement, the Applicant neither admits nor denies liability.

III. STATEMENT OF ELIGIBILITY

5. The Commissioner has determined that the application submitted by Applicant is complete and that Applicant is eligible to participate in the Voluntary Remediation Program ("VRP") established under IC 13-25-5. However, neither the Commissioner's determination of eligibility nor the entry into this Agreement precludes any finding by the Commissioner at a later date that the Site poses an imminent and substantial threat to human health or the environment within the meaning of IC 13-25-5. In addition, if it is determined that Applicant withheld or misrepresented information that would be relevant to the Applicant's eligibility, IDEM may withdraw from this Agreement.

6. If it is determined that Applicant is eligible for the Indiana Underground Petroleum Storage Tank Excess Liability Fund pursuant to IC 13-23 and all applicable rules, Applicant may apply for reimbursement of the costs of the remediation required by this Agreement. However, Applicant expressly waives the right to claim reimbursement for costs paid to IDEM as Administrative Costs, as described in Section XIX, and for the application fee as provided in IC § 13-25-5-2.

7. Applicant shall comply with all applicable Indiana and federal requirements for corrective action. For purposes of determining compliance with applicable Indiana and federal requirements for Leaking Underground Storage Tank ("LUST") remediation and for determining eligibility for the Indiana Underground Petroleum Storage Tank Excess Liability Fund ("ELF"), IDEM will evaluate the Remediation Work Plan for consistency with guidance applicable to the LUST Program and ELF. Applicant shall notify the IDEM Project Manager if this evaluation is desired.

IV. PARTIES BOUND

8. This Agreement shall apply to and be binding upon the Applicant, its officers, directors, principals, employees, agents, successors, subsidiaries, and assigns, and upon IDEM, its employees, agents and successors. The signatories to this Agreement certify that they are fully authorized to execute this Agreement and legally bind the Parties they represent. No change in ownership, corporate, or partnership status of the Applicant shall in any way alter its status or responsibilities under this Agreement unless Applicant or IDEM withdraws from this Agreement.

9. The Applicant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred. The Applicant shall provide a copy of this Agreement to all contractors, sub-contractors, laboratories, and consultants that are retained to conduct any work performed under this Agreement, within fourteen (14) days after the effective date of this Agreement or within fourteen (14) days of the date of retaining their services.

V. DEFINITIONS

10. "Commissioner" shall mean the Commissioner of IDEM or her or his designee.

11. "Day" shall be defined as the 24-hour period from 12:00 A.M. up to but not including 12:00 A.M.

12. "Site" shall be used in the manner as defined by IC § 13-11-2-203(a) and includes the legal description of the facility located at 600 North Carroll Avenue, Michigan City, LaPorte County, Indiana.

13. All other terms contained in this Agreement shall be used in the manner as defined by IC 13-11-2.

VI. STATEMENT OF PURPOSE

14. This Agreement sets forth the terms and conditions of evaluation and implementation of a Remediation Work Plan proposed by the Applicant for the remediation of the release or threatened release of petroleum or hazardous substances from the Site.

15. The activities conducted by the Applicant under this Agreement are subject to approval by IDEM. Applicant shall provide all necessary information for a Remediation Work Plan for the Site. The activities conducted by the Applicant shall be consistent with this Agreement, all applicable laws and regulations, and appropriate guidance documents as described in Paragraphs 16. Applicant shall employ sound scientific, engineering, and construction practices.

VII. WORK TO BE PERFORMED

16. All work to be performed by the Applicant pursuant to this Agreement shall be under the direction and supervision of qualified person(s) with expertise in hazardous substance or petroleum site investigation and remediation. This individual may or may not be designated by Applicant as Applicant's Project Manager in Paragraph 25. Prior to the initiation of Site work, the Applicant shall notif' 'DEM, in writing, regarding the name, title, and qualifications of such qualified person and of any contractors and/or subcontractors to be used in carrying out the terms of this Agreement. All work performed and all documents submitted shall be in accordance with all VRP guidance documents available and in effect as of the Effective Date of this Agreement. The Applicant may elect to comply with either the VRP's *Resource Guide* (July, 1996 edition) or the guidance pertaining to IDEM's *Risk-Integrated System of Closure* in accordance with the RISC Transition Policy (adopted by the RISC Nonrule Policy Statement (Waste-0046-NPD, 24 Ind. Reg. 1986 (2001)) and attached hereto). In the event that this Agreement is not executed or submitted in the time and manner specified in the RISC Transition Policy, the applicant shall comply with the guidance pertaining to IDEM's *Risk-Integrated System of Closure*. The Applicant may supplement this guidance with guidance or other documents approved by VRP. Guidance documents identified in this Agreement are named for the convenience of the

Applicant; the failure to specify a specific guidance document in this Agreement shall not be construed as a limitation on the applicability of a guidance document.

17. Applicant may, at Applicant's discretion, submit to IDEM an Investigation Work Plan detailing the investigation of the nature and extent of the contamination at the Site. The Investigation Work Plan, including the Investigation Work Plan format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

(a) The Investigation Work Plan shall include the following project plans: (1) a quality assurance project plan; (2) a sampling and analysis plan; (3) a health and safety plan; (4) a schedule for implementation of all tasks set forth in the Investigation Work Plan; and (5) a data management plan.

(b) IDEM may require Applicant to submit additional or corrected information pursuant to IC § 13-25-5-9(b).

(c) The Investigation Work Plan shall be subject to review and evaluation for technical sufficiency by IDEM within approximately sixty (60) days of receipt. IDEM's failure to act on the Investigation Work Plan shall not constitute IDEM's acceptance of the Investigation Work Plan. Acceptance of the Investigation Work Plan by the IDEM Project Manager shall not preclude IDEM from requiring further investigation before final approval of the Remediation Work Plan is given.

18. Applicant may, at Applicant's discretion, submit to IDEM an Investigation Report detailing the results of an investigation of the nature and extent of the contamination at the Site. The Investigation Report may be, but need not be, the results of the Investigation Work Plan in Paragraph 17.

(a) The Investigation Report, including the Investigation Report format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

(b) IDEM may require Applicant to submit additional or corrected information pursuant to IC 13-25-5-9(b).

(c) The Investigation Report shall be subject to review and evaluation for technical sufficiency by IDEM within approximately sixty (60) days of receipt. IDEM's failure to act on the Investigation Report shall not constitute IDEM's acceptance of the Investigation Report. Acceptance of the Investigation Report by the IDEM Project Manager shall not preclude IDEM from requiring further investigation before final approval of the Remediation Work Plan is given.

19. The Applicant shall submit a Remediation Work Plan not later than one hundred eighty (180) days after the date this Agreement is executed, or longer if an extension is agreed to by the Parties. If Applicant fails to submit the Remediation Work Plan within that period, the Agreement is voidable at the discretion of IDEM. If IDEM determines the Agreement is void, all

protection provided under IC § 13-25-5-18(e) is extinguished. In the event this Agreement is voided, the Applicant shall remain responsible to IDEM under Section XIX, Administrative Costs. The Remediation Work Plan must specify the objectives for the remediation of hazardous substances or petroleum that are based on: background levels of hazardous substances and petroleum that occur naturally on the Site; or, an assessment of the risks posed by the hazardous substances and petroleum, taking into consideration the expected future use of the Site and measurable risks to human health, natural resources, or the environment. Risk based objectives shall be based on one of the following: 1) levels of hazardous substances and petroleum calculated by IDEM using standard equations and default values for that particular contaminant; 2) levels of hazardous substances and petroleum calculated using site specific data for the default values in IDEM's standard equations; or, 3) levels of hazardous substances and petroleum developed based on site specific risk assessments that take into account site specific factors. The Remediation Work Plan, including the Remediation Work Plan format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

20. The Remediation Work Plan shall include: (1) a detailed description of the investigation conducted by the Applicant in preparing the Remediation Work Plan and a description of the work performed by the Applicant to determine the nature and extent of the actual or threatened release; (2) a proposed statement of work to accomplish the remediation in accordance with guidelines established by the department; and (3) the following project plans: (a) a quality assurance project plan, (b) a sampling and analysis plan, (c) a health and safety plan, (d) a community relations plan, (e) a schedule for implementation of all tasks set forth in the Remediation Work Plan, and (f) a data management plan. The community relations plan shall be consistent with the *Voluntary Remediation Program Community Relations Plan* non-rule policy document, 24 Ind. Reg. 2598 (May 1, 2001).

21. IDEM may request Applicant to submit additional or corrected information pursuant to IC § 13-25-5-9(b). The Applicant may comply with the request or withdraw the proposed plan from consideration.

22. The Remediation Work Plan shall be subject to review and evaluation by IDEM pursuant to IC § 13-25-5-9(a) for approximately sixty (60) days after receipt of the Remediation Work Plan. IDEM's failure to act on the Remediation Work Plan shall not constitute IDEM's acceptance of the Remediation Work Plan. Additionally, IDEM may request the applicant to supply additional information or corrected information pursuant to IC § 13-25-5-9(b). This time period shall not include the time required for public comment under IC § 13-25-5-11.

23. The Commissioner shall make a determination concerning the approval, modification and approval, or rejection of the Remediation Work Plan within thirty (30) days of close of the public comment period provided for in IC § 13-25-5-11 and notify the Applicant of the determination as provided in IC § 13-25-5-12 or IC § 13-25-5-13.

24. If the Applicant desires to proceed with the implementation of the approved Remediation Work Plan, the Applicant must notify IDEM in writing not more than sixty (60) days after the Remediation Work Plan is approved. After providing such notice, the Applicant

shall initiate the work detailed in the Remediation Work Plan according to the schedule as set forth in the Remediation Work Plan. Upon IDEM's receipt of notice that the Applicant intends to proceed, the fully approved Remediation Work Plan shall be deemed incorporated into and made an enforceable part of this Agreement.

VIII. ADDRESSES FOR ALL CORRESPONDENCE

25. Documents, including reports, approvals, notifications, disapprovals, and other correspondence, to be submitted under this Agreement, may be sent by U.S. First Class mail, hand delivery, overnight mail, or by courier service to the following addresses or to such addresses as the Applicant or IDEM may designate in writing.

Documents to be submitted to IDEM shall be sent to:

Bill Wieringa
Voluntary Remediation Project Manager
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 234-0971

Documents to be submitted to the Applicant shall be sent to:

Anthony Rodriguez
M.C. Economic Development Corp.
100 E. Michigan Blvd.
Michigan City, IN 46360
(219) 873-1211

IX. COMPLIANCE WITH APPLICABLE LAWS

26. All work undertaken by the Applicant pursuant to this Agreement shall be performed in compliance with all applicable federal, state and local laws, ordinances and regulations, including, but not limited to, all Occupational Safety and Health Administration, Department of Transportation and Resource Conservation and Recovery Act regulations. In the event of a conflict in the application of federal, state, or local laws, ordinances, or regulations, the Applicant shall comply with the more/most stringent of such laws, ordinances, or regulations, unless provided otherwise in writing by IDEM. Where it is determined that a permit is required under law, Applicant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. The Applicant shall be responsible for obtaining all permits that are necessary for the performance of any work hereunder.

27. Nothing in IC 13-25-5 relieves Applicant of its obligations or responsibilities under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, including, but not limited to, the duty to meet any permit conditions, financial responsibility, closure, post-closure or corrective action,, regardless of whether the Remediation Work Plan addressed the contaminants or property at issue.

28. Nothing in this Agreement, the Certificate of Completion, or the Covenant Not To Sue shall be construed to relieve the Applicant of any natural resource damage liability arising from contaminants, even if addressed by the Remediation Work Plan, including under the following authorities: 42 U.S.C. § 9601 *et seq.* (CERCLA), 33 U.S.C. § 2701 *et seq.*, IC § 13-25-4-8, or any common law theories of public trust doctrine in Indiana. Applicant agrees that the period from the Effective Date of this Agreement until the Agreement is terminated or satisfied shall toll all statutes of limitations applicable to the contaminants addressed by the Remediation Work Plan.

29. A Certificate of Completion and Covenant Not To Sue issued under Section XXV (Termination and Satisfaction) shall not release Applicant from liability for claims for natural resources damages. Applicant may devise and carry out a plan for restoration, rehabilitation, replacement, or acquisition of equivalent natural resources or pay to the State the value of the natural resources, as determined by the Natural Resource Trustees. The plan may be developed and implemented as part of the Remediation Work Plan. If Applicant wishes to address natural resource damages in the Remediation Work Plan, Applicant shall so indicate in the notice to the State and Federal Natural Resources Trustees per Section X (Interagency Coordination).

30. After receiving notice of Applicant's desire to address natural resource damages, the Natural Resources Trustees may perform a pre-assessment screen for injury to, destruction of, or loss of natural resources. The Applicant expressly agrees to reimburse IDEM for any and all costs incurred by either IDEM or the Indiana Department of Natural Resources in performing the pre-assessment screen. The Applicant will perform the assessment of damages based on the pre-assessment screen. This Agreement and the Covenant Not To Sue issued hereunder do not alter the liability of Applicant or any other person to the federal government for claims of natural resource damages under any federal law.

X. INTERAGENCY COORDINATION

31. The following agencies may have an interest in the Remediation Work Plan because of concurrent jurisdiction over the Site:

1. Indiana Department of Natural Resources
   Fish & Wildlife Division
   Rm-W273
   402 W. Washington, Indianapolis, IN 46204
   Attn: Mr. Wayne Faatz
   Phone: (317) 232-4080
   Fax: (317) 233-4579

2. Indiana State Department of Health
   Epidemiology Resource Center
   Rm 234W
   1330 W. Michigan St.
   Indianapolis, IN 46202

3. Fire Prevention and Building Safety Commission
   Office of the Fire Marshal
   Rm E-241
   402 W. Washington St.
   Indianapolis, IN 46204
   Phone: (317) 232-2222
   Fax: (317) 233-0307

4. U.S. Department of Interior
   Fish & Wildlife Service
   Bloomington Ecological Services Field Office
   620 South Walker Street
   Bloomington, Indiana 47403-2102
   Telephone: (812) 334-4261
   Fax: (812) 334-4273

32. The Applicant shall provide notice to these agencies of the submission of the Remediation Work Plan by sending them a copy of the Remediation Work Plan Executive Summary, a Site map, and the names of the Project Managers for IDEM and Applicant. Any of the above named agencies that wish to review the Remediation Work Plan shall be given an opportunity by IDEM to comment during the time that IDEM is reviewing the Remediation Work Plan. IDEM shall consider any comments from state agencies that are received at least thirty (30) days prior to the deadline established in this Agreement for approval or rejection of the Remediation Work Plan. If Applicant wishes to address natural resource damages in the Remediation Work Plan, Applicant shall so notify the State and Federal Natural Resources Trustees within thirty (30) days of the Effective Date of this Agreement.

XI. DESIGNATED PROJECT MANAGER

33. On or before the Effective Date of this Agreement, IDEM and the Applicant shall each designate a Project Manager. Each Project Manager shall be responsible for overseeing the implementation of this Agreement. The IDEM Project Manager will be the designated IDEM representative at the Site. To the maximum extent possible, communications between the Applicant and IDEM and all documents (including reports, approvals, and other correspondence) concerning the activities performed pursuant to this Agreement shall be directed through the Project Managers. During implementation of this Agreement, the Project Managers shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Each Party has the right to change its respective Project Manager, which Party shall notify the other Party of the change in writing and in a timely fashion.

34. The IDEM Project Manager shall have the authority to halt, conduct, or direct any work required by this Agreement and/or any response actions or portions thereof if Site conditions present an imminent and substantial threat to human health or the environment. In the event that the IDEM Project Manager halts work pursuant to this paragraph, the schedule of work described in the Remediation Work Plan and this Agreement shall be modified accordingly, or IDEM may withdraw its approval of the Remediation Work Plan pursuant to Section XVIII (Reservation of Rights).

35. The absence of the Applicant's or IDEM's Project Manager from the Site shall not be cause for the stoppage of work. The Applicant's Project Manager or his or her supervisor shall reasonably be available by telephone while work is being performed at the Site. The Applicant's Project Manager shall designate a person to be in charge who will be available at the Site when work is being performed at the Site.

XII. QUALITY ASSURANCE

36. The Applicant shall use quality assurance, quality control, and chain of custody procedures in accordance with the Quality Assurance Project Plan approved for use by IDEM throughout any sample collection and analysis activities under this Agreement, unless IDEM agrees otherwise.

37. Applicant shall provide the IDEM Project Manager with reasonable advance notice of all sampling and analysis as detailed in the Investigation or Remediation Work Plans. IDEM requires the presence of an IDEM representative during any sampling that the Applicant uses as confirmation sampling. To provide quality assurance and maintain quality control, the Applicant shall do each of the following.

(a) Applicant shall allow IDEM personnel and/or IDEM authorized representatives reasonable access to laboratories and personnel utilized by the Applicant for analyses.

(b) Applicant shall ensure that all sampling and analyses are performed according to U.S. EPA methods, the approved Quality Assurance Project Plan, or other methods deemed satisfactory by IDEM.

(c) Applicant shall ensure that any laboratories used by the Applicant for analyses participate in a documented Quality Assurance/Quality Control program that complies with U.S. EPA guidance documents. As part of such a program, and upon request by IDEM, such laboratories shall perform analyses of samples provided by IDEM to demonstrate the quality of analytical data for each such laboratory.

(d) Applicant shall perform confirmatory sampling for all contaminants and all media for which a Certificate of Completion and Covenant Not To Sue are sought. Applicant shall specify in the Remediation Work Plan the means of taking confirmatory samples and notify IDEM personnel a minimum of fourteen (14) days prior to taking confirmatory samples.

38. IDEM reserves the right to reject any data not gathered consistent with the requirements of this section and Section XIII (Sampling and Data/Document Availability) and to require that the Applicant utilize a different laboratory.

XIII. SAMPLING AND DATA/DOCUMENT AVAILABILITY

39. The Applicant shall, upon request, make the results of all sampling, including raw data, and/or tests or other data generated by the Applicant, or on the Applicant's behalf, available to IDEM. IDEM will make available to the Applicant the quality assured results of sampling and/or tests or other data similarly generated by IDEM.

40. At the request of IDEM, the Applicant shall provide to IDEM (and/or its authorized representative) splits or duplicates of any samples collected by the Applicant pursuant to the implementation of this Agreement. At the request of the Applicant, IDEM (or its authorized representative) shall provide split or duplicate samples to the Applicant of any samples collected by IDEM and/or its authorized representative pursuant to the implementation of this Agreement. Each Party shall notify the other in advance of any sample collection activity.

XIV. ACCESS

41. To the extent that the Site or other areas where work is to be performed hereunder are presently owned or controlled by parties other than those bound by this Agreement, the Applicant shall obtain access agreements from the present owners. Such agreements shall provide access for IDEM and authorized representatives of IDEM, as specified below. In the event that access to the Site is not obtained, the Applicant shall so notify IDEM, which may at its discretion assist the Applicant in gaining access. IDEM may withdraw from or modify this Agreement should the Applicant's inability to gain access to the Site or other areas materially affect the Applicant's ability to perform the work required herein.

42. The Applicant shall provide authorized representatives of IDEM access to the Site and other areas where work is to be performed at all reasonable times. Such access shall be related solely to the work being performed on the Site and shall include, but not be limited to: inspecting records, operating logs, and contracts related to the Site; reviewing the progress of the Applicant in carrying out the terms of this Agreement; conducting such tests, inspections, and sampling as IDEM may deem necessary; using a camera, sound recording, or other documentary equipment for field activities; and, verifying the data submitted to IDEM by the Applicant hereunder. The Applicant shall permit IDEM's authorized representatives to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, which pertain to this Agreement and over which the Applicant exercises control. All persons with access to the Site pursuant to this Agreement shall comply with the approved Health and Safety Plan and established health and safety protocols.

43. Nothing herein shall be construed as restricting the inspection or access authority of IDEM under any law or regulation. Furthermore, nothing herein shall be construed as restricting the authority of IDEM to abate any pollution or contamination at the Site.

XV. RECORD PRESERVATION

44. The Applicant agrees to preserve, during the pendency of this Agreement and for a minimum of six (6) years after its termination, all records and documents in the Applicant's possession or in the possession of its employees, agents, accountants, contractors, which relate in any way to the subject matters covered by this Agreement. Upon request by IDEM, the Applicant shall make available to IDEM such records or copies of any such records. After this six (6) year period, the Applicant shall notify IDEM in writing thirty (30) days prior to the destruction of any such documents. At that time, if IDEM requests that some or all documents be preserved for a longer period of time, the Applicant shall provide IDEM with the documents that IDEM wishes to preserve.

45. Applicant may assert a confidentiality claim with respect to any or all of the information requested or submitted pursuant to this Agreement, pursuant to applicable laws and rules including IC 13-14-11, IC 5-14-3, and 329 IAC 6.1-3. Applicant shall adequately substantiate any assertion of confidentiality when the assertion is made. Information determined to be confidential by IDEM shall be disclosed only to the extent permitted by law. If no such confidentiality claim accompanies the information when it is submitted to IDEM, it may be made available to the public by IDEM without further notice to the Applicant. Applicant agrees not to assert any confidentiality claim with regard to any physical or analytical data.

XVI. DISPUTE RESOLUTION

46. This section (Dispute Resolution) shall apply to any dispute arising under any section of this Agreement, unless specifically excepted.

47. The Parties shall use their best efforts, in good faith, to resolve all disputes or differences of opinion informally. If, however, disputes arise concerning this Agreement which the Parties are unable to resolve informally, the Applicant may present written notice of such dispute to IDEM and set forth specific points of dispute and the position of the Applicant. This written notice shall be submitted no later than five (5) business days after the Applicant discovers the Project Managers are unable to resolve the dispute. The Applicant's Project Manager will notify IDEM's Project Manager immediately by phone or other appropriate method of communication, prior to written notice, when s/he believes the Parties are unable to resolve a dispute.

48. Within ten (10) business days of receipt of such a written notice, IDEM shall provide a written response to the Applicant setting forth its position and the basis therefor. During the five (5) business days following the receipt of the response, the Parties shall attempt to negotiate in good faith a resolution of their differences.

49. Following the expiration of the time periods described in the immediately preceding paragraph, if IDEM concurs with the position of the Applicant, the Applicant shall be notified in writing. This Agreement and the Remediation Work Plan shall be modified to include any necessary extensions of time or variances of work. If IDEM does not concur with the position of the Applicant, IDEM, through the Commissioner, shall make a determination regarding the dispute, based upon and consistent with the terms of this Agreement, and shall provide written determination of such resolution to the Applicant. In the event that such determination is not acceptable to either Party, either Party may submit the dispute to an impartial third party for mediation in the following manner:

(a) The Parties shall select a mediator from the Indiana Supreme Court's approved list of mediators as established by the Indiana Rules of Alternative Dispute Resolution (ADR Rules) within five (5) business days of Applicant's receipt of the Commissioner's determination. In the event such a list does not exist or does not contain mediators that the Parties agree are qualified to mediate environmental disputes, the Parties shall use a mutually acceptable list and select a mediator within five (5) business days of compilation of such other mutually acceptable list. In addition to the qualifications required by the ADR Rules, the mediator shall have experience in environmental issues.

(b) The dispute shall be initially submitted to the mediator via a written request for dispute resolution through mediation; the written request shall be issued within ten (10) business days after notification of the Parties of IDEM's final determination of the dispute, as provided by Paragraph 49(a) of this section. The request for assistance shall include the written determination of the Commissioner issued pursuant to Paragraph 49(a) and the documents specified in Paragraphs 47 and 48 of this section, Dispute Resolution. A copy of the written request shall be delivered to the other Parties at the time the request is made.

(c) The Party which submitted the dispute to mediation may make a written submission in support of its position to the mediator within ten (10) business days of the mediator's selection, and any other Party may make a written response in support of its position within seven (7) business days thereafter. The mediator shall immediately thereafter contact all Parties and determine the course of the mediation, including scheduling any meetings deemed necessary.

(d) The mediation process shall be conducted in accordance with Indiana Rules of Alternative Dispute Resolution in any aspect not covered by this Agreement.

(e) The mediator and the Parties shall proceed with reasonable promptness to resolve the dispute.

(f) All communications, whether oral or written, between the mediator and the Parties, shall be not confidential in accordance with the Indiana Rules for Alternative Dispute Resolution Rule 2.12, and to the extent allowed under Indiana law.

(g) The cost of the mediator shall be included in the administrative costs paid by the Applicant. IDEM's costs of mediation shall be included in the administrative costs paid by the Applicant, except to the extent that the mediator determines that IDEM acted unreasonably. The Applicant shall pay the Applicant's costs of mediation.

50. If either Party determines or the mediator declares that the dispute cannot be resolved through the mediation process, the Parties retain all rights under the Indiana Administrative Orders and Procedures Act, IC 4-21.5.

51. Until the dispute is resolved, any actions concerning that element of work in dispute shall be halted. The resolution of the dispute shall be incorporated into the Remediation Work Plan and made an enforceable part thereof. The time schedule for the work in dispute shall be extended by the amount of time needed for resolution. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the Remediation Work Plan.

52. Elements of work and any actions required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure, and into this Agreement. The Applicant shall proceed with all remaining work according to the modified plan or procedure.

XVII. FORCE MAJEURE

53. The Applicant shall cause all work or required reporting to be performed within the time limits set forth herein, unless performance is delayed by events that constitute a force majeure. For purposes of this Agreement, a force majeure is an event arising from circumstances beyond the reasonable control of the Applicant which delays performance of any obligations required by this Agreement. Increases of costs shall not be considered an event of force majeure.

54. The Applicant shall notify IDEM by calling IDEM's Project Manager within three (3) days and by writing no later than seven (7) days after any event that the Applicant contends is a force majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the Applicant to minimize the delay, and the timetable by which these measures will be implemented. The Applicant shall have the burden of demonstrating that the event is a force majeure. The Commissioner shall make the decision of whether an event is a force majeure. This decision shall be promptly communicated to Applicant.

55. If a delay is attributable to a force majeure as determined in this section, the time period for performance under this Agreement shall be extended by IDEM, in writing, by the amount of time that is attributable to the event constituting the force majeure.

XVIII. RESERVATION OF RIGHTS

56. IDEM and Applicant reserve all rights and defenses they may have pursuant to any available legal authority unless expressly waived herein.

57. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of action, or demands, in law or in equity, that the Parties may have against any person, firm, partnership, or corporation, not a Party to this Agreement, for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release, or disposal of any materials, hazardous substances, hazardous waste, contaminants, or pollutants at, to, or from the Site. The Parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not Parties to this Agreement, and as to each other for matters not covered in this Agreement.

58. The Applicant reserves the right to seek contribution, indemnity, or any other available remedy against any person other than IDEM found to be responsible or liable for contributions, indemnity, or otherwise for any amounts which have been or will be expended by the Applicant in connection with the Site.

59. IDEM reserves the right to bring an action, including an administrative action, against Applicant for any violations of statutes or regulations except for the specific violations or releases that are being remediated in the Remediation Work Plan.

60. Pursuant to IC 13-25-5, IDEM may withdraw its approval of the Remediation Work Plan at any time during the implementation of the Remediation Work Plan if:

(a) IDEM determines that the Applicant has failed to substantially comply with the terms and conditions of this Agreement or the Remediation Work Plan;

(b) the Applicant declines to implement the Remediation Work Plan after being notified of its approval by IDEM; or

(c) IDEM determines that a hazardous substance or petroleum has become an imminent or substantial threat to human health or the environment.

Upon withdrawal of its approval, this Agreement shall be terminated and IDEM reserves the right to bring any action to enforce any statute or regulation under Title 13 of the Indiana Code, including an action regarding the violations or releases that were the subject of this Agreement.

61. IDEM acknowledges that, pursuant to IC § 13-25-5-20(b), Applicant, upon receipt of the Certificate of Completion, is not liable for claims for contribution concerning matters addressed in the Remediation Work Plan or the Certificate of Completion.

XIX. ADMINISTRATIVE COSTS

62. Applicant agrees to reimburse IDEM for all of its Administrative Costs associated with implementation of this Agreement. An itemized list of estimated Administrative Costs that IDEM expects to incur under this Agreement will be forwarded to the Applicant as soon as is practicable.. This estimate does not bind IDEM to a maximum cost that IDEM is entitled to bill the Applicant under this Agreement.

63. IDEM shall routinely send an accounting of IDEM's Administrative Costs to Applicant. The accounting shall itemize all Administrative Costs incurred by IDEM. Applicant shall pay these Administrative Costs within thirty (30) days of receipt of the accounting. Interest shall accrue at a rate of one half percent (1/2 %) per month of delinquency. Applicant understands that IDEM may incur Administrative Costs after this Agreement is satisfied. IDEM may issue the Certificate of Completion and Covenant Not To Sue before IDEM has accounted for all Administrative Costs. Therefore, Applicant further understands that the Applicant may receive bills after the Certificate of Completion and the Covenant Not To Sue have been issued.

64. Checks shall be made payable to the Voluntary Remediation Fund and be mailed, along with a transmittal letter stating the Site name, number, and address, to the Indiana Department of Environmental Management; Attention: Cashier; 100 North Senate Avenue; P.O. Box 7060; Indianapolis, Indiana 46207-7060. In addition, a copy of the check and transmittal letter shall be mailed to IDEM Project Manager.

65. Administrative Costs include all actual costs, direct and indirect, of IDEM's oversight of this Agreement and the work contemplated herein including, but not limited to: time, salary, benefits, and travel costs of IDEM personnel and its contractors and associated indirect costs, contractor costs, compliance monitoring (such as the collection and analysis of split or duplicate samples, inspection of Applicant's activities, and Site visits), discussions regarding disputes that may arise as a result of this Agreement, review and approval or disapproval of reports, and the costs of dispute resolution as provided in Section XVI (Dispute Resolution). Administrative Costs shall also include the actual costs incurred by IDEM in having a qualified person oversee

the conduct of the Applicant under this Agreement and the Remediation Work Plan. Administrative Costs shall include an additional amount not to exceed ten percent (10%). As authorized by IC § 13-25-5-8(a), IDEM considers this additional amount to be reasonable and necessary for the effective and efficient implementation of the Voluntary Remediation Program and to ensure that IDEM meets its obligations and all other expenses not covered above. IDEM will not issue the Certificate of Completion or the Covenant Not To Sue before the payment of any Administrative Costs that are due and payable. Costs incurred prior to and after satisfaction of this Agreement must be paid regardless of the issuance of the Certificate of Completion and the Covenant Not To Sue.

66. In the event that this Agreement is terminated for any reason, Applicant agrees to reimburse IDEM for all of its Administrative Costs incurred to the time of termination. IDEM agrees to reimburse Applicant any unused portion of the application fee in accordance with IC § 13-25-5-8(b)(2).

XX. COMMUNITY RELATIONS

67. In addition to performing the requirements specified in the Community Relations Plan in the Applicant's Remediation Work Plan, the Applicant shall cooperate with IDEM in providing information about the Remediation Work Plan to the public. IDEM will give the Applicant reasonable advance notice of and may require the Applicant's or its agent's attendance at any such public meetings it may hold or sponsor at times and locations which are agreed upon by IDEM and the Applicant.

68. Before the Commissioner may approve or disapprove the Remediation Work Plan, the Commissioner shall provide thirty (30) days for public comment pursuant to IC § 13-25-5-11.

69. IDEM shall maintain a public information file containing the Remediation Work Plan during the thirty (30) day Public Comment period at a public repository near the Site. Applicant shall provide the location of a suitable public repository in accordance with applicable guidance.

XXI. NOTICE OF BANKRUPTCY OR DEATH

70. As soon as Applicant has knowledge of its intention to file bankruptcy or no later than seven (7) days after the actual filing of a voluntary or involuntary bankruptcy petition, Applicant shall notify IDEM of the filing of a bankruptcy petition. If an Applicant dies, as soon as a personal representative of a deceased Applicant's estate becomes aware of this VRP project, the personal representative shall notify IDEM of the probate of the estate. IDEM shall be notified as a creditor of the bankruptcy and/or estate. IDEM's claim may be a contingent claim, in whole or in part, as there may be oversight costs due after the closing of the bankruptcy and/or probate estate.

XXII. INDEMNIFICATION

71. The Applicant agrees to indemnify and hold the State of Indiana, its agencies, departments, agents, and employees, harmless from any and all claims or causes of action arising from, or on account of, acts or omissions of the Applicant, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Agreement.

XXIII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

72. The Effective Date of this Agreement shall be the date on which the Commissioner signs this Agreement.

73. This Agreement may be amended by mutual agreement of IDEM and the Applicant. Amendments shall be in writing and shall be effective when signed by the Commissioner.

XXIV. EXTENSIONS OF TIME PERIODS

74. Any written response shall be deemed timely performed if hand delivered or postmarked by the last day of any time period prescribed herein. Whenever a Party has the right or an obligation to do some act or make some response within a prescribed period after the service of a notice by mail, three (3) days shall be added to the prescribed period.

75. Whenever any Party is called upon to respond or otherwise act in a certain number of days, and the final day occurs on a Saturday, Sunday or legal holiday (whether state or national), such time limitation shall automatically extend to the next business day after such Saturday, Sunday or legal holiday.

76. Any time periods specified in this Agreement may be extended only by agreement of the Parties.

XXV. TERMINATION AND SATISFACTION

77. The provisions of this Agreement shall be satisfied when IDEM issues a Certificate of Completion to the Applicant. The Parties understand that IDEM will issue the Certificate of Completion to the Applicant only. Termination or satisfaction of this Agreement does not end the obligations found in Section XV (Record Preservation) and Section XIX (Administrative Costs). The Applicant shall continue to responsible under Section XV (Record Preservation) and Section XIX (Administrative Costs) for the performance of the duties specified therein regardless of the termination or satisfaction of this Agreement.

78. Nothing in this Agreement shall restrict the State of Indiana from seeking other appropriate relief to protect human health or the environment from pollution or contamination at or from this Site not remediated in accordance with this Agreement.

79. After IDEM issues the Certificate of Completion, the Governor's Office shall provide Applicant with a Covenant Not To Sue pursuant to IC § 13-25-5-18. The Covenant Not To Sue shall contain a listing of the specific work and contaminants covered. The Parties understand that the Governor's Office will issue the Covenant Not To Sue to the Applicant only.

XXVI. PRECEDENCE OF AGREEMENT

80. In the event that conflict arises among the terms and conditions of this Agreement or the approved Remediation Work Plan, this Agreement shall govern and the terms and conditions hereunder shall determine the Parties' rights and responsibilities.

IN WITNESS WHEREOF, the following hereby execute this Voluntary Remediation Agreement:

For the Applicant:

Applicant (please type)

By: Anthony P. Rodriguez

Title: Executive Director
Michigan City Eco. Dev. Corp.

Date: 2/15/2002

Attorney for the Applicant (please type)

By: Larry J. Allen, Jr.

Title: Corporation Counsel

Date: 2/15/2002

For the Indiana Department of Environmental Management:

TECHNICAL RECOMMENDATION:

By:
Peggy Dorsey
Section Chief
Voluntary Remediation Program

Date: Feb. 21, 2002

APPROVED FOR LEGALITY AND FORM:

By:
Thomas W. Baker
Attorney
Office of Legal Counsel

Date: March 7, 2002

Approved and adopted by the Indiana Department of Environmental Management

this 15TH day of MARCH, 2002.

Assistant Commissioner
Office of Land Quality

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

March 18, 2002

Anthony Rodriguez
Michigan City Economic Development Corp.
100 E. Michigan Boulevard
Michigan City, IN 46360

Re: Voluntary Remediation Agreement
Schmock Oil Company
1111 W. Garfield Street
Michigan City, IN
VRP #: 6020114

Dear Mr. Rodriguez:

Please find enclosed a copy of the Voluntary Remediation Agreement (VRA) for the Schmock Oil Company site in Michigan City, Indiana. The VRA has been signed by the Assistant Commissioner of the Indiana Department of Environmental Management.

If an investigation report and/or remediation work plan report has been completed for the site according to IDEM Voluntary Remediation Program outlines, it may be submitted at this time. Please let me know if there are any other documents associated with your remediation that should also be included in our review.

If you have any questions please contact me at (317) 234-0967, 1-800-451-6027, or at bdayhars@dem.state.in.us.

Sincerely,

Brent A. Dayharsh

Brent A. Dayharsh, Project Manager
Voluntary Remediation Program
Office of Land Quality

Voluntary Remediation Agreement
Relating to Schmock Oil Company

City of Michigan City, IN	)
Michigan City, Indiana	)
	)
Applicant	)
	)
Voluntary Remediation at:	)
Schmock Oil Company	)
1111 W. Garfield Street	)
Michigan City, IN 46360	)
IDEM Project # 6020114	)
	)
Proceeding under	)
the Environmental	)
Management Act	)
(Indiana Code 13-25-5)	)

I. INTRODUCTION

1. The Indiana Department of Environmental Management ("IDEM"), by its Commissioner or his or her designee ("Commissioner"), and the City of Michigan City, Indiana ("Applicant"), hereby enter into this Voluntary Remediation Agreement ("Agreement"), pursuant to IC § 13-25-5-8, for the purpose of remediating the release of hazardous substances or petroleum at Schmock Oil Company, Michigan City, Laporte County, Indiana.

II. JURISDICTION

2. This Agreement is entered into by and between Applicant and IDEM, by its Commissioner, pursuant to IC § 13-25-5-8, hereafter collectively referred to as the "Parties."

3. The Parties agree to the following terms and conditions for the evaluation and implementation of the Voluntary Remediation Work Plan ("Remediation Work Plan"), to waive their rights to administrative and judicial review of the binding effect and enforceability of the Agreement, and to not contest the jurisdiction of IDEM to enter into this Agreement. However, the Applicant reserves all rights it may have under common law, Indiana law, and federal law to seek contribution or indemnity from others not signatories to this Agreement.

4. By entering into this Agreement, the Applicant neither admits nor denies liability.

III. STATEMENT OF ELIGIBILITY

5. The Commissioner has determined that the application submitted by Applicant is complete and that Applicant is eligible to participate in the Voluntary Remediation Program ("VRP") established under IC 13-25-5. However, neither the Commissioner's determination of eligibility nor the entry into this Agreement precludes any finding by the Commissioner at a later date that the Site poses an imminent and substantial threat to human health or the environment within the meaning of IC 13-25-5. In addition, if it is determined that Applicant withheld or misrepresented information that would be relevant to the Applicant's eligibility, IDEM may withdraw from this Agreement.

6. If it is determined that Applicant is eligible for the Indiana Underground Petroleum Storage Tank Excess Liability Fund pursuant to IC 13-23 and all applicable rules, Applicant may apply for reimbursement of the costs of the remediation required by this Agreement. However, Applicant expressly waives the right to claim reimbursement for costs paid to IDEM as Administrative Costs, as described in Section XIX, and for the application fee as provided in IC § 13-25-5-2.

7. Applicant shall comply with all applicable Indiana and federal requirements for corrective action. For purposes of determining compliance with applicable Indiana and federal requirements for Leaking Underground Storage Tank ("LUST") remediation and for determining eligibility for the Indiana Underground Petroleum Storage Tank Excess Liability Fund ("ELF"), IDEM will evaluate the Remediation Work Plan for consistency with guidance applicable to the LUST Program and ELF. Applicant shall notify the IDEM Project Manager if this evaluation is desired.

IV. PARTIES BOUND

8. This Agreement shall apply to and be binding upon the Applicant, its officers, directors, principals, employees, agents, successors, subsidiaries, and assigns, and upon IDEM, its employees, agents and successors. The signatories to this Agreement certify that they are fully authorized to execute this Agreement and legally bind the Parties they represent. No change in ownership, corporate, or partnership status of the Applicant shall in any way alter its status or responsibilities under this Agreement unless Applicant or IDEM withdraws from this Agreement.

9. The Applicant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred. The Applicant shall provide a copy of this Agreement to all contractors, sub-contractors, laboratories, and consultants that are retained to conduct any work performed under this Agreement, within fourteen (14) days after the effective date of this Agreement or within fourteen (14) days of the date of retaining their services.

V. DEFINITIONS

10. "Commissioner" shall mean the Commissioner of IDEM or her or his designee.

11. "Day" shall be defined as the 24-hour period from 12:00 A.M. up to but not including 12:00 A.M.

12. "Site" shall be used in the manner as defined by IC § 13-11-2-203(a) and includes the legal description of the facility located at 1111 W. Garfield Street, Michigan City, Laporte County, Indiana.

13. All other terms contained in this Agreement shall be used in the manner as defined by IC 13-11-2.

VI. STATEMENT OF PURPOSE

14. This Agreement sets forth the terms and conditions of evaluation and implementation of a Remediation Work Plan proposed by the Applicant for the remediation of the release or threatened release of petroleum or hazardous substances from the Site.

15. The activities conducted by the Applicant under this Agreement are subject to approval by IDEM. Applicant shall provide all necessary information for a Remediation Work Plan for the Site. The activities conducted by the Applicant shall be consistent with this Agreement, all applicable laws and regulations, and appropriate guidance documents as described in Paragraphs 16. Applicant shall employ sound scientific, engineering, and construction practices.

VII. WORK TO BE PERFORMED

16. All work to be performed by the Applicant pursuant to this Agreement shall be under the direction and supervision of qualified person(s) with expertise in hazardous substance or petroleum site investigation and remediation. This individual may or may not be designated by Applicant as Applicant's Project Manager in Paragraph 25. Prior to the initiation of Site work, the Applicant shall notify IDEM, in writing, regarding the name, title, and qualifications of such qualified person and of any contractors and/or subcontractors to be used in carrying out the terms of this Agreement. All work performed and all documents submitted shall be in accordance with all VRP guidance documents available and in effect as of the Effective Date of this Agreement. The Applicant may elect to comply with either the VRP's *Resource Guide* (July, 1996 edition) or the guidance pertaining to IDEM's *Risk-Integrated System of Closure* in accordance with the RISC Transition Policy (adopted by the RISC Nonrule Policy Statement (Waste-0046-NPD, 24 Ind. Reg. 1986 (2001)) and attached hereto). In the event that this Agreement is not executed or submitted in the time and manner specified in the RISC Transition Policy, the applicant shall comply with the guidance pertaining to IDEM's *Risk-Integrated System of Closure*. The Applicant may supplement this guidance with guidance or other documents approved by VRP. Guidance documents identified in this Agreement are named for the convenience of the Applicant; the failure to specify a specific guidance document in this Agreement shall not be construed as a limitation on the applicability of a guidance document.

17. Applicant may, at Applicant's discretion, submit to IDEM an Investigation Work Plan detailing the investigation of the nature and extent of the contamination at the Site. The Investigation Work Plan, including the Investigation Work Plan format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

(a) The Investigation Work Plan shall include the following project plans: (1) a quality assurance project plan; (2) a sampling and analysis plan; (3) a health and safety plan; (4) a schedule for implementation of all tasks set forth in the Investigation Work Plan; and (5) a data management plan.

(b) IDEM may require Applicant to submit additional or corrected information pursuant to IC § 13-25-5-9(b).

(c) The Investigation Work Plan shall be subject to review and evaluation for technical sufficiency by IDEM within approximately sixty (60) days of receipt. IDEM's failure to act on the Investigation Work Plan shall not constitute IDEM's acceptance of the Investigation Work Plan. Acceptance of the Investigation Work Plan by the IDEM Project Manager shall not preclude IDEM from requiring further investigation before final approval of the Remediation Work Plan is given.

18. Applicant may, at Applicant's discretion, submit to IDEM an Investigation Report detailing the results of an investigation of the nature and extent of the contamination at the Site. The Investigation Report may be, but need not be, the results of the Investigation Work Plan in Paragraph 17.

(a) The Investigation Report, including the Investigation Report format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

(b) IDEM may require Applicant to submit additional or corrected information pursuant to IC 13-25-5-9(b).

(c) The Investigation Report shall be subject to review and evaluation for technical sufficiency by IDEM within approximately sixty (60) days of receipt. IDEM's failure to act on the Investigation Report shall not constitute IDEM's acceptance of the Investigation Report. Acceptance of the Investigation Report by the IDEM Project Manager shall not preclude IDEM from requiring further investigation before final approval of the Remediation Work Plan is given.

19. The Applicant shall submit a Remediation Work Plan not later than one hundred eighty (180) days after the date this Agreement is executed, or longer if an extension is agreed to by the Parties. If Applicant fails to submit the Remediation Work Plan within that period, the Agreement is voidable at the discretion of IDEM. If IDEM determines the Agreement is void, all protection provided under IC § 13-25-5-18(c) is extinguished. In the event this Agreement is voided, the Applicant shall remain responsible to IDEM under Section XIX, Administrative Costs. The Remediation Work Plan must specify the objectives for the remediation of hazardous

substances or petroleum that are based on: background levels of hazardous substances and petroleum that occur naturally on the Site; or, an assessment of the risks posed by the hazardous substances and petroleum, taking into consideration the expected future use of the Site and measurable risks to human health, natural resources, or the environment. Risk based objectives shall be based on one of the following: 1) levels of hazardous substances and petroleum calculated by IDEM using standard equations and default values for that particular contaminant; 2) levels of hazardous substances and petroleum calculated using site specific data for the default values in IDEM's standard equations; or, 3) levels of hazardous substances and petroleum developed based on site specific risk assessments that take into account site specific factors. The Remediation Work Plan, including the Remediation Work Plan format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

20. The Remediation Work Plan shall include: (1) a detailed description of the investigation conducted by the Applicant in preparing the Remediation Work Plan and a description of the work performed by the Applicant to determine the nature and extent of the actual or threatened release; (2) a proposed statement of work to accomplish the remediation in accordance with guidelines established by the department; and (3) the following project plans: (a) a quality assurance project plan, (b) a sampling and analysis plan, (c) a health and safety plan, (d) a community relations plan, (e) a schedule for implementation of all tasks set forth in the Remediation Work Plan, and (f) a data management plan. The community relations plan shall be consistent with the *Voluntary Remediation Program Community Relations Plan* non-rule policy document, 24 Ind. Reg. 2598 (May 1, 2001).

21. IDEM may request Applicant to submit additional or corrected information pursuant to IC § 13-25-5-9(b). The Applicant may comply with the request or withdraw the proposed plan from consideration.

22. The Remediation Work Plan shall be subject to review and evaluation by IDEM pursuant to IC § 13-25-5-9(a) for approximately sixty (60) days after receipt of the Remediation Work Plan. IDEM's failure to act on the Remediation Work Plan shall not constitute IDEM's acceptance of the Remediation Work Plan. Additionally, IDEM may request the applicant to supply additional information or corrected information pursuant to IC § 13-25-5-9(b). This time period shall not include the time required for public comment under IC § 13-25-5-11.

23. The Commissioner shall make a determination concerning the approval, modification and approval, or rejection of the Remediation Work Plan within thirty (30) days of close of the public comment period provided for in IC § 13-25-5-11 and notify the Applicant of the determination as provided in IC § 13-25-5-12 or IC § 13-25-5-13.

24. If the Applicant desires to proceed with the implementation of the approved Remediation Work Plan, the Applicant must notify IDEM in writing not more than sixty (60) days after the Remediation Work Plan is approved. After providing such notice, the Applicant shall initiate the work detailed in the Remediation Work Plan according to the schedule as set forth in the Remediation Work Plan. Upon IDEM's receipt of notice that the Applicant intends

to proceed, the fully approved Remediation Work Plan shall be deemed incorporated into and made an enforceable part of this Agreement.

VIII. ADDRESSES FOR ALL CORRESPONDENCE

25. Documents, including reports, approvals, notifications, disapprovals, and other correspondence, to be submitted under this Agreement, may be sent by U.S. First Class mail, hand delivery, overnight mail, or by courier service to the following addresses or to such addresses as the Applicant or IDEM may designate in writing.

Documents to be submitted to IDEM shall be sent to:

Brent A. Dayharsh
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 234-0967

Documents to be submitted to the Applicant shall be sent to:

Anthony Rodriguez
Michigan City Economic Development Corp.
100 E. Michigan Boulevard
Michigan City, IN 46360
(219) 873-1211

IX. COMPLIANCE WITH APPLICABLE LAWS

26. All work undertaken by the Applicant pursuant to this Agreement shall be performed in compliance with all applicable federal, state and local laws, ordinances and regulations, including, but not limited to, all Occupational Safety and Health Administration, Department of Transportation and Resource Conservation and Recovery Act regulations. In the event of a conflict in the application of federal, state, or local laws, ordinances, or regulations, the Applicant shall comply with the more/most stringent of such laws, ordinances, or regulations, unless provided otherwise in writing by IDEM. Where it is determined that a permit is required under law, Applicant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. The Applicant shall be responsible for obtaining all permits that are necessary for the performance of any work hereunder.

27. Nothing in IC 13-25-5 relieves Applicant of its obligations or responsibilities under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, including, but not limited to, the duty to meet any permit conditions, financial responsibility, closure, post-closure or corrective action,, regardless of whether the Remediation Work Plan addressed the contaminants or property at issue.

28. Nothing in this Agreement, the Certificate of Completion, or the Covenant Not To Sue shall be construed to relieve the Applicant of any natural resource damage liability arising from contaminants, even if addressed by the Remediation Work Plan, including under the following authorities: 42 U.S.C. § 9601 *et seq.* (CERCLA), 33 U.S.C. § 2701 *et seq.*, IC § 13-25-4-8, or any common law theories of public trust doctrine in Indiana. Applicant agrees that the period from the Effective Date of this Agreement until the Agreement is terminated or satisfied shall toll all statutes of limitations applicable to the contaminants addressed by the Remediation Work Plan.

29. A Certificate of Completion and Covenant Not To Sue issued under Section XXV (Termination and Satisfaction) shall not release Applicant from liability for claims for natural resources damages. Applicant may devise and carry out a plan for restoration, rehabilitation, replacement, or acquisition of equivalent natural resources or pay to the State the value of the natural resources, as determined by the Natural Resource Trustees. The plan may be developed and implemented as part of the Remediation Work Plan. If Applicant wishes to address natural resource damages in the Remediation Work Plan, Applicant shall so indicate in the notice to the State and Federal Natural Resources Trustees per Section X (Interagency Coordination).

30. After receiving notice of Applicant's desire to address natural resource damages, the Natural Resources Trustees may perform a pre-assessment screen for injury to, destruction of, or loss of natural resources. The Applicant expressly agrees to reimburse IDEM for any and all costs incurred by either IDEM or the Indiana Department of Natural Resources in performing the pre-assessment screen. The Applicant will perform the assessment of damages based on the pre-assessment screen. This Agreement and the Covenant Not To Sue issued hereunder do not alter the liability of Applicant or any other person to the federal government for claims of natural resource damages under any federal law.

X. INTERAGENCY COORDINATION

31. The following agencies may have an interest in the Remediation Work Plan because of concurrent jurisdiction over the Site:

1. Indiana Department of Natural Resources
   Fish & Wildlife Division
   Rm-W273
   402 W. Washington, Indianapolis, IN 46204
   Attn: Mr. Wayne Faatz
   Phone: (317) 232-4080
   Fax: (317) 233-4579

2. Indiana State Department of Health
   Epidemiology Resource Center
   Rm 234W
   1330 W. Michigan St.
   Indianapolis, IN 46202

3. Fire Prevention and Building Safety Commission
Office of the Fire Marshal
Rm E-241
402 W. Washington St.
Indianapolis, IN 46204
Phone: (317) 232-2222
Fax: (317) 233-0307

4. U.S. Department of Interior
Fish & Wildlife Service
Bloomington Ecological Services Field Office
620 South Walker Street
Bloomington, Indiana 47403-2102
Telephone: (812) 334-4261
Fax: (812) 334-4273

32. The Applicant shall provide notice to these agencies of the submission of the Remediation Work Plan by sending them a copy of the Remediation Work Plan Executive Summary, a Site map, and the names of the Project Managers for IDEM and Applicant. Any of the above named agencies that wish to review the Remediation Work Plan shall be given an opportunity by IDEM to comment during the time that IDEM is reviewing the Remediation Work Plan. IDEM shall consider any comments from state agencies that are received at least thirty (30) days prior to the deadline established in this Agreement for approval or rejection of the Remediation Work Plan. If Applicant wishes to address natural resource damages in the Remediation Work Plan, Applicant shall so notify the State and Federal Natural Resources Trustees within thirty (30) days of the Effective Date of this Agreement.

XI. DESIGNATED PROJECT MANAGER

33. On or before the Effective Date of this Agreement, IDEM and the Applicant shall each designate a Project Manager. Each Project Manager shall be responsible for overseeing the implementation of this Agreement. The IDEM Project Manager will be the designated IDEM representative at the Site. To the maximum extent possible, communications between the Applicant and IDEM and all documents (including reports, approvals, and other correspondence) concerning the activities performed pursuant to this Agreement shall be directed through the Project Managers. During implementation of this Agreement, the Project Managers shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Each Party has the right to change its respective Project Manager, which Party shall notify the other Party of the change in writing and in a timely fashion.

34. The IDEM Project Manager shall have the authority to halt, conduct, or direct any work required by this Agreement and/or any response actions or portions thereof if Site conditions present an imminent and substantial threat to human health or the environment. In the

event that the IDEM Project Manager halts work pursuant to this paragraph, the schedule of work described in the Remediation Work Plan and this Agreement shall be modified accordingly, or IDEM may withdraw its approval of the Remediation Work Plan pursuant to Section XVIII (Reservation of Rights).

35. The absence of the Applicant's or IDEM's Project Manager from the Site shall not be cause for the stoppage of work. The Applicant's Project Manager or his or her supervisor shall reasonably be available by telephone while work is being performed at the Site. The Applicant's Project Manager shall designate a person to be in charge who will be available at the Site when work is being performed at the Site.

XII. QUALITY ASSURANCE

36. The Applicant shall use quality assurance, quality control, and chain of custody procedures in accordance with the Quality Assurance Project Plan approved for use by IDEM throughout any sample collection and analysis activities under this Agreement, unless IDEM agrees otherwise.

37. Applicant shall provide the IDEM Project Manager with reasonable advance notice of all sampling and analysis as detailed in the Investigation or Remediation Work Plans. IDEM requires the presence of an IDEM representative during any sampling that the Applicant uses as confirmation sampling. To provide quality assurance and maintain quality control, the Applicant shall do each of the following.

(a) Applicant shall allow IDEM personnel and/or IDEM authorized representatives reasonable access to laboratories and personnel utilized by the Applicant for analyses.

(b) Applicant shall ensure that all sampling and analyses are performed according to U.S. EPA methods, the approved Quality Assurance Project Plan, or other methods deemed satisfactory by IDEM.

(c) Applicant shall ensure that any laboratories used by the Applicant for analyses participate in a documented Quality Assurance/Quality Control program that complies with U.S. EPA guidance documents. As part of such a program, and upon request by IDEM, such laboratories shall perform analyses of samples provided by IDEM to demonstrate the quality of analytical data for each such laboratory.

(d) Applicant shall perform confirmatory sampling for all contaminants and all media for which a Certificate of Completion and Covenant Not To Sue are sought. Applicant shall specify in the Remediation Work Plan the means of taking confirmatory samples and notify IDEM personnel a minimum of fourteen (14) days prior to taking confirmatory samples.

38. IDEM reserves the right to reject any data not gathered consistent with the requirements of this section and Section XIII (Sampling and Data/Document Availability) and to require that the Applicant utilize a different laboratory.

XIII. SAMPLING AND DATA/DOCUMENT AVAILABILITY

39. The Applicant shall, upon request, make the results of all sampling, including raw data, and/or tests or other data generated by the Applicant, or on the Applicant's behalf, available to IDEM. IDEM will make available to the Applicant the quality assured results of sampling and/or tests or other data similarly generated by IDEM.

40. At the request of IDEM, the Applicant shall provide to IDEM (and/or its authorized representative) splits or duplicates of any samples collected by the Applicant pursuant to the implementation of this Agreement. At the request of the Applicant, IDEM (or its authorized representative) shall provide split or duplicate samples to the Applicant of any samples collected by IDEM and/or its authorized representative pursuant to the implementation of this Agreement. Each Party shall notify the other in advance of any sample collection activity.

XIV. ACCESS

41. To the extent that the Site or other areas where work is to be performed hereunder are presently owned or controlled by parties other than those bound by this Agreement, the Applicant shall obtain access agreements from the present owners. Such agreements shall provide access for IDEM and authorized representatives of IDEM, as specified below. In the event that access to the Site is not obtained, the Applicant shall so notify IDEM, which may at its discretion assist the Applicant in gaining access. IDEM may withdraw from or modify this Agreement should the Applicant's inability to gain access to the Site or other areas materially affect the Applicant's ability to perform the work required herein.

42. The Applicant shall provide authorized representatives of IDEM access to the Site and other areas where work is to be performed at all reasonable times. Such access shall be related solely to the work being performed on the Site and shall include, but not be limited to: inspecting records, operating logs, and contracts related to the Site; reviewing the progress of the Applicant in carrying out the terms of this Agreement; conducting such tests, inspections, and sampling as IDEM may deem necessary; using a camera, sound recording, or other documentary equipment for field activities; and, verifying the data submitted to IDEM by the Applicant hereunder. The Applicant shall permit IDEM's authorized representatives to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, which pertain to this Agreement and over which the Applicant exercises control. All persons with access to the Site pursuant to this Agreement shall comply with the approved Health and Safety Plan and established health and safety protocols.

43. Nothing herein shall be construed as restricting the inspection or access authority of IDEM under any law or regulation. Furthermore, nothing herein shall be construed as restricting the authority of IDEM to abate any pollution or contamination at the Site.

XV. RECORD PRESERVATION

44. The Applicant agrees to preserve, during the pendency of this Agreement and for a minimum of six (6) years after its termination, all records and documents in the Applicant's possession or in the possession of its employees, agents, accountants, contractors, which relate in any way to the subject matters covered by this Agreement. Upon request by IDEM, the Applicant shall make available to IDEM such records or copies of any such records. After this six (6) year period, the Applicant shall notify IDEM in writing thirty (30) days prior to the destruction of any such documents. At that time, if IDEM requests that some or all documents be preserved for a longer period of time, the Applicant shall provide IDEM with the documents that IDEM wishes to preserve.

45. Applicant may assert a confidentiality claim with respect to any or all of the information requested or submitted pursuant to this Agreement, pursuant to applicable laws and rules including IC 13-14-11, IC 5-14-3, and 329 IAC 6.1-3. Applicant shall adequately substantiate any assertion of confidentiality when the assertion is made. Information determined to be confidential by IDEM shall be disclosed only to the extent permitted by law. If no such confidentiality claim accompanies the information when it is submitted to IDEM, it may be made available to the public by IDEM without further notice to the Applicant. Applicant agrees not to assert any confidentiality claim with regard to any physical or analytical data.

XVI. DISPUTE RESOLUTION

46. This section (Dispute Resolution) shall apply to any dispute arising under any section of this Agreement, unless specifically excepted.

47. The Parties shall use their best efforts, in good faith, to resolve all disputes or differences of opinion informally. If, however, disputes arise concerning this Agreement which the Parties are unable to resolve informally, the Applicant may present written notice of such dispute to IDEM and set forth specific points of dispute and the position of the Applicant. This written notice shall be submitted no later than five (5) business days after the Applicant discovers the Project Managers are unable to resolve the dispute. The Applicant's Project Manager will notify IDEM's Project Manager immediately by phone or other appropriate method of communication, prior to written notice, when s/he believes the Parties are unable to resolve a dispute.

48. Within ten (10) business days of receipt of such a written notice, IDEM shall provide a written response to the Applicant setting forth its position and the basis therefor. During the five (5) business days following the receipt of the response, the Parties shall attempt to negotiate in good faith a resolution of their differences.

49. Following the expiration of the time periods described in the immediately preceding paragraph, if IDEM concurs with the position of the Applicant, the Applicant shall be notified in writing. This Agreement and the Remediation Work Plan shall be modified to include any

necessary extensions of time or variances of work. If IDEM does not concur with the position of the Applicant, IDEM, through the Commissioner, shall make a determination regarding the dispute, based upon and consistent with the terms of this Agreement, and shall provide written determination of such resolution to the Applicant. In the event that such determination is not acceptable to either Party, either Party may submit the dispute to an impartial third party for mediation in the following manner:

(a) The Parties shall select a mediator from the Indiana Supreme Court's approved list of mediators as established by the Indiana Rules of Alternative Dispute Resolution (ADR Rules) within five (5) business days of Applicant's receipt of the Commissioner's determination. In the event such a list does not exist or does not contain mediators that the Parties agree are qualified to mediate environmental disputes, the Parties shall use a mutually acceptable list and select a mediator within five (5) business days of compilation of such other mutually acceptable list. In addition to the qualifications required by the ADR Rules, the mediator shall have experience in environmental issues.

(b) The dispute shall be initially submitted to the mediator via a written request for dispute resolution through mediation; the written request shall be issued within ten (10) business days after notification of the Parties of IDEM's final determination of the dispute, as provided by Paragraph 49(a) of this section. The request for assistance shall include the written determination of the Commissioner issued pursuant to Paragraph 49(a) and the documents specified in Paragraphs 47 and 48 of this section, Dispute Resolution. A copy of the written request shall be delivered to the other Parties at the time the request is made.

(c) The Party which submitted the dispute to mediation may make a written submission in support of its position to the mediator within ten (10) business days of the mediator's selection, and any other Party may make a written response in support of its position within seven (7) business days thereafter. The mediator shall immediately thereafter contact all Parties and determine the course of the mediation, including scheduling any meetings deemed necessary.

(d) The mediation process shall be conducted in accordance with Indiana Rules of Alternative Dispute Resolution in any aspect not covered by this Agreement.

(e) The mediator and the Parties shall proceed with reasonable promptness to resolve the dispute.

(f) All communications, whether oral or written, between the mediator and the Parties, shall be kept confidential in accordance with the Indiana Rules for Alternative Dispute Resolution Rule 2.12, and to the extent allowed under Indiana law.

(g) The cost of the mediator shall be included in the administrative costs paid by the Applicant. IDEM's costs of mediation shall be included in the administrative costs

paid by the Applicant, except to the extent that the mediator determines that IDEM acted unreasonably. The Applicant shall pay the Applicant's costs of mediation.

50. If either Party determines or the mediator declares that the dispute cannot be resolved through the mediation process, the Parties retain all rights under the Indiana Administrative Orders and Procedures Act, IC 4-21.5.

51. Until the dispute is resolved, any actions concerning that element of work in dispute shall be halted. The resolution of the dispute shall be incorporated into the Remediation Work Plan and made an enforceable part thereof. The time schedule for the work in dispute shall be extended by the amount of time needed for resolution. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the Remediation Work Plan.

52. Elements of work and any actions required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure, and into this Agreement. The Applicant shall proceed with all remaining work according to the modified plan or procedure.

XVII. FORCE MAJEURE

53. The Applicant shall cause all work or required reporting to be performed within the time limits set forth herein, unless performance is delayed by events that constitute a force majeure. For purposes of this Agreement, a force majeure is an event arising from circumstances beyond the reasonable control of the Applicant which delays performance of any obligations required by this Agreement. Increases of costs shall not be considered an event of force majeure.

54. The Applicant shall notify IDEM by calling IDEM's Project Manager within three (3) days and by writing no later than seven (7) days after any event that the Applicant contends is a force majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the Applicant to minimize the delay, and the timetable by which these measures will be implemented. The Applicant shall have the burden of demonstrating that the event is a force majeure. The Commissioner shall make the decision of whether an event is a force majeure. This decision shall be promptly communicated to Applicant.

55. If a delay is attributable to a force majeure as determined in this section, the time period for performance under this Agreement shall be extended by IDEM, in writing, by the amount of time that is attributable to the event constituting the force majeure.

XVIII. RESERVATION OF RIGHTS

56. IDEM and Applicant reserve all rights and defenses they may have pursuant to any available legal authority unless expressly waived herein.

57. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of action, or demands, in law or in equity, that the Parties may have against any person, firm, partnership, or corporation, not a Party to this Agreement, for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release, or disposal of any materials, hazardous substances, hazardous waste, contaminants, or pollutants at, to, or from the Site. The Parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not Parties to this Agreement, and as to each other for matters not covered in this Agreement.

58. The Applicant reserves the right to seek contribution, indemnity, or any other available remedy against any person other than IDEM found to be responsible or liable for contributions, indemnity, or otherwise for any amounts which have been or will be expended by the Applicant in connection with the Site.

59. IDEM reserves the right to bring an action, including an administrative action, against Applicant for any violations of statutes or regulations except for the specific violations or releases that are being remediated in the Remediation Work Plan.

60. Pursuant to IC 13-25-5, IDEM may withdraw its approval of the Remediation Work Plan at any time during the implementation of the Remediation Work Plan if:

(a) IDEM determines that the Applicant has failed to substantially comply with the terms and conditions of this Agreement or the Remediation Work Plan;

(b) the Applicant declines to implement the Remediation Work Plan after being notified of its approval by IDEM; or

(c) IDEM determines that a hazardous substance or petroleum has become an imminent or substantial threat to human health or the environment.

Upon withdrawal of its approval, this Agreement shall be terminated and IDEM reserves the right to bring any action to enforce any statute or regulation under Title 13 of the Indiana Code, including an action regarding the violations or releases that were the subject of this Agreement.

61. IDEM acknowledges that, pursuant to IC § 13-25-5-20(b), Applicant, upon receipt of the Certificate of Completion, is not liable for claims for contribution concerning matters addressed in the Remediation Work Plan or the Certificate of Completion.

XIX. ADMINISTRATIVE COSTS

62. Applicant agrees to reimburse IDEM for all of its Administrative Costs associated with implementation of this Agreement. An itemized list of estimated Administrative Costs that IDEM expects to incur under this Agreement will be forwarded to the Applicant as soon as is

practicable.. This estimate does not bind IDEM to a maximum cost that IDEM is entitled to bill the Applicant under this Agreement.

63. IDEM shall routinely send an accounting of IDEM's Administrative Costs to Applicant. The accounting shall itemize all Administrative Costs incurred by IDEM. Applicant shall pay these Administrative Costs within thirty (30) days of receipt of the accounting. Interest shall accrue at a rate of one half percent (1/2 %) per month of delinquency. Applicant understands that IDEM may incur Administrative Costs after this Agreement is satisfied. IDEM may issue the Certificate of Completion and Covenant Not To Sue before IDEM has accounted for all Administrative Costs. Therefore, Applicant further understands that the Applicant may receive bills after the Certificate of Completion and the Covenant Not To Sue have been issued.

64. Checks shall be made payable to the Voluntary Remediation Fund and be mailed, along with a transmittal letter stating the Site name, number, and address, to the Indiana Department of Environmental Management; Attention: Cashier; 100 North Senate Avenue; P.O. Box 7060; Indianapolis, Indiana 46207-7060. In addition, a copy of the check and transmittal letter shall be mailed to IDEM Project Manager.

65. Administrative Costs include all actual costs, direct and indirect, of IDEM's oversight of this Agreement and the work contemplated herein including, but not limited to: time, salary, benefits, and travel costs of IDEM personnel and its contractors and associated indirect costs, contractor costs, compliance monitoring (such as the collection and analysis of split or duplicate samples, inspection of Applicant's activities, and Site visits), discussions regarding disputes that may arise as a result of this Agreement, review and approval or disapproval of reports, and the costs of dispute resolution as provided in Section XVI (Dispute Resolution). Administrative Costs shall also include the actual costs incurred by IDEM in having a qualified person oversee the conduct of the Applicant under this Agreement and the Remediation Work Plan. Administrative Costs shall include an additional amount not to exceed ten percent (10%). As authorized by IC § 13-25-5-8(a), IDEM considers this additional amount to be reasonable and necessary for the effective and efficient implementation of the Voluntary Remediation Program and to ensure that IDEM meets its obligations and all other expenses not covered above. IDEM will not issue the Certificate of Completion or the Covenant Not To Sue before the payment of any Administrative Costs that are due and payable. Costs incurred prior to and after satisfaction of this Agreement must be paid regardless of the issuance of the Certificate of Completion and the Covenant Not To Sue.

66. In the event that this Agreement is terminated for any reason, Applicant agrees to reimburse IDEM for all of its Administrative Costs incurred to the time of termination. IDEM agrees to reimburse Applicant any unused portion of the application fee in accordance with IC § 13-25-5-8(b)(2).

XX. COMMUNITY RELATIONS

67. In addition to performing the requirements specified in the Community Relations Plan in the Applicant's Remediation Work Plan, the Applicant shall cooperate with IDEM in

providing information about the Remediation Work Plan to the public. IDEM will give the Applicant reasonable advance notice of and may require the Applicant's or its agent's attendance at any such public meetings it may hold or sponsor at times and locations which are agreed upon by IDEM and the Applicant.

68. Before the Commissioner may approve or disapprove the Remediation Work Plan, the Commissioner shall provide thirty (30) days for public comment pursuant to IC § 13-25-5-11.

69. IDEM shall maintain a public information file containing the Remediation Work Plan during the thirty (30) day Public Comment period at a public repository near the Site. Applicant shall provide the location of a suitable public repository in accordance with applicable guidance.

XXI. NOTICE OF BANKRUPTCY OR DEATH

70. As soon as Applicant has knowledge of its intention to file bankruptcy or no later than seven (7) days after the actual filing of a voluntary or involuntary bankruptcy petition, Applicant shall notify IDEM of the filing of a bankruptcy petition. If an Applicant dies, as soon as a personal representative of a deceased Applicant's estate becomes aware of this VRP project, the personal representative shall notify IDEM of the probate of the estate. IDEM shall be notified as a creditor of the bankruptcy and/or estate. IDEM's claim may be a contingent claim, in whole or in part, as there may be oversight costs due after the closing of the bankruptcy and/or probate estate.

XXII. INDEMNIFICATION

71. The Applicant agrees to indemnify and hold the State of Indiana, its agencies, departments, agents, and employees, harmless from any and all claims or causes of action arising from, or on account of, acts or omissions of the Applicant, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Agreement.

XXIII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

72. The Effective Date of this Agreement shall be the date on which the Commissioner signs this Agreement.

73. This Agreement may be amended by mutual agreement of IDEM and the Applicant. Amendments shall be in writing and shall be effective when signed by the Commissioner.

XXIV. EXTENSIONS OF TIME PERIODS

74. Any written response shall be deemed timely performed if hand delivered or postmarked by the last day of any time period prescribed herein. Whenever a Party has the right or an obligation to do some act or make some response within a prescribed period after the service of a notice by mail, three (3) days shall be added to the prescribed period.

75. Whenever any Party is called upon to respond or otherwise act in a certain number of days, and the final day occurs on a Saturday, Sunday or legal holiday (whether state or national), such time limitation shall automatically extend to the next business day after such Saturday, Sunday or legal holiday.

76. Any time periods specified in this Agreement may be extended only by agreement of the Parties.

XXV. TERMINATION AND SATISFACTION

77. The provisions of this Agreement shall be satisfied when IDEM issues a Certificate of Completion to the Applicant. The Parties understand that IDEM will issue the Certificate of Completion to the Applicant only. Termination or satisfaction of this Agreement does not end the obligations found in Section XV (Record Preservation) and Section XIX (Administrative Costs). The Applicant shall continue to responsible under Section XV (Record Preservation) and Section XIX (Administrative Costs) for the performance of the duties specified therein regardless of the termination or satisfaction of this Agreement.

78. Nothing in this Agreement shall restrict the State of Indiana from seeking other appropriate relief to protect human health or the environment from pollution or contamination at or from this Site not remediated in accordance with this Agreement.

79. After IDEM issues the Certificate of Completion, the Governor's Office shall provide Applicant with a Covenant Not To Sue pursuant to IC § 13-25-5-18. The Covenant Not To Sue shall contain a listing of the specific work and contaminants covered. The Parties understand that the Governor's Office will issue the Covenant Not To Sue to the Applicant only.

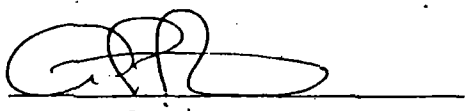
XXVI. PRECEDENCE OF AGREEMENT

80. In the event that conflict arises among the terms and conditions of this Agreement or the approved Remediation Work Plan, this Agreement shall govern and the terms and conditions hereunder shall determine the Parties' rights and responsibilities.

IN WITNESS WHEREOF, the following hereby execute this Voluntary Remediation Agreement:

For the Applicant:

Anthony P. Rodriguez
Applicant (please type)

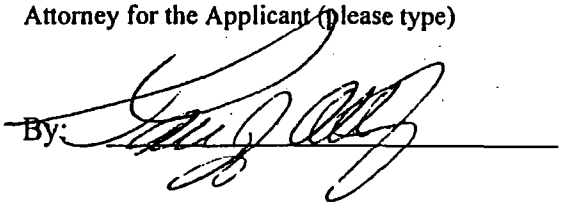
By: 

For MAYOR SHEILA BRILLSON
City of Michigan City, INDIANA

Title: EXECUTIVE DIRECTOR
Michigan City Eco. Dev. Corp.

Date: 2/15/2002

Larry J. Allen, Jr.
Attorney for the Applicant (please type)

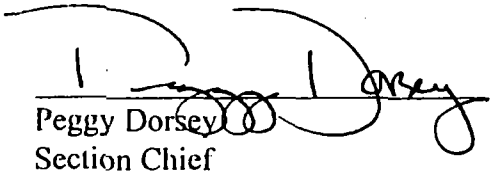
By: 

Title: Corporation Counsel

Date: 2/15/2002

For the Indiana Department of Environmental Management:

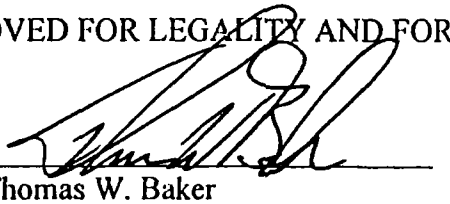
TECHNICAL RECOMMENDATION:

By: 

Peggy Dorsey
Section Chief
Voluntary Remediation Program

Date: 2/21/02

APPROVED FOR LEGALITY AND FORM:

By: 

Thomas W. Baker
Attorney
Office of Legal Counsel

Date: MARCH 7, 2002

Approved and adopted by the Indiana Department of Environmental Management

this 15TH **day of** MARCH **,** 2002**.**

Bruce H Palin

Assistant Commissioner
Office of Land Quality

ATTACHMENT C

COMMUNITY INVOLVEMENT OUTREACH PLAN

Quarterly Progress Report No. 2
Brownfields Assessment Demonstration Pilot
Project ReNEW
City of Michigan City, Indiana
April 29, 2002

PROJECT RENEW
Revitalizing Environmentally Neglected Emerging Workplaces

COMMUNITY INVOLVEMENT OUTREACH PLAN

Project Renew will actively and responsibly engage the community at large and specifically the neighborhoods adjacent to the three sites in a comprehensive community outreach effort. It is the intent of this Project to inform the public about brownfields in general and in particular the activities that will take place at the three locations relative to the environmental assessments. In addition, the public will be asked to participate in helping to determine the best possible uses of the properties. Meetings will be held to bring together interested citizens and the Mayor's Brownfield Task Force as their input will play a key role in helping to assure that they feel part of the process and are comfortable with it. The meetings will focus on the assessment process, clean up efforts, ownership issues and potential uses of the properties.

As these three projects develop, the citizens will visualize first hand that there is positive progress in place. They will witness developments that will ultimately result in cleaner, safer and healthier places in their midst, while at the same time, they will have the assurance that the projects will not pose any risks during the development.

I. Community meetings

A. Following the development of the Work Plan for Project Renew, the Project Manager met with members of the Eastport and Westside Improvement Groups on November 29, 2001 to inform them about the project and general information on the work that will be done at the Royal Metal, Schmock Oil and Karwick Road sites.

B. On January 31, 2002, the Project's communications consultant met with representatives of both the Eastport Improvement Group (Royal Metal and Karwick Nature Park) and the Westside Improvement Group (Schmock Oil site) at their monthly meeting to inform them of the outreach efforts and upcoming community meetings.

C. There will be a community wide informational meeting held on March 13, 2002 at 6:30PM at the Michigan City Public Library, to formally and publicly introduce Project Renew. A presentation will include information about brownfields in general, as well as the specific information about Project Renew and the three sites. The Project's communication plan will also be unveiled.

D. Neighborhood update meetings with both the Eastport and Westside Improvement Groups will be conducted in the fall of 2002 and again in the spring of 2003.

E. A final community wide meeting will be held in the summer of 2003 to summarize the activities and accomplishments of the Project.

II. Marketing

A. A Project Renew identity will be developed through a unique logo design which will then be used on all correspondence, information and promotional materials.

B. Billboards will be constructed and set on the three sites with the logo and announcement of the Project and its goals.

C. Marketing materials with photos and site maps will be prepared to promote the properties (Royal Metal and Schmock) to potential developers through the efforts of the Michigan City Economic Development Corporation.

III. Communication/Information

A. A semi-annual newsletter will be developed highlighting the ongoing activities at all three sites and sent to the residents of the two neighborhood groups.

B. The Project Manager, Communications Consultant and interested residents will appear on local radio and cable television programs providing information on the Project.

C. A Project Renew " **Hot Line**" will be established by April 2002 to allow interested citizens the opportunity to call in and ask questions about the Project. Inquiries will be responded to within twenty- four hours.

D. A Project Renew " **Hot Link**" will be established on the web site of the Michigan City Economic Development Corporation in April 2002 to allow interested individuals access to the progress of the Project via the internet.

E. A power point presentation will be developed in March 2002 outlining the Project and will be utilized for speaking presentations to local community groups and service clubs.

F. Press releases and news articles will be regularly prepared and presented to the local newspaper about the status of the Project.

IV. Community Involvement

A. The Project Manager has met with the Michigan City Area Schools Superintendent to engage student interest and participation, as well as introduce them to environmental issues and brownfield development. Teachers and students from the Krueger Middle School have already been involved with the Karwick Nature Park by participating in

discussions relative to the use and development of the former landfill. This will continue as that project develops. The Project Manager has met with the science teacher at Marquette High School to engage the students there.

B. The Mayor and City Councilmen representing the two neighborhoods have already officially provided documented support for the three projects. They will be active with the neighborhood groups throughout the Project. Several City department heads have been involved with the Karwick Nature Park and will continue to lead this process.

C. The Eastport and Westside Improvement Groups have committed to promote resident interest and involvement for all three projects.

D. The Michigan City Economic Development Corporation is the City's agent for the implementation of Project Renew and will oversee its development.

E. The Michigan City Urban Enterprise Zone includes the Royal Metal and Schmock Oil properties in the zone boundary. The Enterprise Association will represent the residents and businesses in the Zone relative to the outreach activities.

V. Summary

The Community Involvement Outreach Plan will involve many citizens over the next two years interested in the future of their community. Project Renew will illustrate how a community and its neighborhoods can come together to address unsafe, blighted areas and work toward **" renewing them"** into sustainable properties.

ATTACHMENT D

DELIVERABLES FROM FIRST PROJECT RENEW COMMUNITY MEETING

Project ReNEW

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

COMMUNITY MEETING

Mayor Brillson and the Michigan City Economic Corporation are inviting the public to a community wide meeting to discuss Project Renew, a community/neighborhood based environmental assessment project funded through a $250,000 U.S. Environmental Protection Agency Brownfields Assessment Grant.

The meeting will be held at March 13 at 6:30PM in the community room of the Michigan City Public Library.

The following will be discussed:

- What are brownfields?
- What is the U.S. EPA Brownfields Assessment Demonstration Pilot Project?
- Project Renew goals
- Project Renew sites
  - --Royal Metals facility located at 600 North Carroll Avenue
  - --Schmock Oil facility located at 1111 West Garfield Street
  - --City dump located on Karwick Road
- Project Renew work tasks
- Where do we go from here?

Please join your neighbors to learn about this proactive community effort. For more information, contact Tony Rodriguez, Executive Director, Michigan City Economic Development Corporation at 219-873-1211.

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Project ReNEW

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

PROJECT ReNew MEETING
Wednesday
March 13, 2002
6:30 pm
Michigan City Public Library

PLEASE SIGN IN

Andrea DePoy APT, Ltd	
John Klanke APT, Ltd	
Robert Schaefer - Community Dynamics	
Diane Spencer U.S.EPA	
Connie BAUER - Eastport	
Julie Wozniak - Fremont Creative	
Tom Stevenson - Environmental Inc	
Joe LaRocco	
John Schaefer	
Huyly Rush News-Dispatch	
Terry Becker	
Bill Phelps	
Marian Schoonmaker	
Dan Radtke	
Sheila Gaillson	
Tammy Steulagen	
Lynn Burdin	
Sue Claussen	
Sheilah	
Barbara Adkins Minority Health Coalition	

AGENDA

PROJECT RENEW
"Revitalizing Environmentally Neglected Emerging Workplaces"

Community Meeting

March 13, 2002

Michigan City Public Library

6:30 pm	*Mayor Brillson* – Welcome and Opening Remarks
6:40 pm	*Tony Rodriguez* – Director, Michigan City Economic Development Corporation
	Diane Spencer – US Environmental Protection Agency (USEPA), Region V, Project Manager for the Brownfield's Demonstration Pilot Project
7:15 pm	Questions

Project ReNew Team

Mayor Sheila Brillson
Tony Rodriguez, Director
Michigan City Economic Development Corporation

Diane Spencer, Project Coordinator
USEPA, Region V

Tom Stevenson, Project Coordinator-Vice President
Environmental Inc.

John Klanke, Advanced Pollution Technologies

Bob Schaefer, Community Outreach Coordinator
Community Dynamics Corporation

PROJECT RENEW COMMUNITY MEETING
"Revitalizing Environmentally Neglected Emerging Workplaces"

March 13, 2002

Mayor Brillson's Remarks

6:30 p.m. Welcome and Opening Remarks

- Recognize and introduce:
  City Council Members
  County Officials
  City Department Heads

- 1998 Mayor's Brownfield Task Force was formed to begin addressing the blighted brownfield sites within the City

- January, 2001 City applied for a $250,000 US Environmental Protection Agency Brownfields Assessment Demonstration Pilot Grant to address three brownfield sites in the City:
  - Schmock Oil, 1111 West Garfield Street
  - Royal Metals, 600 North Carroll Avenue
  - Former Karwick Road Landfill

- April, 2001 – Congressman Roemer notified me that Michigan City was awarded the $250,000 Grant, one of only 35 communities in the Nation to receive it.

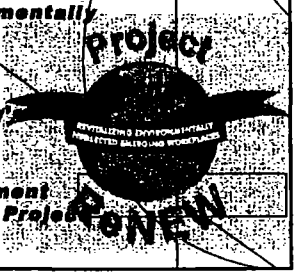
- I am proud of our efforts to address these blighted areas with the hope of revitalizing them into clean, safe and economically viable places.

- Introduce Tony – The MCEDC is overseeing the Grant and work plan

Project ReNEW

Revitalizing Environmentally Neglected Emerging Workplaces

City of Michigan City
U.S. Environmental Protection Agency
Brownfields Assessment Demonstration Pilot Project



Project ReNEW Scope:

- EPA (U.S.) awarded MC $250,000 g
  - Awarded to only 35 communities the nation
  - 2 year project covers costs for
    - Environmental assessments
    - Cleanup plans
    - Feasibility reuse studies
    - Community outreach plans
  - 3 brownfield sites in MC

What's a Brownfield?

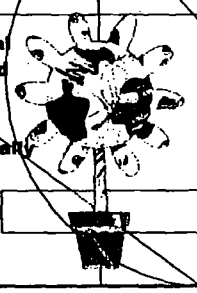
- Industrial or comm
  that is abandoned,
  underutilized
- Actual or perceive
  environmental
  contamination
- Potential health ar
  health & safety ris

Brownfield Redevelopment

- Infrastructure (roads, sewer, water, utilities, rail) generally in place
- Reuse of land/buildings
- Reduce blight
- Increase property valu
- Create jobs in neighborhoods

Project ReNEW Goal

To transform 2 former industrial facilities and their associated properties and 1 former city dump back to viable economically & environmentally safe uses.



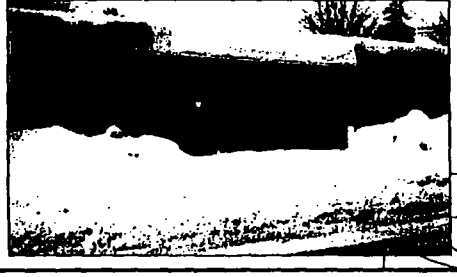
Project ReNEW Locations

Royal Metals, 600 N. Carroll Ave.

Royal Metals

- 89,000 sq. ft. on 5 acres
- Built in 1927
- Manufactured chromium office furniture
- Vacated in 1966
- Structure unsafe

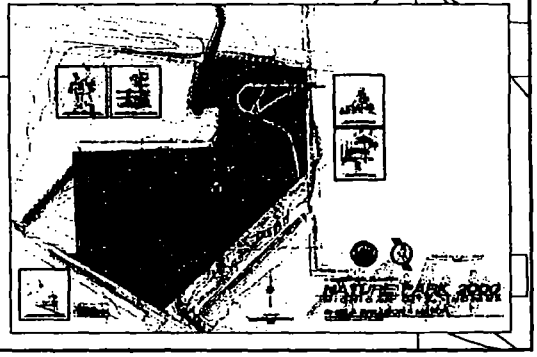
Schmock Oil, 1111 W. Garfield St.



Schmock Oil

- 24,000 sq. ft. on 1 acre
- Built in 1960
- Manufactured sheet rock, fuel oil distribution, oil reclamation
- Vacated in 1994
- Structure unsafe

City Dump, Karwick Rd.



City Dump

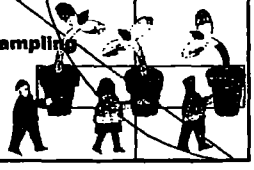
- 23 acres
- Used as city dump in 1960s
- *Transform property into the* Karwick Nature Park

Project ReNEW Work Tasks

- Conduct environmental assessments
- Prepare a Remedial Act (clean up plan)
- Conduct feasibility stud future uses
- Develop Community Involvement Outreach P

Conduct Environmental Assessments

- Phase 1 Assessments
  - Review existing site conditions
  - Review historical records
- Phase II Assessments
  - Soil & groundwater sampling



Prepare Remedial Action Plan

- Determine estimated clean up costs
- Evaluate sources of clean up funding
- Establish time frame for cl

Conduct Feasibility Studies

- MC Economic Development Corporation (MCEDC) involved to help *determine best uses*
- MCEDC markets properties
- Engages potential developers

Develop Community Involvement Outreach Plan

- Create Project ReNEW identity
- Conduct community-wide/neighborhood meetings
- Develop informational newsletter
- Involve students and teachers
- Establish phone hot line for info
- Establish hot link on MCEDC website

Project ReNEW Status

- Phase I assessments completed
- Phase II assessments completed by July 2002
- Community Outreach has begun

Project ReNEW Contacts

- Hot line #219-873-1211, Ext. 4
- MCEDC website
  - www.mc-edc.com

PROJECT RENEW COMMUNITY MEETING

MARCH 13, 2002

QUESTIONS FROM THE PUBLIC

1. Will the City have to deal with the USEPA on the development of the former Karwick landfill? It was once used for a dirt bike track.
2. Is there a timeframe involved with the Karwick project and who will pay for the clean up?
3. Did they assemble furniture in the Royal Metals facility or did they plate it? Was it hard chrome?
4. If you find soil problems and the grant money does not cover remediation, are there other funds from the EPA to pay for the remediation?
5. Was there any contact with the minority population to let them know about these projects and this meeting?
6. Is there anything the City can do to prevent future brownfields from happening?
7. Will the City be making any kinds of suggestions to the neighborhood people on the reuse of the properties? Can the City make some positive suggestions?

ATTACHMENT E

LAKEVIEW BROWNFIELDS ARTICLE

$250,000 Grant Awarded To EDC

Provides Funding For Environmental Assessment

The Michigan City Economic Development Corp. has begun work to return two industrial properties to the community. With the help of a U.S. Environmental Protection Agency grant, the Royal Metals and Schmock Oil sites are being assessed for groundwater and soil contaminants.

Mayor Sheila Brillson said that the EDC was fortunate to be awarded the funding for the environmental assessment. "This $250,000 grant provides Michigan City the needed resources to recycle and reuse two vacant and possibly environmentally challenging properties in our community." She added, "Michigan City's application for these funds was one of 11 selected nationwide in the year 2001."

The former Royal Metals and Schmock Oil properties are what are known as brownfields. Brownfields, explained project manager Tom Stevenson, are idled industrial or commercial facilities that have not been reused "because of real or perceived environmental contamination."

Tony Rodriguez, director of the Economic Development Corp., noted the importance of restoring the properties. "We're taking what is now a liability and turning it into a productive job-creating asset for the community." He explained, "This Brownfields' Pilot Project presents an exceptional opportunity for Michigan City. Brownfields' redevelopment, in a nutshell, has several tremendous positive outcomes, the first of which is elimination of an eyesore. Secondly, it returns the property to productive use in a tax-producing status, which can result in job creation. And thirdly, urban sprawl can be lessened by successful reuse of valuable infrastructure."

Stevenson, vice president and project coordinator for Environmental Inc., said that such sites usually cause for concern but are not as hazardous as people may presume. Sometimes, in fact, the contamination is slight or non-existent. Stevenson expects that some contamination will be found at the facilities but that residents should not be alarmed. The possibility of groundwater contamination may be present, and that groundwater can move to other properties, he said. He felt that citizens would not have been harmed since city water is used in that area. "From our understanding of the sites, there would be some environmental concerns," he said. In fact, he cautioned that people should refrain from stepping onto the sites until the assessments have been completed. Not only are the structures unsound, but potentially contaminated soil and other materials should not leave the grounds. Even in recent months, police have received complaints that children play at Schmock Oil.

He pointed out that the EPA performed an emergency removal and clean-up of waste in 2000 at Schmock Oil. Environmental concerns had been raised when children playing at the site opened the valves of storage tanks and oil poured out. The EPA removed the oil drums, above-ground storage tanks and oil on the premises. "They did a very, very good job," Stevenson said. Still, concerns remain, which is the reason the assessment is being done.

Whatever is found at the sites, the community will be kept informed. The community, in fact, is a vital part of the two-year pilot project, the Brownfields' Assesssment Demonstration Project. Quarterly meetings with community members are planned to notify them on updates with the sites and to involve them in the decisions on how the land will be reused. Stevenson said that the community meetings are essential. "It is important to see that the grant money is being used to benefit the community."

The assessment part of the project is expected to be finished by the middle of the year. The first phase began in December with a walk-through of the site for obvious signs of possible environmental hazards. The investigators from Advanced Pollution Technologist, a Mishawaka firm, will look for oil spills or indications of underground storage of contaminants. The companies' documents that are registered with the state and the Indiana Department of Environmental Management will be reviewed and former employees interviewed. Former employees would be able to relate the waste disposal practices of the company, Stevenson explained. "Normally, in my experience, if you can get a hold of an older gentleman or woman who worked there, you can pinpoint the investigation."

In the project's second phase, expected to begin in February, groundwater and soil samples will be collected, sent to labs and analyzed. That data and current clean-up regulations will be evaluated. Phase II, then, will focus on the need to approach clean-up geared toward the specific use of the facility. Also in Phase II, but not an aspect of the grant, Stevenson plans to speak at schools. At these presentations, the geologist can explain his work in the community and environmental careers.

ATTACHMENT F

PROJECT RENEW NEWSLETTER "RENEWS"

Quarterly Progress Report No. 2
Brownfields Assessment Demonstration Pilot
Project ReNEW
City of Michigan City, Indiana
April 29, 2002

Project ReNEW
REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

NEWS

REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES

Newsletter for Michigan City Project ReNEW *March 2002*

CITY OF MICHIGAN CITY'S U.S. ENVIRONMENTAL PROTECTION AGENCY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT

PROJECT RENEW SITES

Royal Metals Facility,
600 North Carroll Avenue

Schmock Oil Corporation Facility,
1111 West Garfield Street

Michigan City Municipal Landfill,
Karwick Road

Project ReNEW Hot Line
219-873-1211 (Ext. 4)

Project ReNEW Hot Link on the MCEDC web site at www.michigancity.org/busdevelop/mcedc/index.htm

The U.S. Environmental Protection Agency (U.S. EPA) has awarded the City of Michigan City a $250,000 Brownfields Assessment Demonstration Pilot Project Grant for the environmental assessments, cleanup evaluations and feasibility studies of three Michigan City brownfield sites. The project is being coordinated through the Michigan City Economic Development Corporation (MCEDC).

WHAT ARE BROWNFIELDS?

Brownfields are abandoned, idled or under used industrial/commercial facilities where redevelopment/reuse is complicated by real or perceived environmental contamination.

WHAT IS THE U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT?

Project funding ($250,000) from the U.S. EPA is used to facilitate coordinated assessments of brownfields to evaluate potential environmental liabilities associated with identified contamination at the sites.

PROJECT RENEW GOAL

Transformation of two former industrial facilities/properties and a former City landfill into viable economic and environmentally safe uses.

PROJECT ReNEW WORK TASKS

The project is a two-year program that will consist of the following tasks:

1. Conduct environmental assessments at each site to determine the extent and magnitude of contamination (if any).
2. Prepare a cleanup plan (if required) that will include estimated cleanup costs and evaluate sources of cleanup funding.
3. Conduct a feasibility study for redevelopment/reuse of each site.
4. Develop a Community Involvement Outreach Plan for community/neighborhood information and involvement.

UPCOMING WORK TASKS

The environmental assessments were initiated in December 2001 and should be completed by the end of the second quarter of 2002 (July 2002).

PROJECT ReNEW CONTACTS

For additional information, please call the Project ReNEW Hot Line at 219-873-1211 (Ext. 4) or visit the Project ReNEW Hot Link on the MCEDC web site at www.michigancity.org/busdevelop/mcedc/index.htm.

ATTACHMENT G

MICHIGAN CITY NEWS-DISPATCH BROWNFIELDS ARTICLE

Photo/Anthony Lambré

An old dumping ground still littered with concrete pipes and trash off Karwick Road and Springfield Ave. may become a nature area.

3/17/02
News-Dispatch

Brownfields

Cleaning up city empty lots a major priority

By Haydn Bush
The News-Dispatch

When factories close, their physical plants can sit vacant for years while the property accumulates both back taxes and weeds.

The sites often turn into eyesores, and would-be owners are put off by old debts, environmental concerns and years of decay. The surrounding areas are hit by the loss of good jobs and the health dangers that former industrial sites can create.

Michigan City is fighting to turn around a number of these brownfields with the help of the federal government.

Last year, the Environmental Protection Agency awarded the city a $250,000 grant to clean three sites as part of a pilot program targeting 35 cities. The two-year grant program pays for environmental assessments, cleanup plans and feasibility reuse studies.

"This is a great shot in the arm to get things moving," said EPA project manager Diane Spencer.

The revitalization of brownfields can curb urban sprawl and provide nearby residents with readily available employment, according to Michigan City Economic Development Corp. Director Tony Rodriguez.

"The infrastructure is already in place to serve these properties," Rodriguez said. "We can effectively prevent urban sprawl by reusing these buildings in a productive way, which can also create walk-to-work jobs."

Brownfield sites where environmental assessments have already been concluded include the former Royal Metals site on Carroll Avenue, the Schmock Oil building on West Garfield and the former city dump at Karwick Road and Coolspring Avenue.

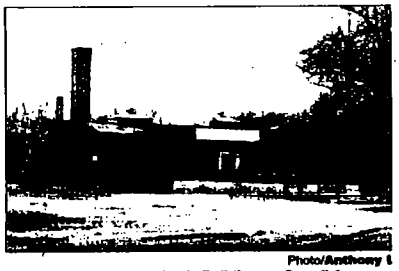
The Royal Metals building, which contains 89,000 square feet over five acres of land, is structurally unsafe and was condemned by the city after the building was vacated in 1966. The owners of Royal Metal moved to New York before going bankrupt in the early 1980s.

The Schmock Oil building, which closed in 1994 after 34 years, also is structurally unsafe. The city would like to see both sites eventually sold to a buyer for industrial use.

Meanwhile, the old city dump, which closed in the 1960s, is being targeted for a nature preserve as part an EPA greenspace initiative. Mayor Sheila Brillson said that while the site plan for the nature preserve has been created, the city hasn't come up with additional funding for the project.

Next up for the city is the former Josam factory on East U.S. 12. That site is owned by the 12 East Business Center, a company operated jointly by the city Economic Development Corp. and the Northern Indiana Center for Land Renewal.

● See **BROWNFIELDS,** Page D2



Photo/Anthony L

The Royal Metals Building on Carroll Ave.

Photo/N

A worker dressed in a full hazard suit positions a barrel to be up by a mechanical lift during clean-up at Schmock Oil in Ja

Brownfields

● **CONTINUED** from Page D1

After five years of sorting out a myriad of legal issues, the group recently purchased the factory, which closed in the 1980s when Josam went bankrupt.

The former owners were delinquent to the tune of $1.2 million in city and county real estate taxes and $8 million in private liens. The city hopes to complete an environmental assessment of the site by July, and Brillson said she is eagerly awaiting the site's renewal.

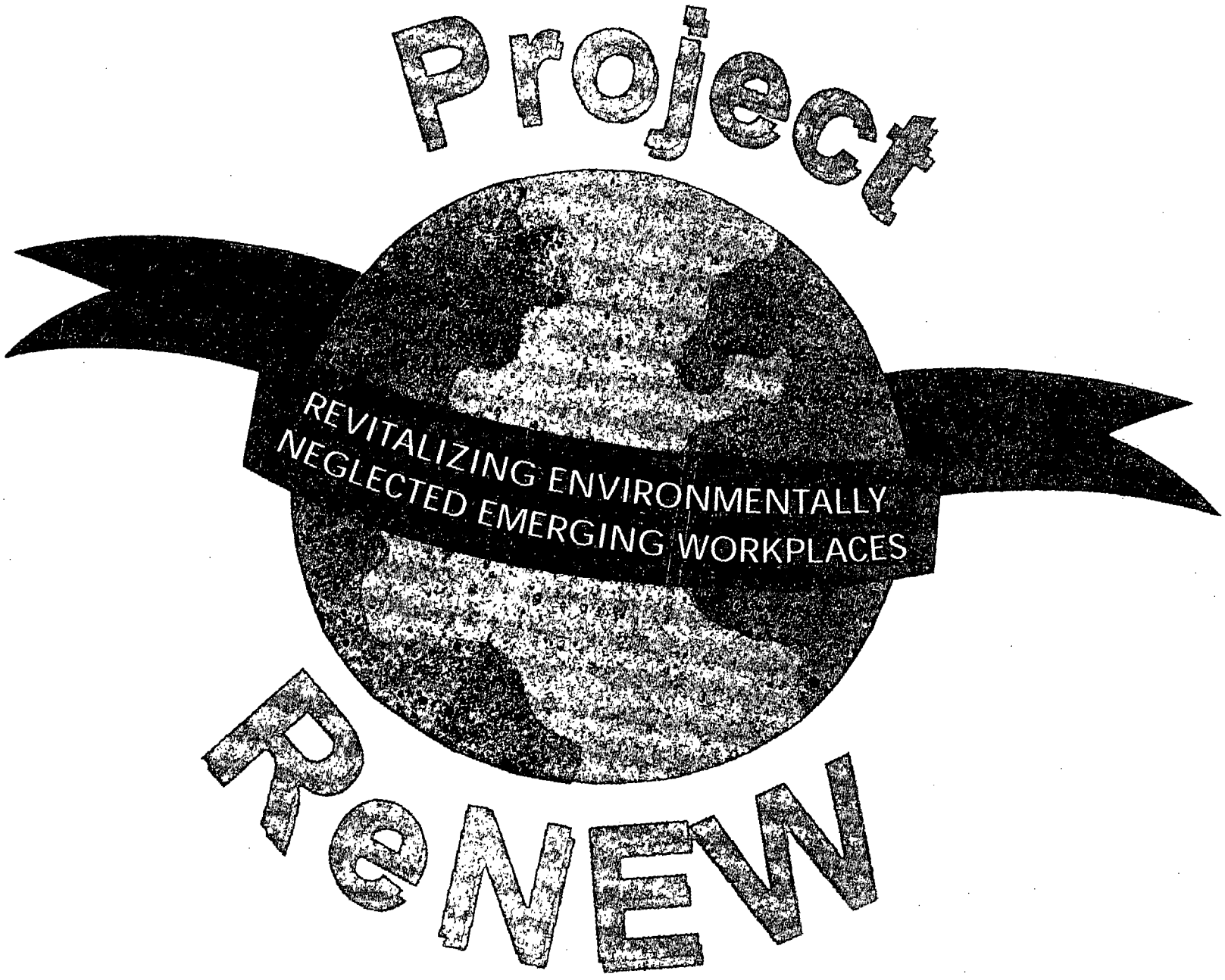
"It's been a personal pet peeve of mine since I used to drive by there every day," Brillson said. "A city can't grow with an eyesore like that on one of its gateways."

Rodriguez said that while turning around a brownfield often can take decades of legal and environmental work, the end result is well worth the effort.

"Brownfield redevelopment efforts can appear to be never-ending," Rodriguez said. "We're identifying all the problems that kept businesses from buying (brownfields) at tax sales. Ultimately, we're bringing the properties back into productive use and taking away a potential hazard."

ATTACHMENT H

PROJECT RENEW LOGO


Project
REVITALIZING ENVIRONMENTALLY
NEGLECTED EMERGING WORKPLACES
ReNEW

ATTACHMENT I

GREENSPACE SITE IDEM VRA

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

March 18, 2002

Anthony Rodriguez
Michigan City Economic Development Corp.
100 E. Michigan Boulevard
Michigan City, IN 46360

RECEIVED 4/12/02

Re: Voluntary Remediation Agreement
Karwick Road Landfill
Karwick Road
Michigan City, IN
VRP #: 6020118

Dear Mr. Rodriguez:

Please find enclosed a copy of the Voluntary Remediation Agreement (VRA) for the Karwick Road Landfill site in Michigan City, Indiana. The VRA has been signed by the Assistant Commissioner of the Indiana Department of Environmental Management.

If an investigation report and/or remediation work plan report has been completed for the site according to IDEM Voluntary Remediation Program outlines, it may be submitted at this time. Please let me know if there are any other documents associated with your remediation that should also be included in our review.

If you have any questions please contact me at (317) 234-0967, 1-800-451-6027, or at bdayhars@dem.state.in.us.

Sincerely,

Brent A. Dayharsh

Brent A. Dayharsh, Project Manager
Voluntary Remediation Program
Office of Land Quality

Voluntary Remediation Agreement
Relating to Karwick Road Landfill

Michigan City Parks & Recreation Department	)
Michigan City, Indiana	)
	)
Applicant	)
	)
Voluntary Remediation at:	)
Karwick Road Landfill Site	)
Karwick Road	)
Michigan City, IN 46360	)
IDEM Project # 6020118	)
	)
Proceeding under	)
the Environmental	)
Management Act	)
(Indiana Code 13-25-5)	)

I. INTRODUCTION

1. The Indiana Department of Environmental Management ("IDEM"), by its Commissioner or his or her designee ("Commissioner"), and the Michigan City Parks & Recreation Department ("Applicant"), hereby enter into this Voluntary Remediation Agreement ("Agreement"), pursuant to IC § 13-25-5-8, for the purpose of remediating the release of hazardous substances or petroleum at the former Karwick Road Landfill Site, Michigan City, Laporte County, Indiana.

II. JURISDICTION

2. This Agreement is entered into by and between Applicant and IDEM, by its Commissioner, pursuant to IC § 13-25-5-8, hereafter collectively referred to as the "Parties."

3. The Parties agree to the following terms and conditions for the evaluation and implementation of the Voluntary Remediation Work Plan ("Remediation Work Plan"), to waive their rights to administrative and judicial review of the binding effect and enforceability of the Agreement, and to not contest the jurisdiction of IDEM to enter into this Agreement. However, the Applicant reserves all rights it may have under common law, Indiana law, and federal law to seek contribution or indemnity from others not signatories to this Agreement.

4. By entering into this Agreement, the Applicant neither admits nor denies liability.

III. STATEMENT OF ELIGIBILITY

5. The Commissioner has determined that the application submitted by Applicant is complete and that Applicant is eligible to participate in the Voluntary Remediation Program ("VRP") established under IC 13-25-5. However, neither the Commissioner's determination of eligibility nor the entry into this Agreement precludes any finding by the Commissioner at a later date that the Site poses an imminent and substantial threat to human health or the environment within the meaning of IC 13-25-5. In addition, if it is determined that Applicant withheld or misrepresented information that would be relevant to the Applicant's eligibility, IDEM may withdraw from this Agreement.

6. If it is determined that Applicant is eligible for the Indiana Underground Petroleum Storage Tank Excess Liability Fund pursuant to IC 13-23 and all applicable rules, Applicant may apply for reimbursement of the costs of the remediation required by this Agreement. However, Applicant expressly waives the right to claim reimbursement for costs paid to IDEM as Administrative Costs, as described in Section XIX, and for the application fee as provided in IC § 13-25-5-2.

7. Applicant shall comply with all applicable Indiana and federal requirements for corrective action. For purposes of determining compliance with applicable Indiana and federal requirements for Leaking Underground Storage Tank ("LUST") remediation and for determining eligibility for the Indiana Underground Petroleum Storage Tank Excess Liability Fund ("ELF"), IDEM will evaluate the Remediation Work Plan for consistency with guidance applicable to the LUST Program and ELF. Applicant shall notify the IDEM Project Manager if this evaluation is desired.

IV. PARTIES BOUND

8. This Agreement shall apply to and be binding upon the Applicant, its officers, directors, principals, employees, agents, successors, subsidiaries, and assigns, and upon IDEM, its employees, agents and successors. The signatories to this Agreement certify that they are fully authorized to execute this Agreement and legally bind the Parties they represent. No change in ownership, corporate, or partnership status of the Applicant shall in any way alter its status or responsibilities under this Agreement unless Applicant or IDEM withdraws from this Agreement.

9. The Applicant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred. The Applicant shall provide a copy of this Agreement to all contractors, sub-contractors, laboratories, and consultants that are retained to conduct any work performed under this Agreement, within fourteen (14) days after the effective date of this Agreement or within fourteen (14) days of the date of retaining their services.

V. DEFINITIONS

10. "Commissioner" shall mean the Commissioner of IDEM or her or his designee.

11. "Day" shall be defined as the 24-hour period from 12:00 A.M. up to but not including 12:00 A.M.

12. "Site" shall be used in the manner as defined by IC § 13-11-2-203(a) and includes the legal description of the former Karwick Road Landfill facility located at Karwick Road, Michigan City, Laporte County, Indiana.

13. All other terms contained in this Agreement shall be used in the manner as defined by IC 13-11-2.

VI. STATEMENT OF PURPOSE

14. This Agreement sets forth the terms and conditions of evaluation and implementation of a Remediation Work Plan proposed by the Applicant for the remediation of the release or threatened release of petroleum or hazardous substances from the Site.

15. The activities conducted by the Applicant under this Agreement are subject to approval by IDEM. Applicant shall provide all necessary information for a Remediation Work Plan for the Site. The activities conducted by the Applicant shall be consistent with this Agreement, all applicable laws and regulations, and appropriate guidance documents as described in Paragraphs 16. Applicant shall employ sound scientific, engineering, and construction practices.

VII. WORK TO BE PERFORMED

16. All work to be performed by the Applicant pursuant to this Agreement shall be under the direction and supervision of qualified person(s) with expertise in hazardous substance or petroleum site investigation and remediation. This individual may or may not be designated by Applicant as Applicant's Project Manager in Paragraph 25. Prior to the initiation of Site work, the Applicant shall notify IDEM, in writing, regarding the name, title, and qualifications of such qualified person and of any contractors and/or subcontractors to be used in carrying out the terms of this Agreement. All work performed and all documents submitted shall be in accordance with all VRP guidance documents available and in effect as of the Effective Date of this Agreement. The Applicant may elect to comply with either the VRP's *Resource Guide* (July, 1996 edition) or the guidance pertaining to IDEM's *Risk-Integrated System of Closure* in accordance with the RISC Transition Policy (adopted by the RISC Nonrule Policy Statement (Waste-0046-NPD, 24 Ind. Reg. 1986 (2001)) and attached hereto). In the event that this Agreement is not executed or submitted in the time and manner specified in the RISC Transition Policy, the applicant shall comply with the guidance pertaining to IDEM's *Risk-Integrated System of Closure*. The Applicant may supplement this guidance with guidance or other documents approved by VRP. Guidance documents identified in this Agreement are named for the convenience of the

Applicant; the failure to specify a specific guidance document in this Agreement shall not be construed as a limitation on the applicability of a guidance document.

17. Applicant may, at Applicant's discretion, submit to IDEM an Investigation Work Plan detailing the investigation of the nature and extent of the contamination at the Site. The Investigation Work Plan, including the Investigation Work Plan format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

(a) The Investigation Work Plan shall include the following project plans: (1) a quality assurance project plan; (2) a sampling and analysis plan; (3) a health and safety plan; (4) a schedule for implementation of all tasks set forth in the Investigation Work Plan; and (5) a data management plan.

(b) IDEM may require Applicant to submit additional or corrected information pursuant to IC § 13-25-5-9(b).

(c) The Investigation Work Plan shall be subject to review and evaluation for technical sufficiency by IDEM within approximately sixty (60) days of receipt. IDEM's failure to act on the Investigation Work Plan shall not constitute IDEM's acceptance of the Investigation Work Plan. Acceptance of the Investigation Work Plan by the IDEM Project Manager shall not preclude IDEM from requiring further investigation before final approval of the Remediation Work Plan is given.

18. Applicant may, at Applicant's discretion, submit to IDEM an Investigation Report detailing the results of an investigation of the nature and extent of the contamination at the Site. The Investigation Report may be, but need not be, the results of the Investigation Work Plan in Paragraph 17.

(a) The Investigation Report, including the Investigation Report format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

(b) IDEM may require Applicant to submit additional or corrected information pursuant to IC 13-25-5-9(b).

(c) The Investigation Report shall be subject to review and evaluation for technical sufficiency by IDEM within approximately sixty (60) days of receipt. IDEM's failure to act on the Investigation Report shall not constitute IDEM's acceptance of the Investigation Report. Acceptance of the Investigation Report by the IDEM Project Manager shall not preclude IDEM from requiring further investigation before final approval of the Remediation Work Plan is given.

19. The Applicant shall submit a Remediation Work Plan not later than one hundred eighty (180) days after the date this Agreement is executed, or longer if an extension is agreed to by the Parties. If Applicant fails to submit the Remediation Work Plan within that period, the Agreement is voidable at the discretion of IDEM. If IDEM determines the Agreement is void, all

protection provided under IC § 13-25-5-18(e) is extinguished. In the event this Agreement is voided, the Applicant shall remain responsible to IDEM under Section XIX, Administrative Costs. The Remediation Work Plan must specify the objectives for the remediation of hazardous substances or petroleum that are based on: background levels of hazardous substances and petroleum that occur naturally on the Site; or, an assessment of the risks posed by the hazardous substances and petroleum, taking into consideration the expected future use of the Site and measurable risks to human health, natural resources, or the environment. Risk based objectives shall be based on one of the following: 1) levels of hazardous substances and petroleum calculated by IDEM using standard equations and default values for that particular contaminant; 2) levels of hazardous substances and petroleum calculated using site specific data for the default values in IDEM's standard equations; or, 3) levels of hazardous substances and petroleum developed based on site specific risk assessments that take into account site specific factors. The Remediation Work Plan, including the Remediation Work Plan format, shall be developed in accordance with the guidance documents specified in Paragraph 16.

20. The Remediation Work Plan shall include: (1) a detailed description of the investigation conducted by the Applicant in preparing the Remediation Work Plan and a description of the work performed by the Applicant to determine the nature and extent of the actual or threatened release; (2) a proposed statement of work to accomplish the remediation in accordance with guidelines established by the department; and (3) the following project plans: (a) a quality assurance project plan, (b) a sampling and analysis plan, (c) a health and safety plan, (d) a community relations plan, (e) a schedule for implementation of all tasks set forth in the Remediation Work Plan, and (f) a data management plan. The community relations plan shall be consistent with the *Voluntary Remediation Program Community Relations Plan* non-rule policy document, 24 Ind. Reg. 2598 (May 1, 2001).

21. IDEM may request Applicant to submit additional or corrected information pursuant to IC § 13-25-5-9(b). The Applicant may comply with the request or withdraw the proposed plan from consideration.

22. The Remediation Work Plan shall be subject to review and evaluation by IDEM pursuant to IC § 13-25-5-9(a) for approximately sixty (60) days after receipt of the Remediation Work Plan. IDEM's failure to act on the Remediation Work Plan shall not constitute IDEM's acceptance of the Remediation Work Plan. Additionally, IDEM may request the applicant to supply additional information or corrected information pursuant to IC § 13-25-5-9(b). This time period shall not include the time required for public comment under IC § 13-25-5-11.

23. The Commissioner shall make a determination concerning the approval, modification and approval, or rejection of the Remediation Work Plan within thirty (30) days of close of the public comment period provided for in IC § 13-25-5-11 and notify the Applicant of the determination as provided in IC § 13-25-5-12 or IC § 13-25-5-13.

24. If the Applicant desires to proceed with the implementation of the approved Remediation Work Plan, the Applicant must notify IDEM in writing not more than sixty (60) days after the Remediation Work Plan is approved. After providing such notice, the Applicant

shall initiate the work detailed in the Remediation Work Plan according to the schedule as set forth in the Remediation Work Plan. Upon IDEM's receipt of notice that the Applicant intends to proceed, the fully approved Remediation Work Plan shall be deemed incorporated into and made an enforceable part of this Agreement.

VIII. ADDRESSES FOR ALL CORRESPONDENCE

25. Documents, including reports, approvals, notifications, disapprovals, and other correspondence, to be submitted under this Agreement, may be sent by U.S. First Class mail, hand delivery, overnight mail, or by courier service to the following addresses or to such addresses as the Applicant or IDEM may designate in writing.

Documents to be submitted to IDEM shall be sent to:

Brent A. Dayharsh
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 234-0967

Documents to be submitted to the Applicant shall be sent to:

John Klanke
Advanced Pollution Technologists, Inc.
3505 N. Home Street, Suite 100
Mishawaka, IN 46545
(219) 257-8196

IX. COMPLIANCE WITH APPLICABLE LAWS

26. All work undertaken by the Applicant pursuant to this Agreement shall be performed in compliance with all applicable federal, state and local laws, ordinances and regulations, including, but not limited to, all Occupational Safety and Health Administration, Department of Transportation and Resource Conservation and Recovery Act regulations. In the event of a conflict in the application of federal, state, or local laws, ordinances, or regulations, the Applicant shall comply with the more/most stringent of such laws, ordinances, or regulations, unless provided otherwise in writing by IDEM. Where it is determined that a permit is required under law, Applicant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. The Applicant shall be responsible for obtaining all permits that are necessary for the performance of any work hereunder.

27. Nothing in IC 13-25-5 relieves Applicant of its obligations or responsibilities under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, including, but not limited to, the duty to meet any permit conditions, financial responsibility, closure, post-closure

or corrective action,, regardless of whether the Remediation Work Plan addressed the contaminants or property at issue.

28. Nothing in this Agreement, the Certificate of Completion, or the Covenant Not To Sue shall be construed to relieve the Applicant of any natural resource damage liability arising from contaminants, even if addressed by the Remediation Work Plan, including under the following authorities: 42 U.S.C. § 9601 *et seq.* (CERCLA), 33 U.S.C. § 2701 *et seq.*, IC § 13-25-4-8, or any common law theories of public trust doctrine in Indiana. Applicant agrees that the period from the Effective Date of this Agreement until the Agreement is terminated or satisfied shall toll all statutes of limitations applicable to the contaminants addressed by the Remediation Work Plan.

29. A Certificate of Completion and Covenant Not To Sue issued under Section XXV (Termination and Satisfaction) shall not release Applicant from liability for claims for natural resources damages. Applicant may devise and carry out a plan for restoration, rehabilitation, replacement, or acquisition of equivalent natural resources or pay to the State the value of the natural resources, as determined by the Natural Resource Trustees. The plan may be developed and implemented as part of the Remediation Work Plan. If Applicant wishes to address natural resource damages in the Remediation Work Plan, Applicant shall so indicate in the notice to the State and Federal Natural Resources Trustees per Section X (Interagency Coordination).

30. After receiving notice of Applicant's desire to address natural resource damages, the Natural Resources Trustees may perform a pre-assessment screen for injury to, destruction of, or loss of natural resources. The Applicant expressly agrees to reimburse IDEM for any and all costs incurred by either IDEM or the Indiana Department of Natural Resources in performing the pre-assessment screen. The Applicant will perform the assessment of damages based on the pre-assessment screen. This Agreement and the Covenant Not To Sue issued hereunder do not alter the liability of Applicant or any other person to the federal government for claims of natural resource damages under any federal law.

X. INTERAGENCY COORDINATION

31. The following agencies may have an interest in the Remediation Work Plan because of concurrent jurisdiction over the Site:

1. Indiana Department of Natural Resources
   Fish & Wildlife Division
   Rm-W273
   402 W. Washington, Indianapolis, IN 46204
   Attn: Mr. Wayne Faatz
   Phone: (317) 232-4080
   Fax: (317) 233-4579

2. Indiana State Department of Health
Epidemiology Resource Center
Rm 234W
1330 W. Michigan St.
Indianapolis, IN 46202

3. Fire Prevention and Building Safety Commission
Office of the Fire Marshal
Rm E-241
402 W. Washington St.
Indianapolis, IN 46204
Phone: (317) 232-2222
Fax: (317) 233-0307

4. U.S. Department of Interior
Fish & Wildlife Service
Bloomington Ecological Services Field Office
620 South Walker Street
Bloomington, Indiana 47403-2102
Telephone: (812) 334-4261
Fax: (812) 334-4273

32. The Applicant shall provide notice to these agencies of the submission of the Remediation Work Plan by sending them a copy of the Remediation Work Plan Executive Summary, a Site map, and the names of the Project Managers for IDEM and Applicant. Any of the above named agencies that wish to review the Remediation Work Plan shall be given an opportunity by IDEM to comment during the time that IDEM is reviewing the Remediation Work Plan. IDEM shall consider any comments from state agencies that are received at least thirty (30) days prior to the deadline established in this Agreement for approval or rejection of the Remediation Work Plan. If Applicant wishes to address natural resource damages in the Remediation Work Plan, Applicant shall so notify the State and Federal Natural Resources Trustees within thirty (30) days of the Effective Date of this Agreement.

XI. DESIGNATED PROJECT MANAGER

33. On or before the Effective Date of this Agreement, IDEM and the Applicant shall each designate a Project Manager. Each Project Manager shall be responsible for overseeing the implementation of this Agreement. The IDEM Project Manager will be the designated IDEM representative at the Site. To the maximum extent possible, communications between the Applicant and IDEM and all documents (including reports, approvals, and other correspondence) concerning the activities performed pursuant to this Agreement shall be directed through the Project Managers. During implementation of this Agreement, the Project Managers shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Each Party has the right to change its respective

Project Manager, which Party shall notify the other Party of the change in writing and in a timely fashion.

34. The IDEM Project Manager shall have the authority to halt, conduct, or direct any work required by this Agreement and/or any response actions or portions thereof if Site conditions present an imminent and substantial threat to human health or the environment. In the event that the IDEM Project Manager halts work pursuant to this paragraph, the schedule of work described in the Remediation Work Plan and this Agreement shall be modified accordingly, or IDEM may withdraw its approval of the Remediation Work Plan pursuant to Section XVIII (Reservation of Rights).

35. The absence of the Applicant's or IDEM's Project Manager from the Site shall not be cause for the stoppage of work. The Applicant's Project Manager or his or her supervisor shall reasonably be available by telephone while work is being performed at the Site. The Applicant's Project Manager shall designate a person to be in charge who will be available at the Site when work is being performed at the Site.

XII. QUALITY ASSURANCE

36. The Applicant shall use quality assurance, quality control, and chain of custody procedures in accordance with the Quality Assurance Project Plan approved for use by IDEM throughout any sample collection and analysis activities under this Agreement, unless IDEM agrees otherwise.

37. Applicant shall provide the IDEM Project Manager with reasonable advance notice of all sampling and analysis as detailed in the Investigation or Remediation Work Plans. IDEM requires the presence of an IDEM representative during any sampling that the Applicant uses as confirmation sampling. To provide quality assurance and maintain quality control, the Applicant shall do each of the following.

(a) Applicant shall allow IDEM personnel and/or IDEM authorized representatives reasonable access to laboratories and personnel utilized by the Applicant for analyses.

(b) Applicant shall ensure that all sampling and analyses are performed according to U.S. EPA methods, the approved Quality Assurance Project Plan, or other methods deemed satisfactory by IDEM.

(c) Applicant shall ensure that any laboratories used by the Applicant for analyses participate in a documented Quality Assurance/Quality Control program that complies with U.S. EPA guidance documents. As part of such a program, and upon request by IDEM, such laboratories shall perform analyses of samples provided by IDEM to demonstrate the quality of analytical data for each such laboratory.

(d) Applicant shall perform confirmatory sampling for all contaminants and all media for which a Certificate of Completion and Covenant Not To Sue are sought. Applicant shall specify in the Remediation Work Plan the means of taking confirmatory samples and notify IDEM personnel a minimum of fourteen (14) days prior to taking confirmatory samples.

38. IDEM reserves the right to reject any data not gathered consistent with the requirements of this section and Section XIII (Sampling and Data/Document Availability) and to require that the Applicant utilize a different laboratory.

XIII. SAMPLING AND DATA/DOCUMENT AVAILABILITY

39. The Applicant shall, upon request, make the results of all sampling, including raw data, and/or tests or other data generated by the Applicant, or on the Applicant's behalf, available to IDEM. IDEM will make available to the Applicant the quality assured results of sampling and/or tests or other data similarly generated by IDEM.

40. At the request of IDEM, the Applicant shall provide to IDEM (and/or its authorized representative) splits or duplicates of any samples collected by the Applicant pursuant to the implementation of this Agreement. At the request of the Applicant, IDEM (or its authorized representative) shall provide split or duplicate samples to the Applicant of any samples collected by IDEM and/or its authorized representative pursuant to the implementation of this Agreement. Each Party shall notify the other in advance of any sample collection activity.

XIV. ACCESS

41. To the extent that the Site or other areas where work is to be performed hereunder are presently owned or controlled by parties other than those bound by this Agreement, the Applicant shall obtain access agreements from the present owners. Such agreements shall provide access for IDEM and authorized representatives of IDEM, as specified below. In the event that access to the Site is not obtained, the Applicant shall so notify IDEM, which may at its discretion assist the Applicant in gaining access. IDEM may withdraw from or modify this Agreement should the Applicant's inability to gain access to the Site or other areas materially affect the Applicant's ability to perform the work required herein.

42. The Applicant shall provide authorized representatives of IDEM access to the Site and other areas where work is to be performed at all reasonable times. Such access shall be related solely to the work being performed on the Site and shall include, but not be limited to: inspecting records, operating logs, and contracts related to the Site; reviewing the progress of the Applicant in carrying out the terms of this Agreement; conducting such tests, inspections, and sampling as IDEM may deem necessary; using a camera, sound recording, or other documentary equipment for field activities; and, verifying the data submitted to IDEM by the Applicant hereunder. The Applicant shall permit IDEM's authorized representatives to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, which pertain to this Agreement and over which the Applicant exercises

control. All persons with access to the Site pursuant to this Agreement shall comply with the approved Health and Safety Plan and established health and safety protocols.

43. Nothing herein shall be construed as restricting the inspection or access authority of IDEM under any law or regulation. Furthermore, nothing herein shall be construed as restricting the authority of IDEM to abate any pollution or contamination at the Site.

XV. RECORD PRESERVATION

44. The Applicant agrees to preserve, during the pendency of this Agreement and for a minimum of six (6) years after its termination, all records and documents in the Applicant's possession or in the possession of its employees, agents, accountants, contractors, which relate in any way to the subject matters covered by this Agreement. Upon request by IDEM, the Applicant shall make available to IDEM such records or copies of any such records. After this six (6) year period, the Applicant shall notify IDEM in writing thirty (30) days prior to the destruction of any such documents. At that time, if IDEM requests that some or all documents be preserved for a longer period of time, the Applicant shall provide IDEM with the documents that IDEM wishes to preserve.

45. Applicant may assert a confidentiality claim with respect to any or all of the information requested or submitted pursuant to this Agreement, pursuant to applicable laws and rules including IC 13-14-11, IC 5-14-3, and 329 IAC 6.1-3. Applicant shall adequately substantiate any assertion of confidentiality when the assertion is made. Information determined to be confidential by IDEM shall be disclosed only to the extent permitted by law. If no such confidentiality claim accompanies the information when it is submitted to IDEM, it may be made available to the public by IDEM without further notice to the Applicant. Applicant agrees not to assert any confidentiality claim with regard to any physical or analytical data.

XVI. DISPUTE RESOLUTION

46. This section (Dispute Resolution) shall apply to any dispute arising under any section of this Agreement, unless specifically excepted.

47. The Parties shall use their best efforts, in good faith, to resolve all disputes or differences of opinion informally. If, however, disputes arise concerning this Agreement which the Parties are unable to resolve informally, the Applicant may present written notice of such dispute to IDEM and set forth specific points of dispute and the position of the Applicant. This written notice shall be submitted no later than five (5) business days after the Applicant discovers the Project Managers are unable to resolve the dispute. The Applicant's Project Manager will notify IDEM's Project Manager immediately by phone or other appropriate method of communication, prior to written notice, when s/he believes the Parties are unable to resolve a dispute.

48. Within ten (10) business days of receipt of such a written notice, IDEM shall provide a written response to the Applicant setting forth its position and the basis therefor. During the

five (5) business days following the receipt of the response, the Parties shall attempt to negotiate in good faith a resolution of their differences.

49. Following the expiration of the time periods described in the immediately preceding paragraph, if IDEM concurs with the position of the Applicant, the Applicant shall be notified in writing. This Agreement and the Remediation Work Plan shall be modified to include any necessary extensions of time or variances of work. If IDEM does not concur with the position of the Applicant, IDEM, through the Commissioner, shall make a determination regarding the dispute, based upon and consistent with the terms of this Agreement, and shall provide written determination of such resolution to the Applicant. In the event that such determination is not acceptable to either Party, either Party may submit the dispute to an impartial third party for mediation in the following manner:

(a) The Parties shall select a mediator from the Indiana Supreme Court's approved list of mediators as established by the Indiana Rules of Alternative Dispute Resolution (ADR Rules) within five (5) business days of Applicant's receipt of the Commissioner's determination. In the event such a list does not exist or does not contain mediators that the Parties agree are qualified to mediate environmental disputes, the Parties shall use a mutually acceptable list and select a mediator within five (5) business days of compilation of such other mutually acceptable list. In addition to the qualifications required by the ADR Rules, the mediator shall have experience in environmental issues.

(b) The dispute shall be initially submitted to the mediator via a written request for dispute resolution through mediation; the written request shall be issued within ten (10) business days after notification of the Parties of IDEM's final determination of the dispute, as provided by Paragraph 49(a) of this section. The request for assistance shall include the written determination of the Commissioner issued pursuant to Paragraph 49(a) and the documents specified in Paragraphs 47 and 48 of this section, Dispute Resolution. A copy of the written request shall be delivered to the other Parties at the time the request is made.

(c) The Party which submitted the dispute to mediation may make a written submission in support of its position to the mediator within ten (10) business days of the mediator's selection, and any other Party may make a written response in support of its position within seven (7) business days thereafter. The mediator shall immediately thereafter contact all Parties and determine the course of the mediation, including scheduling any meetings deemed necessary.

(d) The mediation process shall be conducted in accordance with Indiana Rules of Alternative Dispute Resolution in any aspect not covered by this Agreement.

(e) The mediator and the Parties shall proceed with reasonable promptness to resolve the dispute.

(f) All communications, whether oral or written, between the mediator and the Parties, shall be kept confidential in accordance with the Indiana Rules for Alternative Dispute Resolution Rule 2.12, and to the extent allowed under Indiana law.

(g) The cost of the mediator shall be included in the administrative costs paid by the Applicant. IDEM's costs of mediation shall be included in the administrative costs paid by the Applicant, except to the extent that the mediator determines that IDEM acted unreasonably. The Applicant shall pay the Applicant's costs of mediation.

50. If either Party determines or the mediator declares that the dispute cannot be resolved through the mediation process, the Parties retain all rights under the Indiana Administrative Orders and Procedures Act, IC 4-21.5.

51. Until the dispute is resolved, any actions concerning that element of work in dispute shall be halted. The resolution of the dispute shall be incorporated into the Remediation Work Plan and made an enforceable part thereof. The time schedule for the work in dispute shall be extended by the amount of time needed for resolution. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the Remediation Work Plan.

52. Elements of work and any actions required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure, and into this Agreement. The Applicant shall proceed with all remaining work according to the modified plan or procedure.

XVII. FORCE MAJEURE

53. The Applicant shall cause all work or required reporting to be performed within the time limits set forth herein, unless performance is delayed by events that constitute a force majeure. For purposes of this Agreement, a force majeure is an event arising from circumstances beyond the reasonable control of the Applicant which delays performance of any obligations required by this Agreement. Increases of costs shall not be considered an event of force majeure.

54. The Applicant shall notify IDEM by calling IDEM's Project Manager within three (3) days and by writing no later than seven (7) days after any event that the Applicant contends is a force majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the Applicant to minimize the delay, and the timetable by which these measures will be implemented. The Applicant shall have the burden of demonstrating that the event is a force majeure. The Commissioner shall make the decision of whether an event is a force majeure. This decision shall be promptly communicated to Applicant.

55. If a delay is attributable to a force majeure as determined in this section, the time period for performance under this Agreement shall be extended by IDEM, in writing, by the amount of time that is attributable to the event constituting the force majeure.

XVIII. RESERVATION OF RIGHTS

56. IDEM and Applicant reserve all rights and defenses they may have pursuant to any available legal authority unless expressly waived herein.

57. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of action, or demands, in law or in equity, that the Parties may have against any person, firm, partnership, or corporation, not a Party to this Agreement, for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release, or disposal of any materials, hazardous substances, hazardous waste, contaminants, or pollutants at, to, or from the Site. The Parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not Parties to this Agreement, and as to each other for matters not covered in this Agreement.

58. The Applicant reserves the right to seek contribution, indemnity, or any other available remedy against any person other than IDEM found to be responsible or liable for contributions, indemnity, or otherwise for any amounts which have been or will be expended by the Applicant in connection with the Site.

59. IDEM reserves the right to bring an action, including an administrative action, against Applicant for any violations of statutes or regulations except for the specific violations or releases that are being remediated in the Remediation Work Plan.

60. Pursuant to IC 13-25-5, IDEM may withdraw its approval of the Remediation Work Plan at any time during the implementation of the Remediation Work Plan if:

(a) IDEM determines that the Applicant has failed to substantially comply with the terms and conditions of this Agreement or the Remediation Work Plan;

(b) the Applicant declines to implement the Remediation Work Plan after being notified of its approval by IDEM; or

(c) IDEM determines that a hazardous substance or petroleum has become an imminent or substantial threat to human health or the environment.

Upon withdrawal of its approval, this Agreement shall be terminated and IDEM reserves the right to bring any action to enforce any statute or regulation under Title 13 of the Indiana Code, including an action regarding the violations or releases that were the subject of this Agreement.

61. IDEM acknowledges that, pursuant to IC § 13-25-5-20(b), Applicant, upon receipt of the Certificate of Completion, is not liable for claims for contribution concerning matters addressed in the Remediation Work Plan or the Certificate of Completion.

XIX. ADMINISTRATIVE COSTS

62. Applicant agrees to reimburse IDEM for all of its Administrative Costs associated with implementation of this Agreement. An itemized list of estimated Administrative Costs that IDEM expects to incur under this Agreement will be forwarded to the Applicant as soon as is practicable.. This estimate does not bind IDEM to a maximum cost that IDEM is entitled to bill the Applicant under this Agreement.

63. IDEM shall routinely send an accounting of IDEM's Administrative Costs to Applicant. The accounting shall itemize all Administrative Costs incurred by IDEM. Applicant shall pay these Administrative Costs within thirty (30) days of receipt of the accounting. Interest shall accrue at a rate of one half percent (1/2 %) per month of delinquency. Applicant understands that IDEM may incur Administrative Costs after this Agreement is satisfied. IDEM may issue the Certificate of Completion and Covenant Not To Sue before IDEM has accounted for all Administrative Costs. Therefore, Applicant further understands that the Applicant may receive bills after the Certificate of Completion and the Covenant Not To Sue have been issued.

64. Checks shall be made payable to the Voluntary Remediation Fund and be mailed, along with a transmittal letter stating the Site name, number, and address, to the Indiana Department of Environmental Management; Attention: Cashier; 100 North Senate Avenue; P.O. Box 7060; Indianapolis, Indiana 46207-7060. In addition, a copy of the check and transmittal letter shall be mailed to IDEM Project Manager.

65. Administrative Costs include all actual costs, direct and indirect, of IDEM's oversight of this Agreement and the work contemplated herein including, but not limited to: time, salary, benefits, and travel costs of IDEM personnel and its contractors and associated indirect costs, contractor costs, compliance monitoring (such as the collection and analysis of split or duplicate samples, inspection of Applicant's activities, and Site visits), discussions regarding disputes that may arise as a result of this Agreement, review and approval or disapproval of reports, and the costs of dispute resolution as provided in Section XVI (Dispute Resolution). Administrative Costs shall also include the actual costs incurred by IDEM in having a qualified person oversee the conduct of the Applicant under this Agreement and the Remediation Work Plan. Administrative Costs shall include an additional amount not to exceed ten percent (10%). As authorized by IC § 13-25-5-8(a), IDEM considers this additional amount to be reasonable and necessary for the effective and efficient implementation of the Voluntary Remediation Program and to ensure that IDEM meets its obligations and all other expenses not covered above. IDEM will not issue the Certificate of Completion or the Covenant Not To Sue before the payment of any Administrative Costs that are due and payable. Costs incurred prior to and after satisfaction of this Agreement must be paid regardless of the issuance of the Certificate of Completion and the Covenant Not To Sue.

66. In the event that this Agreement is terminated for any reason, Applicant agrees to reimburse IDEM for all of its Administrative Costs incurred to the time of termination. IDEM agrees to reimburse Applicant any unused portion of the application fee in accordance with IC § 13-25-5-8(b)(2).

XX. COMMUNITY RELATIONS

67. In addition to performing the requirements specified in the Community Relations Plan in the Applicant's Remediation Work Plan, the Applicant shall cooperate with IDEM in providing information about the Remediation Work Plan to the public. IDEM will give the Applicant reasonable advance notice of and may require the Applicant's or its agent's attendance at any such public meetings it may hold or sponsor at times and locations which are agreed upon by IDEM and the Applicant.

68. Before the Commissioner may approve or disapprove the Remediation Work Plan, the Commissioner shall provide thirty (30) days for public comment pursuant to IC § 13-25-5-11.

69. IDEM shall maintain a public information file containing the Remediation Work Plan during the thirty (30) day Public Comment period at a public repository near the Site. Applicant shall provide the location of a suitable public repository in accordance with applicable guidance.

XXI. NOTICE OF BANKRUPTCY OR DEATH

70. As soon as Applicant has knowledge of its intention to file bankruptcy or no later than seven (7) days after the actual filing of a voluntary or involuntary bankruptcy petition, Applicant shall notify IDEM of the filing of a bankruptcy petition. If an Applicant dies, as soon as a personal representative of a deceased Applicant's estate becomes aware of this VRP project, the personal representative shall notify IDEM of the probate of the estate. IDEM shall be notified as a creditor of the bankruptcy and/or estate. IDEM's claim may be a contingent claim, in whole or in part, as there may be oversight costs due after the closing of the bankruptcy and/or probate estate.

XXII. INDEMNIFICATION

71. The Applicant agrees to indemnify and hold the State of Indiana, its agencies, departments, agents, and employees, harmless from any and all claims or causes of action arising from, or on account of, acts or omissions of the Applicant, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Agreement.

XXIII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

72. The Effective Date of this Agreement shall be the date on which the Commissioner signs this Agreement.

73. This Agreement may be amended by mutual agreement of IDEM and the Applicant. Amendments shall be in writing and shall be effective when signed by the Commissioner.

XXIV. EXTENSIONS OF TIME PERIODS

74. Any written response shall be deemed timely performed if hand delivered or postmarked by the last day of any time period prescribed herein. Whenever a Party has the right or an obligation to do some act or make some response within a prescribed period after the service of a notice by mail, three (3) days shall be added to the prescribed period.

75. Whenever any Party is called upon to respond or otherwise act in a certain number of days, and the final day occurs on a Saturday, Sunday or legal holiday (whether state or national), such time limitation shall automatically extend to the next business day after such Saturday, Sunday or legal holiday.

76. Any time periods specified in this Agreement may be extended only by agreement of the Parties.

XXV. TERMINATION AND SATISFACTION

77. The provisions of this Agreement shall be satisfied when IDEM issues a Certificate of Completion to the Applicant. The Parties understand that IDEM will issue the Certificate of Completion to the Applicant only. Termination or satisfaction of this Agreement does not end the obligations found in Section XV (Record Preservation) and Section XIX (Administrative Costs). The Applicant shall continue to responsible under Section XV (Record Preservation) and Section XIX (Administrative Costs) for the performance of the duties specified therein regardless of the termination or satisfaction of this Agreement.

78. Nothing in this Agreement shall restrict the State of Indiana from seeking other appropriate relief to protect human health or the environment from pollution or contamination at or from this Site not remediated in accordance with this Agreement.

79. After IDEM issues the Certificate of Completion, the Governor's Office shall provide Applicant with a Covenant Not To Sue pursuant to IC § 13-25-5-18. The Covenant Not To Sue shall contain a listing of the specific work and contaminants covered. The Parties understand that the Governor's Office will issue the Covenant Not To Sue to the Applicant only.

XXVI. PRECEDENCE OF AGREEMENT

80. In the event that conflict arises among the terms and conditions of this Agreement or the approved Remediation Work Plan, this Agreement shall govern and the terms and conditions hereunder shall determine the Parties' rights and responsibilities.

IN WITNESS WHEREOF, the following hereby execute this Voluntary Remediation Agreement:

For the Applicant:

Anthony P. Rodriguez
Applicant (please type)

By: _____

FOR: MAYOR SHEILA BRILSON
CITY OF MICHIGAN CITY, IN.

Title: EXECUTIVE DIRECTOR

Date: 2/15/2002

Larry J. Allen, Jr.
Attorney for the Applicant (please type)

By: _____

Title: Corporation Counsel

Date: 2/15/2002

For the Indiana Department of Environmental Management:

TECHNICAL RECOMMENDATION:

By: _____
Peggy Dorsey
Section Chief
Voluntary Remediation Program

Date: Feb. 21, 2002

APPROVED FOR LEGALITY AND FORM:

By: _____
Thomas W. Baker
Attorney
Office of Legal Counsel

Date: March 6, 2002

Approved and adopted by the Indiana Department of Environmental Management

this 15TH **day of** MARCH **,** 2002 **.**

Bruce Palin
Assistant Commissioner
Office of Land Quality

A Michigan City Brownfields Project

April 29, 2002

Mrs. Gloria Willis
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 2/APRIL 29, 2002

Dear Mrs. Willis:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report (Report No. 2) for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project ReNEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
T. Stevenson (EI)

100 E. Michigan Boulevard • Michigan City, Indiana 46360
219-873-1211 X 385 • FAX 219-873-1595
Email: mcedc@mc-edc.com

Brownfields Pilot Profile

Pilot Name: City of Michigan City, Indiana **Date:** Quarter 2-Jan/Feb/March, 2002

Address: 100 East Michigan Boulevard

City, State, Zipcode: Michigan City, Indiana 46360

Zone (Federal EC/EZ, State or Local): NA

Number of:

Properties Estimated in Pilot Area: Not reported

Properties Reported on Inventories: Not reported

Properties Targeted by Pilot: 3

Properties with Assessments Started: 3

Properties with Assessments Completed: 0

Properties that do not Require Cleanups: Currently unknown

Properties with Cleanup Activities Started: 0

Properties with Cleanup Activities Completed: 0

Properties with Redevelopment Underway: 0

Redevelopment Jobs Leveraged: 0

Redevelopment/Construction Dollars Leveraged: 0

Cleanup/Construction Jobs Leveraged: 0

Cleanup Dollars Leveraged: 0

(9/10/99)

Brownfields Pilot Property Profile

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approximately 89,000 square foot building) was used from approximately 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping and office activities. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: A community-wide Project ReNEW Meeting was held on March 13, 2002 at the Michigan City Public Library. Additional informational meetings have also been conducted with interested neighborhood/citizen groups.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: ___No __X__ Yes Date: Quarter 2/January/2002

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Sampling Plan(s): __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Brownfields Pilot Property Profile

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: One acre

Site Description/History/Ownership: The site (with an approximately 24,000 square foot building) was originally used for sheet rock manufacturing and then as a facility that blended/stored fuels, oils, petroleum products and solvents. In 2000, the U.S. EPA conducted an Emergency Response & Time Critical Removal Action at the facility to remove over 200 drums and 25 large storage tanks containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: A community-wide Project ReNEW Meeting was held on March 13, 2002 at the Michigan City Public Library. Additional informational meetings have also been conducted with interested neighborhood/citizen groups.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: ___No __X__ Yes Date: Quarter 2/January/2002

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Sampling Plan(s): __X__No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Greenspace Pilot Property Profile

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approximately 30 years. The site is no longer used for waste disposal purposes and is owned by the City of Michigan City.

Planned reuse: Greenspace for the Karwick Road Nature Park.

Communities/groups involvement: A community-wide Project ReNEW Meeting was held on March 13, 2002 at the Michigan City Public Library. Additional informational meetings have also been conducted with interested neighborhood/citizen groups.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No _X_Yes Date: Quarter 2/February/2002

Phase I Site Assessment Completed: ___No _X_ Yes Date: Quarter 2/March/2002

Phase I funded by ☒EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____

QAPP: _X_No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Sampling Plan(s): _X_No ___ Yes Date: Quarter 2/March/2002 (Began preparation)

Phase II Site Assessment Started: ☒ No ☒ Yes Date: ~~Quarter 1/Jan-Dec, 2001~~

Phase II Site Assessment Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒EPA Pilot ~~$39,000~~ ☐Federal ☒Local, ☐State, ☐Private $616.49 [Michigan City Parks & Recreation Dept.]

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: _X_No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: _X_No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

January 29, 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY
BROWNFIELDS QUARTERLY PROGRESS REPORT
CITY OF MICHIGAN CITY, INDIANA'S
BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT
ASSISTANCE ID NO. BP-97571501-0
REPORT NO. 1

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 5
SUPERFUND DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

Prepared by:

MICHIGAN CITY ECONOMIC
DEVELOPMENT CORPORATION
100 EAST MICHIGAN BOULEVARD
MICHIGAN CITY, INDIANA 46360

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1.0 BROWNFIELD PILOT CHARACTERIZATION

1.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the First Quarter of the Brownfields Assessment Demonstration Pilot Project (Brownfields Project).

1.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the First Quarter of the Brownfields Project.

1.2.1 Funded Activities

The following funded activities/tasks were completed during the First Quarter of the Brownfields Project.

- The attendance/participation of/at the Brownfields 2001 Conference (located in Chicago, Illinois from September 24-26, 2001) by Mrs. Sheila Brillson, Mayor of the City of Michigan City, and Mr. Anthony Rodriguez, Executive Director of the Michigan City Economic Development Corporation (MCEDC).
- The City of Michigan City, by and through the City of Michigan City Board of Public Works and Safety, entered into a contract with the MCEDC to serve as the managing entity of the Brownfields Project.
- The MCEDC selected and entered into a contract with Environmental Incorporated, of Michigan City, Indiana to provide project coordination services. Mr. Thomas Stevenson, Vice President/Project Manager of Environmental Incorporated, has been selected as the Brownfields Project Coordinator for the City of Michigan City.
- The MCEDC selected and entered into a contract with Advanced Pollution Technologists, LTD, (APT) of Mishawaka, Indiana to provide environmental consulting services for the Brownfields Project.
- APT started Phase I Environmental Site Assessment (ESA) activities (Task 1 of the Work Plan) at both Michigan City sites (the former Royal Metals facility located at 600 North Carroll Avenue; and,

the former Schmock Oil Company facility located at 1111 West Garfield Street) in accordance with the American Society for Testing and Materials (ASTM) E 1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". The Phase I ESA reconnaissance at each site was conducted on December 19, 2001.

- The Michigan City Brownfields Project Coordinator attended the Michigan City Westside/Eastside Target Team Meeting (November 29, 2001) and gave an introductory presentation of the Brownfields Project. The presentation answered the following questions/provided the following information to the attendees: (1) What are Brownfields?; (2) What is the U.S. EPA Brownfields Assessment Demonstration Pilot Project?; (3) What is the project goal?; (4) Where are the project sites?; (5) What are the project work tasks?; and, (6) Who are the contracts for the project?

1.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the First Quarter of the Brownfields Project.

- Conducted initial contacts with representatives from the Michigan City Area Schools and Marquette High School of Michigan City to determine if there was any interest by these schools in the potential involvement of Michigan City area students by offering to conduct informational presentations/demonstrations. This could include video presentations of each Brownfields site, the field activities conducted during the project, the rationale for site assessment and potential cleanup work conducted and the steps involved in the ultimate decisions for site redevelopment. In general, it is believed that students would benefit from an introduction to the overall concept of the Brownfields Pilot Grant Program which is the promoting/funding of environmental investigation and cleanup alternative evaluation of abandoned facilities (i.e., Brownfields) in order to enhance economic development.

1.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the First Quarter of the Brownfields Project.

1.4 Deliverables/Work Products

There have been no Brownfields Project Work Plan approved deliverables nor Cooperative Agreement Work Plan required deliverables completed during the First Quarter of the Brownfields Project. However,

Attachment A presents a press release from the Mayor of Michigan City announcing the Award of the Brownfields Assessment Demonstration Pilot Grant to the City of Michigan City. Attachment B presents a Michigan City News-Dispatch article on the Brownfields Assessment Demonstration Pilot Grant award. In addition, Attachment C presents a summary of the presentation given at the Michigan City Westside/Eastside Target Team Meeting, and Attachment D presents the Brownfields Project introductory information presented to and discussed with Michigan City area school representatives.

2.0 BROWNFIELD PILOT SCHEDULE AND BUDGET STATUS

2.1 Schedule/Percent Completed

Figure 1 provides a comparison of the work completed to the project schedule presented in the Work Plan. Based on this comparison, the project is approximately 2% complete at the end of the First Quarter. The project is current slightly behind the schedule submitted in the Work Plan due to the extensive environmental contractor procurement activities conducted (i.e., preparation and submittal of Request for Proposal document to qualified environmental contractors, review of environmental contractor proposals, environmental contractor interview process, final evaluation/selection of environmental contractor and contracting with selected environmental contractor). However, the schedule of the future project activities will be expedited in order to complete the project tasks within the overall project schedule presented in the Work Plan.

2.2 Funds Expended

Table 1 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 1.7% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan.

Table 1
Summary of Brownfields Pilot Expenses by Category (Report period October 1-December 31, 2001)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$40,000	$0	$2,695.00	$2,695.00
Fringe Benefits	$0	$0	$0	$0
Travel	$2,500	$0	$679.73	$679.73
Equipment	$2,000	$0	$0	$0
Supplies	$8,000	$0	$0	$0
Contractual	$147,500	$0	$0	$0
Others	$0	$0	$0	$0
Total Expenses	$200,000	$0	$3,374.73	$3,374.73

3.0 BROWNFIELDS PROGRAM MEASURES OF SUCCESS

3.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- Attachment E presents photographs of both Michigan City Brownfields Assessment Demonstration Pilot Project Sites.
- The number of brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of brownfields properties/parcels that have been included in an inventory of brownfields sites is currently not reported.
- The Michigan City Brownfields Assessment Demonstration Pilot Project is targeting two sites for assessment/redevelopment: (1) the former Royal Metals facility located at 600 North Carroll Avenue, Michigan City, Indiana; and, (2) the former Schmock Oil Company facility located at 1111 West Garfield Street, Michigan City, Indiana.
- For both of the Michigan City Brownfields Pilot Sites, the Phase I ESA activities have been initiated. Phase I ESA activities will culminate in the submittal of the Phase I ESA report including recommendations for Phase II ESA activities, scheduled for Quarter 2 (January 1-March 31, 2002).

The development and implementation (initial stages) of the Community Outreach Plan are also being conducted in Quarter 2.

3.2 Measures of Success-Pilot Program Indicators

At this stage of the Brownfields pilot project, there has not been any funding leveraged (refer to Table 2) nor jobs created (refer to Table 3).

Table 2
Funding Leveraged-Brownfields Pilot

Funding Leveraged under the Brownfields Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$0	$0	$0	-
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$0	$0	$0	-

Table 3
Jobs Created-Brownfields Pilot

Jobs created resulting from Brownfields redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

3.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Brownfields program is the anticipation for future redevelopment of the pilot sites. During the initial discussions/presentations with/to the local community group/Michigan City area school representatives, there was a genuine interest in the Brownfields Project and anticipation for future redevelopment of the pilot sites.

4.0 GREENSPACE PILOT CHARACTERIZATION

4.1 Modifications to the Work Plan

There have been no modifications to the Work Plan during the First Quarter of the Greenspace Assessment Demonstration Pilot Project (Greenspace Project) with the exception of two items: (1) Project Schedule-Since the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA, work on the Greenspace Project site actually began during December of 2000. The Work Plan states that project activities will begin in September 2001. Therefore, several tasks of the Greenspace Project are ahead of the Work Plan schedule.; and, (2) The Work Plan states that a Geophysical Survey of the Site will be conducted during Task 2 of the Greenspace Project. Although the specific objectives of this study (to determine the limits and potential depths and types of fill material at the site) have remained unchanged, the actual task that was conducted was a Geotechnical Study of the site.

4.2 Status of Activities During Reporting Period

The following sections describe the funded and non-funded activities/tasks completed during the First Quarter of the Greenspace Project.

4.2.1 Funded Activities

The following funded activities/tasks were completed during the First Quarter of the Greenspace Project.

- Haas & Associates, LLC, completed Task 1 of the Work Plan (a review of existing site conditions) and contracted with Air Maps, Inc., of Elkhart, Indiana, to conduct the topographic survey of the site and with Great Lakes Engineering & Testing, Inc., of Chicago, Illinois, to conduct the geotechnical study of the site (both aspects of Task 2 of the Work Plan). The topographic survey and the geotechnical study of the site were completed during Quarter 1 of the Greenspace Project.

- The City of Michigan City Board of Public Works and Safety, at the recommendation of the Michigan City Parks & Recreation Department (MCP&R), selected and entered into a contract with Advanced Pollution Technologists, LTD, (APT) of Mishawaka, Indiana to provide environmental consulting services for the Greenspace Project.

- APT started Phase II ESA activities (Task 3 of the Work Plan) at the former Karwick Road Municipal Landfill which included the collection of soil/groundwater samples using a Geoprobe drilling rig and the installation of groundwater monitoring wells to define the site hydrogeologic regime and groundwater quality.

- Held a Karwick Road Nature Park meeting (attended by the Karwick Road Nature Park Project Team Members including representatives of the City of Michigan City departments, the Michigan City Area Schools, the Steelheaders and the International Brotherhood of Electrical Workers) to review the progress of the project and discuss upcoming tasks and timelines. A Conceptual Plan for the Karwick Road Nature Park (aspect of Task 5 of the Work Plan) has been developed.

4.2.2 Non-Funded Activities

The following non-funded activities/tasks were completed during the First Quarter of the Greenspace Project.

- On November 16, 2001, APT, on behalf of the MCP&R, submitted a Voluntary Remediation Program (VRP) application to the Indiana Department of Environmental Management (IDEM) to enter the Greenspace site into the IDEM-VRP.

4.3 Problems Encountered/Assistance Needed

There have been no problems encountered nor assistance needed during the First Quarter of the Greenspace Project.

4.4 Deliverables/Work Products

The following Work Plan approved deliverables completed during the First Quarter of the Greenspace Project are as follows: (1) site topographic map prepared by Air Maps, Inc. (presented as Attachment F); and, (2) site geotechnical study prepared by Great Lakes Engineering & Testing, Inc. (presented as Attachment G). In addition, copies of the IDEM-VRP Application for the Greenspace site (Attachment H), Karwick Road Nature Park Project Team Members Meeting Minutes (Attachment I) and the Conceptual Plan for the Karwick Road Nature Park (Attachment J) are attached.

5.0 GREENSPACE PILOT SCHEDULE AND BUDGET STATUS

5.1 Schedule/Percent Completed

Figure 2 provides a comparison of the work completed to the project schedule presented in the Work Plan for the Greenspace Project. Based on this comparison, the project is approximately 50% complete at the end of the First Quarter. As previously stated, several of the initial tasks of the Greenspace Project (specific aspects of Tasks 1-3 and 5 described in the Work Plan) had been/were being conducted prior to the Greenspace Project Grant award to the City of Michigan City by the U.S. EPA. Therefore, work on the Greenspace Project actually began during December of 2000 and, thus, several tasks are ahead of the Work Plan schedule. However, following the award of the Greenspace Project Grant, several of the Work Plan project tasks still need to be implemented [i.e., Task 3-Preparation of project work plans (QAPP, SAP and HSP) and Task 6-Community Outreach Activities]. These items are scheduled to be conducted during Quarters 2-3 of the Greenspace Project (January-June 2002).

5.2 Funds Expended

Table 4 presents a comparison of funds spent to date to budgeted expenditures. Based on this comparison, approximately 88.5% of the project budget has been expended. There are currently no significant budget discrepancies from the Work Plan. It was anticipated that the U.S. EPA Greenspace Pilot Grant Funds would

not be sufficient to complete all of the project tasks. Future project activities will be supplemented (funded) by non-EPA Pilot funds.

Table 4
Summary of Greenspace Pilot Expenses by Category (Report period December 1, 2000-December 31, 2001)

Budget Category	Budgeted Amount	Previous Expense	Quarter Expense	Cumulative Expense
Personnel	$8,500	$0	$8,110.15	$8,110.15
Fringe Benefits	$0	$0	$0	$0
Travel	$0	$0	$0	$0
Equipment	$0	$0	$0	$0
Supplies	$1,000	$0	$0	$0
Contractual	$40,500	$0	$36,151.15	$36,151.15
Others	$0	$0	$0	$0
Total Expenses	$50,000	$0	$44,261.30	$44,261.30

can't fund without proper documents & this work occurred prior to grant ∴ not eligible

6.0 GREENSPACE PROGRAM MEASURES OF SUCCESS

6.1 Measures of Success-General Information

The following general information is presented in accordance with the quarterly progress report outline.

- The number of Greenspace/Brownfields properties/parcels estimated in the entire pilot area is currently not reported.
- The number of Greenspace/Brownfields properties/parcels that have been included in an inventory of Greenspace/Brownfields sites is currently not reported.
- The Michigan City Greenspace Assessment Demonstration Pilot Project is targeting one site for assessment/redevelopment: the former Karwick Road Municipal Landfill located on Karwick Road in Michigan City, Indiana. This site is currently being assessed for eventual redevelopment as the Karwick

Road Nature Park.

- For the Michigan City Greenspace Pilot Site, assessment activities (Phase II ESA) are ongoing. The preparation/submittal of project work plans/Phase II ESA report and development and implementation of a feasibility study and a Community Outreach Plan are scheduled to be conducted in Quarters 2-5 (January-October 2002).

6.2 Measures of Success-Pilot Program Indicators

At this stage of the pilot project, there has not been any funding leveraged (refer to Table 5) nor jobs created (refer to Table 6).

Table 5
Funding Leveraged-Greenspace Pilot

Funding Leveraged under the Greenspace Program	Assessment Dollars Leveraged	Cleanup Dollars Leveraged	Redevelopment Dollars Leveraged	Funding Source Description
Local Funding	$0	$0	$0	-
State Funding	$0	$0	$0	-
Federal Funding	$0	$0	$0	-
Private Funding	$0	$0	$0	-
Total	$0	$0	$0	-

Table 6
Jobs Created-Greenspace Pilot

Jobs created resulting from Greenspace redevelopment (full or part time)	Current Quarter	Previous Quarters	Total
Number of temporary jobs created for cleanup/construction	0	0	0
Number of permanent jobs created after redevelopment	0	0	0

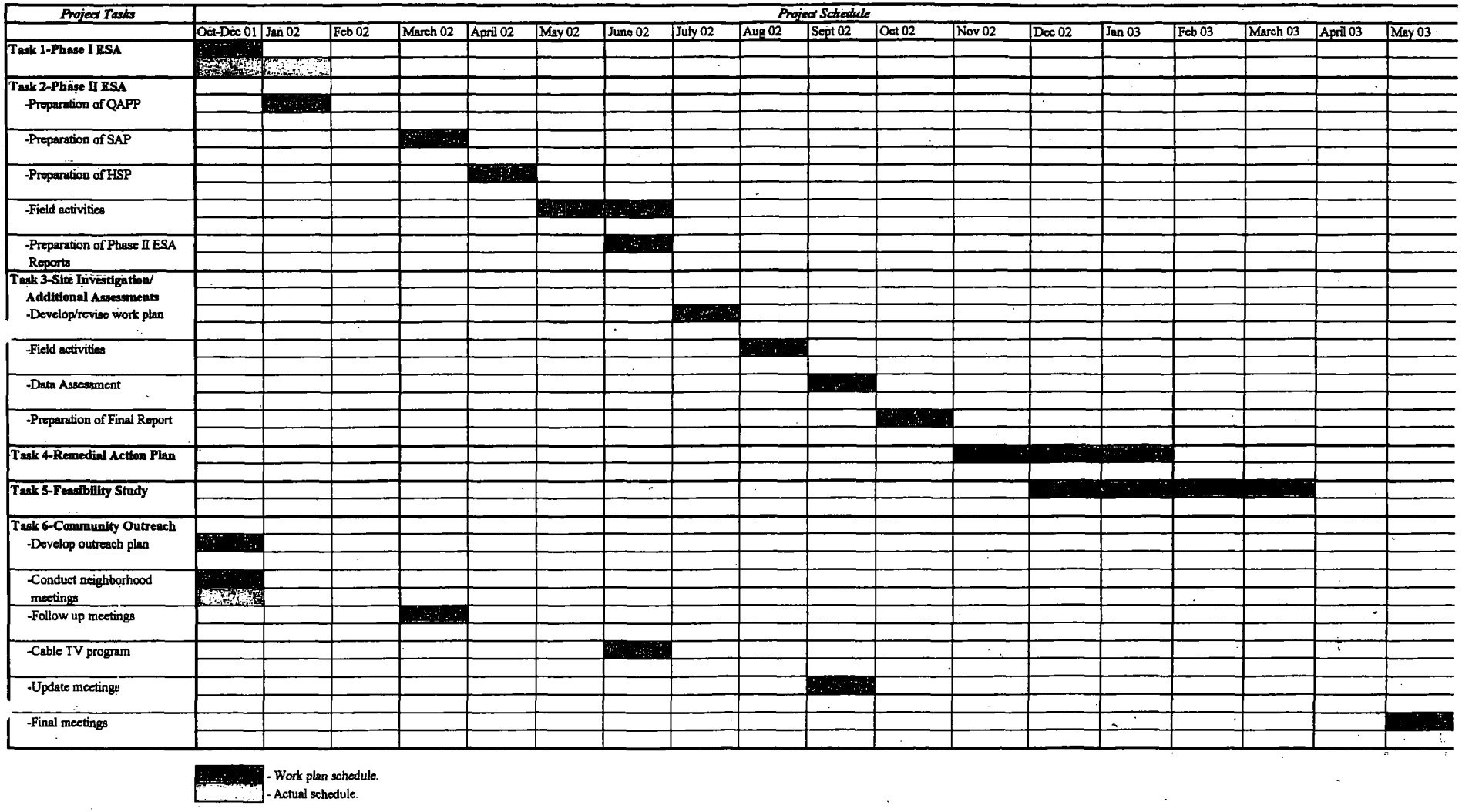
6.3 Qualitative Indicators of Success

At this stage of the pilot project, the main qualitative indicators of the success of the Greenspace Pilot program is the expressed interest in the development of the Karwick Road Nature Park. Several Michigan City area citizens have expressed interest in the development of the Karwick Road Nature Park and have offered their assistance with activities associated with the nature park.

FIGURES

FIGURE 1

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT-FIRST QUARTERLY PROGRESS REPORT

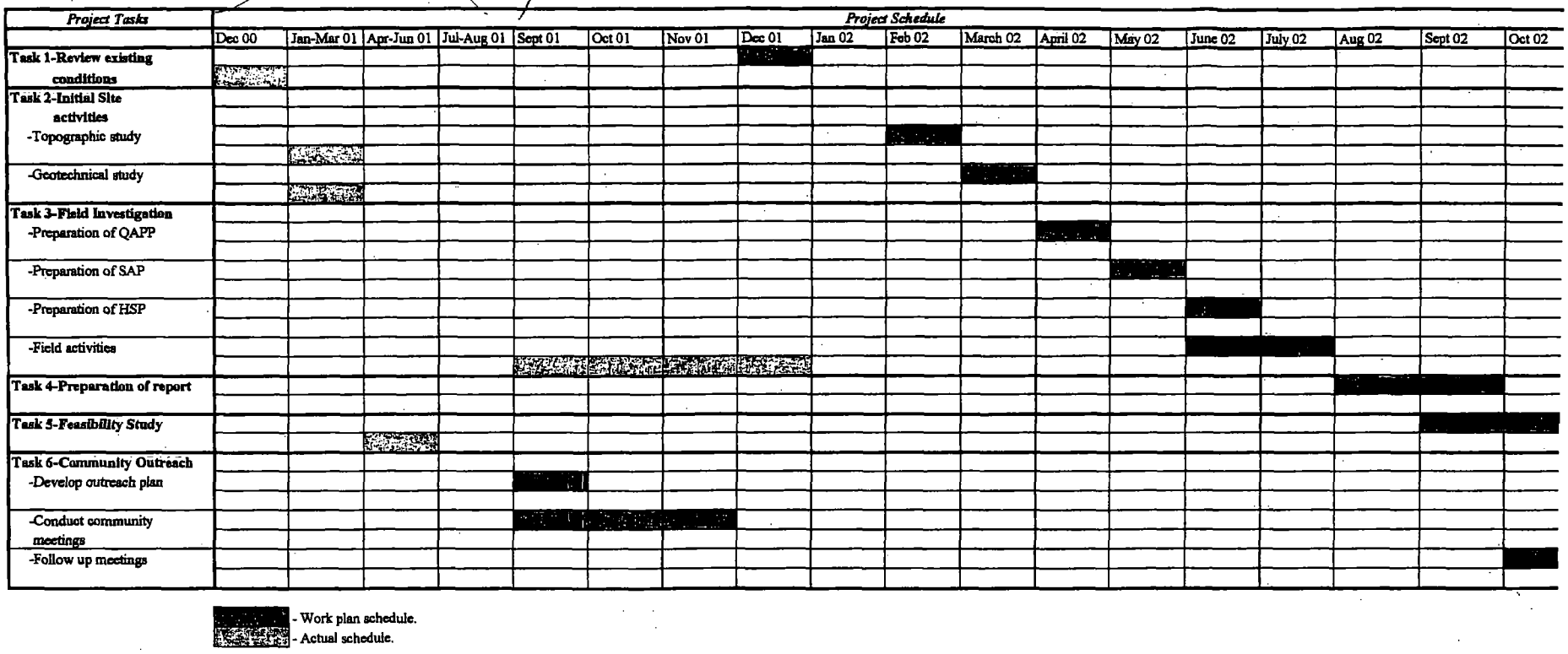


Non-grant funded activities

Grant awarded

FIGURE 2

CITY OF MICHIGAN CITY, INDIANA-U.S. EPA GREENSPACE ASSESSMENT DEMONSTRATION PILOT-FIRST QUARTERLY PROGRESS REPORT



ATTACHMENT A

PRESS RELEASE-BROWNFIELDS
ASSESSMENT DEMONSTRATION PILOT AWARD

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
THE ADMINISTRATOR

MAYORS' DESK

For Press Release
April 20, 2001

TO: Mayor Sheila Brillson
City of Michigan City, IN

SUBJECT: Grant Award Announcement

EPA's Brownfields program is designed to empower states, cities, Indian Tribes, Communities, and others to work together to prevent, assess, cleanup, and sustainably reuse abandoned, idled or underutilized industrial and commercial properties where expansion or redevelopment is complicated by real or perceived environmental contamination.

Today, we are happy to announce the following FY 2001 Brownfields Project Award. Attached is a detailed description of this project.

Mayor Sheila Brillson, Chairman
Michigan City Economic Development Corporation

Press Release

FOR IMMEDIATE RELEASE

MICHIGAN CITY, INDIANA, April 20, 2001

Mayor Sheila Brillson and Tony Rodriguez, Director of the Michigan City Economic Development Corporation issued the following joint statement regarding the announcement of the US Environmental Protection Agency (EPA) Brownfields Assessment Demonstration Pilots grant award.

"We received notification late this morning from Congressman Tim Roemer and Michael H. Shapiro, Acting Assistant Administrator of the EPA, that the City has been selected as one of only thirty-five Communities nation-wide to receive a total of $250,000 for Brownfield Redevelopment Projects", stated Mayor Sheila Brillson. "This is great news for our Community and supports our on-going efforts to revitalize abandoned, vacant, and underutilized properties. We named our proposal, Project RENEW **R**evitalizing **E**nvironmentally **N**eglected **E**merging **W**orkplaces" concluded Brillson.

In his statement to the Mayor, Mr. Shapiro of the EPA stated, "Michigan City submitted an outstanding proposal and we deeply appreciate the tremendous commitment of time and energy that went into its preparation. We fully expect that these Brownfields Pilots will provide invaluable information and examples on the assessment, clean-up and redevelopment of Brownfields."

The grant application focused on two aging and abandoned industrial facilities in the City's Enterprise Zone, Schmock Oil on Garfield Street and Royal Metals on Carroll Avenue. Both of the properties are surrounded by single-family homes. Grant funds of $200,000 will be used to perform environmental assessments at the two sites and determine a clean-up strategy and reuse plan. In addition to the two industrial sites, the City also received a grant award for $50,000 toward assessment, clean up and habitat restoration leading to the development of the Karwick Nature Park, a former city dump located on south Karwick Road.

From his office in Washington, DC. Congressman Tim Roemer said, "The development and cleanup of brownfields areas is vitally important for the future economic and environmental health of the Michigan City community. I hope to continue working with Mayor Brillson and the EPA to revitalize these once vibrant areas of city life. I am particularly pleased with the emphasis on community involvement that has characterized the cleanup process." In addition to the Congressman's involvement, the Michigan City proposal received direct written letters of

support from a total of 25 State and Federal Legislators as well as state, regional and local agencies, organizations and corporations.

"For every abandoned and unsafe factory property put back into productive use, we save that equal amount of Greenfield space for agricultural use. These properties are located on valuable municipal infrastructure, that once redeveloped, will provide job opportunities and increase surrounding property values," stated Rodriguez. "We were fortunate to be able to retain the services of Mr. Robert Schaefer, President of Community Dynamics, who was instrumental in preparing the grant proposal," Rodriguez added.

Questions or Comments:
Mayor Sheila Brillson, Chairman or
Tony Rodriguez, Executive Director
Michigan City Economic Development Corporation
(219) 873-1211

Please see attached announcement from the U.S. Environmental Protection Agency regarding this grant.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 20 2001

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

The Honorable Sheila Brillson
Mayor of Michigan City
100 East Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

On behalf of the United States Environmental Protection Agency (EPA), I am pleased to confirm that Michigan City has been selected as one of the pilots with whom EPA will pursue negotiations to award up to $200,000 for a Brownfields Assessment Pilot cooperative agreement. In addition, the City was selected to receive up to an additional $50,000 for greenspace purposes. Michigan City submitted an outstanding proposal, and we deeply appreciate the tremendous commitment of time and energy that went into its preparation.

We fully expect that these Brownfields Pilots will provide invaluable information and examples on the assessment, cleanup, and redevelopment of brownfields. Deborah Orr, EPA's Regional Brownfields Coordinator in Chicago, IL (312-886-7576), will be working closely with Michigan City to negotiate a cooperative agreement and respond to its needs.

We look forward to working with your staff on the Brownfields program in a new era of Federal, state, and local government cooperation.

Sincerely,

Michael H. Shapiro
Acting Assistant Administrator

cc: Deborah Orr

ATTACHMENT B

NEWS DISPATCH ARTICLE-BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT AWARD

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

Sports: Defense dooms Wolves in 7-2 baseball loss to Merrillville

The News-Dispatch

Michigan City, Indiana | Saturday, April 21, 2001 | 50 cents | 4 sections

City gets $250,000 brownfield grant

By Kathy Ceperich
News-Dispatch staff writer

Two icons of failing times will soon be leveled, setting the stage for new businesses to come, thanks to a $200,000 grant for brownfield redevelopment awarded Friday to Michigan City.

The grant will fund the assessment, cleanup and redevelopment of the former Schmock Oil and InterRoyal Metals properties.

"We received notification late this morning from Congressman Tim Roemer and from Michael H. Shapiro, acting assistant administrator of the EPA, that the city has been selected as one of only 35 communities nationwide to receive funding for brownfield redevelopment projects," said Mayor Sheila Brillson.

Brownfields are former industrial or commercial sites that either are or are perceived to be contaminated.

"This is great news for our community and supports our ongoing efforts to revitalize abandoned, vacant, and underutilized properties," she added.

The project proposal, RENEW, which stands for Revitalizing Environmentally Neglected Emerging Workplaces, also included a request for an additional $50,000 to be awarded for cleanup and habitat restoration of the Karwick Nature Park, a former city dump on south Karwick Road. That funding request was also granted.

"For every abandoned and unsafe factory property put back into productive use, we save that equal amount of greenfield space for agricultural use," said MC Economic Development Executive Director Tony Rodriguez. "These properties are located on valuable municipal infrastructure that, once redeveloped, will provide job opportunities and increase surrounding property values," he said.

The sites will become model programs for other cities and towns for remediating other brownfields and converting them from delinquent tax properties to viable business locations again.

Letters of support for the project were received from U.S. Sen. Richard Lugar and U.S. Rep. Tim Roemer, Indiana Gov. Frank O'Bannon and numerous local agencies, including the LaPorte County Solid

● See **GRANT,** Page A5

Grant

● **CONTINUED** from Page A1

Waste District and Northwest Indiana Forum, Rodriguez said.

"The development and cleanup of brownfields areas is vitally important for the future economic and environmental health of the Michigan City community," Roemer said.

"I hope to continue working with Mayor Brillson and the EPA to revitalize these once vibrant areas of city life. I am particularly pleased with the emphasis on community involvement that has characterized the cleanup process."

"It's important for constituents to realize those properties are not tax producing," Brillson said. Developing the property such that it generates tax revenues reduces the tax burden for everyone, she said.

Rodriguez said the two Michigan City properties have been up for tax sale but there have been no takers. Either the property is perceived as an environmental liability or the back tax amount would exceed what they perceive as a fair market value, he said.

InterRoyal property, formerly Royal Metal Products, located on Carroll Avenue, owes nearly $930,000 in 20 years of back taxes for the five-acre parcel located at 600 N. Carroll Ave. The tax bills are currently being sent to Fabricrafts, in New York, according to LaPorte County assessor records.

The Schmock Oil Co. property is four years delinquent in back taxes and owes nearly $20,000 for the one-acre lot at 1111 Garfield St. In March the EPA completed a roughly $250,000 environmental cleanup of the site. That cleanup was initiated after children playing at the unused structure opened a valve, creating a 1,000-gallon oil spill that cost $20,000 to clean.

"We (still) have concerns about children getting in and getting hurt," Brillson said. Both properties are located in residential areas.

The city will have to meet with the EPA to discuss the funding and a timeline for the work to begin, Rodriguez said.

"Michigan City submitted an outstanding proposal and we deeply appreciate the tremendous commitment of time and energy that went into its preparation," EPA official Shapiro said. The grants were completed by Community Dynamics President Robert Schaefer.

The projects will require additional research into ownership, resolution of legal issues, environmental assessments and developing cleanup recommendations before the actual cleanup will begin. With the LaPorte County assessor's cooperation, the back taxes could be forgiven.

Brownfield projects throughout the city are being tackled by the Brownfield Task Force, which consists of the mayor, MCEDC staff and board, the city engineer, city planer and the water and sanitary departments. It was formed just over two years ago.

The city successfully completed a brownfield project about three years ago at the former Michigan City Plastics Co. Just last year GAF opened the doors to the new nearly $30 million shop, which employs about 150 people.

●

ATTACHMENT C

BROWNFIELDS PROJECT PRESENTATION-MICHIGAN CITY
WESTSIDE/EASTSIDE TARGET TEAM MEETING

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

CITY OF MICHIGAN CITY'S U.S. ENVIRONMENTAL PROTECTION AGENCY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT
REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES (RENEW)

The U.S. Environmental Protection Agency (U.S. EPA) has awarded the City of Michigan City a Brownfields Assessment Demonstration Pilot Project for the environmental assessment and cleanup evaluation of Michigan City brownfields sites for eventual redevelopment/reuse. The project is being coordinated through the Michigan City Economic Development Corporation (MCEDC).

WHAT ARE BROWNFIELDS?

Brownfields are abandoned, idled or under used industrial/commercial facilities where redevelopment/reuse is complicated by real or perceived environmental contamination.

WHAT IS THE U.S. EPA BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT?

Project funding from the U.S. EPA is used to facilitate coordinated assessments of brownfields to evaluate potential environmental liabilities associated with identified contamination at the sites.

PROJECT RENEW GOAL

Transformation of two former industrial facilities/properties to viable economic and environmentally safe uses.

PROJECT RENEW SITES

- Former Royal Metals Facility located at 600 North Carroll Avenue
- Former Schmock Oil Corporation Facility located at 1111 West Garfield Street

PROJECT RENEW WORK TASKS

The project is a two-year program that will consist of the following task:

- Conduct environmental assessments at each site to determine the extent and magnitude of contamination (if any).
- Prepare a cleanup plan (if required) that will include estimated cleanup costs and evaluate sources of cleanup funding.
- Conduct a feasibility study for redevelopment/reuse of each site.
- Involve Michigan City community groups in all aspects of the project.

PROJECT RENEW UPCOMING WORK TASKS

The environmental assessments are scheduled to be initiated in mid-December 2001 and should be completed by the end of the second quarter of 2002 (July 2002).

PROJECT RENEW CONTACTS

For additional information, please contact either: Tony Rodriguez-Executive Director of MCEDC at 219-873-1211 or Tom Stevenson-Project RENEW Coordinator at 219-462-7576.

ATTACHMENT D

BROWNFIELDS PROJECT INTRODUCTORY INFORMATION-MICHIGAN CITY AREA SCHOOLS

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

CITY OF MICHIGAN CITY'S U.S. ENVIRONMENTAL PROTECTION AGENCY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT PROJECT REVITALIZING ENVIRONMENTALLY NEGLECTED EMERGING WORKPLACES (RENEW)

RENEW PROJECT INTRODUCTION

The U.S. Environmental Protection Agency (U.S. EPA) has awarded the City of Michigan City a Brownfields Assessment Demonstration Pilot Project for the environmental assessment and cleanup evaluation of Michigan City brownfields sites for eventual redevelopment/reuse. The project is being coordinated through the Michigan City Economic Development Corporation (MCEDC). Brownfields are abandoned, idled or under used industrial/commercial facilities where redevelopment/reuse is complicated by real or perceived environmental contamination. Project funding from the U.S. EPA is used to facilitate coordinated assessments of brownfields to evaluate potential environmental liabilities associated with identified contamination at the sites.

The Project RENEW goal is the transformation of two former Michigan City industrial facilities/properties to viable economic and environmentally safe uses. The two facilities are: (1) the former Royal Metals Facility located at 600 North Carroll Avenue; and, (2) the former Schmock Oil Corporation Facility located at 1111 West Garfield Street. The project is a two-year program that will consist of the following work tasks:

- Conduct environmental site assessments (ESA) at each site to determine the extent and magnitude of contamination (if any).
- Prepare a cleanup plan (if required) that will include estimated cleanup costs and evaluate sources of cleanup funding.
- Conduct a feasibility study for redevelopment/reuse of each site.
- Involve Michigan City community groups in all aspects of the project.

Although the involvement of Michigan City Area students is not an aspect of the U.S. EPA Brownfields Assessment Demonstration Pilot Project Grant, we believe that it could be of benefit to students and are offering to conduct informational presentations/demonstrations. This could include video presentations of each Brownfields site, the field activities conducted during the project, the rationale for site assessment and cleanup work conducted and the steps involved in the ultimate decisions for site redevelopment. If feasible, we are also considering a "field demonstration" to introduce the students to environmental field procedures: standard site health and safety procedures, the operation of a drilling rig, collection of soil samples, installation and sampling of a groundwater monitoring well and surveying of the well in order to determine groundwater flow direction. In general, we believe that students would benefit from an introduction to the overall concept of the Brownfields Grant Program which is that the U.S. Government is promoting the environmental investigation and cleanup of abandoned facilities in order to enhance economic development. Several general aspects of the project could be discussed/introduced with/to the students (i.e., where goes the grant money come from, how will the project benefit Michigan City and the environment,etc.).

More details on each work task and the potential benefits for students are presented as follows.

RENEW PROJECT WORK TASKS/POTENTIAL STUDENT BENEFITS

I. Phase I Environmental Site Assessment

Synopsis of Work Tasks

A Phase I ESA will be conducted to determine the existing environmental conditions at the sites with implications to

environmental liabilities. The Phase I ESA will attempt to: (1) identify conditions/areas or historical circumstances that may raise environmental concerns; and, (2) document evidence of the presence of substances and/or materials that may be of environmental concern.

The initial task of the Phase I ESA will attempt to identify evidence of historical site and/or adjacent property activities/practices which may be of environmental concern. This task will consist of obtaining and reviewing documents from the following sources: (1) available property information (i.e., title information and/or plat maps); (2) historical aerial photography; (3) topographic/soil maps; (4) interviews with the current/previous property owner(s), employees and applicable neighboring businesses/property owners; and, (5) information from federal, state and local agencies. The Phase I ESA will also include a visual inspection of the site and adjacent, accessible properties/facilities to identify potential environmental concerns.

Following the completion of these activities, a report will be generated summarizing project activities and presenting results and conclusions drawn from these activities. The report will assess potential liabilities associated with the site, as well as presenting recommendations for additional investigative activities (i.e., Phase II ESA).

Potential Benefits for Students

- Information regarding the assessment of a property and neighboring properties for historical areas of environmental concern.
- Information regarding the evaluation/selection process of identifying areas of potential environmental concern and development of a work scope to assess the magnitude and extent of potential site contamination during the Phase II ESA process (Task II).

II. Phase II Environmental Site Assessments

Synopsis of Work Tasks

The Phase II ESA will be conducted to evaluate the potential environmental areas of concern identified by the Phase I ESA process in order to assist in providing data to make informed business decisions relative to the Brownfields sites. The Phase II ESA is designed to assess the magnitude and extent of potential site contamination identified during the Phase I ESA (Task I). Field activities during the Phase II ESA (conducted in accordance with work plans developed for each site) will consist of: (1) the advancement of soil borings for soil sample collection/analysis and site geologic interpretation; (2) the installation of groundwater monitoring wells for groundwater sample collection/analysis and site hydrogeological characteristic determination; and, (3) the surveying of the locations of the soil borings/monitoring wells for site control and groundwater flow direction determination.

The data collected during the Phase II ESA will be evaluated against appropriate Indiana Department of Environmental Management (IDEM) regulatory threshold (cleanup) criteria/limits to determine if cleanup of site media is warranted. Upon completion of the Phase II ESA field investigation and data evaluations, a Phase II ESA report will be prepared for each site which will provide detailed descriptions of the site activities, procedures followed, observations made, sampling conducted and analytical results. The analytical data will be used to determine the remediation objectives for each site.

Potential Benefits for Students

- Information regarding environmental drilling (soil sampling, groundwater monitoring well installation).
- Information regarding the collection of environmental media (soil, groundwater) samples.

- Information regarding surveying procedures and data interpretation.
- Information regarding geologic/hydrogeologic interpretations/evaluations.
- Information regarding laboratory chemical data evaluation/interpretation.
- Information regarding the current IDEM cleanup criteria.

III. Remediation Work Plan

Synopsis of Work Tasks

A Remediation Work Plan will be prepared for each site evaluating potential remedial (cleanup) alternatives for contaminated media (soil, groundwater, etc.,) which will include the technical feasibility, protectiveness of human health and the environment, estimated costs for implementation, ability to achieve the proposed cleanup criteria and community acceptance. This work plan will be coordinated with the Feasibility Study (Task IV) since the selected cleanup alternative will be affected by the selected future use of the sites.

Potential Benefits for Students

- Information regarding the evaluation (technical and economic feasability) of potential cleanup alternatives in relation to potential site reuse/redevelopment.

IV. Feasibility Study

Synopsis of Work Tasks

Following the determination of the magnitude and extent of site contamination (Tasks I and II) and cleanup alternative evaluation/selection (Task III), a feasibility study will performed to evaluate the potential future uses of the sites.

Potential Benefits for Students

- Information regarding urban planning/redevelopment of the sites.
- Information regarding the marketing of a property for reuse/redevelopment.

V. Community Involvement

Synopsis of Work Tasks

Public/community informational meetings will be conducted in order to provide site information to the residents of Michigan City as the project progresses from site environmental assessment phase, through remediation (cleanup) of site contamination and culminating in the redevelopment of the site. Input from the Michigan City community (residents and businesses) will play a key role in the evaluation of the sites for reuse/redevelopment.

Potential Benefits for Students

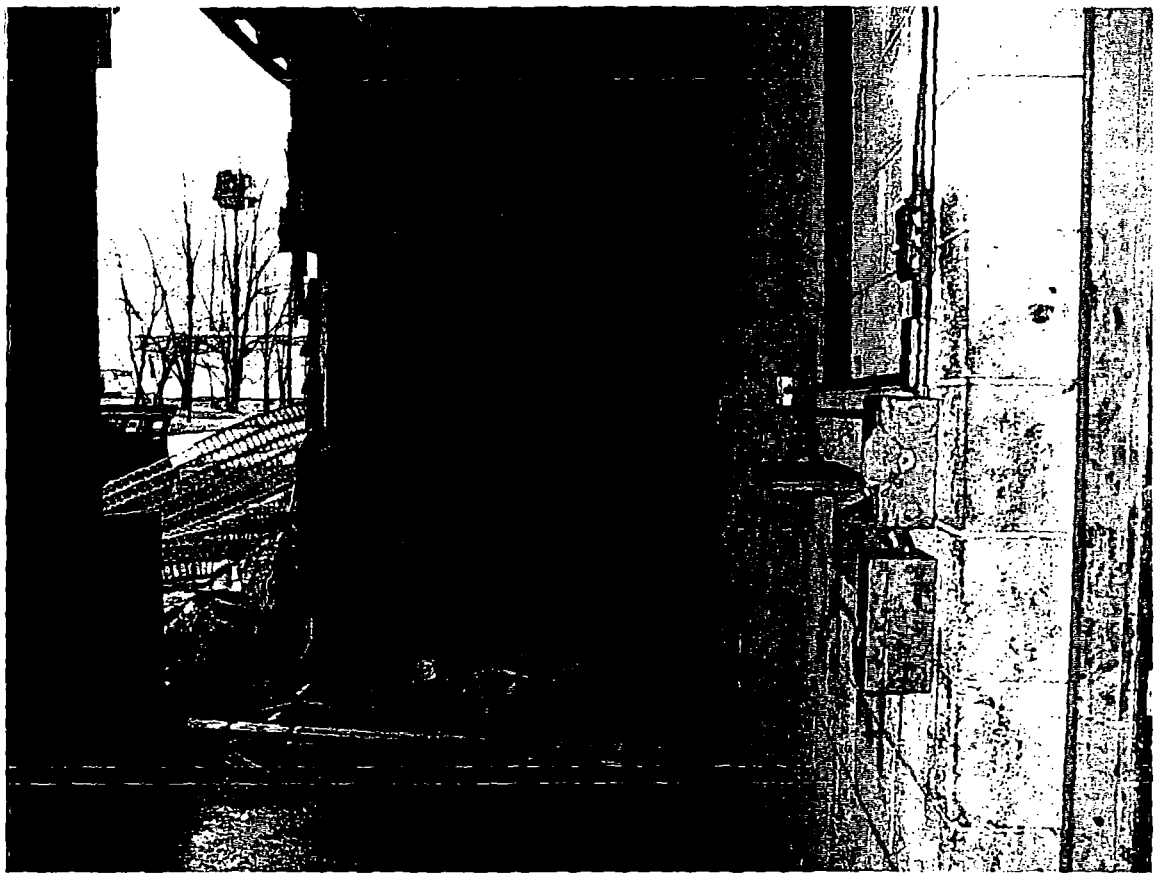
- Information regarding public/community outreach programs.
- Information regarding public relations.

ATTACHMENT E

BROWNFIELDS PROJECT SITE PHOTOGRAPHS

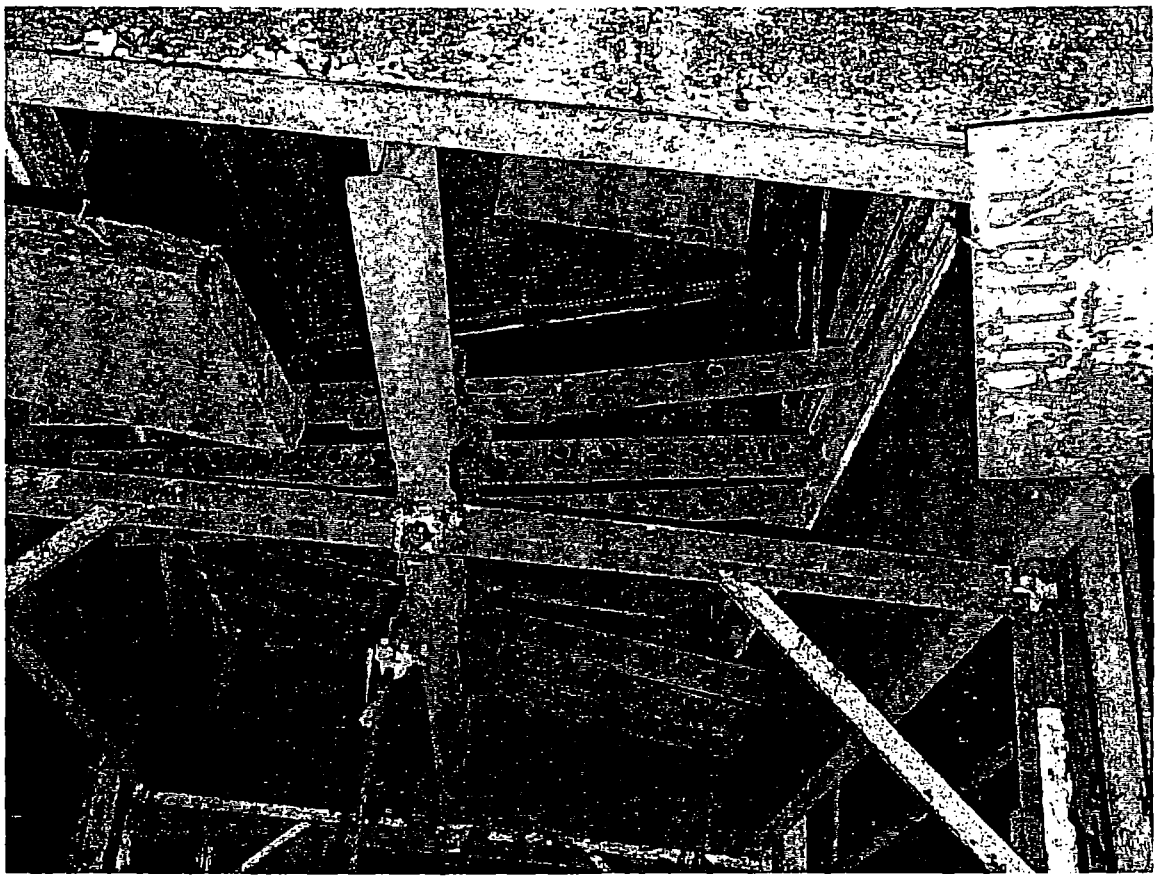
ATTACHMENT E

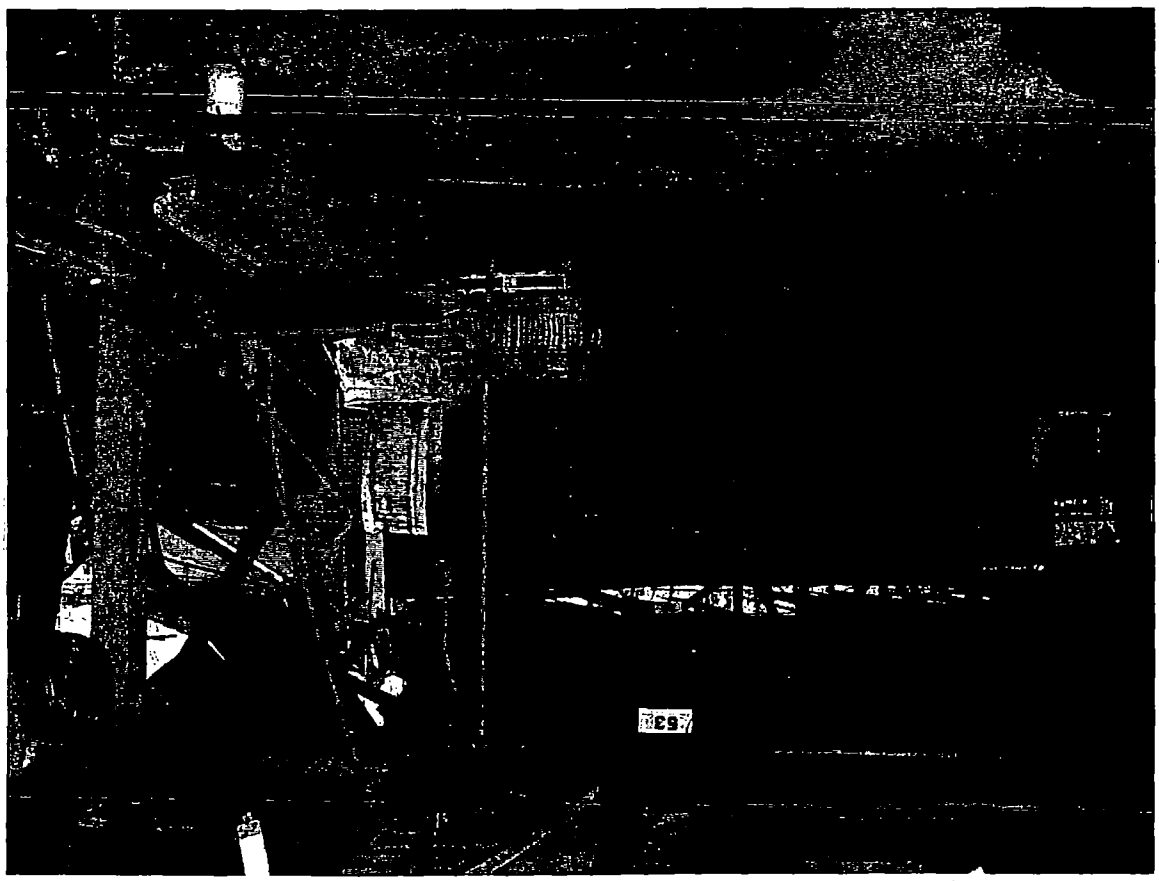
FORMER SCHMOCK OIL SITE PHOTOGRAPHS

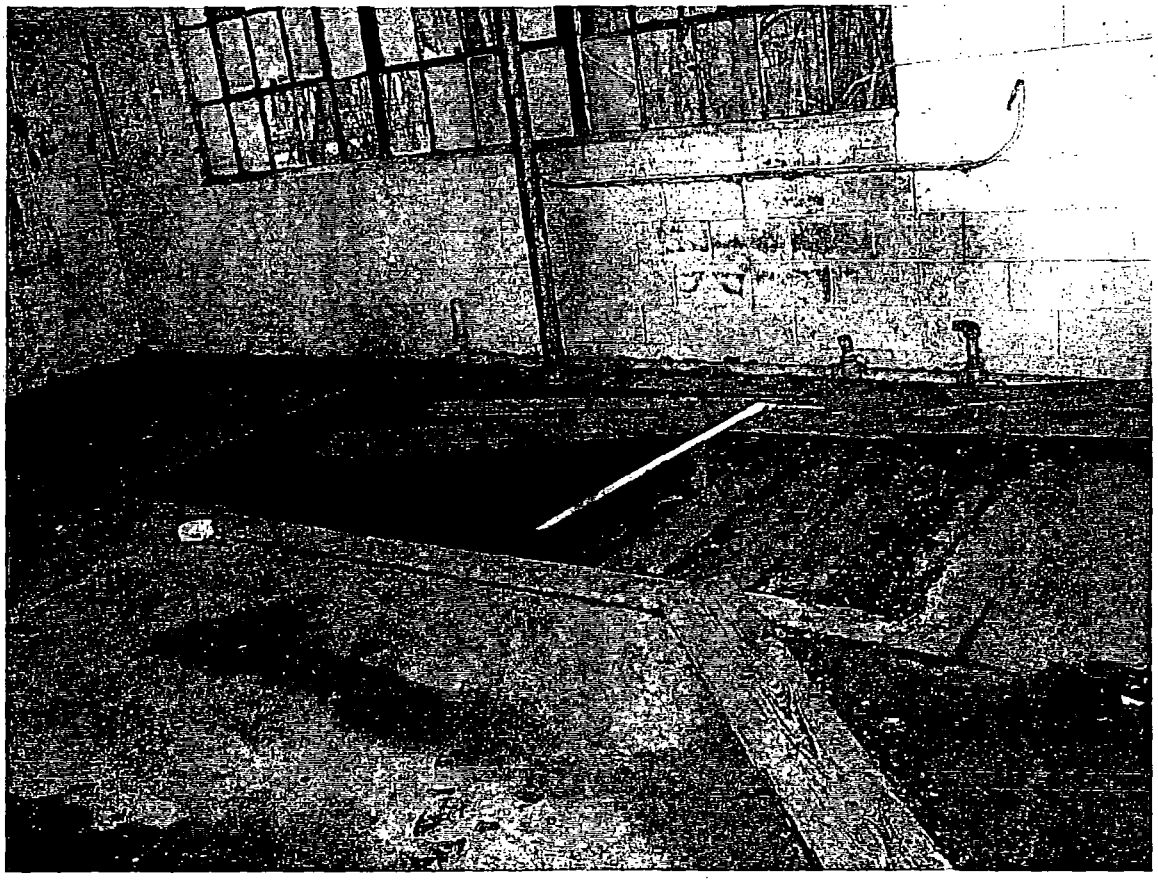


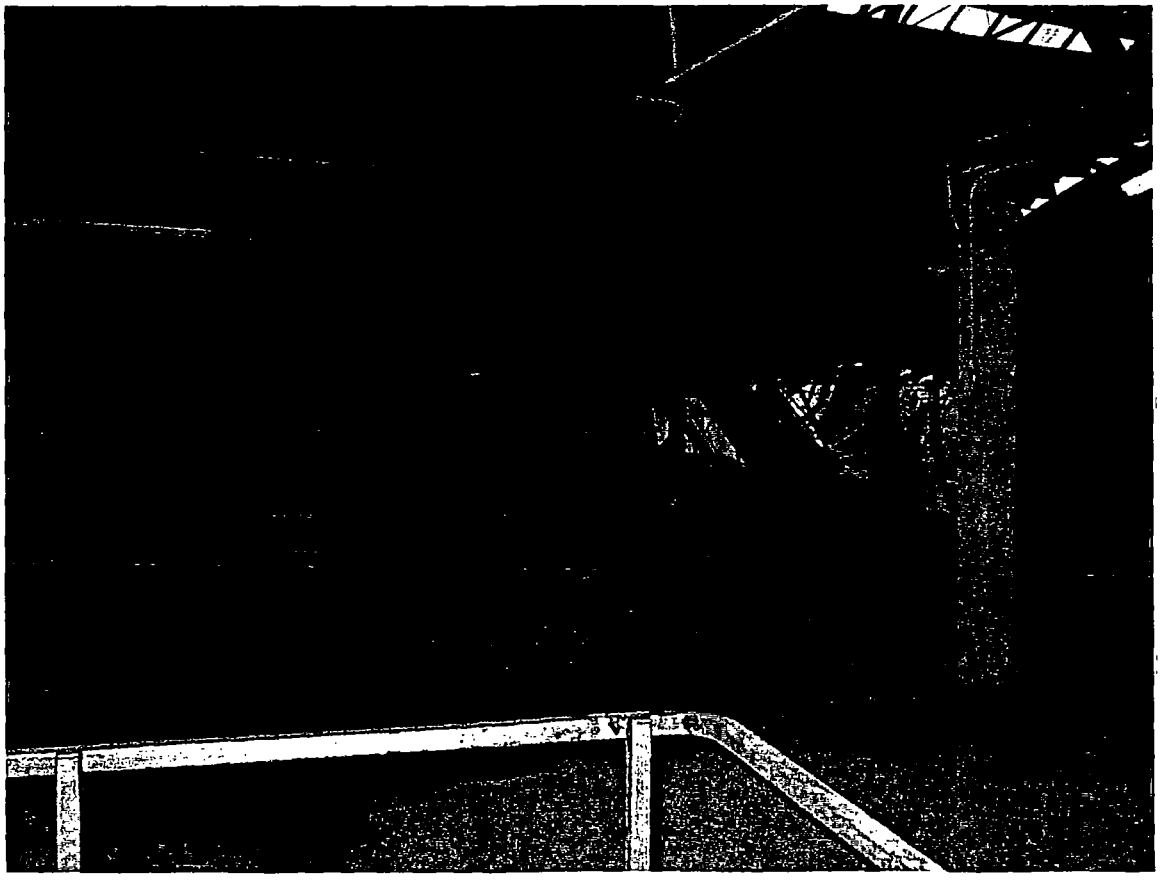
ATTACHMENT E

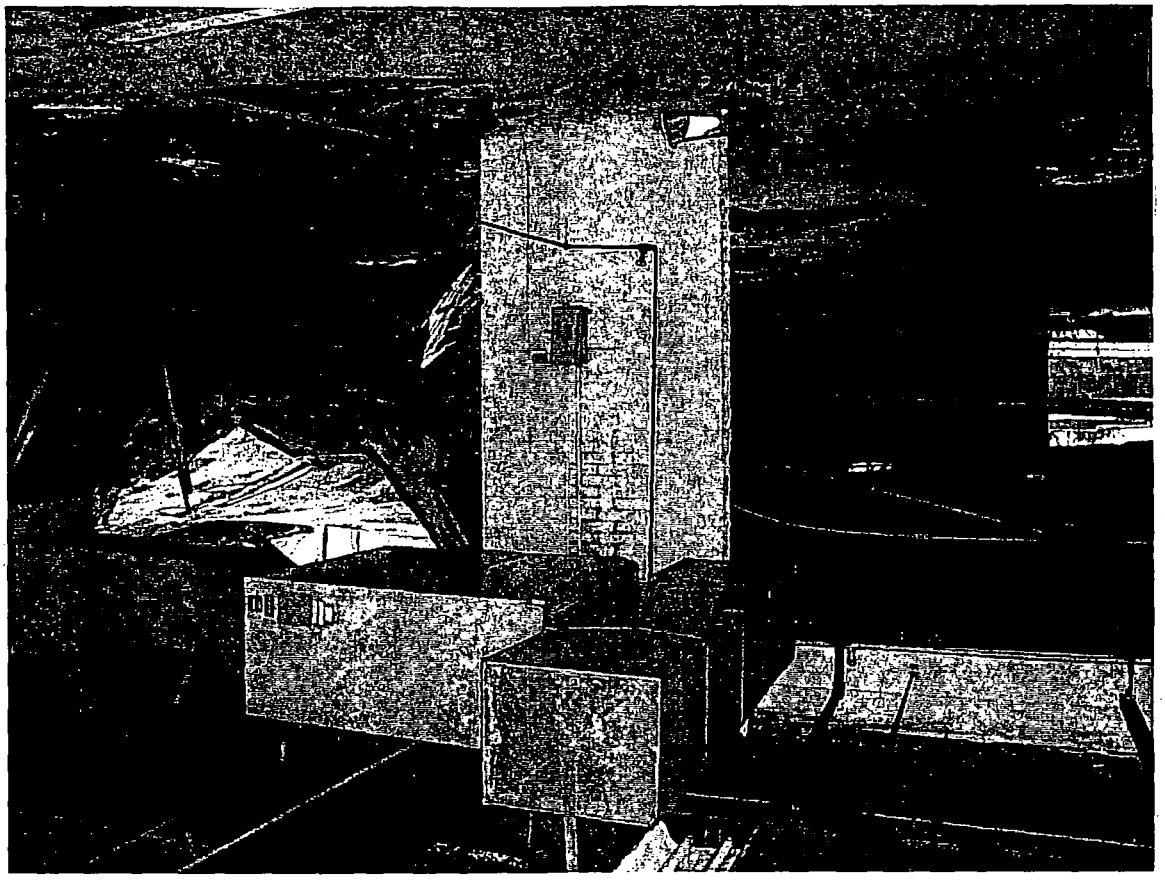
FORMER ROYAL METALS SITE PHOTOGRAPHS

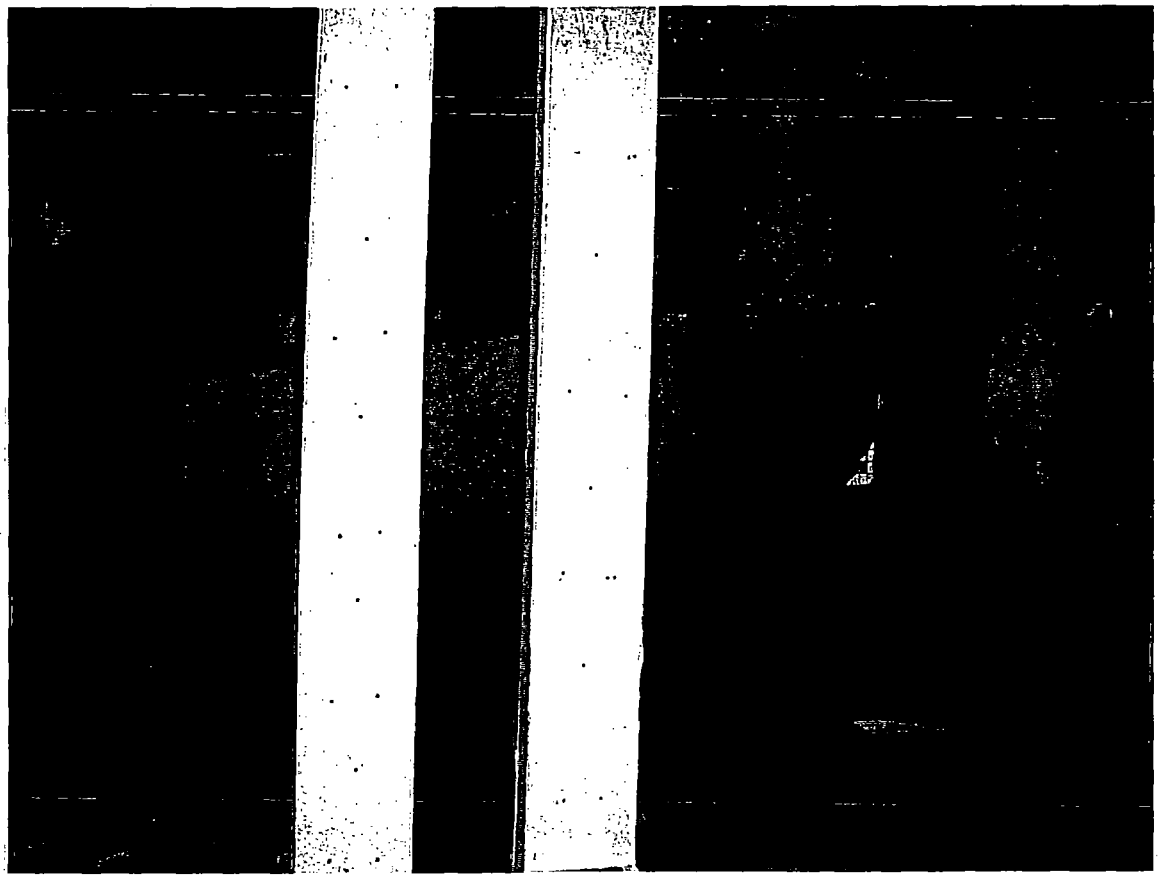












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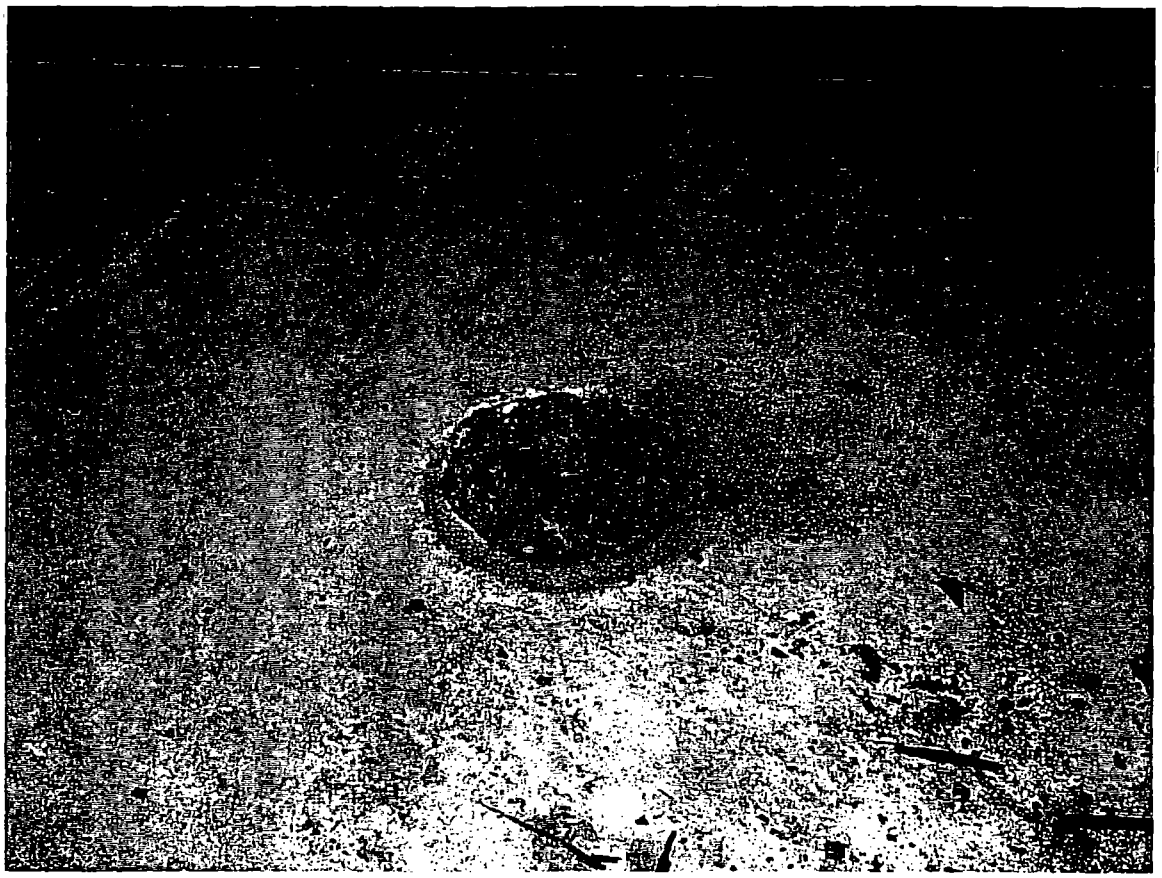

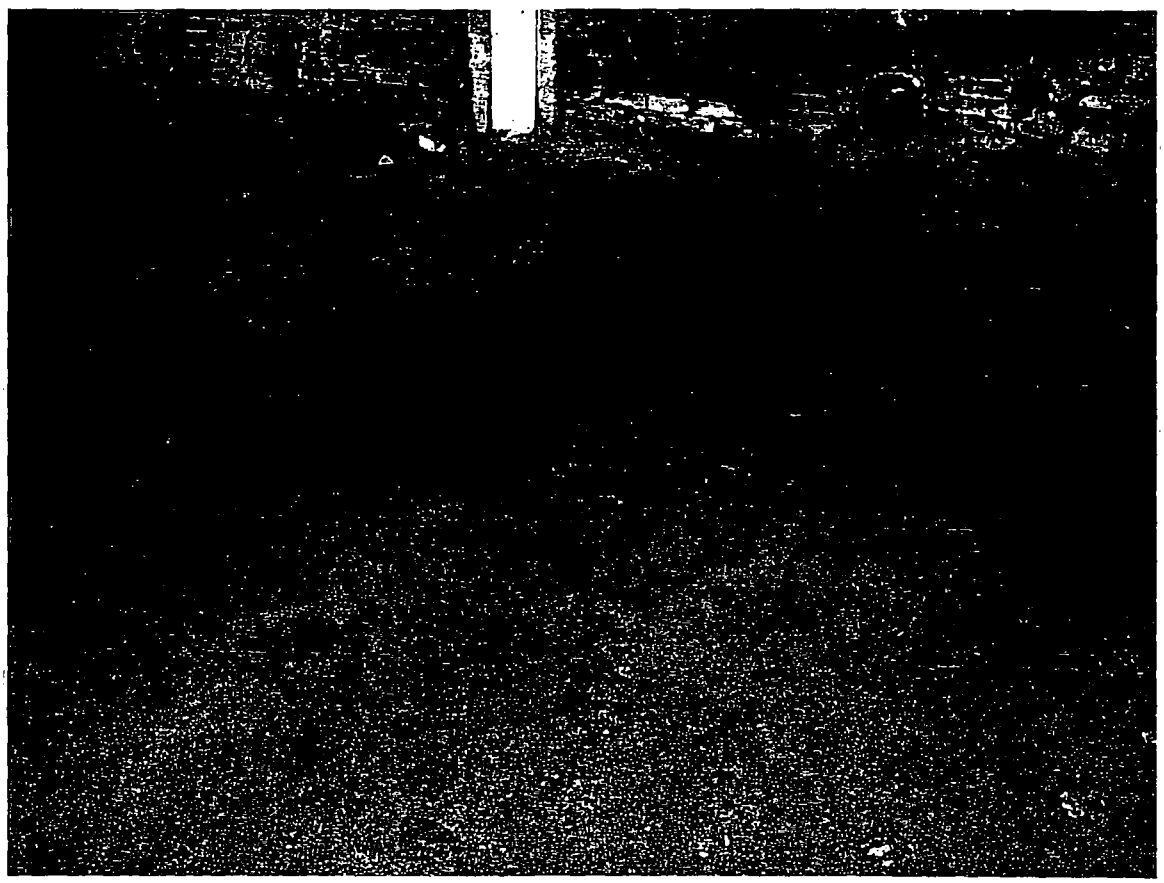

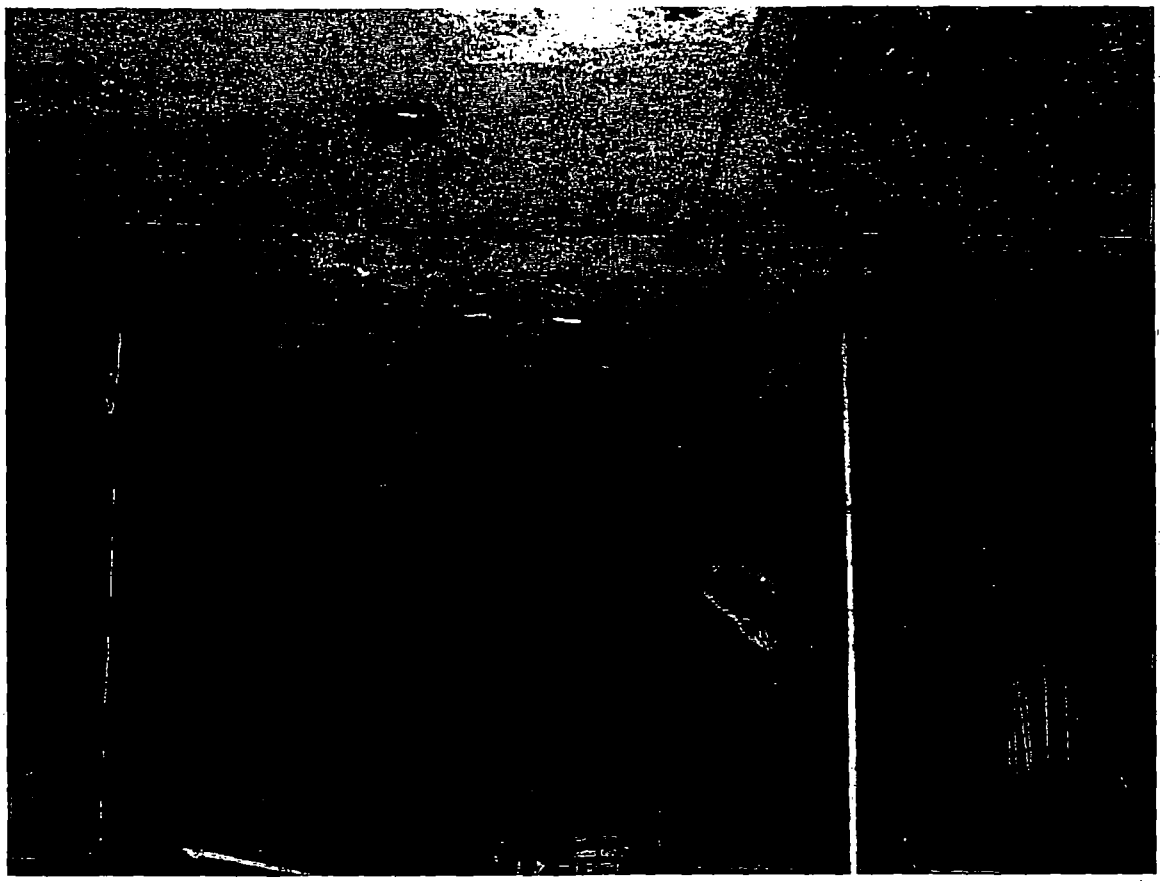

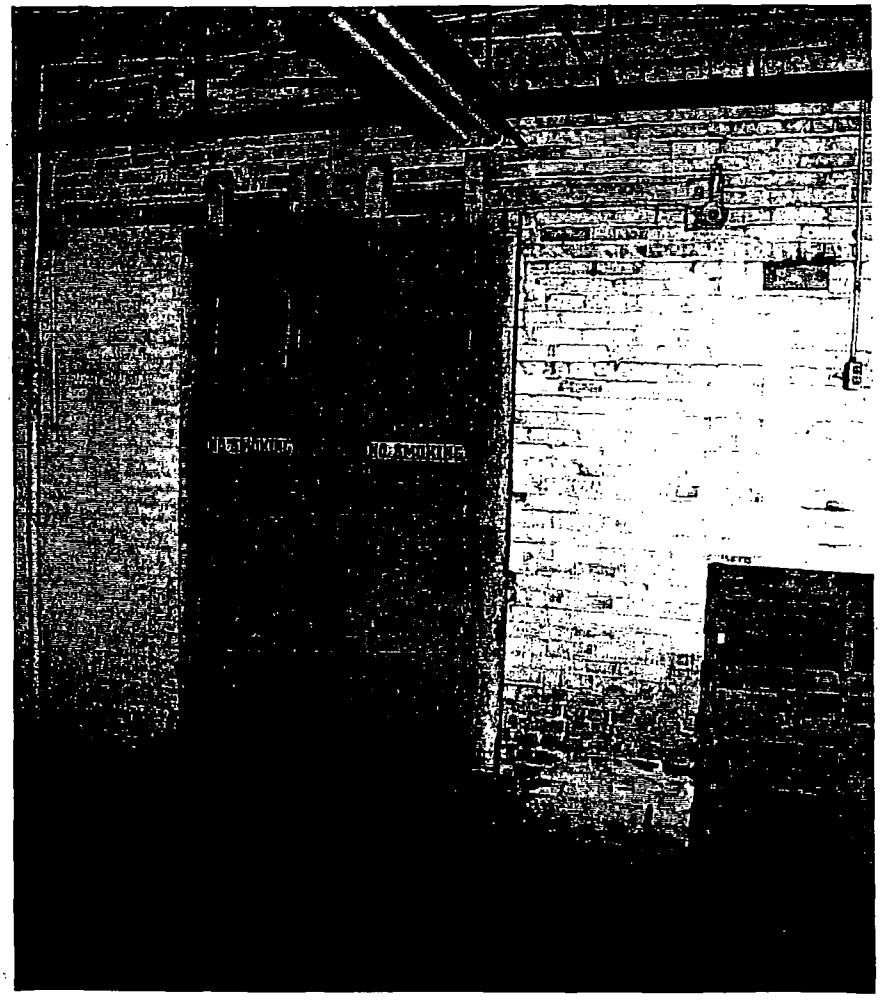

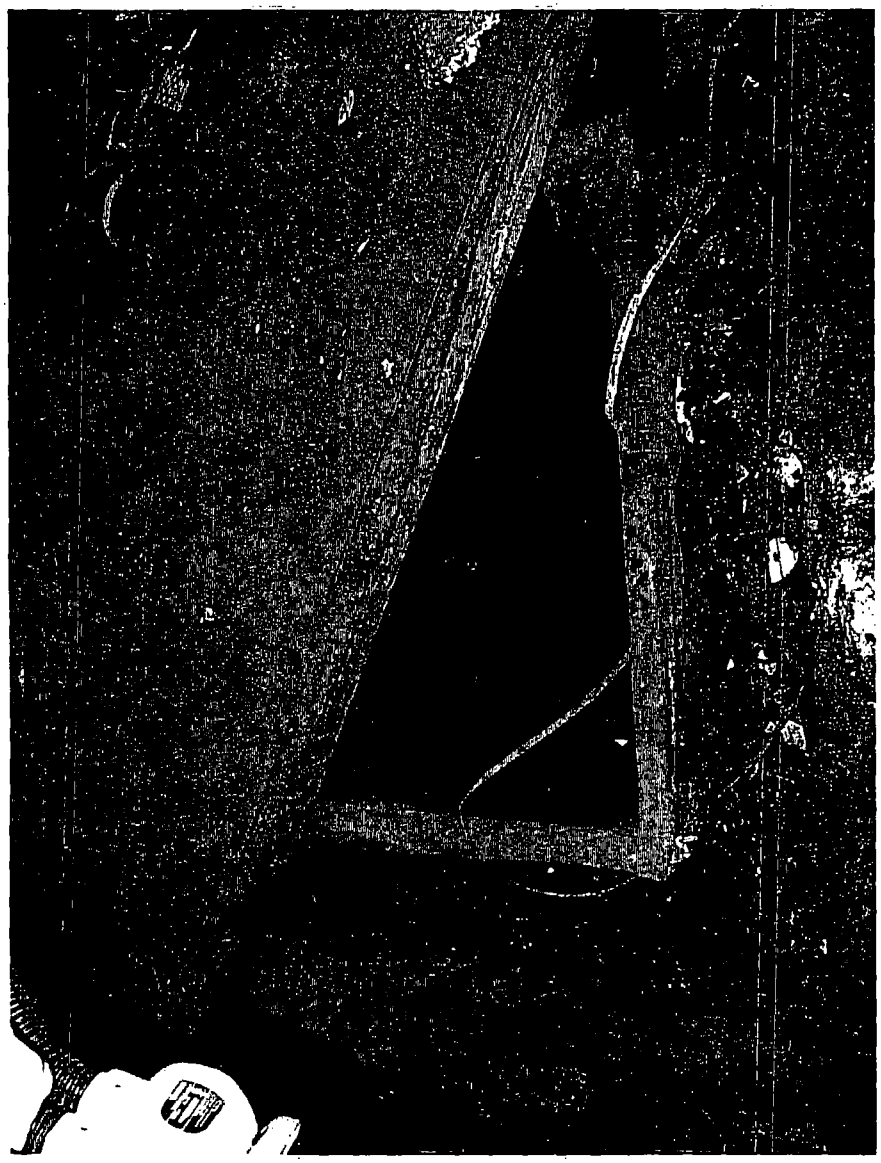

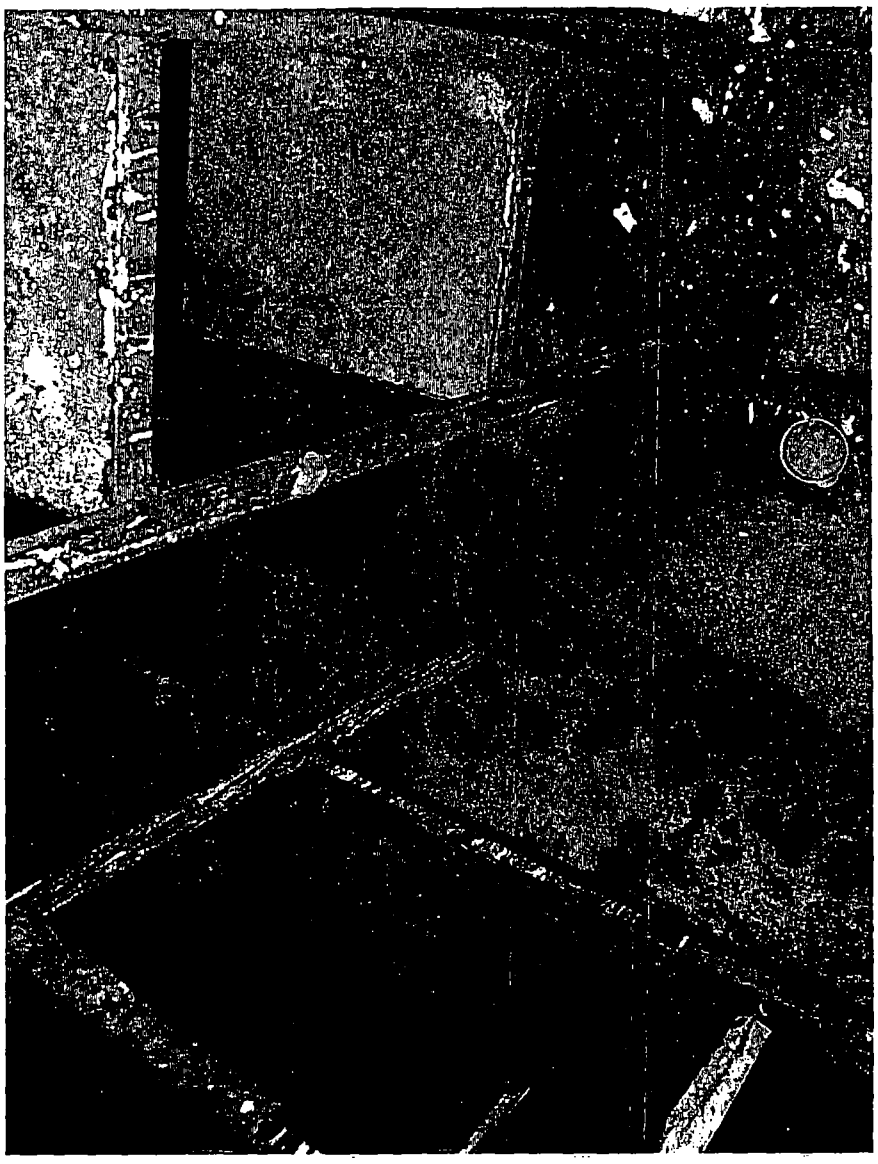

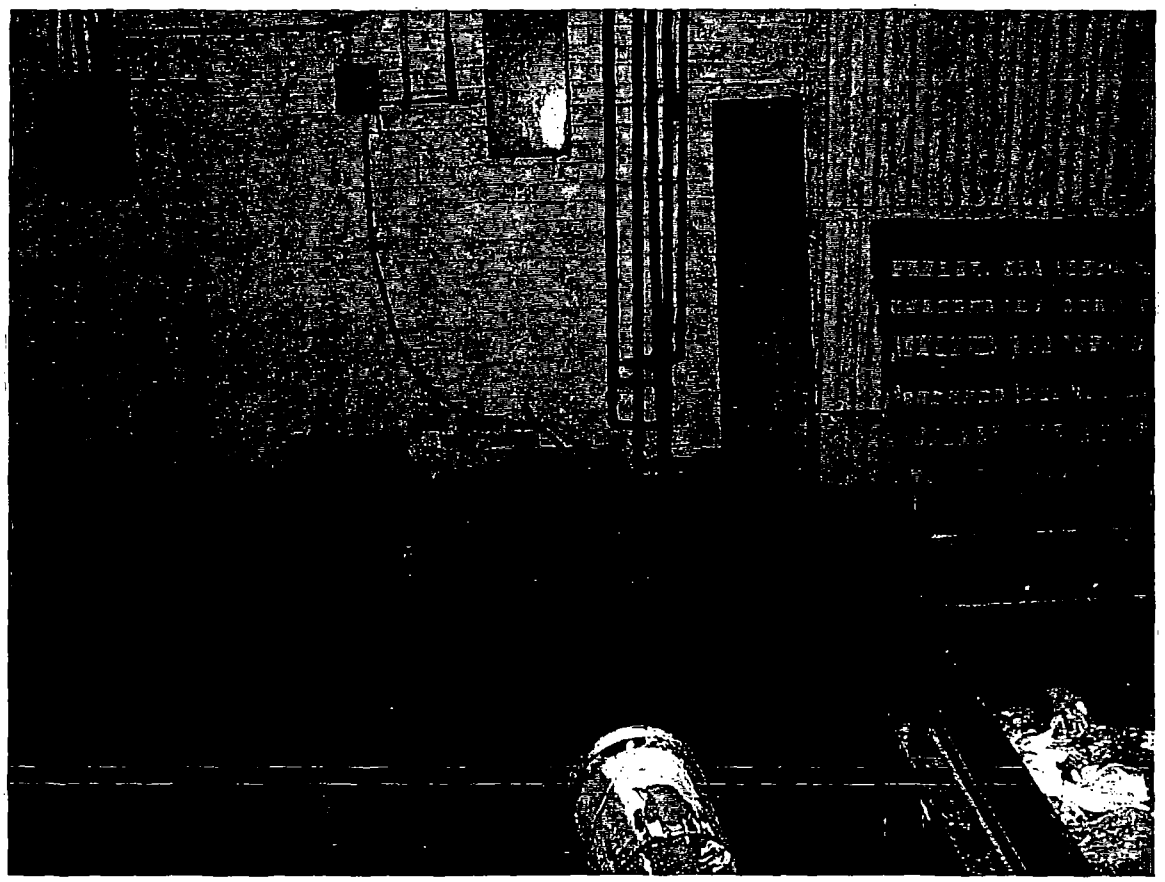

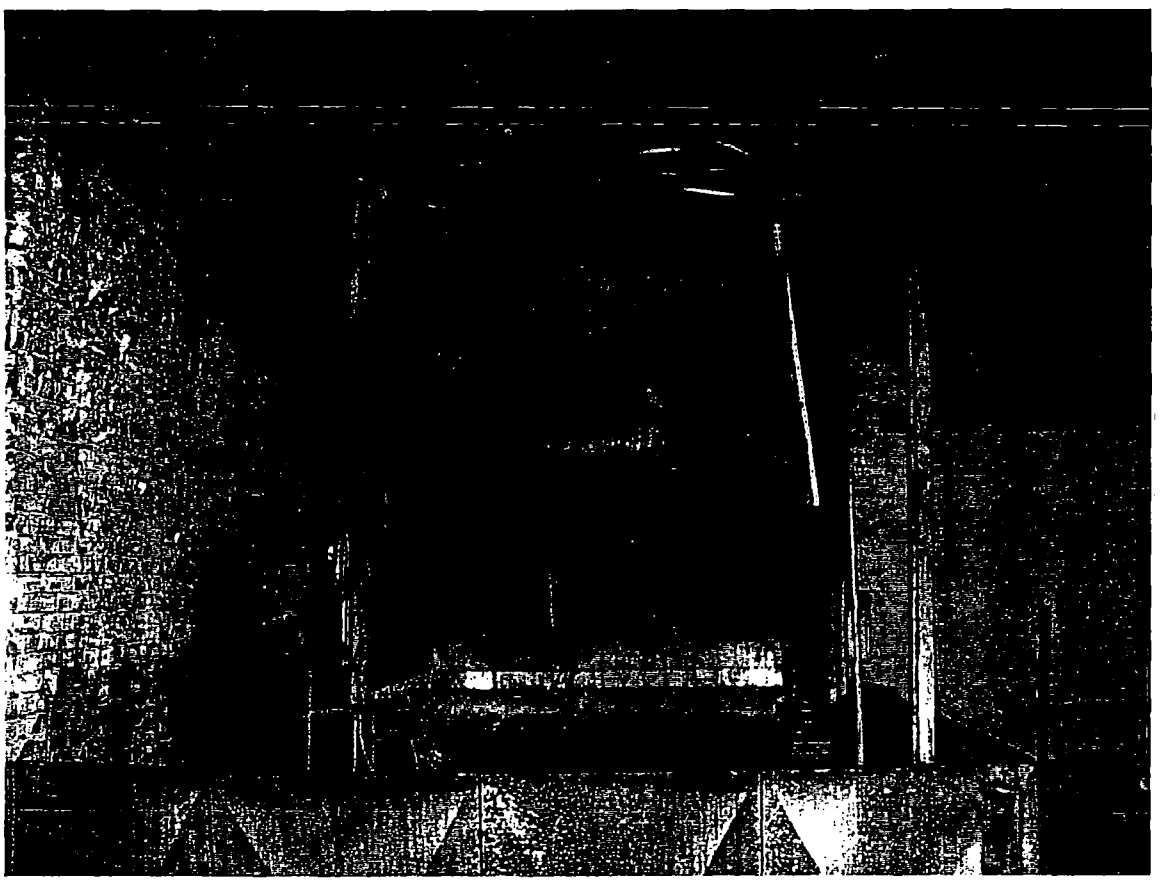

ATTACHMENT G

GREENSPACE PROJECT GEOTECHNICAL STUDY

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

February 13, 2001
Project No. 0566-01-19

prior to grant

GEOTECHNICAL EXPLORATION

Proposed Nature Park 2000
Karwick Road
Michigan City, Indiana

Prepared For:
Mayor Sheila Brillson
Michigan City Board of Public Works and Safety
c/o Mr. Tim Haas
Haas and Associates, LLC
Consulting Engineers
705 Franklin Center
Michigan City, Indiana 46360

GREAT LAKES ENGINEERING AND TESTING, INC.

GREAT LAKES ENGINEERING AND TESTING, INC.
AN AFFILIATE OF WEAVER BOOS & GORDON, INC.

200 SOUTH MICHIGAN AVENUE, SUITE 900 • CHICAGO, ILLINOIS 60604 • 312/922-0232 FAX 922-0201

February 13, 2001
Project No. 0566-01-19

Mayor Sheila Brillson
Michigan City Board of Public Works and Safety
c/o Mr. Tim Haas
Haas and Associates, LLC
Consulting Engineers
705 Franklin Center
Michigan City, Indiana 46360

Re: Geotechnical Exploration
Proposed Nature Park 2000
Karwick Road
Michigan City, IN

Dear Mr. Haas:

In compliance with your request, **Great Lakes Engineering & Testing, Inc.** *(Great Lakes)* has completed our geotechnical exploration at the site of the above referenced project. This work was completed in general accordance with our Proposal No. G01917 dated November 14, 2000. The purpose of this study was to explore the stratification and engineering properties of subsurface soils and to provide recommendations for foundation and pavement design and site preparation. For this study, we were not retained to address environmental or land use restriction concerns.

In the body of this report, we present a summary of our findings, an interpretation of the subsurface conditions, our design recommendations and construction considerations. The boring/test pit location plan is presented in the **Figures Appendix**. The field and laboratory operations, together with the soil boring/test pit logs, are presented in the **Field Exploration Appendix**. General Qualifications and Contractual Considerations are presented in the **Qualifications Appendix**.

Thank you for selecting our firm to assist in this phase of the project. Please call us if there are any questions concerning this report. We would be pleased to review the project design and specifications and to provide observation and testing services during the project construction.

Very truly yours,
Great Lakes Engineering & Testing, Inc.

Christopher Bosy, P.E.
Project Manager/Geotechnical Engineer

GEOTECHNICAL EXPLORATION
Proposed Nature Park 2000
Karwick Road
Michigan City, IN

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Field Exploration Appendix - Field and Laboratory Operations and Soil Boring/Test Pit Logs

Qualifications Appendix - General Qualifications and Contractual Considerations

200 S. Michigan Ave.
Suite 900
Chicago, Illinois 60604

1.0 EXECUTIVE SUMMARY

In summary, the exploration indicates that the site is underlain by an extensive deposit of compressible organic soils (buried beneath a thick, man-placed deposit of refuse and sand east of Trail Creek). In our opinion, the proposed structures should be supported on driven pile foundations. Further, the aggregate pavement may be supported on a stabilized subgrade although some settlement and periodic regrading must be anticipated. Additional exploration is recommended on the west side of Trail Creek to gain deep soil information for the design of pile foundations in this area. A more detailed discussion of design parameters and construction considerations is included in subsequent sections of this report.

2.0 SITE AND SUBSURFACE CONDITIONS

2.1 Site Conditions

The proposed Nature Park 2000 is located west of Karwick Road, north of the CSX Railroad tracks and south of the C.S.S. and S.B. Railroad tracks in Michigan City, Indiana. We were informed that the area east of Trail Creek was an old municipal landfill capped with a sandy layer.

Based on field observations, the site generally sloped downward toward the creek with a rather steep drop off (10 ft ±) on the east side of Trail Creek. The land surface east of Trail Creek visually appears to be at least 10 ft higher than the west side of Trail Creek. The east side of Trail Creek was moderately wooded, while the west side, heavily wooded. Both sides were covered with a thick layer of snow at the time of our field work.

2.2 Subsurface Conditions

Our interpretation of the subsurface conditions is based upon eight widely-spaced test pits, two soil borings (SPT) and two manually conducted geoprobe/static cone penetrometer probes advanced at the approximate locations shown in Figure 1. The test locations were staked in the field by Haas and Associates. The following discussion is general; for more specific information, refer to the boring/test pit logs presented in the **Field Exploration Appendix.**

The general subsurface profiles will be described separately for both the east and west sides of Trail Creek.

2.2.1 East Side of Trail Creek

Descriptions of the typical strata encountered in test pits TP-1 through TP-8 and borings B-1 and B-2 are given below:

Sandy Fill Materials: From the surface, a sandy fill ("cap") material about 1.0 ft to 7.6 ft thick was encountered. It is described as very loose to loose, brown and dark brown sand to silty sand containing roots, layers and lumps of silty clay (and abundant concrete chunks and asphaltic concrete debris in TP-2).

Refuse Fill Materials: Below the "cap" of sandy fill, refuse fill materials were encountered. The refuse typically consisted of household waste (cans, plastic, wood, metal, glass, paper, etc.) mixed with brown/dark brown sand and silty sand. Odors characteristic of decomposition of organic constituents were encountered (typically decomposition of refuse produces methane gas). The refuse was encountered to depths of approximately 10 ft to 16 ft in Borings B-2 and B-1, respectively.

Organic Soils: Below the refuse in Borings B-1 and B-2, a thick deposit of organic soils was encountered. The deposit is typically described as very soft, gray to dark gray and brown organic silt to organic clayey silt containing small amounts of peat, shells, wood, sand and gravel. Moisture contents of these organic soils reached as high as 102.6%. The organic soils extended to a depth of approximately 47 ft.

Natural Sandy Soils: Below the organic soils, natural sandy soils described as gray and brown fine to coarse sands to silty sands with variable amounts of gravel were encountered. The sands were very loose to medium dense to a depth of about 51 ft to 63 ft, medium dense to dense below this depth level and extended to the bottom of the borings (70 ft to 75 ft).

2.2.2 West Side of Trail Creek

The geoprobes G-1 and G-2 generally encountered very loose to loose sands to organic sands grading to organic clayey silts at the bottom of the probes. Moisture contents of these soils reached as high as 116.8%.

2.3 Groundwater Observations

Groundwater was encountered at depths of approximately 19 to 26 ft below existing grade. Fluctuations in the groundwater level may occur due to variations in rainfall and other environmental or physical factors.

3.0 PROJECT INFORMATION

We understand that the proposed construction consists of a nature park which includes a park entrance and parking area, a picnic shelter, a bridge crossing Trail Creek, an education center and walking trails. The picnic shelter and education center are planned to be "stilt" buildings suspended above the ground. The drive and parking areas are anticipated to consist of a compacted aggregate base supporting car and bus traffic.

4.0 DESIGN RECOMMENDATIONS

4.1 Basis

Our recommendations are based on data presented in this report, which includes eight widely-spaced test pits, two soil borings (SPT) and two manually conducted geoprobe/static cone penetrometer probes. Subsurface variations can exist on a site which may not be indicated by a dispersed exploratory boring program, especially when landfill and thick organic deposits are present. Additional exploration is recommended west of Trail Creek for the purpose of obtaining deep soil information for the design of pile foundations in the area. If such variations or unexpected conditions are encountered during construction, or if the project information is incorrect or changed, we should be informed immediately since the validity of our recommendations may be affected. Refer to the **Qualifications Appendix** for additional Qualifications and Contractual Considerations.

4.2 General

It is our opinion that the old landfill materials and thick organic soil deposit are unsuitable for structural support for the bridge or the buildings and present a significant potential for long-term settlement. Therefore, conventional shallow foundation support is not recommended for this site. We conclude that a deep foundation system consisting of driven piles represents the most feasible foundation alternative for bridge and building support. Our design and installation recommendations are provided in Sections 4.3 and 5.2, respectively.

4.3 Driven Piles

Driven 12-inch diameter, $^{3}/_{16}$ inch wall thickness, closed end pipe piles could be used to achieve a design capacity of 30 tons. This capacity could be obtained by driving the piles a suitable distance into the medium dense to dense sands encountered below elevation 555 ft MSL (the

actual distance will be determined by wave equation analysis and test probe piles – see Section 5.1). Different allowable loads could be achieved if the pile size was changed.

Timber piles do not appear to be economical on the east side of Trail Creek due to the long lengths required (unless they could be installed down by the shoreline close to the creek). Capacities of up to 20 tons per pile may be possible for timber piles. Timber piles may be feasible on the west side of Trail Creek since the ground surface is lower. However, they should be pressure treated to reduce decay. We recommend that additional deep borings be advanced on the west side of Trail Creek to check the feasibility of using timber piles.

Pipe piles should be driven closed end since a plug may not form at the bottom of the pile. In addition, having the fill materials contacting the inside of the pile as well as the outside of the pile is undesirable. Since a $^{1}/_{16}$ inch corrosion allowance has been provided in the design of the piles, the piles do not require concreting subsequent to driving. Downdrag loads (i.e., negative skin friction) induced by the refuse/upper portion of the organic soils are estimated to be resisted by positive friction developed in the lower portion of the organic soils and firm sands below. Batter piles may be used to resist lateral loads.

Advantages of pipe piles include:

1. They are easy to splice and therefore can accommodate variable lengths;
2. Pipe piles can penetrate below grade obstructions better than other types of piles; and
3. The piles can be visually checked after driving to check for plumbness and potential damage.

The deep foundation system should support the building's structural frame and floor system. Subsidence of the ground below and adjacent to the structure is expected to occur during the life of the project; therefore, underground utilities that are sensitive to settlement should be supported from beneath the suspended floor of the stilt building. We also suggest that flexible connections be utilized where the buried utilities emerge from the ground.

In addition, differential movement may occur around the building. This should be taken into account in landscaping and grading. Some remedial work may be required with time to readjust adjacent surfaces.

4.4 Paved Areas

We understand that the paved areas will be subjected to car and bus traffic. An aggregate pavement is planned. Depending upon the final subgrade level at the project site, variable amounts of fill and/or undercutting will be required within or on top of the surface layer. It is recommended that the pavement consist of a minimum of 18 inches of compacted granular material overlying a compacted and proof-rolled subgrade, possibly with geotextile fabric lending support at the subgrade level if any weak zones are detected during construction.

We suggest that the bottom 12 inches consist of a free-draining material (No. 8 gradation, INDOT specification) while the top 6 inches consist of a dense graded material (No. 53 gradation, INDOT specification). An approved granular slag material is recommended since slag has cementatious properties which can result in a pavement system stronger then one consisting of crushed stone. Periodic regrading and maintenance of the surface should be anticipated.

We recommend that the granular material should be compacted to no less than 98 percent of its standard Proctor density, or an equivalent relative density. In addition, provisions should be made for surface drainage of the site pavements. Where standing water is allowed to develop, either on or within the pavement, premature pavement deterioration can be expected.

4.5 Foundation Design Parameters for Pile Caps

The following engineering parameters are recommended for calculating lateral pressures against pile caps:

- Soil unit weight = 110 pcf
- Coefficient of active earth pressure = K_a = 0.33
- Coefficient of passive earth pressure = K_p = 3.0

The passive earth pressure coefficient may be used to compute the ultimate lateral resistance of structural fill as defined in Section 5.3. The fill must be placed in same direction behind the pile cap as the load to be resisted to a horizontal distance of 1.5 times the height of the pile cap to develop passive pressure. The active earth pressure coefficient should be used to compute the soil pressure acting against the opposite side of the pile cap. A minimum factor of safety of 3 should be applied to the resistance computed. A smaller factor of safety could lead to pile cap movements that could cause higher stresses in the piles due to the presence of the refuse. Frictional resistance between the bottom of the pile cap and fill should not be relied upon since

future settlement of the fill could break the contact between them. The likelihood that future settlement of the fill away from the pile caps will further decrease this resistance must also be considered.

4.6 Other Considerations

Due to the potential corrosiveness of the existing fill, we suggest that at least minimal corrosion protection be provided for any buried utilities or foundation elements. For buried metal piping, this protection could consist of one or more of the following: well-drained, inert backfill such as a minimum 1 ft envelope of limestone gravel or screenings; protective grease; concrete encasement; bituminous or plastic coatings; the use of galvanized metal or cathodic protection. It may also be possible to increase the pipe thickness to extend the life of the pipe. Buried concrete could be rendered relatively impermeable by the use of fluidizers. In addition, air entraining agents can help reduce the attack on the concrete.

4.7 Landfill Gas

Due to the presence of organic material within the refuse, methane gas can be produced by natural decomposition creating both health and safety hazards. Development of this site may require the construction of environmental control systems to handle this potential problem. We would be pleased to consult with you at a future date to address this concern.

4.8 Additional Exploration

Additional deep borings should be advanced at the proposed west bridge abutment and the nature center to obtain deep soil information for pile foundation design. We would be pleased to assist you in the planning and performance of this follow up exploration phase and the development of a supplemental engineering report.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Site Preparation – Pavement Area

The pavement area should be initially prepared by clearing trees and stripping any vegetation and all other unsuitable materials. Prior to any fill placement, the pavement areas should be compacted by at least four passes (twice in opposite directions) of a five-ton (minimum) vibratory tandem-roller, capable of a sustained operation of 30 cycles per second or greater. This operation will densify the sandy cap materials with depth, and should achieve at least a medium dense condition in the upper 2 ft, or throughout their occurrence, whichever is deeper. Any areas

judged by the engineer to rut, pump, or deflect excessively should be undercut and replaced with structural fill, or otherwise stabilized. Some undercutting should be expected at this site.

Thereafter, the exposed areas should be proof-rolled. Proof-rolling consists of repeated passes of a loaded, pneumatic-tired vehicle such as a tandem-axle dump-truck or scraper. The proof-rolling operations should be observed by the Geotechnical Engineer or his representative and the proof-rolling vehicle should be loaded as directed by him. Any areas judged by the engineer to rut, pump, or deflect excessively should be undercut and replaced with structural fill, or otherwise stabilized.

5.2 Driven Piles

The pile driving hammer should have sufficient energy to drive the piles to the required capacity. Upon selection of the appropriate hammer size and model, we recommend that a wave equation analysis be performed to confirm that the selected hammer, pile section, and soil parameters are matched to provide the specified design capacities. A 30-ton design pile will need to be driven to an ultimate capacity of 90 tons. The wave equation analysis will establish the driving criteria, which will control the pile tip elevation in terms of penetration resistance. Several test probe piles (at least two at each bridge abutment and two at each building location) should be driven around the site to obtain an indication of variability of pile tip elevation. Several of the test piles should also be retapped at least 1 day after initial driving to check for any relaxation of the silty sands. Although not encountered in the borings, there may be obstructions in the fill that will hinder pile installation; therefore, the construction documents for this portion of the project should include provisions for removing obstructions, or handling some local drift.

The geotechnical engineer, or his authorized representative, should be present at all times during installation of foundation piling to observe that the piles are driven in accordance with the specified driving criteria. Installation of piles should be conducted in accordance with applicable codes and general accepted practice.

5.3 Structural Fill

Structural fill, defined as any fill which will support pavement or resist lateral loads, should be free of organic material, have a plasticity index less than 25, a maximum particle size of 3 inches, and a maximum dry density in excess of 100 pounds per cubic foot, as determined by the standard Proctor compaction test (ASTM D-698). Structural fill should be compacted to at least 98 percent of its maximum standard Proctor dry density or an equivalent relative density.

5.4 Fill Placement Control

To achieve the recommended compaction of structural fill, we suggest that the fill be placed and compacted in layers not exceeding nine inches in loose thickness. To monitor compliance with the recommended density standards, we recommend that in-place density tests be performed at a frequency of at least one test for every 5,000 sq ft of fill area for each lift of compacted fill in pavement areas, and at representative pile cap locations.

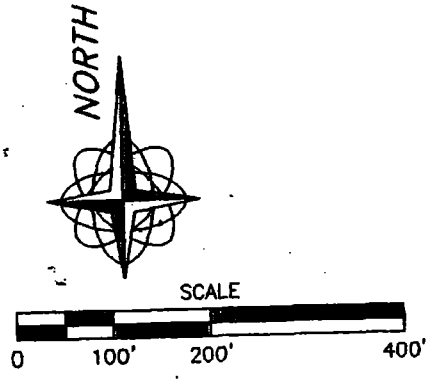
LEGEND

TP-1 ◆ APPROXIMATE TEST PIT LOCATION

B-1 ◆ APPROXIMATE SOIL BORING LOCATION

G-1 ⊠ APPROXIMATE GEOPROBE/STATIC CONE PENETROMETER LOCATION

B-3 ◆ PROPOSED DEEP SOIL BORING LOCATION



SITE PLAN ADAPTED FROM SOILBORING EMAIL.DWG BY HAAS & ASSOCIATES, LLC.

SOIL BORING/ TEST PIT LOCATIONS

NATURE PARK 2000
MICHIGAN CITY, INDIANA

NS
DESCRIPTION

Weaver Boos & Gordon, Inc.
GRIFFITH, IN
ALBUQUERQUE, NM
CHICAGO, IL
(312) 922-1030
GLEN ELLYN, IL
SPRINGFIELD, IL

DRAWN BY: JRS | DATE: 1/16/01 | FILE: 0566-01-19

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FIELD EXPLORATION PROCEDURES

Soil Borings

General

We wish to point out that the soils actually recovered from our borings for observation and testing represent a very small percentage of the site soils. Our records depict subsurface conditions only at specific locations and at the particular time when drilling. Soil conditions at other locations may differ from conditions occurring at these boring locations. The passage of time may result in a change in the subsurface soil and groundwater conditions at the boring locations. The interface between differing subsurface materials on the logs and profiles represent approximate boundaries. The transition between materials may be gradual. Also, thin strata that occur between sample depths may be present, but remain undetected by routine sampling procedures.

Drilling Procedures

Soil borings were performed at the approximate locations shown on the attached boring plan. The soil borings were advanced by mechanically twisting a continuous steel-flight, hollow-stem auger into the soil. The inside diameter of the hollow-stem auger is typically 3 1/4 inches (sometimes a 6-inch I.D. auger is used, particularly when installing 4-inch diameter monitoring wells).

The auger is turned into the ground which displaces the soil upwards as it advances. Once the desired sample depth is achieved, the advancement of the hollow-stem auger is stopped. The hollow-stem is then cleaned of any soil and the sampling tools are inserted, and the sampling is performed. When drilling below the water table in pervious soils, a head of water is maintained in the hollow-stem, to prevent a "quick" condition at the auger tip.

Penetration Testing and Split-Barrel Sampling

Standard Penetration Testing and split-barrel sampling are normally conducted in the borings to provide relative density information and soil samples for visual classification and laboratory testing. The standard split-barrel (commonly called split-spoon) sampler is a 2-inch O.D., 1.375-inch I.D. sampler, typically 18 to 24 inches long and is connected to an AW or N size drilling rod. The sampler is then driven into the soil with a force of 140 lb. hammer free-falling a distance of 30 inches. The number of hammer blows required to drive the sampler into the soil is recorded for each 6-inch interval. The sampler is typically driven a total of 18 inches, and the last two 6-inch interval blow counts are added together and commonly referred to as the "N"

value, blow count or penetration resistance. Representative samples are placed in air tight glass gars and returned to our laboratory for further observation and testing. Descriptions of the spilt-barrel samples and the penetration resistances are shown on the boring logs.

Shelby Tube Sampling Procedure

In the shelby tube sampling procedure, a thin-walled steel seamless tube with a sharp cutting edge is pushed hydraulically into the soil and a relatively undisturbed sample is obtained. This procedure is generally employed in cohesive soils. The tubes are carefully handled in the field to avoid excessive disturbance and are returned to the laboratory for extrusion and further analysis and testing.

Calibrated Pocket Penetrometer Testing

The strength of cohesive soils does not correlate as well as granular materials with the Standard Penetration Testing described above. Typically we test split-barrel samples of cohesive soils with a calibrated pocket penetrometer in the field. This test involves pushing a spring-loaded piston, 0.25 inch in diameter, into the sample and measuring the spring deflection which has been correlated to shear strength. This test is used as a rough approximation method only. More refined results require undisturbed Shelby tube sampling and laboratory unconfined compressive strength testing.

Water Level Readings

When groundwater, or significant variations in soil moisture are noticed by the drilling crew, they are recorded on the boring logs. Generally, the level of water at the time of drilling is measured and recorded. The readings may indicate the approximate level of the hydrostatic water table at the time of our drilling activities.

Where low permeability soils are encountered, the water seeps into the borings at a slow rate, and it is generally not possible to establish accurate groundwater level readings in an open borehole during the drilling operations. If water drilling methods are used, a local groundwater "mound" could be created, taking several days to dissipate. Also, the groundwater level typically fluctuates on a long-term or seasonal basis, due to variations in precipitation, surface run-off evaporation, etc. When these long term readings are required, piezometers or monitoring wells are necessary to maintain an open hole.

Boring Log Preparation

The subsurface conditions encountered during drilling are reported on a field log recorded by the chief driller. The driller's field record contains information concerning the boring method, samples attempted and recovered, indications of the presence of various materials such as coarse gravel, cobbles, etc., and observations between samples. Therefore, these records contain both factual and interpretive information. The field logs are on file in our office.

The soil samples, plus the field logs, are reviewed by a geotechnical engineer, geologist, or geotechnician. The engineer/geologist/geotechnician then classifies the soil in general accordance with the Unified Soil Classification System and prepares the final boring logs which are the basis for our evaluations and recommendations. The group symbol for each soil type is indicated in parentheses following the soil descriptions in the boring logs. The final boring logs represent our interpretation of the contents of the field logs based on the results of the engineering review and laboratory testing of the field samples. The final boring logs are included in this section.

FIELD EXPLORATION PROCEDURES

Soil Borings

The general field procedures employed by Weaver Boos & Gordon, Inc. are summarized in ASTM specifications D 420-79 which is entitled "Investigating and Sampling Soils and Rock for Engineering Purposes." This recommended practice lists recognized methods for evaluating soil and rock distribution and groundwater conditions, as well as listing some of the limitations of various explorative procedures.

We wish to point out that the soils actually recovered from our borings for observation and testing represent a very small percentage of the site soils. Our records depict subsurface conditions only at specific locations and at the particular time when drilling. Soil conditions at other locations may differ from conditions occurring at these boring locations. The passage of time may result in a change in the subsurface soil and groundwater conditions at the boring locations. The interface between differing subsurface materials on the logs and profiles represent approximate boundaries. The transition between materials may be gradual. Also, thin strata that occur between sample depths may be present, but remain undetected by routine sampling procedures.

Geoprobe Penetration Testing and Sampling

Soil sampling was conducted in the borings to provide soil samples for visual classification and laboratory testing. The Geoprobe sampler is a $2^1/_8$-inch I.D., $1^1/_2$-inch I.D. sampler, 24 inches long and is connected to a drilling rod. The sampler is then driven into the soil with a percussion hammer supplemented by static weight. The sampler is typically driven a total of 24 to 48 inches. Representative samples are returned to our laboratory for further observation and testing. Descriptions of the samples are shown on the boring logs.

Cone Penetrometer

The cone index (Qc) is always read directly. The correlation between the cone index and soil constants is not absolute. Generally, the following results have been determined through extensive field use of the unit.	
1. Standard Penetration Test N Value Qc*=4 N	A) Uniform clay and silty clays Qc=5Qu Qc=10C
2. Strength and Cohesion Qu-Unconfined compression strength (KG/CM^2) C-Cohesion (KG/CM^2)	B) Clayey Silts Qc=(10 to 20) Qu Qc=(20 to 40) C **C) CBR Value (%)** Qc=(2.5 to 3.3) CBR

*Must be corrected for overburden stress.[1]

Calibrated Pocket Penetrometer Testing

The strength of cohesive soils does not correlate as well as granular materials with the Penetration Testing described above. Typically we test samples of cohesive soils with a calibrated pocket penetrometer. This test involves pushing a spring-loaded piston, 0.25 inch in diameter, into the sample and measuring the spring deflection which has been correlated to shear strength. This test is used as a rough approximation method only. More refined results require undisturbed Shelby tube sampling and laboratory unconfined compressive strength testing.

Water Level Readings

When groundwater or significant variations in soil moisture are noticed by the drilling crew, they are recorded on the boring logs. Generally, the level of water at the time of drilling is measured and recorded. The readings may indicate the approximate level of the hydrostatic water table at the time of our drilling activities.

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[1] Seed, H. B. and De Alba, P. (1986), "Use of SPT and CPT Tests for Evaluating the Liquefaction Resistance of Sands." In *Use of In-Situ Tests in Geotechnical Engineering*, ASCE Geotechnical Special Publication No. 6, pp. 281-302.

Where low permeability soils are encountered, the water seeps into the borings at a slow rate, and it is generally not possible to establish accurate groundwater level readings in an open borehole during the drilling operations. If water drilling methods are used, a local groundwater "mound" could be created, taking several days to dissipate. Also, the groundwater level typically fluctuates on a long-term or seasonal basis, due to variations in precipitation, surface run-off evaporation, etc. When these long term readings are required, piezometers or monitoring wells are necessary to maintain an open hole.

Boring Log Preparation

The subsurface conditions encountered during drilling are reported on a field log recorded by the field technician or engineer. The field record contains information concerning the samples attempted and recovered and indications of the presence of various materials such as coarse gravel, cobbles, etc. Therefore, these records contain both factual and interpretive information. The field logs are on file in our office.

The soil samples, plus the field logs, are reviewed by a geotechnical engineer or geologist in our laboratory. The engineer/geologist then classifies the soil in general accordance with the Unified Soil Classification System and prepares the final boring logs which are the basis for our evaluations and recommendations. The group symbol for each soil type is indicated in parentheses following the soil descriptions in the boring logs. The final boring logs represent our interpretation of the contents of the field logs based on the results of the engineering review and laboratory testing of the field samples. The final boring logs are included in this section.

LABORATORY TESTING PROCEDURES

Representative soil samples were selected and tested in our laboratory in order to check field classifications and to evaluate pertinent engineering properties. The laboratory testing program included visual classification of all samples and hand penetrometer tests on all cohesive samples. In the hand penetrometer test, the unconfined compressive strength of a cohesive soil is estimated by measuring the resistance of the soil sample to penetration by a small spring calibrated cylinder. Any additional tests are described in the following sheet(s). Appropriate data obtained from laboratory tests are also included on the respective boring logs.

A geotechnical engineer classified each soil sample on the basis of texture and plasticity in accordance with the United Soil Classification System. The group symbol for each soil type is indicated in parentheses following the soil descriptions on the boring logs. A brief explanation of the Unified System is included with this report.

Data obtained from the field logs and appropriate laboratory tests have been shown on the boring logs. The procedures used in preparing the final boring logs are described on the sheet entitled "Field Exploration Procedures."

It should be noted that the geotechnical engineer grouped the various soil types into the major zones noted on the boring logs. The stratification lines designating the interfaces between earth materials shown on the boring logs and profiles are approximate; in-situ, the transitions may be gradual.

All samples will be retained in our Griffith laboratory for a period of thirty (30) days after which they will be discarded unless other instructions as to their disposition are received.

Moisture Content

Moisture content tests were performed on selected soil samples. The moisture content has a significant effect on the strength, compressibility and general behavior of the soil.

Grain Size Tests

Grain size tests are performed to determine the soil classification and the grain size distribution. The grain size distribution of soils coarser than a Number 200 sieve (0.074 mm opening) is determined by passing the samples through a standard set of nested sieves

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- ❑ 213 South Camino Del Pueblo, Bernalillo, NM 87004 • (505) 867-6990
- ❑ 630 E. Bronson, Suite #1, South Bend, IN 46601 • (219) 232-4826

GENERAL NOTES

In order to provide uniformity throughout our projects, the following system has been adopted to describe each soil sample. Rock, shale and other materials will be described in detail as encountered.

CONSISTENCY OF COHESIVE SOILS

UNCONFINED COMPRESSIVE STRENGTH, QU. TSF	CONSISTENCY
<0.25	Very Soft
0.26-0.49	Soft
0.50-0.99	Medium Stiff
1.00-1.99	Stiff
2.00-3.99	Very Stiff
4.00-8.00	Hard
>8.00	Very Hard

RELATIVE DENSITY OF GRANULAR SOILS

"N" VALUE*	RELATIVE DENSITY
0-3	Very Loose
4-9	Loose
10-29	Medium Dense
30-49	Dense
50-80	Very Dense
>80	Extremely Dense

*Number of blows per foot required to drive a 2" O.D. split-spoon sampler using a 140 lb. weight falling free for 30 inches, except where otherwise noted.

COLOR-AS DETERMINED ON THE FRESH, MOIST SAMPLES

PREDOMINATE COLORS		SHADES	MODIFYING ADJECTIVES
Black	Yellow	Light	Vari-colored
Brown	Red	Dark	Steaked
Gray	Blue		Mottled

GRADATION DESCRIPTION AND TERMINOLOGY

COMPONENTS	SIZE RANGE
Boulders	Over 8 inches
Cobbles	8 inches to 3 inches
Gravel	3 inches to #4 sieve (4.75 mm)
Sand	#4 sieve to #200 sieve (0.075 mm)
Silt	Passing #200 sieve (0.075 mm) to 0.005 mm
Clay	Smaller than 0.005 mm

DESCRIPTION OF COMPONENT ALSO PRESENT IN SAMPLE	PERCENT OF DRY WEIGHT
Trace	1-9
Little	10-19
Some	20-34
And	35-50

GROUNDWATER LEVELS

Water levels are those observed when Borings were made, or as noted. Porosity of soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

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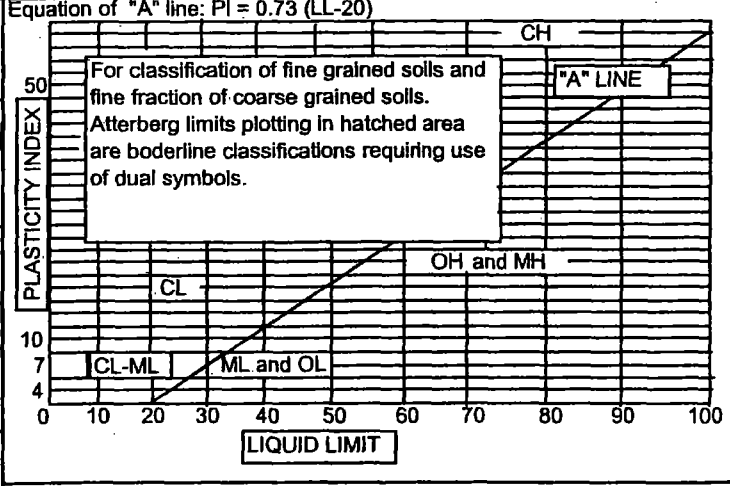
UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions			Group Symbol	Typical Names	Classification on basis of % age of fines	Laboratory Classification Criteria	
COARSE GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS 50% or more of coarse fraction retained on #4 sieve	Clean Gravels	GW	Well graded gravels and gravel-sand mixtures, little or no fines	< 5% passing #200 sieve= GW, GP, SW, SP > 12% passing #200 sieve= GM, GC, SM, SC 5% to 12% passing #200 sieve= Borderline Classifications requiring use of dual symbols	$C_u = D_{60}/D_{10}$ Greater Than 4; $C_c = \frac{(D_{30})}{D_{10} \times D_{60}}$ between 1 and 3	
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW	
		Gravels w/fines	GM	Silty gravels, gravel-sand-silt mixtures		Atterberg limits plot below "A" line or plasticity index less than 4	Atterberg limits plotting in hatched area are borderline classification requiring use of dual symbols
			GC	Clayey gravels gravel-sand-clay mixtures		Atterberg limits plot above "A" line and plasticity index greater than 7	
	SANDS More than 50% of coarse fraction passes #4 sieve	Clean Sands	SW	Well graded sands and gravelly sands, little or no fines		$C_u = D_{60}/D_{10}$ Greater Than 4; $C_c = \frac{(D_{30})}{D_{10} \times D_{60}}$ between 1 and 3	
			SP	Poorly graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW	
		Sands w/fines	SM	Silty sands sand-silt mixtures		Atterberg limits plot below "A" line and platicity index less than 4	Atterberg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands sand-clay mixtures		Atterberg limits plot above "A" line and plasticity index greater than 7	
FINE GRAINED SOILS 50% or more passes No. 200 sieve	SILTS & CLAYS Liquid Limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands			
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	SILTS & CLAYS Liquid Limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts elastic silts			
			CH	Inorganic clays of high plasticity Fat clays			
			OH	Organic clays of medium to high plasticity			
HIGHLY ORGANIC SOILS			PT	Peat, Muck and other highly organic soils			



Liquid Limit **Plasticity Index Chart**

WEAVER BOOS & GORDON, INC.
ENVIRONMENTAL & GEOTECHNICAL CONSULTANTS

Boring No.: B-1 | **File No.:** 0566-01-19 | **Page 1 of 1**

Project Name: Nature Park 2000
Location of Project: Michigan City, Indiana
Client Information: Haas & Associates

Water Level Data	Date/Time	Boring Information		Boring Location
19 Ft. While Drilling (below ground surface) (approximate)	Date Started: 1-12-01 Time: 1300	Drilling Co.: Top Flight	Drill Meth.: ATV D-50	STA. NA
___ Ft. at Completion (below ground surface)	Date Comp: 1-12-01 Time: 1545	Driller: M.C.	Sampling Meth. SPT	O/S NA
		Helper: R.J.	Type of Hammer: Automatic	ELE. 608.55'
		Logged By: C.H.		

Depth (ft.)	Lithology	Lithology Description	Samp. Interval	Sample No.	Blows/6in. (N Value)	Moisture	Moisture (%)	Penetrometer (tsf)	Recovery (in.)	Recovery %	Notes
0		FILL: loose brown sand and silty sand with roots mixed with brown and gray sandy silty clay		1	3-3-1 (4)				0		
				2	3-2-2 (4)				0		
5		REFUSE: paper, cardboard, wood, bottles (odor), glass mixed with brown and dark brown sand to silty sand		3	3-5-5 (10)	moist	17.6	NA	5		
				4	5-7-7 (14)	moist	21.4		6		
10				5	6-4-2 (6)				0		
				6	4-1-4 (5)		100.5		0		
15		Very soft brown, gray, and dark gray ORGANIC SILT with trace to little clay, shells and gravel (OH)		7	1-0-1 (1)	wet	92.9	NA	16		
20				8	1-1-0 (1)	wet	28.8	NA	18		
25				9	1-0-1 (1)	moist	32.5	NA	18		
30		Very soft brown, gray, and dark gray ORGANIC CLAYEY SILT with trace sand, peat and shells (OH)		10	1-1-1 (2)	moist	35.2	NA	16		
35				11	1-1-2 (3)	moist	32.3	NA	18		
40				12	1-2-2 (4)	wet	29.1	NA	12		
45		Very loose to medium dense gray fine to medium SAND with little silt (SM)		13	3-1-2 (3)	wet	20.2	NA	8		
50				14	2-4-6 (10)	wet	20.5	NA	12		
55		Loose grayish brown fine to coarse SAND with trace silt (SP-SM)		15	4-5-4 (9)	wet	21.2	NA	18		
60		Medium dense to dense gray fine to medium SAND with trace to little silt (SP-SM to SM)		16	7-11-22 (33)	wet	20.8	NA	6		
65				17	6-13-16 (29)	wet	22.1	NA	18		
70				18	7-10-12 (22)	wet	22.1	NA	16		
75		*Boring Terminated at 75 ft.*									

WEAVER BOOS & GORDON, INC.
ENVIRONMENTAL & GEOTECHNICAL CONSULTANTS

Boring No.: B-2 | **File No.:** 0566-01-19 | **Page 1 of 1**

Project Name: Nature Park 2000
Location of Project: Michigan City, Indiana
Client Information: Ilaas & Associates

Water Level Data	Date/Time	Boring Information		Boring Location
26 Ft. While Drilling (below ground surface) (approximate)	Date Started: 1-12-01	Drilling Co.: Top Flight	Drill Meth.: ATV D-50	STA. NA
___ Ft. at Completion (below ground surface)	Time: 0830	Driller: M.C.	Sampling Meth. SPT	O/S NA
	Date Comp: 1-12-01	Helper: R.J.		
	Time: 1230	Logged By: C.H.	Type of Hammer: Automatic	ELE. NA

Depth (ft.)	Lithology	Lithology Description	Samp. Interval	Sample No.	Blows/6in. (N Value)	Moisture	Moisture (%)	Penetrometer (tsf)	Recovery (in.)	Recovery %	Notes
0		FILL: dark brown silty sand with roots		1	4-1-2 (3)	moist	24.8	NA	1		
		REFUSE: dark brown sand mixed with wood, cans, paper, and plastic		2	2-4-7 (11)			NA	0		
5				3	1-2-6 (8)	moist	51.0	NA	1		
				4	2-1-2 (3)	wet	22.3	NA	14		
10		Very soft brown and gray ORGANIC SILT with little sand and trace clay and shells (OH)		5	1-1-1 (2)	wet	30.1	NA	12		
				6	1-1-0 (1)	moist	102.6	NA	18		
15		Very soft brown ORGANIC SILT with trace shells and clay (OH) (seams of dark brown peat in SS#-8) (trace wood in SS#-9)									
				7	1-0-1 (1)	moist	47.0	NA	18		
20											
				8	2-1-0 (1)	moist	57.4	NA	18		
25											
				9	2-0-1 (1)	moist/ wet	33.3	NA	18		
30											
		Very soft brown and gray ORGANIC CLAYEY SILT with trace sand and peat seams (OH)		10	0-0-0 (0)	moist	92.3	NA	18		
35											
				11	1-1-1 (2)	moist	43.7	NA	18		
40											
				12	1-1-1 (2)	moist	34.5	NA	18		
45											
		Loose brown and gray fine to coarse SAND with some fine gravel and little silt (SM)		13	3-5-4 (9)	wet	13.6	NA	18		
50											
		Medium dense brown and gray SAND and fine to medium GRAVEL with trace silt (SP-SM)		14	6-8-10 (20)	wet	14.8	NA	10		
55											
		Medium dense to dense grayish brown fine to medium SAND with trace silt and fine to medium gravel (SP-SM)		15	6-13-24 (37)	wet	23.2	NA	10		
60											
				16	7-9-19 (28)	wet	19.6	NA	12		
65											
				17	7-9-16 (25)	wet	18.6	NA	18		
		Boring Terminated at 70 ft.									
75											

WEAVER BOOS & GORDON, INC.

JOB NUMBER	0566-01-19
PROJECT	Nature Park 2000
DATE	January 3, 2001

TEST PIT FIELD LOG TP-1

Job Name and Location **Nature Park 2000, Michigan City, IN**

Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	8:50 AM	contractor	City of Michigan City	make	Case
Time Completed	9:10 AM	operator	Darien Westehal	model	580
Ground Elevation	611.82	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Qp	Sample No.
0	Brown and dark brown silty sand with roots and gravel	M	M		
1'		7.3%			Sample #1 at 18"
2'					
3'	3"8" Refuse - cans, plastic (odor), glass, wire, wood, cardboard, grill mixed with sand	M	M		
4'	and silty sand .				
5'					
6'					
7'					
8'					
	8'3"				
9'	Bottom of Pit				
10'					
11'					
12'					
13'					
14'					

QP = Calibrated Penetrometer (ton/ft^2)

REMARKS:

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time	in hours
reading	G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER 0566-01-19
PROJECT Nature Park 2000
DATE January 3, 2001

TEST PIT FIELD LOG

TP-2

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	9:15 AM	contractor	City of Michigan City	make	Case
Time Completed	9:40 AM	operator	Darien Westehal	model	580
Ground Elevation	608.32	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Qp	Sample No.
0	Brown silty sand with abundant concrete chunks (e.g., 6"x2'x1') (4'x2'x1'), asphalt concrete debris.	D/M	D		
1'					
2'					
3'					
4'					
5'		9.5%			Sample #1 at 4'11"
6'					
7'	7'7"				
8'	Bottom of Pit				
9'					
10'					
11'					
12'					
13'					
14'					

QP = Calibrated Penetrometer (ton/ft^2)

REMARKS:

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time to reading	N/A hours G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER 0566-01-19
PROJECT Nature Park 2000
DATE January 3, 2001

TEST PIT FIELD LOG

TP-3

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	9:15 AM	contractor	City of Michigan City	make	Case
Time Completed	9:40 AM	operator	Darien Westehal	model	580
Ground Elevation	607.47	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Q_c tsf	Sample No.
0	Very loose brown and dark brown sand and silty sand with roots	M/D 10.9%	M	5	Sample #11 at 12" 4" Frost
1'	1' Refuse- Burnt wood, plastic mixed with sand and silty sand (brown) odor, metal, glass, 2x4's	M/D	M	9 ↓ 50	
2'					
3'					
4'					
5'					
6'					
7'					
8'	8'6"				
9'	Bottom of Pit				
10'					
11'					
12'					
13'					
14'					

Q_c = Static cone penetrometer in tons/ft^2

REMARKS:

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time	in hours
reading	G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER 0566-01-19
PROJECT Nature Park 2000
DATE January 3, 2001

TEST PIT FIELD LOG

TP-4

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	10:35 AM	contractor	City of Mighigan City	make	Case
Time Completed	10:55 AM	operator	Darien Westehal	model	580
Ground Elevation	608.77	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Q_c tsf	Sample No.
0	Very loose brown sand and silty sand with roots	M/D 5.0%	M	7	Sample #1 at 6"
1'	1'2" Refuse - Black plastic strips, wood, metal, paper, bottles.	M/D	M	11	
2'					
3'					
4'					
5'					
6'					
7'					
8'					
	8'8"				
9'	Bottom of Pit				
10'					
11'					
12'					
13'					
14'					

Q_c = Static cone penetrometer in tons/ft^2

REMARKS:
20' (±) above water in creek

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time to reading	in N/A hours G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER **0566-01-19**
PROJECT **Nature Park 2000**
DATE **January 3, 2001**

TEST PIT FIELD LOG

TP-5

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

Weather	Cloudy 20°	EXCAVATION EQUIPMENT			
Time Started	10:15 AM	contractor	City of Michigan City	make	Case
Time Completed	10:35 AM	operator	Darien Westehal	model	580
Ground Elevation	608.29	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Qp	Sample No.
0	Dark brown silty sand with roots mixed with very stiff gray/brown silty clay after 18"	M/D	M		
1'		20.50%		Qp = 3.8 at 18"	Sample #1 at 18"
2'	2"7" Refuse (odor) mixed with brown sand and silty sand, cans, plastic, wood, tire, hose	M/D	M		Dark color and burnt below 6' (±)
3'					
4'					
5'					
6'					
7'					
8'					
9'	9'4"				
10'	Bottom of Pit				
11'					
12'					
13'					
14'					

QP = Calibrated Penetrometer (ton/ft²)

REMARKS:

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time	in hours
reading	G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER **0566-01-19**
PROJECT **Nature Park 2000**
DATE **January 3, 2001**

TEST PIT FIELD LOG

TP-6

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	11:45 AM	contractor	City of Michigan City	make	Case
Time Completed	12:15 PM	operator	Darien Westehal	model	580
Ground Elevation	606.61	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Q_c tsf	Sample No.
0	Dark brown sand and silty sand with roots mixed with brown and gray silty clay.	D/M 15.2%	M		Sample #1 at 17" LOI = 5.2%
1'					
2'	2'7" Refuse - mixed with sand and silty sand, plastic, paper, cans (odor).	D/M	M	16	
3'					
4'					
5'					
6'					
7'					
8'					
9'	9' Bottom of Pit				
10'					
11'					
12'					
13'					
14'					

Q_c =

REMARKS:
Organic content at 17" = 5.2% (LOI Test)

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time	in hours
reading	G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER 0566-01-19
PROJECT Nature Park 2000
DATE January 3, 2001

TEST PIT FIELD LOG

TP-7

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	11:15 AM	contractor	City of Michigan City	make	Case
Time Completed	11:45 AM	operator	Darien Westehal	model	580
Ground Elevation	608.55	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Q_c tsf	Sample No.
0	Loose brown sand and silty sand with roots mixed with brown and gray sandy silty clay.	D/M 10%	M		Sample #1 at 12"
1'	1'11" Refuse - Paper, cardboard, wood, bottles (odor), glass mixed with brown and dark brown sand to silty sand.	D/M	M		
2'					
3'					
4'					
5'					
6'					
7'					
8'	8'6"				
9'	Bottom of Pit				
10'					
11'					
12'					
13'					
14'					

Q_c = Static cone penetrometer in tons/ft^2

REMARKS:
Boring B-1 advanced here.

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time to reading	in N/A hours G.W.L.

WEAVER BOOS & GORDON, INC.

JOB NUMBER 0566-01-19
PROJECT Nature Park 2000
DATE January 3, 2001

TEST PIT FIELD LOG

TP-8

Job Name and Location **Nature Park 2000, Michigan City, IN**
Architect **Haas & Associates** WBC Engineer **C. Bosy** Date **01/03/01**

		EXCAVATION EQUIPMENT			
Weather	Cloudy 20°				
Time Started	11:00 AM	contractor	City of Michigan City	make	Case
Time Completed	11:15 AM	operator	Darien Westehal	model	580
Ground Elevation	N/A	capacity	1/4 c.y.	reach	12 ft.

DEPTH	FILL DESCRIPTION	water content	excav. effort	Qp	Sample No.
0	Dark brown silty sand with roots	M/D	M		
1'	1' Refuse - Dark brown sand mixed with wood, cans, paper, plastic	M/D	M		
2'					
3'					
4'					
5'					
6'					
7'					
8'					
9'	9'5"				
10'	Bottom of Pit				
11'					
12'					
13'					
14'					

QP = Calibrated Penetrometer (ton/ft^2)

REMARKS:
At Bridge
Boring B-2 advanced here.

PROPORTIONS USED	
trace(t)	0-10%
little(lt.)	10-20%
some(sm)	20-35%
and	35-50%

ABBREVIATION
FN-Fine
M-Medium or Moist
C-Coarse
D-Damp
V-Very
Gr.-Gray
Brn.-Brown
Yel.-Yellow

EXCAVATION EFFORT
E-Easy
M-Moderate
D-Difficult

GROUNDWATER	
Elapsed time to reading	N/A hours in G.W.L.

Weaver Boos & Gordon, Inc.
ENVIRONMENTAL & GEOTECHNICAL CONSULTANTS

File: 0566-01-19
Log of Soil Boring: G-1
Client: Haas & Associates
Michigan City, Indiana
Project: Nature Park 2000
Michigan City, Indiana

WATER LEVEL DATA
5.0 Ft WHILE DRILLING
____ Ft AT COMPLETION
____ Ft AT ____ HOURS AFTER DRILLING

Started: 01/05/01
Completed: 01/05/01
Driller: K. Hoffman
Helper: T. McGarry
Location: See Figure 1

DEPTH (ft)	STRATA DEPTH/SOIL DESCRIPTION	SAMPLE DATA: SAMPLE NO.	q_c (tsf)	Qp (tsf)	WATER CONTENT (%)
1.0	Very loose brown/dark brown fine to medium silty sand trace fine to medium gravel and roots (SM-OL)		4		24.3
2.0			3		
3.0	2.0 Medium stiff brown very silty clay, little sand, trace roots (CL-ML)		4		34.6
4.0			9		
5.0			9		28.1
6.0	4.5 Very loose, brown to gray silty sand (SM) Becoming very soft, organic and clayey with depth (OH)		7		
7.0			1		25.9
8.0			1		
9.0			1		
10.0			1		
11.0			1		
12.0			1		
13.0			1		
14.0	13.0 Very soft brown organic clayey silt trace shells (OH)		1		106.8
15.0			1		
16.0	15.0 End of Probe				
17.0					
18.0					
19.0					
20.0					

NOTES: q_c = Static Cone Penetrometer Value in tons per square foot
Q_p = Unconfined compressive strength with a calibrated penetrometer in tons per square foot

Weaver Boos & Gordon, Inc.
ENVIRONMENTAL & GEOTECHNICAL CONSULTANTS

File: 0566-01-19
Log of Soil Boring: G-2
Client: Haas & Associates
Michigan City, Indiana
Project: Nature Park 2000
Michigan City, Indiana

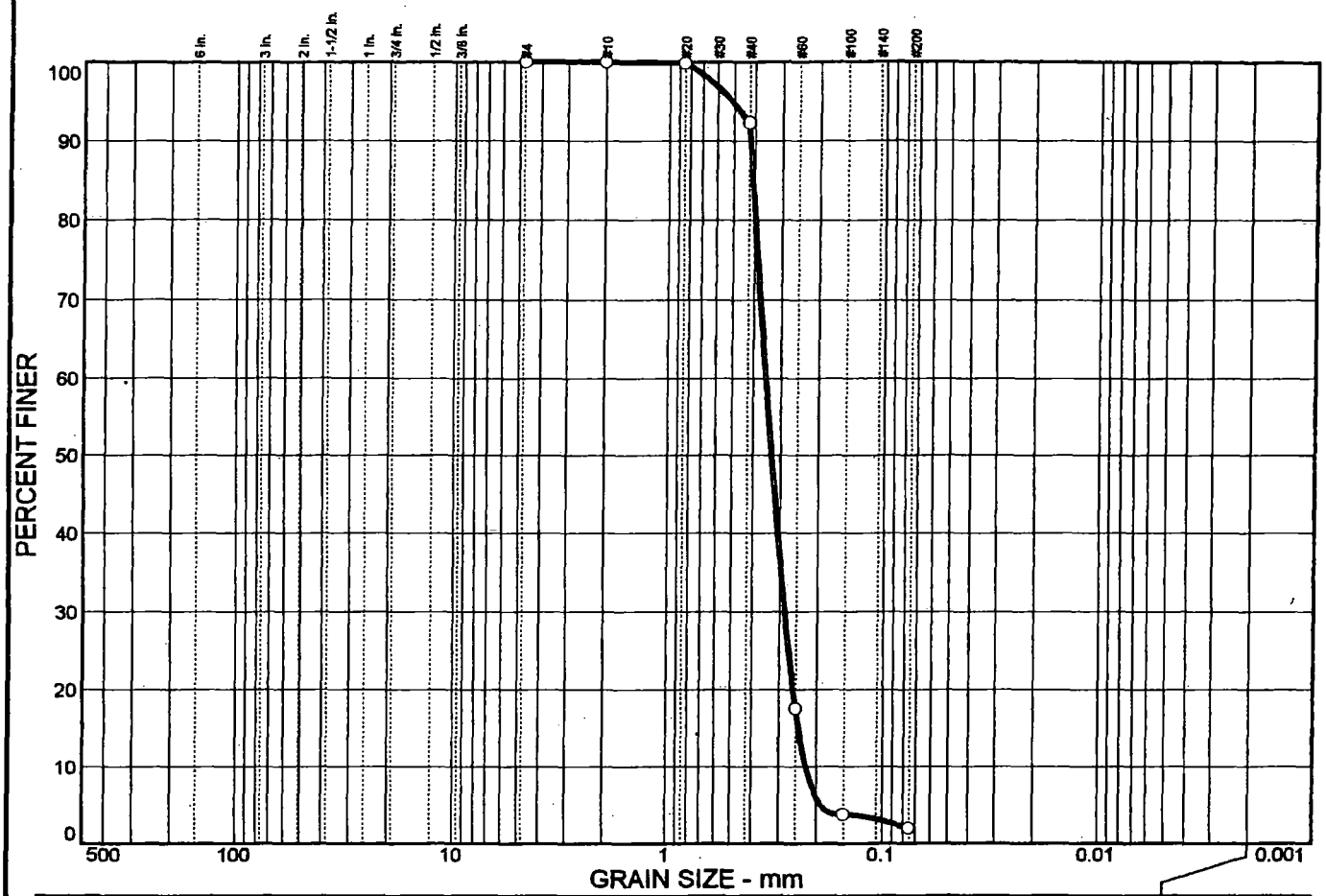
WATER LEVEL DATA
6.5 Ft WHILE DRILLING
____ Ft AT COMPLETION
____ Ft AT ____ HOURS AFTER DRILLING

Started: 01/05/01
Completed: 01/05/01
Driller: K. Hoffman
Helper: T. McGarry
Location: See Figure 1

DEPTH (ft)	STRATA DEPTH/SOIL DESCRIPTION	SAMPLE DATA: SAMPLE NO.	q_c (tsf)	Qp (tsf)	WATER CONTENT (%)
1.0	Topsoil (OL-OH)		11		6.4
2.0	1.5		12		
3.0	Loose brown fine to medium sand trace silt and fine gravel (SP- SM)		11		
4.0	3.0		7		
5.0	Very loose, brown and dark brown silty organic sand trace clay (OL)		6		43.2
6.0			8		
7.0			6		
8.0			6		
9.0			9		
10.0	9.0		12		116.5
11.0	Very loose, brown organic silty sand trace shells (OL) grading to brown organic clayey silt trace shells (OH)		1		
12.0			1		
13.0			1		
14.0			1		
15.0			1		74.5
16.0	15.0 End of Probe				
17.0					
18.0					
19.0					
20.0					

NOTES: q_c = Static Cone Penetrometer Value in tons per square foot
Q_p = Unconfined compressive strength with a calibrated penetrometer in tons per square foot

Particle Size Distribution Report



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	98.0	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	92.3		
#60	17.5		
#100	3.8		
#200	2.0		

* (no specification provided)

Soil Description

GRAYISH BRN F/M SAND, TR SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.407 D_{60}= 0.350 D_{50}= 0.328
D_{30}= 0.283 D_{15}= 0.242 D_{10}= 0.223
C_u= 1.57 C_c= 1.03

Classification

USCS= SP AASHTO= A-3

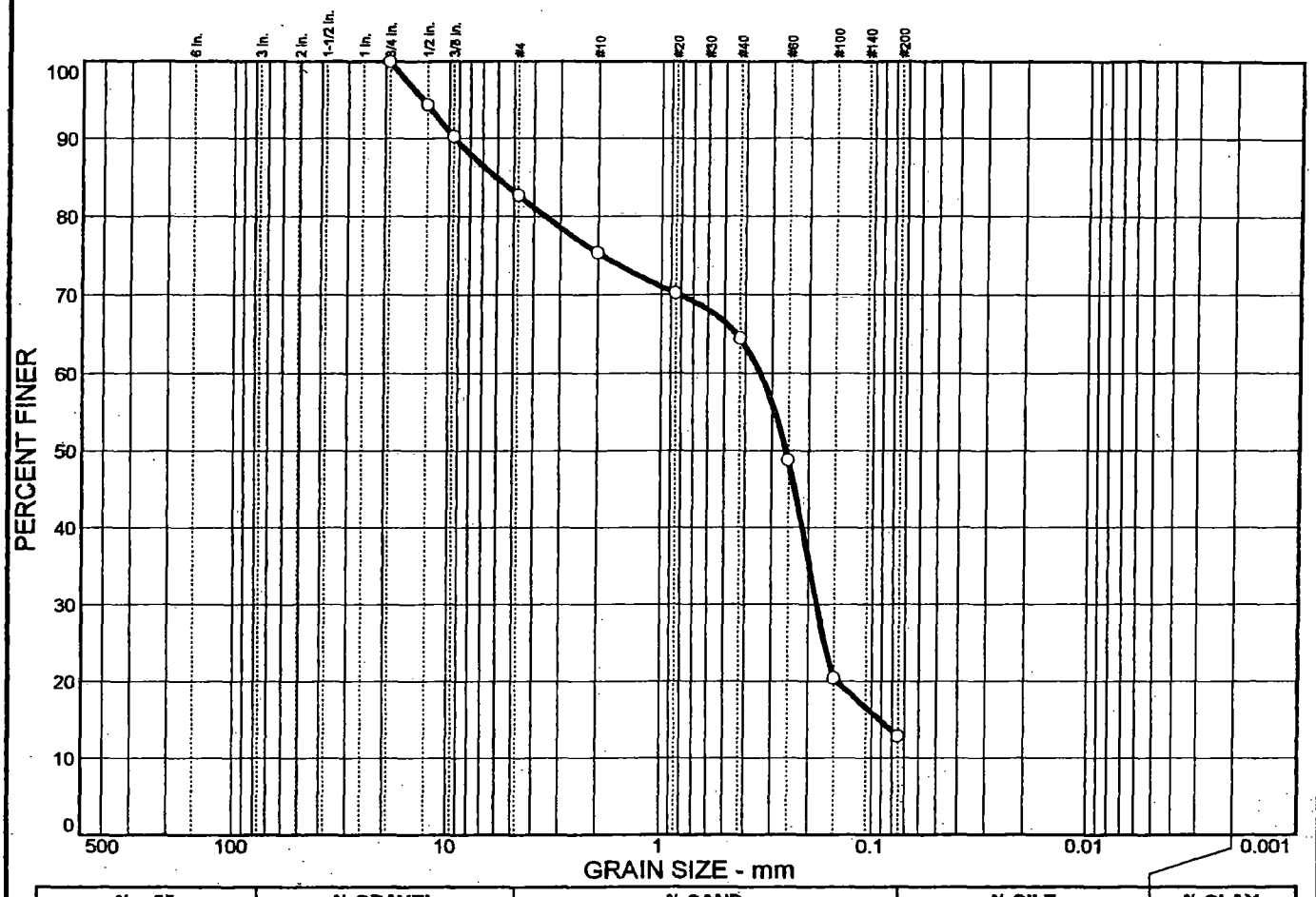
Remarks

Sample No.: S-15 **Source of Sample:** B-7 **Date:** 1-19-01
Location: MICHIGAN CITY, IN **Elev./Depth:** 60.0'

Weaver Boos & Gordon, Inc.

Client: HAAS & ASSOCIATES
Project: NATURE PARK 2000
Project No: 0566-01-19 **Plate**

Particle Size Distribution Report



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	17.3	69.9	12.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75 in.	100.0		
.5 in.	94.4		
.375 in.	90.2		
#4	82.7		
#10	75.4		
#20	70.2		
#40	64.4		
#60	48.8		
#100	20.4		
#200	12.8		

* (no specification provided)

Soil Description

BRN F/C SILTY SAND, LITTLE F/M GRAVEL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 6.06 D_{60}= 0.340 D_{50}= 0.256
D_{30}= 0.181 D_{15}= 0.0917 D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sample No.: S-1 **Source of Sample:** TP-2 **Date:** 1-5-01
Location: MICHIGAN CITY, IN **Elev./Depth:** 4'11"

Weaver Boos & Gordon, Inc.

Client: HAAS & ASSOCIATES
Project: NATURE PARK 2000
Project No: 0566-01-19 **Plate**

GENERAL QUALIFICATIONS

This report has been prepared at the request of our client for his use on this project. The work, including the field work, laboratory testing, and engineering analysis, was performed in accordance with generally accepted Geotechnical Engineering practices. For this study, we were not retained to address environmental or land use restriction concerns. This warranty is in lieu of all other warranties either expressed or implied.

This report may not contain sufficient information for purposes of other parties or other uses. Should there be any sufficient differences in structural arrangement, loading or location of the structure, our analysis should be reviewed.

The analysis, conclusions, and recommendations contained in our report are based on site conditions as they existed at the time of our exploration and further assume that the borings are representative of the subsurface conditions throughout the site.

If during construction, different subsurface conditions from those encountered during our exploration are observed or appear to be present beneath excavations, we must be advised promptly so that we can review these conditions and reconsider our recommendations where necessary.

If there is a substantial lapse of time between the submission of our report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, we urge that our report be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse.

We urge that we be retained to review those portions of the plans and specifications that pertain to earthwork and foundations to determine whether they are consistent with our recommendations. In addition, we are available to observe construction, particularly the compaction of structural backfill and preparation of the foundations, and such other field observations as may be necessary.

In order to fairly consider changed or unexpected conditions that might arise during construction, we recommend the following verbiage to included in the project contract.

STANDARD CLAUSE FOR UNANTICIPATED SUBSURFACE CONDITIONS

The owner has had a subsurface exploration performed by a Geotechnical consultant, the results of which are contained in the consultant's report. The consultant's report presents his conclusions on the subsurface conditions based on his interpretation of the data obtained in the exploration. The contractor acknowledges that he has reviewed the consultant's report and any addenda thereto, and that his bid for earthwork operations is based on the subsurface conditions as described in that report. It is recognized that a subsurface exploration may not disclose all conditions as they actually exist and further, conditions may change, particularly groundwater conditions, between the time of a subsurface exploration and the time of earthwork operations. In recognition of these facts, this clause is entered in the contract to provide a means of equitable additional compensation for the contractor if adverse unanticipated conditions are encountered and to provide a means of rebate to the owner if the conditions are more favorable than anticipated.

Should the contractor encounter conditions that are different than those anticipated by the Geotechnical consultant's report at any time during construction operations, he shall immediately (within 24 hours) bring this fact to the owner's attention. If the owner's representative on the construction site observes subsurface conditions which are different than those anticipated by the consultant's report, he shall immediately (within 24 hours) bring this fact to the contractor's attention. Once a fact of unanticipated conditions has been brought to the attention of either the owner or the contractor, and the consultant has concurred, immediate negotiations will be undertaken between the owner and the contractor to arrive at a change in contract price for additional work or reduction in work. The contractor agrees that the following unit prices would apply for additional or reduced work under the contract. For changed conditions in which unit prices are not provided, the additional work shall be paid for on a time and material basis.

ATTACHMENT H

GREENSPACE PROJECT IDEM VRP APPLICATION

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

Advanced Pollution Technologists, Limited
• Environmental Consultants •

November 16, 2001

Indiana Department of Environmental Management
Attn.: Cashiers Office
Voluntary Remediation Program
100 N. Senate Ave.-IGCN
P.O. Box 7060
Indianapolis, Indiana 46206-7060

Transmittal – Voluntary Remediation Program Application
Former Municipal Landfill Site
Michigan City, Indiana
APT Project No. 312-01

To Whom It May Concern:

On behalf of the Michigan City Parks & Recreation Department (MCP&R), APT, Limited (APT) is submitting the attached application to enter the above-referenced site into the Indiana Voluntary Remediation Program (VRP). The objective of entering this site into the VRP is to obtain a Certificate of Completion from the IDEM and Covenant not to Sue from the Indiana Governor's Office for groundwater potentially impacted by volatile organic compounds, semivolatile organic compounds, and metals at the site. A check in the amount of $1,000 is also attached to cover the application fee, as required by Indiana Code 13-25-5-2. A site map is included as Appendix A to the application. A site legal description is included as Appendix C to the application. An analytical data summary table for groundwater is attached as Appendix C to this application.

If you have any questions regarding the VRP application, please do not hesitate contacting either Mr. Terry Zeller of the MCP&R at (219) 873-1506 or Mr. John Klanke of APT at (219) 257-8196. The MCP&R and APT appreciate your consideration of the attached VRP application.

Respectfully Submitted,

John E. Klanke, P.G.
Project Manager

Attachments: VRP Application
$1,000 Check (application fee)

cc: Mr. Terry Zeller (MCP&R)

S:\APT LTD\Projects - Active\MI City Parks and Recreation 312\IDEM - VRP Application Cover Letter.doc

3505 N. Home St., Suite 100
Mishawaka, IN 46545-4321
(219) 257 - 8196
(219) 257 - 8595 (FAX)

125 Windsor Dr., Suite 112,
Oak Brook, IL 60521-1536
(630) 573 - 8551
(630) 573 - 8584 (FAX)

State Form 47271 (8-95) **CONFIDENTIAL** Approved by State Board of Accounts, 1995

Voluntary Remediation Program Application

RETURN COMPLETED APPLICATION TO:
Indiana Department of Environmental Management
Office of Environmental Response,
Voluntary Remediation Program
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 308 - 3106

Facility ID Number (IDEM use only)	
Account Number	2680 110000
EPA ID Number	

Pursuant to Indiana Code 13-25-5-2 (prior to July 1, 1996, IC 13-7-8.9-7), your application to the Voluntary Remediation Program (VRP) will receive confidential treatment. Neither the application nor any information which comes from the application will be made available to the public. However, any material submitted to or generated by the VRP after your notification of eligibility, will be considered IDEM public record.

A GENERAL

SITE INVESTIGATION (CHECK ALL THAT APPLY):
○ None ⊗ Ongoing ○ Complete
○ Formal Workplan Review Requested

SITE REMEDIATION (CHECK ALL THAT APPLY):
⊗ None ○ Ongoing ○ Complete

CURRENT SITE STATUS: ○ Active ⊗ Inactive

YEARS OF OPERATION: ⊗ Unknown
Beginning Year / Ending Year

UTM COORDINATES AND TOWNSHIP, RANGE, AND SECTION: 86°51'30" W 41°42'25" N / Sec 4 Sec 4 Sec 3 Section 27 T. 38 N., R. 4 W.

B PROPERTY OWNERSHIP

VOLUNTARY CLEANUP APPLICANT

APPLICANT NAME: Michigan City Parks & Recreation Department
MAILING ADDRESS: Department of Parks
Six on the Lake
CITY: Michigan City
STATE: IN
ZIP CODE: 46360 —
TELEPHONE: (219) 873 — 1507

OPERATOR OF FACILITY

OPERATOR NAME (If Same As Applicant, Mark Oval Here ⊗)
MAILING ADDRESS
CITY
STATE
ZIP CODE —
TELEPHONE ( ) —

C FACILITY LOCATION & DESCRIPTION

FACILITY LOCATION

FACILITY NAME (If Same As Applicant, Mark Oval Here ○): Former Karwick Rd. Landfill Site
MAILING ADDRESS (If Same As Applicant, Mark Oval Here ⊗)
CITY
ZIP CODE — COUNTY

CONTACT PERSON

ORGANIZATION (If Same As Applicant, Mark Oval Here ○): Advanced Pollution Technologists, Ltd.
CONTACT PERSON (All Correspondence Will Be Sent To Person Identified): Mr. John Klanke
MAILING ADDRESS: 3505 N. Home Street, Suite 100
CITY: Mishawaka
STATE: IN
ZIP CODE: 46545 —
TELEPHONE: (219) 257 — 8196

BRIEF DESCRIPTION

UNUSUAL SITE HAZARDS / CONDITION (Check all that apply)

○ None
⊗ Other: former municipal landfill
○ Radioactivity
○ Explosive Conditions
○ Infectious Material Present
○ Confined Spaces
○ Reactive Materials
○ Off-Site Contamination

STANDARD INDUSTRIAL CLASSIFICATION (Select only one)

○ Metal Mining
○ Paper & Allied Products
○ Primary Metal Industries
○ Pipelines (Excluding Natural Gas)
○ Auto Dealers & Service Stations
○ Wholesale Trade Nondurable Goods
○ Wholesale Trade Durable Goods
⊗ Other: former municipal landfill
○ Coal Mining
○ Petroleum & Coal Products
○ Electronic Equipment
○ Oil & Gas Production
○ Auto Repair, Services & Parking
○ Rubber & Plastic Products
○ Transportation Equipment

Official State Use Only

D

CONTAMINANT INFORMATION

CONTAMINANT INFORMATION

COMPLETE A COLUMN FOR EACH CONSTITUENT TARGETED FOR VOLUNTARY REMEDIATION ATTACH ADDITIONAL SHEETS AS NEEDED

CONSTITUENT CODE ☞	VOCs	SVOCs	PPL Metals		
STORAGE *(Check only one response)*					
Surface Impoundments	○	○	○	○	○
Above Ground Drums	○	○	○	○	○
Buried Drums	○	○	○	○	○
AST	○	○	○	○	○
UST	○	○	○	○	○
Piles	○	○	○	○	○
Landfill	⊗	⊗	⊗	○	○
Landfarm	○	○	○	○	○
Open Dump	○	○	○	○	○
Other:	○	○	○	○	○
PHYSICAL STATE *(Check only one)*					
Solid	⊗	⊗	⊗	○	○
Liquid	○	○	○	○	○
Sludge	○	○	○	○	○
Powder/Fines	○	○	○	○	○
Gaseous	○	○	○	○	○
Slurry	○	○	○	○	○
Other:	○	○	○	○	○
GROSS AMOUNTS *(Check only one)*					
Number Of Drums					
Cubic Yards					
Tons					
Gallons					
Other:	Unknown, Possibly None	Unknown Possibly None	Unknown, Possibly None		
MAXIMUM LEVELS & UNITS *(Check only one)*					
ppm			46.55		
ppb	120 Total VOCs	590 Total SVOCs	Total-12 metals		
MEDIA TARGETED FOR CLEANUP *(Check only one)*					
Surface Soil	○	○	○	○	○
Subsurface Soil	○	○	○	○	○
Surface Water	⊗	⊗	⊗	○	○
Groundwater	⊗	⊗	⊗	○	○
CONTAMINANT CATAGORY *(Check only one)*					
Solvents	○	○	○	○	○
Petroleum	○	○	○	○	○
Metals	○	○	○	○	○
Organics	⊗	⊗	○	○	○
Inorganics	○	○	⊗	○	○
Acids/Bases	○	○	○	○	○
Pesticides	○	○	○	○	○
Sludge	○	○	○	○	○
Other	○	○	○	○	○

D CONTAMINANT INFORMATION

COMPLETE A COLUMN FOR EACH CONTAMINANT CATAGORY ATTACH ADDITIONAL SHEETS AS NEEDED

	☞	○	○	○	○ _____
STORAGE					
Surface Impoundments		○	○	○	○
Above Ground Drums		○	○	○	○
Buried Drums		○	○	○	○
AST		○	○	○	○
UST		○	○	○	○
Piles		○	○	○	○
Landfill		○	○	○	○
Landfarm		○	○	○	○
Open Dump		○	○	○	○
Other: _____		○	○	○	○
PHYSICAL STATE					
Solid		○	○	○	○
Liquid		○	○	○	○
Sludge		○	○	○	○
Powder/Fines		○	○	○	○
Gaseous		○	○	○	○
Slurry		○	○	○	○
Other:		○	○	○	○
GROSS AMOUNTS					
Number Of Drums		_____	_____	_____	_____
Cubic Yards		_____	_____	_____	_____
Tons		_____	_____	_____	_____
Gallons		_____	_____	_____	_____
Other:		_____	_____	_____	_____
MAXIMUM LEVELS & UNITS					
ppm		_____	_____	_____	_____
ppb		_____	_____	_____	_____
MEDIA TARGETED FOR CLEANUP					
Surface Soil		○	○	○	○
Subsurface Soil		○	○	○	○
Surface Water		○	○	○	○
Groundwater		○	○	○	○

CONSTITUENTS

(Please specify individual chemical(s) targeted for voluntary cleanup per each Waste Catagory identified above)

Priority Pollutant List volatile and semi-volatile organic compounds, and metals (Sb, As, Ba, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn)

CONTAMINANT INFORMATION

STATE FORM 47271(8-95) **CONFIDENTIAL**

FACILITY NAME Former Karwick Rd. Landfill site

E PERMITS / ENFORCEMENT INFORMATION

PERMITS/ENFORCEMENT

Does Your Facility Have Now Or Ever Had A RCRA Permit Or RCRA Interim Status?
[X] No [ ] Yes

TYPE OF PERMIT	PERMIT NUMBER	DATE ISSUED	EXPIRATION DATE

Are You Required To Investigate Or Remediate This Facility By Any Other Permit Condition, Commissioner's Order Or Condition Of Any Other Rule? [X] No [ ] Yes

Has Your Facility Had Any Past Regulatory Or Enforcement Action At The Following Levels?
(If So, Please Provide A Brief Narrative Description Below)
[ ] Federal [ ] State [ ] Local

Not Applicable

F WATER INFORMATION

WATER INFORMATION

LOCAL DRINKING WATER SUPPLY

	SURFACE	WELL
Municipal	(X)	( )
Private/Residential	( )	(X)

WATER SUPPLY DISTANCE FROM SITE
( ) Feet
( ) Mile(s)

LOCAL SURFACE WATER BODIES

Wetland(s)	Stream	River	Lake	Pond
( )	(x)	( )	( )	( )

SURFACE WATER DISTANCE FROM SITE
(X) Feet 0
( ) Mile(s)

LOCAL SURFACE WATER USE (Check all that apply)

USED	AFFECTED	POTENTIALLY AFFECTED	
(X)	( )	(X)	Reservoir, Recreation
( )	( )	( )	Irrigation
( )	( )	( )	Commercial
	( )	( )	Not Currently Used

LOCAL GROUNDWATER USE (Check all that apply)

USED	AFFECTED	POTENTIALLY AFFECTED	
( )	( )	( )	Sole SourceDrinking Water
( )	( )	(X)	Drinking Source W/ Others
( )	( )	( )	Commercial, Industrial
	( )	(X)	Not Currently Used

SITE SPECIFIC DEPTH TO GROUNDWATER
( ) Unknown 8-10 Feet

SITE SPECIFIC GROUNDWATER FLOW DIRECTION

NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	West
( )	( )	( )	( )	( )	( )	( )	(X)

WATER QUALITY USAGE DESCRIPTIONS

Local drinking water supplied by City of Michigan City municipal water system.
Trail Creek is used for recreational purposes, principally fishing.

FACILITY NAME Former Karwick Rd. Landfill Site

G CHRONOLOGICAL SUMMARY AND CONCLUSIONS

Please Provide The Following Information In As Much Detail as Space Allows. Limit The Information To The "Highlights" And Maintain A Chronological Format.

FACILITY OPERATIONAL HISTORY:

The site was historically used as a landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for an estimated 30+ years. The site is no longer being used for waste disposal purposes.

PAST SPILL HISTORY: (If No Incidents Have Occurred, Then Mark Oval Here ⊗)

SOIL INFORMATION:

The native soils underlying the approximately 8-15 feet of refuse and fill material consist of predominantly organic silts, underlain by fine to coarse grained sand at depths greater than 40 feet below the ground surface.

HYDROGEOLOGICAL INFORMATION:

Saturated conditions coincident with pre-landfill wetland/stream elevation. A second, water bearing zone occurs at approximately 45 feet below the ground surface coincident with a fine to medium grained sand unit.

OFF-SITE MIGRATION & PATHWAYS: (If Not Impacted, Then Mark Oval Here ○)

Surface water is potentially impacted via hydraulic connection with uppermost saturated zone at approximately 8-10 feet below the ground surface. Trail Creek traverses site and discharges into Lake Michigan approximately 3 1/2 miles downstream.

PROJECTED CLEANUP OBJECTIVES:

(X) CURRENTLY UNDETERMINED

○ TIER I ○ TIER II ○ TIER III

○ RESIDENTIAL ○ NONRESIDENTIAL

STATE FORM 47271(8-95) **CONFIDENTIAL**

FACILITY NAME Former Karwick Rd. Landfill Site

(H) MISCELLANEOUS ENVIRONMENTAL INFORMATION

INFORMATION RESOURCE(S) (Check All That Apply)

(X) PREVIOUS SITE STUDY: (Include Title & Date) Geotechnical Exploration (Great Lanes Engineering and Testing, Inc.; February 2001)

(X) OTHER: (Include Title & Date) Water Resource Availability in the Lake Michigan Region, Indiana (Indiana DNR, Division of Water; 1994)

( ) U.S GEOLOGICAL SURVEY
( ) SOIL CONSERVATION SERVICE
( ) REGULATORY REPORTING
(X) STATE REPORTS
( ) SITE SPECIFIC DATA
( ) OTHER GOVERNMENT AGENCIES

Do The Conditions Regarding Hazardous Substances Or Petroleum, As Described In This Confidential Application, Constitute An Imminent Or Substantial Threat To Human Health Or The Environment?

(X) No ( ) Yes (If Yes, Please Explain Below)

(I) STATEMENT OF CERTIFICATION

Pursuant to Indiana Code 13-25-5-2 (prior to July 1, 1996, IC 13-7-8.9-7), your application to the Voluntary Remediation Program (VRP) will receive confidential treatment. Neither the application nor any information which comes from the application will be made available to the public. However, any material submitted to or generated by the VRP after your notification of eligibility, will be considered IDEM public record.

I, TERRY ZELLER, Do Hereby Attest And Cerfify That The
(Print Or TypeName)
Information Included Herein Is, To The Best Of MyKnowledge And Belief, Accurate And Complete.

Terry Zeller — 10.25.01
Signature — Date

(J) APPENDICES INFORMATION

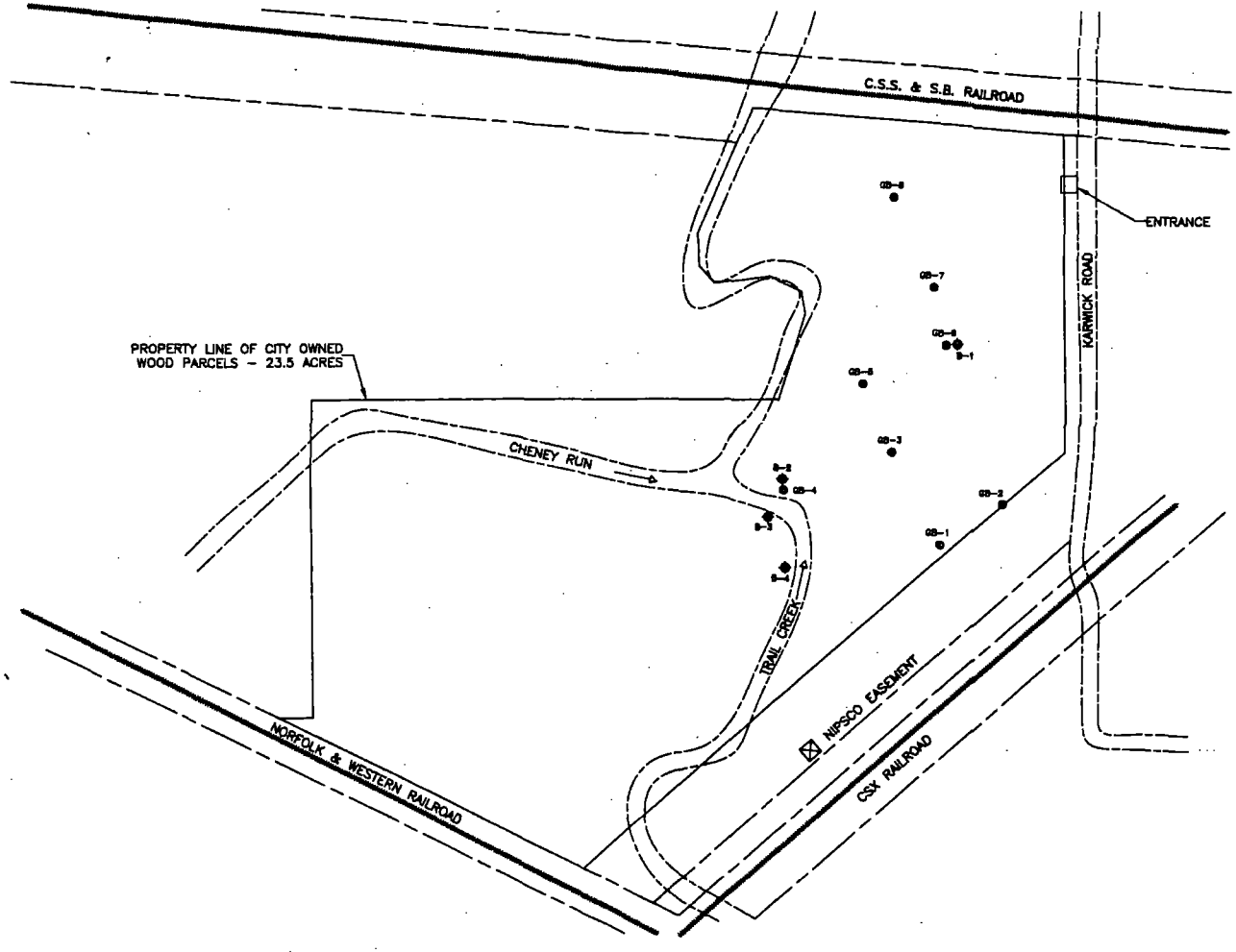
This Voluntary Application will not be considered complete unless the following Appendices are included:

APPENDIX A. SITE MAP

APPENDIX B. LEGAL DESCRIPTION (see attached map)

APPENDIX C. MISCELLANEOUS (IF NEEDED)

APPENDIX A



LEGEND

◆ B-4 APPROXIMATE SOIL BORING LOCATION

● GB-6 EARTHPROBE SOIL BORING LOCATION

APT

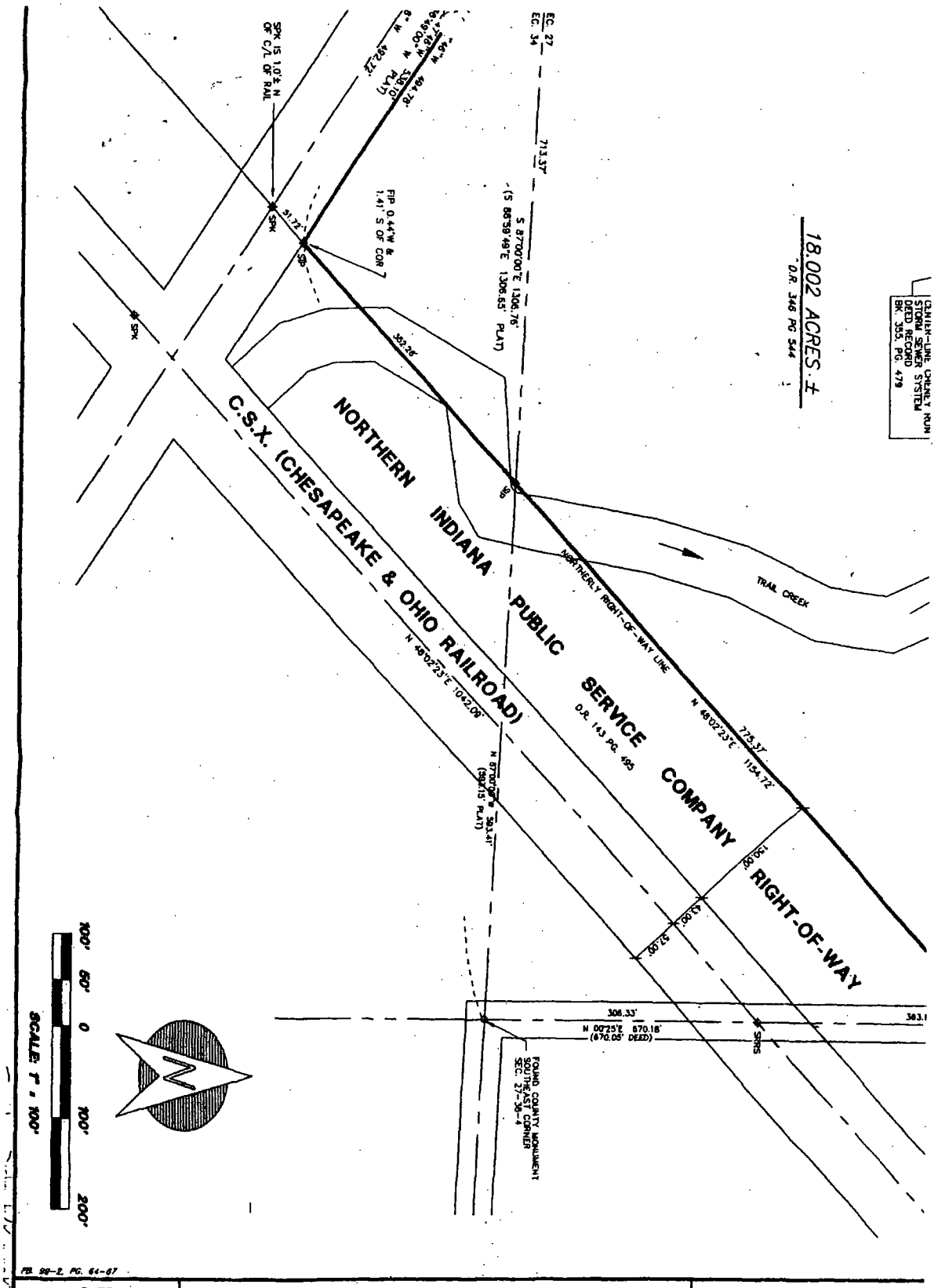
Advanced Pollution Technologists, Limited

Figure 1

SOIL BORING
LOCATION MAP

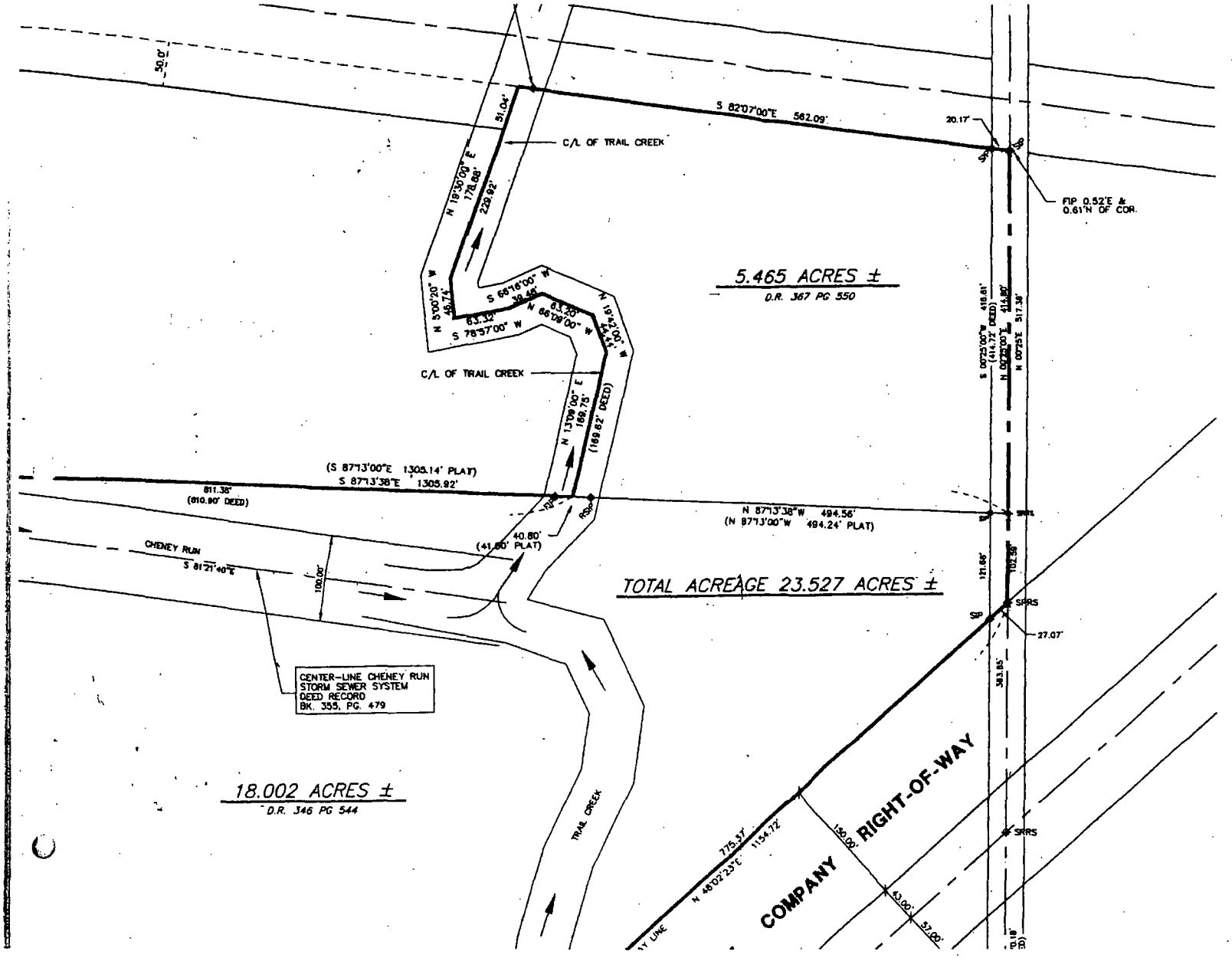
Karwick Road Site
Michigan City, Indiana
PREPARED FOR
Michigan City Parks & Recreation
Michigan City, Indiana

APPENDIX B



FB. 99-2, PG. 64-67

DATE: APRIL 10, 2000	PLAT OF SURVEY	J O H & ASS 2322 E. M
FILE NO. KARDUMP2.DWG KAR-DUM4.CRD	IN THE SOUTHEAST CORNER OF SECTION 27, TOWNSHIP 38 NORTH, RANGE 4 WEST AND THE NORTHEAST CORNER OF SECTION 34, TOWNSHIP 38 NORTH, RANGE 4 WEST, MICHIGAN CITY, LAPORTE COUNTY, INDIANA	



CERTIFIED:

INDIANA REG. P.

THIS DRAWING IS NOT TO BE ALTERED OR REPRODUCED IN WHOLE OR IN PART WITHOUT PRIOR WRITTEN AUTHORIZATION FROM JOHN A. DOYLE & ASSOC. INC. ANY CHANGES MADE TO THIS DOCUMENT WILL RENDER IT NULL AND VOID

JOHN A. DOYLE
& ASSOCIATES INCORPORATED
2322 E. MORGAN BLVD., MORGAN CITY, INDIANA
PHONE (219) 872-2221

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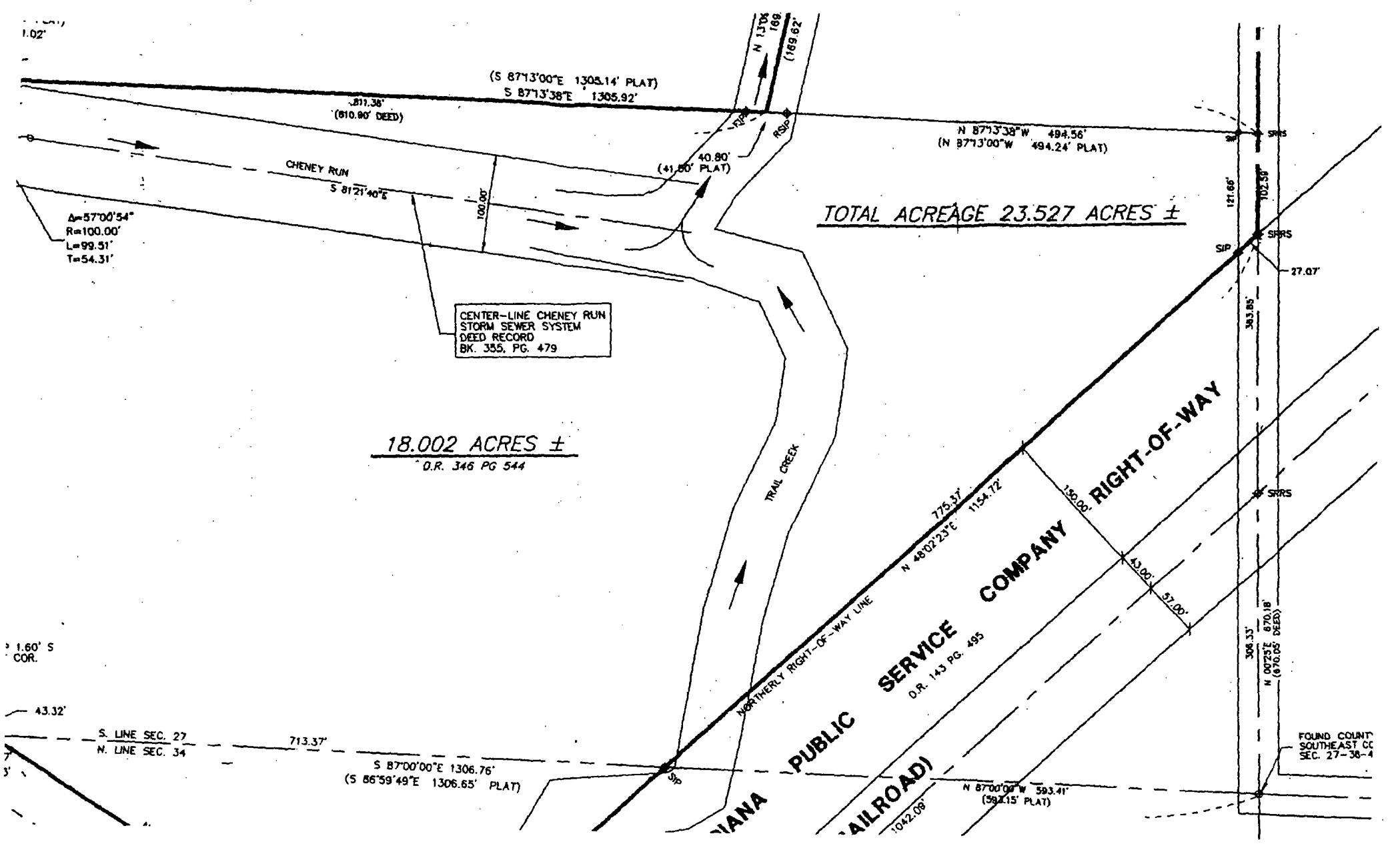

(S 87°13'00"E 1305.14' PLAT)
S 87°13'38"E 1305.92'
811.38'
(810.90' DEED)
N 87°13'38"W 494.56'
(N 87°13'00"W 494.24' PLAT)
CHENEY RUN
S 81°21'40"E
40.80'
(41.80' PLAT)
100.00'
Δ=57°00'54"
R=100.00'
L=99.51'
T=54.31'
CENTER-LINE CHENEY RUN
STORM SEWER SYSTEM
DEED RECORD
BK. 355, PG. 479
TOTAL ACREAGE 23.527 ACRES ±
18.002 ACRES ±
D.R. 346 PG 544
TRAIL CREEK
775.37'
N 48°02'23"E 1154.72'
150.00'
43.00'
57.00'
NORTHERLY RIGHT-OF-WAY LINE
PUBLIC SERVICE COMPANY RIGHT-OF-WAY
D.R. 143 PG. 495
S. LINE SEC. 27
N. LINE SEC. 34
713.37'
S 87°00'00"E 1306.76'
(S 86°59'49"E 1306.65' PLAT)
N 87°00'00"W 593.41'
(593.15' PLAT)
1042.09'
121.66'
102.59'
383.85'
306.33'
N 00°25'E 870.18'
(870.05' DEED)
27.07'
SIP
SRRS
FOUND COUNT
SOUTHEAST CO
SEC. 27-38-4
43.32'
1.60' S
COR.

APPENDIX C

Table 1
Soil and Groundwater Screening Results
Karwick Road Site
Michigan City, Indiana

	Subsurface Soil			Groundwater									
	VRP Tier II Cleanup Goals Residential Scenario (mg/kg)	VRP Tier II Cleanup Goals Non-Residential Scenario (mg/kg)	SAMPLE ID Soil (mg/kg) GB03-8'	VRP Tier II Cleanup Goals Residential Scenario (ug/L)	VRP Tier II Cleanup Goals Non-Residential Scenario (ug/L)	SAMPLE ID Groundwater (ug/L) GB01;071101	GB02;071101	GB03;071101	GB04;071101	GB05;071101	GB06;071201	GB07;071201	GB08;071201
Volatile Organic Compounds													
n-butylbenzene	NA	NA	43	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
n-propylbenzene	NA	NA	43	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
sec-butylbenzene	NA	NA	30	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.3 *	27 *	ND	100 *	2,000 *	13	ND	ND	19	ND	5.9	ND	ND
1,4-dichlorobenzene	0.897	34.67	ND	75	119.2	ND	ND	ND	5.5	ND	ND	ND	ND
Isopropylbenzene (Cumene)	NA	NA	27	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-trimethylbenzene	NA	NA	730	NA	NA	ND	8.6	ND	ND	ND	9.2	ND	ND
1,3,5-trimethylbenzene	NA	NA	66	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	9.3	ND	ND
cis-1,2-dichloroethene	17	102.49	ND	70	1,022	ND	10	ND	ND	ND	ND	ND	ND
Methylene chloride	0.023 *	1.8 *	39	5 *	380 *	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	68.147	407.48	ND	1,520	5,110	ND	ND	120	ND	ND	ND	ND	ND
Naphthalene	1,761.785	10,000	ND	1,216	4,088	8.1	8.5	ND	ND	ND	5.8	ND	ND
p-Isopropyltoluene	NA	NA	31	NA	NA	5	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	1,000	190	10,000	204,400	ND	12	ND	ND	ND	ND	ND	12
Semivolatile Organic Compounds													
Naphthalene	1,761.785	10,000	NT	1,216	4,088	ND	130	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NA	NA	NT	NA	NA	ND	330	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	16.427	1,406.25	NT	6	204.3	ND	130	ND	ND	ND	ND	ND	ND
Priority Pollutant List Metals													
Antimony	584	584	NT	6	60	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	438	438	NT	50	50	ND	0.509	0.224	ND	ND	ND	ND	ND
Barium	10,000	10,000	NT	2,000	7,154	0.516	3.93	2.86	0.154	0.56	0.166	0.257	0.383
Cadmium	730	730	NT	5	51.1	0.0155	0.0794	0.0393	ND	ND	ND	ND	0.0113
Chromium	7,300	7,300	NT	100	511	0.114	1.05	0.356	ND	ND	ND	ND	ND
Copper	580 *	1,700 *	NT	1,300 *	3,800 *	0.257	5.86	0.872	ND	ND	0.0384	ND	0.0751
Lead	81 *	230 *	NT	15 *	42 *	2.09	16.2	1.27	ND	ND	0.138	ND	0.311
Nickel	10000	10,000	NT	100	2,044	0.0966	1.02	0.436	ND	ND	ND	ND	0.0833
Selenium	7,300	7,300	NT	50	511	ND	ND	ND	ND	ND	ND	ND	ND
Silver	7,300	7,300	NT	152	511	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	2.8 *	13 *	NT	2 *	9.2 *	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	10,000	10,000	NT	9,120	30,660	1.54	17.9	4.87	ND	ND	0.569	ND	0.668
Mercury	87.6	87.6	NT	2	6.1	ND	0.0242	0.0044	ND	ND	ND	ND	ND

Note: (1) Only those constituents detected at least once are shown, with the exception of PPL metals which are all listed.
(2) Soil concentrations are in mg/kg; groundwater concentrations are in ug/L.
(3) NA = No cleanup goal available; not defined in VRP Guidance.
(4) ND = Not detected.
(5) NT = Not tested for this constituent.
(6) Cleanup Goal values flagged with an asterisk are from the Risk Integrated System of Closure Technical Resource Guidance Document (IDEM, February 2001) as there are no published values in VRP Resource Guide (IDEM, July 1996).
(7) Shaded values exceed published cleanup goals for a Non-Residential land use.

ATTACHMENT I

KARWICK ROAD NATURE PARK PROJECT
TEAM MEMBERS MEETING MINUTES

First Quarterly Progress Report
Brownfields Assessment
Demonstration Pilot
Project RENEW
City of Michigan City, Indiana
January 29, 2002

KARWICK ROAD NATURE PARK

Michigan City, Indiana

Sheila Brillson, Mayor

A cooperative project between the City of Michigan City and the Michigan City Area Schools

MEETING MINUTES

To: Mayor Sheila Brillson
cc: Chuck Edson
Dean Harmon
Meeting Attendees

From: Al Walus, Sanitary District of Michigan City
Date: May 31, 2001

Subject: KARWICK ROAD NATURE PARK
PROJECT TEAM MEETING

Date of Meeting: Wednesday, May 30, 2001
Place: Mayor's Conference Room, City Hall

Attendees:
Sheila Brillson, Mayor
Randy Hansen, Krueger Middle School
Mike McKee, Steelheaders
Terry Zeller, Park Department
Tony Rodriguez, Economic Development Director
Al Walus, Sanitary District
Tim Haas, Haas & Associates

Purpose: Review project progress and discuss upcoming tasks and timelines for the Karwick Road Nature Park.

Discussion:

1. ***Topographic Survey & Geotechnical Report***
   Haas & Associates has completed an updated topographic survey and they have received the final geotechnical exploration report from Great Lakes Engineering and Testing. In the area of the former city dump, a variable one to two foot cover exists over a ten to fifteen foot deep refuse layer. The refuse layer is identified as follows: "paper, cardboard, wood, bottles (odor), glass mixed with brown and dark brown sand to silty soil". Water that percolates through the cover and refuse layers travels horizontally towards the creek and leaches out of the creek bank.

PRINTED ON RECYCLED PAPER TO PROTECT THE ENVIRONMENT

2. ***Environmental Assessment***
   Environmental consultants have been contacted and interviewed to discuss options for conducting an environmental assessment of the property. Two proposals have been submitted and reviewed by Terry Zeller and Tim Haas.

   Action: Provide a recommendation to the Board of Public Works for approving an environmental assessment contract award at the 6/4/01 Board of Works Meeting.
   Responsibility: Terry Zeller & Tim Haas

3. ***Environmental Assessment Timeline***
   Preliminary data from the environmental assessment should be available in 6 to 8 weeks. The results should determine the necessary procedures required to comply with IDEM regulations. IDEM reviews include a 60-day review cycle and a one-step or two-step review process will be necessary.

4. ***Brownfields Assessment Pilot Grant***
   Michigan City was awarded $50,000 grant to assist with the development of the Karwick Road Nature Park. The grant award should be available in 90 days.

5. ***"Uniqueness" of Location***
   Any special features of this location, such as fish spawning, flora or fauna should be identified in order to maximize the potential uses of the Nature Park.

6. ***Educational Institution Collaborations***
   Krueger Middle School Teacher Randy Hansen distributed information on the successes other school districts have had in developing a year-round K-12 curriculum centered on on-site activities at their local nature parks.

   Another possible educational partner could be local universities.

Respectfully submitted,

Alan J. Walus

The next meeting will be scheduled once preliminary environmental assessment data is received.

Committee members will be notified of time and date.

100 E. Michigan Blvd.
Michigan City, IN 46360
(219) 873-1211
Fax: (219) 873-1595
www.mc-edc.com
Email: mcedc@mc-edc.com

Tony Rodriguez
Executive Director

Mayor Sheila Brillson
Chairman

BOARD MEMBERS

Mayor Sheila Brillson
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Robert Schaefer

Kevin Beres
Ex-officio

"For unmatched quality of life in the midwest turn to Michigan City"

January 29, 2002

Mrs. Gloria Willis
Brownfields Project Officer
Superfund Division
U.S. Environmental Protection Agency-Region 5
77 West Jackson Boulevard (SM-5J)
Chicago, Illinois 60604

SUBJECT: U.S. EPA BROWNFIELDS QUARTERLY PROGRESS REPORT FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0/REPORT NO. 1/JANUARY 29, 2002

Dear Mrs. Willis:

Enclosed is the official copy of the U.S. EPA Brownfields Quarterly Progress Report for the City of Michigan City, Indiana's Brownfields Assessment Demonstration Pilot Project RENEW (Revitalizing Environmentally Neglected Emerging Workplaces). The report also includes the required information for the City of Michigan City's Greenspace project. In addition, completed copies of the "Brownfields Pilot Profile" form and the "Brownfields Pilot Property Profile" forms have been provided.

If there are any questions or comments regarding this submittal, please contact me at 219-873-1211 or Mr. Thomas Stevenson, Project Coordinator for the City of Michigan City's U.S. EPA Brownfields Assessment Demonstration Pilot, at 219-462-7576.

Sincerely,

Anthony Rodriguez
Executive Director
Michigan City Economic Development Corporation

Attachments

cc: D. Spencer (U.S. EPA)
T. Stevenson (EI)

Brownfields Pilot Profile

Pilot Name: City of Michigan City, Indiana **Date:** Quarter 1-Oct/Nov/Dec, 2001

Address: 100 East Michigan Boulevard

City, State, Zipcode: Michigan City, Indiana 46360

Zone (Federal EC/EZ, State or Local): NA

Number of:

Properties Estimated in Pilot Area: Not reported

Properties Reported on Inventories: Not reported

Properties Targeted by Pilot: 3

Properties with Assessments Started: 3

Properties with Assessments Completed: 0

Properties that do not Require Cleanups: Currently unknown

Properties with Cleanup Activities Started: 0

Properties with Cleanup Activities Completed: 0

Properties with Redevelopment Underway: 0

Redevelopment Jobs Leveraged: 0

Redevelopment/Construction Dollars Leveraged: 0

Cleanup/Construction Jobs Leveraged: 0

Cleanup Dollars Leveraged: 0

Brownfields Pilot Property Profile

Property Name: Royal Metals

Address: 600 North Carroll Avenue

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 3.75 acres

Site Description/History/Ownership: The site (with an approximately 89,000 square foot building) was used from approximately 1929-1982 for manufacturing metal furniture. Identified historical operations/facilities included: manufacturing, nickel plating, assembly, upholstering, woodworking, warehouse, machine shop, painting, shipping and office activities. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: Pilot project was introduced at the Michigan City Westside/Eastside Target Team Meeting. Meetings/discussions with representatives from the Michigan City Area Schools to discuss the project and the potential involvement of Michigan City area students (via informational presentations/ demonstrations, etc.).

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: __X__No ___ Yes Date: (quarter/mo/year) _____

Phase I funded by ☒EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): __X__No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Brownfields Pilot Property Profile

Property Name: Schmock Oil Company

Address: 1111 West Garfield Street

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: One acre

Site Description/History/Ownership: The site (with an approximately 24,000 square foot building) was originally used for sheet rock manufacturing and then as a facility that blended/stored fuels, oils, petroleum products and solvents. In 2000, the U.S. EPA conducted an Emergency Response & Time Critical Removal Action at the facility to remove over 200 drums and 25 large storage tanks containing solvents and flammable liquids. The property is currently unused. The property is tax delinquent, and buildings on the site have been condemned by the City of Michigan City due to their poor structural condition.

Planned reuse: Currently unknown.

Communities/groups involvement: Pilot project was introduced at the Michigan City Westside/Eastside Target Team Meeting. Meetings/discussions with representatives from the Michigan City Area Schools to discuss the project and the potential involvement of Michigan City area students (via informational presentations/ demonstrations, etc.).

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: ___No __X__Yes Date: Quarter 1/December/2001

Phase I Site Assessment Completed: __X__No ___ Yes Date: (quarter/mo/year) _____

Phase I funded by ☒ EPA Pilot $1,500 ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): __X__No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $ Unknown ☐Federal ☐Local, ☐State, ☐Private $_____

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

Greenspace Pilot Property Profile

Property Name: Former Karwick Road Municipal Landfill

Address: Karwick Road

City, State, Zipcode: Michigan City, Indiana 46360

Site Acreage: 23.5 acres

Site Description/History/Ownership: The site was formerly used as a Michigan City municipal landfill. The landfill area was covered with a several foot layer of fill material (mainly sand) and has been abandoned for approximately 30 years. The site is no longer used for waste disposal purposes and is owned by the City of Michigan City.

Planned reuse: Greenspace for the Karwick Road Nature Park.

Communities/groups involvement: Meetings/discussions with representatives of the City of Michigan City, Michigan City Area Schools, the Steelheaders and the International Brotherhood of Electrical Workers regarding the progress of the project and their involvement in the nature park. Conceptual plan for the Karwick Road Nature Park was developed.

SUPPLEMENTAL INFORMATION:

Phase I Site Assessments Started: __X__No ___Yes Date: (quarter/mo/year) Not conducted

Phase I Site Assessment Completed: __X__No ___ Yes Date: (quarter/mo/year) Not conducted

Phase I funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

QAPP: __X__No ___ Yes Date: (quarter/mo/year) _____

Sampling Plan(s): __X__No ___ Yes Date: (quarter/mo/year) _____

Phase II Site Assessment Started: ____No __X__Yes Date: Quarter 1/Jan- Dec, 2001

Phase II Site Assessment Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Phase II funded by ☒ EPA Pilot $36,151.15 ☐Federal ☐Local, ☐State, ☐Private $_____.

Is cleanup required? ___No ___Yes (Currently unknown)

Phase III (Remediation) Cleanup Started: __X__No ___Yes Date: (quarter/mo/year)_____

Phase III (Remediation) Cleanup Completed: __X__No ___Yes Date: (quarter/mo/year)_____

Cleanup Plans funded by ☐ EPA Pilot $_____ ☐Federal ☐Local, ☐State, ☐Private $_____.

MC-10J

NOV 20 2003

Sheila H. Brisslow, Mayor
City of Michigan City
100 East Michigan Blvd.
Michigan City, Indiana 46360

Re: Brownfield Assessment Pilot Assistance Agreement {BP975715-01}

Dear Mayor Brisslow:

I have approved your request of August 14, 2003, to extend the budget and project period through April 30, 2004, for your Brownfields Assessment Pilot award.

Please review and return a signed copy of the enclosed amendment to the Assistance Section (MC-10J) within 21 days of receipt. The second copy is for your records.

If you have any questions, please contact the Project Officer identified on page one of the assistance amendment.

Sincerely yours, SIGNED BY
PATRICIA THOMPSON, CHIEF
ASSISTANCE SECTION

Patricia A. Thompson, Chief
Assistance Section

Enclosure

cc: Tony Rodriquez, Project Manager
Thomas Stevenson, Environmental Inc.
bcc: Romona Smith, Project Officer, SM-5J
Diane Spencer, Brownfield Manager, SE-4J

Diane Spencer
08/26/03 09:53 AM

To: ROMONA SMITH
Subject: Re: Revised Work Plan/Time Extension Request

Did this request get "stuck" in processing? Just wondering on the status of the extension request.
-----Forwarded by Diane Spencer/R5/USEPA/US on 08/26/2003 09:49AM -----

To: Diane Spencer/R5/USEPA/US@EPA
From: Thomas Stevenson <tbstevenson@comcast.net>
Date: 08/25/2003 08:34AM
Subject: Re: Revised Work Plan/Time Extension Request

Diane,

Any reply from Romona regarding the revised work plan/time extension request? Thanks.

Tom

----- Original Message -----
From: <Spencer.Diane@epamail.epa.gov>
To: <Smith.Romona@epamail.epa.gov>
Sent: Monday, August 18, 2003 7:03 AM
Subject: Revised Work Plan/Time Extension Request

> Romona --
>
> I've reviewed the submitted revised work plan for the Brownfields
> Assessment Demonstration Pilot in Michigan City, IN. I've got no
> problem with extending the project period until April 30, 2004 and
> everything appears okay with the proposed work to be done.
>
> Please process as needed. Thanks.
> ----- Forwarded by Diane Spencer/R5/USEPA/US on 08/18/03 06:59 AM -----
>
> Thomas Stevenson
> <tbstevenson@comc
> ast.net> To: Diane
Spencer/R5/USEPA/US@EPA
> cc: Tony Rodriguez
<tonyr@mc-edc.com>
> 08/14/03 10:13 PM cc: Tony Rodriguez
<tonyr@mc-edc.com>
> bcc:
> Fax to:
> Subject: Revised Work
Plan/Time Extension Request
>
>
>
>
>
> Diane,
>
> Attached is the draft revised work plan/time extension request that we

> discussed a few weeks ago for your review/comment. Thanks for your
> input.
>
> Thomas Stevenson
> Environmental Inc.
> 219-462-7576(See attached file: REVISEDWORKPLAN.doc)(See attached file:
> REVISEDWORKPLAN.wpd)
>

Diane Spencer
08/18/03 07:03 AM

To: ROMONA SMITH
Subject: Revised Work Plan/Time Extension Request

Romona --

I've reviewed the submitted revised work plan for the Brownfields Assessment Demonstration Pilot in Michigan City, IN. I've got no problem with extending the project period until April 30, 2004 and everything appears okay with the proposed work to be done.

Please process as needed. Thanks.
----- Forwarded by Diane Spencer/R5/USEPA/US on 08/18/03 06:59 AM -----

Thomas Stevenson <tbstevenson@comcast.net>
08/14/03 10:13 PM

To: Diane Spencer cc: Tony Rodriguez
Subject: Revised Work Plan/Time Extension Request

Diane,

Attached is the draft revised work plan/time extension request that we discussed a few weeks ago for your review/comment. Thanks for your input.

Thomas Stevenson
Environmental Inc.

219-462-7576 REVISEDWORKPLAN REVISEDWORKPLAN.

REVISED WORK PLAN FOR THE CITY OF MICHIGAN CITY, INDIANA'S BROWNFIELDS ASSESSMENT DEMONSTRATION PILOT/ASSISTANCE ID NO. BP-97571501-0

BROWNFIELD PILOT

WORK TASKS

Former Schmock Oil Facility

The Phase II Environmental Site Assessment (ESA) Report is currently being prepared for submittal to the U.S. EPA for review/approval (Task 3 of the Work Plan). Thus, there is no requested change to the Work Plan for the Former Schmock Oil Facility.

Former Royal Metals Facility

Based on the results of Phase II ESA (Task 2 of the Work Plan), there were no constituents detected in site soil and/or groundwater which were above the Indiana Department of Environmental Management's (IDEM) Voluntary Remediation Program (VRP) Tier II cleanup goals for the industrial land-use scenario (IDEM VRP Resource Guide, July 1996). With the positive Phase II ESA results and per the site closure requirements of the IDEM VRP, soil and groundwater closure sampling will be conducted to verify that impacted soil/groundwater are not present at the site. Specifically, 18 surface and 18 subsurface soil samples will be collected within the identified areas of environmental concern and throughout the site, and the five groundwater monitoring wells will be sampled on a quarterly basis for four quarters. The soil and groundwater samples will be analyzed for VOCs, semi-VOCs and metals per the QAPP. Following the completion of the confirmatory sampling, a VRP Completion Report will be generated for the site. Therefore, an Addendum to the SAP for the Former Royal Metals Facility (detailing the soil and groundwater closure sampling activities) will be prepared and submitted to the U.S. EPA for review and approval. These tasks will be conducted in accordance with Task 3-Site Investigation/Additional Soil and Groundwater Assessments of the Work Plan.

Both Brownfield Sites

Travel-Attendance at the National Brownfields Conference 2003: Growing a Greener America Conference in Portland, Oregon from October 27-29, 2003.

BUDGET

The current approved project budget (by category) versus the revised budget is presented in Table 1.

Table 1
Summary of Brownfields Pilot Budget Versus Revised Budget

Budget Category	Budgeted Amount	Revised Budget
Personnel	$40,000	$40,000
Fringe Benefits	$0	$0
Travel	$2,500	$3,716.05
Equipment	$2,000	$2,000.00
Supplies	$8,000	$6,058.27
Contractual	$147,500	$148,225.68
Others	$0	$0
Total Expenses	$200,000	$200,000

SCHEDULE

Based on the anticipated schedule of the above detailed work tasks, a time extension for the Brownfields Project is requested until April 30, 2004. This will allow adequate time to prepare and submit the SAP Addendum for the Former Royal Metals Facility to the U.S. EPA for review and approval and the initiation of several of the field activities which will be detailed in the SAP Addendum (Task 3-Site Investigation/Additional Soil and Groundwater Assessments).

GREENSPACE PILOT

WORK TASKS

All remaining work tasks for the Michigan City's Greenspace site (the former Karwick Road Municipal Landfill site) are being conducted in accordance with the SAP which was approved for implementation by the U.S. EPA on May 28, 2003.

BUDGET

The current approved project budget for the Greenspace Project will remain unchanged.

SCHEDULE

Based on the anticipated schedule of the work tasks detailed in the previously approved SAP, a time extension for the Greenspace Project is requested until April 30, 2004.

WORK PLAN FOR THE CITY OF MICHIGAN CITY BROWNFIELDS ASSESSMENT DEMONSTRATION PILOTS

PROJECT RENEW

Revitalizing Environmentally Neglected Emerging Workplaces

INTRODUCTION

Like many cities in the industrial Midwest, the City of Michigan City was a victim of the decline in manufacturing during the 60's and 70's as a result of the economic downturn at that time. Locally owned factories closed, many of which were located in vibrant neighborhoods where the employees walked to work. These closings resulted in lost jobs, a declining population, abandoned buildings and eventually deteriorated neighborhoods. These older facilities are situated on land in the City that is served by infrastructure which is already in place, such as water, sewer, natural gas, electricity and rail in many cases. Redevelopment and reuse of the buildings and properties will provide new opportunities for investment and ultimately create jobs, enhance the neighborhoods and increase home values. This process will help to encourage and promote sustainable urban development.

Parks and recreational opportunities in a community add a great deal to the overall quality of life. Developing strategic sites assures that all families in the community have access to recreational activities. Some locations, which may very well provide the right places to develop parks, have environmental problems associated with them. Transforming these sites into safe, clean, healthy recreational areas and educational centers will assist in restoring pride to the neighborhoods and the City as well as promote family oriented activities.

Formed by Mayor Brillson in 1996, the Michigan City Economic Development Corporation (MCEDC) has been the catalyst for economic development activities including brownfield redevelopment. The MCEDC works with potential new and existing businesses in providing data on buildings and sites in and around the City. A major component of their strategy has been the recognition of the aging, abandoned and vacant facilities and sites as brownfields and as potential places for future employment and recreation. The Mayor took another positive step in 1998 by forming the Michigan City Brownfield Task Force. This effort was created to develop a more formal strategy to address brownfields in the City. Several brownfield buildings and sites have since been redeveloped through partnerships with the City, MCEDC, the Urban Enterprise Association, the Northern Indiana Center for Land Reuse (NICLR), the State of Indiana and developers.

The goal of the Michigan City Brownfields Assessment Demonstration Pilots, Project RENEW, is to transform two former industrial facilities and their associated properties and one former City dump back to viable economically and environmentally safe uses. The City will use the EPA Brownfields Assessment Demonstration Pilot Grant to conduct environmental assessments of the buildings and properties, conduct site investigations, prepare corrective remediation plans, determine potential uses of the

facilities and land, coordinate and conduct public forums and provide overall project management during the process.

Both the Royal Metal and Schmock Oil facilities have absent irresponsible owners and delinquent property tax liabilities. Both facilities have already been condemned by the City's building inspector. The City, in cooperation with the LaPorte County Commissioners, will initiate a tax sale foreclosure process for each property, whereby the Commissioners convey legal ownership to the City or appropriate City agency. Following the completion of legal property transfer, the statutory process to perfect title in the name of the City or agency would conclude in six months or less. At that time, the City's redevelopment commission will begin to publicize the availability and sale of the properties through the competitive bidding process. The former City dump site on Karwick Road is already owned by the City. The development of the 23-acre Karwick Nature Park will be the responsibility of the City's Park and Recreation Department.

MANAGEMENT AND COORDINATION

The City of Michigan City, by and through its Board of Public Works and Safety, will enter into a contract with the Michigan City Economic Development Corporation (MCEDC), to serve as the managing entity of the Brownfields grant for coordinating the execution of tasks that comprise these pilot programs. The MCEDC will be responsible for providing a project manager to oversee the activities and tasks of both brownfield building projects as well as the greenspace project. This position will be responsible for coordinating the environmental tasks, remedial action plans, feasibility studies and community involvement for the two former brownfield buildings and properties. In addition, the project manager will oversee the tasks involved with the greenspace project which include reviewing existing conditions, conducting a geophysical survey, field investigations and assessments, data evaluation and reporting, a feasibility study and community involvement. The project manager will also be responsible for maintaining contact with the Indiana Department of Environmental Management (IDEM), as well as with the USEPA brownfield coordinator. The project manager will be responsible for completing the EPA Quarterly Reports and the final closeout report. In addition, the project manager will work with the appropriate City agencies and departments involved in the projects. The MCEDC will be responsible for securing the Requests for Proposals for the environmental tasks and will award this work to the appropriate responsible and experienced environmental company.

Projected allocation of the project manager's time for Part I is: 30% on management of the Brownfield Redevelopment Initiative including all reports, coordination of City agencies and departments, work with state and federal agencies; 29% on coordinating and overseeing the environmental assessments, site investigations and remedial action plans; 20% on conducting feasibility studies and determining best uses for the buildings and properties; and 21% on public information and community involvement.

It is anticipated that the project manager position will be filled by September 2001.

TASKS AND SCHEDULE

ROYAL METAL AND SCHMOCK OIL BUILDINGS AND LAND

Task 1: Phase I Environmental Assessment- RISC Pre-sampling Activities

Conducted by an environmental consulting firm, this task will include an assessment of existing site conditions through performance of Phase I Environmental Site Assessments on each property and evaluation of other RISC pre-sampling activities. The Phase I ESA's will be performed in general accordance with ASTM guidelines and will include site walk throughs, historical records reviews and interviews with persons familiar with past site uses. Based on the results of the Phase I ESA's, Conceptual Site Models (CSM) will be developed which identify acute hazards (if present), preliminary lists of chemicals of concern (COC's), potential affected media and exposure pathways or susceptible areas.

Activities	Deliverables	Submittal Date to EPA
Phase I ESA at both sites	ESA report	November 2001

Task 2: Phase II ESA Sampling-RISC Area Screening

This task will include soil and groundwater sampling to determine the presence or absence of constituents of concern (COC's). This task will be performed in accordance with RISC guidelines for Area Screening. The first subtask will be to develop a Quality Assurance Project Plan (QAPP) in accordance with requirements of both the Indiana Department of Environmental Management (IDEM) and the EPA. The data may ultimately be used to help define applicable regulatory strategies to address the site issues in the context of IDEM's Voluntary Remediation Program (VRP). The QAPP will include establishment of data quality objectives (DQO), a health and safety plan (HASP) and a sampling analysis plan (SAP). Requirements for quality assurance/quality control (QA/QC) and data quality assessment (DQA) will be addressed in the QAPP as appropriate.

Field sampling will include collection of groundwater samples and surface and subsurface soil samples at both the Royal Metal and Schmock properties. Sampling locations, depths and parameters will be selected in accordance with RISC default or non-default procedures, depending on the respective size of the investigation area. The scope of this work is estimated to include advancement of 20 borings using hydraulic push-probe techniques. COC's will be developed based on the results of the Phase I ESAs and will likely include one or more of the following parameters:

- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Polychlorinated biphenyls (PCBs)
- RCRA metals

For screening activities, it is likely that only VOCs and SVOCs will be included in the analytical suite since they are the most easily soluble in groundwater (and therefore the

most mobile) and also are typical COCs for a metal fabricating and finishing operation, which was the operation at Royal Metals for many years. Upon completion of the soil and groundwater sampling and receipt of laboratory results, the constituent concentrations for each of the two sites will be compared to RISC default and non-default closure criteria to determine if a nature and extent investigation will be required.

Activities	Deliverables	Submit data to EPA
Phase II ESA sampling	Quality Assurance Project Plan	January 2002
	Field Sampling analysis plan	March 2002
	Health and safety plan	April 2002
	2 Phase II reports	June 2002

Task 3: Site Investigation-Additional Soil and Groundwater Assessments (RISC Nature and Extent of Contamination Evaluation)

This task includes conducting site investigations to determine the nature and extent of contamination identified in Task II. The first step in this task is to develop the appropriate strategy, which includes revising the Conceptual Site Models, evaluating potential remedies and RISC defaults and identifying data gaps necessary to address in order to select appropriate remedies. The QAPP prepared as part of Task II will also be revised to address the sampling proposed as part of this Task.

Field activities will include soil and groundwater sampling to delineate the lateral and vertical extent of COCs, as well as evaluation of the potential chemical fate and migration. In addition, other media, such as surface water, sediments or air, will be sampled if potential impacts to these media are a concern. As part of the groundwater investigation, the point of compliance (POC) will be established in accordance with RISC guidelines. The groundwater evaluation may include both sampling and installation of potentially 10 groundwater monitoring wells depending on both RISC and VRP requirements.

Upon receipt of laboratory results, data assessment will be performed to determine the data validity and usability. A final report will be prepared which summarizes the extent of contamination, comparison to RISC closure levels and preliminary remedial alternatives if appropriate.

Activities	Deliverables	Submittal Date to EPA
Site Investigation Additional Assessments	Develop strategy-revise site model and QAPP	July 2002
	Conduct soil/groundwater sampling	August 2002
	Perform data assessment	September 2002
	Complete final report	October 2002

Task 4: Remedial Action Plan

This Task will include preparation of a remediation work plan in accordance with VRP guidance. This Task will be coordinated with the Feasibility Study in Task 5, since the actual remedial approach may be affected by the future use of the property. The work plan will provide an evaluation of several remedial alternatives, including institutional controls and a recommended alternative to be implemented for the sites. The evaluation of potential remedial options will consider the nature and extent of impacts, the potential for exposure to humans and/or the environment, as well as the planned use(s) of the properties.

Activities	Deliverables	Submittal Date to EPA
Remedial Action Plan	Prepare Plan	January 2003

Task 5: Feasibility Study

After the summary report and remedial action plan have been prepared, feasibility studies will be performed to evaluate the future uses of the properties. The Michigan City Economic Development Corporation, along with the project manager, will play the major role in determining the best uses of these properties. The MCEDC is recognized locally, regionally and statewide as being very aggressive in marketing the City for industrial growth. Since both of these facilities are extremely deteriorated, it would appear that they will be demolished and the sites cleared and marketed. Potential uses for the properties include high-tech users, machining operations, various other clean manufacturing/warehousing operations or a business incubator. The MCEDC will use their expertise to find the right uses and users to create jobs for the people living in the adjacent neighborhoods.

Activities	Deliverables	Submittal Date to EPA
Feasibility study	Market research/report	March 2003

Task 6: Community Involvement

A schedule will be developed for conducting public informational meetings regarding the Brownfield Projects. These meetings will begin before work commences and will be held in the project areas so that all families in those areas are aware of the plan. The meetings will focus on the assessments, clean up, ownership issues and potential uses of the properties. Committees will be formed in the neighborhoods to work closely with the project manager, the environmental consultants, the MCEDC and developers. Committees will consist of members from the Eastside Improvement Group and the Westside Improvement Group. Input will play a key role to assure that the residents and businesses feel part of the process and are comfortable with it. In addition, the City will utilize the local cable TV channel for programs dealing with the project so that the entire

City is aware of the developments. This informational effort will continue throughout the process.

Activities	Deliverables	Submit Data to EPA
Community Involvement	Develop outreach plan	October 2001
	Conduct neighborhood meetings	October/November 2001
	Follow up meetings	March 2002
	Cable TV program	June 2002
	Update meetings	September 2002
	Final meetings	May 2003

** Note—Rather than put dates on each meeting, it will be the goal of the project manager to conduct as many meetings as necessary during the course of the project, to keep the residents current on the status of the project.

BUDGET

Catagories	MGT	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	TOTAL
Personnel	12,000	2500	3000	3500	2500	8000	8500	$40,000
Travel	2500							$2,500
Equipment & Supplies	5000					2500	2500	$10,000
Contractual		7500	40,000	65,000	15,000	12,500	7500	$147,500
TOTALS	$19,500	$10,000	$43,000	$68,500	$17,500	$23,000	$18,500	$200,000

Notes To Budget:
The management amount was spread over all of the categories based on the estimated time that the project manager would spend on the individual tasks over the two-year period of the contract. The project manager will be a contracted individual or company and therefore, there are no fringe benefits or other payroll taxes. Travel dollars were budgeted to allow the project manager to attend a conference(s) that deals with brownfield redevelopment. In addition, the dollars budgeted for equipment and supplies for the project manager would include any hardware/software, reproduction/copies, maps etc. It is intended to provide the project manager with office space and administrative support from the Michigan City Economic Development Corporation as its in-kind funding support of the project. An environmental contractor will complete tasks 1-4. The project manager, the MCEDC and the contractor in preparing the feasibility study will complete task 5. The project manager, the MCEDC and the City of Michigan City, will complete task 6 with assistance from the contractor.

MEASURES OF SUCCESS

The process of assessing, cleaning up and revitalizing these two brownfields for reuse in the community sends a clear message to the citizens of Michigan City that the Mayor and City have committed to making the City a better, safer and healthier place to live, work and play. Specific measures of success will be:

- Two brownfield sites have been completely assessed
- Two brownfield sites have clean ups started or completed
- Adjacent neighborhoods have higher comfort level, feel safer, healthier
- Marketing efforts for both sites will begin-developers show interest
- Neighborhood home values on the rise
- Neighborhood pride on the increase
- The effort will illustrate the City's commitment to brownfield redevelopment

PART II: WORK PLAN FOR GREENSPACE DEMONSTRATION PILOT KARWICK NATURE PARK

Through a review of City owned properties, a 23 acre former City dump on the City's east side has been identified as a potential development of a recreational and educational nature park. The Michigan City Parks and Recreation Department is the local agency responsible for greenspace development and maintenance. For the proposed conversion of the former City dump into the Karwick Nature Park, the Parks and Recreation Department has taken the lead to coordinate all collaborative efforts with multiple community entities. In partnership with the Michigan City Economic Development Corporation (MCEDC), the department will work with the project manager and environmental contractor during the performance of the tasks associated with the grant.

The overall focus of this investigation will be to determine if there are any releases of chemicals of concern (COCs) to the environment and to evaluate any potential limitations to future development of the site for recreational purposes. The tasks will incorporate the applicable requirements with respect to data quality as described for the tasks of the Work Plan in Part I.

The project manager will be responsible for coordinating the environmental tasks, feasibility studies and community involvement, working closely with the Michigan City Parks and Recreation Department and the MCEDC. In addition, the project manager will be responsible for maintaining contact with the Indiana Department of Environmental Management (IDEM), the Indiana Department of Natural Resources and the USEPA brownfield coordinator.

Task 1: Review Existing Conditions

This task will include a review of existing site conditions, including a site reconnaissance, review of air photographs and historical maps and interviews with persons familiar with disposal and other uses at the site. Focus will be on determining the areas and respective depths of disposal as well as types of materials disposed. It is anticipated that this work will be completed and reported to the EPA by December 2001.

Activities	Deliverables	Submittal Date to EPA
Review existing Site conditions	Existing site conditions report	December 2001

Task 2: Depending on the findings of Task 1, a geophysical survey of the former dump area will be performed to determine the limits and potential depths and types of fill material. A site topographic survey will be conducted prior to performing the geophysical survey. A combination of geophysical survey methods appropriate for meeting the delineation objectives will be selected. This task will be completed and results reported to the EPA by February 2002.

Activities	Deliverables	Submittal Date to EPA
Site topographic study	Topographic Survey Report	February 2002
Geophysical Survey of site	Geophysical Survey Report	March 2002

Task 3: Field Investigations-groundwater screening and baseline assessment

Field investigations will include primarily perimeter groundwater and methane monitoring. Field sampling will include collection of groundwater samples and surface and subsurface soil samples. Sampling locations depth and parameters will be selected in accordance with RISC default or non-default procedures. The scope of this work will include advancement of 15 borings using hydraulic push-probe techniques and collection and analysis of groundwater samples at each boring location for constituents of concern (COCs). The first subtask will be to develop a Quality Assurance Project Plan in accordance with requirements of both the Indiana Department of Environmental Management (IDEM) and EPA. The results from the screening will be used to aid in locating permanent groundwater monitoring wells. It is assumed that a maximum of 10 monitoring wells will be installed. Level III QA/QC procedures and required QA/QC samples will be utilized for this task in accordance with IDEM VRP requirements. Gas probes for monitoring methane will also be installed around the perimeter. This task will be completed and reported to the EPA by June 2002.

Activities	Deliverables	Submittal Date to EPA
Field investigations and sampling	Quality Assurance Project Plan	April 2002
	Field Sampling Analysis Plan	May 2002
	Health and Safety Plan	June 2002
	Wells and Probes	June 2002
	Boring Report	July 2002

Task 4: Data Evaluation and Reporting

Following completion of the above tasks, the data will be evaluated and a final summarized site report will be completed. The report will document the work performed and will include a discussion of findings related to any COCs and will address potential limitations for future development of the site as a recreational area. Recommendations for any additional work, as necessary, will be included in the report package. It is expected that this report will be completed by September 2002 and reported to the EPA.

Activities	Deliverables	Submittal Date to EPA
Data Evaluation	Report to EPA	September 2002

Task: 5 Feasibility Study

The City's Park and Recreation Department along with a group of concerned citizens, have identified the use of this property as a nature park consisting of an outdoor educational classroom area, a wild flower demonstration site, a picnic area, a fishing site and nature pathways. There will be continuing studies to determine other uses of the property which will involve the project manager, the environmental contractor and the City's Park and Recreation Department.
This study will be completed by October 2002.

Activities	Deliverables	Submittal Date to EPA
Feasibility study	Market research/report	October 2002

Task: 6 Community Involvement

Several planning meetings have already been held by Mayor Brillson with City department heads, the school system, labor union representatives and other interested citizens to begin formulating a plan for use and development of the Karwick Nature Park.

The project manager will continue to conduct the community meetings throughout the process and will involve neighborhood residents and the adjacent school children and teachers as well as the overall community. Reports of this task activities will be made on a regular basis to the EPA.

Activities	Deliverables	Submittal Date to EPA
Community Involvement	Develop outreach plan	September 2001
	Conduct community meetings	Sept. – Nov. 2001
	Follow-up meetings	October 2002

BUDGET

Catagories	**MGT**	**Task 1**	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**TOTAL**
Personnel	3500	500	500	500	500	1000	2000	$8,500
Equipment & Supplies	1000							$1,000
Contractual		5000	5000	22,000	7000	1000	500	$40,500
TOTALS	$4500	$5,500	$5,500	$22,500	$7,500	$2,000	$2,500	$50,000

The management amounts were spread over all of the categories based on the estimated time that the project manager would spend on the individual tasks over the two-year period of the contract. The same project manager for the two brownfield projects will be utilized for the greenspace project. The City Parks and Recreation Department, the Karwick Nature Park committee and the MCEDC will assist the project manager with the feasibility study and community involvement tasks through in kind participation.

MEASURES OF SUCCESS

- A former City dump site has been assessed
- Clean up activities have been started
- Karwick Nature Park becomes a reality
- School children participate in the planning
- Neighborhood involvement
- Fishermen have new site
- Increased visitors to the City

U.S. ENVIRONMENTAL PROTECTION AGENCY

Cooperative Agreement

ASSISTANCE ID NO.			DATE OF AWARD
PRG	DOC ID	AMEND#	
BP -	97571501	- 0	SEP 14 2001
TYPE OF ACTION: New			MAILING DATE: SEP 21 2001
PAYMENT METHOD: ACH			ACH#: 5911

RECIPIENT TYPE:
Municipal

RECIPIENT:
City of Michigan City Indiana
100 East Michigan Blvd.
Michigan City, IN 46360
EIN: 35-6001108

Send Payment Request to:
Comptroller Branch, 77 W. Jackson, MF-10J

PAYEE:
City of Michigan City Indiana
100 East Michigan Blvd.
Michigan City, IN 46360

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Tony Rodriguez 100 East Michigan Blvd. Michigan City, IN 46360 E-Mail: Phone: (219) 873-1211	GLORIA WILLIS Superfund Division SM-5J E-Mail: willis.gloria@epa.gov Phone: 312-886-7259	Karen Sykes Assistance Section, MC-10J E-Mail: sykes.karen@epa.gov Phone: (312) 886-7571

PROJECT TITLE AND DESCRIPTION
BROWNFIELD ASSESSMENT PILOT - MICHIGAN CITY
Funding being provided to Michigan City to aide in their effortsof Project RENEW, which is to transform two former industrial facilities and their associated properties and one former City dump back to viable economically& environmentally safe uses.

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
09/15/2001 - 09/14/2003	09/15/2001 - 09/14/2003	$250,000.00	$250,000.00

NOTE: The Agreement must be completed in duplicate and the Original returned to the appropriate Grants Management Office listed below, within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. Receipt of a written refusal or failure to return the properly executed document within the prescribed time, may result in the withdrawal of the offer by the Agency. Any change to the Agreement by the Recipient subsequent to the document being signed by the EPA Award Official, which the Award Official determines to materially alter the Agreement, shall void the Agreement.

OFFER AND ACCEPTANCE

The United States, acting by and through the U.S. Environmental Protection Agency (EPA), hereby offers Assistance/Amendment to the City of Michigan City Indiana for 100.00 % of all approved costs incurred up to and not exceeding $250,000 for the support of approved budget period effort described in application (including all application modifications) cited in the Project Title and Description above, signed 07/17/2001 included herein by reference.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	ORGANIZATION / ADDRESS
U.S. EPA Region 5 Mail Code MCG10J 77 West Jackson Blvd. Chicago, IL 60604-3507	U.S. EPA, Region 5 Superfund Division, S-6J 77 West Jackson Blvd. Chicago, IL 60604-3507

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

SIGNATURE OF AWARD OFFICIAL	TYPED NAME AND TITLE	DATE
Wm. E. Muno	WILLIAM E. MUNO, DIRECTOR, SUPERFUND DIVISION	9/17/01

This agreement is subject to applicable U.S. Environmental Protection Agency statutory provisions and assistance regulations. In accepting this award or amendment and any payments made pursuant thereto, (1) the undersigned represents that he is duly authorized to act on behalf of the recipient organization, and (2) the recipient agrees (a) that the award is subject to the applicable provisions of 40 CFR Chapter 1, Subchapter B and of the provisions of this agreement (and all attachments), and (b) that acceptance of any payments constitutes an agreement by the payee that the amounts, if any found by EPA to have been overpaid will be refunded or credited in full to EPA.

BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION

SIGNATURE	TYPED NAME AND TITLE	DATE
Sheila Brillson	SHEILA H. BRILLSON, MAYOR, MICHIGAN CITY	9-28-01

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$	$ 250,000	$ 250,000
EPA In-Kind Amount	$	$	$ 0
Unexpended Prior Year Balance	$	$	$ 0
Other Federal Funds	$	$	$ 0
Recipient Contribution	$	$	$ 0
State Contribution	$	$	$ 0
Local Contribution	$	$	$ 0
Other Contribution	$	$	$ 0
Allowable Project Cost	$ 0	$ 250,000	$ 250,000

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.811 - Brownfield Pilots Cooperative Agreements	CERCLA: Sec. 104	40 CFR PTS 31 & 35 SUBPT O

Fiscal

Site Name	DCN	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	STX013	01	T	05FOD	50108D	41.85	0500NY00	C001 -	250,000
									250,000

Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$48,500
2. Fringe Benefits	$0
3. Travel	$2,500
4. Equipment	$2,000
5. Supplies	$9,000
6. Contractual	$188,000
7. Construction	$0
8. Other	$0
9. Total Direct Charges	$250,000
10. Indirect Costs: % Base	$0
11. Total (Share: Recipient 0.00 % Federal 100.00 %.)	$250,000
12. Total Approved Assistance Amount	$250,000
13. Program Income	$0

Administrative Conditions

TERMS AND CONDITIONS

THIS AWARD IS IN RESPONSE TO THE RECIPIENT'S APPLICATION SUBMITTED JULY 17, 2001, AND REVISED ON JULY 26, AND SEPTEMBER 10, 2001.

1. BROWNFIELDS

A. AUTHORITY

EPA awards this Cooperative Agreement in accordance with the Federal Grant and Cooperative Agreement Act of 1977. This agreement is subject to all applicable EPA assistance regulations, including the National Contingency Plan and 40 CFR Parts 31 and 35.

B. AUTOMATED CLEARING HOUSE (ACH) SYSTEMS PROCEDURES

In accepting this Cooperative Agreement, the recipient agrees to the following conditions for the ACH method of financing:

a. Cash drawdowns will occur only when needed for disbursements;

b. Timely reporting of cash disbursements and balances will be provided, as required by the ACH Users Manual;

c. The same standards of timing and reporting will be imposed on secondary recipients if any;

d. When a drawdown occurs, the recipient will show on the EPA-ACH payment request form the Cooperative Agreement number and the appropriate EPA account number;

e. The recipient will submit a Federal Cash Transactions Report (SF 272) every six months on June 30th and December 31st;

f. When activity is completed, the recipient will submit a Financial Status Report (Standard Form 269A) within 90 days to the EPA Award Official;

g. Superfund recipients also must submit the SF 269A within 90 days after the close of each budget period. If the budget period is longer than one year the report must be submitted annually, based on the anniversary date of the award.

Failure on the part of the recipient to comply with the above condition may cause the unobligated portions of the ACH credit to be revoked and the financing method changed to a reimbursable basis.

C. PROMPT PAYMENT ACT PROVISIONS

In accordance with Section 2(d) of the Prompt Payment Act (PL 97-177). Federal funds may not be used by the recipient for the payment of interest penalties to contractors when bills are paid late, nor may interest penalties be used to satisfy cost-sharing requirements. Obligations to pay such interest penalties will not be obligations of the United States.

2. LOBBYING/LITIGATION

In accordance with OMB Circular A-21, A-87, or A-122, as appropriate, the recipient agrees that it will not use project funds, including the Federal and non-Federal share, to engage in lobbying

the Federal Government or in litigation against the United States. The recipient also agrees to provide the information mandated by EPA's annual appropriations acts for fiscal year 2000 and fiscal year 2001 (PL 106-74, §426 and PL 106-377, §424 respectively) which require as follows: '*A chief executive officer of any entity receiving funds under this Act shall certify that none of these funds have been used to engage in the lobbying of the Federal Government or in litigation against the United States unless authorized under existing law.*' The recipient may satisfy this certification requirement in any reasonable manner. The certification must be submitted to EPA after all grant funds have been expended.

3. MBE/WBE

In accordance with EPA's Program for Utilization of Small, Minority and Women's Business Enterprises in procurement under assistance programs, the recipient agrees to:

a) Accept the applicable FY 2001 "fair share" goals negotiated with EPA by the State as follows:

	MBE	WBE
Combined Rate	5%	5%

If the recipient does not want to rely on applicable State's MBE/WBE goals, the recipient agrees to submit proposed MBE/WBE goals based on availability of qualified minority and women-owned businesses to do work in relevant market for construction, services, supplies and equipment. "Fair share" objectives must be submitted to the MBE/WBE Coordinator, within 30 days of award and approved by EPA no later than 30 days thereafter.

b) Ensure to the fullest extent possible that at least the FY2001 "fair share" objective [see a) above] of Federal funds for prime contractors or subcontracts for supplies, construction, equipment or services are made available to organizations owned or controlled by socially and economically disadvantaged individuals, women and historically black colleges and universities.

c) Include in bid documents "fair share" objectives of 2001 fair share percentage [see a) above] and require all of its contractors to include in their bid documents for subcontracts the negotiated fair share percentages.

d) Follow the six affirmative steps stated in 40 CFR 30.44(b) 40 CFR 31.36(e), 35.3145(d), or 35.6580, as appropriate.

e) For assistance awards for continuing environmental programs and assistance awards with institutions of higher education, hospitals and other non-profit organizations, submit an EPA Form 5700-52A, "MBE/WBE Utilization Under Federal Grants, Cooperative Agreements and Interagency Agreements" to the EPA Award Official by October 30 of each year.

f) In the event race and/or gender neutral efforts prove to be inadequate to achieve a fair share objective for MBE/WBEs, the recipient agrees to notify EPA in advance of any race and/or gender conscious action it plans to take to more closely achieve the fair share objective.

g) Until the recipient has completed its fair share negotiations with EPA, it agrees to main state Agency's fair share objectives. Once the recipient has completed its fair share negotiations with EPA, it will apply those objectives. The recipient also agrees to include in its bid documents the applicable FY 2001 "fair share" objectives and require all of its prime contractors to include in their bid documents for subcontracts the applicable FY 2001 "fair share" percentages and to comply with paragraphs (c) through (e) above.

4. PUBLIC ACCOMMODATION

The recipient agrees to ensure that all conference, meeting, convention, or training space funded in whole or in part with Federal funds, complies with the Hotel and Motel Fire Safety Act of 1990.

5. RECYCLED PAPER

Pursuant to EPA Order 1000.25, dated January 24, 1990, the recipient agrees to use recycled paper for all reports which are prepared as a part of this agreement and delivered to the Agency. This requirement does not apply to reports which are prepared on forms supplied by EPA. This requirement applies even when the cost of recycled paper is higher than that of virgin paper.

6. REPORTING - QUARTERLY

Programmatic status reports will be submitted to U.S. EPA on a quarterly basis, within 30 days following the end of the quarter. Financial Status reports are to be submitted within 30 days following the anniversary date of this Cooperative Agreement. Final financial status reports will be submitted when all encumberances are liquidated.

In describing the work accomplished during the reporting period, recipients are encouraged to describe related brownfields efforts in their quarterly reports; however, the report must clearly delineate which tasks are funded by the cooperative agreement and which items are funded from other sources.

7. SMALL BUSINESS IN RURAL AREAS

By accepting this agreement, the recipient agrees to comply with Section 129 of Public Law 100-590, the Small Business Administration Reauthorization and Amendment Act of 1988. Therefore, if the recipient awards a contract under this assistance agreement, it will utilize the following affirmative steps relative to Small Business in Rural Areas (SBRAs):

a. Placing SBRAs on solicitation lists;
b. Ensuring that SBRAs are solicited whenever they are potential sources;
c. Dividing total requirements when economically feasible, into small tasks or quantities to permit maximum participation by SBRAs;
d. Establishing delivery schedules, where the requirements of work will permit, which would encourage participation by SBRAs;
e. Using the services of the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce, as appropriate; and
f. Requiring the contractor, if it awards subcontracts, to take the affirmative steps in subparagraphs a. through e. of this condition.

Programmatic Conditions

Special condition for Assessment Pilots

QUALITY ASSURANCE PROJECT PLAN

A Quality Assurance Project Plan (QAPP), Sampling and Analysis Plan, and Health and Safety Plan are required to be approved by the U.S. EPA prior to any data collection activities that requires taking environmental samples or field measurements. Once an environmental consultant is selected by the pilot recipient, a pre-QAPP meeting will be arranged by the Region 5 Project Manager. Once the pre-QAPP meeting is held, the pilot recipient must submit the QAPP for approval, and should allow 6-8 weeks for the review/approval process.

Once the QAPP is approved, site specific Sampling and Analysis Plans and Health and Safety Plans must be submitted for review/approval a minimum of 10 days prior to planned field work.

EPA

Environmental Protection Agency
Washington, DC 20460

COMMITMENT NOTICE

New CA

NOTE: Preparation and approval of this form does not constitute an obligation of money. The use of this form is intended to guarantee availability of money by reserving it for certain types of specified transactions.

THIS COMMITMENT TRANSACTION IN THE AMOUNT OF $ 250,000 IS FOR: Michigan City

- [ ] GRANT
- [ ] INTERAGENCY AGREEMENT
- [ ] OTHER –
- [x] COOPERATIVE AGREEMENT
- [ ] CONTRACT
- [ ] PURCHASE ORDER (Please provide project number, if known).

DESCRIPTION OF PROJECT, GOODS, OR SERVICES
Brownfield assessment Pilot for Michigan City, Indiana

NAME OF GRANTEE/CONTRACTOR/VENDOR

EMPLOYER IDENT. NO. (EIN)

TASK, ROAF OR OTHER LOCAL IDENTIFIER

SPECIAL COMMENTS OR INSTRUCTIONS

ALLOWANCE HOLDER APPROVALS (Optional, at discretion of Allowance Holder)

ALLOWANCE HOLDER TITLE	RESPONSIBILITY CENTER TITLE

STAFF APPROVALS

WT GRK

SIGNATURE	DATE	PHONE
Gloria Willis - Gwilly	7/6/01	6-7259
Diane Spencer - DMSpencer	7/9/01	6-5867
J. Duffey [signature]	7/10/2001	6 1960

FUNDS CERTIFICATION

PREPARED BY		APPROVED BY	
SIGNATURE Andy Anderson		SIGNATURE	
DATE 7/10/01	PHONE 6-4695	DATE	PHONE

For Responsibility Center Use Only

Contract negotiator is [ ] is not [x] authorized to exceed amount shown above by up to 10% without securing further approval for funds.

THE AMOUNT OF MONEY SHOWN IS:

- [x] AN ORIGINAL COMMITMENT
- [ ] AN INCREASE TO A PREVIOUS COMMITMENT
- [ ] A DECREASE TO A PREVIOUS COMMITMENT

FINANCIAL AND ACCOUNTING DATA

0105

Line	DCN (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 5)	Object Class (Max 4)	SFO
1	STX	01	T	051-02	50108D	4185	
2							
3							

(Max 2)

Line	Amount (Dollars)	(Cents)	Site/Project (Max 5)	Cost Org/Code (Max 7)
1	250,000	00	0500NY00	C001
2				
3				

EPA Form 2550-9 (Rev 7-94) Electronic and paper versions acceptable.
Previous editions are obsolete.

Jan Pels

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
SE-4J

MAY 0 1 2001

Mr. Anthony Rodriguez, Director
Michigan City Economic Development Corporation
100 East Michigan Boulevard
Michigan City, Indiana 46360

RE: City of Michigan City, Indiana
Brownfields Assessment Pilot

Dear Mr. Rodriguez:

Congratulations on your selection as a Brownfields Assessment Demonstration Pilot recipient. The U.S. Environmental Protection Agency, Region 5 Brownfields staff looks forward to working closely with you over the next several years. Two key contacts at the EPA during the term of your project are the Project Manager, Jan Pels and the Project Officer, Gloria Willis. Jan Pels may be reached at (312) 886-3009 or via the Internet at pels.jan@epa.gov or via telefax at (312) 886-6741. Gloria Willis may be reached at (312) 886-7259 or via the Internet at willis.gloria@epa.gov or via telefax at (312) 886-0186.

The mechanism through which the funding will be provided to the City of Michigan City is called a Cooperative Agreement (CA). Several things need to will have to take place before the City of Michigan City will be awarded a CA and have access to funds. First, a work plan for the proposed activities will need to be developed and approved, as an attachment to the CA. The work plan should clearly describe the work that will be performed under the CA, and provide a budget. An example of an acceptable work plan is enclosed. We want to work closely with you to assure prompt approval of your work plan.

Second, you will need to fill out forms from the enclosed application packet for Federal funds. Note that we have attached a list of the forms in the packet which apply to this particular CA. The other forms in the packet are not needed. The work plan, when approved by the project manager, will become pat of the final CA application you submit. We need your completed application package, including the final approved work plan, sent to Madelin Rucker by July 14, 2001, in order for your funds to be available by September 30, 2001.

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 50% Recycled Paper (20% Postconsumer)

Gloria Willis will be contacting you in the near future to arrange a conference call to go over the application process and timetable for work plan review and approval. In the meantime, you should begin developing a draft work plan. Please understand that no costs can be incurred related to this project before a CA is awarded to you and signed and accepted by you and returned to U.S. EPA.

Please contact one of the staff members shown above if you have questions.

Sincerely,

Deborah Orr
Region 5 Brownfields Coordinator

cc: Gloria Willis, PO
Jan Pels, PM

Enclosures: Work Plan format
Application Package for Federal Funds
Sample Work Plan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 [illegible]

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

The Honorable Sheila Brillson
Mayor of Michigan City
100 East Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

On behalf of the United States Environmental Protection Agency (EPA), I am pleased to confirm that Michigan City has been selected as one of the pilots with whom EPA will pursue negotiations to award up to $200,000 for a Brownfields Assessment Pilot cooperative agreement. In addition, the City was selected to receive up to an additional $50,000 for greenspace purposes. Michigan City submitted an outstanding proposal, and we deeply appreciate the tremendous commitment of time and energy that went into its preparation.

We fully expect that these Brownfields Pilots will provide invaluable information and examples on the assessment, cleanup, and redevelopment of brownfields. Deborah Orr, EPA's Regional Brownfields Coordinator in Chicago, IL (312-886-7576), will be working closely with Michigan City to negotiate a cooperative agreement and respond to its needs.

We look forward to working with your staff on the Brownfields program in a new era of Federal, state, and local government cooperation.

Sincerely,

Michael H. Shapiro
Acting Assistant Administrator

cc: Deborah Orr

United States
Environmental
Protection Agency
Washington, D.C. 20460

Solid Waste
and Emergency
Response (5105)

EPA 500-F-01-267
April 2001
www.epa.gov/brownfields/

EPA

EPA Brownfields Assessment Demonstration Pilot

Michigan City, IN

Outreach and Special Projects Staff (5105) | Quick Reference Fact Sheet

EPA's Brownfields Economic Redevelopment Initiative is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, and safely clean up brownfields to promote their sustainable reuse. Brownfields are abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. EPA is funding: assessment demonstration pilot programs (each funded up to $200,000 over two years, with additional funding provided for greenspace) to test assessment models and facilitate coordinated assessment and cleanup efforts at the federal, state, tribal, and local levels; and job training pilot programs (each funded up to $200,000 over two years) to provide training for residents of communities affected by brownfields to facilitate cleanup of brownfields sites and prepare trainees for future employment in the environmental field; and, cleanup revolving loan fund program (each funded up to $1,000,000 over five years) to provide financial assistance for the environmental cleanup of brownfields. These pilot programs are intended to provide EPA, states, tribes, municipalities, and communities with useful information and strategies as they continue to seek new methods to promote a unified approach to site assessment, environmental cleanup, and redevelopment.

BACKGROUND

EPA has selected Michigan City for a Brownfields Assessment Pilot. The city also was selected to receive additional funding for assessments at brownfields properties to be used for greenspace purposes. Michigan City's location near Chicago on the southern shore of Lake Michigan has historically provided a stimulus for growth. The city prospered until the 1970s when factories closed, unemployment rose, and neighborhoods surrounding once-vibrant industries began to erode. Michigan City (population 32,752) has chosen two aging and abandoned industrial facilities (Schmock Oil and Royal Metal) in its Urban Enterprise Zone as Pilot targets. Both properties are surrounded by single-family homes. Residents in the Pilot areas (population 10,114) have an unemployment rate of 10 percent, and poverty rates up to 22 percent.

Contamination is known or suspected at both sites in neighborhoods already impacted economically and socially. The one-acre Schmock Oil facility was originally used for sheet rock manufacturing and later as an industrial equipment supply warehouse. When an oil leak was discovered on the property in 1999,

PILOT SNAPSHOT

Michigan City, Indiana

Date of Announcement: April 2001

Amount: $200,000

Greenspace $50,000

Profile: The Pilot targets two abandoned industrial facilities surrounded by single-family homes in an Urban Enterprise Zone of the city.

Contacts:

Michigan City
(219) 873-1211

Regional Brownfields Team
U.S. EPA - Region 5
(312) 886-7576

Visit the EPA Region 5 Brownfields web site at:
http://www.epa.gov/R5Brownfields/

For further information, including specific Pilot contacts, additional Pilot information, brownfields news and events, and publications and links, visit the EPA Brownfields web site at:
http://www.epa.gov/brownfields/

soil contaminated by the leak was removed, as well as oil drums and tanks. Other kinds of contamination remain. The five-acre Royal Metal facility, which produced office furniture, is in disrepair, and the city has had to condemn collapsed buildings on the site. If contamination can be addressed at the sites, both of which are served by good infrastructures, they have potential for rehabilitation in an area that needs an economic boost.

OBJECTIVES

The city's overall objective is to clean up and reuse the Schmock Oil and Royal Metal facilities in the Urban Enterprise Zone. The city plans to acquire these facilities through condemnation and foreclosure on property tax issues. Pilot funds will be used to perform assessments at the two sites and determine a cleanup strategy and reuse plan. Neighborhood groups will be established to monitor and participate in the process beginning with the initial site assessments.

ACCOMPLISHMENTS AND ACTIVITIES

Activities planned as part of this Pilot include:

- Conducting Phase I and Phase II environmental site assessments of the Schmock Oil and Royal Metal facilities;
- Developing a cleanup and reuse plan that includes cleanup costs and sources of cleanup funds; and
- Involving community groups during the entire process.

The cooperative agreement for this Pilot has not yet been negotiated; therefore, activities described in this fact sheet are subject to change.

United States Environmental Protection Agency
Region 5 77 West Jackson Blvd. Chicago, Illinois 60604
Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

EPA **Environmental** NEWS RELEASE

CONTACT: Mick Hans, (312) 353-5050

FOR IMMEDIATE RELEASE No. 01-OPA055

EPA AWARDS BROWNFIELDS GRANTS TO LAPORTE AND MICHIGAN CITY

CHICAGO (April 23, 2001) — U.S. Environmental Protection Agency awarded Brownfields $250,000 grants to LaPorte and Michigan City, Indiana.

Nationally, more than 90 communities received funding of more than $38 million for brownfields assessment and cleanup. In the EPA Region 5 states (Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin) 19 grants were awarded.

Brownfields are abandoned or underutilized properties where real or perceived environmental contamination has slowed redevelopment. Grants may be awarded to address individual sites, or groups of sites, within a defined geographic area. Three grant categories were included in the announcement: new pilot grants, supplemental pilot funding to continue ongoing work at sites that have already received grants, and revolving loan fund grants, which make low-cost loans available to communities to assist in moving their initiatives forward.

- more -

Both LaPorte and Michigan City received new brownfields pilot assessment grants. LaPorte will use its grant to assess five parcels encompassing more than 100 acres and two abandoned railroad rights-of-way. The grant includes $50,000 specifically earmarked for greenspace preservation–in this case, passive [Q: layman's terms! Does this refer to walking trails? Do we have any details? Can we name the park or lake?] recreational use along an existing park and nearby lake.

Michigan City will use its grant to assess two abandoned industrial sites: Schmock Oil and Royal Metal in the city's Urban Enterprise Zone [Q: ~~is this a local~~ State or Fed designation?]. The Michigan City grant also includes $50,000 specifically for greenspace preservation [Q: do we have any details about this?]

Since 1993, EPA has provided over $162 million in brownfields grants with $2.9 billion leveraged and over 11,000 jobs created. Summaries of the April 2001 grants will be online soon at www.epa.gov/brownfields.

# # #

EDITOR'S NOTE: Brownfields 2001 Conference in Chicago, September 24-26

U.S. EPA and Illinois EPA are among more than a dozen organizations co-sponsoring Brownfields 2001, a national conference at Chicago's McCormick Place Convention Center, September 24-26, 2001. For details on speakers and the conference program, or assistance in developing local story ideas, call Mick Hans in the EPA Region 5 press office, (312) 353-5050.

H Kearr

12-19 AP

The Right Choice

USEPA's Brownfields Assessment Demonstration Pilot Grant

Proposal

Project RENEW

Revitalizing Environmentally Neglected Emerging Workplaces

A Project of:

Mayor Sheila Brillson, City of Michigan City, Indiana
Michigan City Economic Development Corporation
Michigan City Urban Enterprise Association

"For unmatched quality of life in the Midwest, turn to Michigan City"

Michigan City Indiana

OFFICE OF THE MAYOR
CITY OF MICHIGAN CITY

SHEILA BRILLSON
MAYOR

January 9, 2001

Ms. Betty Brooks
OSER Outreach and Special Projects Staff (5105)
USEPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Project RENEW – Revitalizing Environmentally Neglected Emerging Workplaces

Dear Ms. Brooks,

On behalf of the citizens of the City of Michigan City, I am pleased to submit the attached proposals for a $200,000 USEPA Browfields Assessment Demonstration Pilot Grant with the associated $50,000 Greenspace Grant.

The funding that we are requesting will provide the catalyst for the City's efforts to clean up two aging abandoned and unsafe facilities and sites located directly in the midst of neighborhoods in our Urban Enterprise Zone. In addition, funding for the Greenspace Grant will help transform a former city dump into a beautiful nature park. These eyesores currently present health and safety risks to the nearby residents as well as deflate their home values.

This administration has taken an aggressive approach in dealing with abandoned facilities and sites in our city in an effort to make our community and its neighborhoods better places to live and work. Through the creation of my Brownfield Task Force, we are illustrating this commitment.

As you will see in the Project RENEW proposal and attachments, the City has generated a great deal of local, state and federal support for the projects. These partners feel very strongly that the proposed projects are important to the enhancement of quality of life in the affected neighborhoods and ultimately throughout the City.

I strongly urge the USEPA to approve our proposals. Thank you for providing Michigan City the opportunity to apply for these funds.

Sincerely,

Sheila Brillson, Mayor
City of Michigan City, Indiana

I. COVER PAGE

Project Title: Project RENEW (Revitalizing Environmentally Neglected Emerging Workplaces)

Location: City of Michigan City, LaPorte County, Indiana (See Map 1)

Population: City of Michigan City: 32,752
Tract 409 (Royal Metal): 5,083
Tract 403 (Schmock Oil): 5,031

Applicant: City of Michigan City

Project Contact:
Anthony Rodriguez
Director, Michigan City Economic Development Corporation
100 East Michigan Blvd.
Michigan City, Indiana 46360
219-873-1211 phone
219-873-1595 fax
e-mail: mcedc@netnitco.net

Representative of Political Subdivision:
Mayor Sheila Brillson
100 East Michigan Blvd.
Michigan City, Indiana 46360
219-873-1400 phone
219-873-1515 fax
e-mail: mayorsheilab@niia.net

Date Submitted: January 12, 2001

Project Period: July 2001 through June 2003

Community Background	Tract 409 Royal Metal	Tract 403 Schmock Oil	City of Michigan City
Per capita income	$9,373	$9,347	$9,941
Median household income	$20,536	$18,412	$23,127
Median home value	$36,200	$36,400	$43,700
Poverty rate	22.2%	15.9%	16.4%
Unemployment	10.10%	10.10%	4.09%

Partners (see attached letters of support) 24 Letters

Mayor's Office
Michigan City Economic Development Corporation
Michigan City Urban Enterprise Association
Indiana Department of Commerce
U.S. Senator Richard Lugar
U.S. Congressman Tim Roemer
State Representative Mary Kay Budak
Indiana Department of Environmental Management
Indiana Governor Frank O'Bannon
Michigan City Redevelopment Commission
Michigan City Area Chamber of Commerce
Northern Indiana Public Service Company
Michigan City Common Council
Northern Indiana Center for Land Reuse
LaPorte County Solid Waste District
Commercial Investment Transactions Inc.
Westside Improvement Group
Eastport Improvement Group
Woodruff and Sons
Michigan City Parks and Recreation Department
Michigan City Sanitary District
Northwest Indiana Forum
International Brotherhood of Electrical Workers - Local #531
Krueger Middle School

II. PROJECT OVERVIEW

Background and Overall Goals

The City of Michigan City is applying for the USEPA $ 200,000 Brownfield Assessment Demonstration Pilot grant to help initiate the cleanup, redevelopment and reuse of two dilapidated former manufacturing facilities and their associated properties. The project is entitled RENEW —*Revitalizing Environmentally Neglected Emerging Workplaces*. The City is also applying for the $50,000 Greenspace grant to help assist with the assessment of a 23-acre former city dump, which will be transformed into the Karwick Nature Park.

Project RENEW is focusing on two abandoned former industrial facilities and associated properties located in the city's Urban Enterprise Zone. The Schmock Oil facility is located on the city's west side at 1111 West Garfield St. This 24,000 sq. ft. facility was constructed in 1960 on a one-acre parcel and was originally utilized for light manufacturing of sheet rock. From 1964 until 1979, it was used as an industrial equipment supply house and warehouse. In 1979 Schmock Oil Company purchased the building and utilized it for fuel oil distribution and oil reclamation. Schmock operated in the facility until 1994 at which time they ceased operations. The building has been vacant since that time and has fallen into disrepair.The roof has collapsed and the basic structure of the building has been determined unsafe, which has led to City condemnation.

In August and September of 1999, the USEPA Emergency Response Branch performed a clean up of contaminated soils on the north side of the Schmock Oil building property which was the result of an oil leak. The USEPA performed a subsequent removal assessment relative to numerous oil barrels and tanks which were located inside the building. Between January and March 2000, the USEPA completed the removal of over 400 drums and 18 tanks containing oil contaminated with solvent, flammable liquids and sludge (EPA delivery order #: 0035, site number B5G2, CERCLIS # INSFN0507960).

The Royal Metal facility, which is also in the city's Urban Enterprise Zone, is located at 600 North Carroll Ave. This 89,000+ sq.ft. facility sits on a five acre parcel on the city's east side. The facility was constructed in 1927. Royal Metal was a manufacturer of chromium office furniture and operated at this location until 1966, at which time they expanded into a new facility in Michigan City. Since 1966 there has been no industrial use in the building. Involved in the manufacturing of the office furniture, were chemical cleaners, degreasers, chemical treatments, paint booths, a wood shop and various other manufacturing processes. The facility is in great disrepair and in an unsafe condition.

Both of these facilities are located in residential neighborhoods surrounded by single family homes. Both are currently served by good infrastructure — electricity, natural gas, water and sewer. The Royal Metal building has rail access, being served by the locally owned South Shore Railroad Freight Line. Both of these properties have absent unknown owners and they both have high property tax liabilities.

It will be the City's goal to obtain ownership of these facilities through the condemnation and foreclosure process working with the LaPorte County Commissioners on the property tax issues. It is anticipated that this process will take less than one year. The City will initiate site rehabilitation and/or demolition within two years.

This action will further illustrate the City's long term goal "*to reuse or demolish all environmentally suspect abandoned industrial buildings and sites.*"

Project Specific Objectives
The objectives of this project will be to initiate preliminary detailed environmental tasks on soil and ground water, develop a comprehensive remediation strategy with associated costs and develop a building/site use plan for the properties consistent with the City's overall economic development plan. Throughout this entire process, the City will invite and involve the appropriate community groups and neighborhood associations in the development of the strategy. The City will secure non-federal funds to clean up and market the properties.

Project Strategy
The EPA grant funds will be utilized to perform the environmentally related investigations on the two buildings and sites. Based on these findings, the City will be able to determine the remedial action strategy, including costs for the cleanups, secure additional financing and determine appropriate uses for the properties. The City has already demonstrated its ability to acquire abandoned properties and will once again utilize this expertise and experience with the pilot properties. It is anticipated that acquisition of the properties could be accomplished in one year. Community and neighborhood groups will be established to review and monitor the process beginning with the initial assessments.

Authority
The City would participate in the Indiana Department of Environmental Management's Voluntary Remediation Program.

Brownfield Site Assessment Greenspace Pilot
The City of Michigan City is also seeking the $50,000 EPA greenspace grant. The City through its Parks and Recreation department is committed to greenspace development and maintenance. The Karwick Nature Park is another great example of this commitment. This 23-acre parcel of land located on Karwick Road, was a former City dump. Dumping operations on the property ceased in the 1960's and aside from a short time in the 1970's when a portion of the land was used for dirt biking, the land has remained unusable.

It is the City's goal to convert this underutilized city dump into a beautiful development for the citizens of Michigan City. The land is bisected by Trail Creek, which is one of Indiana's few salmonoid streams. The centerpiece of the Nature Park will be approximately 12 acres of forest areas which will be used as an outdoor educational classroom. This parcel is adjacent to two railroad tracks. The former dump site portion of the land will be used for a student staging area, wildflower demonstrations and picnic areas. The second use of this brownfield will be for an access site for fishermen. Trail Creek is a premier Midwestern stream attracting fishermen from an extended geographic area.

This brownfield project is located about one-half mile east of the Royal Metal brownfield. It is located directly across Karwick Road from Krueger Junior High School and is in the same east side neighborhood as the Royal Metal facility. These coordinated pilot projects will have a major impact in this neighborhood . The projects will restore pride to the neighborhood by converting these long dormant eyesores into anchor properties that will draw workers and families into the neighborhood. At the same time, housing values will increase.

The grant would provide the funds necessary to perform soil and ground water investigations and surveys. In addition, funds will assist in defining topographical features and determining more fully the best uses of the property.

There is a great deal of community support involving the Mayor, City department heads, school system officials, labor unions, the Steelheaders (local fishermen) and the East side Neighborhood community.

A grant has been awarded from the Blue Chip Casino toward the project. Building and trades unions have committed to volunteer their time and equipment. A grant request is under consideration to the LaPorte Solid Waste Board to assist in the purchase of recycled materials. The Michigan City Park Department has agreed to accept maintenance responsibility.

It is anticipated that this project will take less than a year to complete.

III. BUDGET

TASKS	FUNDING		
	EPA	OTHER	TOTAL
1. Phase I Environmental Assessment	$10,000		$10,000
2. Phase II Assessment	$45,000		$45,000
3. Site Investigation Additional Assessments	$80,000		$80,000
4. Remedial Action Plan	$15,000		$15,000
5. Feasibility Study - Best Use	$25,000	$10,000	$35,000
6. Project Management	$15,000	$15,000	$30,000
7. Community Involvement	$10,000	$15,000	$25,000
TOTALS	**$200,000**	**$40,000**	**$240,000**

The total assessment project level using EPA funds represents work by an environmental consultant. The "other" funds listed represent estimated in-kind service provided by the City of Michigan City, the Michigan City Economic Development Corporation and the Michigan City Urban Enterprise Association. These services will supplement the EPA funding in tasks 5, 6 and 7.

IV. EVALUATION CRITERIA—PART I

1. PROBLEM STATEMENT AND NEEDS ASSESSMENT

Effect of Brownfields on The Community

Michigan City's natural and geographic location has historically provided a stimulus for its growth. The infrastructure consisting of interstate highways, rail network, Lake Michigan, utilities, a great work force and proximity to the greater Chicago area have been key factors in industrial growth over the years. Michigan City competed effectively and successfully for employment and population growth by providing inexpensive land, low taxes, infrastructure, a beautiful waterfront setting and a wholesome atmosphere where people could afford a better quality of life than they could in nearby urbanized areas.

It was during the late 1960's and early 1970's when the City began feeling the effects of a declining economy. As a result, factories closed, jobs were lost, population declined and neighborhoods surrounding the once vibrant factories began to erode. The City was left with an inventory of large, aging underutilized and abandoned industrial facilities in neighborhoods that became unstable.

The Roval Metal facility which is located in the Urban Enterprise Zone, was built in 1927 and employed close to 400 people in a neighborhood setting during its prime manufacturing years. Many, if not most, of the employees were able to walk or ride bicycles to the plant. Once the plant closed its doors and moved to its new location on the eastern edge of the City in 1966, the neighborhood began to immediately feel the effects. Over the years the median home values of these homes declined and are currently $36,200 in tract 409 and $36,400 in tract 403 as compared with the City wide average of $43,700. The incomes in this neighborhood are currently $20,536 in tract 409 and $18,412 in tract 403, compared to the City wide average of $ 23,127. The deteriorated building is an eyesore and poses a health and safety threat to the neighborhood families, most of whom have young children. It is the City's intention to demolish the facility.

There is great promise for this area and the City in general if the building and property can be effectively dealt with. The five acre site has great potential for viable businesses who have the opportunity to effectively train and utilize the employment of the neighborhood and at the same time bring the site back to an environmentally friendly, safe, and appealing piece of property.

The Schmock Oil facility which is also located in the Urban Enterprise Zone, was built in 1960. It represents a negatively perceived problem because of its most recent use, fuel oil distribution and oil reclamation. The neighborhood and the entire City have been extremely concerned about the operations at the plant and this came to a head when an oil leak was discovered on the property in 1999. The EPA performed a emergency containment process in cooperation with the Indiana Department of Environmental Management and the LaPorte County HazMat team.

The facility is now showing more signs of disrepair as the center portion of the roof collapsed recently and the base structure appears faulty. The City's building inspector has condemned the building. The site is located in a neighborhood of single family homes, whose per capita income and house values are less than the city wide average.

Both of these properties are unique because they are located in the Enterprise Zone, in residential neighborhoods, have absent irresponsible owners and pose safety and health problems. If cleaned up, they would both provide the potential of new responsible owners, good paying jobs within walking distance, neighborhood stabilization and higher income and property values. In addition, since they both have

excessive property taxes liabilities, the City plans to utilize its condemnation authority and seek transfers of these tax delinquent properties to the City.

Value Added By Federal Support

The $200,000 grant from the EPA would be the "jump start" in helping the City transform both properties back to viable economically and environmentally safe uses. The funding would allow subsurface assessment of the properties. The funds would also enable the City to generate costs of the remediations and determine potential uses of the facilities and land. During this process the City would conduct public forums involving the pilot neighborhoods and the community in general, utilizing the EPA funding for meetings, tours and input. The grant would assist in the process of eventually adding these valuable properties to the Urban Enterprise Zone's inventory of marketable sites.

The grant would leverage the Zone's programs and incentives which include low interest loans for enhancements, infrastructure assistance, tax rebates for hiring zone residents, job training assistance, transportation assistance for employees, GED training for employees and daycare assistance. The Zone administration and board of directors have been extremely active in economic development and work closely with the Mayor and the Economic Development Corporation. In addition, the grant would leverage interest from developers willing to make an investment in the Zone and in the City of Michigan City to develop the properties and create jobs for Zone residents.

Formed by Mayor Brillson in 1996, the Michigan City Economic Development Corporation, (MCEDC) has been the catalyst in economic development activities for the City, such as marketing, business attraction and retention, work force development and brownfields. In addition, the MCEDC provides data and support to potential new and existing businesses. As mentioned before, the Urban Enterprise Zone has acquired grants for projects in the City. The Indiana Department of Commerce is no stranger to the City and has worked closely with the Mayor and the MCEDC on a number of new industrial projects involving infrastructure and job training grants. The USEPA grant would help leverage the above organizations involvement, financial support and business attraction activities. The grant would also leverage funding from the State's Brownfield Redevelopment Loan Fund under the Indiana Development Finance Authority. This grant would also leverage funding from the LaPorte County Solid Waste District which provides grants for projects that reclaim large tracts of industrial land. This grant would also help gain the support of the County Commissioners in the transferring of ownership of these properties to the City.

2. COMMUNITY BASED PLANNING AND INVOLVEMENT

Existing Local Commitment

The City has been aggressively addressing the problem of abandoned and underutilized brownfield buildings and sites for a number of years, partnering early on with the Chamber of Commerce and the Urban Enterprise Association. Under Mayor Brillson, the City took a giant leap forward in 1996 by creating the Michigan City Economic Development Corporation (MCEDC). Utilizing a full time director, the MCEDC and the City began developing an aggressive economic development strategy of business attraction and retention. Included in this strategy was the recognition of the aging vacant industrial facilities in the community as brownfields and as potential places of future employment. In 1994 the City worked closely with a local developer who took possession of the former Joy Manufacturing facility. This is a 600,000 sq.ft. facility on 35 acres which was formerly a manufacturer of air compressors. The plant had been closed for five years. This public - private partnership resulted in achieving an Industrial Recovery Site Designation (Dinosaur) and provided the impetus for the developer to purchase and develop the facility, which is located in a neighborhood setting. To date, there are six companies located in the facility with an employment of over 600.The developer invested over $5 million on this project.

previous success

In 1997 the City, MCEDC, Chamber of Commerce and the Urban Enterprise Association worked cooperatively in acquiring possession of the former Michigan City Plastics brownfield building consisting of 200,000 sq.ft. on 30 acres. Through the business attraction efforts of the MCEDC, the GAF Building Materials Corporation became interested in the facility for their Midwest operations. The MCEDC was successful in securing a developer who ultimately took possession of the property and eventually sold to it to GAF for their roofing materials production facility. GAF invested $28 million redeveloping the building and property while creating over 150 good paying jobs.

The Mayor took another positive step in 1998 with the formation of the Michigan City Brownfield Task Force. This task force was created to develop a more formal strategy to address brownfields in the City. Soon after, the City and the MCEDC were involved in the Josam Foundry Redevelopment Project which is also located in the Urban Enterprise Zone. This abandoned 200,000+ sq. ft. building on 18 acres had accumulated over $800,000 in property tax liability and $7.5 million in private liens. This property is located on U.S. Hwy 12 which is a major gateway on the northeast side of Michigan City.

Partnering with the Northern Indiana Center for Land Reuse (NICLR), the County Commissioners and the Urban Enterprise Association the Josam property was acquired by the City and became the 12 East Business Center. The project has been awarded environmental grants including $50,000 from the Indiana Department of Environmental Management under their Brownfield Site Assessment Grant, a $35,000 Site Assessment Grant from the State Urban Enterprise Zone Board and a commitment from the LaPorte County Solid Waste District for $100,000 to demolish some of the existing buildings. Several developers and companies have already shown interest in developing parcels on this property.

The above scenarios represent an enviable record the City has established in addressing the need and action necessary to responsibly assess, clean up and market the older abandoned and underutilized buildings and sites in the City.

This EPA pilot project proposal has the support of many individuals and organizations. Please see list in Attachments section of this proposal - page 16.

The health and welfare of the residents and businesses in the City is the Mayor's top priority. This has been evidenced by the City's commitment to help provide a great quality of life along with great opportunities for employment and entrepreneurship. The City envisions to continue to be a responsible aggressive leader in brownfield development.

Community Involvement Plan

A schedule will be developed for conducting public informational meetings in the project areas regarding the entire plan to assess, clean up, ownership issues and uses of the related properties. Committees will be formed in the neighborhoods to work more closely with the development. Input will play a key role as the project proceeds to assure that the residents and businesses feel part of the process and are comfortable with it. In addition to local meetings, the City will utilize the local cable TV channel for programs dealing with the project so that the entire City can be made aware of the developments. The City will provide environmental experts and consultants at these meetings and TV programs to fortify that the project is being conducted responsibly.

Environmental Justice Plan

The two areas in the pilot are located in the Urban Enterprise Zone. Given the qualifying factors associated with Enterprise Zone status, the areas are home to the City's highest level of unemployment and poverty. The per capita incomes for the pilot areas are $9,373 in tract 409 and $9,347 in tract 403 com-

pared to the City average of $9,941. The Mayor and City Council members have regular meetings with the residents in the two areas. Interactive discussions deal with quality of life issues, the environment, jobs and health and safety among other things. These groups are aware of the City's efforts to cleanup neighborhoods and problem sites and buildings.

As these two projects develop, the citizens will visualize first hand that there is positive progress in place. They will witness a development that will result in a cleaner, safer and healthier place in their midst. They will have the hope of developments that can create for themselves new skills and good paying jobs near their homes.They will have the assurance that the projects will not pose any risks during the development. In addition, they can begin to realize an increase in the value of their homes. This type of development philosophy and activity is promoted City wide so that ultimately all residents can have opportunities to enhance their quality of life.

3. IMPLEMENTATION PLANNING

Government Support
The Mayor and City Council are the driving agents in supporting these projects. This is evidenced by the Mayor's Brownfield Development Task Force. Other supporters include the Governor, Indiana Department of Commerce, Indiana Department of Environmental Management, State and Federal legislators. See Attachment of support letters.

Site Selection and Environmental Site Assessment Plan
The two sites have already been identified by the City and the MCEDC. This decision was based on the deteriorating condition of the buildings as well as the perceived environmental problems associated with them and the land on which they sit. It has been difficult to determine ownership of the properties; however, neither owner obviously intends to do anything with the properties. Both have been tax delinquent for years and it is evident that the owners are not responsible. These properties pose a serious threat to the health and safety of the surrounding neighborhoods and the City in general. It is the intention of the City and the MCEDC to proceed with the condemnation process and county tax foreclosure process to gain title to the properties. The pilot funds will provide the City with the necessary assessment and knowledge of the environmental condition of the properties and the associated cost estimates to remediate them in a way that will improve the neighborhoods' vitality, quality of life and at the same time create good paying jobs. This process will be done as part of the State's Voluntary Remediation Program.

The specific assessment tasks that will be performed include the following:

Task 1 - *Conduct Phase I Environmental Assessment*
Pre audit review, site visits, historical record search, interviews; identify acute hazards; preliminary COC's; develop Conceptual Site Model (CSM).

Task 2 - *Phase II Assessment (RISC Area Screening)*
Conduct field activities, groundwater screening assessment, soil sampling; groundwater monitoring wells; evaluate patented exposure concentrates; baseline ground water assessment including monitoring wells; level three QA/QC procedure and required QA/QC samples in accordance with IDEM VRP requirement.

Task 3 - *Conduct Site Investigation*
Extent of contamination evaluation. Conduct field activities - vertical and horizontal effect. Additional soil and ground water sampling; surface water, sediment, air data evaluation/assessment.

Task 4 - *Prepare Remedial Action Plan per VRP Guidelines*

Task 5 - *Conduct Feasibility Study to Determine Highest and Best Use*

Task 6 - *Project Management*
Coordination of all Tasks

Task 7 - *Community Involvement*
Public and neighborhood meetings, information distribution.

Reuse Planning and Proposed Cleanup Funding Mechanism
The City and the MCEDC are recognized locally, regionally and state wide as being very aggressive in marketing the City for industrial and large commercial growth. They have been involved in a number of acquisitions of large brownfield facilities in the City as mentioned above (Joy Mfg., MC Plastics, Josam). This successful track record has provided another important tool when dealing with industrial prospects. The City and the MCEDC have proven they get the job done. The City has taken a forward approach in marketing brownfield properties, always looking for the right developer or company. The City and the MCEDC partner with local realtors and developers, the NW Indiana Forum, NIPSCO (Northern Indiana Public Service Co.), the Indiana Department of Commerce and contractors in an effort to attract new business to the community. These pilot properties would be marketed for reuse utilizing the partnerships described above.

Since both buildings in the pilot are deteriorated, it would appear that they would have to be demolished and the sites cleared and marketed. Potential uses for the properties include high-tech users, machining operations and various other clean manufacturing operations. Since the Royal Metal site has five acres, the City envisions a multi-faceted use with a mix of clean manufacturing, office space or a business incubator. Eventual funding for the cleanup would come from private developers and the Urban Enterprise Association, through their assistance with the MCEDC. The City would pursue assistance from NICLR equity funds, State Revolving Loan Fund, City Redevelopment Commission-TIF district and the LaPorte County Solid Waste District.

Flow of Ownership
Because of the evident lack of current ownership responsibility, it is anticipated that the City, in cooperation with the Laporte County Commissioners, will initiate a tax sale foreclosure process, whereby, the Commissioners convey legal ownership to the City or appropriate City agency. Following the completion of legal property transfer the statutory process to perfect title in the name of the City or agency would conclude within six months. At that time, the City's Redevelopment Commission will begin to publicize the availability and sale of the properties through the competitive bidding process.

4. LONG-TERM BENEFITS AND SUSTAINABILITY

Long-Term Benefits
One of the local barriers will include addressing the negative perception that the local residents may have relative to the process of cleaning or demolishing a potentially environmentally affected area near their homes. The community meetings, discussion groups and forums will be needed to provide residents with the proper and complete information from the City and technical experts to assure them that the brownfield revitalization is a positive effort with long lasting results that will benefit them, their families, neighborhoods and the entire City. Having established the proven track record the City has already responsibly demonstrated will provide immediate relief for some of these concerns. The City has committed to continue addressing brownfields and has already identified a list of future sites. In addition, the City's current North End Plan will address some of these concerns and issues. The City will continue to partner with IDEM and NICLR. In addition, other neighborhoods in the city that are located near brownfields, will

see how successful and positive this pilot program is. The successful completion of this project will encourage these neighborhoods to become more involved with the City's brownfield clean up efforts as it applies to their areas.

Sustainable Reuse

The Mayor's Brownfield Task Force will formulate and recommend changes to the City's building and zoning ordinances that will promote eco-friendly renovation and building criteria. Through the targeted marketing efforts of the MCEDC those industry groups which are known to have minimal impact on the environment while creating quality jobs will be provided the highest level of economic incentives.

Measure of Success

The entire process of assessing, cleaning up and revitalizing brownfields for reuse in the community sends a clear message to the community that the Mayor and the City have committed to making the City a better , safer and healthier place to live and work. Neighborhoods near brownfields will have more comfort in knowing that the City has a strategy in place and that their areas will be addressed by this aggressive effort. In addition, jobs will be made available to the residents, within walking distance, and their home values will increase.

The pilots will be managed responsibly and closely to ensure that all goals are accomplished. The measure of success will be completing the assessment, cleanup, new ownership, new businesses, continued community dialogue, attraction of prospects and developers and a cleaner, healthier more valuable neighborhood. The City will closely monitor all phases of the various tasks and will evaluate the progress. Within 6 months, the City will provide to the USEPA a report documenting the number of community meetings held relative to the pilot program. This report will also indicate the active partners and potential developers involved in the project. In addition, the City will report on additional funding and the findings of the initial assessments. Within two years the City will provide data on the cleanup of the facilities and sites, development activities, job creation and other success stories such as increased housing values and increased per capita income for the pilot areas.

IV. EVALUATION CRITERIA - PART II

5. GREENSPACE

Authority and Context
The Michigan City Parks and Recreation Department is the local agency responsible for greenspace development and maintenance. For the proposed conversion of the former City Dump into the Karwick Nature Park, the Parks and Recreation Department has taken the lead to coordinate all collaborative efforts with multiple community entities and they will be the point of contact and responsible agency in partnership with the Michigan City Economic Development Corporation.

A multifunctional outdoor Nature Park is envisioned for the community's 23-acre Karwick Road brownfield site. Trail Creek, one of Indiana's few salmonoid streams, bisects the property. The eastern half of the property was used in the 1960's as a city dump and has remained unusable for the past 30 years.

The centerpiece of the Nature Park will be approximately 12 acres of undisturbed forest area to be used as an outdoor educational classroom area. Krueger Middle School is adjacent to this brownfield location. The school's Science Department has developed a series of stations for students to conduct experiments and observations. A series of looping, interconnected paths will be established to allow multiple classes to utilize the Nature Park simultaneously and still remain out of direct line of sight with each other. The former dumpsite will be utilized for a school bus parking area, student staging area, wildflower demonstration project and picnic area.

The second primary use of the redeveloped brownfield is as an access site for fishermen. Trail Creek is a premier Midwestern stream attracting fishermen from an extended geographic area. The greenspace site is ½ mile east of the Royal Metal brownfield redevelopment site. The conversion of the city dumpsite into a multi-use Nature Park for school children and sportsmen, in conjunction with the Royal Metal redevelopment, will have a major impact in this neighborhood. These coordinated projects will assist in restoring pride to the Eastside Neighborhood by converting long dormant eyesores into anchor properties that will draw visitors, workers and new residents into the neighborhood.

This area is also part of the Michigan Boulevard corridor, a major gateway entrance to Michigan City. The approval and successful completion of the proposed brownfield redevelopment and greenspace Nature Park will further solidify the city's commitment, along with new private commitments and other local entities, towards the substantial improvement in the Eastside neighborhood community.

Community Involvement
Three planning meetings have already been held by Michigan City Mayor Sheila Brillson with City department heads, school system officials, labor union representatives and a consulting engineer to formulate a coherent plan to present to the public at future community involvement meetings. Utilizing meeting space at the adjacent Krueger Middle School was discussed to strengthen the focus on the immediate neighborhood. Eastside neighborhood residents have been proactive in establishing organized community groups working to re-establish strong neighborhood ties and improve the asthetics of existing homes and structures.

Site Identification, Site Assessment plan, Flow of Ownership, and Reuse Planning
The greenspace site was identified through a review of city owned property that held potential for development into recreational activities for city residents.

Key to the site selection process was the fact that the city already owned this property which consists of 5 acres of the disturbed former city dumpsite and 18 acres of undisturbed forest area on the other side of Trail Creek, for a total of 23 acres.In addition, the property either bordered or encompassed Trail Creek. Having ownership of a substantial amount of forested, creekside property immediately adjacent to a large, urban residential and industrial area was determined to be a priceless city asset that required immediate action to develop into a beneficial reuse for city residents.

The tasks involved with this project will include reviewing existing conditions - site visit, survey, interviews, evaluation of horizontal and vertical limits of fill and potential contents, ground water screening assessment and methane assessment and data evaluation and reporting.

The successful reuse of the proposed greenspace will have multiple benefits for the community. The opportunity to provide a high quality, hands-on, outdoor science lab for any school in the surrounding area to use on a regular basis is a major benefit for our school children. Not only will it have the potential to improve academic achievement, it will also reaffirm the community's support of our local educational system.

Accounting for lead time required to purchase and manufacture the bridge components, an overall pproject timeline of approximately 6 months has been established. Funding has been secured from Blue Chip Casino for the redevelopment of the site. Park Department employees will assist with site cleanup and earth moving activities. The local labor union Building and Trades officials will assist with installation of lighting and teachers have volunteered to organize students to perform brush clearing for the pathways.

The design team has placed an emphasis on utilizing recycled materials for constructing elements of the Nature Park. A grant application is under consideration to be submitted to the LaPorte County Solid Waste Board to assist in the purchase of recycled materials.

The Michigan City Park Department has agreed to accept maintenance responsibility for this site.

Greenspace Budget

TASKS	FUNDING		
	EPA	OTHER	TOTAL
1. Review Existing Conditions	$5,000		$5,000
2. Geophysical Survey	$5,000		$5,000
3. Field Investigation and Assessments	$25,000		$25,000
4. Data Evaluation and Reporting	$7,500		$7,500
5. Feasibility Study		$10,000	$10,000
6. Project Management	$5,000	$5,000	$5,000
7. Community Involvement	$2,500	$2,500	$2,500
TOTALS	**$50,000**	**$17,500**	**$67,500**

The "other" category represents in-kind service provided by the City of Michigan City and the Michigan City Economic Development Corporation for tasks 5, 6 and 7.

LIST OF ATTACHMENTS

Photographs
- Royal Metal Building
- Schmock Oil Building
- Karwick Nature Park

Property Information
- Royal Metal Building
- Schmock Oil Building
- Karwick Nature Park

Letters of Access
- Royal Metal Building
- Schmock Oil Building

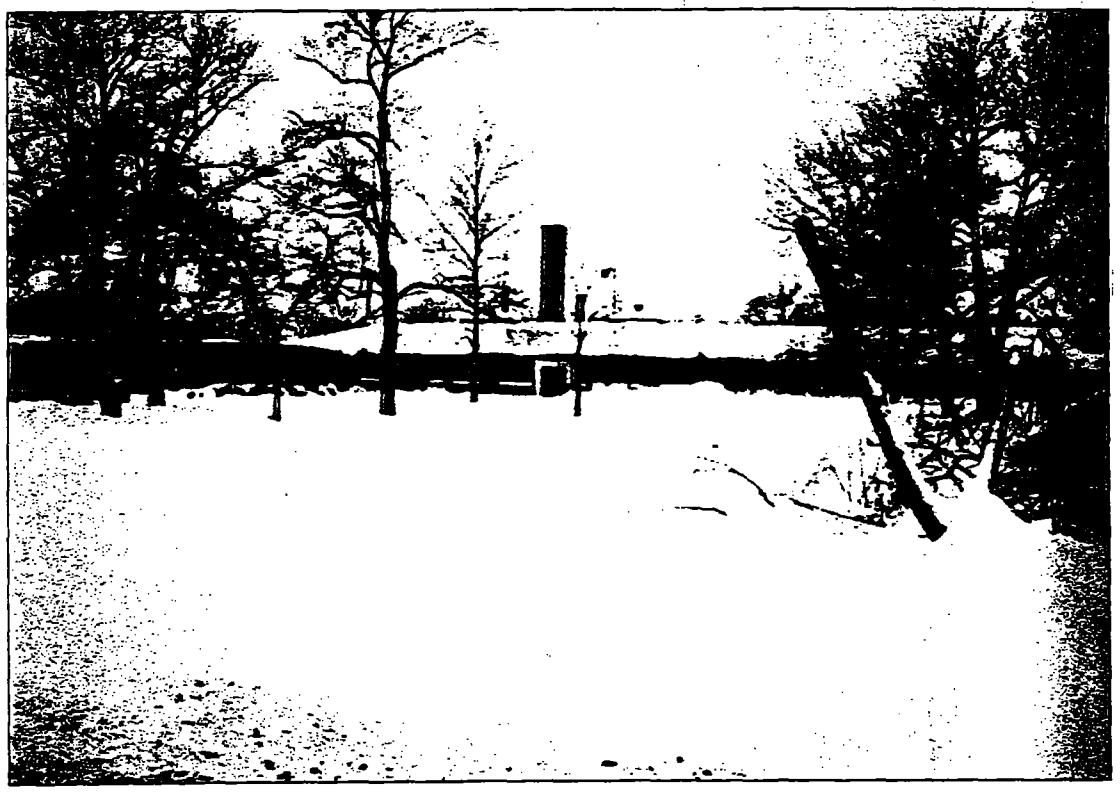
Letters of Support

Government Agencies
- Indiana Governor Frank O'Bannon
- U.S. Senator Richard Lugar
- U.S. Congressman Tim Roemer
- State Representative Mary Kay Budak
- Mayor Sheila Brillson's Office
- Indiana Department of Commerce
- Indiana Department of Environmental Management
- Michigan City Economic Development Corporation
- LaPorte County Solid Waste District
- Michigan City Common Council
- Michigan City Redevelopment Commission
- Michigan City Parks and Recreation Department
- Michigan City Sanitary District.

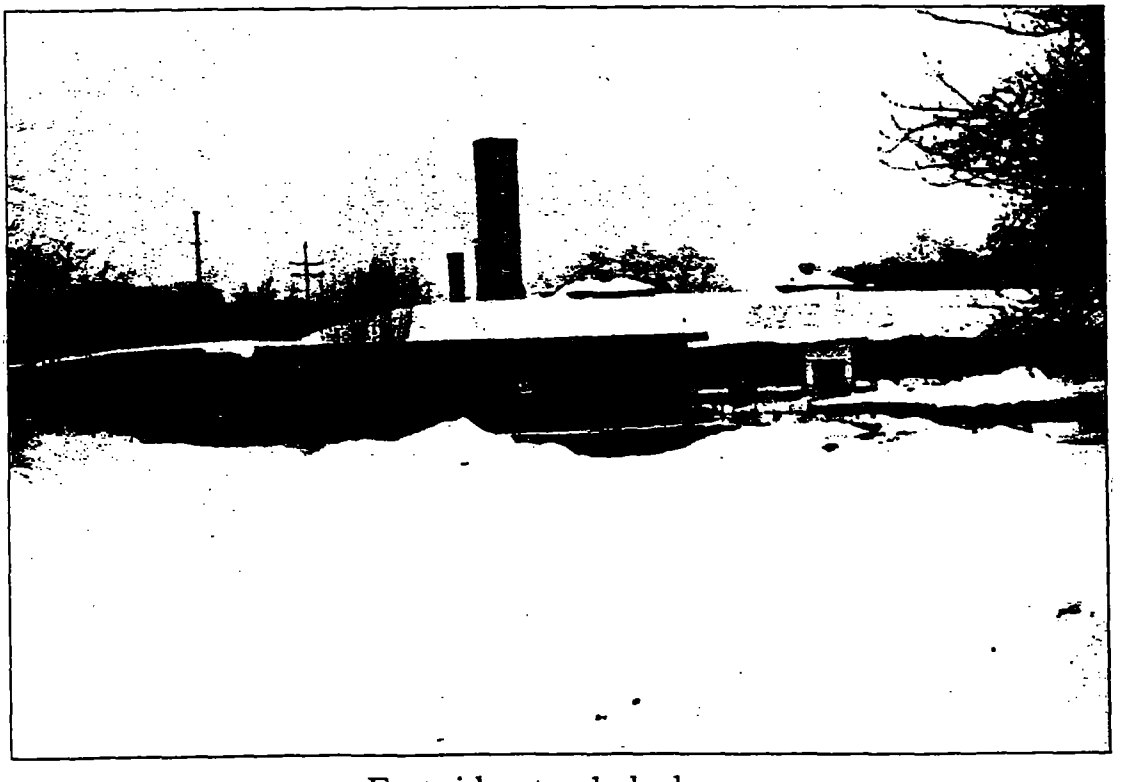
Community-Based Organizations
- Michigan City Urban Enterprise Association
- Michigan City Area Chamber of Commerce
- Northern Indiana Center for Land Reuse
- Northwest Indiana Forum
- Krueger Middle School
- Westside Improvement Group
- Eastport Improvement Group
- Center of Workforce Innovations

Corporations and Business Groups
- Northern Indiana Public Service Company
- Commercial Investment Transactions Inc.
- Woodruff and Sons
- International Brotherhood of Electrical Workers - Local # 531

Royal Metals Building



Main entrance - east side of facility.



East side - truck dock area

Royal Metals Building

North side.

Neighborhood area north of building.

Royal Metals Building

West side.

Printed 11/17/2000 Card No. 1 of 1

ADMINISTRATIVE INFORMATION

PARCEL NUMBER
42 01 27 312 002
Parent Parcel Number

Property Address
600 N CARROLL AV

Neighborhood
4209902 ZONE 9

Property Class
350 Industrial Warehouse

TAXING DISTRICT INFORMATION
Jurisdiction 46
Area 012 Michigan
District 42

Site Description
Topography:
Public Utilities:
Street or Road:
Neighborhood:
Zoning:
Legal Acres:
0.0000

OWNERSHIP
FABRICRAFTS INC
ONE PARK AVE
NEW YORK, NY 10016

RIDGELAND LT 3 BLK 26.

TRANSFER OF OWNERSHIP
Date

Royal METAL

INDUSTRIAL

VALUATION RECORD

Assessment Year		1994	03/01/1995
Reason for Change			4Y Reval
VALUATION	L	5500	10100
True Tax Value	B	533300	169800
	T	538800	179900
VALUATION	L	1830	3370
Assessed Value	B	177770	56600
	T	179600	59970

LAND DATA AND CALCULATIONS

	Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table 175 Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value
1	Front Lot	40.0	61	105	0.83	200.00	166.00	10130		10130

Supplemental Cards

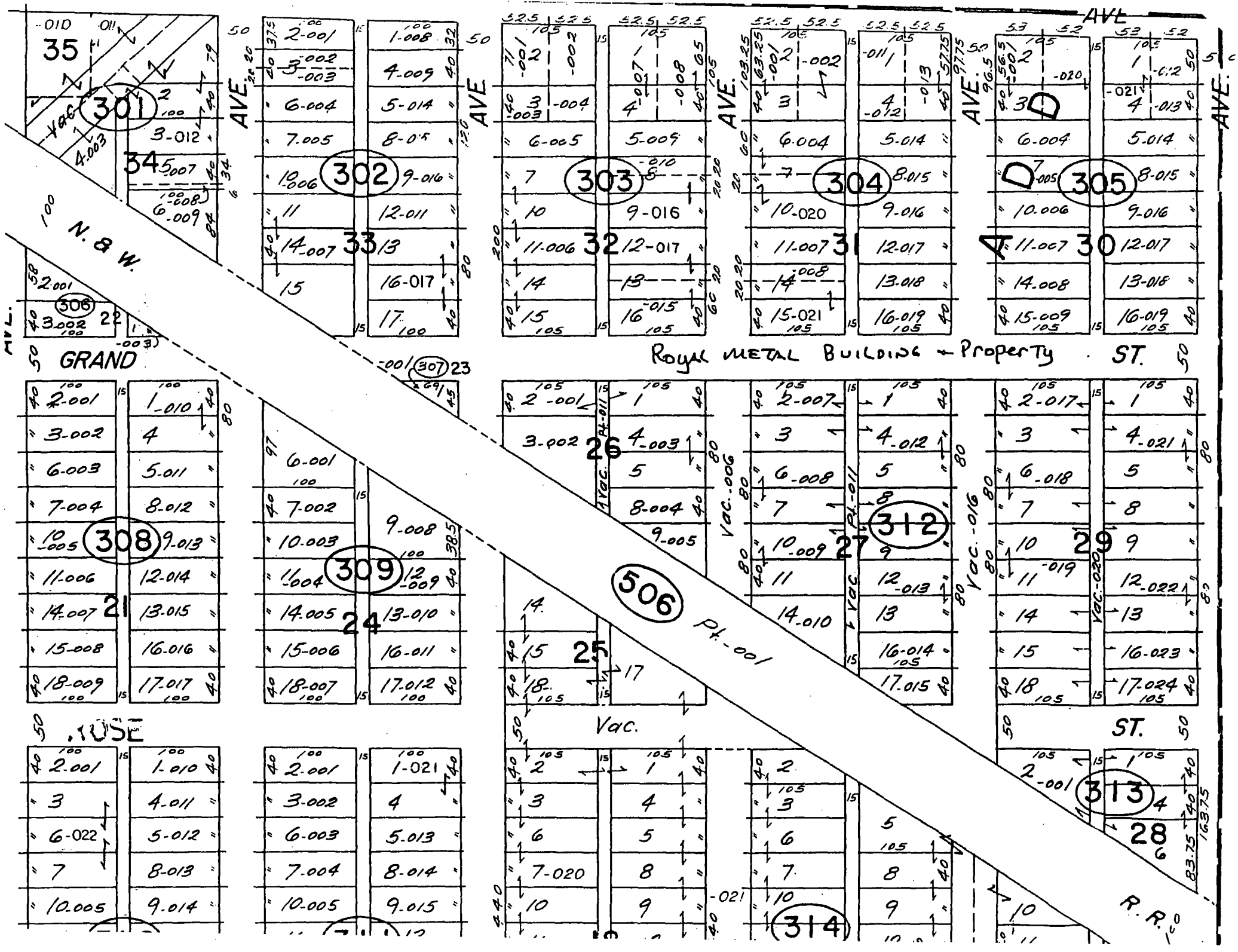
TRUE TAX VALUE 10130

FARMLAND COMPUTATIONS
Parcel Acreage
81 Legal Drain NV [-]
82 Public Roads NV [-]
83 UT Towers NV [-]
9 Homesite(s) [-]
TOTAL ACRES FARMLAND
TRUE TAX VALUE

Measured Acreage
Average True Tax Value/Acre

TRUE TAX VALUE FARMLAND

Classified Land Total
Homesite(s) Value [+]
Supplemental Cards
TOTAL LAND VALUE 10100

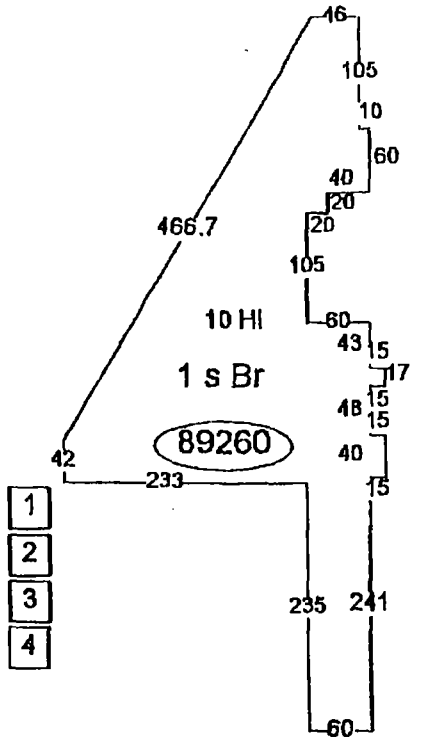


AVE
AVE.
AVE
AVE.
AVE.
AVE.
N. & W.
GRAND
ROSE
ST.
ST.
R. R.
Royal METAL BUILDING + Property
Vac.
Vac.-006
Vac.-016
Vac.-020
Pt.-001
Pt.-011
301
302
303
304
305
306
307
308
309
312
313
314
21
24
25
26
27
28
29
30
31
32
33
34
35

42 01 27 312 002 Property Class: 350
600 N CARROLL AV

IMPROVEMENT DATA

Royal METAL



P Key	GCM46
#Units	
AVSize	
Floor	1
Perim	1952
PAR	2
Height	10
Use	UTLSTOR
Use SF	89260
Use %	100.00%
Rate	15.20
Yr Adj	-1.07
WH Adj	-0.98
Ot Adj	0.00
BASE	13.15
BPA %	100%
Subtot	13.15
U Fin	0.00
Ot Adj	0.00
IntFin	0.00
Div W	0.00
Lightg	0.00
AirCon	0.00
Heat	-0.63
Sprink	0.95
SF Pr	13.47
x SF	1202330
Subtot	1202330
Plumb	0
SpFeat	16967
ExFeat	0
TOTAL	1219297
Qual/Grade	D+2
RCN	1097370
Use Dep	64/60

PHYSICAL CHARACTERISTICS

ROOFING

Other

FRAMING

	B	1	2	U
Wd Jst	0	79154	0	0
F Res	0	10106	0	0

FINISH

	DF	SF	FD	ED
1	89260	0	0	0
Total	89260	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	3000	0	0
Sprink	0	89260	0	0

SPECIAL FEATURES

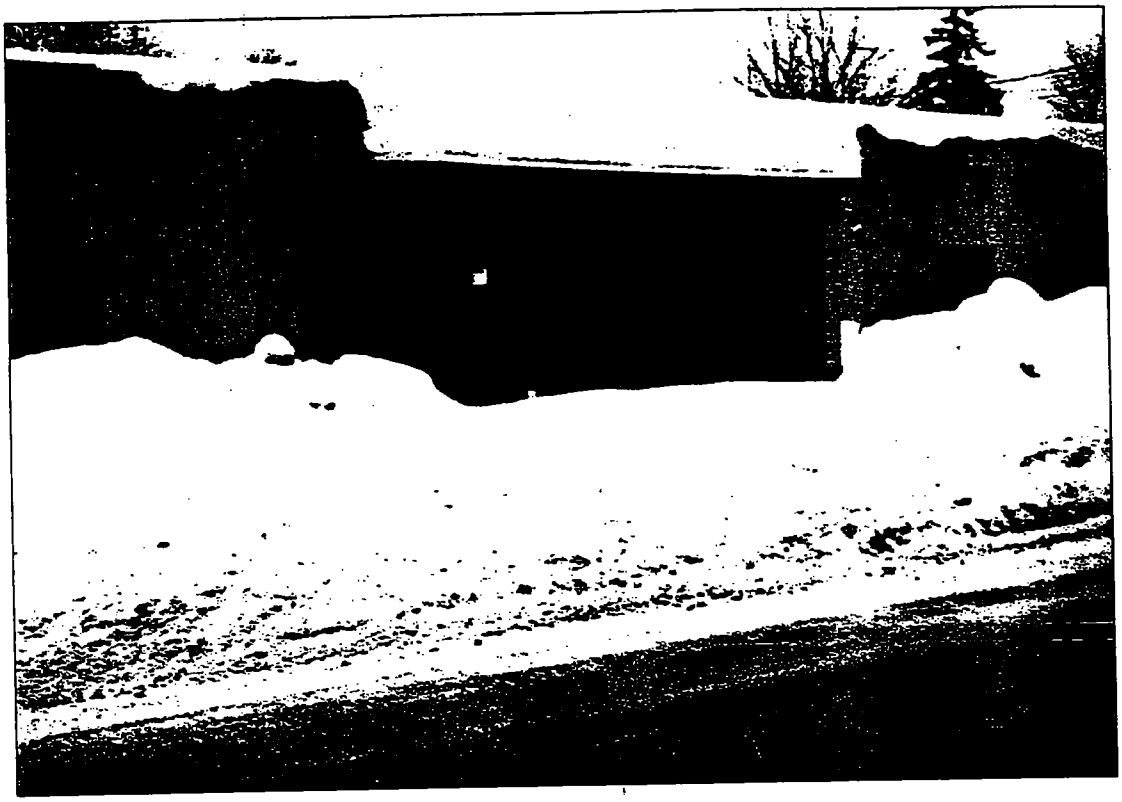
Description	Value
MISC	69410
TRUCKWL	10775
TWWALL	6192

SUMMARY OF IMPROVEMENTS

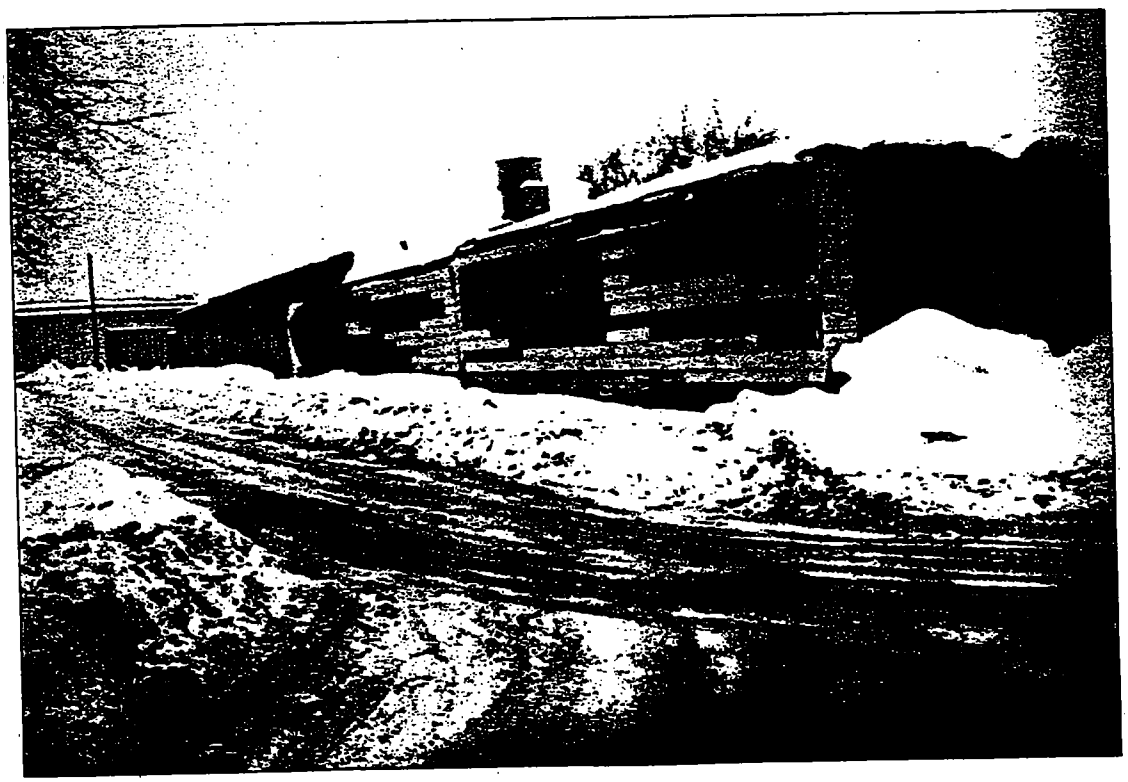
ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	UTLSTOR	0.00		D+2	1950	1950	F	0.00	N	0.00	89260	1097370	64	60		100	158000
04	PAVING	5.00	6	C	1950	1950	AV	1.25	N	1.33	2 DLA	4990	65	0		100	1800

Data Collector/Date	Appraiser/Date	Neighborhood	Supplemental Cards
PWB 10/18/1995	PWB 10/19/1995	Neigh 4209902 AV	TOTAL IMPROVEMENT VALUE 159800

Schmock Oil Co.

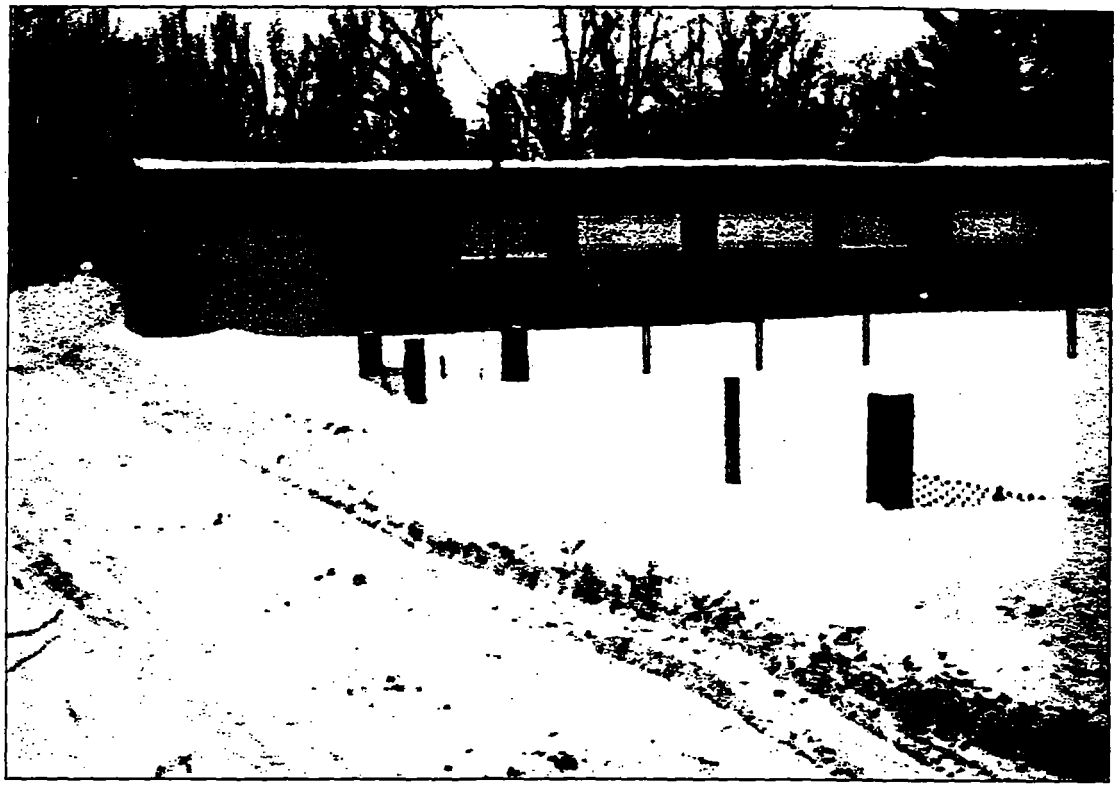


Main entrance - south side.



West side.

Schmock Oil Co.



North side.

North side.

ADMINISTRATIVE INFORMATION

PARCEL NUMBER
42 01 32 327 015

Parent Parcel Number

Property Address
1111 W GARFIELD ST

Neighborhood
4209902 ZONE 9

Property Class
340 Industrial Lt mfg & assembly

TAXING DISTRICT INFORMATION

Jurisdiction	46	
Area	012	Michigan
District	42	

OWNERSHIP

SCHMOCK BROS OIL CO INC
155 HALSTED ST
CHICAGO HEIGHTS, IL 60411

TUTHILL & SCHWAGER 5TH LTS 3,
6,7,10,11,14 & 15 BLK 31 & 14
FT VAC LOGANSPORT ST ADJ

Printed 01/03/2001 Card No. 1 of 1

TRANSFER OF OWNERSHIP

Date

INDUSTRIAL

VALUATION RECORD

Assessment Year		1994	03/01/1995
Reason for Change			4Y Reval
VALUATION	L	14200	25700
True Tax Value	B	93100	89400
	T	107300	115100
VALUATION	L	4730	8570
Assessed Value	B	31030	29800
	T	35760	38370

Site Description

Topography:

Public Utilities:

Street or Road:

Neighborhood:

Zoning:

Legal Acres:
0.0000

LAND DATA AND CALCULATIONS

	Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table 175 Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value
1	Front Lot	119.0	119	289	1.08	200.00	216.00	25700		25700

Supplemental Cards

TRUE TAX VALUE 25700

FARMLAND COMPUTATIONS

Parcel Acreage

31 Legal Drain NV [-]
32 Public Roads NV [-]
33 UT Towers NV [-]
9 Homesite(s) [-]

TOTAL ACRES FARMLAND

TRUE TAX VALUE

Measured Acreage
Average True Tax Value/Acre

TRUE TAX VALUE FARMLAND

Classified Land Total
Homesite(s) Value (+)

Supplemental Cards
TOTAL LAND VALUE 25700

PHYSICAL CHARACTERISTICS

ROOFING

Built-up

FRAMING

	B	1	2	U
Wd Jst	0	23780	0	0

FINISH

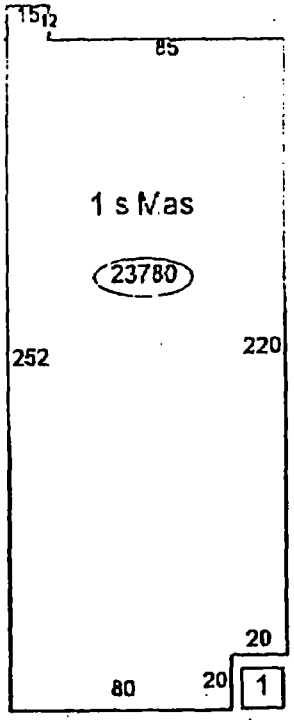
	UF	SF	FD	FD
1	21402	1427	0	951
Total	21402	1427	0	951

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	23780	0	0

PLUMBING

	Residential		Commercial	
	#	TF	#	TF
Full Baths				
Half Baths			2	4
Extra Fixtures				
TOTAL		0		4



#Units			
AVSize			
Floor	1	1	1
Perim	704	704	704
PAR	3	3	3
Height	12	12	12
Use	LMFG	INDOFF	LITTLSTOR
Use SF	1427	951	21402
Use %	6.00%	4.00%	90.00%
Rate	23.45	40.40	15.70
Fr Adj	-1.21	-1.62	-1.21
WH Adj	-0.30	0.00	-0.44
Ot Adj	0.00	0.00	0.00
BASE	21.94	38.78	14.05
BPA %	100%	100%	100%
Subtot	21.94	38.78	14.05
U Fin	0.00	0.00	0.00
Ot Adj	0.00	0.00	0.00
IntFin	0.00	0.00	0.00
Dlv W	0.00	0.00	0.00
Lightg	0.00	0.00	0.00
AirCon	0.00	-3.50	0.00
Heat	0.00	0.00	0.00
Sprink	0.00	0.00	0.00
SF Pr	21.94	35.28	14.05
x SF	31310	33550	300700

Subtot	365560
Plumb	4000
SpFeat	2820
ExFeat	0
TOTAL	372380
Qual/Grade	D-2
RCN	223430
Use Dep	60/ 0 60/ 0 60/ 0

SPECIAL FEATURES

Description	Value
LOADDOCK	2820

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	LMFG	0.00		D-2	1962	1962	F	0.00	M	0.00	23780	223430	60	0		100	89400

Data Collector/Date

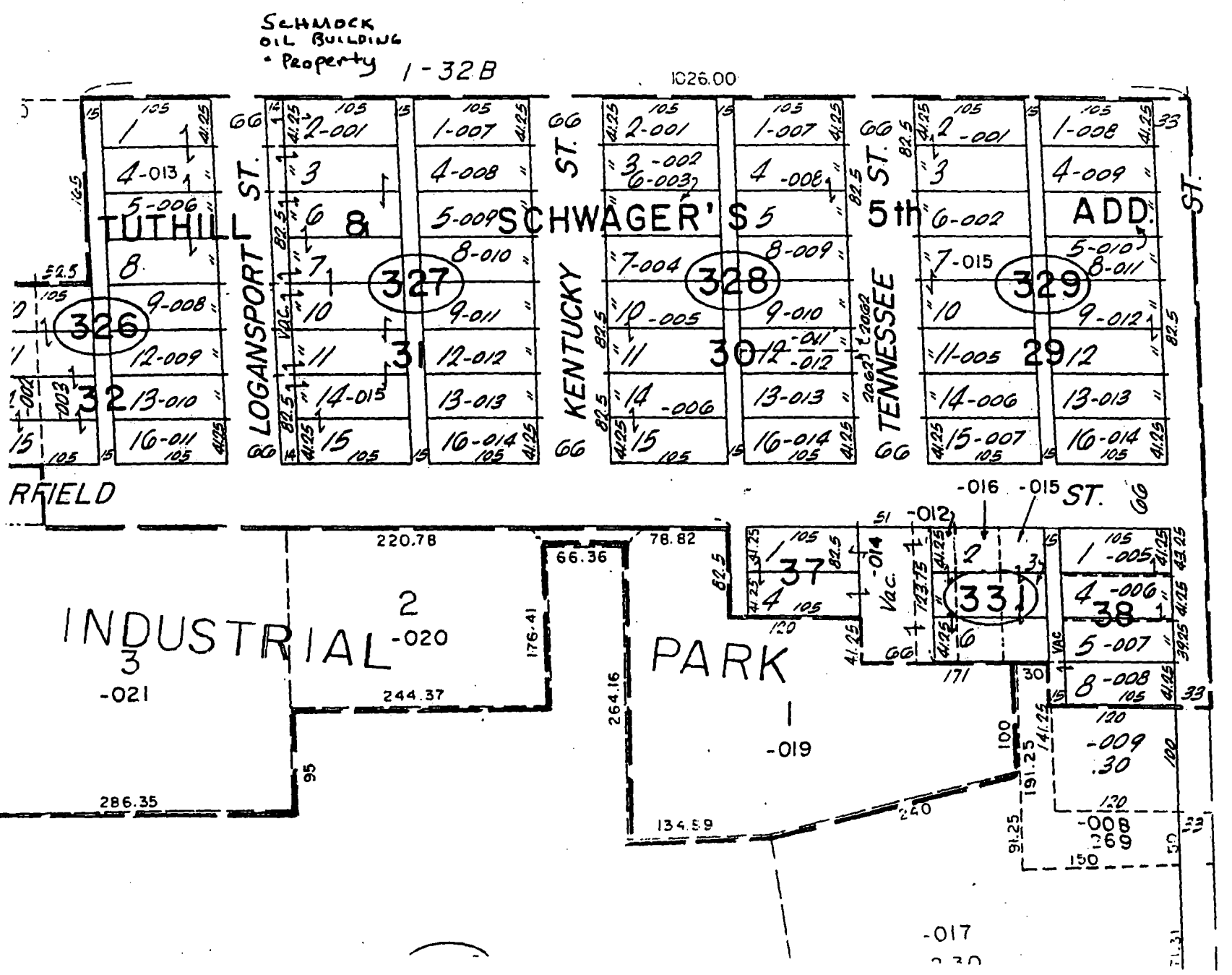
Appraiser/Date

Neighborhood

Neigh 4209902 AV

Supplemental Cards

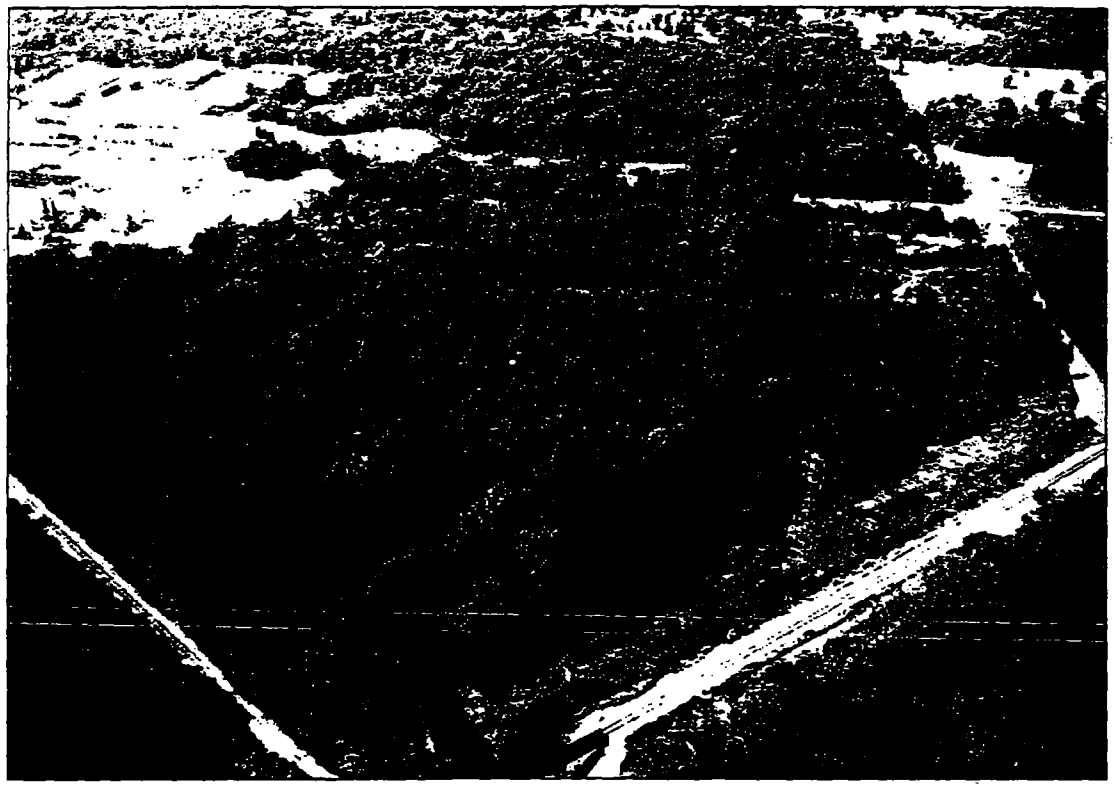
TOTAL IMPROVEMENT VALUE 89400



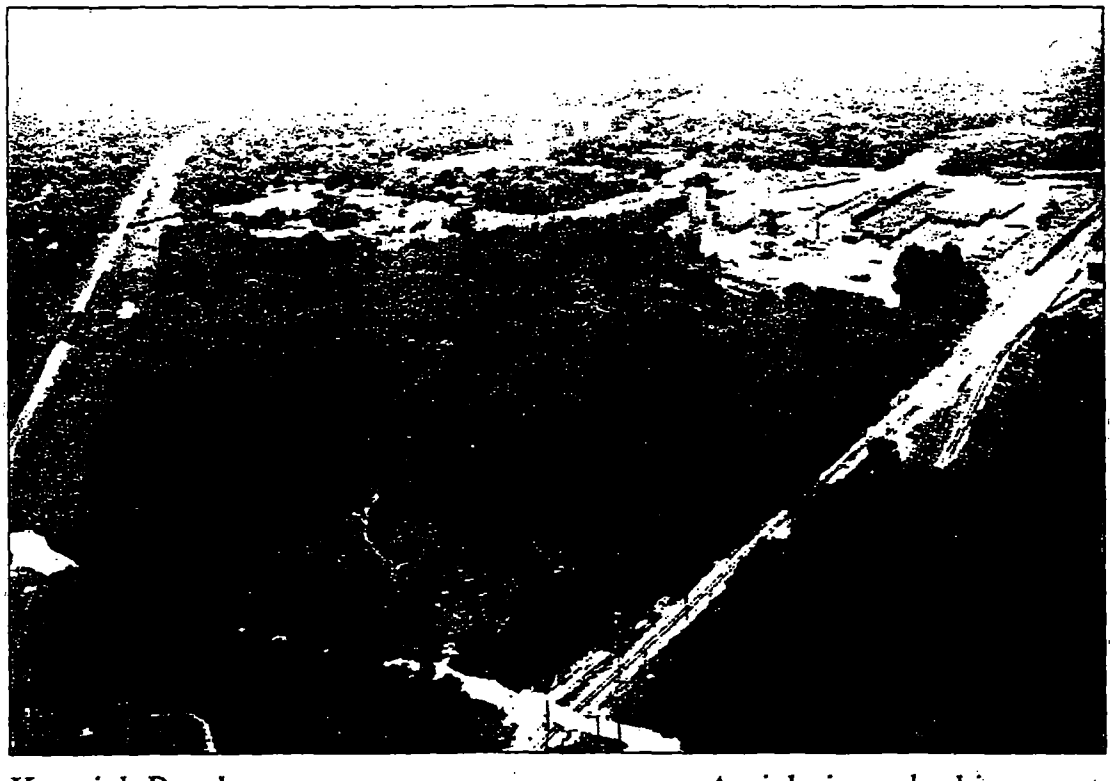
Revised 3-1-88.

"A"
EARL-HOMESTEAD
SUB.
REVISED 3-1-87
Revised 3-1-89
REVISED 3-1-91
REVISED 3-1-92
Revised 3-1-94

Karwick Nature Park

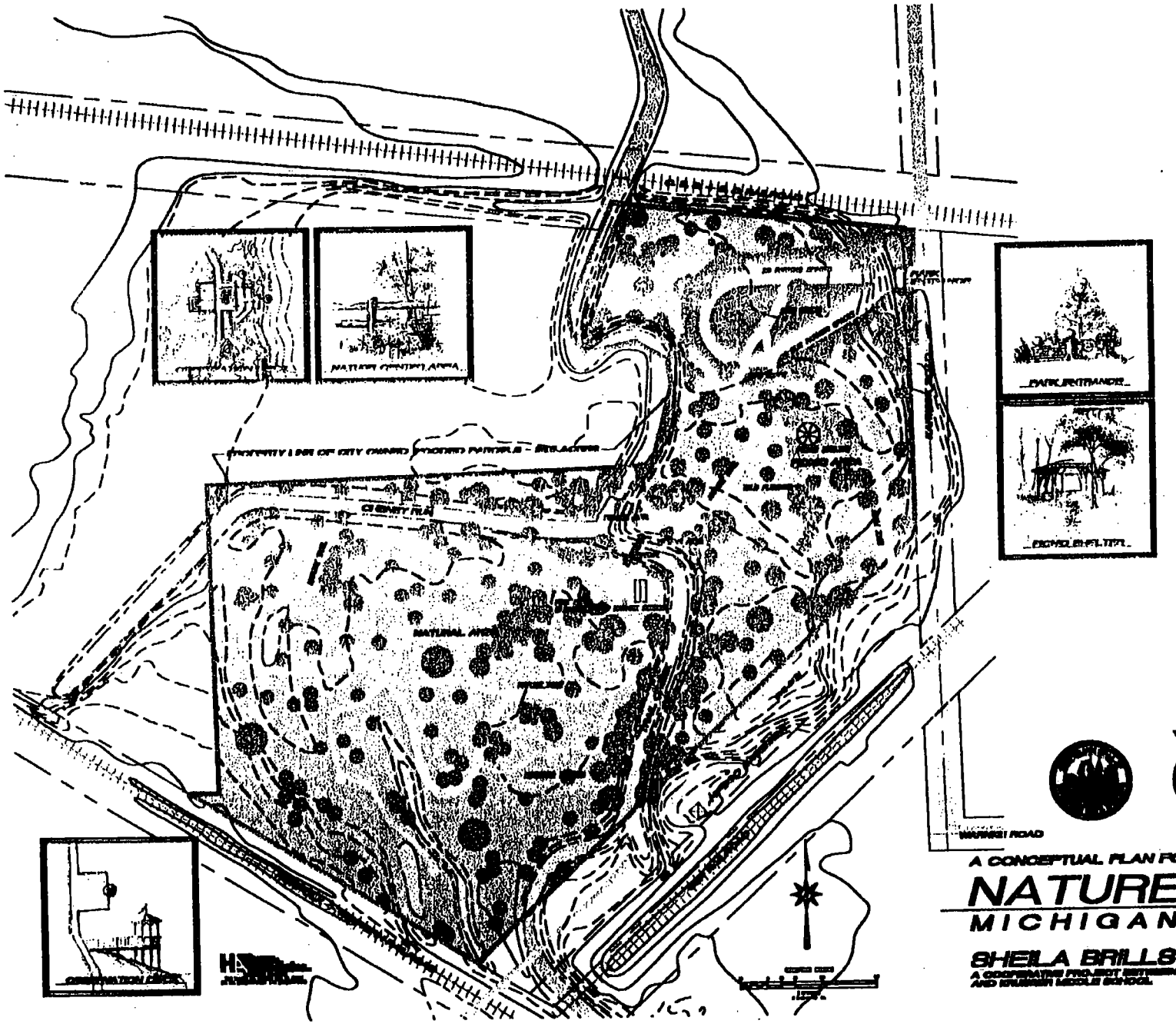


Trail Creek. Aerial view - looking north.



GAF Factory

Karwick Road. Aerial view - looking west.



ichigan ity rea chools

A CONCEPTUAL PLAN FOR

NATURE PARK 2000

MICHIGAN CITY, INDIANA

SHEILA BRILLSON - MAYOR

A COOPERATIVE PROJECT BETWEEN THE CITY OF MICHIGAN CITY, MICHIGAN CITY AREA SCHOOLS AND BARKER MIDDLE SCHOOL

Planning Department
Phone 219-873-1419
Fax 219-873-1580

Michigan City, IN
The place is here, the time is now!

Inspection Department
Phone 219-873-1415
Fax 219-873-1580

January 4, 2001

Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

As the Code Enforcement Inspector for the City of Michigan City, I am authorized to enter an inspect condemned buildings to insure that they are secured. I am available to escort the necessary personal into the Schmock Oil Co. building at 1111 Garfield St. so an environmental site assessment as proposed in the United States Environmental Protection Agency Brownfields Assessment Demonstration Pilot application submitted by the City of Michigan City, Indiana .

Please contact me should there be any questions. I am

Sincerely,

Ron Plencner Code Enforcement Inspector

100 E. Michigan Blvd.
Michigan City, IN 46360
(219) 873-1211
Fax: (219) 873-1595
www.mc-edc.com
Email: mcedc@netnitco.net

Tony Rodriguez
Executive Director

Mayor Sheila Brillson
Chairman

BOARD MEMBERS

Mayor Sheila Brillson
Michael Burke
Craig Dwight
Terry Hearst
Virginia Martin
Roger McKee
Boyd Phelps
John Pugh
Bruce Rampage
John Schaefer
Robert Schaefer

- Kim Merchant
Ex-officio

"For unmatched quality of life in the midwest turn to Michigan City"

January 11, 2001

The agent of the Royal Metal Building, located at 600 N. Carroll Ave. has agreed to provide the City with a letter of access to the property on January 16, 2001.

We will forward this letter to the USEPA under separate cover for inclusion in this grant proposal.

OFFICE OF THE GOVERNOR
INDIANAPOLIS, INDIANA 46204-2797

FRANK O'BANNON
GOVERNOR

January 9, 2001

Ms Becky Brooks
OWSER Outreach and Special Projects Staff
United States Environmental Protection Agency
401 M Street, SW, Room SE 385
Washington, DC 20460

Dear Ms. Brooks,

I am writing to indicate my support for an application which is being submitted to your office by the City of Michigan City, Indiana for a $200,000 Brownfields Assessment Demonstration Pilot Project. Project RENEW will involve completing environmental assessments and subsequent redevelopment plans for two abandoned facilities within the city which pose potential environmental problems as well as health and safety problems to the surrounding neighborhood. The project will ultimately involve bringing these properties back into uses that create jobs and enhance the surrounding neighborhoods.

This type of brownfield redevelopment activity will no doubt prove to create sustainable development, and revitalize existing infrastructure. This epitomizes brownfield redevelopment. The State of Indiana has taken an extremely active role in addressing brownfield redevelopment through its brownfield remediation revolving loan fund. I encourage the Environmental Protection Agency to partner with the State of Indiana and the City of Michigan City by awarding the grant. I would appreciate being advised of your final decision.

Sincerely,

Governor O'Bannon

cc: Ted Smith
EPA Region 5
77 West Jackson Boulevard (SE-4J)
Chicago, IL 60604-3507

RECYCLED PAPER

RICHARD G. LUGAR
INDIANA

306 HART SENATE OFFICE BUILDING
WASHINGTON, DC 20510
202-224-4814

COMMITTEES:
AGRICULTURE, NUTRITION, AND FORESTRY
CHAIRMAN
FOREIGN RELATIONS
SELECT COMMITTEE
ON INTELLIGENCE

United States Senate

WASHINGTON, DC 20510-1401

January 9, 2001

Honorable Shiela Brillson, Mayor
City Of Michigan City
100 East Michigan Boulevard
Michigan City, Indiana 46360

Dear Mayor Brillson:

I have been informed by Tony Rodriquez, Executive Director of the Michigan City Economic Development Corporation that the City is submitting a grant application to the U.S. Environmental Protection Agency for a Brownfields Assessment project.

My understanding is that the City of Michigan City proposes to use this grant funding to complete environmental assessment at the Royal Metal and Schmock Oil properties which are both located in the City's Urban Enterprise Zone. These abandoned properties hold great potential for reuse and restoration of the neighborhoods surrounding these facilities. The EPA Brownfields Economic Redevelopment Initiative is well-suited to the objectives outlined by the City of Michigan City.

I am pleased to indicate my support for this grant application and this effort to secure redevelopment of these two properties. Thank you.

Sincerely,

Richard G. Lugar
United States Senator

RGL/lar
cc: Mr. Tony Rodriguez, Executive Director, Michigan City Development Corporation
Tim Sanders, Director, Northwest Senate Office

PRINTED ON RECYCLED PAPER

TIM ROEMER
THIRD DISTRICT, INDIANA

COMMITTEE ON EDUCATION AND THE WORKFORCE

PERMANENT SELECT COMMITTEE ON INTELLIGENCE

E-MAIL: tim.roemer@mail.house.gov
INTERNET: http://www.house.gov/roemer

Congress of the United States
House of Representatives
Washington, DC 20515–1403

WASHINGTON OFFICE:
2352 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–1403
(202) 225–3915

DISTRICT OFFICE:
217 NORTH MAIN STREET
SOUTH BEND, IN 46601
(219) 288–3301

CALL TOLL FREE
1–800–439–3518

January 9, 2001

Ms. Betty Brooks
OSER Outreach and Special Projects Staff (5105)
USEAP
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Dear Ms. Brooks:

I write in support of the Brownfields Assessment grant application of Michigan City, Indiana. The partners in this effort have worked hard to identify and plan around two sites, the old Royal Metal and Schmock Oil properties, which are within the city and merit redevelopment.

Plans to return this property to usefulness begin with environmental assessment and reclamation. Redevelopment of this area will mean the creation of new manufacturing and light industrial jobs, office space, and possible housing. Rather than abandon outdated sites, we hope to bring these unused properties back to life. As we *re*develop this into a functioning part of town, we also accomplish the goal of curbing the urban sprawl so prolific throughout our nation.

Again, the plan *begins* with assessment and reclamation. Therefore, attaining this grant is an important and crucial step toward the ultimate goal of redevelopment. I ask that the Michigan City proposal receive every opportunity within the rules governing this grant. Thank you for your time and kind consideration.

Sincerely,

Tim Roemer
Member of Congress

TR:mb

THIS STATIONERY PRINTED ON PAPER MADE OF RECYCLED FIBERS

STATE OF INDIANA
HOUSE OF REPRESENTATIVES
THIRD FLOOR STATE HOUSE
INDIANAPOLIS, INDIANA 46204

Mary Kay Budak
5144 Pawnee Trail
LaPorte, IN 46350

COMMITTEES:
Human Affairs, RRM
Public Health

January 11, 2001

To whom it may concern,

This letter is on behalf of the Revitalizing Environmentally Neglected Emerging Workplaces project. I fully encourage support for this project and am pleased that we have leaders who are involved in taking the steps to ensure our community is preserved and enhanced.

Over the past several years, Indiana cities have seen an increasing number of businesses close down and/or relocate. This causes a problem for the individuals who depended on these businesses for their livelihood, as well a creating an eyesore on the spot where they were located. I believe redeveloping these areas that are currently nonfunctional, is an efficient use of the city's resources.

Michigan City has two such properties which they hope to renew through the project not only by providing revitalization and creating employment opportunities, but also to bring people back toward the city in an attempt to stem urban sprawl.

Again, I am in full support of this project and am excited about the prospects of what it means to the community.

Sincerely,

Mary Kay Budak
State Representative

MKB:MM/bn

Indiana
Be in a state of progress

Lieutenant Governor
Joseph E. Kernan, Director
INDIANA DEPARTMENT OF COMMERCE
ONE NORTH CAPITOL, SUITE 700
INDIANAPOLIS, INDIANA 46204
TEL 317 232 8800
www.indbiz.com

January 9, 2001

The Honorable Sheila Brillson
Mayor, City of Michigan City
100 East Michigan Boulevard
Michigan City, IN 46360

Dear Mayor Brillson:

I am writing in support of the Michigan City, Indiana request for a U.S. EPA Brownfield Assessment Demonstration Pilot Grant. If chosen as a pilot participant, the grant dollars would enable Michigan City to implement a redevelopment project of two properties located within the city's Urban Enterprise Zone.

The two properties, the Royal Metal property and the Schmock Oil property, are part of the Michigan City's RENEW (Revitalizing Environmentally Neglected Emerging Workplaces) Project. The project involves assessment of and redevelopment planning for the two sites and is a partnership between various local entities, including the Michigan City Common Council, the Michigan City Urban Enterprise Association, the Michigan City Minority Health Coalition, and the Michigan City Area Chamber of Commerce.

The Indiana Department of Commerce (IDOC) supports the assessment, remediation and reuse of Brownfields by Indiana communities as an important element in comprehensive community development and economic growth. IDOC recognizes the need to redevelop and reuse land, buildings and infrastructure and offers various funding mechanisms for which communities, such as Laporte, may apply to assist with assessment, planning, and redevelopment of brownfield sites, including:

- *Community Planning Fund*: A state-funded grant program designed to encourage long-range community planning. The project helps defray the costs of economic development strategies, target area studies, capital improvement plans and feasibility studies;
- *Community Focus Fund Planning Grant*: Administered by the Indiana Department of Commerce and funded with federal Community Development Block Grant dollars, these grants serve as a compliment to the Community Focus Fund Program. The grants help communities develop feasibility plans for future projects that either benefit low-to-moderate income persons or eliminate blight in communities, including infrastructure, land use, economic development, downtown revitalization and historic preservations;
- *Community Focus Fund*: Administered by the Indiana Department of Commerce and funded with federal Community Development Block Grant dollars, these grants support a variety of construction projects that either benefit low-to-moderate income persons or eliminate blight in communities. Projects typically

include infrastructure improvements, fire protections, downtown revitalization, community centers, historic preservation and infrastructure in support of housing;

- *Industrial Recovery Tax Credit* – A state tax credit against the cost of rehabilitating a building or complex of buildings. A county or municipality with a planned project for reuse of a "dinosaur building" may apply to the Indiana Enterprise Zone for designation and eligible tax benefits, which are available 10 years from the date of project approval;
- *Urban Enterprise Zone Brownfields Programs* – A grant program available to Urban Enterprise Associations for Phase I and Phase II environmental site assessments;
- *Brownfields Redevelopment Program* – Administered by the Indiana Development Finance Authority and the Indiana Department of Environmental Management. The program offers grants and low-interest loans (2.5% to 3.0%) for the remediation, selective demolition and additional assessment of brownfields. Since January, the program has provided over 75 grants and 12 low-interest loans.

Thank you for this opportunity to convey our support of brownfields assessment and redevelopment in Indiana, and for your consideration of the Michigan City's application for the U.S. EPA Brownfield Assessment Demonstration Pilot Grant. Please feel free to contact me with any questions at (317) 232-8806.

Sincerely,

Thomas F. McKenna
Executive Director

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.state.in.us/idem

January 10, 2001

Mayor Sheila Brillson
City of Michigan City, Indiana
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

Re: U.S. EPA Brownfields Assessment
Demonstration Pilot Grant
City of Michigan City

This letter is in support of the U.S. Environmental Protection Agency (EPA) Brownfields Demonstration Assessment Pilot Grant application for the City of Michigan City, Indiana. The City of Michigan City has demonstrated its commitment to redeveloping brownfields by taking advantage of the Indiana Brownfields Program.

The Indiana Department of Environmental Management Brownfields Program staff is familiar with the Josam Foundry site, for which a state site assessment grant has been awarded. Additional work appears to be needed in the area as part of the City's "RENEW" project, and IDEM, along with the Indiana Development Finance Authority, is committed to providing technical assistance and coordination of its programs to help remove the environmental barriers to the redevelopment of brownfield properties.

IDEM is confident that the City of Michigan City will be an excellent pilot selection and looks forward to continuing its partnership. For further assistance, please contact me at 317/233-2773.

Sincerely,

Gabriele Hauer

Gabriele Hauer, Chief
Brownfields and Site Investigation Programs
Office of Land Quality

GH/mmo

cc: Ted Smith, U.S. EPA
File

100 E. Michigan Blvd.
Michigan City, IN 46360
(219) 873-1211
Fax: (219) 873-1595
www.mc-edc.com
mail: mcedc@netnitco.net

Tony Rodriguez
Executive Director

Mayor Sheila Brillson
Chairman

BOARD MEMBERS

Mayor Sheila Brillson
Michael Burke
Craig Dwight
Terry Hearst
Virginia Martin
Roger McKee
Boyd Phelps
John Pugh
Bruce Rampage
John Schaefer
Robert Schaefer

Kim Merchant
Ex-officio

"For unmatched quality of life in the midwest turn to Michigan City"

January 12, 2001

Ms. Betty Brooks
OSER Outreach and Special Projects Staff (5105)
USEPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Project RENEW – Revitalizing Environmentally Neglected Emerging Workplaces

Dear Ms. Brooks,

On behalf of the Michigan City Economic Development Corporation (MCEDC) I am pleased to extend our support of the City's proposals to the USEPA for a $200,000 Brownfields Assessment Demonstration Pilot Grant and associated $50,000 Greenspace Grant.

The MCEDC was established in 1996 to create an economic climate which increases Michigan City's ability to compete for significant new business investment and existing business expansion. If funded, the City's proposals would make Michigan City a better place to live and work and would enhance the city's economic climate.

As a cooperative partner with the City, the MCEDC has been designated to serve as the project manager on these brownfield projects. These projects are important to our city and we hope the USEPA will approve the grants.

Sincerely,

Anthony P. Rodriguez
Director

APR/sw

LaPorte County Solid Waste District
2354 North U.S Highway 35 • LaPorte, Indiana 46350
219-326-0014 • FAX 219-326-5310
Lynn K. Waters, Executive Director

8 January 2001

Mayor Sheila Brillson
City of Michigan City
100 East Michigan Blvd.
Michigan City IN 46360

Dear Mayor Brillson:

Please let this letter serve as our vote of support to the City of Michigan City's efforts to partner with the USEPA in the $200,000 Brownfield Assessment Grant for revitalization of the abandoned Royal Metal and Schmock Oil properties.

The beautification and "reuse" of properties for the betterment of the community and its citizens is right action and certainly admirable.

RENEW, by creating jobs within the community and enhancing neighborhood appearances, offers opportunities for this betterment both on a financial and environmental level.

Sincerely,

Lynn K. Waters

Lynn K. Waters
Executive Director

Printed with vegetable-based ink on 100% recycled paper

ɔmmon Council

January 5, 2001

The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
City, IN 46360

Dear Mayor Brillson,

I support the city's efforts to partner with the USEPA in obtaining the $200,000 Brownfield Assessment Grant, for the revitalization of the abandoned Royal Metal and Schmock Oil properties in Michigan City, Indiana. As the fifth ward councilman and resident of Michigan City's east side, the redevelopment of the Royal Metal property is a top priority for my constituents. This eyesore has long been a blight on the Eastport neighborhood and I support any efforts to revitalize this property.

It is a pleasure to support such a worthwhile project that not only will enhance and increase neighborhood property values but will also provide the catalyst for job creation. RENEW is an exciting project that will ultimately create much needed jobs in the community and enhance the surrounding neighborhoods.

Sincerely,

Willie Milsap
Councilman, Fifth Ward

ɔmmon Council

January 10, 2001

The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
City, IN 46360

Dear Mayor Brillson,

As Councilman of the Third Ward in Michigan City, Indiana, I support the City's application for a $200,000 USEPA Brownfields Assessment Demonstration Pilot Grant. The Schmock Oil facility is located in my ward and has long been an eyesore and health and safety hazard to the residents in the adjoining neighborhood. Cleanup of this facility and reuse of the property will no doubt increase property values, enhance neighborhood safety and create the potential for quality jobs.

Project RENEW is an exciting example of the initiative of the City to revitalize abandoned industrial buildings and land and I heartily support their efforts.

Sincerely,

Denzil Wilson

Denzil Wilson
Third Ward Councilman

Michigan City, IN
The place is here, the time is now!

Charles Lungren
414 Washington Street
Michigan City, IN 46360

1/5/01

Mayor Sheila Brillson
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson,

I support the city's effort to partner with the USPEA in obtaining the $200,000 Brownfield Assessment Grant, for the revitization of the abandoned Royal Metal and Schmock Oil properties in Michigan City, Indiana.
As Councilman for the 1st Ward , wherein lies the abandoned Royal Metal building, it is my duty to insure my constituents against any and all compromises to public health and safety, including living next to blighted areas.
I used to live one block from Royal Metal before and after it went into it's demise. The change was devastating to our neighborhood. No longer was there the daily comings and goings of people going to work. No longer was the area kept free of obnoxious weeds and debris. One by one, the windows were broken out, to be replaced by plywood. No longer was there a nightwatchman and security to prevent kids from crawling on the roof and vandalizing both the inside and outside of the building. Even the boxcars sitting directly south of the building were not immune as people opened them up and stole their contents. Blight breeds more blight. It's like Cancer. It spreads not only into the neighborhoods that surround it, but also into the Psyche of those that live in it's wake.
For decades the building has served as a most dangerous Disneyland for the children that live in it's shadow.
We have the same problem with the Schmock Oil property on the West side of town where last year vandals opened valves and flooded the surrounding area with hundreds of gallons of oil.

mmon Council

Michigan City, IN

The place is here, the time is now!

I beg the USEPA to consider these two sites for a $200,000 Brownfield Assessment Grant as part of our city's RENEW project that will ultimately create much needed jobs in the community and enhance the surrounding neighborhoods.

Respectfully Yours,

Charles Lungren

Charles Lungren
1st Ward Councilman

ɔmmon Council

January 5, 2001

The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
City, IN 46360

Dear Mayor Brillson,

I support the city's efforts to partner with the USEPA in obtaining the $200,000 Brownfield Assessment Grant, for the revitalization of the abandoned Royal Metal and Schmock Oil properties in Michigan City, Indiana. RENEW is an exciting project that will ultimately create much needed jobs in the community and enhance the surrounding neighborhoods.

It is a pleasure to support such a worthwhile project that not only will enhance and increase neighborhood property values but will also provide the catalyst for job creation.

Sincerely,

Virginia Martin

Virginia Martin, President
Michigan City Common Council

Planning Department
Phone 219-873-1419
Fax 219-873-1580

Michigan City, IN
The place is here, the time is now!

Inspection Department
Phone 219-873-1415
Fax 219-873-1580

January 10, 2001

Mayor Sheila Brillson
City Hall
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor:

RE: EPA's Brownfields Assessment

On behalf of the Michigan City Redevelopment Commission and as the director, we are very supportive of your efforts for the redevelopment of the following properties:

600 North Carroll Avenue
1111 West Garfield Street
former city dump on Karwick Road

Our mutual goal is to bring these properties back into uses that create jobs and enhance the surrounding neighborhoods.

The overall impact on the city would be extremely positive and beneficial.

Sincerely,

John W. Pugh
Director
M. C. Redevelopment Commission

JWP/vo

Michigan City Parks & Recreation

Six on the Lake
Washington Park
Michigan City, IN 46360-3293
Bus. (219) 873-1506
Fax (219) 873-1540

January 9, 2001

The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson,

We support the City's efforts to secure a $50,000 USEPA Brownfields Assessment Demonstration Pilot Grant for green space for the development of the Nature Park on Karwick Road in Michigan City, Indiana. Our organization has been actively involved with the city in the planning of this park, which will transform a former city dump into a beautiful park setting.

Our goal at the Park Department is to create sustainable public green space and this very exciting project will enhance our current park inventory while providing fishing and a learning center for local students.

Sincerely,

Terry Zeller
Park Superintendent

PRINTED ON RECYCLED PAPER TO PROTECT THE ENVIRONMENT

SANITARY DISTRICT OF MICHIGAN CITY

January 10, 2001

Honorable Mayor Sheila Brillson
100 East Michigan Blvd.
Michigan City, IN 46360

Re: Karwick Nature Park

Dear Mayor:

The Sanitary District of Michigan City has been pleased to learn of and also to participate in the pre-planning process for achieving the successful beneficial reuse of the former City Dump into a Nature Park center.

Especially appealing is your intention to create a multi-functional greenspace that provides quality educational opportunities for school children, outdoor sporting activities for fishermen and numerous acreage available to nature lovers for observing wildlife.

Based on the unique topography of this site and the fact the this city-owned property is only reachable via the old City Dump site, reclaiming the dump as an access way to the Nature Park is critical. This requires soil boring analysis and engineering review to determine feasible methods of installing a pedestrian bridge over Trail Creek. The Sanitary District will assist in any way we can to achieve the desired success of this project and applaud your efforts in applying for a Greenspace Grant to assist the City Team in site assessment and reuse planning.

Sincerely,

Alan J. Walus
General Manager

Business Office: 732 Franklin Street, P.O. Box 888, Michigan City, IN 46361 • Phone: (219) 873-1525 • Fax: (219) 873-1529
Wastewater Treatment Facility: 1100 E. Eighth Street, Michigan City, IN 46360 • Phone: (219) 874-7799 • Fax: (219) 874-8053
Refuse Department: 902 E. Eighth Street, Michigan City, IN 46360 • Phone: (219) 873-1530 • Fax: (219) 873-1523

Michigan City Urban Enterprise Association, Inc.
2601 East Michigan Boulevard, Suite 200
Michigan City, IN 46360
(219) 873-2300 FAX (219) 873-2305

January 9, 2001

Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Boulevard
Michigan City IN 46360

Dear Mayor Brillson:

On behalf of the Michigan City Urban Enterprise Association, Inc., and most importantly, the residents and businesses we serve, I want to express our support for the City of Michigan City's effort to obtain a Brownfield Assessment Grant in the amount of $200,000.00 from the Environmental Protection Agency. We are committed to being a cooperative partner for Project Renew.

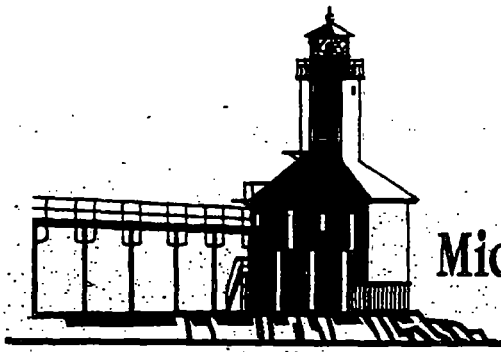
The Enterprise Zone that is administered by us makes major contributions to improving the quality of life for zone residents and a positive climate for zone businesses. The revitalization of the abandoned Royal Metal and Schmock Oil properties in Michigan City will help turn the tide in redeveloping neighborhoods.

I sincerely hope that the USEPA will give serious consideration to your application and grant you an award.

Very truly yours,

MICHIGAN CITY URBAN ENTERPRISE ASSOCIATION, INC.

James Baldwin
President, Board of Directors



Michigan City Area Chamber of Commerce

Jan. 5, 2001

Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

On behalf of the Michigan City Area Chamber of Commerce and its 552 members, I am writing to support the City's proposal to the United States Environment Protection Agency for a $200,000 grant to redevelop brownfields.

From our partnership that formed Michigan City Economic Development Corp. in 1996 and through the work that has been done over recent years to revitalize abandoned properties, I am certain that funds obtained will move our community closer toward our economic development goals.

I believe that RENEW (Revitalizing Environmentally Neglected Emerging Workplaces) will be a positive force that will help create jobs in our community while improving neighborhoods surrounding targeted properties.

The Chamber is poised to continue our support of this and other projects that promote economic and community development in the Michigan City area.

Sincerely,

Kimberly A. S. Merchant
President

ACCREDITED
CHAMBER OF COMMERCE
CHAMBERS OF COMMERCE OF THE UNITED STATES

200 E. Michigan Blvd., Michigan City, IN 46360-3270, Telephone (219) 874-6221, FAX (219) 873-1204, www.michigancitychamber.com

6100 Southport Rd.
Portage, IN 46368
219-763-6303
219-763-2653 Fax

January 4, 2001

Mrs. Sheila Brillson
Mayor
Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

I am writing this letter to support the City of Michigan City's efforts to obtain a $200,000 Brownfield Assessment Grant from the US EPA. My understanding is that these funds will help the City assess the environmental conditions and to move forward with the revitalization of the abandoned Royal Metal and Schmock Oil properties.

RENEW is an exciting project that will ultimately create much needed jobs in the community and enhance the surrounding neighborhood. Your efforts to clean-up and revitalize the brownfield sites in Michigan City are to be commended.

Sincerely,

Donna Ducharme
President

NORTHWEST INDIANA FORUM, INC.

6100 SOUTHPORT • PORTAGE, INDIANA 46368 • 219.763.6303 • 219.763.2653 FAX

January 10, 2001

Honorable Sheila Brillson
Mayor, City of Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson:

On behalf of the Northwest Indiana Forum and its members, I wish to extend our support of the City's efforts to secure a $200,000 USEPA Brownfields Assessment Demonstration Pilots Grant. As you are aware, Northwest Indiana unfortunately has too many aging, abandoned and underutilized brownfield facilities and sites. Your efforts to address the properties in Michigan City are exemplary.

Your aggressive positive action will ultimately enhance those properties and neighborhoods in your community and create quality employment opportunities.

Best Wishes,

Thomas M. McDermott
President

TMM/ss

Krueger Middle School

2001 Springland Avenue
Michigan City, Indiana 46360
219-873-2061

Principal
Kirk Rogers

Assistant Principal
Julie Mortier Ed.D.

An Indiana 2,000 School
Part of the Indiana School Academic Improvement Program

January 9,2001
The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson,

I am pleased to be able to offer my support to the effort to secure a USEPA Brownfields Assessment Demonstration Pilot Grant for Greenspace. I fully support the use of this grant to help in the development of the Nature Park on Karwick Avenue.

The development of this park on reclaimed " dump" land offers a unique learning opportunity for the students here at Krueger Middle School. Our students will benefit from this park in many valuable ways.

The environmental lesson of reclaiming this property will touch all aspects of our curriculum. The actual use of the property will allow us to study a full range of environmental topics from controlled burns, to plant and animal identification. We will be actively involved in the planning, planting, and maintenance of wildlife feed plots, a trail system, and habitat restoration. The potential for middle school science study is endless.

For these reasons I wholeheartedly endorse and support the application for this grant.

Sincerely,

Randy Hansen
Science Teacher
Krueger Middle School

CRIME PREVENTION PROGRAM

SPONSORED BY

WESTSIDE IMPROVEMENT GROUP

301 GRANT AVENUE MICHIGAN CITY, INDIANA 46360 PHONE (219) 872-0942
Fax 219-872-5808

Mayor Sheila Brillson
100 E. Michigan Blvd.
Michigan City, In. 46360

Re: E.P.A. Brownfields Demonstration Pilot

Dear Mayor Brillson:

Westside Improvement Group, Inc. are very happy to support your project. RENEW which will involve completing environmental assessments and subsequent redevelopment plans for the Royal Metal property at 600 N. Carroll and the Schmock Oil at 1111 W. Garfield Street in Michigan City. The properties will enhance the neighborhood, something the Westside Improvement Group, Inc. is striving for to beautify all areas in Michigan City.

Sincerely,

George H. Smrt

George H. Smrt, President
Westside Improvement Group, Inc.

gs/ms

ɔmmon Council

January 8, 2001

The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
City, IN 46360

Dear Mayor Brillson,

We support the City's application for a $50,000 grant as part of the USEPA's Brownfield Assessment Demonstration Pilot's for Greenspace.

As a resident of the east side, fifth ward councilman and a member of the Eastport Improvement group, I heartily support the City's efforts to create a nature park on the former city dump located on Karwick Road on Michigan City's east side. This park will not only preserve valuable greenspace within our city, but will provide recreational opportunities to our residents and the ability for our school system to create eco-classrooms on the property.

Sincerely,

Willie Milsap
Councilman, Fifth Ward

The Center of Workforce Innovations
innovativeworkforce.com

January 11, 2001

Michigan City Economic Development Corporation
100 East Michigan Blvd.
Michigan City, IN 46360

RE: EPA Slam Field Assessment Demonstration Pilot

We are pleased to support the City of Michigan City's application to the United States Environmental Protection Agency to secure a grant to be used to revitalize property within the city which will result in job creation, community enhancement, and new sustainable developments.

As the local Workforce Investment Board, we are cognizant of the need for new opportunities for people in our communities and the benefit to cities when citizens are able to participate in the revitalization of the community through their own work and skill development. The projects being proposed supports this philosophy and is clearly focused on new job creation in the labor market areas for which there is the greatest need.

We have worked with the City on other projects and commend the City as a collaborative partner. Through your economic development efforts you have the vision to move the city forward, the determination to make that happen, and the accountability to insure that goals are met. We are confident that if receipt of these monies will be utilized both appropriately and maximized on behalf of the City and the EPA. We wholeheartedly support this effort.

Sincerely,

Linda Woloshansky, President
Workforce Investment Board

2804 Boilermaker Court Suite E • Valparaiso, Indiana 46383 • *Phone:* 219-462-2940 • *Fax:* 219-465-6860

Northern Indiana Public Service Company

NORTHERN INDIANA
America's Industrial Heartland

January 9, 2001

Dear Mayor Brillson,

NIPSCO Economic Development fully supports your efforts to secure a $200,000 U.S. EPA grant for the Brownfield Accessment Demonstration Pilots project.

The city's Project RENEW is another example of your efforts at addressing the brownfield problems in Michigan City. Making these two properties available for reuse will be a positive step for economic growth and for creating jobs and revenue for your community.

NIPSCO is proud to partner with you in these exciting development efforts.

Sincerely,

Diane Thalmann
Manager Economic Development Indiana

cc: Alyce Butler - NIPSCO Communications and Community Relations

Garry M. Blumenfeld

Commercial
Investment
Transactions, Inc.

219.879.7985
FAX: 219.879.8064

Commercial • Industrial • Investment Real Estate

PO Box 928 • Beverly Shores, IN 46301

January 6, 2001

RE: EPA'S Brownfields Assessment Demonstration Pilot

Sheila Brillson, Mayor
Michigan City Economic Development Corporation
100 E. Michigan Blvd.
Michigan City, Indiana 46360

Subject: Royal Metal and Schmock Oil Properties

Dear Mayor Brillson:

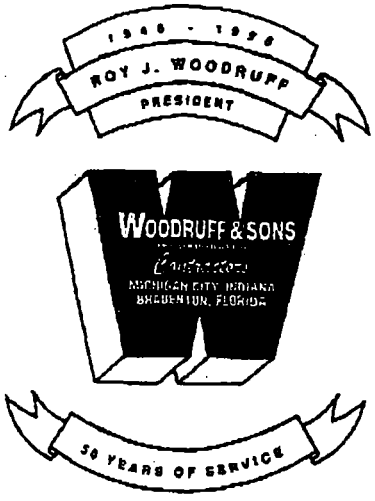
I support any efforts that a community participates in to help reenter abandoned facilities to the market place. It is my experience that Michigan City needs to have an inventory of industrial /manufacturing space to offer to users.

By partnering with the USEPA and obtaining the $200,000 Brownfield Assessment Grant the revitalization of the abandoned Royal Metal and Schmock Oil Properties will help to establish needed industrial / manufacturing inventory. Most assuredly it will prevent the wasting and further decline of these needed assets.

I support your efforts to revitalize Michigan City.

Sincerely,
Commercial Investment Transactions, Inc.

Garry Blumenfeld
President



Woodruff & Sons, Inc.

P.O. Box 10127
6450 - 31st St. E.
Bradenton, FL 34282-0127

Phone: 941-756-1871
Fax: 941-755-1379

Woodruff & Sons, Inc.

P.O. Box 450
2125 U.S. 12
Michigan City, IN 46361

Phone: 219-872-8605
Fax: 219-879-5339

January 11, 2001

The Honorable Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Boulevard
Michigan City, IN 46360

Dear Mayor Brillson:

We fully support the City's proposal to the USEPA for a $200,000.00 grant to redevelop brownfields in Michigan City, Indiana. As a contractor, developer and investor we have personally worked with the City and the Michigan City Economic Development Corporation on several projects including the development of the former Michigan City Plastics building and site brownfield. Working with the City of Michigan City, the Michigan City Economic Development Corporation, the Michigan City Urban Enterprise Association and the USEPA, we were able to secure possession of the property, redevelop it and ultimately complete a sales transaction to GAF Building Materials Corporation. In turn GAF made an $18 million investment in plant and equipment at this facility. This investment ultimately created 150 high-paying jobs in the city's Urban Enterprise Zone. In addition to that facility, we have also redeveloped the former Michiana Products Corporation facility along with being a partner in the former Joy Manufacturing facility.

The City and the MCEDC have demonstrated an aggressive approach to clean up and make usable the older brownfield properties in the community. We think it would be a great benefit to the community if you were able to receive this grant money and be able to revitalize these brownfield sites. This would truly be a win-win situation for the City as well as the residents who reside in and around these facilities. This is just another example of the proactive approach your administration and the MCEDC has brought to the City of Michigan City.

Please feel free to contact me at your earliest convenience if we can be of any further assistance.

Sincerely,

Bruce R. Woodruff
Vice President

International Brotherhood of Electrical Workers

Local Union No. 531

LA PORTE, STARKE, PULASKI, PORTER
AND JASPER COUNTIES OF INDIANA
PH. (219) 362-2119

Affiliated with A.F. of L - C.I.O.

Post Office Box 518
LaPorte, Indiana 46352-0518
FAX (219) 362-2110

January 10, 2001

The Hon. Mayor Sheila Brillson
City of Michigan City
100 E. Michigan Blvd.
Michigan City, IN 46360

Dear Mayor Brillson,

We support the City's efforts to secure a $50,000 USEPA Brownfields Assessment Demonstration Pilot Grant for Greenspace for the development of the Nature Park on Karwick Road in Michigan City, Indiana. Our organization has been actively involved with the city in the planning of this park, which will transform a former city landfill into a beautiful park setting.

This exciting project will be beneficial to the East Side neighborhood as well as the entire community. We have committed to provide our voluntary expertise during the development of this most important community project.

Sincerely,

Charles Edson

Charles (Chuck) Edson
Business Manager
Local 531 I.B.E.W.

AFL - CIO