EPA Region 5 Records Ctr.
200325

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33200 Bainbridge Road
Suite 39
Solon, Ohio 44139
(216) 843-2112

SUBSURFACE INVESTIGATION REPORT

FOR

MASTER METALS, INCORPORATED
2850 WEST 3RD STREET
CLEVELAND, OHIO 44113

CTI PROJECT NO. 019
JANUARY 21, 1991

COMPLIANCE TECHNOLOGIES, INC.

Environmental Consulting and Remediation

Recycled paper

1.0 INTRODUCTION

This report presents the results of a Phase II environmental site assessment of the MASTER METALS, INC. (MMI) site in Cleveland, Ohio. The field investigation was conducted by COMPLIANCE TECHNOLOGIES, INC. during December 1990. The MMI facility is located at 2850 West 3rd Street in Cleveland's industrial valley on a 4.3 acre site. The facility functions as a secondary lead smelter (SIC 3341) which manufactures lead and lead alloys from lead-bearing industrial wastes, spent lead-acid batteries and various lead scrap. Recovery of the lead from the industrial lead-acid batteries also occurs on site.

Historical information provided by MMI personnel relates an approximate 60 year period-to-date of lead smelting operations on the site. Prior to the smelting operations the area is said to have been a slag disposal/landfill area for various steel mills nearby. Weathered outcroppings of slag material appearing to have been placed in a molten condition are visible along the southwest boundary of the MMI facility. In addition, discussions with construction company personnel on site who had encountered several feet of hard, slag material while excavating for a building footer seemed to attest to the prior slag disposal activities in the area. Therefore, based upon information provided by on-site personnel, it may be assumed that the slag material underlying the MMI facility was generated by either steel or lead smelting operations.

As a result of prior and ongoing land-use of the MMI site, this Phase II environmental assessment was performed in order to evaluate sub-surface soil and groundwater conditions and any possible impact upon these media through prior slag disposal/ landfill activities, surrounding industry operations, and past and ongoing lead smelting operations. Finally, while four groundwater monitoring wells were installed as part of this Phase II project, data regarding groundwater quality will not be a subject of this report due to time constraints but will be the subject of future reports.

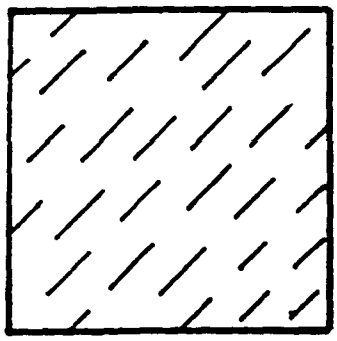
2.0 SCOPE OF WORK

2.1 FIELD ACTIVITIES

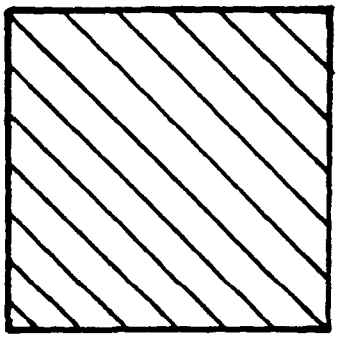
Field activities for the Phase II investigations were conducted on December 3, 4, 5, 6, 7, 10, and 11, 1990. These activities consisted of collecting subsurface soil samples at 30 of 31 planned locations on or nearby MMI's facility. Locations of core borings for sample collection were determined by association with MMI closed waste piles, processing areas, rail docks, storage container areas, sump areas, and off-site or background areas. The sampling protocol would best be characterized as being both Random and Judgement oriented based upon the aforementioned locations and facility operations and site history. Activities also included the installation of four groundwater monitoring wells for purposes of generating data on groundwater quality. Personnel safety during field activities was assured through CTI's Site Health and Safety Plan, MMI's Hazard Communication Plan, and through site visits by the Underground Utilities Protection Services (Log #1203MSS35) personnel, Mr. Carl Price. Health and Safety documents are attached as APPENDIX A.

2.1.1 Soil Sampling

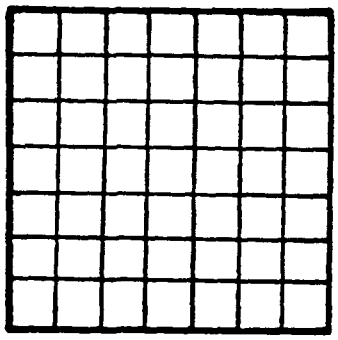
Thirty-one (31) locations on or near the MMI facility were identified for subsurface soil sampling via a truck-mounted rotary coring machine employing a 2.25 inch hollow-shafted auger. Soil samples were retrieved by a hammer-driven 2-inch split-spoon tube sampler at depths of 3-5 feet and 8-10 feet with the latter sample retrieved at just above the water table whenever existing groundwater precluded the 8-10 foot depth. The locations of the borings are illustrated on Figures 1, 2, 3, 4, and 5.



CLOSING HAZARDOUS WASTE PILE UNITS



FORMER WASTE PILE ; NOW CONTAINER STORAGE

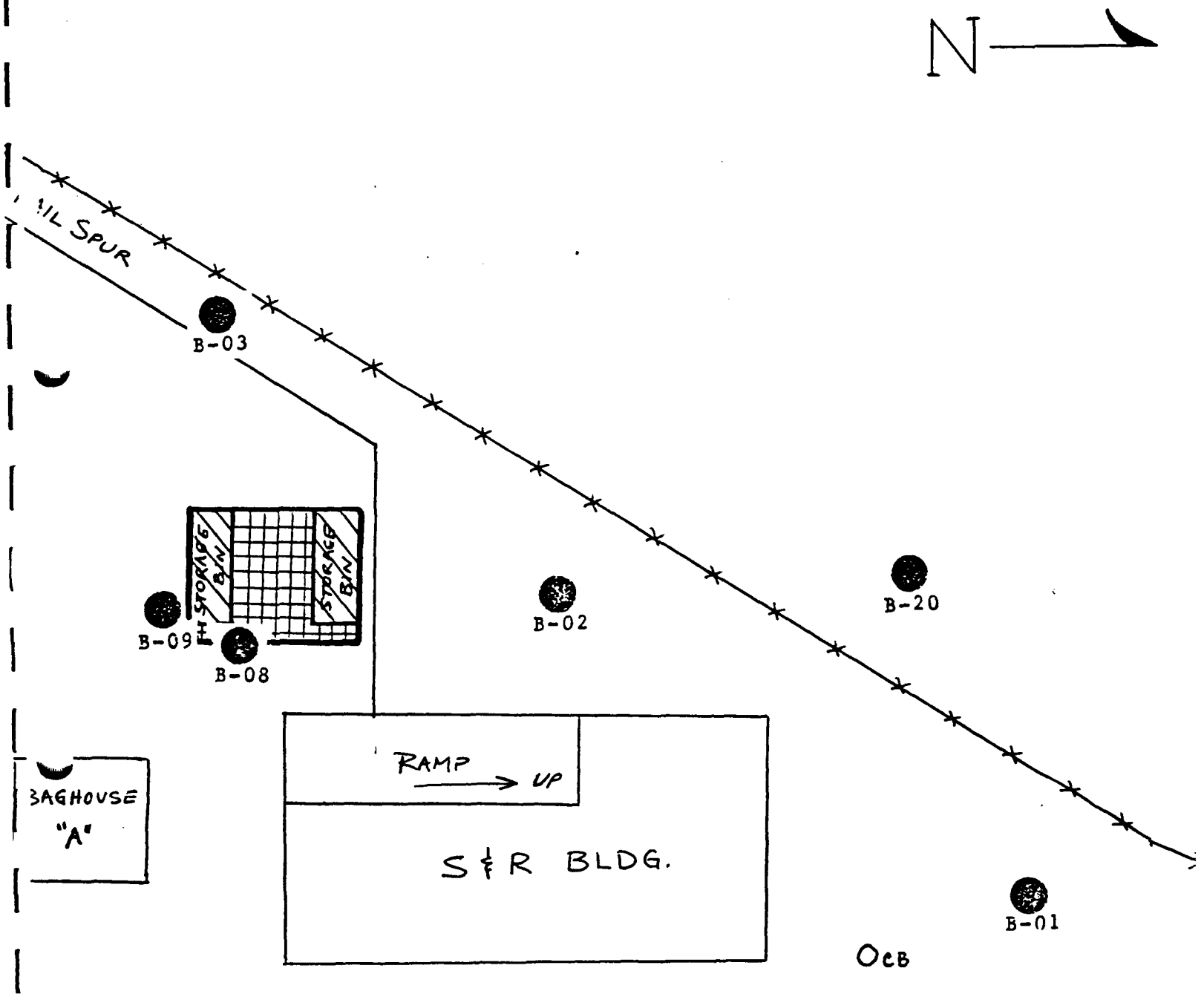


FORMER BATTERY CRACKING AREA

STORM DRAIN

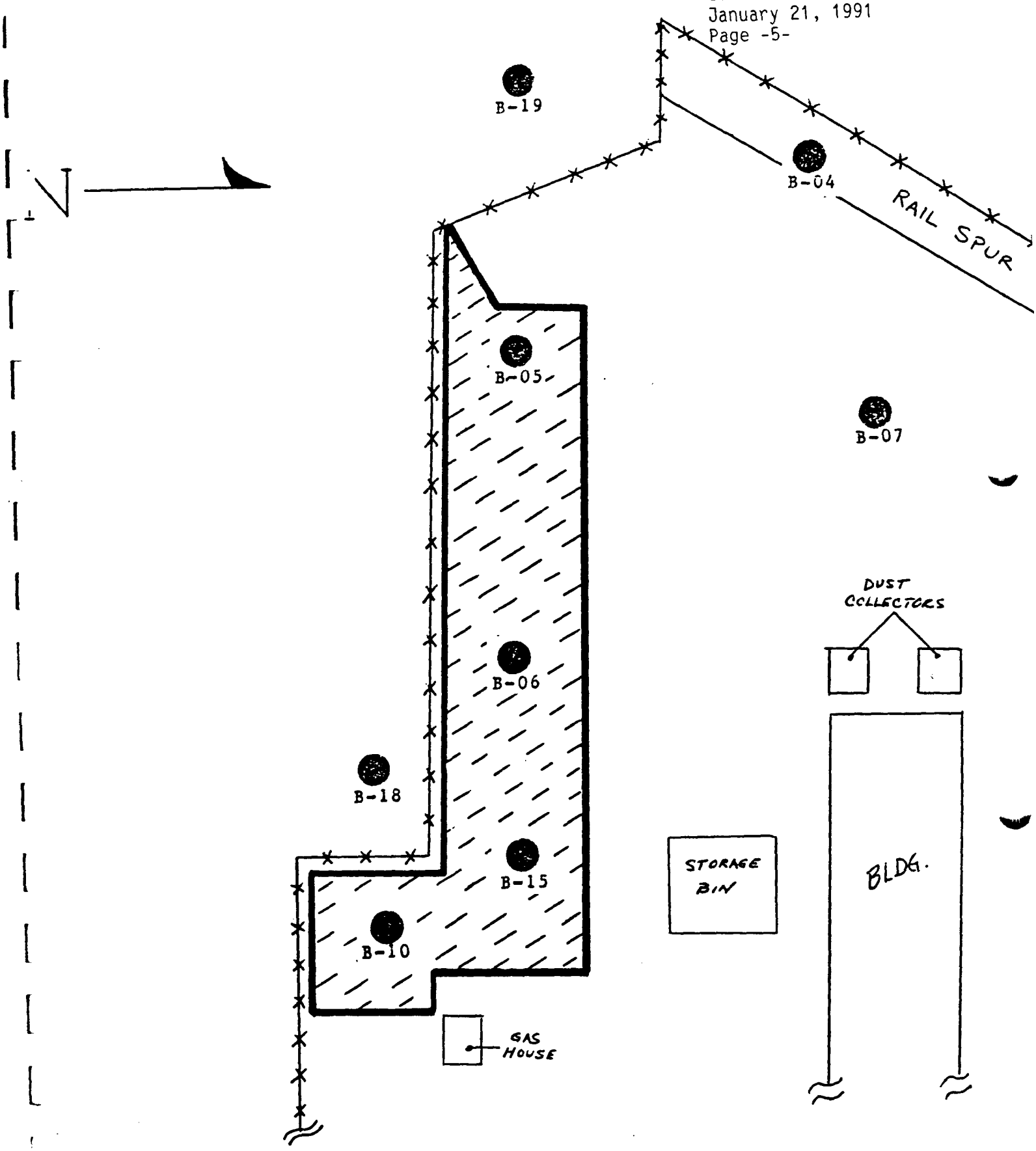
CATCH BASIN

MAP KEY TO FIGURES 1-5



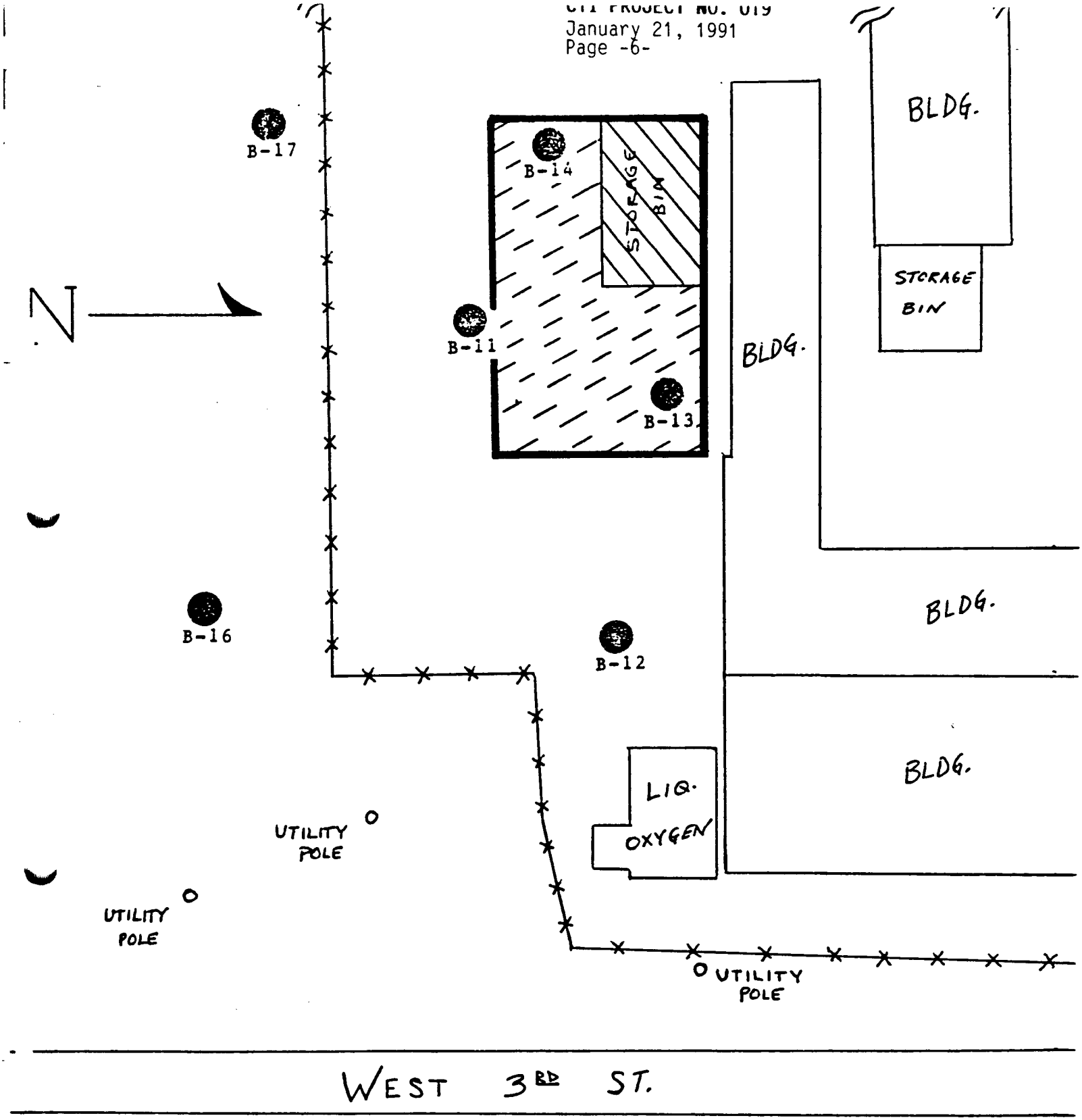
NORTHWEST QUADRANT

FIGURE 1



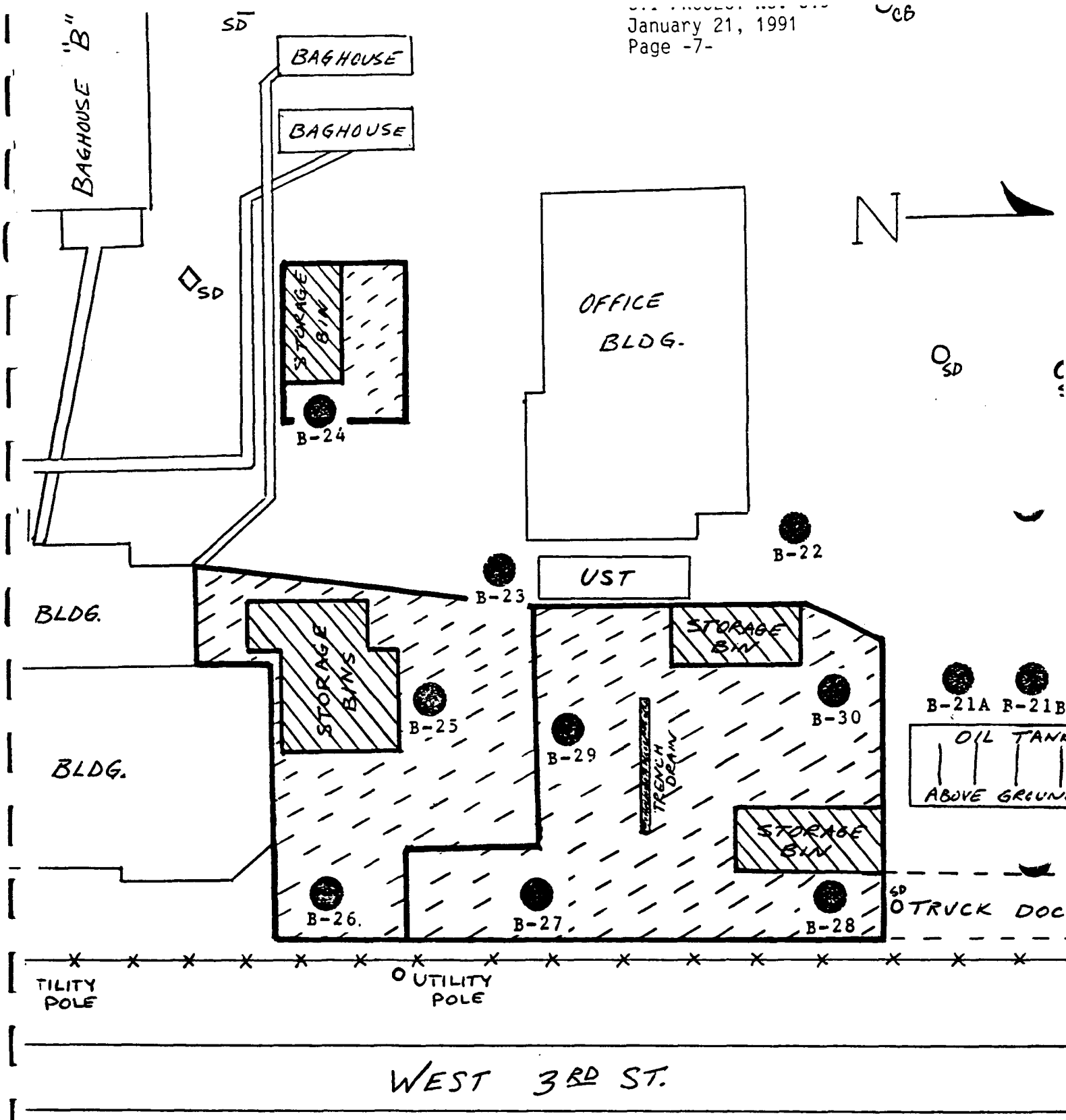
SOUTHWEST QUADRANT

FIGURE 2



SOUTHEAST QUADRANT

FIGURE 3



NORTHEAST QUADRANT

FIGURE 4

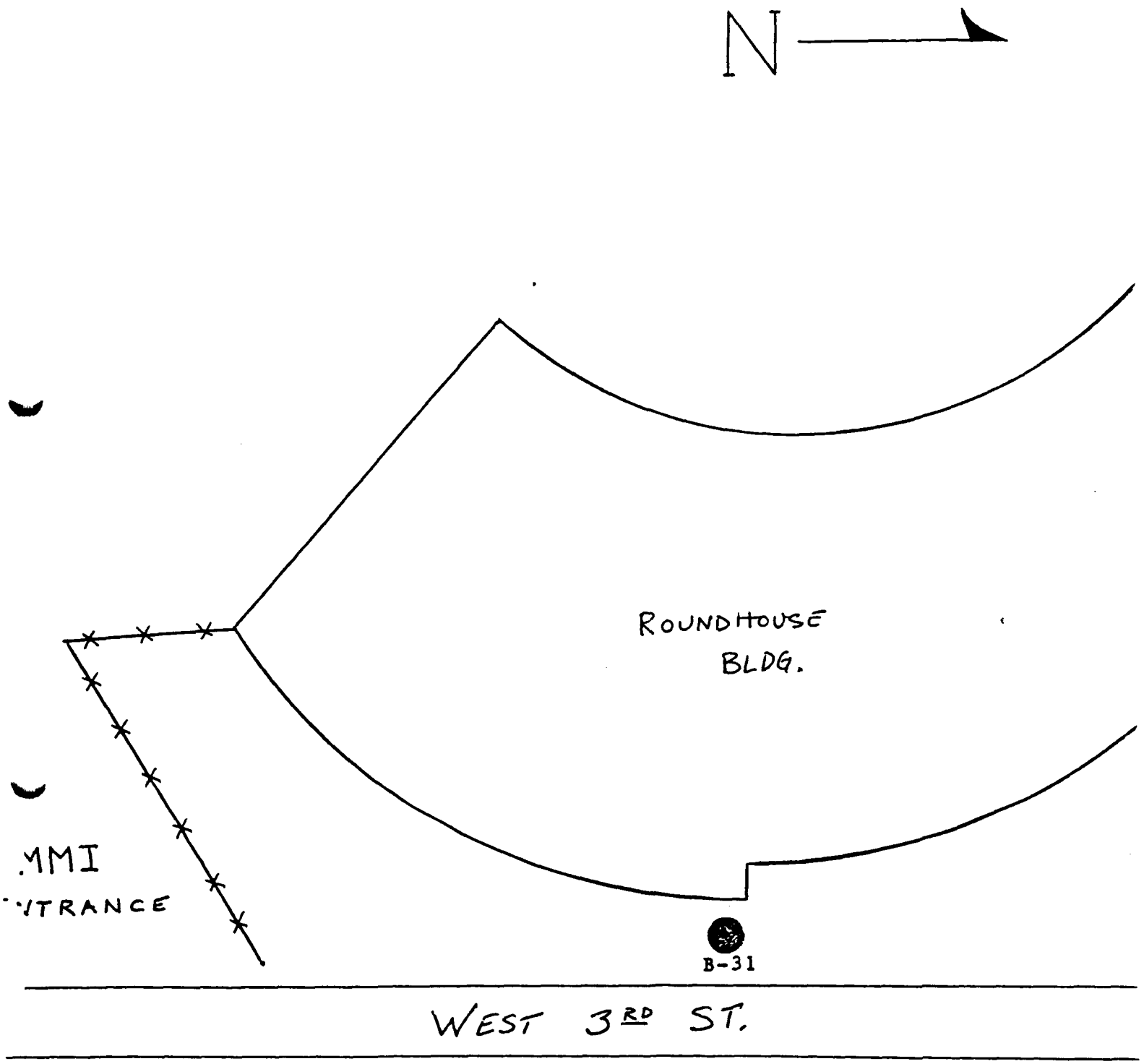


FIGURE 5

Soil samples were collected on December 4, 5, 6, and 7, 1990 from 30 of the 31 locations. Grab samples were taken from the split-spoon tube at the prescribed depths of 3-5 feet and 8-10 feet when soil conditions allowed. Samples were also retrieved from the auger shaft at depths of 2-5 feet whenever auger refusal occurred in the extremely hard slag material. The slag material was encountered in nearly all areas of the MMI facility at depths immediately below the facility's concrete base and earthen surfaces. The core boring information is presented in APPENDIX B.

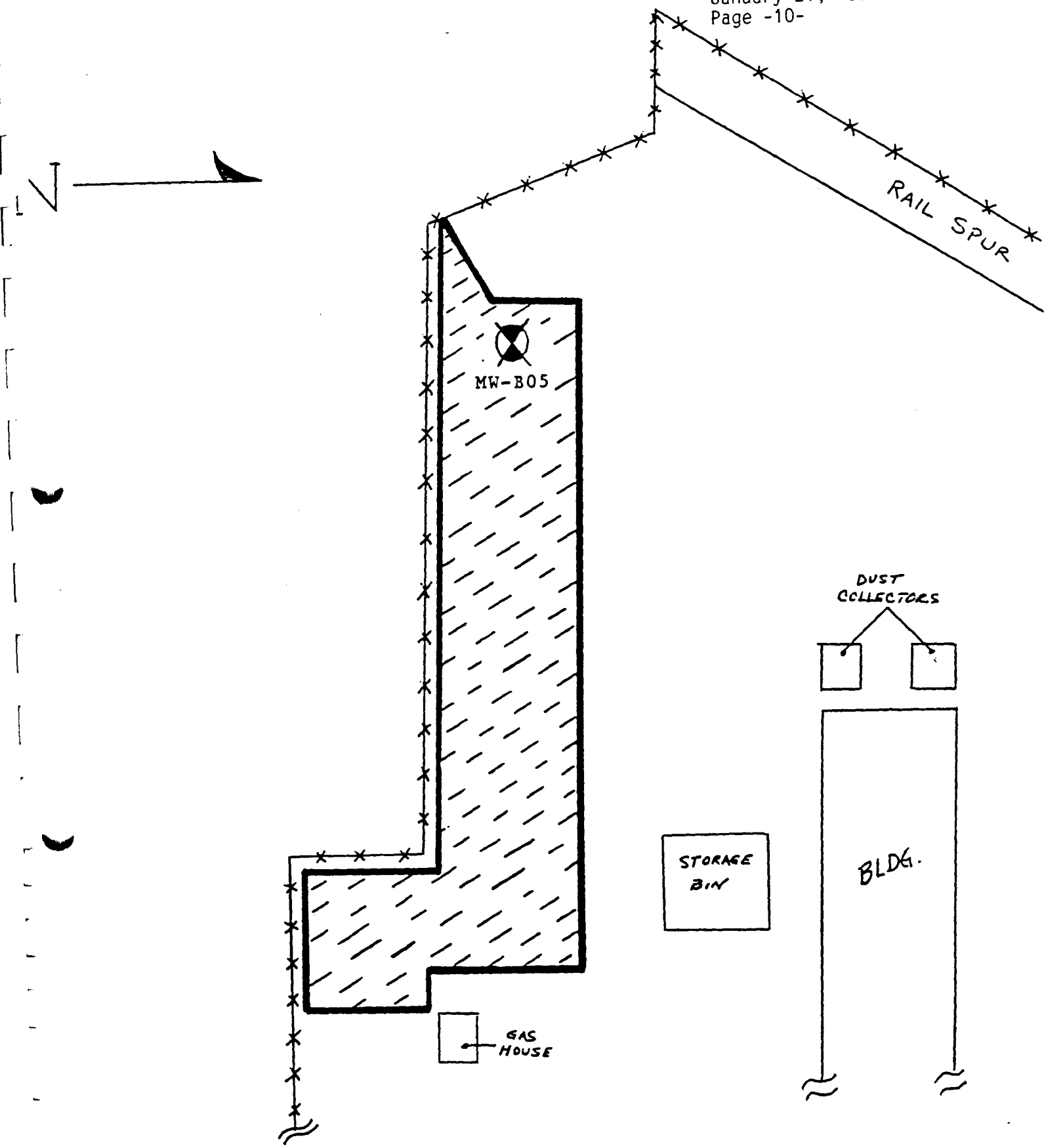
Field quality control of the coring, drilling, and sampling equipment included pressure steam cleaning of all concrete corers, hollow-shafted augers, and split-spoon samplers before and between core borings to ensure sample integrity. All samples were placed in laboratory-shipped glassware.

Soil samples from the core borings were sealed under chain-of-custody procedures and delivered daily to the analytical laboratory on December 4, 5, 6, and 7, 1990. Copies of the chain-of-custody documents are presented in APPENDIX C.

2.1.2 Groundwater Monitoring Wells

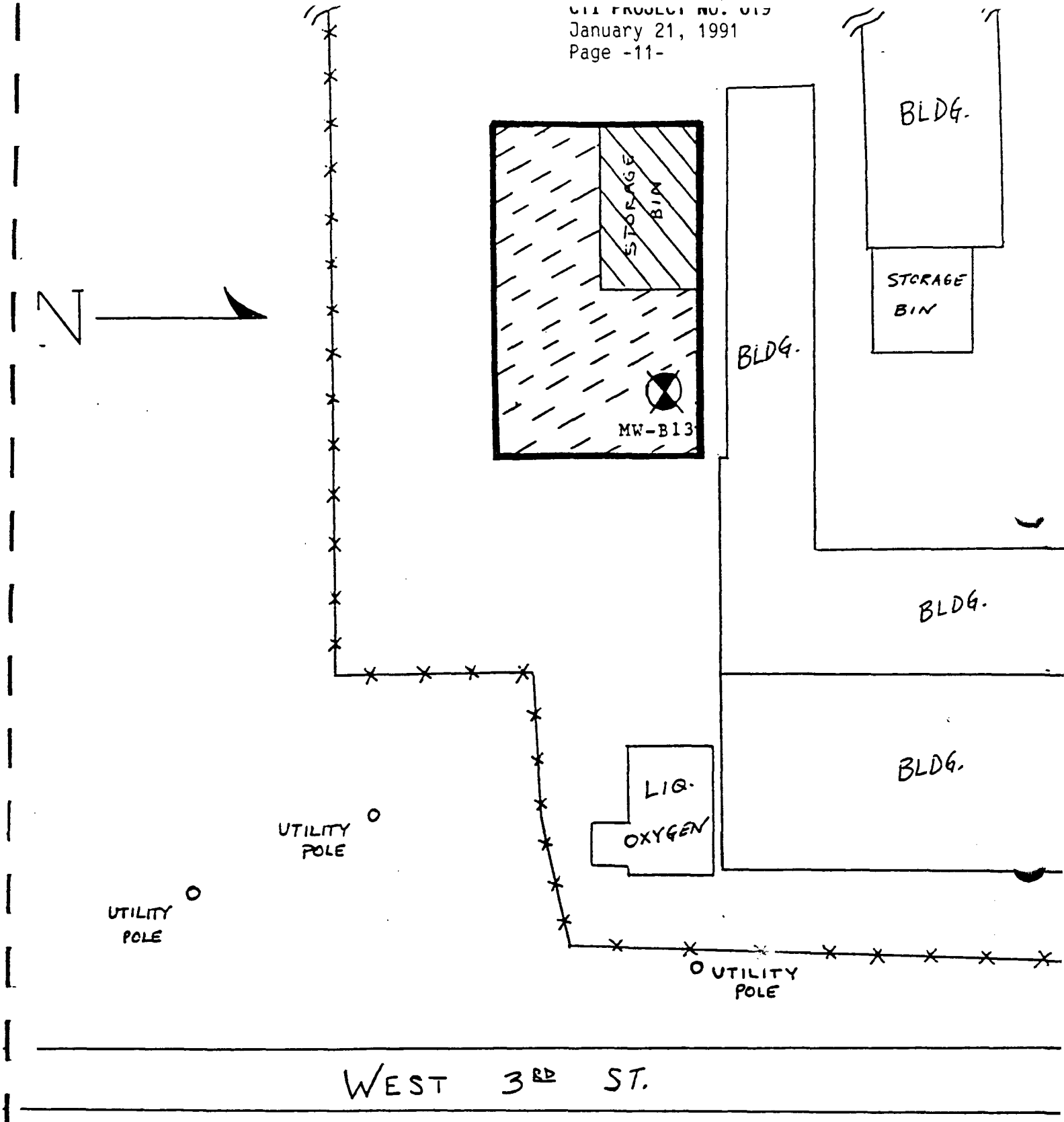
Four wells for purposes of monitoring groundwater beneath the MMI facility were installed on December 10 and 11, 1990. The well shafts were drilled via a truck-mounted rotary 6.25-inch hollow-shafted auger to a depth of 15 feet below grade. Wells consisted of Schedule 40 PVC riser, screening, and locking caps. Well grouting consisted of washed silica sand to a height of 13 feet capped by one foot of hydrated sodium bentonite as a sealed surface casing. Well heads were placed below grade and protected by cast-iron, flush-mounted covers concreted in place.

Wells were installed as part of this Phase II project, but water sampling, analysis, and data generation will be included in future reports concerning the groundwater underlying the MMI facility. Well locations are noted in Figures 6, 7, and 8.



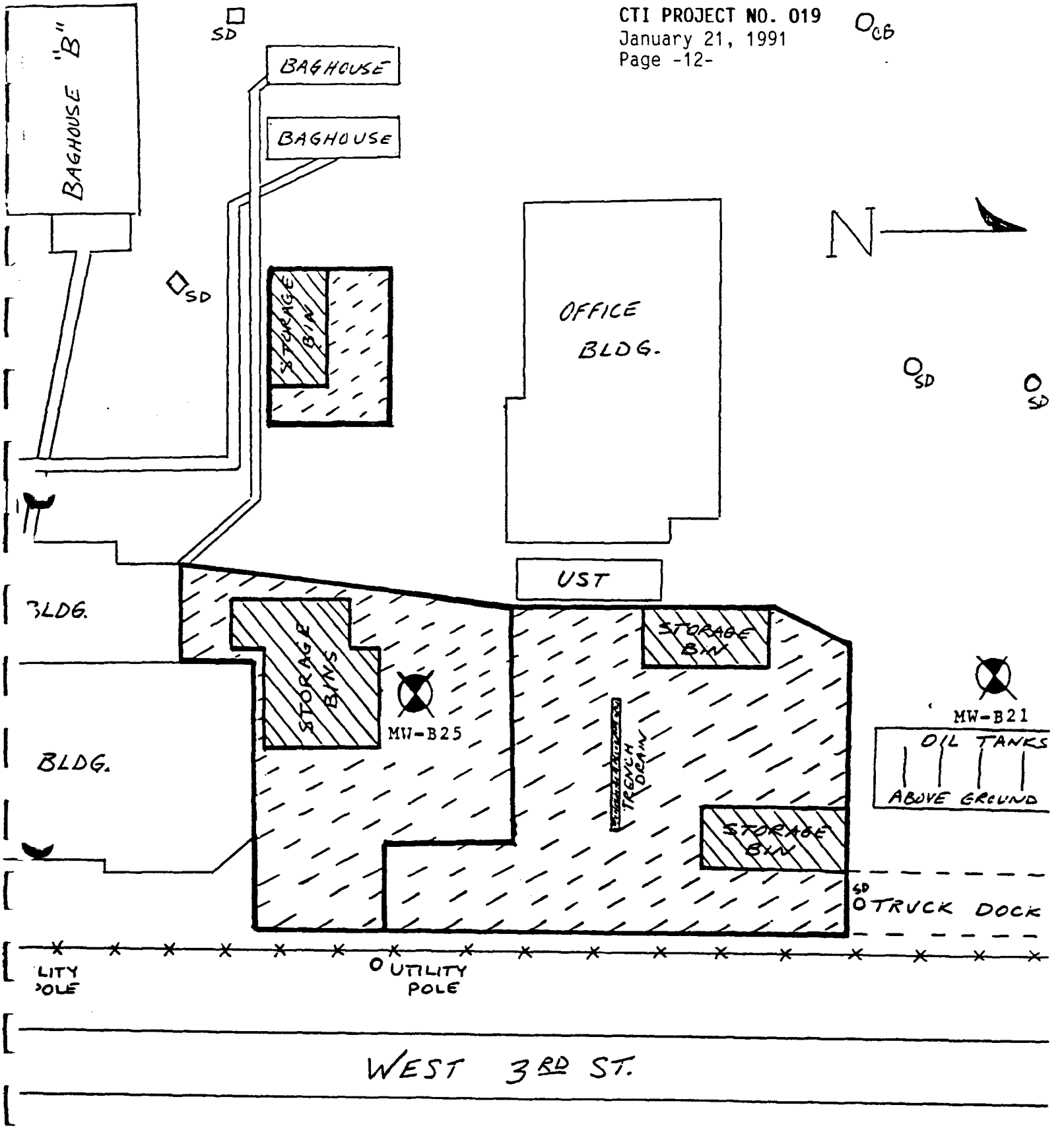
SOUTHWEST QUADRANT

FIGURE 6



SOUTHEAST QUADRANT

FIGURE 7



NORTHEAST QUADRANT

FIGURE 8

2.2 LABORATORY ANALYSIS

All samples of environmental media were delivered for analysis under chain-of-custody (APPENDIX C) to BHM Analytical Laboratory, Inc. of Chagrin Falls, Ohio. Samples were received by BHM on December 4, 5, 6, and 7, 1990. All soil samples from core borings were analyzed for Total Metals (RCRA) by Methods 6010 and 245.1 (U.S. EPA publication SW-846) and pH by Method 9040 (SW-846).

One grab sample of the underlying steel mill and/or lead smelting slag was analyzed for Total Metals (RCRA) by Methods 6010 and 245.1 (SW-846), TCLP Metals by Methods 6010 and 245.1 (SW-846), Reactive Sulfide by Method 9030 (SW-846), and pH by Method 9040 (SW-846).

3.0 RESULTS

3.1 SOILS INVESTIGATION

3.1.1 Soil Description

General soil description logs for soil samples collected from boring locations are presented in APPENDIX B.

Most soil sampling locations encountered the previously discussed industrial slag immediately beneath surface concrete or earth except for those borings in the Southeastern Quadrant (Figure 3) and borings B-5, B-10, B-15, B-18, and B-19 in the Southwestern Quadrant (Figure 2).

The thickness of the slag layer beneath the MMI site was difficult to determine due to its tendency to cause auger refusal, usually at depths approximating five feet where pieces of the slag tended to fracture off of the slag mass and jam the auger flights against the coring wall. However, a review of borings that achieved the desired ten foot depth show four

borings (B-16, B-21, B-25, B-30) with slag and cinder material still evident at that depth.

The sampling locations generally not encountering slag material were again those in the Southeastern and Southwestern Quadrants. Native-type soils consisting of light-to-coarse sands and silty clays were common.

Discolored soils consisted of blackened sands and silty clays in borings B-13 and B-16 in Figure 3, B-15 in Figure 2, and B-25 in Figure 4. Strong odors were associated with the blackened, bottom soils from borings B-13 and B-25.

3.1.2 Laboratory Analysis

Laboratory analysis performed on core boring and slag samples indicate the presence of heavy metals. Tests performed on the industrial slag sample also indicate that the lead content of this one sample is leachable. The results of all analysis are presented in APPENDIX D.

4.0 SUMMARY

This Phase II environmental assessment focused on sub-surface soil and groundwater conditions beneath the MMI facility and especially those specific areas associated with closed waste piles, processing areas, and waste storage areas. Based on the investigations completed to date and presented herein, the following conclusions may be drawn:

1. The MMI site is predominantly underlain by an industrial slag fill, assumably of steel-making or lead smelting origin. The slag material is of a largely undetermined depth due to its extreme hardness which often prevented coring to desired depths.

2. Other fill materials, e.g. wooden and metallic railroad debris, exist beneath the Northeast Quadrant of the facility.

3. The slag material shows contamination by heavy metals. A sample of the slag shows lead to be leachable.

4. Many samples of the apparently-native soils show concentration of heavy metals. Four samples of these soils showed a black discoloration.

5. The MMI site has several exposed, earthen-surface areas, the locations of which can be ascertained from APPENDIX B.

6. Water table depths beneath the MMI facility vary from depths of three to ten feet below grade.

5.0 REFERENCES

1. Environmental Risk: Identification and Management, A. R. Wilson, 1989.

2. Field Sampling Procedures Manual, New Jersey Department of Environmental Protection, 1988.

3. Health and Safety Training for Hazardous Waste Cleanup Operations, Center for Hazardous Materials Research, Pittsburgh, PA, 1988.

4. Interim Final RCRA Facility Investigation Guidance: Soil, Groundwater, and Subsurface Gas Releases, Volume II of IV, U.S. EPA, May, 1989.

5. OSHA Guidance Manual for Hazardous Waste Site Activities, U.S. Department of Health and Human Services, October 1985.

6. Standard Operating Safety Guidelines, U.S. EPA, July 1988.

APPENDIX A

33200 Bainbridge Road
Suite 39
Solon, Ohio 44139
(216) 843-2112

HEALTH AND SAFETY PLAN

FOR

MASTER METALS, INC.
2850 West Third St.
Cleveland, Ohio 44113

Prepared by:
Compliance Technologies, Inc.
33200 Bainbridge Road
Suite 39
Solon, Ohio 44139

SITE SAFETY PLAN

1.0 SITE DESCRIPTION

Start date: 12/3/90 Location: 2850 West 3rd St.

Hazards: Lead dusts, lead-bearing wastes, acid (battery), and moving heavy equipment. Areas affected are all on and off-site locations (perimeter) of the facility.

Surrounding population: Heavy industrial (steel) and rail.

Topography: Flat.

2.0 ENTRY OBJECTIVES

Site objective for Master Metals is to perform drilling, sampling, and well installation operations in order to identify constituents in the near-surface and sub-surface soils.

3.0 ONSITE ORGANIZATION AND COORDINATION

Field Team Leader: William Curran, CTI

Site Safety Officer: Bob Siladie, MMI

Field Team Members: Dean P. Lotz, Lake Drilling
Mike Bentley, Lake Drilling

All personnel arriving or departing the site should log in and out with the Team Leader. All activities must be cleared through the Team Leader.

4.0 ONSITE CONTROL

Coordination of site access and security is under the control of the Environmental Administrator, MMI. Control boundaries are the MMI property lines and the near-offsite drilling locations as delineated in the project map.

5.0 HAZARD EVALUATION

Lead: Toxic inhalation hazard. See appropriate MSDS.
Acid: Caustic; pH approximately 2.0. See appropriate MSDS.
The following additional hazards are expected on site: slippery ground, moving heavy equipment, and seasonable cold and wet weather.

6.0 PERSONAL PROTECTIVE EQUIPMENT

Modified Level "D": Work coveralls, Tyvek coveralls, dust mask, steel-toed boots, and Tyvek booties. Eye protection and hard hats as appropriate for drilling areas.

7.0 ONSITE WORK PLANS

Project Manager: Stephen Kovatch; Scope of Work.
Team Leader: William Curran; Oversees and manages drilling, sampling, well installation, and sample analyses.
Work Party: Lake Drilling; Provides drilling equipment and personnel for drilling, sampling, and well installation.

All parties were briefed on the contents of this work plan on DECEMBER 3, 1990.

8.0 DECONTAMINATION PROCEDURES

Disposable suits, dust masks, gloves, and booties to be discarded shall be placed in MMI-designated containers at the close of the work day. All policies of MMI in effect concerning washing, eating, and smoking, among others, are to be strictly followed.

9.0 SITE SAFETY AND HEALTH PLAN

Bob Siladie, Environmental Administrator, MMI is the designated Site Safety Officer and directly responsible to the Team Leader for safety recommendations on site.
Emergency medical care is best requested by dialing 911 from the office phone. First-aid care is available at the following location(s): 1.) CTI service truck; 2.) Lake Drilling service truck; 3.) MMI, rear hallway near locker room.
The Site Safety Officer shall be notified of any personnel injuries, fires, explosions, and equipment failure in order to undertake appropriate action.

10.0 SITE SAFETY PLAN ACKNOWLEDGEMENT

All site personnel have read the above plan and are familiar with its provisions.

	NAME	SIGNATURE
Project Manager	STEPHEN KOVATCH	Stephen J Kovatch
Team Leader	Bill Curran	Bill Curran
Site Safety Officer	BOB SILADIE	Bob Siladie
Work Party Personnel	Denn P Lotz	Denn P Lotz
	Mike Bentley	Mike Bentley

Master Metals, Inc.
HAZARD COMMUNICATION MANUAL
REGISTERED #677

HazCom PRE-JOB SAFETY CONFERENCE CHECKLIST

Date 12 / 5 /1990 Contract #_____ P.O. #_____

Scope of the Contract Soil Drilling

Contractor CTI Phone 843-2112

Main office contact Bill Curran Title Mediation MGR.

Field Superintendent _____ Phone 843-2112

Codes: n/a = not applicable; X = done; / = not done & required.

1. Work areas defined X
2. Workers' egress defined X
3. Method(s) of hazard warnings: X MSDS sheets __ MSDS book __
   __ Process sheets X Signs X Labels __ Other_____
4. Have ALL contractor's and sub-contractor's employees been instructed in the use of the warning method used? Y N If no, give date to complete: ___/___/19___. __
5. Does the contractor have own HazCom Manual? Y N If yes, does MMI have a copy? Y N Is the CIL included? _Y _N
6. Has this contractor worked at this facility before? _Y N __
7. MMI project coordinator name Rudy Zupan
8. List Personal Protective Equipment that the Contractor will need.
   ✓ gloves of special type _____
   ✓ respirators with cartridges for _____
   __ air-line respirators for _____
   ✓ hard hats ✓ safety glasses __ splash goggles __ face shield
   __ aprons ✓ dust suits ✓ chemical suits __ escape packs
   __ ear plugs __ ear muffs __ other_____
9. List special equipment contractor will need.
   __ ventilation ✓ special disposal methods __ other _____
10. Signed Stephen J. Kovatch
    contractor
    Bob Siladie
    MMI

HazCom Form #12 5/88-HOWSAFE!

MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Manufacturer's Name: Charles Bluestone Company Telephone Number: (412) 384-7400
Address: P.O. Box 326 Elizabeth, PA 15037

Material Name: Lead Scrap

II. HAZARDOUS INGREDIENTS

	CAS Number	%		OSHA 8-hr TWA	ACGIH 8-hr TWA (1984-85)	ACGIH STEL (1984-85)
Lead	(7439-92-1)	≥ 59		0.05 mg/m^3	0.15 mg/m^3	0.45 mg/m^3
Tin	(7440-31-5)	≤ 25		2 mg/m^3	2 mg/m^3	4 mg/m^3
Antimony	(7440-36-0)	≤ 24		0.5 mg/m^3	0.5 mg/m^3	--
Arsenic	(7440-38-2)	< 4		0.01 mg/m^3	0.2 mg/m^3	--
Copper	(7440-50-8)	≤ 3	(Dust)	1 mg/m^3	1 mg/m^3	2 mg/m^3
			(Fume)	0.1 mg/m^3	0.2 mg/m^3	--
Silver	(7440-22-4)	≤ 2		0.01 mg/m^3	0.1 mg/m^3	--
Cadmium	(7440-43-9)	< 1	(Dust)	0.2 mg/m^3	0.05 mg/m^3	0.2 mg/m^3
			(Fume)	0.1 mg/m^3	0.05 mg/m^3 *	--

* Ceiling Limit

Note: antimony trioxide, arsenic, and cadmium have been identified as potential human carcinogens. See Section VI, Health Hazard Data.

III. PHYSICAL DATA

Melting Point (of lead): 327° C
Specific Gravity: 9.73 - 11.36
Boiling Point (of lead): 1740° C

Vapor Pressure: 1 mm Hg @ 973° C (of lead)
Solubility in water: insoluble

Appearance: dependent on composition of scrap metal, processing method used, and existing protective coatings.

(9/85)

IV. FIRE AND EXPLOSION DATA

Flash Point: information not available
Flammability Limits: information not available
Autoignition Temperature: information not available

Solid, massive form of material is not combustible under ordinary fire conditions. Fire and explosion hazards are moderate when material is in the form of dust and exposed to heat or flames, chemical reaction, or contact with powerful oxidizers.

Fire Extinguishing Methods: Use special mixtures of dry chemicals. Do not use water or moist sand. Fire fighters should wear self-contained breathing apparatus and protective clothing.

V. REACTIVITY DATA

Massive material is stable at ordinary temperatures, but dust presents moderate fire and explosion hazards. Material may be incompatible with acids, bases, and oxidizers. Molten scrap metal may react violently with water. For additional information, users should consult data sheets on individual component elements.

VI. HEALTH HAZARD DATA

TLV: see Section II.
Primary Routes of Entry: ingestion of dust, inhalation of dust or fume.

Exposure to the massive form of lead scrap presents few health hazards in itself. However, normal handling of scrap may result in generation of dusts containing the component elements, and inhalation or ingestion of these dusts may present potentially significant health hazards. Thermal cutting and melting of lead scrap may produce fumes containing the component elements, and breathing these fumes may also present potentially significant health hazards. Special precautions should be taken if scrap is contaminated; see Section IX.

Prolonged inhalation of lead fumes or dusts, or ingestion of lead compounds, can result in lead poisoning. Symptoms include abdominal pain or colic, constipation, nausea, joint and muscle pains, and muscular weakness. Severe cases of overexposure may lead to central nervous system disorders, characterized by somnolence, stupor, and ultimately death.

Overexposure to tin dusts may cause irritation of the skin and mucous membranes, and may result in a benign pneumoconiosis (stannosis).

Overexposure to arsenic fumes or dusts can lead to arsenic poisoning, characterized by nausea, vomiting, and diarrhea. Prolonged overexposure can lead to liver and kidney damage, central nervous system disorders, and ultimately death. Arsenic can cause skin irritation and allergic reactions.

Overexposure to cadmium fumes or dusts may cause chest pains, shortness of breath, lung changes, and pulmonary edema, ultimately leading to death. Cadmium may also cause damage to the liver and kidneys.

Fumes of copper may cause metal fume fever with flu-like symptoms. Copper may cause skin and hair discoloration; silver may cause a greyish pigmentation of the skin, and can cause irritation of the skin and mucous membranes.

Overexposure to antimony may cause gastrointestinal upset and various nervous complaints, such as sleeplessness, irritability, and muscular pains.

Antimony trioxide, arsenic, and cadmium have been identified as potential cancer-causing agents.

FIRST AID:

Eye Contact:	Flush well with running water to remove particulate. Get medical attention.
Skin Contact:	Brush off excess dust. Wash area well with soap and water.
Inhalation:	Remove to fresh air. Get medical attention.
Ingestion:	Seek medical help if large quantities of material have been ingested. (Ingestion of significant amounts of scrap metal is unlikely.)

VII. SPILL PROCEDURES

No special precautions are necessary for spills of bulk material. If large quantities of dust are spilled, remove by vacuuming or wet sweeping to prevent heavy concentrations of airborne dust. Clean-up personnel should wear respirators and protective clothing.

Scrap metal can be reclaimed for reuse. Follow Federal, State, and Local regulations regarding disposal.

VIII. SPECIAL PROTECTION INFORMATION

Use general and local exhaust ventilation to keep airborne concentrations of dust or fume below the TLV. Employees should wear MSHA or NIOSH approved respirators for protection against airborne dust or fumes. Full protective clothing should be worn by workers exposed to heavy concentrations of dust, and showering should be required before changing into street clothes. Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis.

Approved safety glasses or goggles should be worn when working with dusty material. Safety eyewash stations should be provided in close proximity to work areas.

Pre-employment and periodic medical evaluations should be provided. Attention should be directed toward skin, eyes, respiratory tract, blood, kidneys, pulmonary function, and neurologic health. Chest X-rays should be included if symptoms are present.

Food should not be consumed in the work area.

Special attention is drawn to the requirements of the Occupational Safety and Health Administration standards for lead (29 CFR 1910.1025) and arsenic (29 CFR 1910.1018). State OSHA programs will also have similar requirements.

Special precautions should be taken if scrap is contaminated; see Section IX.

IX. SPECIAL PRECAUTIONS

Use good housekeeping practices to prevent accumulations of dust and to keep airborne dust concentrations at a minimum. Avoid breathing dust or fumes.

Store material away from incompatible materials, and keep dust away from sources of ignition.

This material is potentially contaminated with coatings, paints, and other contaminants. If the material is contaminated, special precautions (such as process control and personal protective equipment, appropriate to the nature of the suspected contaminants) should be taken to avoid resulting exposures when handling, cutting (mechanical or thermal), and/or melting.

Prepared by: Institute of Scrap Iron and Steel (ISIS)
in consultation with JRB Associates

Date Prepared: September 1985

JLFURIC ACID 66 BE REVISION OF:01-06-90

SHIP TO:

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NORTHERN CHEMICAL
360 LITERARY

CLEVELAND OH 44113

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VAN WATERS & ROGERS INC., SUBSIDIARY OF UNIVAR
1600 NORTON BLDG. SEATTLE, WA 98104-1564 (408) 435-8700

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FOR PRODUCT AND SALES INFORMATION

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

PRODUCT IDENTIFICATION

DUCT NAME: SULFURIC ACID CAS NO.: 7664-93-9
ON NAMES/SYNONYMS: SULFURIC ACID; VW&R CODE: P1361
L OF VITRIOL; SULFURIC ACID > 93%; SULFURIC ACID > 66 DEG BE;
FURIC ACID > 1.83 SPECIFIC GRAVITY
ULA: H2 S O4 DATE ISSUED: 08/89
RD RATING (NFPA 49) SUPERCEDES: 12/88
HEALTH: 3 HAZARD RATING SCALE:
FIRE: 0 0=MINIMAL 3=SERIOUS
REACTIVITY: 2 1=SLIGHT 4=SEVERE
SPECIAL: NO WATER 2=MODERATE

HAZARDOUS INGREDIENTS

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, MG/M3 OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
FURIC ACID	7664-93-9	>93	1	1	1 (DUPONT)	CORROSIVE
[illegible]	7732-18-5	BALANCE	NONE	NONE	NONE	NONE

PHYSICAL PROPERTIES

ING POINT, DEG F: A = 529; B = 590 VAPOR PRESSURE, MM HG/20 DEG C: A,B = NIL
E ING POINT, DEG F: A = -20; B = 30 VAPOR DENSITY (AIR=1): N/A
IFIC GRAVITY (WATER=1): A = 1.835; B = 1.84 WATER SOLUBILITY, %: COMPLETE
RANCE AND ODOR: COLOR- EVAPORATION RATE (BUTYL ACETATE=1): <1
SS TO PALE YELLOW, OILY
UID. ODORLESS.

93% OR 66 DEG BE SULFURIC ACID; B = 99% SULFURIC ACID

FIRST AID MEASURES

HALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT
HING. GET IMMEDIATE MEDICAL ATTENTION.

ASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING

ER FOR 30 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. IMMEDIATE MEDICAL ATTENTION.

CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING TER FOR 30 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH ORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.

SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF WATER MILK. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY TH TO AN UNCONSCIOUS OR CONVULSING PERSON.

----------HEALTH HAZARD INFORMATION----------

MARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT

IGNS AND SYMPTOMS OF EXPOSURE
INHALATION: VAPORS AND MISTS ARE EXTREMELY CORROSIVE TO THE NOSE, ATH, AND MUCOUS MEMBRANES. BRONCHITIS, PULMONARY EDEMA, AND MICAL PNEUMONITIS MAY OCCUR. IRRITATION, COUGHING, CHEST PAIN, AND FICULTY IN BREATHING MAY OCCUR WITH BRIEF EXPOSURE WHILE PROLONGED XPOSURE MAY RESULT IN MORE SEVERE IRRITATION AND TISSUE DAMAGE. REATHING HIGH CONCENTRATIONS MAY RESULT IN DEATH.

EYE CONTACT: VAPORS, LIQUID, AND MISTS ARE EXTREMELY CORROSIVE TO THE EYES. BRIEF CONTACT OF THE VAPORS WILL BE SEVERELY IRRITATING. BRIEF CONTACT OF THE LIQUID OR MISTS WILL SEVERELY DAMAGE THE EYES AND LONGED CONTACT MAY CAUSE PERMANENT EYE INJURY WHICH MAY BE FOLLOWED BY BLINDNESS.

SKIN CONTACT: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO THE SKIN. VAPORS WILL SEVERELY IRRITATE THE SKIN AND LIQUID AND MISTS WILL SEVERELY BURN THE SKIN. PROLONGED LIQUID CONTACT WILL BURN OR DESTROY SURROUNDING TISSUE AND DEATH MAY ACCOMPANY BURNS WHICH EX-TEND OVER LARGE PORTIONS OF THE BODY.

SWALLOWED: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO MOUTH AND THROAT. SWALLOWING THE LIQUID BURNS THE TISSUES, CAUSES SEVERE ABDOMINAL PAIN, NAUSEA, VOMITING, AND COLLAPSE. SWALLOWING LARGE QUANTITIES CAN CAUSE DEATH.

ONIC EFFECTS OF EXPOSURE: MAY CAUSE EROSION OF THE TEETH, LESIONS ON THE SKIN, BRONCHIAL IRRITATION, COUGHING, AND PNEUMONIA.

EDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: ACUTE AND CHRONIC PIRATORY DISEASES.

----------TOXICITY DATA----------

XICITY: RAT LD50 = 2,140 MG/KG

ERMAL: NO DATA FOUND

INHALATION: GUINEA PIG LC50 = 18 MG/M3

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: ALTHOUGH ONE LIMITED STUDY OF REFINERY WORKERS DID SUGGEST A POSSIBLE LINK BETWEEN SULFURIC ACID EXPOSURE AND LARYNGEAL CANCER, THE STUDY WAS LIMITED BECAUSE OF THE SMALL NUMBER OF WORKERS AND THE MIXED EXPOSURES TO SEVERAL OTHER MATERIALS INCLUDING DIETHYL SULFATE, AN IARC AND NTP CARCINOGEN. BASED ON THE OVERALL WEIGHT OF EVIDENCE FROM ALL ANIMAL TOXICITY AND HUMAN EPIDEMIOLOGICAL STUDIES, NO CAUSE-AND-EFFECT RELATIONSHIP BETWEEN CANCER AND SULFURIC ACID EXPOSURE HAS BEEN SHOWN. INDIVIDUALS WITH PREEXISTING DISEASE OF THE LUNGS MAY HAVE INCREASED SUSCEPTIBILITY TO THE TOXICITY OF EXCESSIVE EXPOSURES.

----------PERSONAL PROTECTION----------

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAIN-

UNING EMISSIONS AT THE POINT OF USE BELOW THE PEL.

PIRATORY PROTECTION: WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE THE VAPOR OR MIST CONCENTRATION AT THE POINT OF USE. APPROPRIATE SPIRATORS MAY BE A FULL FACEPIECE AIR-PURIFYING CARTRIDGE SPIRATOR EQUIPPED FOR ACID GASES/MISTS, A SELF-CONTAINED EATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR PIRATOR.

PROTECTION: CHEMICAL GOGGLES AND FULL FACESHIELD UNLESS A FULL CEPIECE RESPIRATOR IS ALSO WORN. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

TECTIVE CLOTHING: ACID-RESISTANT SLICKER SUIT WITH RUBBER APRON, RUBBER BOOTS WITH PANTS OUTSIDE, AND RUBBER GLOVES WITH GAUNTLETS.

HER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE ARBY AND READY FOR USE.

FIRE AND EXPLOSION INFORMATION

ASH POINT, DEG F: NONE FLAMMABLE LIMITS IN AIR, %
METHOD USED: N/A LOWER: N/A UPPER: N/A

EXTINGUISHING MEDIA: THIS MATERIAL IS NOT COMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

ECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

USUAL FIRE AND EXPLOSION HAZARDS: EXTINGUISH ALL NEARBY SOURCES OF IGNITION SINCE FLAMMABLE HYDROGEN GAS WILL BE LIBERATED FROM CONTACT WITH SOME METALS. KEEP WATER OUT OF CONTAINERS.

HAZARDOUS REACTIVITY

ABILITY: STABLE POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: NONE

ERIALS TO AVOID: ALKALIS, OXIDIZING OR REDUCING MATERIALS, CYANIDES, SULFIDES, OR COMBUSTIBLE MATERIALS. REACTS WITH MANY METALS. CONCENTRATED ACID REACTS VIOLENTLY WITH WATER.

ARDOUS DECOMPOSITION PRODUCTS: MAY LIBERATE CARBON MONOXIDE, CARBON DIOXIDE, AND OXIDES OF SULFUR.

SPILL, LEAK, AND DISPOSAL PROCEDURES

ION TO TAKE FOR SPILLS OR LEAKS: WEAR ACID-RESISTANT SLICKER SUIT AND COMPLETE PROTECTIVE EQUIPMENT INCLUDING RUBBER GLOVES, RUBBER BOOTS, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR SUPPLIED-AIR RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACE-CE AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED FOR ACID GASES MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. REMOVE ALL SOURCES OF IGNITION. FOR SMALL SPILLS OR DRIPS, MOP OR WIPE UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, CONTAIN BY DIKING WITH SOIL OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND CAREFULLY NEUTRALIZE WITH SODA ASH OR LIME. IF SODA ASH IS USED, PROVIDE ADEQUATE VENTILATION TO DISSIPATE THE CARBON DIOXIDE GAS. KEEP NON-NEUTRALIZED MATERIAL OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL.
PLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

SPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. SULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ERTAIN PROPER DISPOSAL PROCEDURES.
E: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE JECT TO PROPER WASTE DISPOSAL, AS ABOVE.

SPECIAL PRECAUTIONS

RAGE AND HANDLING PRECAUTIONS: STORE IN A COOL, DRY, WELL-VENTILATED CE AWAY FROM INCOMPATIBLE MATERIALS. VENT CONTAINER CAREFULLY, AS ED, TO RELIEVE PRESSURE. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHLY AFTER NDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

AIR AND MAINTENANCE PRECAUTIONS: DO NOT CUT, GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER.

HER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL AIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND DLE EMPTY CONTAINERS AS IF THEY WERE FULL.

FOR ADDITIONAL INFORMATION

CONTACT MSDS COORDINATOR, VAN WATERS & ROGERS INC.
DURING BUSINESS HOURS, PACIFIC TIME (408)435-8700

OTHER REGULATORY INFORMATION

DO NOT DETACH THIS SECTION FROM THE MSDS AND BE SURE TO INCLUDE THIS SECTION WHEN COPYING THE MSDS.

S PRODUCT IS A TOXIC CHEMICAL SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORI- TION ACT OF 1986 AND 40 CFR PART 372.

S PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) CONSIDERED BY THE STATE OF CALIFORNIA'S SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 ROPOSITION 65) AS CAUSING CANCER OR REPRODUCTIVE TOXICITY AND FOR CH WARNINGS ARE NOW REQUIRED:

CHEMICAL	CAS NO.	%, WT
ARSENIC	7440-38-2	<0.4 PPM
CADMIUM	7440-43-9	<2.0 PPM
LEAD	7439-92-1	<0.01 PPM

NOTICE

** VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN.**

. INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMA- TION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO S ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&R'S CON- L AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER IR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF HEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICA- ON OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS FORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER OCESS.

REVISION

09/89: QUANTIFIED OTHER REGULATORY INFORMATION.

**** L N D OF M S D S ****

APPENDIX B

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECOR

LER DEAN P. LOTZ

ER ON COMPLETION 3' 24 HOUR WATER 4'

DATE 12-10-90 TIME DEPTH

ASING HAMMER Wt. lbs. DROP in.

MPLER HAMMER Wt. 140 lbs. DROP in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

UGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-1 SURFACE ELEVATION Sheet No 1 of 1 She

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	4'	BROWN BLACK CINDERS WITH SLAG	WET		
		AUGER REFUSAL 4'		3-5	50/2

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

LER DEAN P. LOTZ

HOLE NO B-2 SURFACE ELEVATION Sheet No 1 of 1 Sheet

V ER ON COMPLETION 3' 24 HOUR WATER 4.5

DATE 12-10-90 TIME DEPTH

FOR CTI

ASING HAMMER Wt. lbs. DROP in.

IPLER HAMMER Wt. 140 lbs. DROP in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

LOCATION MASTER METALS, WEST 3RD

UGER SIZE 3 1/4 in. GROUND WATER

STARTED COMPLETED JOB NO. 90319

ELEVATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	4.5'	RUST BROWN CLAY WITH SLAG	WET	3-5	50/2
		AUGER REFUSAL 4.5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECOR

LLER DEAN P. LOTZ

TER ON COMPLETION 3' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 5'

ASING HAMMER Wt. lbs. DROP in.

MPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

UGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-3 SURFACE ELEVATION Sheet No. 1 of 1 She

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	5'	BLACK CINDERS WITH SLAG (FILL)	WET	3-5	50/0
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133

TEST BORING RECORD

LER DEAN P. LOTZ

HOLE NO. B-4 SURFACE ELEVATION Sheet No. 1 of 1 Sheets

ER ON COMPLETION 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 5'

FOR CTI

ING HAMMER Wt. lbs. DROP in.

IPLER HAMMER Wt. 140 lbs. DROP in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

LOCATION MASTER METALS, WEST 3RD

JGER SIZE 3 1/4 in. GROUND WATER

STARTED COMPLETED JOB NO. 90319

ATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	5'	BLACK CINDERS WITH SLAG - TRACE OF BROWN SANDY CLAY	MOIST	3-5	5-10-7-8
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORI

.ER DEAN P. LOTZ

W :R ON COMPLETION 7.5' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 10'

'ING HAMMER Wt. lbs. DROP in.

PLER HAMMER Wt. 140 lbs. DROP 30 in

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-5 SURFACE ELEVATION Sheet No. 1 of 1 Shee

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

ATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BROWN SAND WITH BRICK ROCK FRAGMENTS	MOIST	3-5	4-4-4-3
	10'	BROWN WET MEDIUM SANDS	WET	8-10	1/12-1'3

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

ILLER DEAN P. LOTZ

ATER ON COMPLETION 4.5' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 5'

ASING HAMMER Wt. lbs. DROP in.

AMPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-6 SURFACE ELEVATION Sheet No. 1 of 1 She

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

EVATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		8" CONCRETE			
		BLACK CINDERS WITH SLAG (FILL)	WET	2-5	50/0
	4.5'				
		AUGER REFUSAL 4.5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 **TEST BORING RECORD**

ER DEAN P. LOTZ HOLE NO. B-7 SURFACE ELEVATION Sheet No. 1 of 1 Shee

W R ON COMPLETION 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 5' FOR CTI

NG HAMMER Wt. lbs. DROP in.

LER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2' in. O.D. CASING SIZE in. LOCATION MASTER METALS, WEST 3RD

JGER SIZE 3 1/4 in. GROUND WATER STARTED COMPLETED JOB NO. 90319

EL ATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BLACK GRAY FILL CINDERS AND SLAG	DRY	3-5	50/0
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

LER DEAN P. LOTZ

ER ON COMPLETION ..... 24 HOUR WATER .....

DATE 12-10-90 TIME ..... DEPTH 6'

SING HAMMER Wt. ..... lbs. DROP ..... in.

IPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE ..... in.

JGER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO. B-8 SURFACE ELEVATION ..... Sheet No 1 of 1 Sheet

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED ..... COMPLETED ..... JOB NO. 90319

ATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		4" CONCRETE			
				3-5	4-10-20-23
	6'	BLACK CINDERS AND SLAG (FILL)	WET		
		REFUSAL 6'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECOR

LER DEAN P. LOTZ
ER ON COMPLETION 24 HOUR WATER
DATE 12-10-90 TIME DEPTH 5'
ASING HAMMER Wt. lbs. DROP in.
MPLER HAMMER Wt. 140 lbs. DROP 30 in.
MPLER SIZE 2 in. O.D. CASING SIZE in.
JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-9 SURFACE ELEVATION Sheet No. 1 of 1 Sh
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		4" CONCRETE			
	5'	BLACK CINDERS WITH SLAG/TRACE OF BROWN SAND			
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

ER Dean P. Lotz

W. R ON COMPLETION 10' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 12'

SING HAMMER Wt. lbs. DROP in.

PLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2" in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-10 SURFACE ELEVATION Sheet No 1 of 1 Sheets

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

EL ATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
				3-5	7-8-5-4
		BROWN MEDIUM SAND WITH BRICK ROCK FRAGMENTS	MOIST		
	10'			8-10	6-5-3-2
		LIGHT BROWN COARSE SAND	WET	10-12	4-4-36
	12'				

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

LER DEAN P. LOTZ
ER ON COMPLETION 8.5' 24 HOUR WATER
DATE TIME DEPTH
SING HAMMER Wt. lbs. DROP in.
PLER HAMMER Wt. 140 lbs. DROP 30 in.
SAMPLER SIZE 2" in. O.D. CASING SIZE in.
JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-11 SURFACE ELEVATION Sheet No. 1 of 1 She
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED COMPLETED JOB NO. 90319

Geologist's Log ☐
Mechanical Analysis ☐

VATION	DEPTH	Driller's Log ☒	Remarks	Sample Depth	Blows on Sampler
	5'	BROWN MEDIUM SANDS	MOIST	3-5	6-4-4-3
	10'	BROWN COARSE SAND TO 3" OF GRAY SILTY CLAY	WET	8-10	2-2-4-6

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133

TEST BORING RECORD

ER DEAN P. LOTZ

W. R ON COMPLETION 8.5 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 10'

NG HAMMER Wt. lbs. DROP in.

PLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2" in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-12 SURFACE ELEVATION Sheet No. 1 of 1 Sheets

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

EL ATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	2'	BROWN SANDY CLAY	MOIST		
	5'	BROWN MEDIUM SAND	MOIST	3-5	1/12-1-2
	10'	BROWN COARSE SAND TO 3" GRAY SILTY CLAY	WET	8-10	2-3-4-5

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

LER DEAN P. LOTZ

ER ON COMPLETION 8.5' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 10'

SING HAMMER Wt. lbs. DROP in.

PLER HAMMER Wt. 140 lbs. DROP 30 in.

MPLER SIZE 2 in. O.D. CASING SIZE in.

GER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-13 SURFACE ELEVATION Sheet No. 1 of 1 She

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BROWN SAND CLAY WITH GRAVELS	MOIST	3-5	6-4-22
	10'	BROWN SAND WITH GRAY BLACK (6") SILTY CLAY	MOIST ODOR	8-10	5-4-4-4

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORI

LER DEAN P. LOTZ
ER ON COMPLETION 8.5' 24 HOUR WATER
DATE 12-10-90 TIME DEPTH 10'
ASING HAMMER Wt. lbs. DROP in.
MPLER HAMMER Wt. 140 lbs. DROP 30 in.
SAMPLER SIZE 2 in. O.D. CASING SIZE in.
UGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-14 SURFACE ELEVATION Sheet No 1 of 1 Shee
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BROWN MEDIUM SAND WITH BRICK	MOIST	3-5	64-33
	8.5'	BROWN COARSE SAND	WET		
	10'	GRAY SILTY CLAY	MOIST	8-10	6-4-2-3

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

DRILLER: DEAN P. LOTZ
WATER ON COMPLETION: 8 24 HOUR WATER:
DATE: 12-10-90 TIME: DEPTH: 10'
CASING HAMMER Wt. lbs. DROP in.
SAMPLER HAMMER Wt. 140 lbs. DROP 30 in.
SAMPLER SIZE 2 in. O.D. CASING SIZE in.
AUGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-15 SURFACE ELEVATION Sheet No. 1 of 1 Sheets
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED COMPLETED JOB NO. 90319

ELEVATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		8" CONCRETE			
		BROWN SAND WITH BRICK ROCK FRAGMENTS			
	5'		MOIST	3-5	1-2-3-2
	10'	BROWN COARSE SAND LAST 4" BLACK	WET	8-10	1-2-2-2

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORI

LLER DEAN P. LOTZ

ER ON COMPLETION 9' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 10'

SING HAMMER Wt. lbs. DROP in.

MPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2" in. O.D. CASING SIZE in.

UGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-16 SURFACE ELEVATION Sheet No. 1 of 1 Shee

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	3'	BROWN SANDY CLAY	MOIST		
				3-5	1-1-1-3
	9'	BROWN MOIST MEDIUM SANDS			
	10'	BLACK SILTY CLAY LAST 5" GRAY SLAG	WET	8-10	8-7-20-8

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORI

.ER DEAN P. LOTZ

W :R ON COMPLETION 9' 24 HOUR WATER

D-TE 12-10-90 TIME DEPTH 10'

·ING HAMMER Wt. lbs. DROP in.

PLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2" in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-17 SURFACE ELEVATION Sheet No. 1 of 1 Shee

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

E! 'ATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	3'	BROWN SAND CLAY WITH BRICK	MOIST		
				3-5	5-5-4-6
	9'	BROWN COARSE SAND	WET		
	10'	GRAY SILTY CLAY	MOIST	8-10	1-1-2-3

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 **TEST BORING RECORI**

LER DEAN P. LOTZ

TER ON COMPLETION 8' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 10'

SING HAMMER Wt lbs DROP in.

MPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-18 SURFACE ELEVATION Sheet No 1 of 1 Shee

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☐ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	2'	BROWN SANDY CLAY	MOIST		
	3'	BROWN COARSE SAND	MOIST		
				3-5	3-5-3-4
	9'	BROWN COARSE SAND WITH GRAVELS	WET		
	10'	GRAY SILTY CLAY	MOIST	8-10	3-2-3-2

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LER DEAN P. LOTZ

ER ON COMPLETION 9' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH

SING HAMMER Wt lbs DROP in.

MPLER HAMMER Wt 140 lbs DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-19 SURFACE ELEVATION Sheet No. 1 of 1 S

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
	3'	BROWN BLACK SANDY CLAY	MOIST		
				3-5	2-3-3-4
	9'	BROWN COARSE SAND	WET		
	10'	BROWN GRAY SILTY CLAY WITH BRICK LAYER	MOIST	8-10	5-4-4-2
		LAST 4" WET COARSE SAND			

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DRILLER: DEAN P. LOTZ
HOLE NO: B-20 SURFACE ELEVATION: Sheet No 1 of 1 Sheet
WATER ON COMPLETION: 4' 24 HOUR WATER:
DATE: 12-10-90 TIME: DEPTH:
FOR: CTI
DRIVING HAMMER Wt: lbs. DROP: in.
SAMPLER HAMMER Wt: 140 lbs. DROP: 30 in.
SAMPLER SIZE: 2 in. O.D. CASING SIZE: in.
LOCATION: MASTER METALS, WEST 3RD
AUGER SIZE: 3 1/4 in. GROUND WATER:
STARTED: COMPLETED: JOB NO: 90319

Geologist's Log ☐
Mechanical Analysis ☐

ELEVATION	DEPTH	Driller's Log ☒	Remarks	Sample Depth	Blows on Sampler
	3'	BLACK GRAY CLAY WITH SLAG	MOIST		
	5'	SLAG (FILL)	WET	3-5	50/3
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECOR

LER DEAN P. LOTZ
TER ON COMPLETION ..... 24 HOUR WATER .....
DATE 12-10-90 TIME ..... DEPTH 10'
ASING HAMMER Wt ..... lbs DROP ..... in
MPLER HAMMER Wt 140 lbs. DROP 30 in.
AMPLER SIZE 2 in. O.D. CASING SIZE ..... in.
JGER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO B-21 SURFACE ELEVATION ..... Sheet No 1 of 1 Sh
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED ..... COMPLETED ..... JOB NO 90319

Geologist's Log ☐
Mechanical Analysis ☐

VATION	DEPTH	Driller's Log ☒	Remarks	Sample Depth	Blows on Sampler
		4" CONCRETE			
	5'	SLAG, BLACK CINDERS WITH SAND	MOIST	3-5	50/1
	10'	GRAY SLAG FILL	WET 9'	8-10	50/0

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LER DEAN P. LOTZ

HOLE NO B-22 SURFACE ELEVATION Sheet No 1 of 1 Shee

ER ON COMPLETION 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 5'

FOR CTI

SING HAMMER Wt. lbs DROP in.

PLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

LOCATION MASTER METALS, WEST 3RD

GER SIZE 3 1/4 in. GROUND WATER

STARTED COMPLETED JOB NO 90319

VATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		4" CONCRETE			
	5'	GRAY SLAG (FILL)	MOIST	3-5	50/1
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

ER DEAN P. LOTZ

W/ R ON COMPLETION ..... 24 HOUR WATER .....

DATE 12-10-90 TIME ..... DEPTH 1.5'

NG HAMMER Wt. ..... lbs. DROP ..... in

PLER HAMMER Wt. 140 lbs. DROP 30 in

SAMPLER SIZE 2 in. O.D. CASING SIZE ..... in

JGER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO B-23 SURFACE ELEVATION ..... Sheet No 1 of 1 Sheets

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED ..... COMPLETED ..... JOB NO 90319

ATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		4" CONCRETE			
	1.5	BLACK CINDERS WITH SLAG			
		AUGER REFUSAL 1.5'			

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LLER DEAN P. LOTZ

TER ON COMPLETION ..... 24 HOUR WATER .....

DATE 12-10-90 TIME ..... DEPTH 2.5'

'SING HAMMER Wt ..... lbs DROP ..... in.

MPLER HAMMER Wt 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE ..... in.

JGER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO B-24 SURFACE ELEVATION ..... Sheet No 1 of 1 Sh

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED ..... COMPLETED ..... JOB NO. 90319

VATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	2.5	BLACK CINDERS WITH SLAG(FILL)			
		AUGER REFUSAL 2.5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECORD

LER DEAN P. LOTZ
ER ON COMPLETION 7' 24 HOUR WATER
DATE 12-10-90 TIME DEPTH
SING HAMMER Wt. lbs. DROP in.
MPLER HAMMER Wt. 140 lbs DROP 30 in
SAMPLER SIZE 2 in. O.D. CASING SIZE in.
JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO. B-25 SURFACE ELEVATION Sheet No 1 of 1 Sheet
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED COMPLETED JOB NO. 90319

Geologist's Log ☐
Mechanical Analysis ☐

VATION	DEPTH	Driller's Log ☒	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BLACK CINDERS WITH TRACE OF BROWN SAND	MOIST	3-5	4-4-5-5
	9'	BLACK SAND AND CINDERS	WET		
	10'	BLACK SILTY CLAY	MOIST	8-10	4-2-2-4
			ODOR		

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LER DEAN P. LOTZ

TER ON COMPLETION ..... 24 HOUR WATER .....

DATE 12-10-90 TIME ..... DEPTH 7'

SING HAMMER Wt. ..... lbs DROP ..... in.

MPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE ..... in.

JGER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO. B-26 SURFACE ELEVATION ..... Sheet No 1 of 1 Sh

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED ..... COMPLETED ..... JOB NO. 90319

VATION	DEPTH	Driller's Log ☐ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		8" CONCRETE			
				3-5	12-11-2-2
	7'	BLACK CINDERS WITH SLAG	MOIST		
		AUGER REFUSAL 7'			

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TEST BORING RECORI

LER DEAN P. LOTZ

ER ON COMPLETION ..... 24 HOUR WATER .....

DATE 12-10-90 TIME ..... DEPTH 1.5'

SING HAMMER Wt ..... lbs DROP ..... in

MPLER HAMMER Wt 140 lbs DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE ..... in.

GER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO B-27 SURFACE ELEVATION ..... Sheet No 1 of 1 Shee

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED ..... COMPLETED ..... JOB NO 90319

Geologist's Log ☐
Mechanical Analysis ☐

VATION	DEPTH	Driller's Log ☒	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	1.5	BROWN SAND CLAY WITH WOOD	MOIST	0-2	1-50/5
		AUGER REFUSAL 1.5'			

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LER DEAN P. LOTZ
ER ON COMPLETION 24 HOUR WATER
DATE 12-10-90 TIME DEPTH 5'
SING HAMMER Wt. lbs DROP in
MPLER HAMMER Wt. 140 lbs. DROP 3 in.
SAMPLER SIZE 2 in. O.D. CASING SIZE in.
JGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-28 SURFACE ELEVATION Sheet No 1 of 1 She
FOR CTI
LOCATION MASTER METALS, WEST 3RD
STARTED COMPLETED JOB NO 90319

VATION	DEPTH	Driller's Log ☐ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BLACK CINDERS WITH SLAG (FILL)	MOIST	3-5	50/0
		AUGER REFUSAL 5'			

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TEST BORING RECORI

LLER DEAN P. LOTZ

TER ON COMPLETION ..... 24 HOUR WATER .....

DATE 12-10-90 TIME ..... DEPTH 5'

ASING HAMMER Wt. ..... lbs. DROP ..... in.

MPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE ..... in.

UGER SIZE 3 1/4 in. GROUND WATER .....

HOLE NO B-29 SURFACE ELEVATION ..... Sheet No 1 of 1 She-

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED ..... COMPLETED ..... JOB NO 90319

VATION	DEPTH	Driller's Log ☒ / Geologist's Log ☐ / Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
		BLACK CINDERS AND SLAG WITH SAND AND GRAVEL LAYERS			
	5'		MOIST	3-5	6-5-5-4
		AUGER REFUSAL 5'			

LAKE DRILLING CO. INC. • P.O. BOX 33284 • CLEVELAND, OHIO 44133 TEST BORING RECOR

LLER DEAN P. LOTZ

TER ON COMPLETION 7' 24 HOUR WATER

DATE 12-10-90 TIME DEPTH 10'

*SING HAMMER Wt. lbs. DROP in.

MPLER HAMMER Wt. 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in

UGER SIZE 3 1/4 in. GROUND WATER

HOLE NO B-30 SURFACE ELEVATION Sheet No 1 of 1 Sh

FOR CTI

LOCATION MASTER METALS, WEST 3RD

STARTED COMPLETED JOB NO 90319

VATION	DEPTH	Driller's Log ☒ Geologist's Log ☐ Mechanical Analysis ☐	Remarks	Sample Depth	Blows on Sampler
		6" CONCRETE			
	5'	BLACK CINDERS WITH SLAG, COAL, GRAVEL LAYERS	MOIST	3-5	3-2-25
	10'	BLACK CINDERS WITH SLAG AND COAL	WET	8-10	6-5-44

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TEST BORING RECORD

DRILLER: DEAN P. LOTZ

HOLE NO: B-31 SURFACE ELEVATION: Sheet No 1 of 1 Sheets

WATER ON COMPLETION: 24 HOUR WATER:

DATE: 12-10-90 TIME: DEPTH: 5'

FOR: CTI

CASING HAMMER Wt. lbs. DROP in.

SAMPLER HAMMER Wt 140 lbs. DROP 30 in.

SAMPLER SIZE 2 in. O.D. CASING SIZE in.

LOCATION: MASTER METALS, WEST 3RD

AUGER SIZE 3 1/4 in. GROUND WATER

STARTED COMPLETED JOB NO. 90319

Geologist's Log ☐
Mechanical Analysis ☐

ELEVATION	DEPTH	Driller's Log ☒	Remarks	Sample Depth	Blows on Sampler
	5'	BLACK CINDERS AND SLAG	MOIST	3-5	50/2
		AUGER REFUSAL 5'			

APPENDIX C

CTI
33200 Bainbridge Road
Suite 39
Solon, Ohio 44139
(216) 843-2112
COMPLIANCE TECHNOLOGIES, INC.
Environmental Consulting and Remediation

CHAIN OF CUSTODY RECORD

CLIENT NAME: Bill or Steve CTI

SAMPLERS: (SIGNATURE) Bill Curran

PROJECT NUMBER: 0019

PROJECT NAME: Master Metals

STATION NUMBER	DATE	TIME	COMPOSITE	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS
B1	12-4-90			✓	Boring #1 2-3'	1							
B2	12-4-90			✓	Boring #2 2'-3'	1							
B3	12-4-90			✓	Boring #3 2'-3'	1							
B4	12-4-90			✓	Boring #4 2'-3'	1							
B-5	12-4-90			✓	Boring #5 Top 2'-3'	1							
B-5	12-4-90			✓	Boring #5 Bottom 8'-10'	1							
B-6	12-4-90			✓	Boring #6 Top 2'-3'	1							
B6	12-4-90			✓	Boring #6 Bottom 4'-5'	1							
G1	12-4-90			✓	(Grab) Slag (Bootie)	1							
MM1	12-4-90			✓	(Grab) (MM1 Brick)								

RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)	RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME
Bill Curran	CTI [signature]	12/6/90	7:30	[signature]		[signature]	12/5	9:00am
RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)	REMARKS		
RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)			
RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)			

CTI
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Solon, Ohio 44139
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COMPLIANCE TECHNOLOGIES, INC.
Environmental Consulting and Remediation

CHAIN OF CUSTODY RECORD

CLIENT NAME: Bill or Steve CTI

SAMPLERS: (SIGNATURE) Bill Curran

PROJECT NUMBER: 0019

PROJECT NAME: Master Metals

STATION NUMBER	DATE	TIME	COMPOSITE	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS
B7	12/5/90			✓	Boring #7 3'	1							
B8	12/5/90			✓	Boring #8 3'-5'	1							
B9	12/6/90			✓	Boring #9 3'	1							
B10	12/6/90			✓	Boring #10 3'-5'	1							
B10	12/6/90			✓	Boring #10 8'-10'	1							
B11	12/6/90			✓	Boring #11 3'-5'	1							
B11	12/6/90			✓	Boring #11 8'-10'	1							
B12	12/6/90			✓	Boring #12 3'-5'	1							
B12	12/6/90			✓	Boring #12 8'-10	1							
B15	12/6/90			✓	Boring #15 3'-5'	1							
					B#15								
B15	12/6/90			✓	Boring #15 8'-10'	1							

RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)	RECEIVED FOR LABORATORY BY:	(SIGNATURE)	DATE	TIME
Bill Curran	[illegible]	12/6	7:30	[illegible]		[illegible]		12/7	9:00AM
RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)	REMARKS			
RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)				
RELINQUISHED BY:	(SIGNATURE)	DATE	TIME	RECEIVED BY:	(SIGNATURE)				

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COMPLIANCE TECHNOLOGIES, INC.
Environmental Consulting and Remediation

CHAIN OF CUSTODY RECORD

CLIENT NAME: CTI Bill Curran

SAMPLERS: (SIGNATURE) Bill Curran

PROJECT NUMBER:

PROJECT NAME: Master Metals

STATION NUMBER	DATE	TIME	COMPOSITE	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS
B13	12/6/90			✓	Boring # B13 Top 3-5'	1							
B13	12/6/90			✓	Boring # B13 Bottom 8-10	1							
B14	12/6/90			✓	Boring # B14 Top 3-5'	1							
B14	12/6/90			✓	Boring # B14 Bottom 8'-10	1							
B16	12/6/90			✓	Boring # B16 Top 3-5'	1							
B16	12/6/90			✓	Boring # B16 Bottom 8-10'	1							
B17	12/6/90			✓	Boring # B17 Top 3-5'	1							
B17	12/6/90			✓	Boring # B17 Bottom 8-10'	1							
B18	12/6/90			✓	Boring # B18 Top 3-5'	1							
B18	12/6/90			✓	Boring # B18 Bottom 8-10'	1							
B19	12/6/90			✓	Boring # B19 Top 3-5'	1							
B19	12/6/90			✓	Boring # B19 Bottom 8-10'	1							
B20	12/6/90			✓	Boring # B20 Top 4'	1							

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME
Bill Curran	12-7-90	7:00P	Bill Curran	Bill Curran	12/7	9:00A
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	REMARKS		
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)			
RELINQUISHED BY: (SIGNATURE)			RECEIVED BY: (SIGNATURE)			

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Solon, Ohio 44139
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COMPLIANCE TECHNOLOGIES, INC.
Environmental Consulting and Remediation

CHAIN OF CUSTODY RECORD

CLIENT NAME: CTI Bill Curran

SAMPLERS: (SIGNATURE): Bill Curran

PROJECT NUMBER:

PROJECT NAME: Master Metals

STATION NUMBER	DATE	TIME	COMPOSITE	GRAB	STATION LOCATION	NO. OF CONTAINERS	REMARKS
B21	12-7-90			✓	Boring 21 8-10'	1	
B22	12-7-90			✓	Boring 22 3-5'	1	
B24	12-7-90			✓	Boring 24 2'	1	
B25	12-7-90			✓	Boring 25 Top 3-5'	1	
B25	12-7-90			✓	Boring 25 Bottom 8-10'	1	
B26	12-7-90			✓	Boring 26 3-5'	1	
B27	12-7-90			✓	Boring 27 1'	1	
B28	12-7-90			✓	Boring 28 4.5'	1	
B29	12-7-90			✓	Boring 29 3-5'	1	
B30	12-7-90			✓	Boring 30 Top 3-5'	1	
B30	12-7-90			✓	Boring 30 Bottom 8-10'	1	
B31	12-7-90			✓	Boring 31 off site Back Ground	1	

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME
Bill Curran	12/3/90	7:30	Bill [illegible]	Bill [illegible]	12/8	9:00 AM
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	REMARKS		
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)			
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)			

APPENDIX D

Occupational Medicine
BHM
Safety & Industrial Hygiene
Environmental Services
20690 Lakeland Blvd.
Euclid, OH 44119

Environmental Laboratory
7145 Pine St.
Chagrin Falls, OH 44022

WORK ORDER NUMBER: 0074 THROUGH 0119

CUSTOMER: BILL CURRAN
CTI CONSULTANTS
33200 BAINBRIDGE ROAD
SUITE 39
SOLON, OH 44139

CUSTOMER NO: B1 THROUGH 31 BKGD

CONTACT: BILL CURRAN

SAMPLE DESCRIPTION/SAMPLE ID NO:

BORINGS, SLAG

DATE RECEIVED: DECEMBER 5, 1990 THROUGH DECEMBER 8, 1990

DATE REPORTED: DECEMBER 28, 1990

TESTS REQUESTED: TOTAL METALS (RCRA)
TCLP METALS
TOTAL CYANIDE
REACTIVE SULFIDE
pH, FLASHPOINT

REVIEWED BY: Bill Curran

APPROVED BY: Bill Curran

CUSTOMER: CTI CONSULTANTS
WORK ORDER NO: 0074
SAMPLE ID: BORINGS, SLAG

DATE RECEIVED: 12-5--8-90
DATE REPORTED: 12-31-90
Method 9040

BHM ID	CTI ID	pH
074	B-1	9.60
075	B-2	6.5
076	B-3	8.2
077	B-4	8.8
078	B-5 TOP	8.8
079	B-5 8-10'	8.4
080	B-6 TOP	8.7
081	B-6 4-5'	10.5
082		SEE TCLP
083		SEE TCLP
084	B-7 3'	6.8
085	B-8 3-5'	5.5
086	B-9 3'	5.7
087	B-10 3-5'	6.2
088	B-10 8-10'	6.3
089	B-11 3-5'	5.8
090	B-11 8-10'	5.8
091	B-12 3-5'	6.5
092	B-12 8-10'	6.3
093	B-15 3-5'	6.6
094	B-15 8-10'	6.8
095	B-13 3-5'	8.1
096	B-13 8-10'	9.1
097	B-14 3-5'	7.1
098	B-14 8-10'	6.8
099	B-16 3-5'	8.0
100	B-16 8-10'	8.2
101	B-17 3-5'	7.9
102	B-17 8-10'	7.6
103	B-18 3-5'	8.2
104	B-18 8-10'	7.2
105	B-19 3-5'	7.3
106	B-19 8-10'	8.1
107	B-20 4'	10.1
108	B-21 8-10'	8.8
109	B-22 3-5'	11.0
110	B-24 2'	11.1
111	B-25 3-5'	7.7
112	B-25 8-10'	8.9
113	B-26 3-5'	11.2
114	B-27 1'	8.7
115	B-28 4.5'	8.7
116	B-29 3-5'	6.8
117	B-30 3-5'	10.9
118	B-30 8-10'	10.6
119	BACKGROUND	9.8

WORK ORDER NUMBER:082 total
CUSTOMER NUMBER:Grab Slag
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	7075	0.50	6010
Cadmium	41.3	0.25	6010
Nickel	9.25	1.00	6010
Barium	70.0	1.00	6010
Chromium	2.5	0.50	6010
Silver	<0.50	0.50	6010

TABLE 2

RESULTS OF CHEMICAL ANALYSIS

TOTAL METALS PRESENTED IN mg/kg

SAMPLE LOCATION

ELEMENTS	SS1 mg/kg	SS2 mg/kg	SS3 mg/kg	SS4 mg/kg	SS5 mg/kg	SS6 mg/kg	SS7 mg/kg	SS8 mg/kg	SS9 mg/kg	SS10 mg/kg	D.L.* mg/kg
ARSENIC	68.0	58.0	870	55.0	110	487.0	92.0	68.0	53.0	90	0.10
BARIUM	1400	107	420	5.1	52.0	194	32.0	500	150	160	0.10
CADMIUM	170	72.0	920	44.8	113	530	47.2	92.5	52.5	88.0	0.05
CHROMIUM	156	175	190	88.3	563	980	17.0	310	BDL	667	0.05
LEAD	115000	8610	98000	6020	78340	94000	107000	24000	24200	43100	0.10
MERCURY	1.00	1.27	0.98	0.53	0.85	3.19	2.03	0.86	0.47	0.94	0.02
SELENIUM	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.0
SILVER	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.10

FOOTNOTES
BDL = Below Detection Limit
* : DETECTION LIMIT
DATE SAMPLED: 7/14/92
ANALYSIS PERFORMED BY: AMERICAN ENVIRONMENTAL LABORATORIES, INC., BEDFORD, OHIO
UNDER TDD # T05-9207-801

TABLE 1 RESULTS OF CHEMICAL ANALYSIS TAT COLLECTED SAMPLES TCLP METALS PRESENTED IN mg/L

SAMPLE LOCATION

ELEMENTS	SS1 mg/L	SS2 mg/L	SS3 mg/L	SS4 mg/L	SS5 mg/L	SS6 mg/L	SS7 mg/L	SS8 mg/L	SS9 mg/L	SS10 mg/L	D.L.* mg/L	R.L.** mg/L
ARSENIC	1.77	1.00	29.0	0.08	1.58	8.10	0.23	0.49	0.93	2.16	0.05	5.0
BARIUM	0.83	0.78	3.00	0.39	0.35	0.67	BDL	0.72	0.33	0.59	0.05	100.0
CADMIUM	1.96	1.91	32.0	0.14	1.65	8.14	0.26	0.49	0.49	1.12	0.02	1.0
CHROMIUM	BDL	0.11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02	5.0
LEAD	1230	1040	1220	3.30	959	1060	1260	6.26	6.26	757	0.05	5.0
MERCURY	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02	0.2
SELENIUM	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.0	1.0
SILVER	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05	5.0

FOOTNOTES
BDL = Below Detection Limit
* : DETECTION LIMIT
** : REGULATORY LEVEL (40 CFR 261.24)
DATE SAMPLED: 7/14/92
ANALYSIS PERFORMED BY: AMERICAN ENVIRONMENTAL LABORATORIES, INC., BEDFORD, OHIO
UNDER TDD # T05-9207-801

WORK ORDER NUMBER:082 TCLP
CUSTOMER NUMBER:G1 GRAB SLAG
TEST REQUESTED:TCLP Metals
REACTIVE SULFIDE
pH,

Element	Result mg/L	Detection mg/L	Method
Arsenic	<0.10	0.040	6010
Selenium	<0.10	0.040	6010
Mercury	<0.04	0.0002	245.1
Lead	16.1	0.040	6010
Cadmium	0.11	0.02	6010
Nickel	0.51	0.02	6010
Barium	0.44	0.02	6010
Chromium	0.56	0.02	6010
Silver	<0.02	0.02	6010
Reactive S	<10.0		9030
pH	7.8		9040

WORK ORDER NUMBER:074
CUSTOMER NUMBER: B1 2-3
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	22.5	0.50	6010
Cadmium	1.25	0.25	6010
Nickel	16.5	1.00	6010
Barium	25.0	1.00	6010
Chromium	15.0	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:075
CUSTOMER NUMBER:B2 2-3
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	27.5	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	10.5	1.00	6010
Barium	37.5	1.00	6010
Chromium	5.0	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:076
CUSTOMER NUMBER:B3 2-3
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	37.5	0.50	6010
Cadmium	17.75	0.25	6010
Nickel	15.0	1.00	6010
Barium	37.5	1.00	6010
Chromium	4.5	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:077
CUSTOMER NUMBER:64 2-3
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	35.5	0.50	6010
Cadmium	7.5	0.25	6010
Nickel	15.0	1.00	6010
Barium	52.0	1.00	6010
Chromium	15.0	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:078
CUSTOMER NUMBER:B5 2-3
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	16.5	0.50	6010
Cadmium	4.0	0.25	6010
Nickel	25.0	1.00	6010
Barium	2.5	1.00	6010
Chromium	25.0	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:079
CUSTOMER NUMBER:BS 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	17.5	0.50	6010
Cadmium	2.5	0.25	6010
Nickel	25.0	1.00	6010
Barium	0.5	1.00	6010
Chromium	22.5	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:030
CUSTOMER NUMBER:BB 2-3
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	40.0	0.50	6010
Cadmium	1.5	0.25	6010
Nickel	32.5	1.00	6010
Barium	17.5	1.00	6010
Chromium	6.25	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:081
CUSTOMER NUMBER:BE 4-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	32.5	0.50	6010
Cadmium	1.0	0.25	6010
Nickel	12.5	1.00	6010
Barium	10.0	1.00	6010
Chromium	22.5	0.50	6010
Silver	<0.50	0.50	6010

WORK ORDER NUMBER:084
CUSTOMER NUMBER: B7 3'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/kg	Detection mg/kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	2625	0.50	6010
Cadmium	12.5	0.02	6010
Nickel	8.5	0.02	6010
Barium	8.5	0.02	6010
Chromium	1.5	0.02	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:085
CUSTOMER NUMBER:B3 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	1400	0.50	6010
Cadmium	7.5	0.02	6010
Nickel	22.5	0.02	6010
Barium	45.0	0.02	6010
Chromium	2.25	0.02	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:086
CUSTOMER NUMBER:89 3'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	3825	0.50	6010
Cadmium	1.25	0.25	6010
Nickel	2.0	0.50	6010
Barium	5.0	0.50	6010
Chromium	0.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER: 087
CUSTOMER NUMBER: B10 3-5'
TEST REQUESTED: TOTAL RCRA METALS

ELEMENT	RESULT MG/KG	DETECTION MG/KG	METHOD
ARSENIC	<0.50	0.50	6010
SELENIUM	<0.50	0.50	6010
MERCURY	<0.01	0.01	245.1
LEAD	970.00	0.50	6010
CADMIUM	1.35	0.25	6010
NICKEL	1.80	0.50	6010
BARIUM	0.89	0.50	6010
CHROMIUM	<0.50	0.50	6010
SILVER	<0.02	0.02	6010

WORK ORDER NUMBER:088
CUSTOMER NUMBER:B10 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	11225	0.50	6010
Cadmium	25.0	0.25	6010
Nickel	170.0	0.50	6010
Barium	72.5	0.50	6010
Chromium	10.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:033
CUSTOMER NUMBER:811 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	11175	0.50	6010
Cadmium	14.0	0.25	6010
Nickel	40.0	0.50	6010
Barium	50.2	0.50	6010
Chromium	3.3	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:090
CUSTOMER NUMBER:611 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	0.01	0.01	245.1
Lead	3500	0.50	6010
Cadmium	10.0	0.25	6010
Nickel	38.3	0.50	6010
Barium	20.0	0.50	6010
Chromium	1.25	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:051
CUSTOMER NUMBER:B12 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	52.5	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	5.5	0.50	6010
Barium	9.52	0.50	6010
Chromium	16.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:052
CUSTOMER NUMBER:B12 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	1200	0.50	6010
Cadmium	2.75	0.25	6010
Nickel	45.0	0.50	6010
Barium	37.5	0.50	6010
Chromium	65.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:095
CUSTOMER NUMBER:B13 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	975	0.50	6010
Cadmium	1.75	0.25	6010
Nickel	9.25	0.50	6010
Barium	16.5	0.50	6010
Chromium	6.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:09E
CUSTOMER NUMBER:B13 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	650	0.50	6010
Cadmium	1.00	0.25	6010
Nickel	17.5	0.50	6010
Barium	40.0	0.50	6010
Chromium	10.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:097
CUSTOMER NUMBER:B14 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	125	0.50	6010
Cadmium	0.51	0.25	6010
Nickel	10.5	0.50	6010
Barium	33.5	0.50	6010
Chromium	3.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:098
CUSTOMER NUMBER:B14 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	105	0.50	6010
Cadmium	2.5	0.25	6010
Nickel	27.5	0.50	6010
Barium	20.0	0.50	6010
Chromium	55.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:093
CUSTOMER NUMBER:B15 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	500	0.50	6010
Cadmium	0.5	0.25	6010
Nickel	49.0	0.50	6010
Barium	18.5	0.50	6010
Chromium	118.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:054
CUSTOMER NUMBER:B15 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	166.5	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	36.5	0.50	6010
Barium	27.5	0.50	6010
Chromium	57.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:055
CUSTOMER NUMBER:616 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	15.0	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	70.0	0.50	6010
Barium	7.5	0.50	6010
Chromium	162.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:100
CUSTOMER NUMBER:B1B 8-1C
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	7.85	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	45.0	0.50	6010
Barium	2.7	0.50	6010
Chromium	110.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:101
CUSTOMER NUMBER:B17 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	17.5	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	87.5	0.50	6010
Barium	4.5	0.50	6010
Chromium	77.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:102
CUSTOMER NUMBER:B17 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	32.5	0.50	6010
Cadmium	0.75	0.25	6010
Nickel	46.2	0.50	6010
Barium	7.5	0.50	6010
Chromium	100.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:103
CUSTOMER NUMBER:818 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	21.5	0.50	6010
Cadmium	<0.25	0.25	6010
Nickel	8.4	0.50	6010
Barium	48.7	0.50	6010
Chromium	5.3	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:104
CUSTOMER NUMBER:B19 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/kg	Detection mg/kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	14.7	0.50	6010
Cadmium	0.7	0.25	6010
Nickel	13.3	0.50	6010
Barium	12.0	0.50	6010
Chromium	3.5	0.50	6010
Silver	0.02	0.02	6010

WORK ORDER NUMBER:105
CUSTOMER NUMBER:B19 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	125.0	0.50	6010
Cadmium	<0.25	0.25	6010
Nickel	4.5	0.50	6010
Barium	48.7	0.50	6010
Chromium	210	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:105
CUSTOMER NUMBER:B19 E-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	62.5	0.50	6010
Cadmium	1.6	0.25	6010
Nickel	7.9	0.50	6010
Barium	27.3	0.50	6010
Chromium	3.6	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:107
CUSTOMER NUMBER:B20 4'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	55.0	0.50	6010
Cadmium	1.75	0.25	6010
Nickel	1.0	0.50	6010
Barium	54.5	0.50	6010
Chromium	2.8	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:108
CUSTOMER NUMBER:B21 8-10
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	0.01	0.01	245.1
Lead	102.0	0.50	6010
Cadmium	1.3	0.25	6010
Nickel	4.2	0.50	6010
Barium	79.0	0.50	6010
Chromium	6.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:109
CUSTOMER NUMBER:622 3-5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	0.50	0.50	6010
Selenium	0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	352.0	0.50	6010
Cadmium	1.5	0.25	6010
Nickel	<0.5	0.50	6010
Barium	114.0	0.50	6010
Chromium	3.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:110
CUSTOMER NUMBER:B24 2'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	4960.0	0.50	6010
Cadmium	50.9	0.25	6010
Nickel	28.0	0.50	6010
Barium	85.0	0.50	6010
Chromium	12.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:111
CUSTOMER NUMBER:B25 3-5'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	5010.0	0.50	6010
Cadmium	196.0	0.25	6010
Nickel	73.0	0.50	6010
Barium	32.0	0.50	6010
Chromium	37.8	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:112
CUSTOMER NUMBER:B25 8-10'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	650.0	0.50	6010
Cadmium	130.0	0.25	6010
Nickel	124.0	0.50	6010
Barium	81.0	0.50	6010
Chromium	6.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:113
CUSTOMER NUMBER:B2B 3-5'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	1120.0	0.50	6010
Cadmium	205.0	0.25	6010
Nickel	49.0	0.50	6010
Barium	45.0	0.50	6010
Chromium	610.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:114
CUSTOMER NUMBER:B27 1'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	14070.0	0.50	6010
Cadmium	3.4	0.25	6010
Nickel	34.0	0.50	6010
Barium	36.0	0.50	6010
Chromium	57.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:115
CUSTOMER NUMBER:B28 4.5'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	1300.0	0.50	6010
Cadmium	100.0	0.25	6010
Nickel	13.0	0.50	6010
Barium	85.0	0.50	6010
Chromium	4.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:116
CUSTOMER NUMBER:B29 3-5'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	225.0	0.50	6010
Cadmium	55.4	0.25	6010
Nickel	12.8	0.50	6010
Barium	12.6	0.50	6010
Chromium	5.5	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:117
CUSTOMER NUMBER:B30 3-5'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	1260.0	0.50	6010
Cadmium	1.7	0.25	6010
Nickel	4.3	0.50	6010
Barium	12.6	0.50	6010
Chromium	193.0	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:118
CUSTOMER NUMBER:B30 8-10'
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	32.3	0.50	6010
Cadmium	1.3	0.25	6010
Nickel	1.2	0.50	6010
Barium	65.0	0.50	6010
Chromium	1.7	0.50	6010
Silver	<0.02	0.02	6010

WORK ORDER NUMBER:119
CUSTOMER NUMBER:BKGD B31 5
TEST REQUESTED: Total RCRA Metals

Element	Result mg/Kg	Detection mg/Kg	Method
Arsenic	<0.50	0.50	6010
Selenium	<0.50	0.50	6010
Mercury	<0.01	0.01	245.1
Lead	225.0	0.50	6010
Cadmium	2.1	0.25	6010
Nickel	7.8	0.50	6010
Barium	136.0	0.50	6010
Chromium	10.9	0.50	6010
Silver	<0.02	0.02	6010