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FOCUSED SITE INSPECTION SAMPLING AND ANALYSIS PLAN FOR UNITED RIGGING AND HAULING (MD-248)

Beltsville, MD.

December, 2012

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1.0 INTRODUCTION

United Rigging and Hauling Company (URH) was a rigging and hauling operation that started in 1970. The company stored large equipment and occasionally acquired, stored and stockpiled more than 700 transformers in two different locations in haphazard fashion with no measures in place to prevent or control spills.

In early May 1985, the Prince George's County Health Department received an anonymous complaint regarding an oil release into an adjacent unnamed tributary of nearby Indian Creek. A sample collected by the County from an oil-filled storm water drainage culvert identified polychlorinated biphenyls (PCBs) at 235 parts per million (ppm). The County immediately referred the site to the State of Maryland's Hazardous and Solid Waste Management Administration (MDHSWMA). Maryland's Hazardous Waste Strike Force (HWSF) obtained a search warrant and collected multiple samples from transformers and on- and off-site soils. Preliminary data identified PCB concentrations ranging from 50 to 80 percent in the transformers, contamination of on-site soil up to 55,000 ppm and off-site migration of PCBs in soils up to 2,000 ppm. Due to the immediate threat to public health and the environment, the U.S. Environmental Protection Agency (EPA) ordered an emergency cleanup under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

EPA initiated the PCB cleanup and removal in late May 1985. By the end of June 1985, Potomac Electric Power Company, which owned most of the transformers, took over the remediation. The remediation was completed on December 23, 1985 and a total of 553 truckloads of PCB-contaminated soil and debris totaling approximately 7,728 cubic yards were removed from the site and sent to Model City, New York for disposal.

In June 1990, NUS Corporation completed a Site Inspection for EPA. PCBs were identified at low concentrations in many of the on-site soil and sediment samples. Aroclor 1260 was detected in a sediment sample at the end of a drainage pipe near the fence line at 3.6 ppm. The September 2008 EPA Biological Technical Assistance Group screening benchmark for freshwater sediment is 0.0598 ppm of total PCBs.

Since it is documented that residual PCBs remain at the URH site after the 1985 emergency removal, those residual PCBs may be migrating into the adjacent unnamed tributary of Indian Creek. Indian Creek flows into the Anacostia River, which has been the subject of PCB studies in recent years. Therefore, Maryland Department of the Environment plans to conduct a Focused Site Inspection (FSI) to characterize the PCB contamination in a 0.4-mile section of the unnamed tributary of Indian Creek starting adjacent to the URH site, and an approximate 2.5-mile section of Indian Creek itself downstream to the confluence with Beaverdam Creek.

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1.1 Authorization

Under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986, the MDE will conduct an FSI at the former URH Site, specifically, the nearby sediments in an unnamed tributary of Indian Creek and Indian Creek itself, near Beltsville, Maryland.

1.2 Scope of Work

MDE's NPL/Site Assessment Section will conduct a FSI of the former URH site (MD-248) and the sediments of nearby surface waters, EPA identification number MDD981106768. The purpose of the FSI is to characterize potential migration of residual PCBs remaining on the URH site after the 1985 emergency removal action and to determine if those residual PCBs are contributing to the known PCB contamination in the Anacostia River watershed (which includes Indian Creek). MDE plans to collect sediment samples from the unnamed tributary of Indian Creek and Indian Creek itself downstream to its confluence with Beaverdam Run.

This Sampling and Analysis Plan (SAP) is submitted to the EPA by the MDE's Land Restoration Program, Federal Assessment and Remediation Division.

2.0 SITE DESCRIPTION

The relatively flat URH site is located south of Ammendale Road approximately ½-mile northeast of Beltsville, Prince George's County, Maryland: The unnamed tributary of Indian Creek is a small stream located approximately 425 feet west of the URH site on Prince George's County tax map 0013, parcel 159 in Congressional District 5. From the URH site, the unnamed tributary flows southerly for approximately 0.4-mile before discharging into Indian Creek. Indian Creek also flows southerly for approximately 8.6 miles before discharging into the Anacostia River. There are likely several Probable Points of Entry (PPE) for URH PCB contamination migrating into the unnamed tributary of Indian Creek as determined by the preferential pathways for surface water runoff. These are located along the eastern bank of the unnamed tributary in the vicinity of the coordinates 39° 2.95′ north / -76° 53.75′ west on the Beltsville 7.5 quadrangle topographic map. The Maryland State grid coordinates for the PPE area of the unnamed tributary of Indian Creek are approximately 632,050 feet north / 802,375 feet east.

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Figure 1: Regional Map

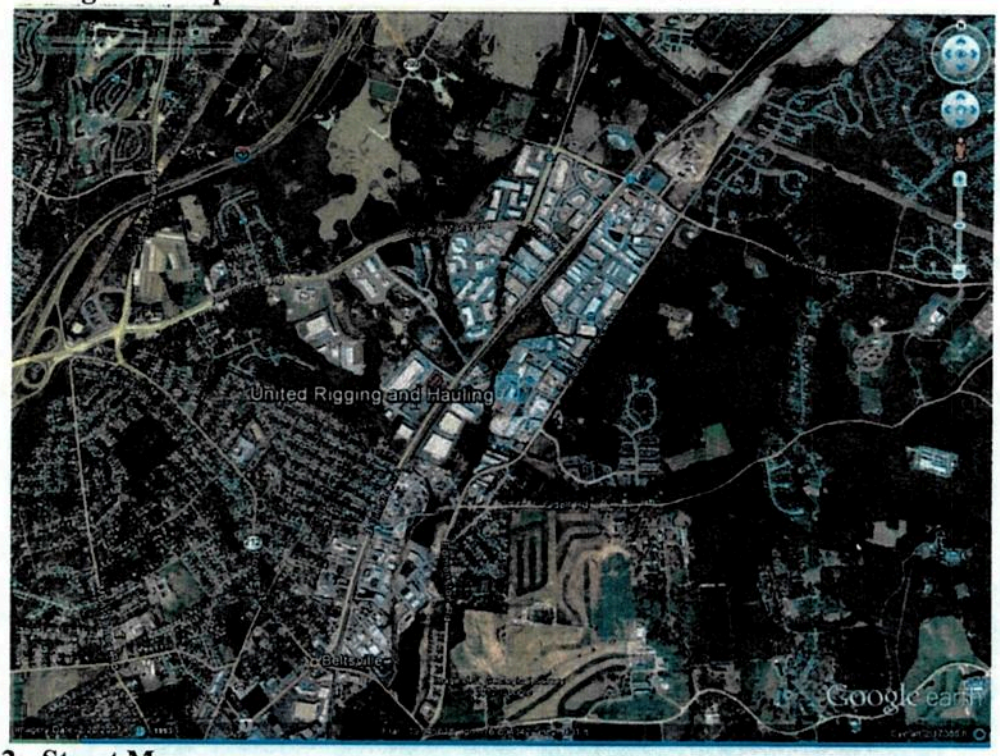

Figure 2: Street Map

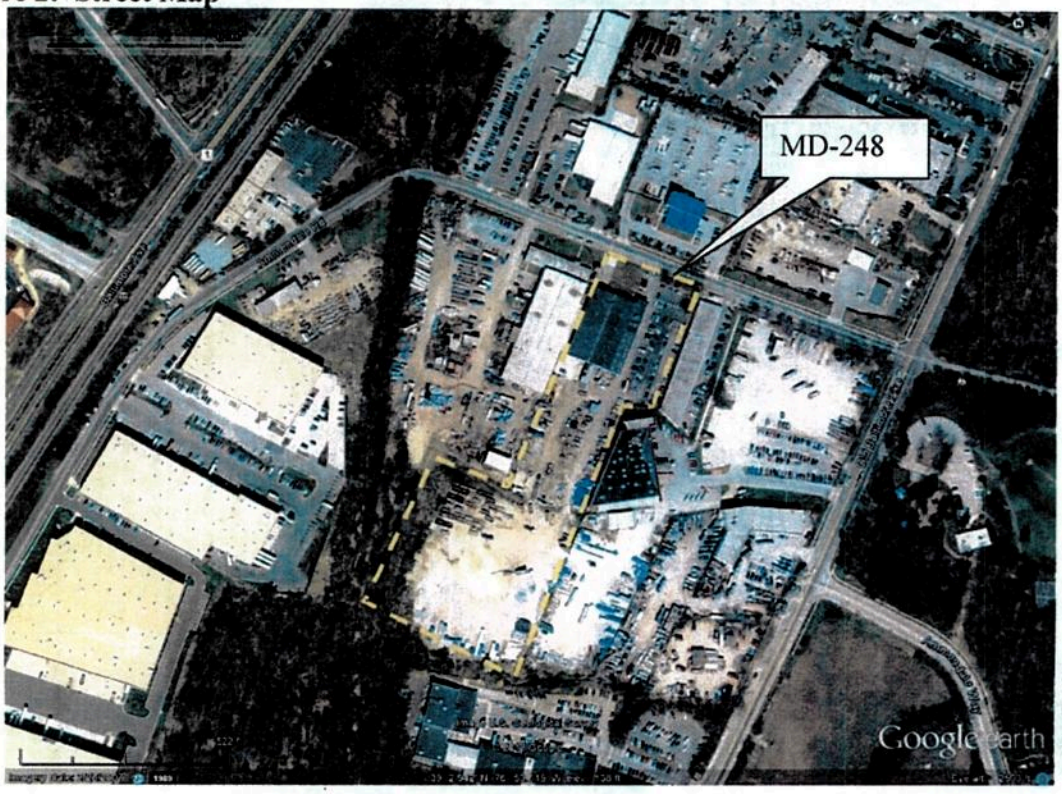

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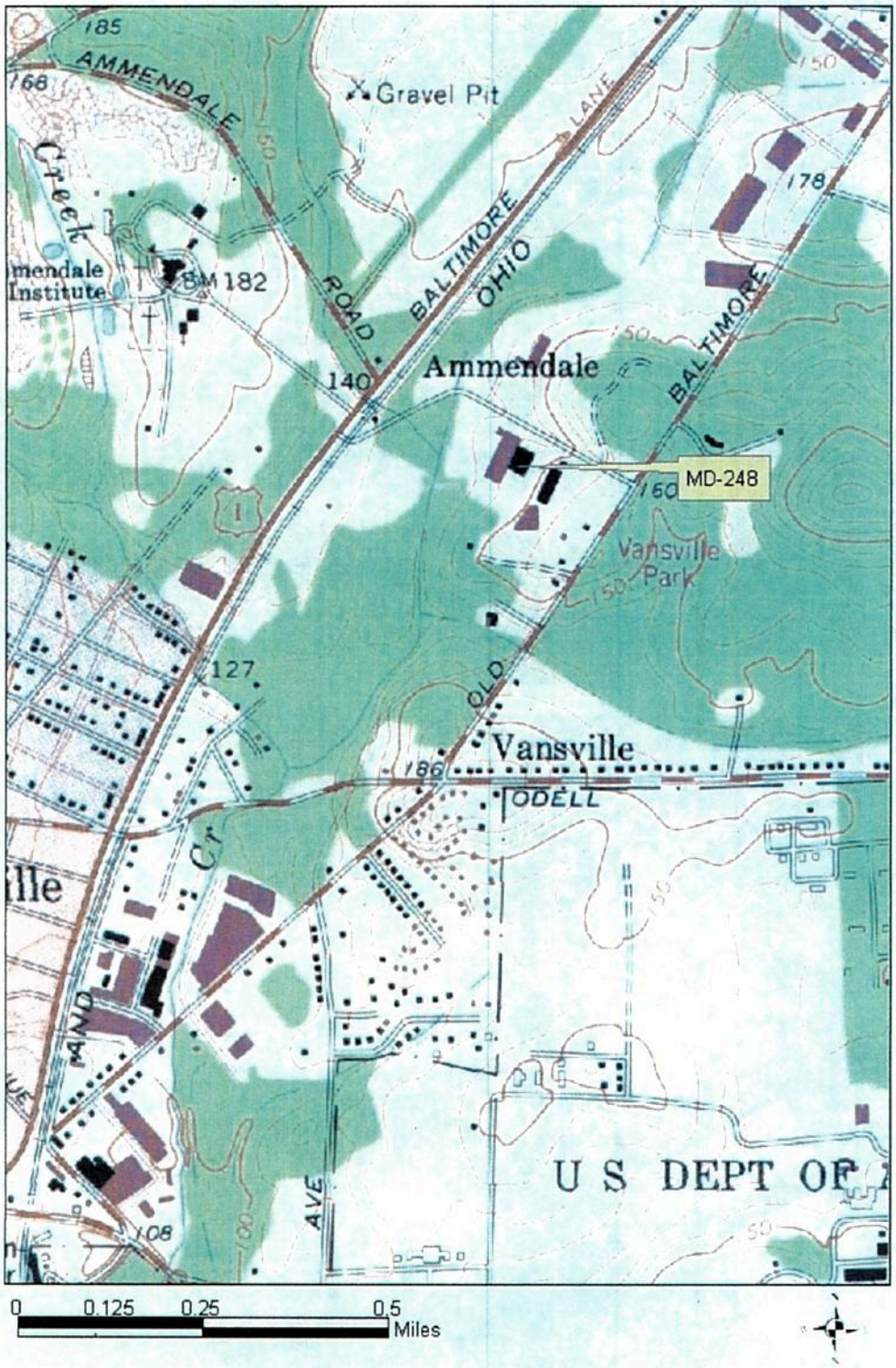
Figure 3: Cropped 1964 Beltsville 7.5′ Topographic Map (photo revised 1979)



2.1 Permitting and Regulatory Actions at URH

URH activities first came to the attention of the Prince George's County Health Department on March 28, 1985 when an anonymous tip was received regarding oil draining from a drainage culvert into the Indian Creek tributary. A sample of oil and water taken from this area identified PCBs at 235 ppm. The County informed MDHSWMA. HWSF collected more samples of soil, water and sediment from the unnamed tributary and identified more PCB contamination.

On May 1, 1985, the HWSF obtained a search warrant against URH that included provisions for digging trenches, searching for buried waste, impounding records, and conducting extensive sampling. HWSF collected multiple samples from transformers and on- and off-site soils. This preliminary data showed PCB concentrations ranging from 50 to 80 percent in the transformers, contamination of on-site soil up to 55,000 ppm and off-site migration of PCBs was up to 2,000 ppm. Due to the immediate threat to public health and the environment, EPA was notified of the situation. EPA subsequently ordered an emergency cleanup under CERCLA.

On May 8, 1985, EPA and MDHSWMA assessed the area and found severely stained soils, oil sheens in drainage culverts leading into the adjacent stream, and more than 760 transformers on site, many of which were leaking. Between May 13 and July 8, 1985, a total of 565 soil and drum samples were collected to determine levels of cleanup activities. Laboratory results showed PCB concentrations up to 955,522 ppm in transformers and up to 128,000 ppm in soils.

On May 9, 1985 it was found that the on-site burning of PCBs may have occurred, which increased the possibility of dioxins on site. EPA sampled for dioxin in a burn area on the northern end of the property and results did not identify dioxin contamination.

On May 21, 1985, trenching activities uncovered materials believed to contain asbestos. Sample results showed from 1 percent to 70 percent asbestos in several areas on site. The asbestos was subsequently removed from the site.

2.2 Remedial Actions at URH

EPA initiated the PCB cleanup and removal in late May 1985. By the end of June, Potomac Electric Power Company, which owned most of the transformers, took over the remediation, which was completed in January 1986. Between July 25 and December 17, 1985, a total of 553 truckloads of PCB-contaminated soil and debris totaling approximately 7,728 cubic yards were removed from site and sent to Model City, New York for disposal.

3.0 ENVIRONMENTAL SETTING

3.1 Water Supply

Nearly all of the residences and most businesses in Prince George's County utilize municipal water and sewer from the Washington Suburban Sanitation Commission (WSSC). WSSC is the 8th largest water and wastewater utility in the nation and serves nearly 1.8 million customers in Prince George's and Montgomery counties. WSSC supply comes from (b) (9) [redacted] (b) (9) [redacted] (b) (9) [redacted] The total amount of water supply available at reservoir capacity is over 14 billion gallons. WSSC maintains over 5,400 miles of drinking water pipeline and over 5,300 miles of sewer pipeline.

According to MDE well data files, there are approximately 47 domestic use wells within the 4-mile groundwater Target Distance Limit (TDL). Census data for the year 2010 indicates 2.76 persons per household in Prince George's County. Therefore approximately 128 people utilize domestic well supply in the 4-mile TDL. The total number of wells in the 4-mile groundwater TDL is outlined in Table 1.

Table 1: Domestic and Community Wells Within 4-Mile Radius of Site

Distance from the site (miles)	Estimated # of Private Domestic Wells	Estimated Population Served by Domestic Wells*	Farm Wells	Industrial Wells
0 – ½	1	**2**	0	4
½ – 1	0	**0**	0	0
1 – 2	0	**0**	0	3
2 – 3	8	**22**	3	19
3 – 4	38	**104**	1	1
Total	**47**	**128**	4	27

*http://quickfacts.census.gov/ indicates 2.76 persons per household in Prince George's County (Census 2010).

No surface water intakes exist within two miles of the site. There are two wellhead protection areas within the 4-mile TDL of the site for the U.S. Department of Agricultural Research Center located to the southeast.

3.2 Surface Water

The unnamed tributary of Indian Creek flows southerly for approximately 0.4-mile before discharging into Indian Creek. Indian Creek flows southerly for approximately 8.6 miles before discharging into the Anacostia River (Figure 3). Wetlands are associated with the unnamed tributary of Indian Creek and Indian Creek itself (Figure 4). The adjacent lands of the unnamed tributary and Indian Creek lie within 100 and 500 year floodplains (Figure 5).

Figure 4: Wetlands Map

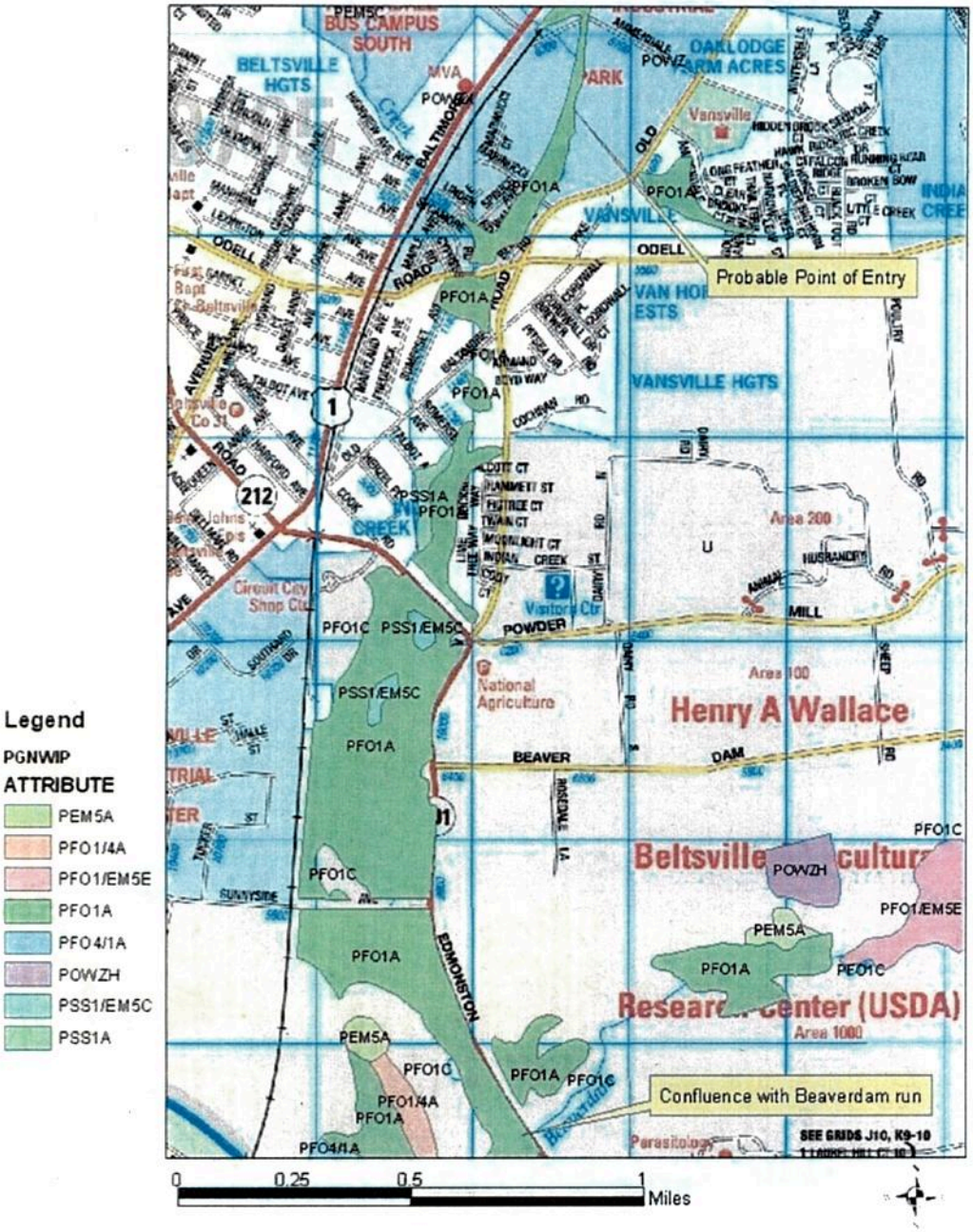


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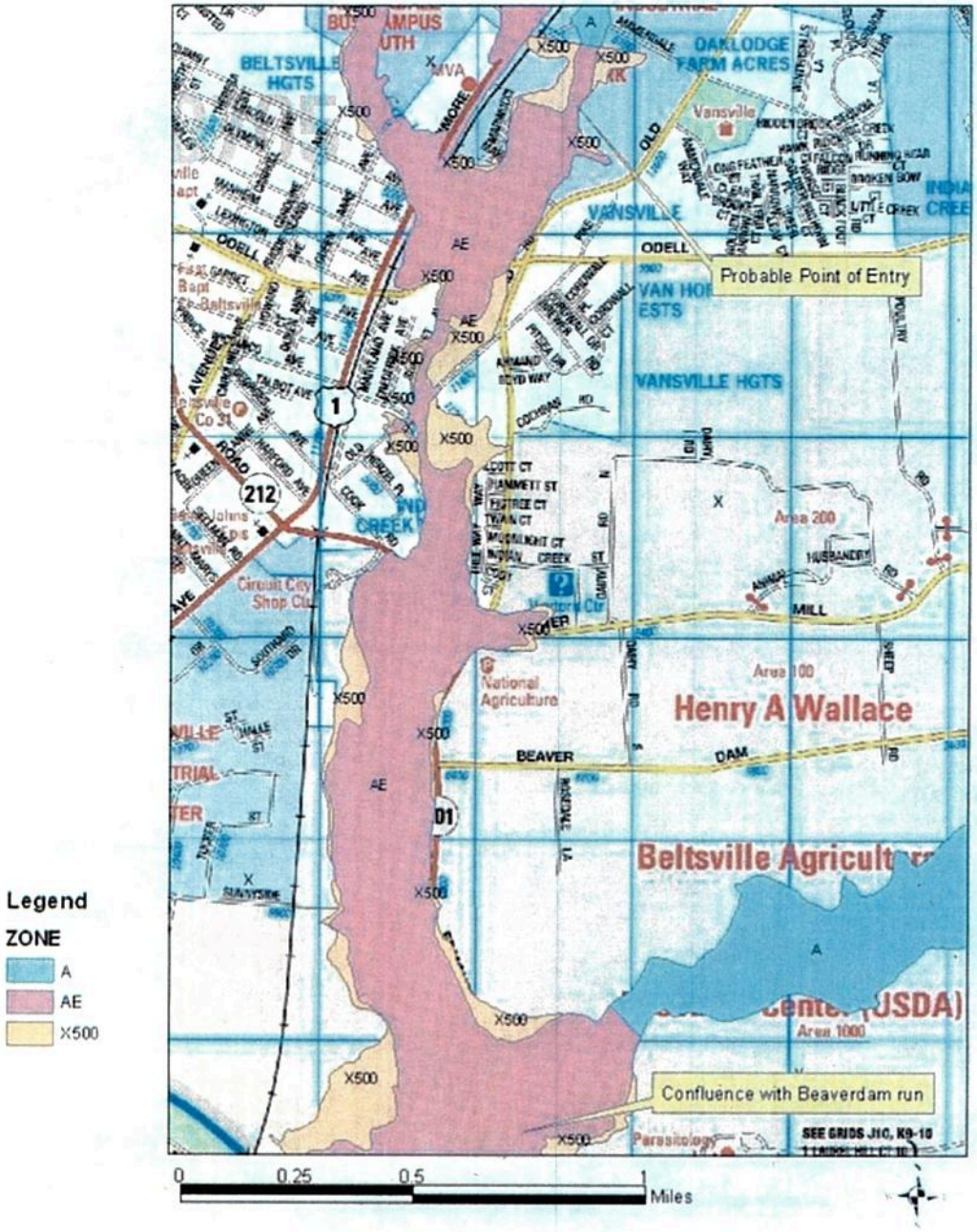
Figure 5: Floodplain Map



3.3 Soils

The surface water system in this study cuts through three separate soil series, the Bibb silt loam, the Fallingston loam series and the Iuka-Urban land complex. Except for the silt loam

surface layer that is about tree feet thick, the Bibb silt loam A and B soil horizons are sandy loam. The C horizon occurs at a depth of more than four feet. In wet periods, the water table in the Bibb soils is at or near the surface and is subject to flooding. Residential use is limited by flooding and poor drainage. Some areas have been made into parks and playgrounds. Most areas of this soil are in forest consisting of maple, gum, oak, and other hardwoods that tolerate wetness. The Fallingston loam series consists of poorly drained soils that have a gray subsoil through which water moves readily. The soils are on the Coastal Plains, where they developed on old sandy deposits containing moderate amounts of silt and clay. They occur on uplands, chiefly in nearly level areas. The Iuka-Urban land complex consists of Iuka soils on flood plains that are used for community developments. Most areas are nearly level, but some are gently sloping. Much of the original Iuka soils have been covered with miscellaneous soil materials to a depth of as much as 18 inches. Most of this complex has been filled for streets, buildings, parking lots, and playgrounds. In some areas, filling has reduced the severity or frequency of floods.

3.4 Geology

Indian Creek and its tributaries are situated on Quaternary lowlands deposits that consist of gravel, sand, silt and clay. Medium to coarse grained sand and gravel, cobbles and boulders exist near the base. These unconsolidated deposits overlie the Potomac Group that features heavily utilized aquifers within the Patapsco and Patuxent Formations. The Arundel Clay, which acts as an aquitard, may exist locally in this area (Figure 6).

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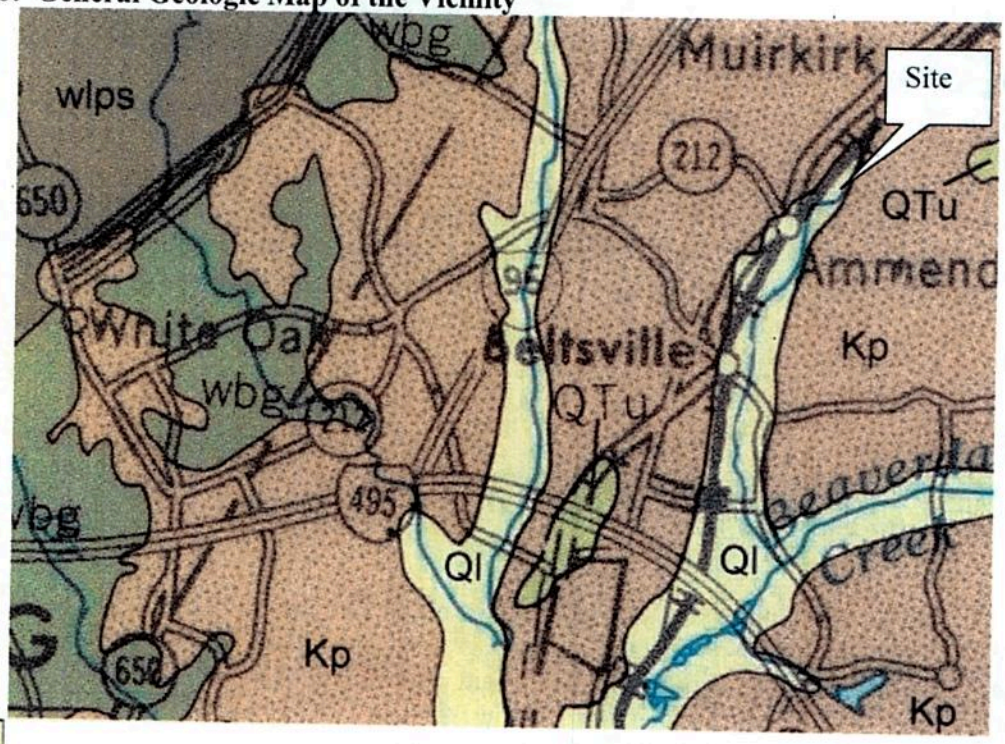
Figure 6: General Geologic Map of the Vicinity



Ql Quaternary lowland deposits consists of gravel, sand, silt and clay from 0 to 150 feet deep. Medium- to coarse-grained sand and gravel; cobbles and boulders are found near the base. These deposits commonly contain reworked Eocene glauconite; varicolored silts and clays; brown to dark gray lignitic silty clay.

3.5 Meteorology

Carroll County has a humid, continental climate with well-defined seasons. The warmest part of the year is July and the coldest is the last part of January. Annual temperatures range from 90° F to 20° F. Prevailing winds are from the west-northwest to northeast. From May through September, the winds become more southerly. The average annual wind speed is approximately 10 miles per hour. The average annual rainfall is 41 inches per year and the annual evaporation is 35 inches per year producing a net precipitation of 6 inches per year (Figure 7). The 2-year 24-hour rainfall is 3.5 inches in Carroll County (Figure 8).

Figure 7: Precipitation Map

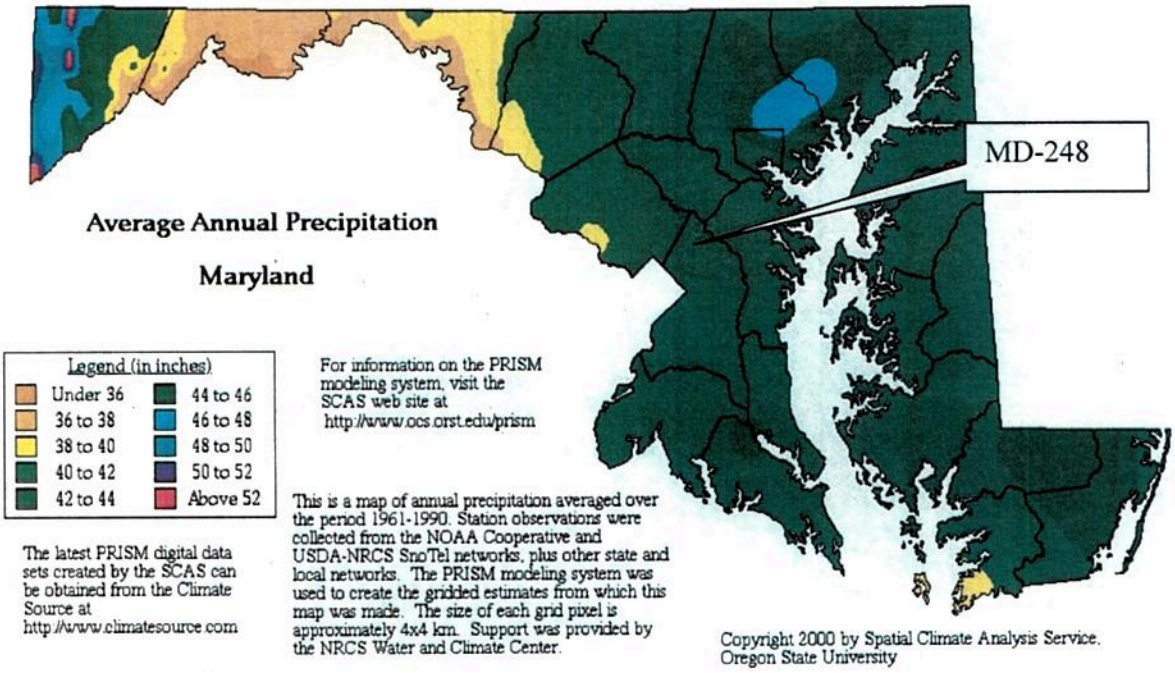


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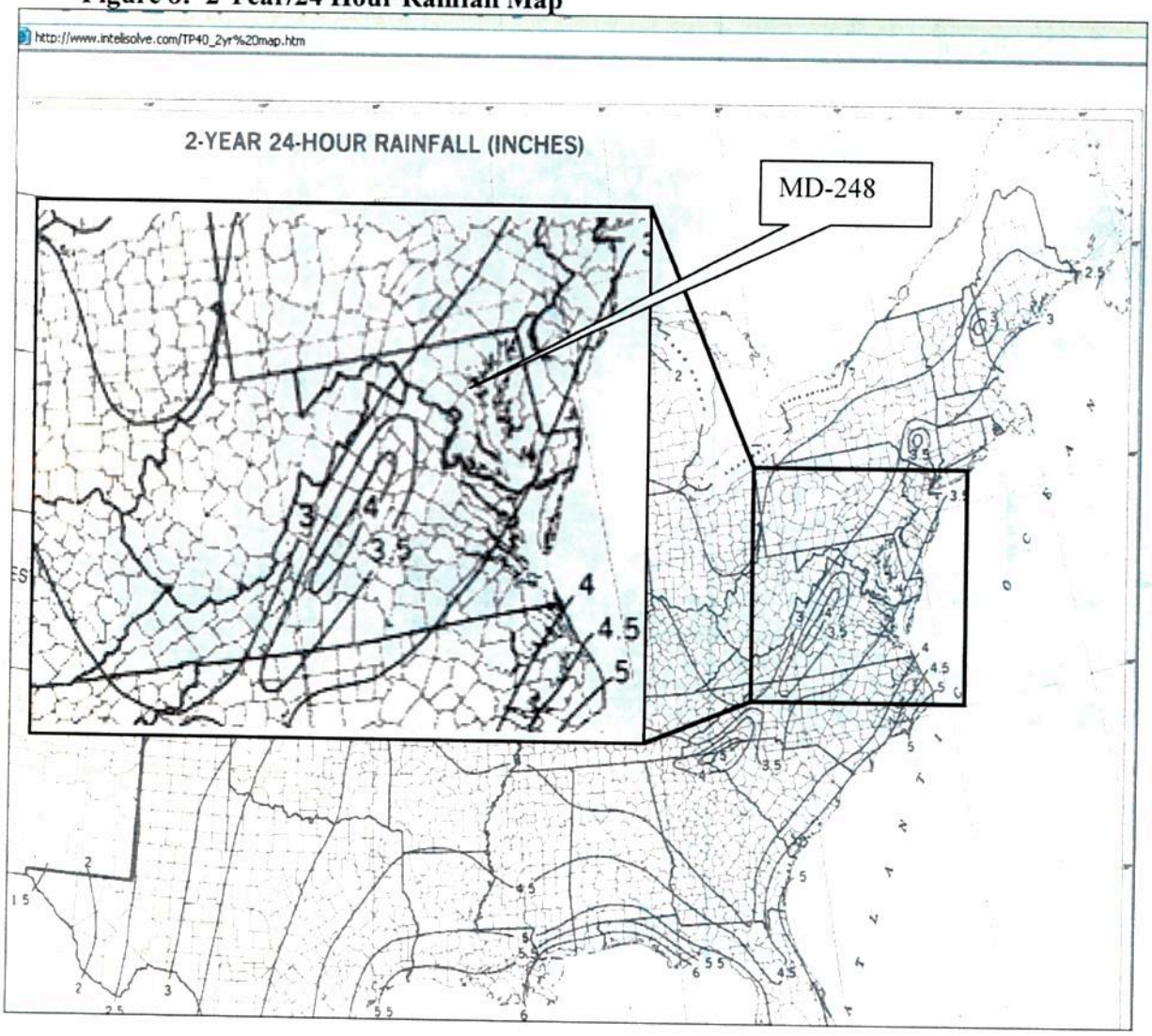
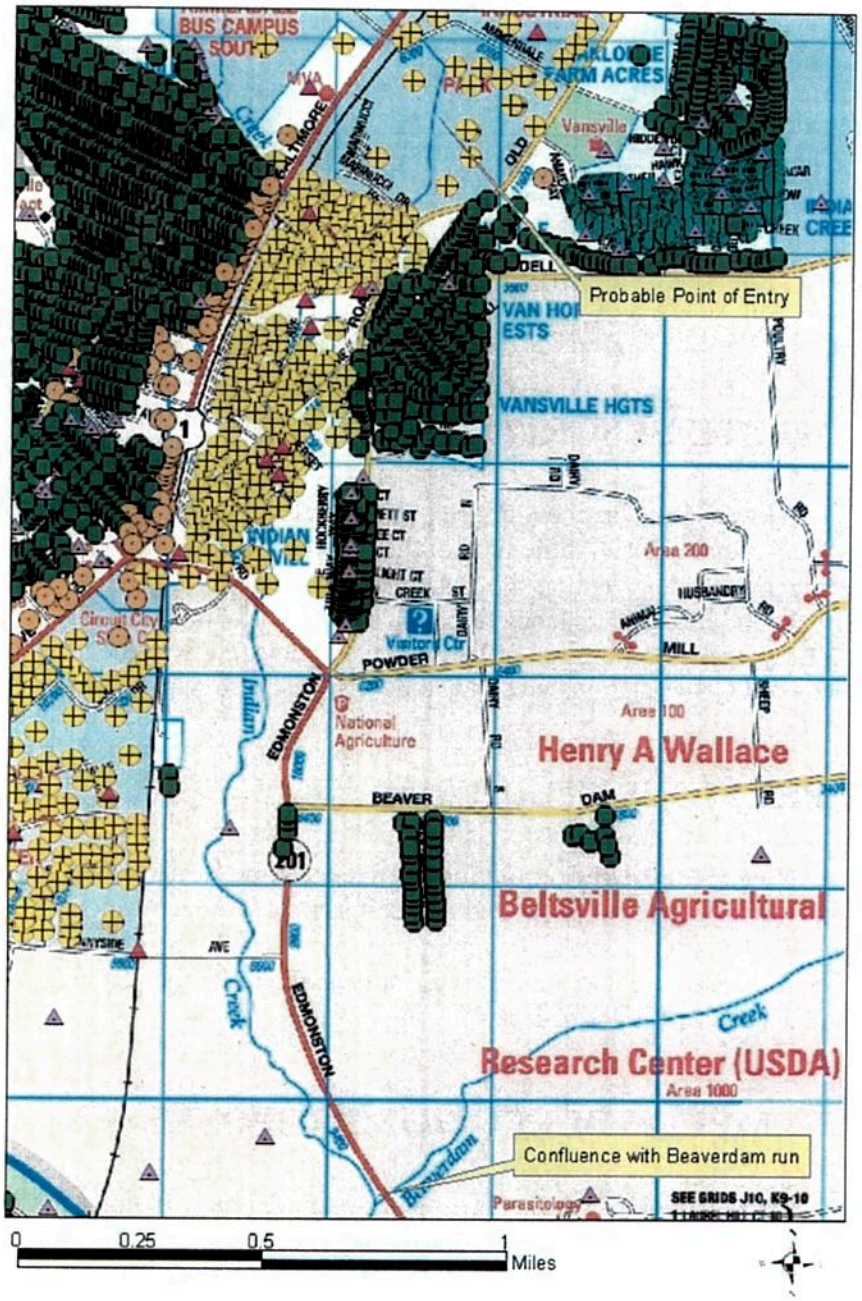
Figure 8: 2 Year/24 Hour Rainfall Map



3.6 Nearby Land Use and Population Distribution

This area in the vicinity of Indian Creek and its unnamed tributary adjacent to the URH site is nearly entirely industrial upstream from Powder Mill Road (Figure 9). The approximate population within the 4-mile Target Distance Limit of the site was calculated from the EPA ENVIROMAPPER website and is outlined in Table 2.

Figure 9: Land Use in the Vicinity of Indian Creek and Its Unnamed Tributary



Legend

- Agriculture
- Commercial
- Exempt (e.g., churches)
- Exempt Commercial
- Industrial
- Apartments
- Residendial
- Town House

Table 2: Population Distribution Within 4 Miles of the Site

Distance from the site (miles)	Estimated Population from 2010 Census
0 – 1/4	154
1/4 – 1/2	588
1/2 – 1	2,379
1 – 2	8,771
2 – 3	38,446
3 – 4	68,132
Total	**118,470**

4.0 WASTE DESCRIPTION

URH was in the business of acquiring, stockpiling, and salvaging electrical transformers for the scrap metal value. At the time of the May 8, 1985 assessment, more than 760 transformers were identified on site. Many of these transformers contained PCBs and were leaking. By end of the emergency removal, a total of 787 transformers owned by PEPCO and 55 Electric Equipment Corporation of Virginia were removed from the site. A total of 553 truckloads of PCB-contaminated soil and debris were also removed from the site.

5.0 PREVIOUS STUDIES

In June 1990, NUS Corporation completed a Site Inspection of the URH site. A total of four surface water, five sediment and five soil samples were collected. PCBs were found at low levels in many of the on-site soil and sediment samples. The highest concentration, 3.6 ppm was identified in the sediment at the end of a drainage pipe near the fence that drains towards the unnamed tributary of Indian Creek.

6.0 SAMPLE COLLECTION PROPOSAL

The FSI will assess the sediments in an approximate 0.4-mile stretch of the unnamed tributary of Indian Creek west of the former URH site and an approximate 2.5-mile stretch of Indian Creek downstream to the confluence with Beaverdam Creek.

Contract Laboratory Program (CLP) protocol will be followed throughout the sample collection and submittal process (U.S. EPA, "Contract Laboratory Program Guidance For Field Samplers," January 2011). The Quality Control (QC) used by MDE includes the submittal of a

field duplicate and one sample designated as the spike sample, which will be collected at specified additional volumes for CLP matrix spike QC procedures. A temperature blank sample will be placed in every cooler shipped in order for the lab to measure internal cooler temperatures.

Sub-aqueous sediment samples will be collected from the unnamed tributary and Indian Creek via a disposable plastic scoop. Sediment samples URH-SED-1 through URH –SED-7 will be collected in the unnamed tributary of Indian Creek. URH-SED-1 will be collected upstream from Ammendale Rd to characterize the background sediments. Sediment sample URH-SED-2 will be collected near the discharge area of a sewer outfall which may act as a PPE. Sediment sample URH-SED-3 and -4 will be collected in the stream section west of the URH site. URH-SED-5 will be collected near the drainage from a transformer stockpile which may also act as a PPE. URH-SED-6 will be collected upstream from the Recover One Towing & Recovery Company to characterize sediments before potential impacts by the recovery company. URH-SED-7 will be collected near the confluence with Indian Creek downstream of the recovery company to characterize potential impacts on the unnamed tributary from the recovery company.

Sediment samples URH-SED-8 through -12 will be collected from Indian Creek. Sediment sample URH-SED-8 will be collected upstream from the confluence with the unnamed tributary to characterize the sediment in Indian Creek prior to any impacts from the unnamed tributary. URH-SED-9 will be collected downstream from Old Baltimore Pike. URH-SED-10 will be collected upstream from Powder Mill Rd. URH-SED-11 will be collected upstream from Sunnyside Ave. URH-SED-12 will be collected upstream from the confluence of Beaverdam Creek to characterize that portion of Indian Creek prior to potential impacts from Beaverdam Creek. URH-SED-13 will be collected from Beaverdam Creek upstream from Edmonston Ave to characterize the sediments in Beaverdam Creek that may be impacting Indian Creek.

Sediment samples URH-SED-14 and -15 will serve as field duplicates of URH-SED-2 and -5 respectively. Sample URH-SED-10 will serve as the matrix spike/matrix spike duplicate for quality control/quality assurance purposes.

An areal view of the proposed sample locations are depicted in Figure 10, close up aerial views are shown in Figures 10a, b, c and d.

Figure 10: Proposed Sampling Locations

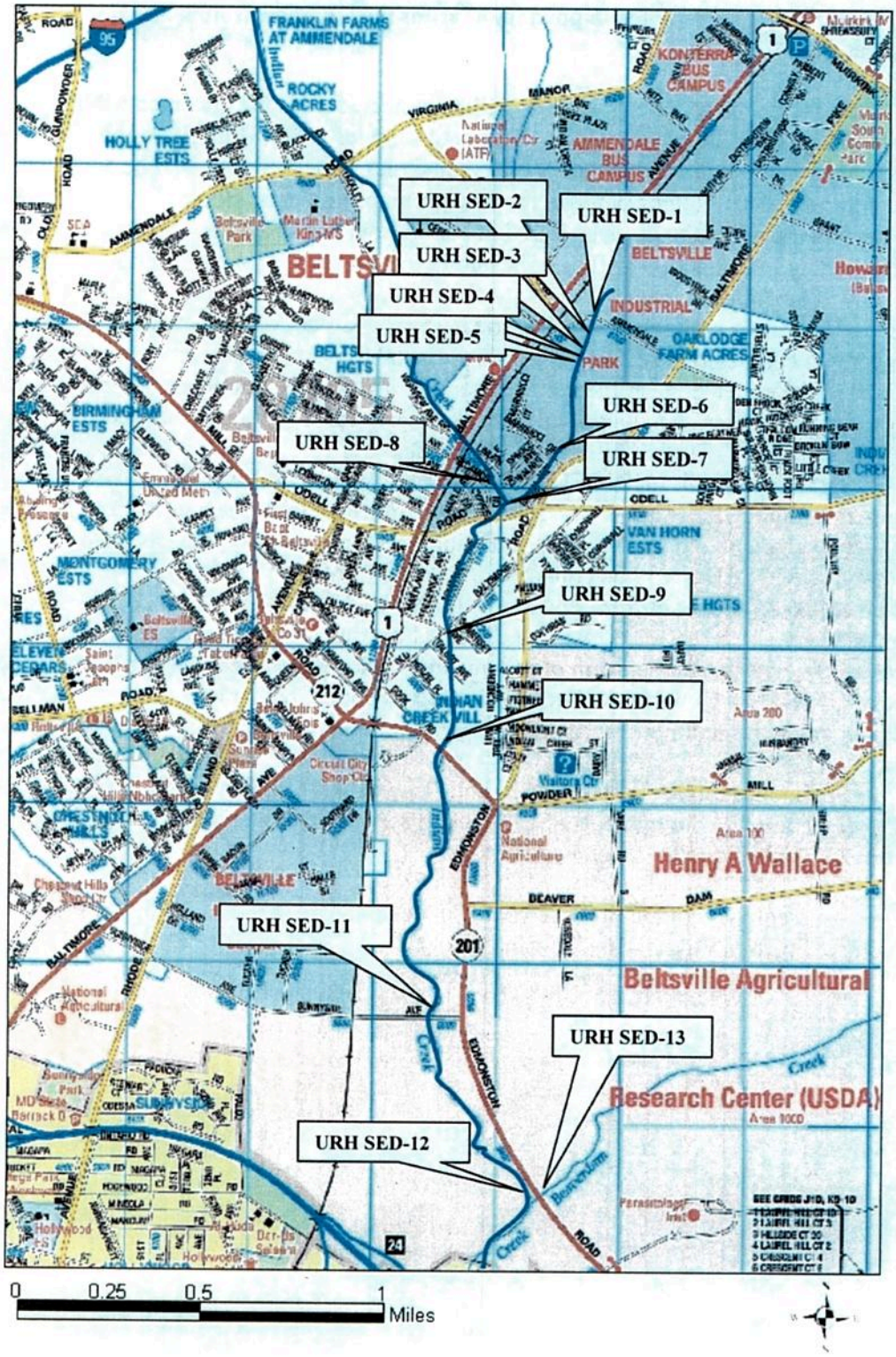


Figure 10a: Proposed Sampling Locations along the Unnamed Tributary of Indian Creek (URH-SED-1 through -5)

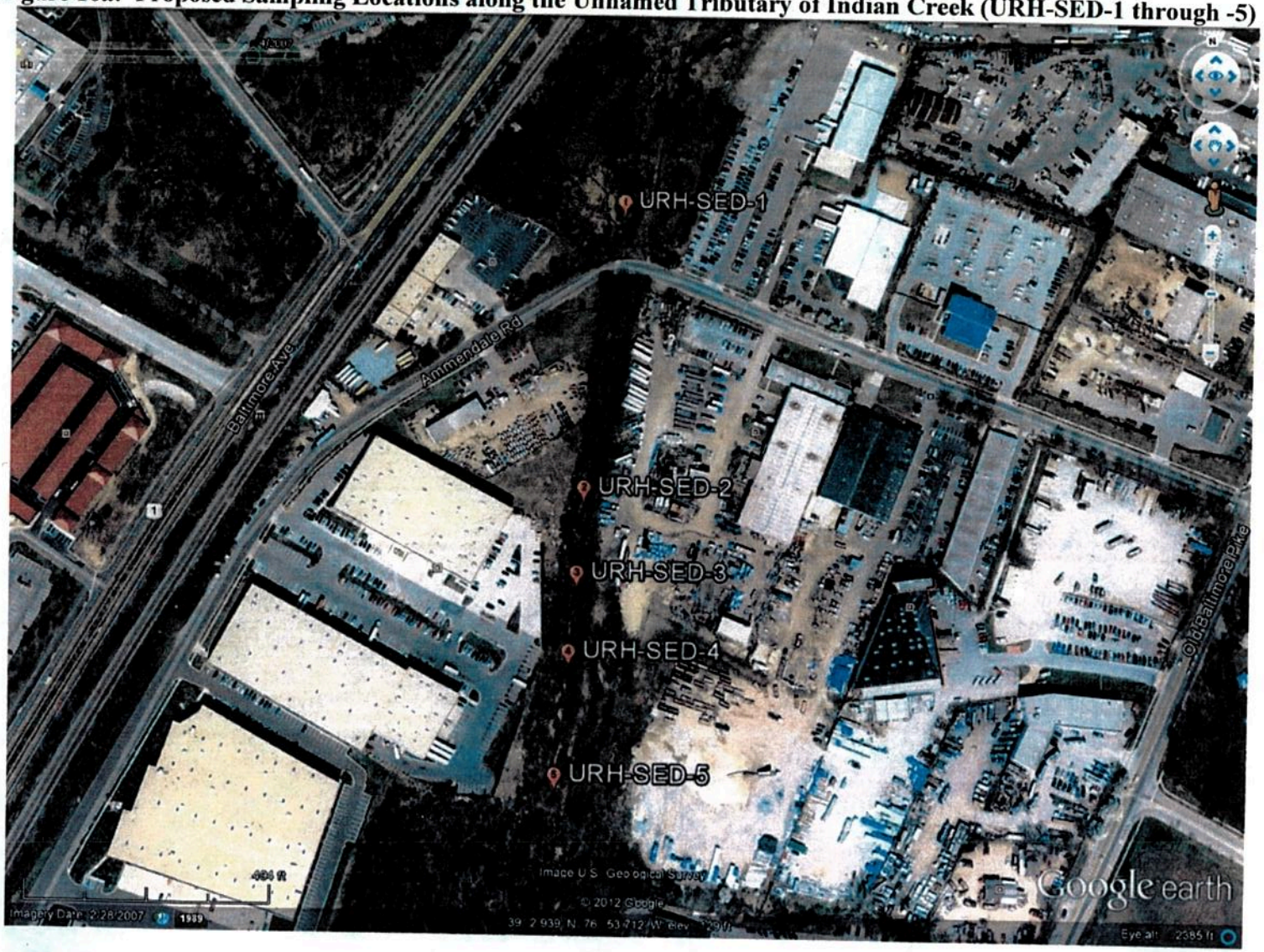


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Figure 10b: Proposed Sampling Locations Near Confluence of Indian Creek and its Unnamed Tributary (URH-SED-6,-7, -8)

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Figure 10c: Proposed Sampling Locations of Indian Creek (URH-SED-9 and -10)

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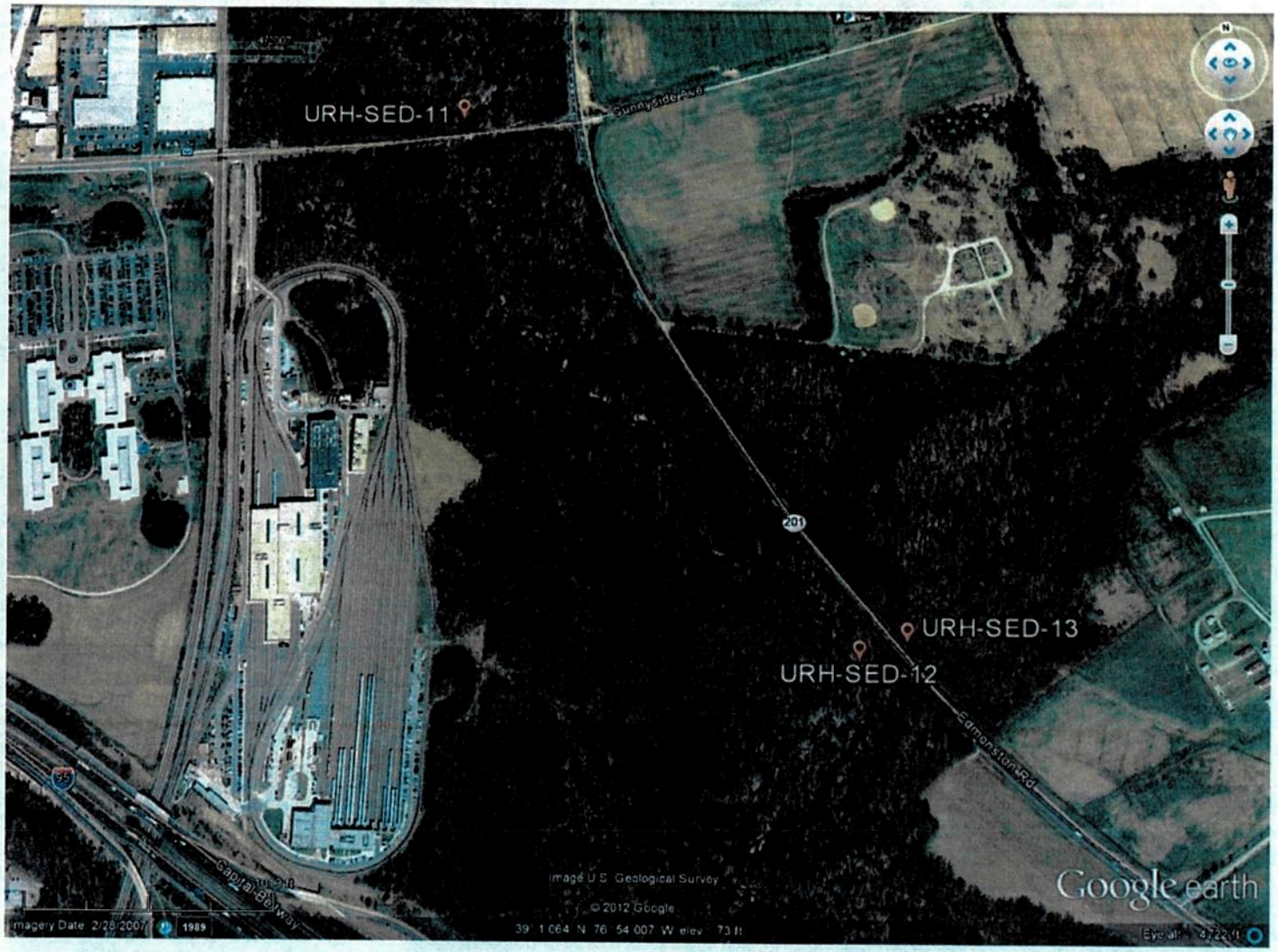
Figure 10d: Proposed Sampling Locations of Indian Creek and Confluence with Beaverdam Creek (URH-SED-9, -11, -12)



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Samples will be collected and submitted for Target Compound List (TCL) list PCBs analyses. The quality control used by MDE includes the submittal of spikes and field duplicate samples. Sample numbers and quantities are detailed in Table 3.

Table 3 Analytical Parameters

Number of Samples	Matrix	Analytical Parameter	Analytical Method	Container	Preservative	CRDL	Maximum Holding Time
15	Solid	TCL PCBs	SOM01.2	One 4-oz, AWM	Ice	33.0	180 days

SOM01.2= Statement of Work for Mult-Media, Muti-Concntration Organics Analysis. TCL = Target Compound List AWM=amber, wide mouth glass jar, CRDL = Contract required detection limit, oz = ounce,

Results from the chemical analyses of the samples collected for this FSI will be screened against September 2008 EPA Biological Technical Assistance Group freshwater sediment screening benchmarks for PCBs (59.8 µg/Kg of total PCBs). The screening criteria for the TCL PCBs and contract required quantitation limits (CRQLs) for the select analytes are outlined in Table 4. A summary of the analytical parameters and the number of samples collected for each parameter is outlined in Table 5.

Table 4 TAL CRQLs and Screening Criteria

Analyte	CAS No.	EPA BTAG freshwater sediment screening benchmarks (µg/Kg)	CRQL (µg/Kg)
Aroclor 1016	12674-11	BTAG screening benchmarks for freshwater sediment do not include individual PCBs but rather total PCBS at: 59.8 µg/Kg	33.0
Aroclor 1221	11104-28-2		33.0
Aroclor 1232	11141-16-5		33.0
Aroclor 1242	53469-21-9		33.0
Aroclor 1248	12672-29-6		33.0
Aroclor 1254	11097-69-1		33.0
Aroclor 1260	11096-82-5		33.0
Aroclor 1262	37324-23-5		33.0
Aroclor 1268	11100-14-4		33.0

Table 5 Sample Summary Table

SEDIMENT SAMPLES			
Sample #	**Sample Location**	**Rationale**	**Parameters**
URH-SED-1	Upstream of Ammendale Rd (background).	Characterize background.	TCL PCBs
URH-SED-2	Near outfall of surface sewer on former URH property (potential PPE).	Characterize potential PPE.	TCL PCBs
URH-SED-3	Sediment in unnamed tributary west of URH.	Characterize sediment in the unnamed tributary of Indian Creek.	TCL PCBs
URH-SED-4	Sediment in unnamed tributary west of URH.	Characterize sediment in the unnamed tributary of Indian Creek.	TCL PCBs
URH-SED-5	Sediment in unnamed tributary west of URH near former transformer area (potential PPE).	Characterize anther potential PPE.	TCL PCBs
URH-SED-6	Sediment in unnamed tributary upstream from Recover One Towing & Recovery Co.	Characterize sediment in the unnamed tributary of Indian Creek prior to potential impacts from vehicle recovery operation.	TCL PCBs
URH-SED-7	Sediment in unnamed tributary downstream from Recover One Towing & Recovery at confluence with Indian Creek.	Characterize impacts to the sediment in the unnamed tributary of Indian Creek from the vehicle recovery operation.	TCL PCBs
URH-SED-8	Indian Creek just upstream from confluence with the unnamed tributary west of URH.	Characterize Indian Creek prior to impacts from the unnamed tributary.	TCL PCBs
URH-SED-9	Indian Creek downstream from Old Baltimore Pike.	Characterize sediments in Indian Creek.	TCL PCBs
URH-SED-10	Indian Creek upstream from Powder Mill Rd *(MS/MSD)*.	Characterize sediments in Indian Creek and serve at the *MS/MSD*.	TCL PCBs
URH-SED-11	Indian Creek upstream from Sunnyside Ave.	Characterize sediments in Indian Creek.	TCL PCBs
URH-SED-12	Indian Creek upstream with confluence of Beaverdam Creek.	Characterize sediments in Indian Creek.	TCL PCBs
URH-SED-13	Beaverdam Creek upstream with confluence of Indian Creek east of Edmonston Rd.	Characterize potential impacts to the sediments in Indian Creek from Beaverdam Creek discharge.	TCL PCBs
URH-SED-14	Field duplicate of URH-SED-2	*QA/QC*	TCL PCBs
URH-SED-15	Field duplicate of URH-SED-5	*QA/QC*	TCL PCBs

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7.0 INVESTIGATION DERIVED WASTE PLAN

There is no investigation-derived waste expected for this FSI.

8.0 PROJECT MANAGEMENT

Project Manager: (b) (4) [redacted]	CLP: (b) (4) [redacted]
Safety Officer: TBA	Project Geologist: TBA
Samplers: TBA	Samplers: TBA

9.0 COMMUNITY RELATIONS

Routine site related activities will be handled by the Project Manager. The Land Restoration Program's management will address more complex issues.

APPENDIX A: SITE SAFETY PLAN

1.0 SITE DESCRIPTION

1.1 Site Name and Address: United Rigging and Hauling (MD-248)
6601 Ammendale Road,
Beltsville, Prince George's County, MD 20705

1.2 Site Number: MD-248

1.3 Dates Planned On-Site: TBA

1.4 Hazards Present or Suspected: Unknown other than slip, trip and fall.

1.5 Total Area of Site: approximately 10 acres

1.6 Area Being Studied: approximately 0.4 mile of the unnamed tributary of Indian Creek plus 2.9 miles of Indian Creek itself

1.7 Surrounding Population:

On-Site:	0
0 - 1/4 Mile:	154
1/4 - 1/2 Mile:	588
1/2 - 1 Mile:	2,379

1.8 Topography of Site: relatively flat

1.9 Site Access Maps:
Topographic Map: Refer to Figure 3 on page 4 of the sampling plan.
Site/Sampling Sketch: Refer to Figure 10 on page 17 of the sampling plan.

2.0 ENTRY OBJECTIVES

The purpose(s) of this site entry are:
X to identify the suspected migration of PCBs into nearby surface waters.

The following number of samples will be collected:
0 Soil Samples
0 Soil Gas Samples
0 Groundwater Samples
0 Monitoring Well Water Samples
0 Surface Water Samples
15 Sediment Samples

3.0 ON-SITE ORGANIZATION AND COORDINATION

3.1 MDE Reps:

Contact: Peggy Williams, Geologist Supervisor
1800 Washington Blvd.
Baltimore Maryland 21230
410-537-3440

James Carroll, Program Administrator
1800 Washington Blvd.
Baltimore, Maryland 21230
410-537-3437

3.2 Agency Reps:

AGENCY	NAME	WORK PHONE
FEDERAL AGENCY REPS:		
EPA	Jan Szaro	(215) 814-3355
LOCAL AGENCY REPS:	*TBA*	
OTHER STATE REPS:	Emergency Response	(866) 633-4686
OTHER REPS:	There are no other representatives at this time.	

3.3 Project Personnel:

The following personnel are designated to carry out the stated job functions on-site. One person may carry out more than one job function. In case of absence of personnel, the alternative will be designated by the Project Manager and/or authorized personnel.

JOB FUNCTION	NAME	WORK PHONE
Project Manager	(b) (4) [redacted]	
Site Safety Officer		
Field Quality Assurance Officer		
Site Geologist		
Sampling Team		
Drilling Team	NA	

4.0 ON-SITE WORK PLAN

The following on-site tasks will be performed by the designated personnel: *TBA*

TASK	TEAM MEMBERS
Decontamination Team	TBA
On-Site Well Sampling	*NA*
Soil Sampling	*NA*
Well Sampling	*NA*
Surface Water/Sediment	*NA*

5.0 SITE CONTROL - WORK ZONES

The following personnel have been designated to coordinate access control and security on-site: *TBA*

In order to prevent or reduce the migration of contaminants controlled work zones and control points should be set up and marked. Work zones include the Exclusion Zone (hot zone), Contamination Reduction Zone (decon zone), and Support Zone (clean zone). No unauthorized person should be within these areas. Command Post (support zone) should be located upwind from the Exclusion Zone. The control boundaries and access control points into each zone will be marked and made known to all personnel during daily briefing. The work zone is sketched below:

**Sampling events at the URH site will be initiated in level "D" protective wear. The work zones as indicated above are not applicable for this phase of work to be completed.*

6.0 SAFETY AND SPECIAL TRAINING REQUIRED

All personnel permitted in areas requiring personnel protective equipment and clothing (the hot zone and decontamination zone) must have, as a minimum requirement, attended EPA's Personnel Protection and Safety training course (165-2) or equivalent (165-5). A safety and task briefing meeting will be conducted each day before site entry. The safety procedures, evacuation procedures, escape procedures, as well as the day's planned activities will be discussed.

7.0 HAZARD EVALUATION

7.1 Primary Hazards

The following substance(s) are known or suspected to be on-site: *Slip, trip and fall.*

7.2 Additional Hazards

The following additional hazards are expected on-site: *NOA.*

8.0 PERSONNEL PROTECTION EQUIPMENT

Based on evaluation of potential hazards, the ESI will be conducted in Level D.

LEVEL D

Coveralls*
Gloves*
Boots/Shoes, leather or chemical-resistant, steel toe and shank
Safety glasses or chemical-splash goggles*
Hard hat (face shield)*
Disposable boot covers*
Escape mask*
(*) OPTIONAL

9.0 MONITORING

ORIGINAL

9.1 Environmental Monitoring

The following environmental monitoring instruments shall be used on-site (circle when applicable) at the specified intervals.

INSTRUMENT	FREQUENCY	
Metal Detector	continuous/hourly/daily/other____	
HNU/OVA	continuous/hourly/daily/other	Microtip

*Microtip to be used on an as needed basis and for soil samples._

Radiation Detector Equipment:

Personal Radiation Monitor **BADGES**

10.0 COMMUNICATION PROCEDURES

10.1 Hand Signals

The following standard hand signals will be used in case of radio communication failure:

HAND SIGNALS	INDICATIONS
Hand gripping throat	Out of air, can't breathe
Pat on partner's shoulders	Leave area immediately
Both hands around waist	Leave area immediately
Grip partner's wrist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I am alright, I understand
Thumbs down	No, negative

*Communication at the *URH* site will be done through verbal contact and cellular phone.

11.0 DECONTAMINATION PROCEDURES

Refer to Standard procedures for field operations in Appendix B.

12.0 EMERGENCY PLAN

12.1 Emergency Medical Facility

Medical Facility: Greater Laurel Regional Hospital Center
Address: 7300 Van Dusen Rd
Phone Number: (301) 725-4300
Time Needed to Reach Facility: 8 minutes

Directions to Hospital from site: 3.7 miles

1. Head towards Old Baltimore Pike 0.2 mi.
2. **LEFT** onto Old Baltimore Pike 0.9 mi.
3. **LEFT** onto Muirkirk Rd 0.6 mi.
4. **RIGHT** onto Virginia Manor Rd 1.3 mi.
5. Continue on Van Dusen Rd 0.6 mi. Destination is on the Left.

Designated place for medical facility access map: Sampling Van:

Local ambulance available: Yes
Ambulance phone number: 911
Ambulance response time: Unknown

12.2 First Aid Equipment On Site

First-aid equipment is available on-site at the following locations:
First-Aid Kit: Sampling Van
Emergency Eye Wash: Sampling Van

12.3 Other Emergency Phone Number List

AGENCY/FACILITY	CONTACT	PHONE NUMBER
Police		911
Fire		911
Haz Mat Unit	MDE	(866) 633-4686
State Hazardous Material and Oil Response Unit	MDE	(866) 633-4686

13.0 EMERGENCY PROCEDURES

The following standard emergency procedures will be used by on-site staff that are also responsible for ensuring that the appropriate procedures are followed.

13.1 Personnel Injury

Designated Emergency Signal: Verbal through radio communication or vehicle horn. Upon notification of an injury, the Project Manager and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue, with the Site Safety Officer initiating the appropriate first aid and necessary follow-up as stated above. If the injury increases the risk of others, the designated emergency signal shall be sounded and all site personnel shall move to the decontamination line for further instructions. Activities on-site will stop until the added risk is removed or minimized.

13.2 Fire or Explosion

Designated Emergency Signal:_

Upon notification of a fire or explosion on-site, the designated emergency signal shall be sounded and all site personnel assembled at the sampling van. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

13.3 Other Equipment Failure

If any other equipment on-site fails to operate properly, the Project Manager and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations on-site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall assemble at the sampling van until the situation is evaluated and appropriate actions taken. .

EMERGENCY PROCEDURES SUMMARY:

* Designated work zones are not applicable during this phase of the FSI, therefore emergency signals other than those indicated in section 10.1 and 10.2 have not been established. The primary means of communication on site will be through verbal contact.

SAFETY PLAN ACKNOWLEDGEMENT FORM

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

NAME	AGENCY	SIGNATURE