Cincinnati
11231 Cornell Park Drive
Cincinnati, Ohio 45242
513.489.2255
Fax 513.489.2533

Cleveland
1382 W. 9th Street
Suite 200
Cleveland, Ohio 44113
216.344.3072
Fax 216.344.3073

Chicago
325 West Huron Street
Suite 410
Chicago, Illinois 60610
312.475.9055
Fax 312.475.9059

800.229.1443
www.paynefirm.com

SAMPLING & ANALYSIS PLAN #2

The Payne Firm, Inc.
Environmental Consultants

DATE: June 16, 2008

SUBJECT: Direct Push Soil Investigation

PROJECT NO.: 0654.13.05

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1. OBJECTIVES

This Sampling & Analysis Plan (SAP) outlines the direct-push soil sampling tasks that will be undertaken as part of a September 13, 2007 Administrative Order of Consent (Order) between the United States Environmental Protection Agency (U.S. EPA) Region 5 and Bway.

The purpose of the sampling event is to determine the concentrations of potential chemicals of concern (COCs) within the soil beneath designated Solid Waste Management Units (SWMUs) and at the property line. This event can be considered a screening evaluation to determine potential impact to groundwater. Decisions regarding the need for further investigation will be made based on professional judgment considering the screening results and results of a qualitative data review, including the magnitude of the concentrations, their spatial distribution, and other factors (e.g., background levels).

Specific objectives of the scope of work include:

- Soil source characterization at six outdoor former drum storage areas;
- Soil source characterization at four former underground storage tank (UST) areas; and
- Soil source characterization along the former process wastewater sewer line.

2. WORK TO BE COMPLETED

A. Direct-Push Soil Sampling at the Former Drum Storage Areas

Soil samples will be collected from the unsaturated zone in the vicinity of six former outdoor drum storage areas (Figure SOW 2A) to determine whether or not a soil source area of hazardous substances exists on the facility. These soil samples will be analyzed for VOCs, SVOCs, and TAL Metals in accordance with the methods outlined in the Quality Assurance Project Plan (QAPP) dated June 11, 2008. This investigation will concentrate on soil sampling above the water table utilizing a direct-push Geoprobe® rig to complete borings into the unsaturated zone and will be logged by a Payne Firm geologist. Samples will be submitted to a laboratory from three discrete 2-foot intervals at each boring location. Headspace screening results and field observations such as staining, discoloration and/or odor will be recorded across the entire boring. A surficial interval will be sampled, and one sampling interval will be dependent on the highest headspace screening results and/or field observations. A third sample will be submitted

from the bottom of the boring, which will be terminated based on field observations of the absence of apparent contamination. Table 1 outlines sampling methodology at each sampling location. All borings will be abandoned to the ground surface in accordance with state guidelines.

Soil samples will be labeled immediately after collection. The information on the sample label will include the project name, sample identification, sample date and time, and the analyses requested. Upon completion, a licensed surveyor will locate the coordinates and elevations of the direct-push borings.

B. Direct-Push Soil Sampling at the Former UST locations

Soil samples will be collected from the unsaturated zone in the vicinity of four former UST areas (Figure SOW 2B) to determine whether or not a soil source area of hazardous substances exists on the facility. These soil samples will be analyzed for VOCs, SVOCs, and TAL Metals in accordance with the QAPP. This investigation will concentrate on soil sampling above the water table utilizing a direct-push Geoprobe® rig to complete borings into the unsaturated zone and will be logged by a Payne Firm geologist. Samples will be submitted to a laboratory from three intervals at each boring location. Headspace screening results and field observations will be recorded across the entire boring. One sample interval will be submitted from the base of the known bottom depth of the invert of the former USTs at each location, and one sampling interval will be dependent on the highest headspace screening results and/or field observations. A third sample will be submitted from the bottom of the boring, which will be terminated based on field observations of the absence of apparent contamination. Table 1 outlines sampling methodology at each sampling location. All borings will be abandoned to the ground surface in accordance with state guidelines.

Soil samples will be labeled immediately after collection. The information on the sample label will include the project name, sample identification, sample date and time, and the analyses requested. Upon completion, a licensed surveyor will locate the coordinates and elevations of the direct-push borings.

C. Direct-Push Soil Sampling along the former process wastewater sewer line

Soil samples will be collected from the unsaturated zone along the length of the former process wastewater sewer line as determined from the results of SOW 1: Former Process Wastewater Sewer (AOI B) Investigation. One of the primary goals of this investigation is to identify locations along the sewer line where corrosion or cracks exists that represent a compromise of the pipe integrity allowing for a potential release to the subsurface. If identified, these locations will be flagged for boring locations. Soil samples taken from any of these boring locations will be analyzed for VOCs, SVOCs, and TAL Metals in accordance with the QAPP. This investigation will concentrate on soil sampling above the water table utilizing a direct-push Geoprobe® rig to complete borings into the unsaturated zone and will be logged by a Payne Firm geologist. Samples will be submitted to a laboratory from three intervals at each boring location. Headspace screening results will be recorded across the entire boring. One sample interval will be submitted from the base of the known bottom depth of the sewer line invert at each location, and one sampling interval will be dependent on the highest headspace screening results and/or field observations. A third sample will be submitted from the bottom of the

boring, which will be terminated based on field observations of the absence of apparent contamination. Table 1 outlines sampling methodology at each sampling location. All borings will be abandoned to the ground surface in accordance with state guidelines.

Soil samples will be labeled immediately after collection. The information on the sample label will include the project name, sample identification, sample date and time, and the analyses requested. Upon completion, a licensed surveyor will locate the coordinates and elevations of the direct-push borings.

3. DIRECT-PUSH PROFILE SAMPLING METHODOLOGY

The field activities associated with ground water monitoring will follow the Payne Firm's Standard Operating Procedures (SOPs) for Borehole Drilling, Field Screening, and Borehole Abandonment as provided in the QAPP. The borings will be installed using direct-push technology. A sampling device will be used to collect several soil samples from different depths throughout the unsaturated zone.

The methodology will consist of the following primary elements:

- All soil borings should be logged during this sampling event to obtain an understanding of the geologic materials.
- Nearby monitoring wells should be used for water level measurements to obtain an understanding of the water level table beneath the surface prior to starting.
- Upon completion of the sampling and removal of the drilling rods, the boring will be backfilled with bentonite chips and the surface location patched following the procedures and criteria presented in SOP 3-6 (Borehole Abandonment).
- The direct-push stainless steel screen and other drilling rods will be decontaminated in accordance with the Payne Firm SOPs 5-1 (Decontamination of Soil Sampling Equipment)
- During the sampling, observations should be made to determine if any LNAPL or DNAPL is present.
- Soil sampling information will be recorded in the project field logbook.

4. SAMPLING CONTAINERS, IDENTIFICATION, ANALYSIS AND PRESERVATION

The soil samples will be labeled as GP-01/02-04/ [date], where:

GP-01/02-04/ [date], Location identification;
GP-01/02-04/ [date], Interval of sample in feet below ground surface;
GP-01/02-04/ [date], Date of Sample Collection.

Soil and ground water samples will be analyzed to meet the regulated thresholds in compliance with USEPA. The attached tables list the appropriate analytical methods, sample containers, holding times and preservatives for the constituents of interest.

5. SAMPLE HANDLING AND SHIPMENT

Soil and ground water samples will be labeled immediately after collection. The information on the sample label will include the project name, sample identification, sample date and time, and

the analyses requested. Samples will be shipped to and analyzed by the project laboratory, as discussed above.

6. FIELD DOCUMENTATION

6.1 Field Logbook

A field logbook will be used to record facts and circumstances of the sampling event. Information recorded in the logbook/field form will include the following:

- Name of sampling personnel;
- Sample location;
- Time and date;
- Weather conditions;
- Sample type (i.e. grab, composite, etc.); and
- Pertinent sample data.

6.2 Chain-of-Custody

Chain-of-custody documentation will accompany each sample shipment. The chain-of-custody record will record the project name, type of sample collected, date of sample collection, name(s) of the person(s) responsible for sample collection, date of custody transfer, signature of the person relinquishing and accepting sample custody, and other pertinent information.

7. EQUIPMENT DECONTAMINATION

Decontamination procedures include:

- The direct-push stainless steel screen and other drilling rods will be decontaminated in accordance with the Payne Firm SOPs 5-1 (Decontamination of Soil Sampling Equipment);
- Field Equipment coming into contact with contaminated materials:
  - Scrub the exterior (and interior if necessary) of the equipment (Bucket #1);
  - Scrub and Rinse thoroughly with potable water (Bucket #2);
  - Rinse thoroughly with distilled water;
  - Allow to air dry;
  - If oil or notable contamination is present, the field coordinator should determine if additional decontamination methods are necessary (such as alcohol wash).

Decontamination solutions will be contained and new solutions used periodically during each day of sampling. All decontamination solutions will be contained and properly disposed.

8. QUALITY ASSURANCE

Sample collection, quality assurance/quality control procedures, and employment of data quality objectives will be conducted by the Payne Firm in accordance with the Payne Firm's SOPs. During the monitoring event, the following QA/QC samples will be collected at a minimum:

The general level of the QC effort will consist of one field duplicate, one field equipment rinseate, and one field blank per 20 investigative samples. One VOC trip blank sample will be prepared by the laboratory and will be included along with each shipment of aqueous VOC

samples. VOC trip blanks will be preserved by the laboratory in the same manner as the investigative samples.

MS/MSD samples are investigative samples. MS/MSD water samples must be collected at triple volume for VOC and double the volume for extractable organics. No additional volume is required for solid samples.

- The trip blank samples will be identified as: TB01/ [date]. The trip blank sample will be analyzed for VOCs.
- The duplicate samples will be collected at the discretion of the field coordinator. The duplicate samples will be identified successively as: DUP01/ [date], DUP02/ [date], etc. The duplicate sample will be analyzed for the same parameters as the original sample.
- The rinse water sample will be collected after the ground water sample equipment has been properly decontaminated at the end of the day. The sample will be collected by pouring laboratory grade water over the equipment, and collecting the rinse water off of the pump into the appropriate sample containers. The laboratory grade water will be provided by the project laboratory. The rinse water sample will be labeled as: RIN01/ [date]. This QA/QC sample will be analyzed for VOCs, SVOCs and metals.
- The field blank sample will be collected by filling laboratory grade water directly into the appropriate sample containers. The field blank sample will be labeled as FB01/ [date]. The field blank sample location should be noted in the field notes. This QA/QC sample will be analyzed for VOCs.
- At the beginning of each day, the organic vapor analyzer and the water quality meter will be calibrated. Calibration results will be documented in the log book.

9. SAMPLING TEAM

Project Manager-Kevin D. Kallini, P.G.
Field Coordinator/Quality Assurance Officer-Matthew D. Birck
Field Samplers-Payne Firm field personnel

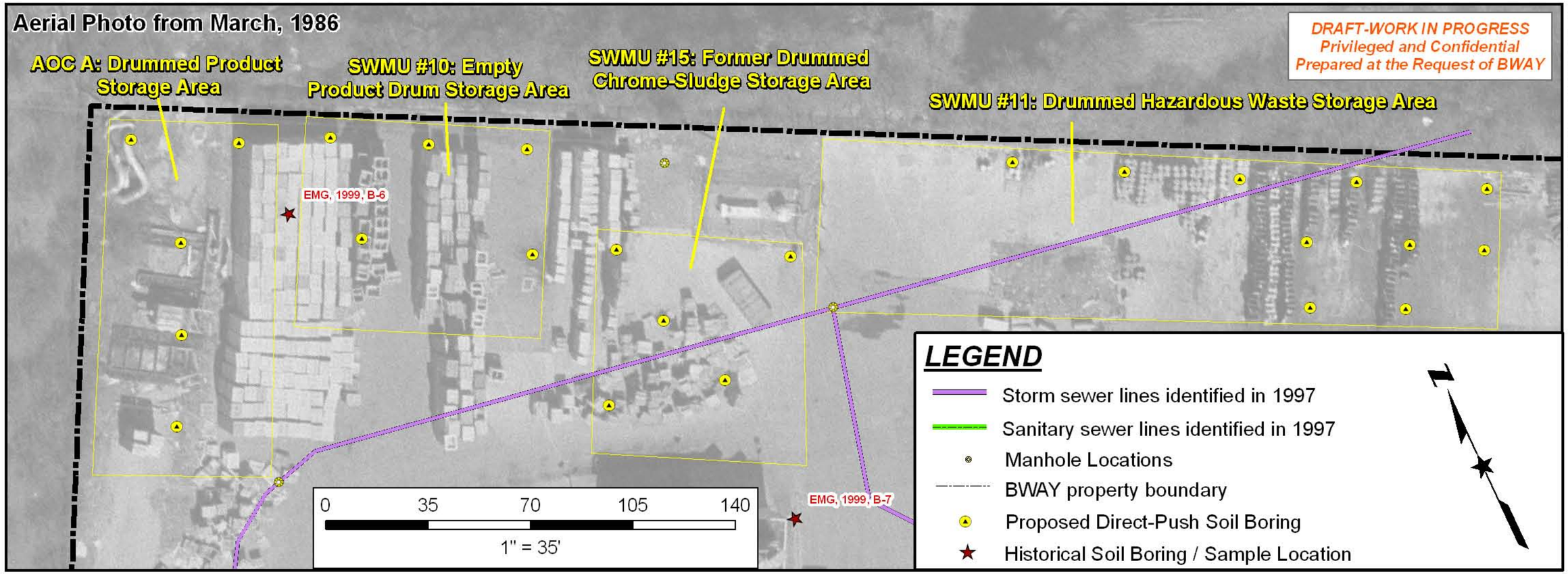
The Payne Firm, Inc.

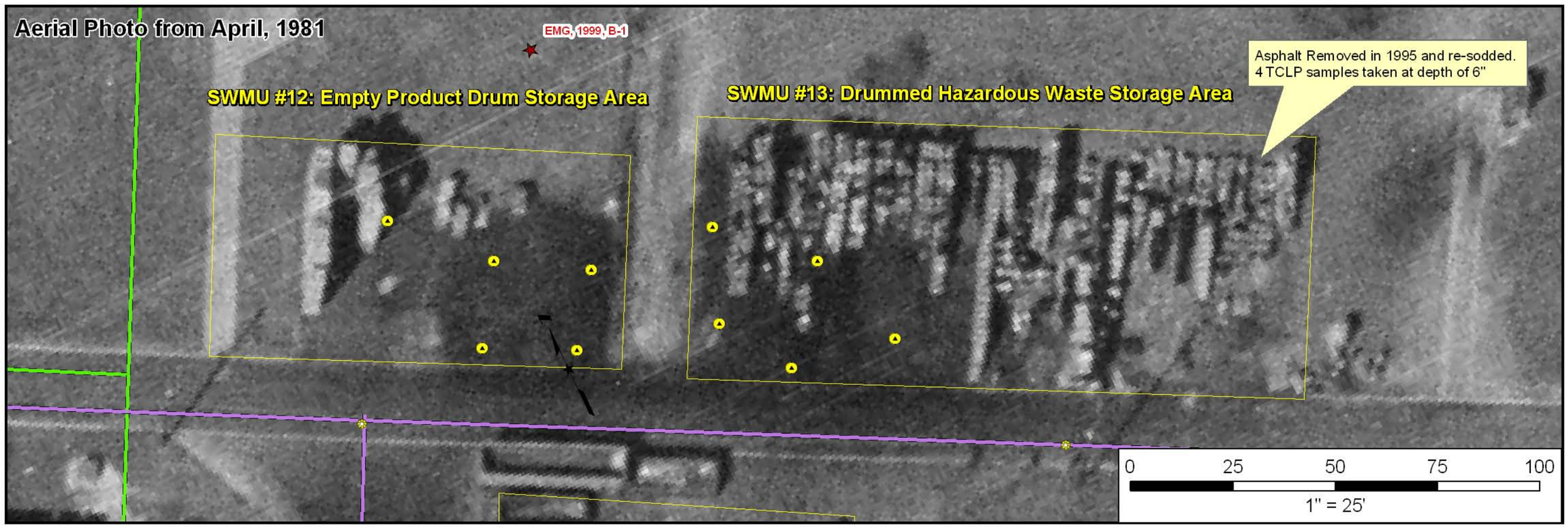
Bway Corporation

Cincinnati, Ohio OHD 004 253 225
RCRA 3008(h) Consent Order RCRA-05-2007-0011
Project No. 0654.13.05

TABLE 1: Geoprobe Soil Sampling Methodology

Focus Area	SWMU, AOC, or AOI	Scope	Sample Determination Criteria	Purpose	Rationale
Former Outdoor Drum Storage Areas	SWMU 10 - #1 empty product drum storage area	5 borings, 15 samples (VOC, SVOC, Metals)	1 - Surficial Interval; 2 - Determination based upon field-screening results; 3 - bottom of interval	Characterize potential release to subsurface and determine potential impact to groundwater	per Recommendations in CCR Section 5
	SWMU 11 - #1 drummed hazardous waste storage area	10 borings, 30 samples (VOC, SVOC, Metals)			
	SWMU 12 - #2 empty product drum storage area	5 borings, 15 samples (VOC, SVOC, Metals)			
	SWMU 13 - #2 drummed hazardous waste storage area	5 borings, 15 samples (VOC, SVOC, Metals)			
	SWMU 15 - Former drummed chrome-sludge storage area	5 borings, 15 samples (VOC, SVOC, Metals)			
	AOC A - Drummed product storage area	5 borings, 15 samples (VOC, SVOC, Metals)			
Former UST areas	AOI D - Former Plant 9 USTs (5)	5 borings, 15 samples (VOC, SVOC, Metals)	1 - Interval from depths of former tanks soil-gas investigations (3' and 5.5'); 2 - Determination based upon field-screening results; 3 - bottom of interval	Characterize potential release to subsurface and determine potential impact to groundwater	per Recommendations in CCR Section 5
	AOI E - Former D&I USTs (5)	5 borings, 15 samples (VOC, SVOC, Metals)	1 - Interval from bottom of former tank excavated areas (Tanks 1-3: 12'; Tanks 4-5: 11'); 2 - Determination based upon field-screening results; 3 - bottom of interval	Characterize potential release to subsurface and determine potential impact to groundwater	per Recommendations in CCR Section 5
	AOI G - Former fuel oil UST	3 borings, 9 samples (VOC, SVOC, Metals)	1 - Interval from bottom of former tank excavated areas (7') and pump pad / pipe (1.5'); 2 - Determination based upon field-screening results; 3 - bottom of interval	Characterize potential release to subsurface and determine potential impact to groundwater	per Recommendations in CCR Section 5
	AOI I - Former scrap bldg UST	3 borings, 9 samples (VOC, SVOC, Metals)	1 - Interval from depth of tank bottom (TBD); 2 - Determination based upon field-screening results; 3 - bottom of interval	Characterize potential release to subsurface and determine potential impact to groundwater	per Recommendations in CCR Section 5 - dependent upon SOW #1 results
Former Process Sewer Line	AOI B - Former Process Sewer Line	5 borings, 15 samples (VOC, SVOC, Metals)	1 - Interval from depth of pipe bottom (TBD); 2 - Determination based upon field-screening results; 3 - bottom of interval	Characterize potential release to subsurface and determine potential impact to groundwater	per Recommendations in CCR Section 5 - dependent upon SOW #1 results





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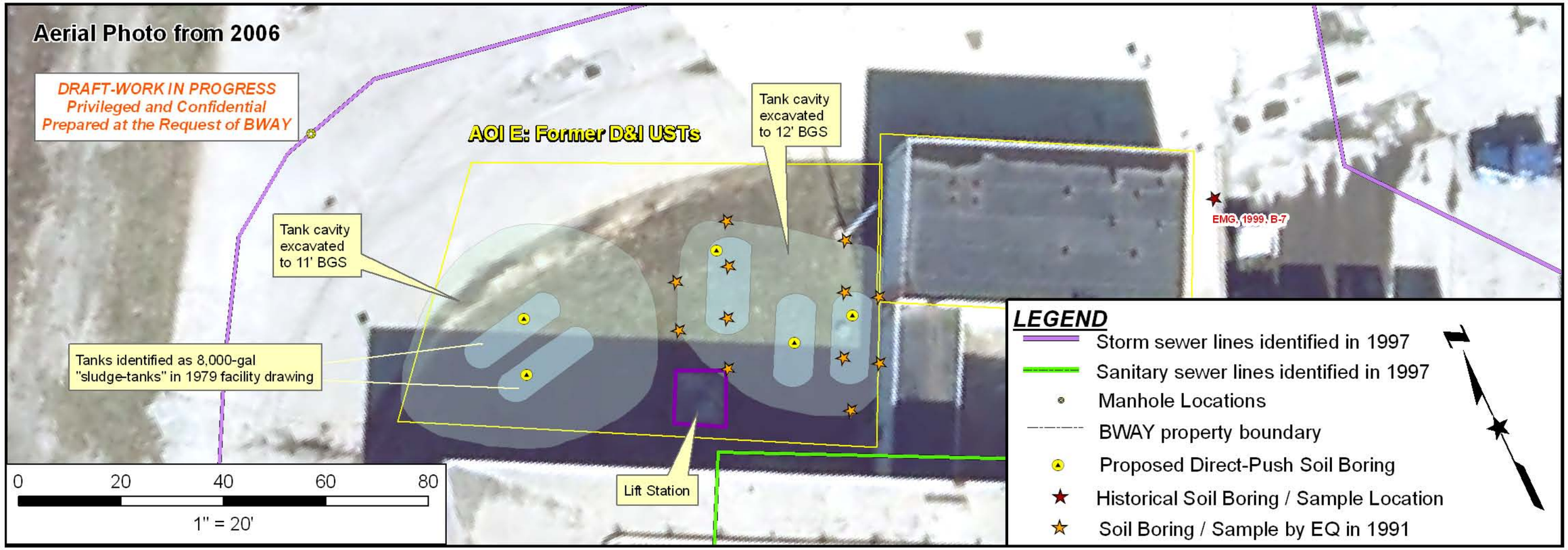
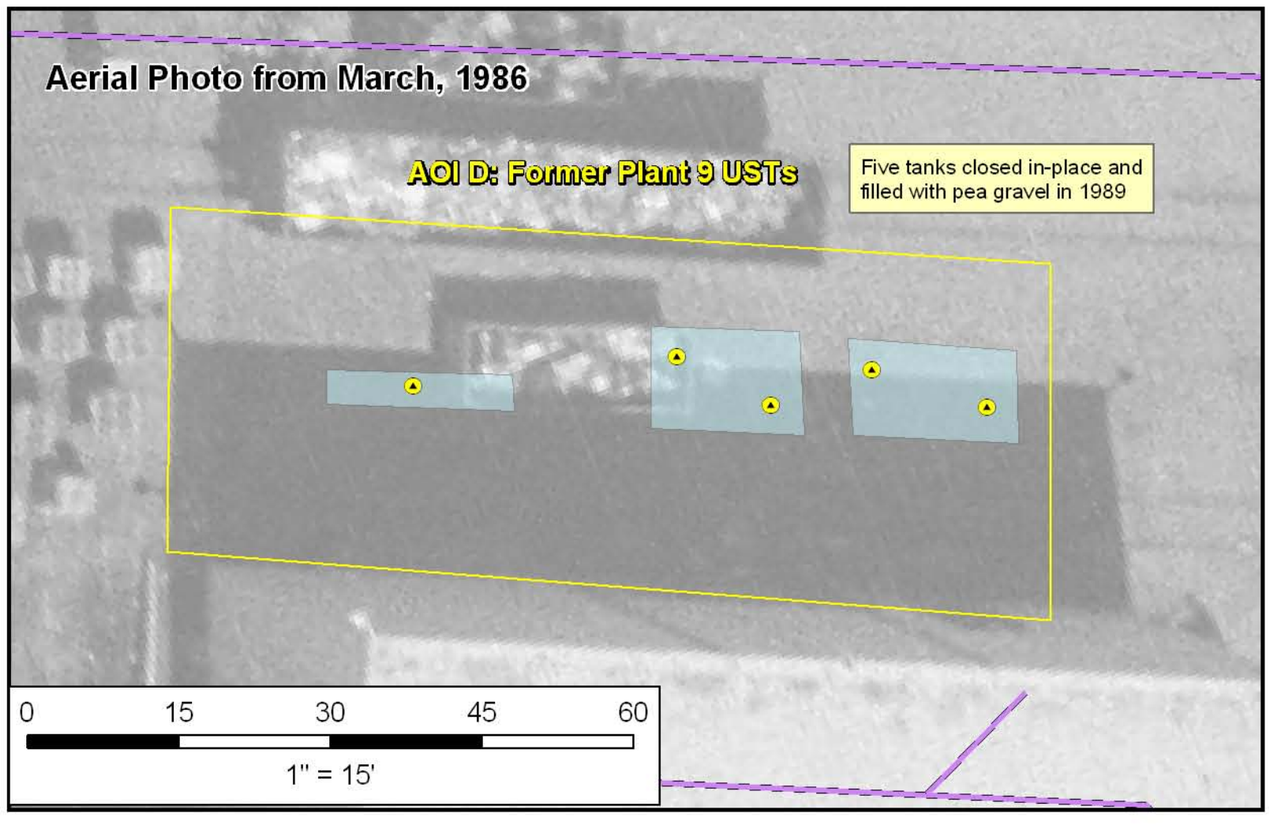
DATE	6/10/08
REQUESTED BY	KDK
FIGURE NO.	SOW 2.1
DRAWN BY	MDB
PROJECT NO.	654.13.01

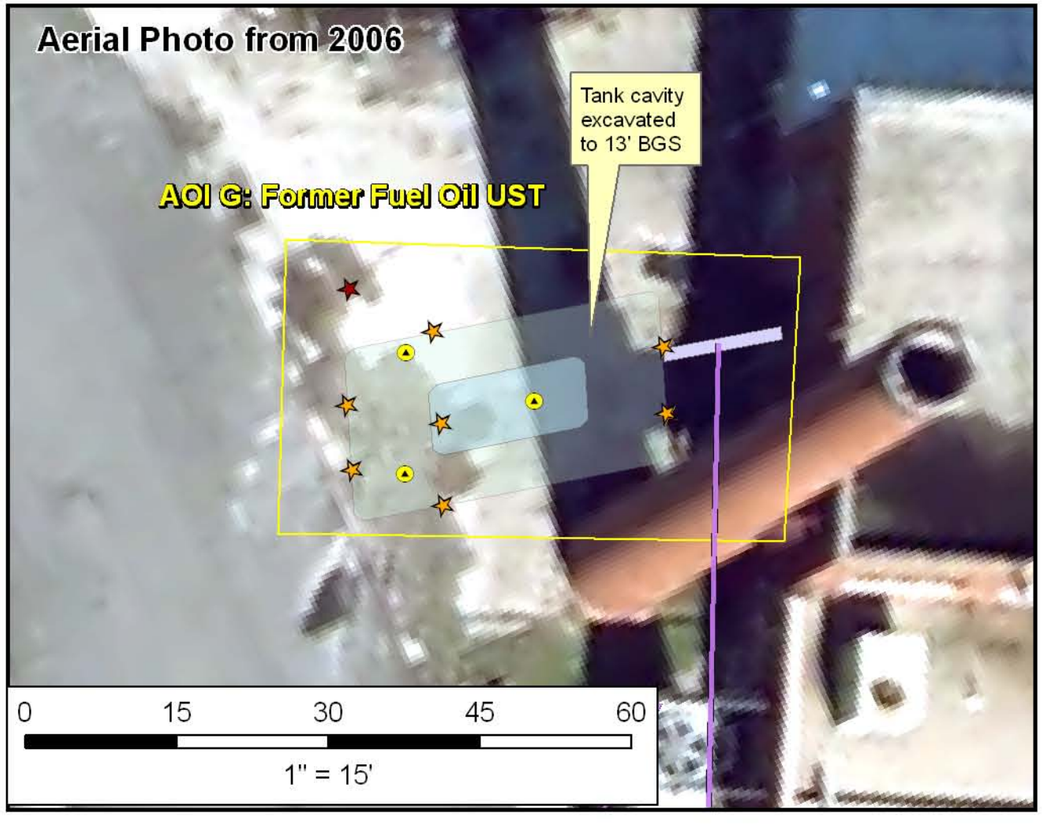
PROJECT: BWAY - RCRA Corrective Action

TITLE: SOW #2 - Former Drummed Storage Area Soil Investigation (SWMUs 10, 11,12, 13, 15, and AOC A)

REFERENCE: 1981 and 1986 Orthophotos Courtesy ODOT, Office of Aerial Engineering







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DATE	6/10/08
REQUESTED BY	KDK
FIGURE NO.	SOW 2B
DRAWN BY	MDB
PROJECT NO.	654.13.02

PROJECT: BWAY - RCRA Corrective Action

TITLE: SOW #2 - Former Underground Storage Tank (UST) Locations (AOI D, E, and G)

REFERENCE: 2006 Orthophoto Courtesy CAGIS; 1986 Orthophotos Courtesy ODOT, Office of Aerial Engineering