

**QUALITY ASSURANCE PROJECT PLAN
FOR A TARGETED BROWNFIELDS ASSESSMENT**

ALTER TRADING CORPORATION PROPERTY, LINCOLN, NEBRASKA

Mini-Superfund Technical Assessment and Response Team (Mini-START)

Contract No. EP-S7-09-01, Task Order No. 0020

Prepared For:

U.S. Environmental Protection Agency
Region 7
Superfund Division
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March 15, 2010

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for the Alter Trading Corporation Property**

Project Information:

Project Name: Alter Trading Corporation Property		City: Lincoln	State: NE
EPA Project Manager: Ron King		Project Manager: Jeff Pritchard	
Approved By: <i>[Signature]</i>	Title: Mini-START Project Manager	Date: 3-15-10	Prepared For: EPA Region 7 Superfund Division
Approved By: <i>[Signature]</i>	Title: Mini-START Program Manager	Date: 3-15-10	
Approved By: <i>[Signature]</i>	Title: Mini-START QA Manager	Date: 3-15-10	Prepared By: Jeff Pritchard Date: March 15, 2010
Approved By: <i>[Signature]</i>	Title: EPA Project Manager	Date: 3-17-10	Project Number: EPS70901.0020
Approved By: <i>[Signature]</i>	Title: EPA Region 7 QA Coordinator	Date: 03/24/2010	

1.0 Project Management:

1.1 Distribution List

EPA—Region 7: Ron King, Project Manager Diane Harris, QA Coordinator	Mini-START: Jeff Pritchard, Project Manager
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1.2 Project/Task Organization

Ron King, of the EPA Region 7 Superfund Division, will serve as the EPA project manager for the activities described in this QAPP. Jeff Pritchard, with Seagull Environmental Technologies, Inc., will serve as the Mini-START project manager for field activities.

1.3 Problem Definition/Background:

Description: This site-specific Quality Assurance Project Plan form is prepared as an addendum to the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007), and contains site-specific data quality objectives for the sampling activities described herein.

Description attached.
 Description in referenced report: _____ Title _____ Date _____

1.4 Project/Task Description:

<input type="checkbox"/> CERCLA PA	<input type="checkbox"/> CERCLA SI	<input checked="" type="checkbox"/> Brownfields Assessment	<input type="checkbox"/> Removal Action
<input type="checkbox"/> Other (description attached):	<input type="checkbox"/> Pre-CERCLIS Screening	<input type="checkbox"/> Removal Site Evaluation	

Other Description:

Schedule: Field work is scheduled to begin in April 2010 and is anticipated to last three to four days.

Description in referenced report: _____ Title _____ Date _____

1.5 Quality Objectives and Criteria for Measurement Data:

a. Accuracy:	<input checked="" type="checkbox"/> Identified in attached table.
b. Precision:	<input checked="" type="checkbox"/> Identified in attached table.
c. Representativeness:	<input checked="" type="checkbox"/> Identified in attached table.
d. Completeness*:	<input checked="" type="checkbox"/> Identified in attached table.
e. Comparability:	<input checked="" type="checkbox"/> Identified in attached table.

Other Description:

*A completeness goal of 100 percent has been established for this project. However, if the completeness goal is not met, EPA may still be able to make decisions based on any or all of the remaining validated data. No "critical samples" have been identified for this project.

1.6 Special Training/Certification Requirements:

OSHA 1910 Special Equipment/Instrument Operator (describe below): _____ Other (describe below): _____

Sampling personnel will be experienced in Geoprobe® operation and in the collection of soil and groundwater samples using direct push equipment. Geoprobe® operation will be conducted under the supervision of a licensed Nebraska Well Driller. Field personnel will also be experienced with operation of x-ray fluorescence (XRF) spectrometer instruments.

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1.7 Documentation and Records:

- Field Sheets Daily Log Trip Report Area Maps Video
 Chain of Custody Health and Safety Plan Letter Report Photos
- Sample documentation will follow EPA Region 7 SOP 2420.05.
 Other: Analytical information will be handled according to procedures identified in Table 2.

2.0 Measurement and Data Acquisition:

2.1 Sampling Process Design:

- Random Sampling Transect Sampling Biased/Judgmental Sampling Stratified Random Sampling
 Search Sampling Systematic Grid Systematic Random Sampling Definitive Sampling
 Screening w/ Definitive Confirmation Screening w/ Definitive Confirmation
- Sample Map Attached
- Other (Provide rationale behind each sample): See Appendix A for additional sampling information.

The proposed sampling scheme will incorporate a combination of biased/judgmental and transect sampling techniques, in accordance with the *Guidance for Performing Site Inspections Under CERCLA*, OSWER Directive #9345.1-05, September 1992, and *Removal Program Representative Sampling Guidance, Volume 1: Soil*, OSWER Directive 9360.4-10, November 1991. Judgmental sampling is the subjective (biased) selection of sampling locations based on historical information, visual inspection, and the best professional judgment of the sampler(s). Soil samples will be collected for field screening and definitive laboratory analysis (for a portion of screened samples). Groundwater samples will be collected for definitive laboratory analysis only. See Appendices A and B for additional site-specific information and figures.

The proposed number of samples is a balance between cost and coverage, and represents a reasonable attempt to meet the study objectives while staying within the budget constraints of a typical Targeted Brownfields Assessment of this type.

Sample Summary Location	Matrix	# of Samples*	Analysis
On-site locations	Subsurface Soil	11-22	VOCs, TPH-DRO (OA-2), SVOCs, PCBs, and RCRA metals (including mercury)
On-site locations	Surface Soil	8	PCBs
On-site Geoprobe® temporary wells	Water	6	VOCs, TPH-DRO (OA-2), SVOCs, PCBs, and total and dissolved RCRA metals (including mercury)

*NOTE: Number is approximate and may change depending on site conditions. Background/QC samples are not included with these totals. See Table 1 for a complete sample summary.

2.2 Sample Methods Requirements:

Matrix	Sampling Method	SOP(s) or other Method(s)
Soil	Surface soil samples will be collected with disposable stainless steel spoons. Subsurface soil samples will be collected with a Geoprobe® direct-push apparatus, using Macro-Core samplers fitted with polyvinyl chloride (PVC) liners.	SOPs 4230.07, 4230.03, 4231.2012, 4231.1707; Method 5035
Water	Groundwater samples will be collected from Geoprobe® temporary monitoring wells. These groundwater samples will be collected through Geoprobe® rods using polyethylene tubing and a check valve.	SOPs 4230.07 & 4230.15

Other Description:

2.3 Sample Handling and Custody Requirements:

- Samples will be packaged and preserved in accordance with procedures defined in Region 7 EPA SOP 2420.06.
 COC will be maintained as directed by Region 7 EPA SOP 2420.04.
 Samples will be accepted according to Region 7 EPA SOP 2420.01.
 Other (Describe): Samples will be accepted in accordance with procedures established by a contracted laboratory.

2.4 Analytical Methods Requirements:

- Identified in attached table.
 Rationale: The requested analyses have been selected based on historic information about the area and program experience with similar types of sites.
 Other (Describe):

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2.5 Quality Control Requirements:

- Not Applicable
- Identified in attached table.
- In accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- Field QC Samples: For this investigation, field QC samples will include one equipment rinsate blank (water), one water trip blank, and one water field blank. The equipment rinsate will evaluate the effectiveness of decontamination procedures for Geoprobe[®] sampling equipment. The trip blank will be used to assess transportation-related contamination. The field blank will be collected to evaluate contamination of sampling containers and/or preservatives and to assess contamination potentially introduced during the sampling and laboratory procedure(s). All QC samples will be submitted for the analyses listed in the attached tables. Evaluation of the blank samples depends on the levels of contamination found in environmental samples to determine whether the environmental samples are representative. Analytical results of the blank samples will be evaluated on a qualitative basis by the EPA project manager and EPA contractor(s) to determine a general indication of field-introduced and/or lab-introduced contamination. Because it is not necessary for total method precision to be evaluated for this project, no field duplicates will be collected.
- Other (Describe):

2.6 Instrument/Equipment Testing, Inspection, and Maintenance Requirements:

- Not Applicable
- In accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- Testing, inspection, and maintenance of field instruments (GPS unit, photoionization detector [PID], XRF, etc.) will be performed in accordance with manufacturers' recommendations. Testing, inspection, and maintenance of laboratory equipment will be performed in accordance with the previously referenced SOPs and/or manufacturers' recommendations.

2.7 Instrument Calibration and Frequency:

- Not Applicable
- In accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- Calibration of laboratory equipment will be performed as described in the previously referenced SOPs and/or manufacturers' recommendations.
- Other (Describe): Calibration of field equipment (PID, XRF, etc.) will be performed as described in the previously referenced SOPs and/or manufacturers' recommendations.

2.8 Inspection/Acceptance Requirements for Supplies and Consumables:

- Not Applicable
- In accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- All sample containers will meet EPA criteria for cleaning procedures for low-level chemical analysis. Sample containers will have Level II certifications provided by the manufacturer in accordance with pre-cleaning criteria established by EPA in *Specifications and Guidelines for Obtaining Contaminant-Free Containers*.
- Other (Describe):

2.9 Data Acquisition Requirements:

- Not Applicable
- In accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- Previous data or information pertaining to the site (including other analytical data, reports, photos, maps, etc. that are referenced in this QAPP) has been compiled by EPA and/or its contractor(s) from other sources. Some of that data have not been verified by EPA and/or its contractor(s); however, that unverified information will not be used for decision-making purposes by EPA without verification by an independent professional qualified to verify such data or information.
- Other (Describe):

2.10 Data Management:

- All laboratory data acquired will be managed in accordance with Region 7 EPA SOP 2410.01.
- Other (Describe): Laboratory data will be managed in accordance with procedures established by the Seagull-contracted laboratory.

3.0 Assessment and Oversight:

3.1 Assessment and Response Actions:

- Peer Review Management Review Field Audit Lab Audit
- Assessment and response actions pertaining to analytical phases of the project are addressed in Region 7 EPA SOPs 2430.06 and 2430.12.
- Other (Describe): Assessment and response actions pertaining to analytical phases of the project will be in accordance with procedures established by the Seagull-contracted laboratory.

3.1A Corrective Action:

- Corrective actions will be at the discretion of the EPA project manager whenever problems appear that could adversely affect data quality and/or resulting decisions affecting future response actions pertaining to the site.
- Other (Describe):

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3.2 Reports to Management:

- Audit Report Data Validation Report Project Status Report None Required
- A letter report describing the sampling techniques, locations, problems encountered (with resolutions to those problems), and interpretation of analytical results will be prepared and submitted to the EPA.
- Reports will be prepared in accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- Other (Describe):

4.0 Data Validation and Usability:

4.1 Data Review, Validation, and Verification Requirements:

- Identified in attached table.
- Data review and verification will be performed in accordance with the Generic Quality Assurance Project Plan for Superfund Integrated Assessment and Targeted Brownfields Assessment Program (updated July 2007).
- Data review and verification will be performed by a qualified analyst and the laboratory's section manager as described in Region 7 EPA SOPs 2430.06 and 2430.12.
- Other (Describe): Data review and verification will be performed by qualified Seagull personnel.

4.2 Validation and Verification Methods:

- Identified in attached table.
- The data will be validated in accordance with Region 7 EPA SOPs 2430.06 and 2430.12.
- The EPA project manager will inspect the data to provide a final review. The EPA project manager will review the data, if applicable, for laboratory spikes and duplicates, laboratory blanks, and field blanks and duplicates to ensure the data are acceptable. The EPA project manager will also compare the sample descriptions with the field sheets for consistency, and will ensure appropriate documentation of any anomalies in the data.
- Other (Describe): Data validation will be performed by qualified Seagull personnel.

4.3 Reconciliation with User Requirements:

- If data quality indicators do not meet the project's requirements as outlined in this QAPP, the data may be discarded and re-sampling or re-analysis of the subject samples may be required by the EPA project manager.
- Other (Describe):

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Table 1: Sample Summary

Project Name: Alter Trading Corporation Property				Location: Lincoln, Nebraska; See Appendix B, Figures 1 and 2			
Project Manager: Jeff Pritchard				Activity/ASR #: To be determined			Date: March 15, 2010
No. of Samples	Matrix	Location	Purpose	Depth or other Descriptor	Requested Analysis	Sampling Methods	Analytical Method
11-22	Subsurface Soil	On-site locations	To assess potential soil contamination from historical activities at the site.	2-foot interval (between 0 and 20 feet below ground surface [bgs]) based on field screening results	VOCs, TPH-DRO, SVOCs, PCBs, & RCRA metals (including mercury)	EPA SOPs 4230.07, 4230.03, 4231.2012, 4231.1707, & EPA Method 5035	EPA Methods 5035, 8260, 8082, 8270, 6010, and 7471; Method OA-2
8	Surface Soil	On-site locations	To assess potential soil contamination from historical activities at the site.	0-6 inches	PCBs	EPA SOPs 4231.1707 & 4231.2012	EPA Method 8082
6	Water	On-site Geoprobe® temporary wells	To assess potential groundwater contamination from historical activities at the site.	Directly below the water table	VOCs, TPH-DRO, SVOCs, PCBs, & total and dissolved RCRA metals (including mercury)	EPA SOPs 4230.07 & 4230.15	EPA Methods 8260, 8082, 8270, 6020, and 7470; Method OA-2
QC Samples							
1	Water	Trip blank	To assess transportation-related contamination	NA	VOCs	NA	EPA Method 8260
1	Water	Equipment Rinsate	To evaluate effectiveness of decontamination procedures for Geoprobe® sampling equipment	NA	VOCs, TPH-DRO, SVOCs, PCBs, & RCRA metals (including mercury)	NA	EPA Methods 8260, 8082, 8270, 6020, and 7470; Method OA-2
1	Water	Field blank	To assess field/laboratory-related contamination	NA	VOCs, TPH-DRO, SVOCs, PCBs, & RCRA metals (including mercury)	NA	EPA Methods 8260, 8082, 8270, 6020, and 7470; Method OA-2

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Table 2: Data Quality Objective Summary

Project Name: Alter Trading Corporation Property		Location: Lincoln, Nebraska; See Appendix B, Figures 1 and 2						Date: March 15, 2010	
Project Manager: Jeff Pritchard		Activity/ASR #: To be determined							
Analysis	Analytical Method	Data Quality Measurements					Sample Handling Procedures	Data Management Procedures	
		Accuracy	Precision	Representativeness	Completeness	Comparability			
SOIL									
VOCs, TPH-DRO (OA-2), SVOCs, PCBs, & RCRA metals	see Table 1	per analytical method	per analytical method	judgmental sampling, based on professional judgment of the sampling team	100%; no critical samples have been defined	Standardized procedures for sample collection and analysis will be used.	See Section 2.3 of QAPP form.	See Section 2.10 of QAPP form.	
GROUNDWATER									
VOCs, TPH-DRO (OA-2), SVOCs, PCBs, & RCRA metals	see Table 1	per analytical method	per analytical method	judgmental sampling, based on professional judgment of the sampling team	100%; no critical samples have been defined	Standardized procedures for sample collection and analysis will be used.	See Section 2.3 of QAPP form.	See Section 2.10 of QAPP form.	

APPENDIX A

SITE-SPECIFIC INFORMATION FOR THE ALTER TRADING CORPORATION PROPERTY

INTRODUCTION

Seagull Environmental Technologies, Inc. (Seagull) has been tasked by the U.S. Environmental Protection Agency (EPA), under the Mini-Superfund Technical Assessment and Response Team (Mini-START) contract, to conduct a Phase II Targeted Brownfields Assessment (TBA) at the Alter Trading Corporation Property (Alter) in Lincoln, Nebraska. The purpose of the investigation is to determine whether past site operations have resulted in releases of hazardous contaminants to soil and groundwater. In addition, the Phase II TBA will investigate whether historical operations conducted at upgradient properties have impacted the site. This Quality Assurance Project Plan (QAPP) identifies site-specific features and addresses elements of the sampling strategy and analytical methods proposed for this investigation.

SITE DESCRIPTION/BACKGROUND

The site is located at 551 N Street (also listed as 525 N Street), Lincoln, Lancaster County, Nebraska. The site is in the northwest quarter of Section 26, Township 10 North, Range 6 East (see Appendix B, Figure 1). The coordinates for the approximate center of the site are 40.811696 degrees north latitude and 96.71333 degrees west longitude. The site comprises approximately 3.01 acres and is currently a metal recycling facility. The site is currently owned by N Street Company and operated by Alter. Alter began operations at the site in 1999, when it took over from Nieden Iron and Metal. The site is separated into north and south yards (see Appendix B, Figure 1). The North Yard is located north of N Street and the South Yard is located south of N Street. Railroad tracks bound the site to the west. East of the site are railroad tracks, a lumber yard, and various commercial/industrial businesses. Burlington Northern Santa Fe (BNSF) and Union Pacific railroad yards border the site to the north, and south of the site are primarily industrial properties.

The site is currently operated by Alter as a metal recycling facility for ferrous and non ferrous metals. The North Yard is primarily used for processing non-ferrous materials. The South Yard is used for processing ferrous materials. A metal shear is operated in the South Yard, as is a scrap automobile processing rack, where fluids (oil, fuel, etc.) are drained from the automobiles into recovery drums prior to metal recycling activities. A stormwater retention basin is also located in the South Yard (see Appendix B, Figure 1). Surface water runoff from the South Yard flows (overland) to the basin and is discharged to the City of Lincoln's storm sewer system. Discharge into the sewer system is regulated under a National Pollutant Discharge Elimination System (NPDES) permit (NER000987). Stormwater

runoff from the North Yard either infiltrates back into the soil or flows overland towards a stormwater drain located at the intersection of N Street and S. 6th Street.

A review of historical records indicated that in the late 1800s, the north portion of the site was used for bulk oil storage. A Sanborn[®] map from 1886 shows large oil storage tanks up to 35,000 gallons in size at the site. In addition, a manufactured gas plant (commonly referred to as a Former Manufactured Gas Plant [FMGP]) was in operation at the adjacent property to the northeast (upgradient). Sanborn[®] maps from 1886 and 1891 identify that property as the Lincoln Gas Works (FMGP) and show a gas holder, purifier, and gasometer located at that property. Sanborn[®] maps from 1903 and 1928 show the site as being occupied by railroad tracks and a coal yard. Historical records indicate that the site has been operated as metal scrap yard since 1949.

Within the site area, Cretaceous Dakota sandstones and shales typically form the uppermost bedrock in this portion of Lancaster County, with underlying Pennsylvanian-age limestones forming the uppermost bedrock along the Salt Creek Valley. Unconsolidated Quaternary-age deposits overlie bedrock throughout the County. Light gray silts of the late-Nebraskan Fullerton Formation outcrop at various locations west and north of Lincoln. Kansan glacial till is present at the surface in western, northern, and central Lancaster County. Previous studies within the site area indicate that groundwater is expected to be encountered at approximately 10 feet below ground surface (bgs). In addition, groundwater flow is anticipated to be west-southwest, towards Salt Creek.

PREVIOUS INVESTIGATIONS

In November 1998, prior to Alter acquiring the site from Niden Iron and Metal, a site inspection was conducted by CPI Environmental Services, Inc. (CPI) (on behalf of Alter). The site inspection revealed possible polychlorinated biphenyl (PCB) contamination in the North Yard of the facility. Followup surface soil sampling in the North Yard determined elevated concentrations of PCBs were present. The source for the PCB contamination is unknown (CPI 1999). In addition, lead and cadmium were determined to be present at concentrations that exceeded their respective Toxicity Characteristic Leaching Procedure (TCLP) regulatory limits. Based on these findings, a site cleanup was conducted that involved the excavation of approximately 300 tons of soil containing PCBs at concentrations ranging from 10 to 50 milligrams per kilogram (mg/kg) (CPI 1999). That volume of soil was transported to a local landfill for disposal as special waste. In addition, approximately 50 tons of soil containing PCBs greater than 50 mg/kg was excavated and transported to Environmental Quality Company in Belleville, Michigan, for disposal as a Toxic Substances Control Act (TSCA)-regulated waste. Soils containing leachable lead and

cadmium were treated in situ, prior to excavation, with MAECTITE[®] to bind the metals and prevent them from leaching. Furthermore, surface soils containing PCBs ranging from 1 to 10 mg/kg were left in place and covered with concrete pads.

In December 1998, a 560-gallon diesel and a 560-gallon gasoline underground storage tank (UST) were removed from the site. Removal of those USTs revealed evidence of a historic release. Based on those findings, in July 1999, additional site assessment activities (in accordance with Nebraska Department of Environmental Quality [NDEQ] guidelines) were completed at the site by RDG Geosciences and Engineering (on behalf of Neiden Iron and Metal). The assessment involved the collection of soil and groundwater samples. Sample results determined the groundwater contained dissolved-phase petroleum substances; however, the detected concentrations were below health-based standards (HWS Consulting Group [HWS] 2007). Based on those findings, NDEQ determined no further action was required and closed the site.

HWS conducted Phase I and Phase II Environmental Site Assessments (ESA) for the subject property in August 2007 and October 2008, respectively. The Phase I ESA identified historical operation of the site as a scrap yard as a recognized environmental condition (REC). In addition, the PCB-contaminated soil removal and the removed USTs were identified as historical RECs (HREC). Based on those findings, HWS conducted a Phase II ESA to investigate potential impacts to environmental media at the site.

For the Phase II ESA, four soil borings were advanced at the site to a depth of 11 feet bgs. Soil boring SB-1 was placed in the North Yard where the PCB-contaminated soil removal had been conducted. SB-2 was placed near the former location of the USTs. SB-3 and SB-4 were placed in the South Yard. Soil cores collected from the borings were field screened for volatile organic compounds (VOC) with a photoionization detector (PID), and selected intervals were collected for laboratory analysis. In addition, shallow soil samples were collected from SB-1, SB-3, and SB-4 for analysis of Resource Conservation and Recovery Act (RCRA) metals. A surface soil sample was also collected from 6 to 12 inches bgs at SB-1 and submitted for analysis of PCBs. Analytical results determined elevated concentrations of RCRA metals and PCBs were present in the samples. PCBs were detected in surface soil collected from SB-1 up to 9.07 mg/kg, which exceeded established health-based standards (NDEQ Remediation Goals). This sample was collected from the area where cleanup activities had been previously conducted to excavate PCB-contaminated soil. In addition, arsenic, lead, and chromium were detected in the shallow soil samples collected from SB-1, SB-3, and SB-4 at concentrations above established health-based standards. VOCs were detected in the soil samples at concentrations well below their respective health-based standards (HWS 2010).

SAMPLING STRATEGY AND METHODOLOGY

The sampling activities are tentatively scheduled to be conducted in April 2010, and will require approximately 3 to 4 days to complete. Anticipation is that three Seagull employees will be required to perform the activities described in this QAPP. When applicable, the standard operating procedures (SOP) and chain-of-custody (COC) procedures referenced in the QAPP will be followed throughout the sampling activities to verify the integrity of the samples from the time of collection until submittal to the laboratory for analysis. Disposal of investigation-derived wastes (IDW) and procedures for equipment and personal decontamination will be addressed in a site-specific health and safety plan prepared by Seagull. Most IDW is expected to consist of disposable sampling supplies (gloves, paper towels, tubing, etc.) that will be disposed of off site as uncontaminated solid waste. Descriptions of the sampling strategy and procedures are presented below.

Soil Screening and Sampling

Subsurface Soil Sampling and Screening

Subsurface soil samples will be collected from 11 locations at the site (see Appendix B, Figure 2). At each of those boring locations, continuous soil cores will be collected with a Geoprobe® direct-push apparatus. The Geoprobe® sampling locations were based on current and historical site activities, current and historical operations conducted at upgradient properties, future redevelopment plans, and to cover the geographic extent of the site. Table 1 summarizes the soil sampling locations and rationale for their placement.

**TABLE 1
PROPOSED BORING LOCATIONS**

Sample Location	GPS Coordinates	Depth (bgs)	Sample Location Rationale
SB-1	40.81324 °N 96.71323 °W	0-20'	North Yard PCB contamination, current and historic land use
SB-2 ^{GW}	40.81287 °N 96.71330 °W	0-20'	North Yard PCB contamination, current and historic land use
SB-3	40.81259 °N 96.71310 °W	0-20'	Downgradient of FMGP
SB-4 ^{GW}	40.81239 °N 96.71287 °W	0-20'	Downgradient of FMGP
SB-5 ^{GW}	40.81221 °N 96.71350 °W	0-20'	South Yard, current and historic land use
SB-6	40.81188 °N 96.71372 °W	0-20'	South Yard, current and historic land use

Sample Location	GPS Coordinates	Depth (bgs)	Sample Location Rationale
SB-7 ^{GW}	40.81180 °N 96.71300 °W	0-20'	South Yard, current and historic land use
SB-8	40.81119 °N 96.71349 °W	0-20'	South Yard, current and historic land use
SB-9 ^{GW}	40.81124 °N 96.71412 °W	0-20'	South Yard, current and historic land use, future BNSF rail line
SB-10 ^{GW}	40.81051 °N 96.71484 °W	0-20'	South Yard, current and historic land use, future BNSF rail line
SB-11	40.81013 °N 96.71513 °W	0-20'	South Yard, current and historic land use, future BNSF rail line
SS-1	NA – Transect Line	0-6"	North Yard PCB contamination, drainage ditch along east side of the property
SS-2	NA – Transect Line	0-6"	North Yard PCB contamination, drainage ditch along east side of the property
SS-3	NA – Transect Line	0-6"	North Yard PCB contamination, drainage ditch along east side of the property
SS-4	Surface Soil Grid	0-6"	North Yard PCB contamination, area south of North Yard
SS-5	Surface Soil Grid	0-6"	North Yard PCB contamination, area south of North Yard
SS-6	Surface Soil Grid	0-6"	North Yard PCB contamination, area south of North Yard
SS-7	Surface Soil Grid	0-6"	North Yard PCB contamination, from SB-1 location
SS-8	Surface Soil Grid	0-6"	North Yard PCB contamination, from SB-2 location

Notes:

Proposed sample locations are approximate and may have to be moved during the site activities due to inaccessibility as a result of stored equipment and materials.

- ' Feet
- " Inches
- ° Degrees
- gw Soil boring is collocated with groundwater sampling location
- BNSF Burlington Northern Santa Fe
- FMGP Former Manufactured Gas Plant
- bgs Below ground surface
- GPS Global positioning system
- N North
- NA Not applicable
- PCB Polychlorinated biphenyls
- SB Soil boring
- SS Surface soil
- W West

At each borehole, a Geoprobe[®] Macro-Core soil sampler fitted with a disposable polyvinyl chloride (PVC) sleeve will be advanced up to 20 feet bgs, groundwater, or refusal, whichever is encountered first. Depth to groundwater at the site is anticipated to be approximately 10 feet bgs. The soil core from each 4-foot interval will be retrieved and screened for VOCs with a PID, and for metals (lead in particular) with an x-ray fluorescence (XRF) spectrometer. XRF screening of the soil cores will be conducted to provide a vertical profile of metals (lead in particular)-contaminated soils at the site. For the XRF screening, each 4-foot soil core will be divided into 2-foot segments and screened with the XRF. Because

groundwater is anticipated to be encountered at 10 feet bgs, no XRF screening is anticipated below that depth. XRF screening will be conducted by taking readings directly from the soil cores. Three separate XRF readings will be obtained from each sample interval, and the average of the three XRF readings (for lead) will be calculated and recorded in the logbook.

One sample for laboratory analysis will be collected from each borehole. Samples for laboratory analysis will be collected from the 2-foot interval that yields the highest PID and/or XRF result, or from the bottom 2-foot section of the soil core if no field screening results above background levels are recorded. One additional sample may be collected (per borehole) from a second 2-foot interval for laboratory analysis, if field screening results or sampler observations indicate contaminated soil is present. The second sample will be collected to attempt to characterize the vertical extent of contamination.

Following retrieval and field screening of the soil cores, samples for analysis of VOCs will be collected following EPA Method 5035. The remaining soil from each selected 2-foot sample interval will be removed from the PVC sleeve and placed in a disposable aluminum pie pan for homogenization prior to transfer to two 8-ounce jars for the remaining analyses (semi-volatile organic compounds [SVOC], total petroleum hydrocarbons [TPH]-diesel range organics [DRO], PCBs, and RCRA metals, including mercury). Following sample collection, the open boreholes will be abandoned in accordance with state regulations.

The XRF readings for this project will be considered valid screening level data, if a comparison between the XRF values and the corresponding laboratory results for lead yields a regression coefficient (r^2) of at least 0.7. Based on the proposed sampling plan, approximately 20 percent (%) (at a minimum) of the soil samples screened with the XRF will be submitted for laboratory analysis of lead (and other RCRA metals, including mercury).

Surface Soil Sampling

Surface soil samples will be collected from the North Yard and from locations adjacent to (south and east of) the North Yard to determine PCB concentrations. Specifically, surface soil samples will be collected from a narrow drainage ditch along the east boundary of the North Yard, from the two proposed Geoprobe® boring locations in the North Yard, and from three unpaved locations south of (adjacent to) the North Yard (see Appendix B, Figure 3). The drainage ditch, which runs north along S. 6th Street (north of N Street), is approximately 300 feet in length. A transect line that is 300 feet in length will be established along this drainage ditch, and three composite surface soil samples will be collected along the transect line. Each composite sample will be collected at 10-foot intervals from the upper 6 inches of

soil for a distance of 100 feet; therefore, each sample will consist of 10 aliquots. At each of the remaining surface soil sampling locations, a 50-foot by 50-foot cell will be created, with the Geoprobe® boreholes serving as the center of the cells for the two locations in the North Yard. In each cell, a nine-aliquot composite sample will be collected from the upper 6 inches of soil (in accessible areas). For each sample, a disposable stainless steel spoon will be used to collect the surface soil, which will be placed in a clean, dedicated aluminum pie pan, homogenized, and transferred to an 8-ounce jar and submitted for laboratory analysis of PCBs.

Pertinent data, including analyses to be performed and sample locations, will be recorded on field sheets for each sample. All soil samples will be stored in coolers maintained at or below 4 degrees Celsius (°C) pending submittal to the Seagull-contracted laboratory.

Groundwater Sampling

Seagull personnel will attempt to collect six groundwater samples at the site. The six proposed groundwater samples will be from temporary wells installed with a Geoprobe® direct-push apparatus. At each temporary Geoprobe® well location, a Geoprobe® Screen Point 15 groundwater sampling apparatus will be driven below the water table, and a disposable 4-foot-long PVC screen will be deployed. Either a peristaltic pump or check valve with disposable polyethylene tubing will be used for collection of groundwater samples from the temporary Geoprobe® wells. Immediately after sampling, the temporary wells will be removed, and the open boreholes will be abandoned in accordance with state regulations.

A field sheet will be completed for each groundwater sample. The field sheets will include the exact sample locations and analyses to be performed. Groundwater samples will be submitted for analysis of VOCs, TPH-DRO (OA-2 analysis), SVOCs, PCBs, and total and dissolved RCRA metals, including mercury. Water samples submitted for analysis of VOCs will be collected in three 40-milliliter vials preserved with hydrochloric acid (HCl) to a pH<2. Water samples that will be analyzed for SVOCs, PCBs, and TPH-DRO will be collected in 1-liter amber glass jugs (two per sample). Water samples that will be analyzed for metals will be collected in two 1-liter polyethylene bottles (one each for total and dissolved metals) and preserved with nitric acid (HNO₃) to a pH<2. Dissolved metals samples will be filtered in the field. All water samples will be stored in coolers maintained at or below 4 °C until they are submitted to the Seagull-contracted laboratory.

QUALITY CONTROL

To evaluate sample quality control (QC), one equipment rinsate blank, one field blank (water), and one trip blank (water), will be collected, as specified in Section 2.5 of the QAPP form. Because it is not necessary for total method precision to be evaluated for this project, no field duplicates will be collected.

ANALYTICAL METHODS

All samples will be submitted to a Seagull-contracted laboratory. Mini-START will competitively bid the analytical work from its pool of pre-qualified laboratories. Soil and groundwater samples will be analyzed according to EPA SW-846 Methods for VOCs (Method 8260), TPH-DRO (Iowa Method OA-2 [this is not a SW-846 Method]), SVOCs (Method 8270), PCBs (Method 8082), and RCRA metals (including mercury) (Methods 6010 and 7471 for soil and Methods 6020 and 7470 for water).

Groundwater samples will be analyzed for both total and dissolved metals. All samples will be analyzed according to SOPs and methods referenced on the QAPP form. Standard detection limits for those methods will be adequate for this project. Appropriate containers and physical/chemical preservation techniques will be employed during the field activities to help verify that representative analytical results are obtained. Submittal of samples to the laboratory is expected in April 2010.

REFERENCES

CPI Environmental Services (CPI). 1999. Petition for Declaratory Ruling Regarding Title 128, Chapter 2 on Behalf of Alter Nebraska Corporation, 525 N Street, Lincoln, Nebraska. October 8.

HWS Consulting Group (HWS).

2007. Phase I Environmental Site Assessment, Alter Property, 525 N Street, Lincoln, Nebraska. August.

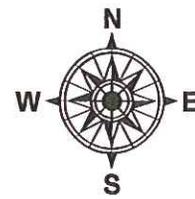
2010. Limited Phase II Subsurface Assessment Report, Alter Scrap Metal Property located at 525 N Street. January.

APPENDIX B

FIGURES



Figure 1
Site Location Map



Alter Trading Corporation, Lincoln, Nebraska

Seagull Environmental Technologies, Inc.

Source: U.S. Department of Agriculture

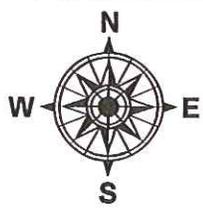


Figure 2
Proposed Subsurface Sample Location Map

Alter Trading Corporation, Lincoln, Nebraska



Seagull Environmental Technologies, Inc.



Source: U.S. Department of Agriculture

Legend

 Approximate Site Boundary

 Transect Line

 Surface Soil Grid Cell
(50-foot by 50-foot)

SS - Surface Soil Sample Location

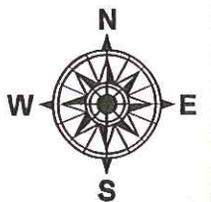


Figure 3
Proposed Surface Soil Sample Location Map

Alter Trading Corporation, Lincoln, Nebraska



Seagull Environmental Technologies, Inc.



Source: U.S. Department of Agriculture