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Cherryvale, Kansas Residential Soil Evaluation Phase 2 - Early Action Property Soil Removal Summary Report

Prepared for:
Kansas Department of Health and Environment

APPROVED

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On behalf of United States Steel Corporation and Citigroup Global Market Holdings, Inc., Respondents in Consent Order Case No. 03-E-0222, as amended (the "Respondents")

March 2016

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PROJECT NAVIGATOR, LTD.

Table of Contents

1.0 Introduction
2.0 Background Information
    2.1 Early Action Properties
    2.2 Remedial Objectives
3.0 Pre Remedial Activities
    3.1 Access Agreements and Notifications
    3.2 Permitting
    3.3 Utility Clearance and Survey
4.0 Soil Removal, Transport and Disposal
    4.1 Confirmation Sampling
    4.2 Laboratory Analysis, QA/AC, XRF Calibrations
5.0 Excavation, Backfill and Re-vegetation
6.0 Health and Safety
7.0 References

List of Figures

Figure 1 - Site Location Map
Figure 2 - 219 W 1st
Figure 3 - 317 W 4th
Figure 4 - 326 W 4th
Figure 5 - 416 N Maple
Figure 6 - 529 W 1st
Figure 7 - 902 W Main
Figure 8 - 00 E 1st
Figure 9 - Logan Park Gazebo
(Figures listed with (a) denote photographs of each respective property.)

Tables

Table 1 – Property Summary
Table 2 – Early Action Post Remedial Confirmation Sample Results
Table 3 – XRF QA Standard Replicate Analysis
Table 4 – XRF QA Standard Replicate Percent Difference
Table 5 – XRF QA Field Duplicate Relative Standard Deviation
Table 6 – XRF Laboratory Calibration for Niton XL2 Instrument 91477

Attachment 1: Storm Water Notice of Intent

Attachment 2: Laboratory Reports

1.0 Introduction

On behalf of United States Steel Corporation and Citigroup Global Market Holdings, Inc. (Respondents), Project Navigator Ltd. (PNL) presents the following summary Report for work performed for an Early Removal Action on the properties identified in the *Cherryvale, Kansas Residential Soil Evaluation Phase 2 Data Evaluation of Early Action Properties* (Early Action Data Evaluation Report) dated July 2015. This Report summarizes activities performed at the Early Action (EA) properties. The EA properties are identified in Figure 1.

The subject EA properties are described in Section 2.1 below. As part of the implementation of the Phase 2 work, at the request of the Kansas Department of Health & Environment (KDHE), schools, parks and day-care centers were evaluated early in the program. Properties identified in this Report represent locations where the Respondents and KDHE concluded that subject to conditions established in the Third Amendment to Consent Order between Respondents and KDHE dated September 15, 2015, Early Removal Actions were appropriate before the completion of the city-wide smelter residue material (SRM) survey. The work was performed between October 1st and November 9th 2015.

This Report is prepared by PNL, under the supervision of Mark Landress, Kansas Licensed Professional Geologist No. 793, coordinated by Exponent, Inc., on behalf of the Respondents. The soil removal work was performed by ENTACT Environmental Services, LLC (ENTACT).

2.0 Background Information

The subject EA properties are located in various locations within the city limits of Cherryvale, KS. SRM from the smelter was apparently used as construction fill material at various locations in the City over the years. A number of investigations and actions relating to the former smelter have been conducted in Cherryvale. The history and details of the former National Zinc Smelter Site located in the northwestern portion of the City are documented in various Site reports which are on file at the Kansas Department of Health and are discussed in the aforementioned Early Action Data Evaluation Report dated July 2015.

2.1 Early Action Properties

The EA properties are identified in the *Cherryvale, Kansas Residential Soil Evaluation Phase 2 Early Action Removal Properties Work Plan dated August 2015*. (The Work Plan). The EA properties constitute locations where lead in soil composite samples was above the KDHE residential soil screening value (SSV) of 400 mg/kg in soil composites, where SRM was observed at the surface or in the shallow subsurface, and where the properties may be frequently used by children for extended play periods. These properties consisted of five day-care facilities (which were housed at residences), one owner-occupied single family residence, one park property, and an isolated area of exposed brick in Logan Park. A summary of properties remediated is provided in Table 1. For each property, the areas removed, sampling data and photographs are presented in Figures 2 through 9.

SRM, where encountered, consisted of fine to medium grained, black and dark brown colored material with a granular ashy or glassy texture, typically with fragments up to a few cm in size. Retort fragments, consisting of broken remnants of cylindrical-shaped fired clay-brick retorts and condensers used in the zinc smelting process, were also identified on portions of the subject

properties. These fragments have a characteristic curved shape with a glassy black, gray or tan vesicular fusion crust. Retort fragments vary in size commonly ranging up to about 10 cm. Broken retort fragments sometimes have a distinctive purple or green color with hard white or gray silica fragments or other mineral inclusions. SRM fill can be quite variable in texture and composition and can include ashy, granular and glassy SRM, retort fragments, all mixed with fill soil, brick and rock in varying amounts.

2.2 Remedial Objectives

The remedial objective was to remove the pathway for direct contact, inhalation, and ingestion to soils in excess of SSV of 400 mg/kg lead in soil composites at the EA properties. This remedial objective was achieved through excavation and removal of affected soils to specified depths, backfilling the excavations to grade with clean soil and restoring the vegetative cover to approximately pre-excavation conditions. The work performed to remove soil above the SSV has met the remedial objectives outlined in the Work Plan.

3.0 Pre Remedial Activities

The following sections discuss the pre remedial activities completed before construction activities commenced at the EA Properties.

3.1 Access Agreements and Notifications

Access agreements were obtained by the Respondents for each remediated property. Notice was provided to each resident and the City of Cherryvale regarding the scope and schedule for the soil removal work. Calls and visits to residents were made by PNL, and written notice was given by letter from KDHE. A public meeting for the affected residents was held on August 25, 2015 by KDHE where information about the work was made available for residents. Representatives of KDHE, the Respondents and the Respondent's contractors (PNL and ENTACT) were present to answer questions about the work.

3.2 Permitting

Storm water permits were required for the work. A Storm Water Notice of Intent (NOI) was prepared and submitted to KDHE Bureau of Water. The Permit was approved on October 7, 2016. The Permit included coverage of the temporary disposal area at the EPA Repository (on the former smelter site) where waste soil from the removal is temporarily stockpiled, as well as the borrow soil source area. No other permits were required for the project. The Storm Water NOI and Storm Water Management Plan are provided in Attachment 1.

3.3 Utility Clearance and Survey

Utility clearances were performed by ENTACT, the excavation contractor, prior to the start of work. Property lines were flagged based on available maps, survey records, fence lines, tree

boundaries and identified survey pins. Other resident-installed utility lines were located and flagged with the help of the residents and/or owners.

4.0 Soil Removal, Transport and Disposal

The remediation goal for all properties was to excavate and remove soil above the soil SSV of 400 mg/kg lead to a maximum depth of 12 inches below ground surface, or 6 inches, if the soil below 6 inches did not target above the SSV. Vegetable garden areas, where present, were excavated to a maximum depth of 24 inches, if required. Where soils with lead concentrations greater than 400 mg/kg were present below 12 inches, or where soil could not be excavated to the target depth because of tree roots or other obstructions, orange plastic construction fencing material was placed at the bottom of the excavation prior to backfilling. Excavation work was performed using mini-excavators, dump trucks, skid-steer loaders and backhoes as described in the Work Plan. Visual inspection was made during the excavation work to identify SRM fill material. Spot screening for lead levels was performed at the bottom of the excavations with a portable X-ray fluorescence analyzer (XRF) to confirm adequate soil removal to the SSV level prior to confirmation sampling.

Excavated soil removed from each property was loaded in dump trucks and placed at the former National Zinc Smelter site EPA Repository cell as identified in the storm water NOI Permit (See figures in Attachment 1). A temporary waste soil stockpile was established on the northwest portion of the Repository which will be managed along with existing temporary soil stockpiles at this location. To contain excavated soil, a clean soil berm and erosion and sediment controls were established over approximately a 50 x 50 foot containment area. Excavated soil was placed and lightly compacted with a skid loader. Following placement of all soil, the temporary soil stockpile was covered with a 30 mil engineered plastic cover constructed specifically for this application. The cover is anchored with sand bags built into the cover and on the perimeter.

4.1 Confirmation Sampling

Confirmation samples were collected in the field and screened using the XRF. Confirmation samples were collected at the bottoms of excavations using hand augers and were homogenized and composited in the field. Samples were sieved to remove large particles, placed into labeled Zip-lock bags and retained for field XRF analysis and for laboratory sample splits and/or archiving.

All samples were analyzed in the field for lead using a portable XRF analyzer as described in the Work Plan. Results of the field screening are depicted on Figures 2 – 9. In general, removals met the target removal depth objectives with the exception of 3 properties (529 W 1st, 326 W 4th, 317 W 4th) where excavation was limited by tree roots. At one property (00 E 1st Park), SRM was present below the prescribed dig depth of 12 inches. Areas not excavated to prescribed depth were marked with orange marker fence and backfilled with clean soil and sodded. Areas with marker material are shown on the figures. A tabular summary of averaged confirmation sample results are presented in Table 2.

4.2 Laboratory Analysis / QA/QC / XRF Calibrations

Laboratory and instrument QA/QC and XRF to laboratory calibrations were performed to ensure XRF results were adequate for field screening.

The borrow source area had been previously characterized and approved by KDHE for soil backfill at the former National Zinc Smelter Site. Additional confirmation analysis was performed on the soil borrow source prior to placement in residential yards. Analysis included hydrocarbons, pesticides, herbicides, metals and PCB by ALS Laboratories. Composite samples were collected of 2 borrow source piles. The sample locations are depicted in the figures in Attachment 1. Laboratory reports are presented in Attachment 2.

Random confirmation samples were collected from the EA properties which were analyzed by Pace Analytical. Results are presented in Table 2. For the 3 samples analyzed, laboratory and adjusted XRF results for lead are comparable with the exception of one single point non-composite sample from an area outside the play area at 529 W 1st where laboratory results are higher than the XRF reading (322 mg/kg lead XRF vs 494 mg/kg lab (average)). The original composite average in this area was below SSV limits. Laboratory reports are presented in Attachment 2.

QA/QC checks were performed of the XRF with replicate sample analysis on soil standards calculating percent difference and relative standard deviation for duplicate field samples. Data is presented in Tables 3, 4 and 5.

The XRF instrument is pre-calibrated for soils from the manufacturer. Because of interferences, matrix conditions, moisture and other factors, the instrument must be calibrated for site-specific conditions. A comparison between laboratory and field samples collected during the Phase 2 project was used to calibrate the XRF for lead. A calibration curve was developed to adjust the raw XRF reading to correspond to a predicted laboratory value. The formula derived from the calibration was entered directly into the XRF and a pass/fail alarm set to ensure readings were below predicted laboratory values. The data table and calibration information is presented in Table 6. The calibration formulas were developed by Exponent for PNL.

5.0 Excavation Backfill and Re-vegetation

After confirmation sample analysis in the field, excavations were backfilled with clean fill material obtained from the same borrow source area used in previous remedial actions at the former National Zinc Smelter Site. Soil was delivered by truck to each property and the material leveled to grade, compacted and prepared for grass sod. Grass sod was procured from commercial sources and applied to each property to complete the removal action.

6.0 Health and Safety

Health and safety is the primary and common goal for the Respondents, PNL, ENTACT, and other stakeholders. Prior to work, instructions were provided by ENTACT to their crews regarding potential health and safety issues for the sites. There were no health and safety issues encountered for the work. Dust control and monitoring was maintained by ENTACT during construction activities to prevent offsite dust migration. To reduce equipment decontamination requirements, operators kept equipment tracks on the clean-side of excavations to limit waste contact to the excavator and loader buckets. Equipment was not tracked within the contaminated soil area. Following all work, any residue on equipment was removed and contained at the disposal area location.

7.0 References

A&M Engineering. Removal Action Plan, Former National Zinc Site. March 2007

KDHE. Risk Based Standards for Kansas, Version 5. KDHE Bureau of Environmental Regulation, October 2010.

KDHE. Consideration and Selection of Borrow Sites. BER Policy #BER RS-048, KDHE Bureau of Environmental Regulation, June 30, 2007

KDHE. Developing a Soil Waste Management Plan. BER Policy # BER RS-55, KDHE Bureau of Environmental Regulation, September 30, 2013

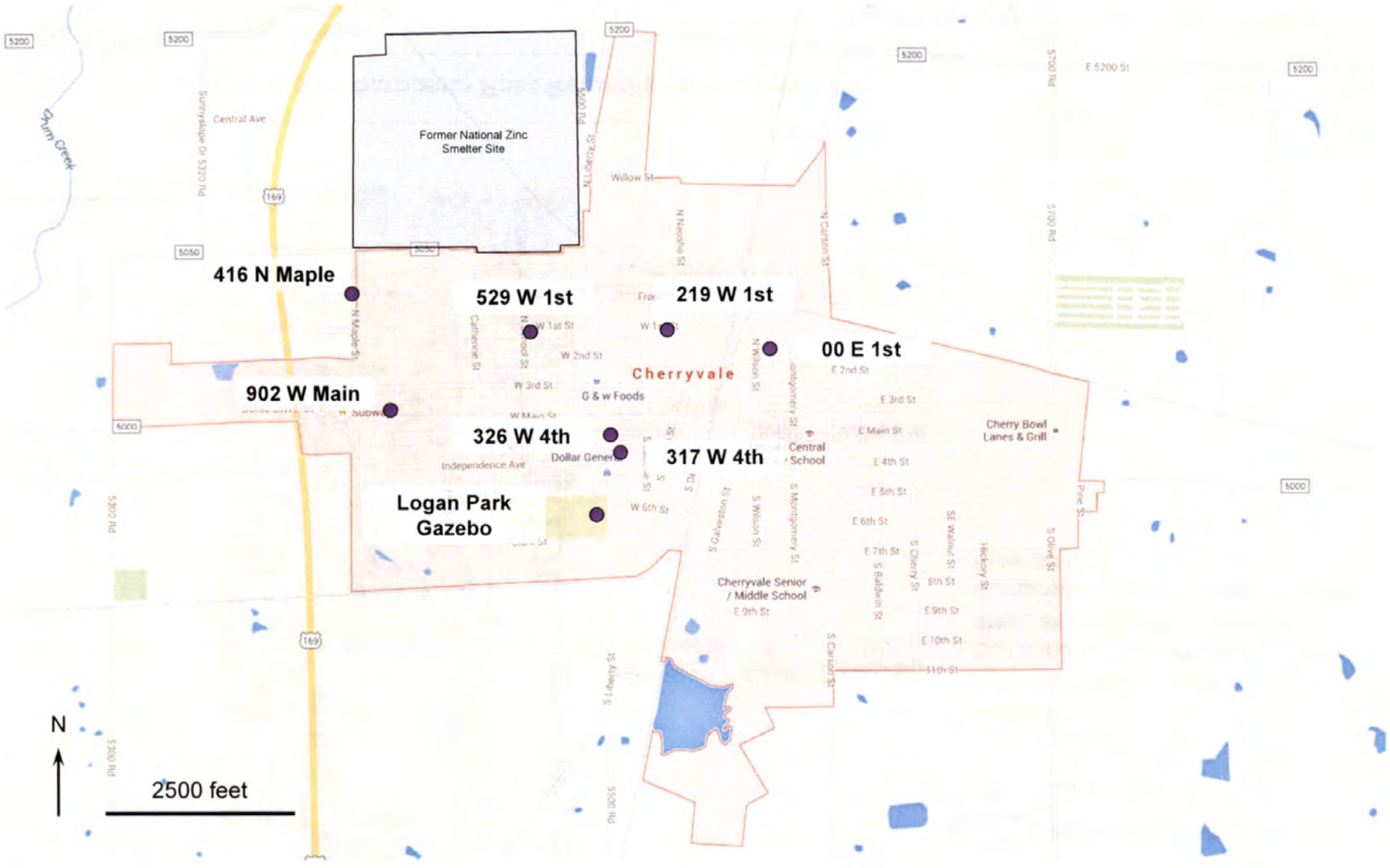
Project Navigator, LTD. *Cherryvale, Kansas Residential Soil Evaluation Phase II Data Evaluation of Early Action Properties.* July 2015.

Project Navigator, LTD. National Zinc Cherryvale, Early Action Property Soil Removal Work Plan, August 2015.

U.S. EPA. *Superfund Lead-Contaminated Residential Sites Handbook*, OSWER 9285.7.50, EPA, 2003.

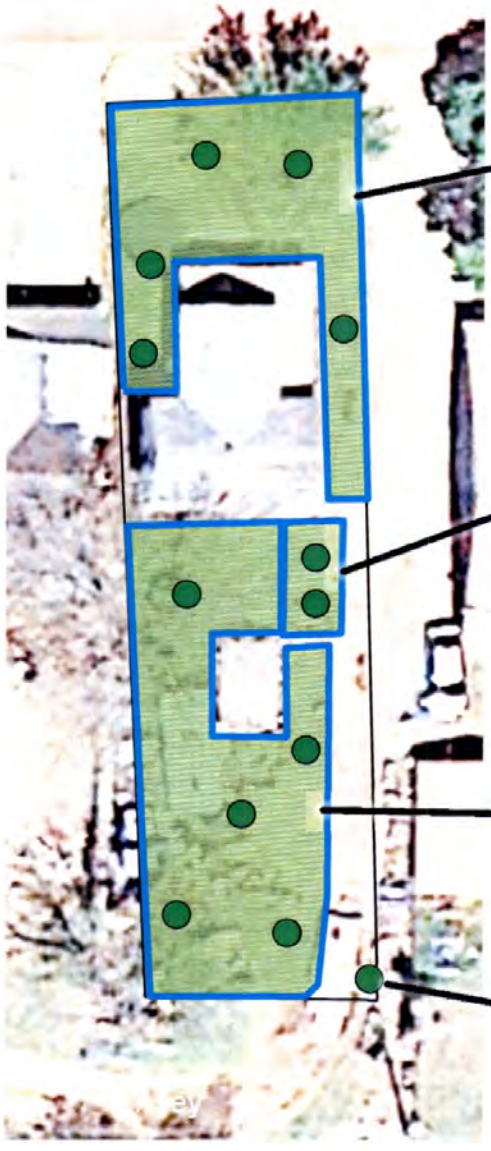
U.S. EPA. Method 6200 Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment, February 2007.

FIGURES



● Early Action Removal Location

Area Location Map		Figure 1
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	PROJECT NAVIGATOR, LTD.®



Sample	Depth	Pb (mg/kg)
1 Composite	6"	29.8
2 Composite	6"	10.9
3 Composite	6"	77.0
4 Composite	6"	34.8

Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Description:

- 12 inch excavation depth
- Soil removed from affected property areas exceeding 400 mg/kg lead
- Composite sample 6" depth at bottom of excavation

50 FEET

219 W 1st Composite Post Remedial Sample Results		Figure 2
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Soil excavation by brickwork

Soil excavation front yard

Soil excavation side yard

Backfilled and sodded yard

219 W 1st Site Photographs		Figure 2a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

- Soil removed from area >400 mg/kg lead.
- 12-inch excavation depth.
- Marker fabric placed around tree roots where excavation depth less than 12 inches.
- Composite sample 6" depth at bottom of excavation

Sample	Depth	Pb (mg/kg)
2 Composite	6"	279.4

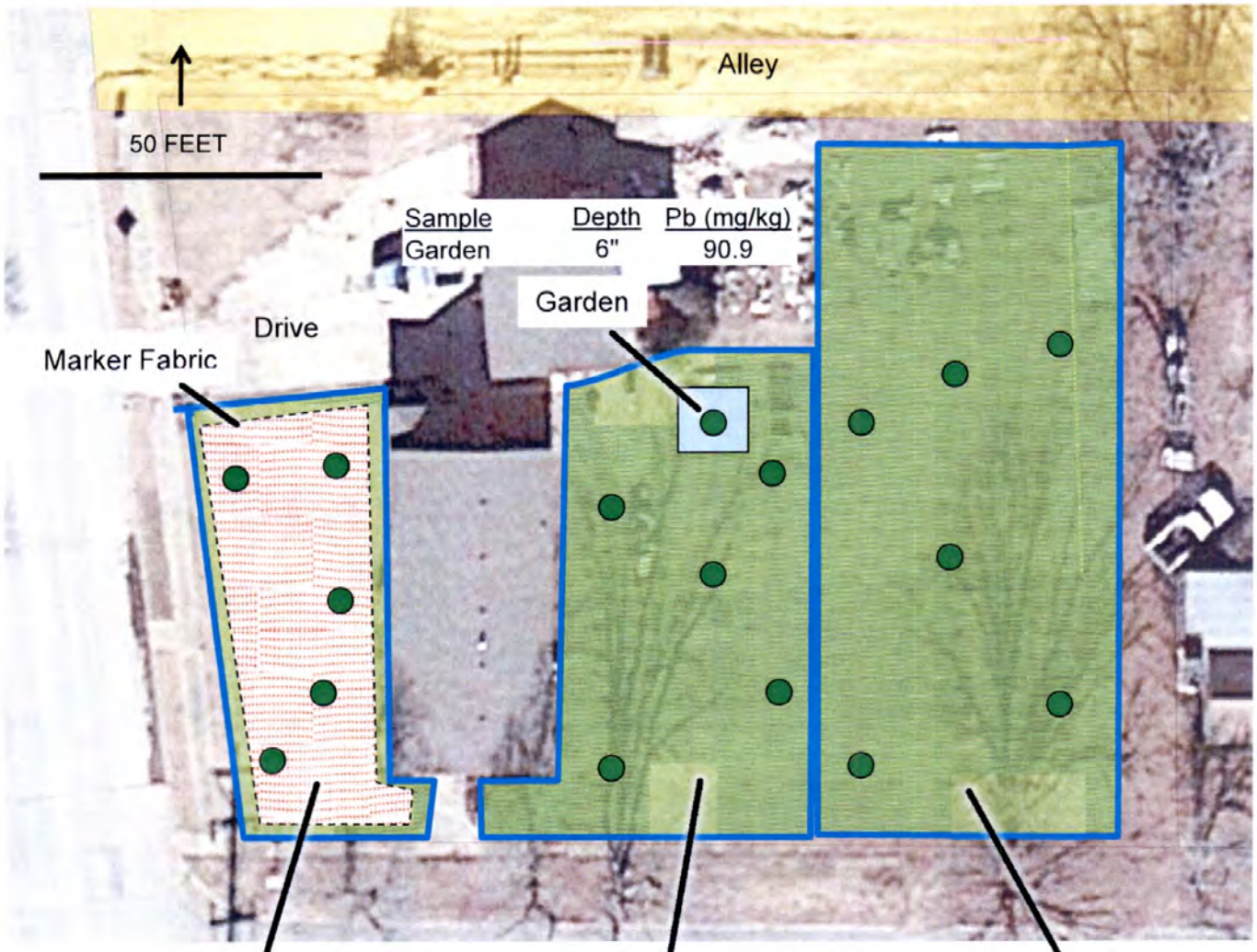
50 FEET

317 W 4th Post Remedial Composite Sample Results		Figure 3
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Soil excavation back yard play area

Backfilled and sodded yard

317 W 4th Site Photographs		Figure 3a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.



Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

- Soil removed to a depth of 12 inches within yard area. Garden area excavated to 24 inches.
- Soil > 400 mg/kg area west side of property delineated with marker fabric.
- Composite sample 6" depth below bottom of excavation.

326 W 4th Post Remedial Composite Sample Results		Figure 4
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

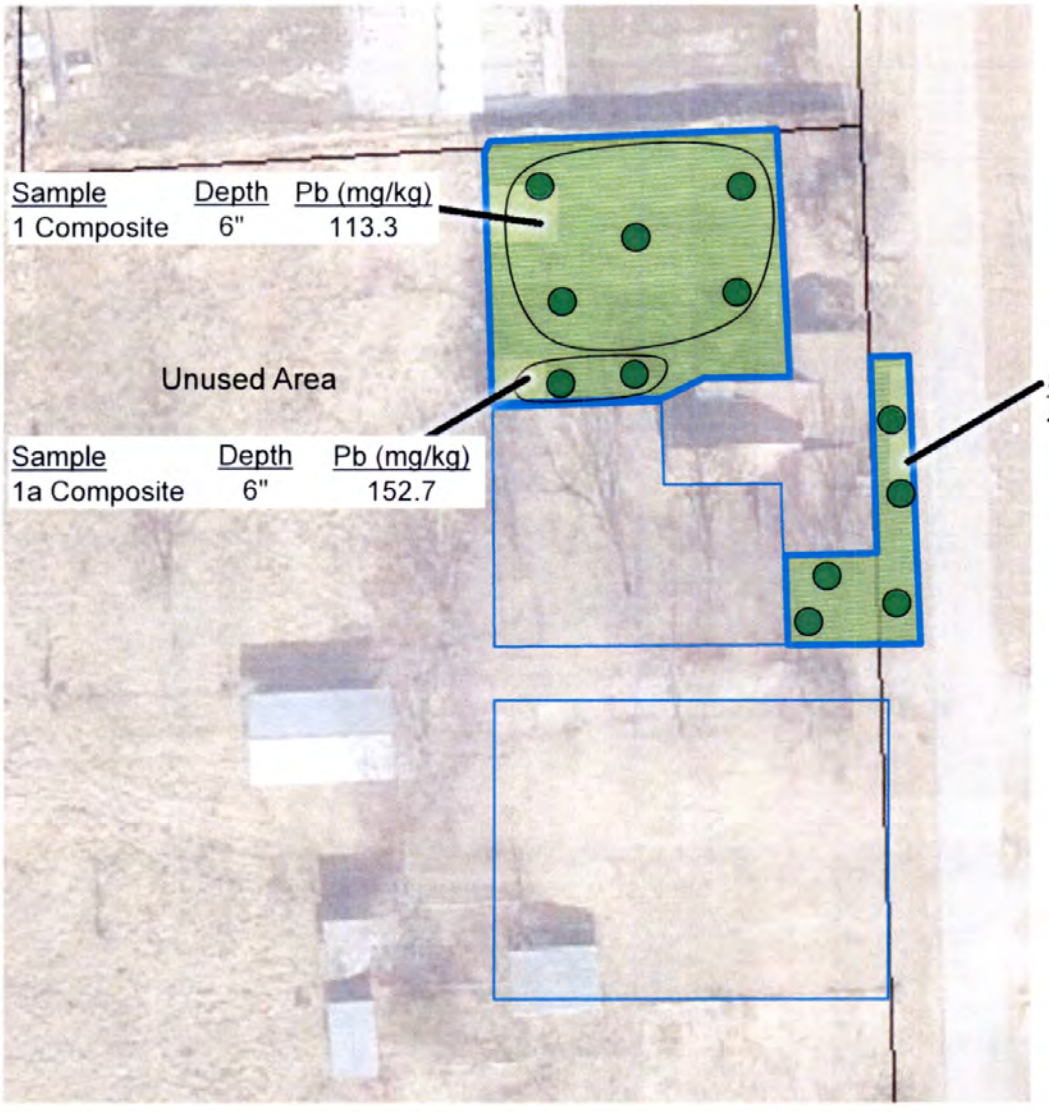
Soil excavation west side

Soil excavation back yard

Soil excavation back yard

Backfilled and sodded yard

326 W 4th Site Photographs		Figure 4a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	PROJECT NAVIGATOR, LTD.



Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

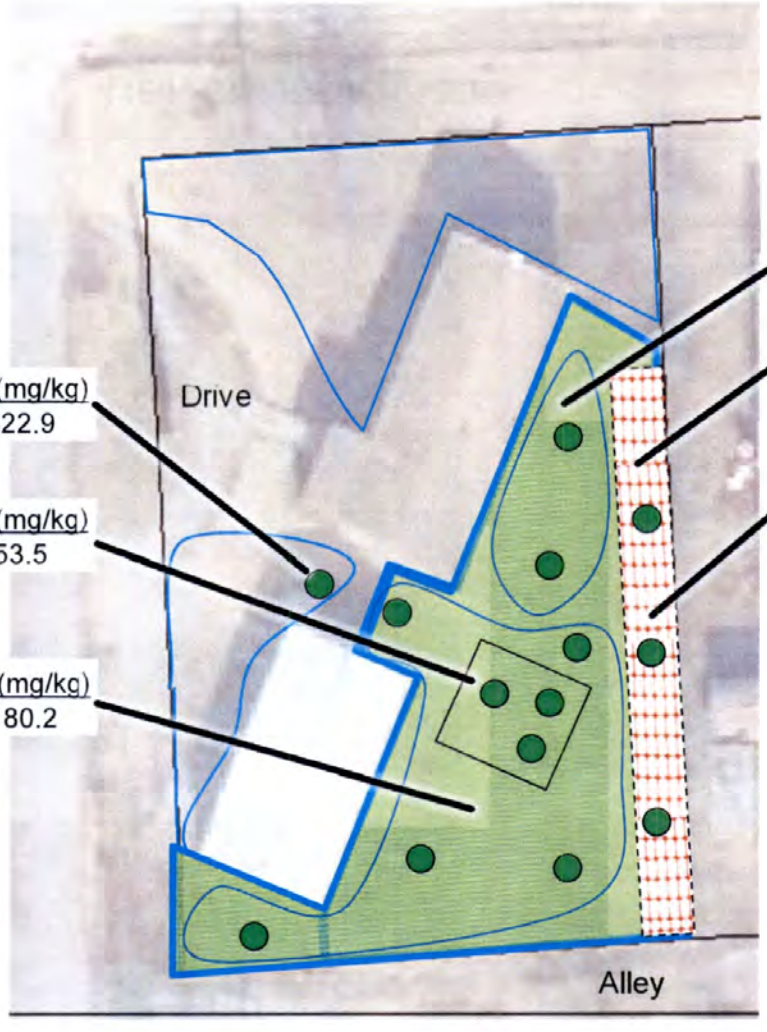
Features

- Soil removed to a depth of 6-inchs within excavation area.
- Soil > 400mg/kg removed
- Sample collected 6 inches depth below bottom of excavation.

50 FEET

416 N Maple Post Remedial Composite Sample Results		Figure 5
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

416 N Site Photographs		Figure 5a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.



Sample	Depth	Pb (mg/kg)
Single Point	6"	322.9
2 Play Area Comp	6"	53.5
2 Composite Out	6"	180.2

Sample	Depth	Pb (mg/kg)
2a Fence Area	6"	172.2

Marker fabric placed along tree line

Sample	Depth	Pb (mg/kg)
2a E Line Comp	6"	49.13
2 Comp	6"	44.9

Legend

- Parcel Boundary
- Sample Composite Area
- Sample Aliquot

Features

- Soil > 400 mg/kg lead removed.
- Soil removed to a depth of 6-inches within excavation area.
- Marker fabric placed east side by property line where tree roots are close to surface.
- Sample collected 6 inch depth below bottom of excavation.

↑

50 FEET

529 W 1st Post Remedial Composite Sample Results		Figure 6
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Soil excavation back yard fenced area

Soil excavation back yard

Backfilled and sodded yard

Backfilled and sodded yard

529 W 1st Site Photos		Figure 6a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Sample	Depth	Pb (mg/kg)
2 Composite	6"	247.2

Legend

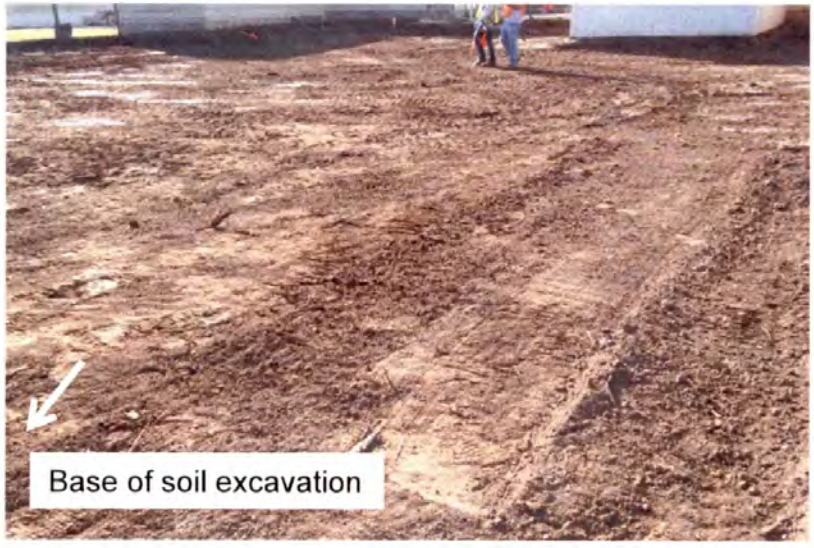
- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

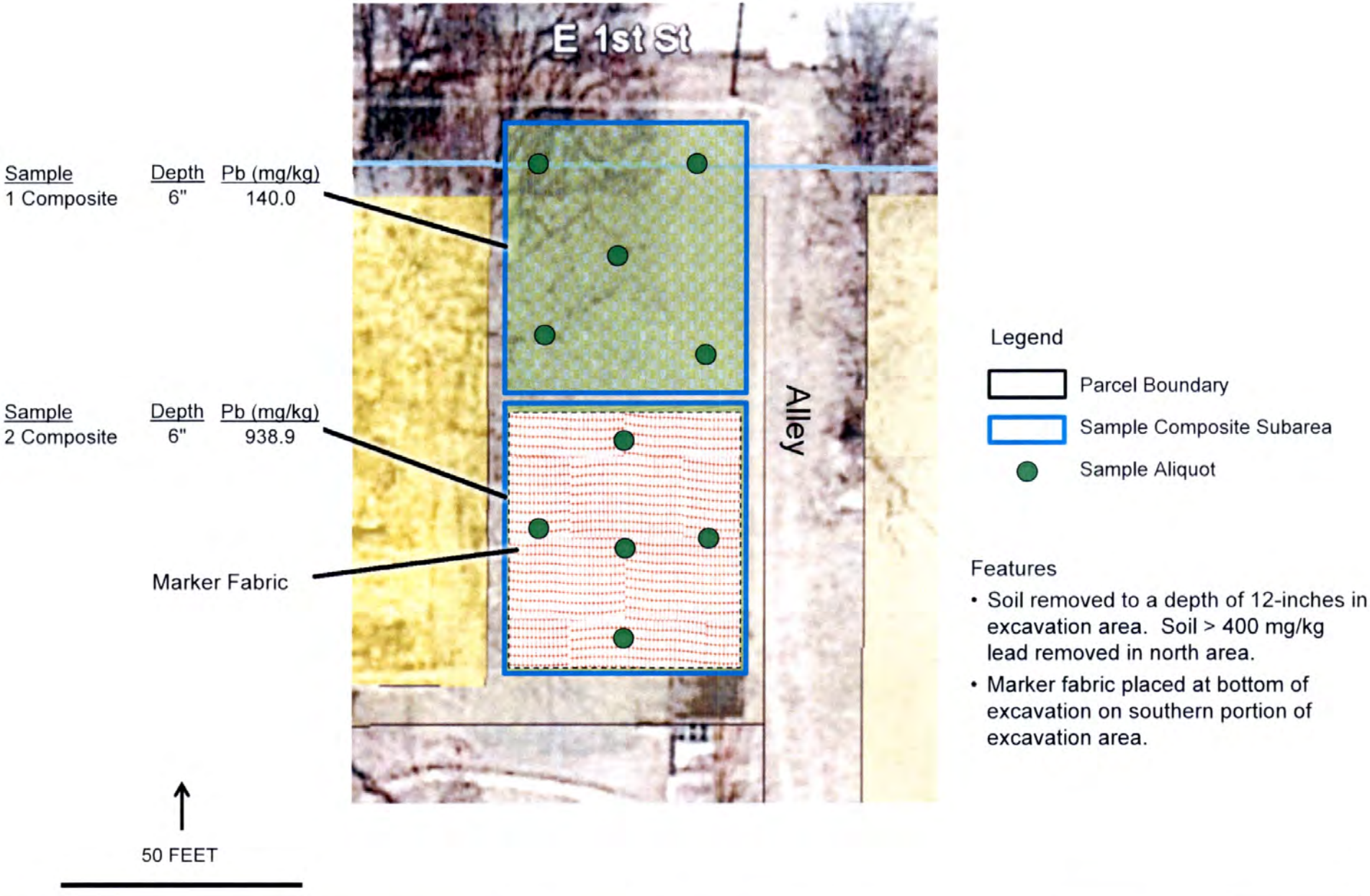
- Soil > 400 mg/kg lead removed.
- Soil removed to a depth of 12-inches within excavation area.
- Sample collected 6-inch depth below bottom of excavation.

50 FEET

902 W Main Post Remedial Composite Sample Results		Figure 7
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.



902 W Main Site Photos		Figure 7a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.



00 E 1st Park Post Remedial Composite Sample Results		Figure 8
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Soil excavation

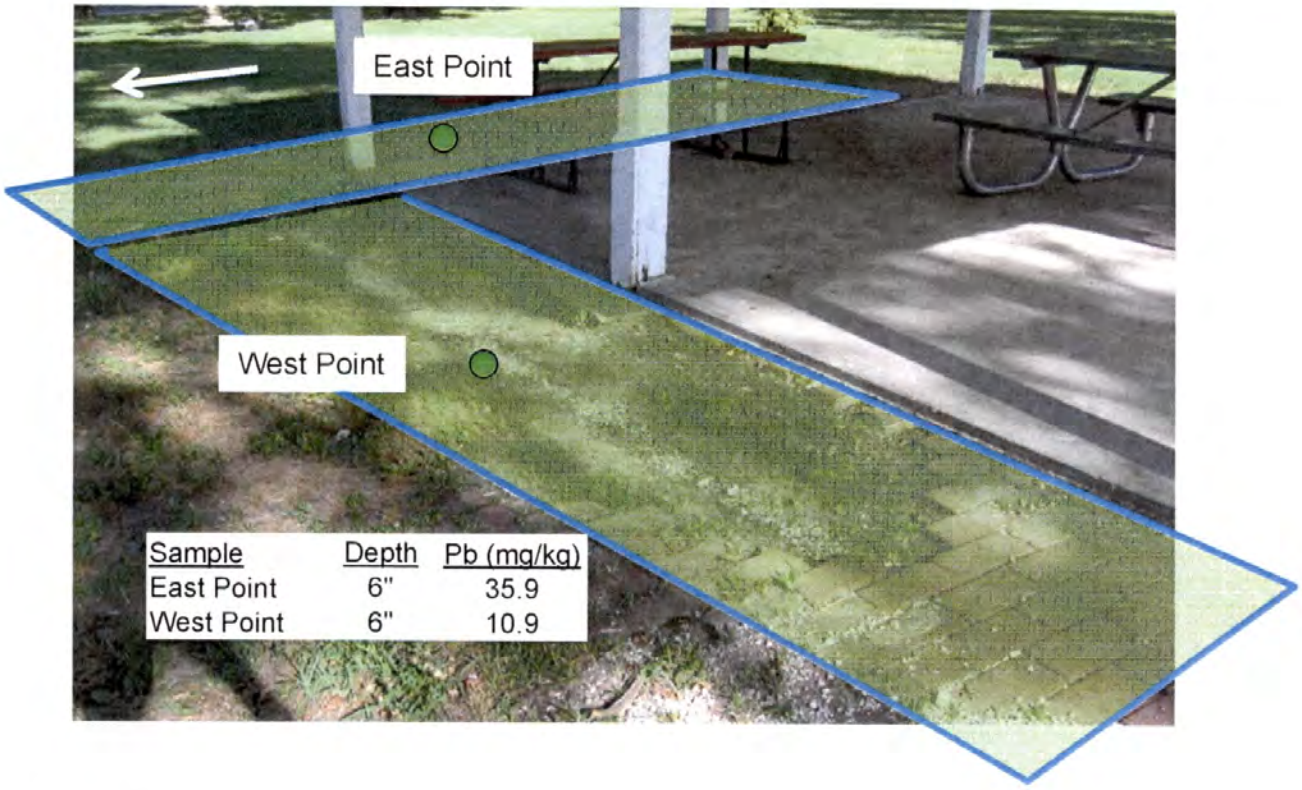
Backfill with clean soil

Excavated area with marker layer

Backfilled and sodded area

00 E 1st Park Site Photos		Figure 8a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Logan Park East Side Gazebo Location



Sample	Depth	Pb (mg/kg)
East Point	6"	35.9
West Point	6"	10.9

Features
- Soil > 400mg/kg removed

Legend

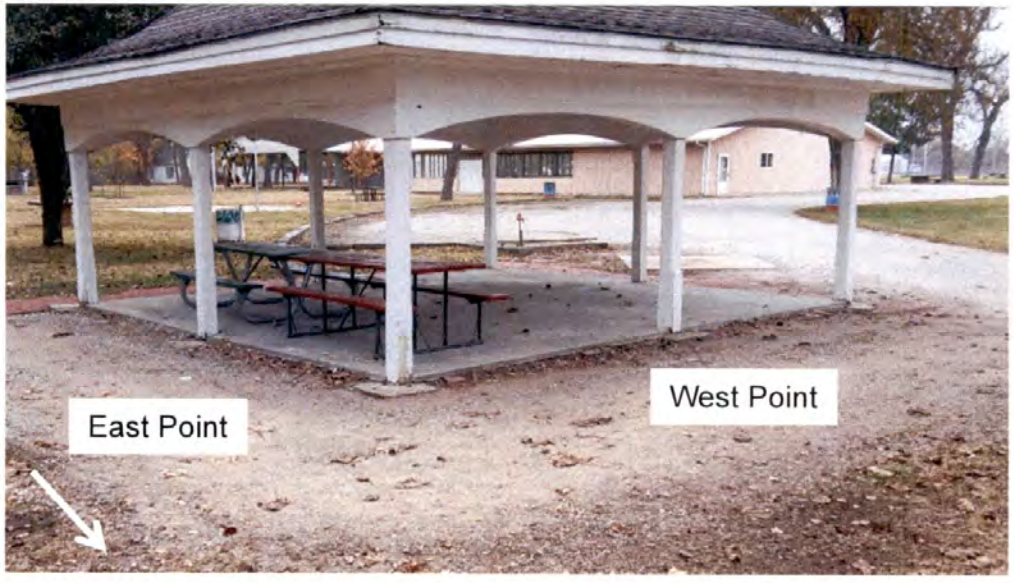
Parcel Boundary

Sample Composite

Sample Aliquot

Logan Park Gazebo Post Remedial Sample Results		Figure 9
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

Excavated soil area testing



Excavation area backfilled with limestone gravel

Logan Park Gazebo Site Photos		Figure 9a
Phase 2 RSE, Cherryvale, Kansas Early Action Properties Remediation	November 2015	Project Navigator, Ltd.

TABLES

Table 1. Property Summary. Cherryvale, Kansas Early Action Properties Removal Summary

Property	Figure	Use	Description of Pre-Removal Condition	Action Completed	Estimated Area > SSV (sf)	Soil Volume Removed (cy)	Removal Date	Owner
219 W 1st	2	Resident Occupied	Ashy fine SRM exposed from removed brick at front and side property. Soil > soil screening value (SSV).	Soil removed > SSV	4,276	178	10-20 to 10-29-15	Ferguson
317 W 4th	3	Resident Occupied / Day Care Center. Listed as active DCC but not observed to be active. Permit still valid.	Placed fill in back yard to 18". Soil > SSV in former play area.	Soil removed > SSV. Orange marker fabric placed at tree base in center of excavation.	4,455	248	10-15 to 10-28-15	Foreman
326 W 4th	4	Resident Occupied / Day Care Center. Observed active. Listed as active DCC.	Placed fill. Exposed granular SRM area from old driveway on east side of property. Soil > SSV in former play area.	Soil removed > SSV east side. West side property with locations >12 inches > SSV. West side marked with orange barrier.	14,329	613	10-12 to 10-28-15	Jewett
416 N Maple	5	Resident Occupied / Day Care Center. Observed active. Listed as active DCC.	Retort fragments and granular glassy SRM observed on property. Probable placed fill and spillover from road ditch on east side by road and yard with dog pen. Active play area sampled but < SSV.	Soil removed > SSV	11,062	205	10-1 to 10-15-15	Roberson
529 W 1st	6	Resident Occupied / Day Care Center. Observed as active. Listed as active DCC.	Isolated retort fragments. Granular SRM possibly from alley fill or old construction. SRM in north side ditch ROW. Soil composite from play area and west side > SSV.	Soil removed > SSV. Soil areound tree roots east side marked with orange barrier.	6,178	132	10-6 to 10-15-15	Valverde
902 W Main	7	Resident Occupied / Day Care Center. Observed active. Listed as active DCC.	No SRM observed at surface. Placed fill observed in subsurface. Soil > SSV in one of four composite areas (east half of play area).	Soil removed > SSV	5,930	220	10-2- to 10-15-15	Beye
00 E 1st	8	Light-use local park with swings.	Ashy granular SRM, brick and soil fill. Granular SRM exposed on surface in adjacent ROW. Soil > SSV.	Soil removed > SSV north side. South side marked with orange barrier.	5,000	231	10-27 to 11-9-15	City of Cherryvale
Logan Park Gazebo	9	Shelter area in Logan Park.	Ashy granular SRM exposed from below removed brick. Soil > SSV.	Remove and replace soil from affected areas > SSV. Replace with limestone gravel.	400	14	10/19/2015	City of Cherryvale
				Total	51,630	1,841		

Note: Volumes calculated in-place. Square footage calculated to property line.
sf = square feet cy = cubic yards

Table 2 - National Zinc Cherryvale Phase 2 Early Action Post-Remedial Confirmation Sample Results

Sample ID	Map Label	Figure	Type	Sample Interval	Average of As (mg/kg)	Average of Cd (mg/kg)	Average of Pb Adjusted (mg/kg)	Average of Zn (mg/kg)	Laboratory Confirmation
219 W 1ST PR SAMPLE 2 PLAY AREA	2 Composite	Figure 2	Post Remedial	6"	12.5	<LOD	10.9	232	
219 W 1ST PR SAMPLE 3	3 Composite	Figure 2	Post Remedial	6"	10.5	<LOD	77	423	
219 W 1ST SP-1-A PR	Single Point 1A	Figure 2	Post Remedial	6"	10.5	<LOD	17.6	258	
219 W 1ST SP-4 PR	Single Point 4	Figure 2	Post Remedial	6"	9.8	<LOD	34.8	225	
219 W 1ST SPL-1 PR	1 Composite	Figure 2	Post Remedial	6"	10.7	<LOD	29.8	1018	
317 W 4TH FORMAN PR 2ND SPL	2 Composite	Figure 3	Post Remedial	6"	29.8	<LOD	279.4	2473	
326 W 4TH PR SPL 1	2 Composite	Figure 4	Post Remedial	6"	52	<LOD	1668.5	7295	X
326 W 4TH PR SPL 2	2 Composite	Figure 4	Post Remedial	6"	17.5	<LOD	136.2	661	
326 W 4TH PR SPL 3	3 Composite	Figure 4	Post Remedial	6"	19.7	<LOD	179.6	703	
326 W 4TH EWETT PR SINGLE SAMPLE	Garden	Figure 4	Post Remedial	6"	<LOD	<LOD	90.9	566	
416 NMAPLE 1 POST	1 Composite	Figure 5	Post Remedial	6"	<LOD	<LOD	113.3	1063	
416 NMAPLE 1A POST	1a Composite	Figure 5	Post Remedial	6"	9.9	<LOD	152.7	1248	
416 NMAPLE SPL4 POST	4 Composite	Figure 5	Post Remedial	6"	<LOD	<LOD	139.5	1235	
529 W 1ST #2 POST	2 Composite	Figure 6	Post Remedial	6"	9.5	<LOD	53.5	836	
529 W 1ST #2 POST OUT PLAY	2 Play Area Comp	Figure 6	Post Remedial	6"	12.2	<LOD	180.2	923	
529 W 1ST #2 SINGLE PT	2 Single Point	Figure 6	Post Remedial	6"	16.6	<LOD	322.9	1113	XX
529 W 1ST #2A POST	2a Composite	Figure 6	Post Remedial	6"	13.1	<LOD	54.6	544	
529 W 1ST #2 E LINE	East by fence	Figure 6	Post Remedial	6"	13	<LOD	44.9	497	
529 W 1ST #2 FENCED AREA	Fenced area	Figure 6	Post Remedial	6"	21.9	<LOD	172.2	843	
902 W MAIN SPL 2 POST	2 Composite	Figure 7	Post Remedial	6"	18.2	<LOD	247.2	1141	
LOGAN PARK GAZEBO PR E SPL	East Point	Figure 8	Post Remedial	6"	10.9	10.6	35.4	1579	
LOGAN PARK GAZEBO PR N SPL	West Point	Figure 8	Post Remedial	6"	9.3	<LOD	16.7	1074	
0 E 1ST PARK PR SPL 1	1 Composite	Figure 9	Post Remedial	6"	24.8	<LOD	137.7	3553	X
0 E 1ST PARK PR SPL 2	2 Composite	Figure 9	Post Remedial	6"	47.8	27.7	923.7	12751	

Sample Interval: Collection depth at bottom of excavation
Adjusted = Adjusted value based on laboratory sample calibration
X = Laboratory Sample XX = Duplicate

Laboratory Confirmation Samples

Sample ID	Map Label	Figure	Type	Sample Interval	As (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)
326 W 4th PR Spl 1	2 Composite	Figure 4	Post Remedial	6"	37	14.5	1690	6530
529 W 1st Single Point	2 Single Point	Figure 6	Sidewall	6"	17	8	521	1850
529 W 1st Single Point Dupe	2 Single Point	Figure 6	Sidewall	6"	18	8.7	467	1760
0 E 1st Park PR 1	1 Composite	Figure 9	Post Remedial	6"	17.6	7.9	141	3120

Analysis by Pace Analytical Report Date March 2, 2016

Table 3 - XRF QA Standard Replicate Analysis

Reading	Sample	As (mg/kg)	As Error +/-	Cd (mg/kg)	Cd Error +/-	Pb (mg/kg) Raw	Pb Error +/-	Pb Adjusted (mg/kg)	Zn (mg/kg)	Zn Error +/-
1	2702 NIST STD	48.9	7.9	<LOD	11.0	101.2	9.3	116.4	403.9	18.3
2	2702 NIST STD	43.0	8.0	<LOD	11.9	103.4	9.6	119.0	416.2	18.9
3	2702 NIST STD	43.8	8.0	<LOD	11.4	110.7	9.6	127.7	404.7	18.4
4	2702 NIST STD	47.9	8.2	<LOD	10.9	122.2	9.7	141.4	431.6	18.6
5	2702 NIST STD	40.9	8.0	<LOD	11.3	114.4	9.6	132.1	446.4	19.0
6	2702 NIST STD	42.4	7.9	<LOD	10.8	114.2	9.4	131.8	401.2	17.9
7	2702 NIST STD	27.4	7.9	<LOD	11.3	128.1	10.0	148.5	422.4	18.5
8	2702 NIST STD	50.9	8.0	<LOD	11.3	105.4	9.4	121.3	430.0	18.7
9	2702 NIST STD	43.6	8.4	<LOD	11.0	147.1	10.3	171.3	422.4	18.3
10	2702 NIST STD	33.2	7.7	<LOD	11.0	116.4	9.5	134.5	390.3	17.7
11	2702 NIST STD	54.2	8.6	<LOD	11.6	127.8	10.1	148.1	425.1	18.9
12	2702 NIST STD	54.4	8.5	<LOD	11.9	118.4	9.9	136.9	473.4	20.0
13	2702 NIST STD	33.9	7.8	<LOD	11.0	115.4	9.6	133.3	441.8	18.8
14	2702 NIST STD	40.2	8.0	<LOD	11.3	115.0	9.7	132.8	462.6	19.5
15	2702 NIST STD	36.6	7.8	<LOD	11.3	110.6	9.5	127.5	435.5	18.8
16	2702 NIST STD	45.0	7.8	<LOD	11.2	103.1	9.2	118.6	457.8	19.2
17	2702 NIST STD	50.6	8.2	<LOD	11.5	109.3	9.6	126.0	415.7	18.7
18	2702 NIST STD	40.8	8.0	<LOD	11.4	114.0	9.7	131.7	429.4	18.8
19	2702 NIST STD	43.8	8.0	<LOD	11.1	112.8	9.5	130.2	406.4	18.2
20	2702 NIST STD	44.1	8.4	<LOD	11.7	130.8	10.1	151.8	439.3	19.0
21	2702 NIST STD	47.9	8.3	<LOD	11.3	124.5	10.0	144.2	431.9	18.8
22	2702 NIST STD	37.4	8.0	<LOD	10.8	127.8	9.8	148.0	412.3	18.1
23	2702 NIST STD	39.4	8.2	<LOD	11.3	127.8	10.0	148.1	437.6	19.0
24	2702 NIST STD	35.9	7.9	<LOD	11.1	121.4	9.7	140.4	417.4	18.3
25	2702 NIST STD	45.3	8.1	<LOD	11.2	119.6	9.7	138.3	441.6	19.0
26	2702 NIST STD	45.7	8.2	<LOD	11.3	121.8	9.9	141.0	441.0	19.0
27	2702 NIST STD	35.0	8.0	<LOD	10.9	129.0	9.8	149.5	431.9	18.4
28	2702 NIST STD	48.3	7.5	<LOD	10.9	96.7	8.8	111.1	432.1	18.3
	Average	42.9	-	<LOD	-	117.5	-	135.8	428.6	-
	Reported Value	45.3	1.8	0.8	0.011	-	-	132.8	485.3	4.2

Table 4 - XRF QA Standard Replicate Percent Difference

Thermo Niton XL2 Instrument No. 91477

Reading	XRF Pb mg/kg (Adjusted)	NIST 2702 Pb mg/kg	Percent Difference (PD)
1	116.4	132.8	12.4
2	119.0	132.8	10.4
3	127.7	132.8	3.8
4	141.4	132.8	6.5
5	132.1	132.8	0.6
6	131.8	132.8	0.7
7	148.5	132.8	11.8
8	121.3	132.8	8.7
9	171.3	132.8	29.0
10	134.5	132.8	1.3
11	148.1	132.8	11.5
12	136.9	132.8	3.0
13	133.3	132.8	0.3
14	132.8	132.8	0.0
15	127.5	132.8	4.0
16	118.6	132.8	10.7
17	126.0	132.8	5.1
18	131.7	132.8	0.9
19	130.2	132.8	2.0
20	151.8	132.8	14.3
21	144.2	132.8	8.6
22	148.0	132.8	11.5
23	148.1	132.8	11.5
24	140.4	132.8	5.7
25	138.3	132.8	4.1
26	141.0	132.8	6.1
27	149.5	132.8	12.6
28	111.1	132.8	16.4
Target Average PD = 20% Pass		Average PD=	7.4

Reading	XRF Pb mg/kg (Adjusted)	RCRA Pb mg/kg	Percent Difference (PD)
1	545.7	500	9.1
2	584.2	500	16.8
3	585.7	500	17.1
4	531.2	500	6.2
5	586.1	500	17.2
6	563.0	500	12.6
7	595.8	500	19.2
8	558.0	500	11.6
9	603.6	500	20.7
10	566.1	500	13.2
11	557.0	500	11.4
12	577.5	500	15.5
13	568.6	500	13.7
14	586.9	500	17.4
15	554.6	500	10.9
16	559.2	500	11.8
17	556.7	500	11.3
18	600.9	500	20.2
19	581.6	500	16.3
20	622.4	500	24.5
21	563.7	500	12.7
22	580.1	500	16.0
23	537.5	500	7.5
24	538.7	500	7.7
25	551.8	500	10.4
26	532.9	500	6.6
27	554.7	500	10.9
28	582.6	500	16.5
Target Average PD = 20% Pass		Average PD =	13.8

Table 5 - XRF Quality Control Field Duplicate Relative Standard Deviation
Thermo Niton XL2 Instrument No. 91477

Reading	First Value XRF Pb mg/kg (Adjusted)	Second Value XRF Pb mg/kg (Adjusted)	Standard Deviation	Relative Std. Deviation	Sample
1	19.3	51.5	16.1	45.5	LOGAN PARK GAZEBO PR E SPL
2	10.8	11.0	0.1	0.9	219 W 1ST PR SAMPLE 2 PLAY AREA
3	19.3	16.5	1.4	7.8	219 W 1ST SP-1-A PR
4	35.0	34.7	0.1	0.4	219 W 1ST SP-4 PR
5	22.7	37.0	7.2	24.0	219 W 1ST SPL-1 PR
6	60.7	48.4	6.2	11.3	529 W 1ST #2A POST
7	52.1	60.0	4.0	7.0	529 W 1ST #2 POST
8	76.2	77.1	0.4	0.6	219 W 1ST PR SAMPLE 3
9	87.3	97.4	5.0	5.4	JEWETT PR SINGLE SAMPLE
10	134.5	92.1	21.2	18.7	416 NMAPLE 1 POST
11	154.6	117.7	18.4	13.6	326 W 4TH PR SPL 2
12	120.5	154.9	17.2	12.5	0 E 1ST PARK PR SPL 1
13	148.0	157.4	4.7	3.1	416 NMAPLE 1A POST
14	188.2	172.3	7.9	4.4	529 W 1ST #2 POST OUT PLAY
15	167.9	191.3	11.7	6.5	326 W 4TH PR SPL 3
16	289.5	204.8	42.4	17.1	902 W MAIN SPL 2 POST
17	252.9	306.0	26.6	9.5	317 W 4TH FORMAN PR 2ND SPL
18	288.9	357.0	34.0	10.5	529 W 1ST #2 SINGLE PT
19	810.3	1037.0	113.4	12.3	0 E 1ST PARK PR SPL 2
20	1380.0	1956.9	288.5	17.3	326 W 4TH PR SPL 1

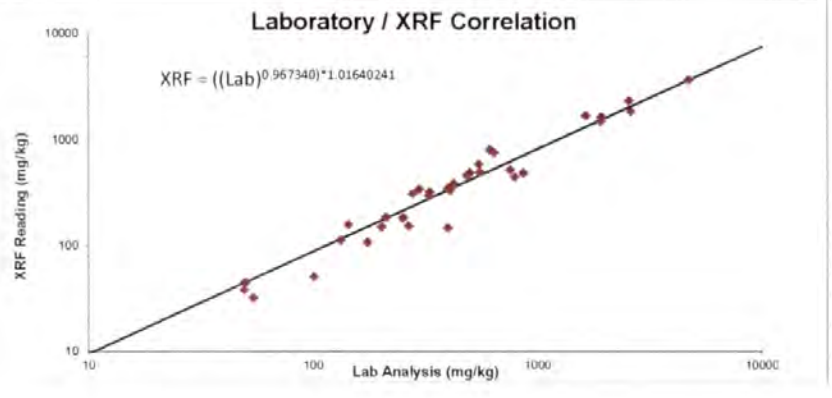
Target Average RSD = 20 Pass Average RSD = 11.4

Table 6 - XRF - Laboratory Calibration for Niton XL2 Instrument No. 91477

Former Natiional Zinc Site, Cherryvale, Kansas Phase 2 RSE

	XRF AVERAGE VALUES (mg/kg)				LABORATORY SAMPLE RESULTS (mg/kg)				CHART PLOT		FITTED RELATIONSHIP		Bias-Corrected	REVERSE PREDICTION	
SAMPLE NAME	XRF As Avg	XRF Cd Avg	XRF Pb Avg	XRF Zn Avg	LAB As	LAB Cd	LAB Pb	LAB Zn	XRF Pb Avg	Lab Pb	Lab Analysis	Predicted XRF	Predicted XRF	XRF Reading	Lab likely to be
PARK WEST DITCH B	14	<LOD	32	373	11.2	0.86	54.3	271	32	54.3	10	9.3	9.4	111	200
600 E MAIN G-2-C	<LOD	<LOD	38	250	7.6	0.82	49.5	225	38	49.5	25	22.5	22.9	253	300
TILL 4PP (Standard)	108	<LOD	45	63	111	<LOD	50	70	45	50	50	44.0	44.7	334	400
600 W MAIN G-3-C	12	<LOD	51	1561	7.2	8.5	101	1840	51	101	100	86.0	87.4	415	500
PARK WEST G-3-A	14	<LOD	107	743	20.4	4.4	175	1020	107	175	150	127.4	129.4	495	600
NIST 2702 (Standard)	44	<LOD	112	430	45.3	0.8	132.8	485.3	112	132.8	200	168.2	171.0	654	800
725 W MAIN DRIVE C	11	<LOD	146	1010	11.3	4.6	400	1360	146	400	250	208.7	212.2	733	900
NIST 2781 (Standard)	14	<LOD	150	1029	7.8	12.8	202.1	1273	150	202.1	300	249.0	253.1	811	1000
305 W 3RD 2-B	<LOD	<LOD	153	925	15.7	3.9	268	1380	153	268	350	289.1	293.8		
516 W 3RD 3-A	30	<LOD	157	1162	16.9	3.7	144	791	157	144	400	328.9	334.3		
416 N MAPLE 2-A	<LOD	<LOD	182	1927	15.2	8.4	253	2180	182	253	450	368.6	374.7		
334 W FRONT 6-A	<LOD	<LOD	184	1360	12.4	7.2	212	1430	184	212	500	408.2	414.8		
620 N LABETTE GARDEN 2-A	21	<LOD	295	2271	17	11.0	328	3010	295	328	550	447.6	454.9		
334 W FRONT 2-A	22	<LOD	307	1454	19.3	8.7	278	1570	307	278	600	486.9	494.9		
724 E 10TH G-1-B	32	<LOD	317	7947	27.6	4.4	332	4430	317	332	650	526.1	534.7		
625 INDEP DW-G-1-C	28	<LOD	331	1136	11.2	8.0	410	1270	331	410	700	565.2	574.4		
316 N MONTGOMERY G-2-A	44	<LOD	338	3055	34.2	4.6	298	2310	338	298	750	604.2	614.1		
N OF 2ND E OF CATH G-1-B	54	<LOD	342	1729	62.9	10.5	401	1630	342	401	817	656.3	667.1		
117 N NEOSHO 1-B	<LOD	<LOD	383	1091	19.8	3.3	423	1280	383	423	850	681.9	693.1		
529 W 1ST 2-A	30	<LOD	443	1821	13.9	13.7	793	2290	443	793	900	720.7	732.5		
516 W 3RD G-1-A	45	<LOD	453	2037	23.5	16.1	487	3520	453	487	1000	798.0	811.1		
500 W 1ST 1-A	32	<LOD	455	2833	33	14.6	485	2210	455	485	2000	1560.3	1585.9		
RCRA STD (Vendor supplied)	455	501	478	39	500	500	500	70.7	478	500	5000	3785.8	3848.0		
516 W 3RD G-2-B	21	<LOD	480	2282	22.4	15.5	867	3540	480	867	10000	7402.2	7523.7		
431 W INDEP 2-A	<LOD	<LOD	485	1905	13.9	7.3	501	1960	485	501					
603 E 4TH 2-A	<LOD	<LOD	491	1135	14.7	5.1	554	1330	491	554					
500 W 1ST DW A	56	13	515	4355	31.8	8.4	756	2570	515	756					
620 W 3RD 4-A	<LOD	<LOD	584	6556	12.0	14.3	548	6160	584	548		Residual SE	0.1189		
902 W MAIN 2-B	<LOD	<LOD	749	3227	13.6	8.8	641	2900	749	641		Mean Square Error	0.01413721		
519 N NEOSHO DW A	485	<LOD	794	5495	378	3.0	616	3460	794	616		Bias Correction Factor	1.016409241		
714 E 7TH DT-A-BO	<LOD	<LOD	1471	8155	45.5	9.2	1920	6080	1471	1920					
W 3RD N SHOOL A	<LOD	49	1619	20346	66.6	67.1	1930	18500	1619	1930					
0 E 1ST PARK 2-A	<LOD	50	1668	40102	33.5	43.3	1650	29100	1668	1650					
326 W 4TH 3-B	86	<LOD	1819	2764	16.3	9.7	2610	3680	1819	2610					
117 N NEOSHO 3-C	103	30	2316	26859	43.6	38.5	2560	20200	2316	2560					
219 W 1ST 1-A	101	30	3623	28594	23.5	33.2	4730	28300	3623	4730					

Laboratory QAQC of field samples from Phase 2 RSE
Includes NIST and vendor-supplied reference samples
<LOD = Below limit of detection



ATTACHMENT 1

Storm Water Notice of Intent

Table 3 - XRF QA Standard Replicate Analysis

Reading	Sample	As (mg/kg)	As Error +/-	Cd (mg/kg)	Cd Error +/-	Pb (mg/kg) Raw	Pb Error +/-	Pb Adjusted (mg/kg)	Zn (mg/kg)	Zn Error +/-
1	RCRA STD	458.9	14.8	492.3	10.3	451.2	15.9	545.7	46.8	6.6
2	RCRA STD	457.7	15.1	521.3	10.6	482.0	16.5	584.2	53.0	6.8
3	RCRA STD	449.2	15.1	512.4	10.5	483.2	16.4	585.7	51.4	6.8
4	RCRA STD	445.0	14.5	504.1	10.2	439.7	15.6	531.2	42.0	6.4
5	RCRA STD	423.8	14.7	492.9	10.2	483.5	16.2	586.1	44.9	6.5
6	RCRA STD	463.7	14.8	487.8	10.2	465.1	16.0	563.0	52.6	6.7
7	RCRA STD	442.1	14.8	501.8	10.3	491.3	16.2	595.8	39.3	6.3
8	RCRA STD	465.3	14.9	530.0	10.6	461.1	16.0	558.0	41.3	6.4
9	RCRA STD	441.3	14.9	477.4	10.1	497.4	16.3	603.6	32.9	6.1
10	RCRA STD	493.3	15.2	526.0	10.6	467.5	16.2	566.1	32.2	6.2
11	RCRA STD	469.5	15.0	528.7	10.6	460.3	16.2	557.0	39.6	6.4
12	RCRA STD	446.3	14.8	503.9	10.3	476.6	16.1	577.5	41.3	6.4
13	RCRA STD	464.8	14.9	505.4	10.3	469.6	16.1	568.6	51.6	6.7
14	RCRA STD	411.1	14.8	489.5	10.3	484.2	16.4	586.9	53.0	6.8
15	RCRA STD	453.5	14.8	511.1	10.4	458.4	16.0	554.6	37.9	6.1
16	RCRA STD	455.0	15.0	510.8	10.5	462.0	16.2	559.2	55.4	6.9
17	RCRA STD	431.4	14.6	503.8	10.3	460.1	15.9	556.7	37.8	6.2
18	RCRA STD	460.4	15.2	499.0	10.4	495.3	16.5	600.9	49.7	6.8
19	RCRA STD	469.4	15.2	504.4	10.4	479.9	16.3	581.6	54.2	6.9
20	RCRA STD	442.2	15.2	509.4	10.5	512.5	16.7	622.4	36.0	6.4
21	RCRA STD	434.1	14.7	503.6	10.3	465.6	16.0	563.7	35.9	6.2
22	RCRA STD	453.2	14.9	493.9	10.2	478.8	16.1	580.1	42.1	6.5
23	RCRA STD	440.4	14.4	494.4	10.2	444.7	15.6	537.5	46.7	6.5
24	RCRA STD	450.1	14.5	505.6	10.2	445.6	15.6	538.7	42.2	6.3
25	RCRA STD	454.3	14.7	501.4	10.3	456.1	15.9	551.8	35.3	6.0
26	RCRA STD	462.4	14.6	489.7	10.2	441.0	15.6	532.9	38.3	6.2
27	RCRA STD	436.7	14.6	500.0	10.2	458.4	15.8	554.7	41.3	6.3
28	RCRA STD	438.9	14.9	512.3	10.5	480.7	16.3	582.6	37.5	6.2
	Average	450.5	-	504.0	-	469.7	-	568.8	43.3	-
	Reported Value	500	100	500.0	100			500.0	-	

<LOD = Below Level of Detection
Sample depth below bottom of excavation

Adjusted = Adjusted value based on laboratory sample calibration
Adjustment Factor: Lab = (XRF^1.033762)/1.016409241

NOTICE OF INTENT (NOI)

For Authorization to Discharge Stormwater Runoff from Construction Activities
In accordance with the Kansas Water Pollution Control General Permit
Under the National Pollutant Discharge Elimination System (NPDES)

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form requests authorization for coverage under the Kansas Water Pollution Control general permit, or KDHE issued successor permits, issued for stormwater runoff from construction activities in the State of Kansas. Becoming a permittee obligates the discharger to comply with the terms and conditions of the general permit. **Completion of this NOI does not provide automatic coverage under the general permit. Coverage is provided and discharge permitted when the Kansas Department of Health and Environment (KDHE) authorizes the discharge of stormwater runoff from the construction activities identified on the NOI and supporting documentation. A signed and dated copy of the first page of the NOI indicating the Authorization will be provided to the owner or operator, or all three pages for Conditional Authorizations.** Upon authorization of the construction activity discharge, a Kansas permit number and a Federal permit number will be assigned to the construction project. **A complete request for Authorization for coverage under the general permit must be submitted or the request will not be processed (see listing on Page 3 of this NOI).** KDHE will notify owners or operators whose Notice of Intent (NOI) and supporting documentation for Authorization of stormwater runoff associated with construction activities are incomplete, deficient, or denied.
Please Print or Type.

I. OWNER OR OPERATOR ADDRESS, BILLING, CONTACT & RECORDS LOCATION INFORMATION

A. Owner or Operator's Name: Maynard Randall
Company Name: ENTACT, LLC
Owner or Operator's Phone: 630-986-2900
Mailing Address: 1 East Oak Hill Dr., Suite 102
City: Westmont State: IL Zip: 60559

B. Billing Contact Name: Same
Billing Contact Address (if different): _____
City: _____ State: ____ Zip: _____

C. Contact Name: Mark Landress P.G.
Company Name: Project Navigator, Ltd
Contact Phone: 713-539-3636
Mailing Address: 123 W. Main St. 2nd Floor
City: Cherryvale State: KS Zip: 67335
E-mail Address (optional): mlandress@projectnavigator.com

D. Address where records will be kept (if not on-site):
Records Address: 123 W. Main St
City: Cherryvale State: KS Zip: 67335

II. SITE INFORMATION

A. Project Name: National Zinc Cherryvale, Kansas, Early Action Removal
Site Address: SW Corner CR 5200 & CR 5500
City: Cherryvale State: KS Zip: 67335
(Nearest City to Project)
County: Montgomery

B. LEGAL SITE DESCRIPTION:
____ QTR of ____ QTR of NE QTR Section: 8
Township: 32 South; Range: 17 ☒ E ☐ W
Latitude: 37:16:33.987 (Deg. Min. Sec.), Longitude: -95:33:40.586 (Deg. Min. Sec.)

For Official Use Only:

Received RECEIVED OCT 6 2015 BUREAU OF WATER	Amount Paid: $60 Date: 10-6-15 Initials: dg Check No.: 11661	Authorized: ☒ Y; ☐ N Is Authorization Conditional? ☒ Y; ☐ N (if yes, see page 3 of NOI for conditions)
Sharon K Mosier Secretary, Kansas Department of Health and Environment		Reviewer 10/7/15 Date
KS Permit No.: S-VE07-0010	Federal Permit No.: KSR111454	

Send completed 3 page NOI form with original signature and all appropriate submittals (see page 3 of NOI) to:

Kansas Department of Health and Environment
Bureau of Water, Industrial Programs Section
1000 SW Jackson, Suite 420
Topeka, KS 66612-1367

Note: A copy of the permit can be obtained at: www.kdheks.gov/stormwater or by submitting a written request to KDHE.

KDHE Contact Information:
Phone: (785) 296-5545
E-mail: stormwater@kdheks.gov

C. Existing Conditions/Uses

1) Is any part of the project located on Indian Country land? ☐ Y; ☒ N
If yes: Contact EPA regarding discharging stormwater runoff from industrial activities on Indian Country land.

2) If stormwater runoff drains to or through a Municipal Separate Storm Sewer System (MS4): MS4 Name: Not Applicable

3) Name of the first receiving water, stream, or lake: Unnamed tributary of Drum Creek, River Basin: Verdigris

4) Are contaminated soils present on the site or is there groundwater contamination located within the site boundary? ☒ Y; ☐ N
If yes: On separate paper please explain in detail the locations, contaminants and concentrations.

5) Are there any contaminated soils that will be disturbed or any contaminated groundwater that will be pumped by the proposed construction activity? (Note: Soils Only) ☒ Y; ☐ N
If yes: On separate paper provide a description of the special erosion and sediment control measures to be utilized.

6) Are there any surface water intakes for public drinking water supplies located within ½ mile of the site discharge points? ☐ Y; ☒ N

7) Are there any known historical or archeological sites present within the site boundary or any historic structures located within 1000 feet of the project site? (Note: Permit waiver granted under previous NOI) ☐ Y; ☒ N
Note: Include documentation of project-specific coordination with the Kansas Historical Society in making this determination.

8) Is any threatened or endangered species habitat located within the site boundary or in the receiving water body? ☐ Y; ☒ N
Note: Include documentation of project-specific coordination with the Kansas Department of Wildlife, Parks & Tourism in making this determination. (Note: Contact made under previous NOI did not indicate issue within site boundary or receiving waters.)

9) Will the project impact the line or grade of a stream or does it include dredge or fill of a potential jurisdictional water body or wetlands? ☐ Y; ☒ N
If yes: Include documentation of project-specific coordination with the US Army Corps of Engineers and/or the Kansas Department of Agriculture, Division of Water Resources in making this determination.

10) Are any Critical Water Quality Management Areas, Special Aquatic Life Use Waters, or Outstanding National Resource Waters located within ½ mile of the facility boundary? ☐ Y; ☒ N

If yes, list the names of all such areas and waters: _____

D. Project Description

1) Project Description: Early Action Soil Removal under KDHE-approved plan via Consent Order Case No. 03-E0022 as Amended. Removal of soil from residences and placement in a temporary soil stockpile at the former National Zinc Smelter Site.

2) Does this NOI include all proposed soil disturbing activities associated with the entire common plan of development? ☒ Y; ☐ N

If no, explain what development areas of the site are not included in this NOI and provide contact information, if available, for the party or parties that own or have operational control of these areas:

_____

_____

3) Anticipated project Start Date: 10-1-15 (Exempt Start), and Completion Date: 11-20-15

4) Estimated total area to be disturbed: 1.8 Acres Total area of the site: 1.8 Acres

5) Do you plan to disturb ten or more acres that are within a common drainage area? ☐ Y; ☒ N

If yes, will a sedimentation basin be installed in that drainage area? (Attach design calculations for each sedimentation basin.) ☐ Y; ☐ N
If a sediment basin is not feasible, on a separate sheet explain what similarly effective erosion and sediment control measures will be implemented in lieu of a sedimentation basin.

E. Maps

Include an area map showing the outline of the construction site and the general topographic features of the area at least one mile beyond the project site boundary. (Refer to the attached Stormwater Management Plan and Attached Figures)

F. Erosion Control Plan and Best Management Practices (Refer to the attached Stormwater Management Plan and Attached Figures)

1) Provide a site plan showing the existing contour, proposed contour, the erosion control measures and the locations of stormwater management or pollution control features including BMPs. Incorporate details and notes as necessary to describe the erosion control plans and BMPs.

2) Provide a description of the best management practices which will be utilized to control erosion, sedimentation and other pollutants in stormwater runoff during construction.

3) Provide a summary of the sequence of major soil disturbing activities and the corresponding erosion control measures or BMPs.

4) Provide the name and License or Certification Number of the engineer, geologist, architect, landscape architect, or Certified Professional in Erosion and Sediment Control (CPESC) under which the construction stormwater pollution prevention plan has been developed.

Mark Landress	Lic. No. 793	Licensed Geologist
Name	License or Certification Number	Profession or Field (Engineer, Architect, etc.)

III. ANNUAL FEE

Enclose a check for the first year of the annual permit fee specified in K.A.R. 28-16-56 et seq. as amended. Make the check payable to "KDHE". Per K.A.R. 28-16-56, as amended, the current annual permit fee for this general permit is $60. An invoice for the annual permit fee will be sent to the contact person requesting a permit until such time as the permittee submits a Notice of Termination (NOT).

Failure to pay the annual fee will result in termination of the construction stormwater discharge Authorization.

MARK R. LANDRESS LICENSED 793 KANSAS GEOLOGIST

10-6-15

IV. OWNER OR OPERATOR CERTIFICATIONS

I, the undersigned, certify that a Stormwater Pollution Prevention Plan (SWP2 Plan) will be or has been developed for the construction site described in this NOI and supporting documentation. I further certify that the plan will be implemented at the time construction begins, and, as required by the NPDES general permit for Stormwater Runoff from Construction Activity, will revise the SWP2 plan if necessary.

I understand that continued coverage under the NPDES general permit for Stormwater Runoff from Construction Activities is contingent upon maintaining eligibility as provided for in the requirements and conditions of the general permit, and paying the annual fee.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Mayl Randel — 10-6-15

Signature (owner or operator) — **Date**

PROJECT MANAGER

Name and Official Title (Please print or type. **Form with original signature must be sent to KDHE.**)

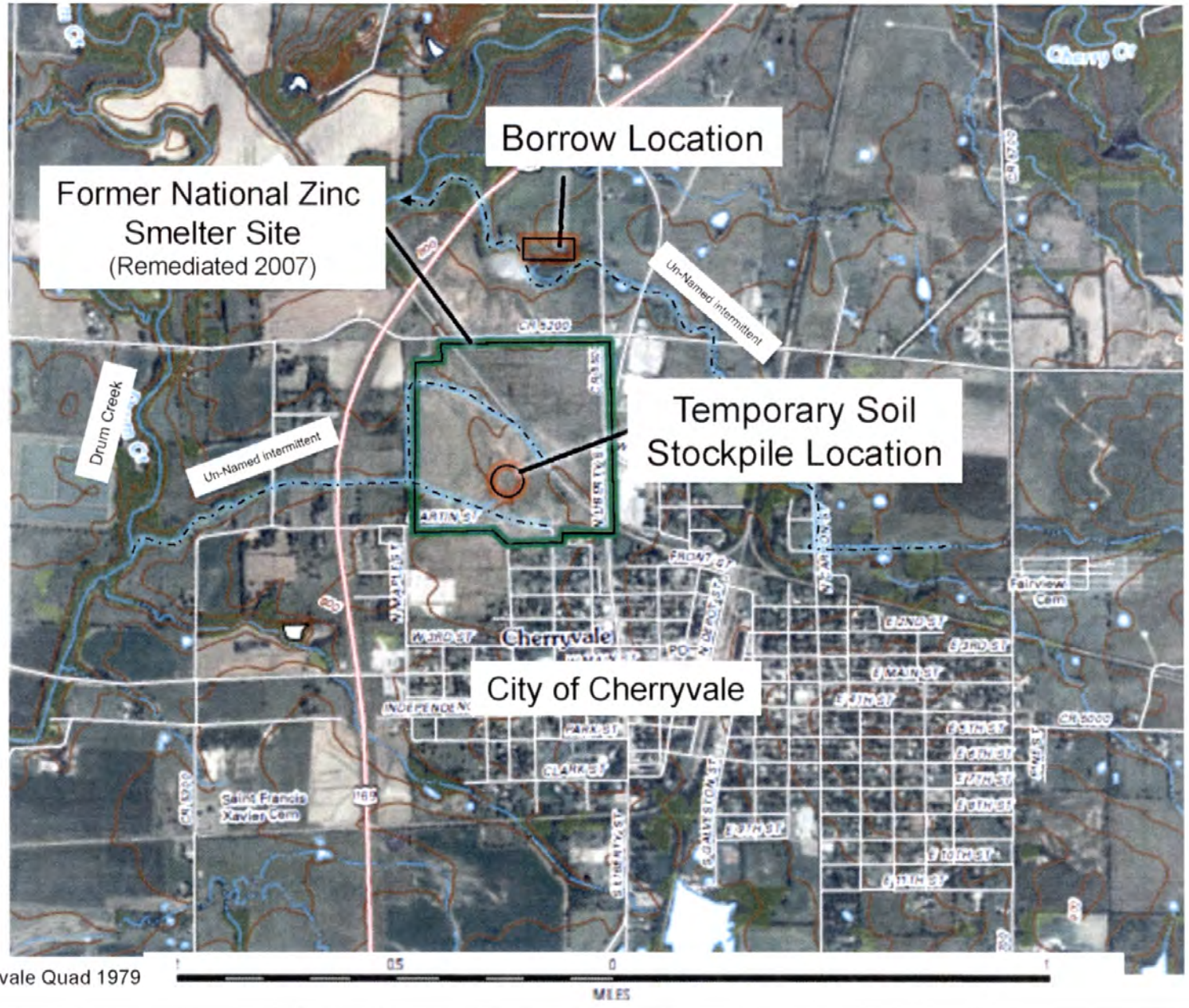
Conditions of Authorization - For Official Use Only:

When indicated, Conditions of Authorization are as follows:

The authorization may be terminated if a soil cover is provided onto the temporary contaminated soil stockpile upon establishment of vegetation on the cover at 70% of the areas vegetation density or upon the construction of a plastic cover onto the temporary contaminated soil stockpile. Monthly inspections of the stockpile cover and appropriate correction of any deficiencies shall occur under KDHE Bureau of Remediation oversite until the temporary stockpile is incorporated into the final landfill site. [illegible]

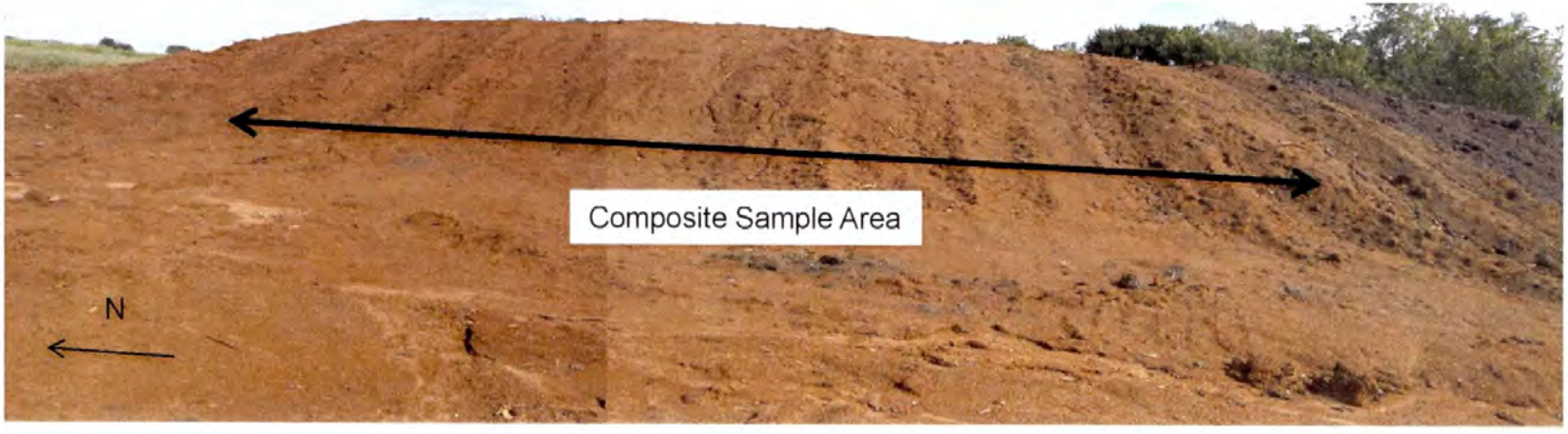
A complete request for Authorization for coverage under the general permit must be submitted or the request will not be processed. A complete request for Authorization includes:

- **An NOI form (construction stormwater) with an original authorized signature;**
- **The annual permit fee for the first year; ($60.)**
- **An area map showing the outline of the construction site and the general topographic features of the area at least one mile beyond the project site boundary;**
- **A detailed site plan showing the existing contours, proposed contours, erosion and sediment control features, locations where stormwater runoff leaves the construction site;**
- **A narrative summary of the additional erosion and sediment control and other best management practices that will be utilized to prevent or reduce contamination of stormwater runoff from the construction activities;**
- **Total drainage area, storage capacity and design calculations for each sedimentation basin; and**
- **Copies of letters or e-mails documenting coordination with appropriate local, state or federal agencies.**

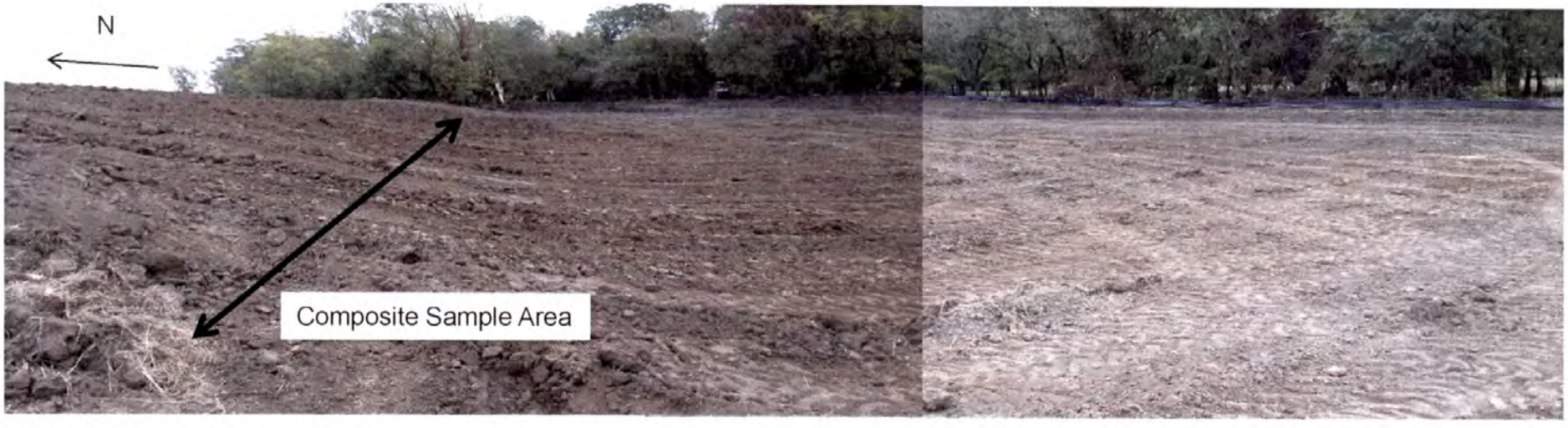


USGS Cherryvale Quad 1979

Area Map		Figure 1
Cherryvale, Kansas Storm Water Notice of Intent Documentation	March 2016	PROJECT NAVIGATOR, LTD.



Soil Composite Sample Borrow 1



Soil Composite Sample Borrow 2

Photo Date – October 2015

Early Action Soil Borrow Area Sample Locations		Figure 2
Former National Zinc Smelter Site Storm Water NOI Documentation for EA Removal Report	March 2016	Project Navigator, Ltd.

National Zinc Cherryvale, Kansas – Early Action Properties Temporary Soil Stockpile
Photo Date – January 4, 2016

Early Action Stockpile Location at EPA Repository		Figure 3
Former National Zinc Smelter Site Storm Water NOI Documentation for EA Removal Report	January 2016	PROJECT NAVIGATOR, LTD.

National Zinc Cherryvale, Kansas – Early Action Removal Temporary Soil Stockpile
Photo Date – January 4, 2016

Early Action Temporary Stockpile Location at EPA Repository		Figure 4
Former National Zinc Smelter Site Storm Water NOI Documentation for EA Removal Report	January 2016	Project Navigator, Ltd.

ATTACHMENT 2

Laboratory Reports

BORROW SOIL ANALYSIS

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

October 19, 2015

Philip Jen
Project Navigator, Ltd
10497 Town and Country Way
Suite 830
Houston, TX 77024

Work Order: **HS15100411**

Laboratory Results for: **Nat Zinc 07-115-400**

Dear Philip,

ALS Environmental received 3 sample(s) on Oct 09, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Erica H Padilla

Generated By: Jumoke.Lawal
Erica Padilla
PM

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
Work Order: HS15100411

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS15100411-01	Borrow 1 -2015	Soil		08-Oct-2015 13:00	09-Oct-2015 08:44	☐
HS15100411-02	Borrow 2 - 2015	Soil		08-Oct-2015 13:00	09-Oct-2015 08:44	☐
HS15100411-03	TB-09/29/2015-03	Water		08-Oct-2015 00:00	09-Oct-2015 08:44	☐

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
Work Order: HS15100411

CASE NARRATIVE

ECD Organics by Method SW8151

Batch ID: 98071

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ECD Organics by Method SW8081

Batch ID: 98070

Sample ID: **Borrow 2 - 2015 (HS15100411-02MS)**
- The multi-response compounds toxaphene and chlordane were not included in the spiking solution for the MS.

Sample ID: **Borrow 2 - 2015 (HS15100411-02MSD)**
- The multi-response compounds toxaphene and chlordane were not included in the spiking solution for the MSD.

Sample ID: **LCS-98070**
- The multi-response compounds toxaphene and chlordane were not included in the spiking solution for the LCS.

ECD Organics by Method SW8082

Batch ID: 98069

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Semivolatiles by Method SW8015M

Batch ID: 98072

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Volatiles by Method SW8015

Batch ID: R263023

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Semivolatiles by Method SW8270

Batch ID: 98014

Sample ID: **HS15100415-02MS**
- MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R263029

Sample ID: **VSTD050**
- 1,2-Dibromo-3-chloropropane exceeded %D limits for CCV. Samples are ND for this compound.

Sample ID: **HS15100398-06MS**
- MS and MSD are for an unrelated sample

Batch ID: R263032

Sample ID: **HS15100416-11MS**
- MS and MSD are for an unrelated sample

Metals by Method SW7471A

Batch ID: 98004

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
Work Order: HS15100411

CASE NARRATIVE

Metals by Method SW7471A

Metals by Method SW6020

Batch ID: 97991

Sample ID: **HS15100438-21MS**
- MS and MSD are for an unrelated sample

WetChemistry by Method SW3550

Batch ID: R263059

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER.

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 1 -2015	Lab ID:HS15100411-01
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCL VOLATILES - SW8260C		**Method:SW8260**				Analyst: WLR
1,1,1-Trichloroethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,1,2,2-Tetrachloroethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,1,2-Trichlor-1,2,2-trifluoroethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,1,2-Trichloroethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,1-Dichloroethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,1-Dichloroethene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,2,4-Trichlorobenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,2-Dibromo-3-chloropropane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,2-Dibromoethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,2-Dichlorobenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,2-Dichloroethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,2-Dichloropropane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,3-Dichlorobenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
1,4-Dichlorobenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
2-Butanone	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
2-Hexanone	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
4-Methyl-2-pentanone	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
Acetone	ND		19	ug/Kg	1	14-Oct-2015 16:46
Benzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Bromodichloromethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Bromoform	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Bromomethane	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
Carbon disulfide	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
Carbon tetrachloride	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Chlorobenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Chloroethane	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
Chloroform	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Chloromethane	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
cis-1,2-Dichloroethene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
cis-1,3-Dichloropropene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Cyclohexane	ND	n	4.8	ug/Kg	1	14-Oct-2015 16:46
Dibromochloromethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Dichlorodifluoromethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Dichloromethane	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
Ethylbenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Isopropylbenzene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
m,p-Xylene	ND		9.5	ug/Kg	1	14-Oct-2015 16:46
Methyl acetate	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Methyl tert-butyl ether	ND		4.8	ug/Kg	1	14-Oct-2015 16:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTION = RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 1 -2015	Lab ID:HS15100411-01
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCL VOLATILES - SW8260C		**Method:SW8260**				Analyst: WLR
Methylcyclohexane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
o-Xylene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Styrene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Tetrachloroethene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Toluene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
trans-1,2-Dichloroethene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
trans-1,3-Dichloropropene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Trichloroethene	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Trichlorofluoromethane	ND		4.8	ug/Kg	1	14-Oct-2015 16:46
Vinyl chloride	ND		1.9	ug/Kg	1	14-Oct-2015 16:46
Xylenes, Total	ND		14	ug/Kg	1	14-Oct-2015 16:46
Surr: 1,2-Dichloroethane-d4	*105*		*70-128*	*%REC*	*1*	*14-Oct-2015 16:46*
Surr: 4-Bromofluorobenzene	*90.7*		*73-126*	*%REC*	*1*	*14-Oct-2015 16:46*
Surr: Dibromofluoromethane	*108*		*71-128*	*%REC*	*1*	*14-Oct-2015 16:46*
Surr: Toluene-d8	*103*		*73-127*	*%REC*	*1*	*14-Oct-2015 16:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 1 -2015	Lab ID:HS15100411-01
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 13-Oct-2015		Analyst: LG
1,1'-Biphenyl	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2,4,5-Trichlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2,4,6-Trichlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2,4-Dichlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2,4-Dimethylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2,4-Dinitrophenol	ND		13	ug/Kg	1	15-Oct-2015 01:14
2,4-Dinitrotoluene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2,6-Dinitrotoluene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2-Chloronaphthalene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2-Chlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2-Methylnaphthalene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2-Methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2-Nitroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
2-Nitrophenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
3&4-Methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
3,3'-Dichlorobenzidine	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
3-Nitroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4,6-Dinitro-2-methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4-Bromophenyl phenyl ether	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4-Chloro-3-methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4-Chloroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4-Chlorophenyl phenyl ether	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4-Nitroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
4-Nitrophenol	ND		13	ug/Kg	1	15-Oct-2015 01:14
Acenaphthene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Acenaphthylene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Acetophenone	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Anthracene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Atrazine	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Benz(a)anthracene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Benzaldehyde	ND	n	6.6	ug/Kg	1	15-Oct-2015 01:14
Benzo(a)pyrene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Benzo(b)fluoranthene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Benzo(g,h,i)perylene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Benzo(k)fluoranthene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Bis(2-chloroethoxy)methane	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Bis(2-chloroethyl)ether	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Bis(2-chloroisopropyl)ether	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Bis(2-ethylhexyl)phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 01:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 1 -2015	Lab ID:HS15100411-01
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 13-Oct-2015		Analyst: LG
Butyl benzyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Caprolactam	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Carbazole	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Chrysene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Dibenz(a,h)anthracene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Dibenzofuran	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Diethyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Dimethyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Di-n-butyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Di-n-octyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Fluoranthene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Fluorene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Hexachlorobenzene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Hexachlorobutadiene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Hexachlorocyclopentadiene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Hexachloroethane	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Indeno(1,2,3-cd)pyrene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Isophorone	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Naphthalene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Nitrobenzene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
N-Nitrosodi-n-propylamine	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
N-Nitrosodiphenylamine	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Pentachlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Phenanthrene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Phenol	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Pyrene	ND		6.6	ug/Kg	1	15-Oct-2015 01:14
Surr: 2,4,6-Tribromophenol	*119*		*36-126*	*%REC*	*1*	*15-Oct-2015 01:14*
Surr: 2-Fluorobiphenyl	*96.5*		*43-125*	*%REC*	*1*	*15-Oct-2015 01:14*
Surr: 2-Fluorophenol	*55.6*		*37-125*	*%REC*	*1*	*15-Oct-2015 01:14*
Surr: 4-Terphenyl-d14	*101*		*32-125*	*%REC*	*1*	*15-Oct-2015 01:14*
Surr: Nitrobenzene-d5	*121*		*37-125*	*%REC*	*1*	*15-Oct-2015 01:14*
Surr: Phenol-d6	*77.5*		*40-125*	*%REC*	*1*	*15-Oct-2015 01:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS / RIGHT PARTNER

Client:	Project Navigator, Ltd		**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400		WorkOrder:HS15100411
Sample ID:	Borrow 1 -2015		Lab ID:HS15100411-01
Collection Date:	08-Oct-2015 13:00		Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
CHLORINATED HERBICIDES BY SW8151A		**Method:SW8151**		Prep:SW8151 / 15-Oct-2015		**Analyst: STH**
2,4,5-T	ND		3.3	ug/Kg	1	19-Oct-2015 12:02
2,4,5-TP (Silvex)	ND		3.3	ug/Kg	1	19-Oct-2015 12:02
2,4-D	ND		6.6	ug/Kg	1	19-Oct-2015 12:02
2,4-DB	ND		6.6	ug/Kg	1	19-Oct-2015 12:02
Dalapon	ND		3.3	ug/Kg	1	19-Oct-2015 12:02
Dicamba	ND		3.3	ug/Kg	1	19-Oct-2015 12:02
Dichlorprop	ND		6.6	ug/Kg	1	19-Oct-2015 12:02
Dinoseb	ND		3.3	ug/Kg	1	19-Oct-2015 12:02
MCPA	ND		660	ug/Kg	1	19-Oct-2015 12:02
MCPP	ND		660	ug/Kg	1	19-Oct-2015 12:02
Surr: DCAA	*122*		*30-150*	*%REC*	*1*	*19-Oct-2015 12:02*
ORGANOCHLORINE PESTICIDES BY SW8081B		**Method:SW8081**		Prep:SW3541 / 15-Oct-2015		**Analyst: STH**
4,4'-DDD	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
4,4'-DDE	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
4,4'-DDT	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
Aldrin	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
alpha-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
beta-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
Chlordane	ND		17	ug/Kg	1	16-Oct-2015 15:14
delta-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
Dieldrin	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
Endosulfan I	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
Endosulfan II	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
Endosulfan sulfate	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
Endrin	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
Endrin aldehyde	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
Endrin ketone	ND		3.3	ug/Kg	1	16-Oct-2015 15:14
gamma-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
Heptachlor	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
Heptachlor epoxide	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
Methoxychlor	ND		17	ug/Kg	1	16-Oct-2015 15:14
Toxaphene	ND		17	ug/Kg	1	16-Oct-2015 15:14
Surr: Decachlorobiphenyl	*99.8*		*59-144*	*%REC*	*1*	*16-Oct-2015 15:14*
Surr: Tetrachloro-m-xylene	*114*		*56.9-130*	*%REC*	*1*	*16-Oct-2015 15:14*
MISCELLANEOUS PESTICIDES BY SW8081B		**Method:SW8081**		Prep:SW3541 / 15-Oct-2015		**Analyst: STH**
alpha-Chlordane	ND		1.7	ug/Kg	1	16-Oct-2015 15:14
gamma-Chlordane	ND		1.7	ug/Kg	1	16-Oct-2015 15:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**	
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411	
Sample ID:	Borrow 1 -2015	Lab ID:HS15100411-01	
Collection Date:	08-Oct-2015 13:00	Matrix:Soil	

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
PCBS BY SW8082A		**Method:SW8082**		Prep:SW3541/3665A / 15-Oct-2015		**Analyst: STH**
Aroclor 1016	ND		17	ug/Kg	1	16-Oct-2015 15:56
Aroclor 1221	ND		17	ug/Kg	1	16-Oct-2015 15:56
Aroclor 1232	ND		17	ug/Kg	1	16-Oct-2015 15:56
Aroclor 1242	ND		17	ug/Kg	1	16-Oct-2015 15:56
Aroclor 1248	ND		17	ug/Kg	1	16-Oct-2015 15:56
Aroclor 1254	ND		17	ug/Kg	1	16-Oct-2015 15:56
Aroclor 1260	ND		17	ug/Kg	1	16-Oct-2015 15:56
Surr: Decachlorobiphenyl	*115*		*54-143*	*%REC*	*1*	*16-Oct-2015 15:56*
Surr: Tetrachloro-m-xylene	*99.0*		*50-140*	*%REC*	*1*	*16-Oct-2015 15:56*
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 13-Oct-2015		**Analyst: JCJ**
Arsenic	**9.70**		**0.451**	**mg/Kg**	1	13-Oct-2015 20:39
Barium	**233**		**2.26**	**mg/Kg**	5	14-Oct-2015 13:50
Cadmium	**4.58**		**0.451**	**mg/Kg**	1	13-Oct-2015 20:39
Chromium	**23.8**		**0.451**	**mg/Kg**	1	13-Oct-2015 20:39
Lead	**58.5**		**0.451**	**mg/Kg**	1	13-Oct-2015 20:39
Selenium	**1.79**		**0.451**	**mg/Kg**	1	13-Oct-2015 20:39
Silver	ND		0.451	mg/Kg	1	13-Oct-2015 20:39
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				**Analyst: SFE**
Gasoline Range Organics	ND		0.048	mg/Kg	1	13-Oct-2015 22:12
Surr: 4-Bromofluorobenzene	*78.5*		*70-130*	*%REC*	*1*	*13-Oct-2015 22:12*
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 13-Oct-2015		**Analyst: OFO**
Mercury	**32.3**		**3.55**	**ug/Kg**	1	13-Oct-2015 16:53
MOISTURE		**Method:SW3550**				**Analyst: JHD**
Percent Moisture	**6.85**		**0.0100**	**wt%**	1	14-Oct-2015 13:34
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 15-Oct-2015		**Analyst: KMB**
TPH (Diesel Range)	ND		1.7	mg/Kg	1	16-Oct-2015 14:21
Surr: 2-Fluorobiphenyl	*88.5*		*60-135*	*%REC*	*1*	*16-Oct-2015 14:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 2 - 2015	Lab ID:HS15100411-02
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCL VOLATILES - SW8260C		**Method:SW8260**				Analyst: WLR
1,1,1-Trichloroethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,1,2,2-Tetrachloroethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,1,2-Trichlor-1,2,2-trifluoroethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,1,2-Trichloroethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,1-Dichloroethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,1-Dichloroethene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,2,4-Trichlorobenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,2-Dibromo-3-chloropropane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,2-Dibromoethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,2-Dichlorobenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,2-Dichloroethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,2-Dichloropropane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,3-Dichlorobenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
1,4-Dichlorobenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
2-Butanone	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
2-Hexanone	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
4-Methyl-2-pentanone	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
Acetone	ND		20	ug/Kg	1	14-Oct-2015 17:09
Benzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Bromodichloromethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Bromoform	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Bromomethane	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
Carbon disulfide	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
Carbon tetrachloride	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Chlorobenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Chloroethane	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
Chloroform	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Chloromethane	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
cis-1,2-Dichloroethene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
cis-1,3-Dichloropropene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Cyclohexane	ND	n	5.0	ug/Kg	1	14-Oct-2015 17:09
Dibromochloromethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Dichlorodifluoromethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Dichloromethane	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
Ethylbenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Isopropylbenzene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
m,p-Xylene	ND		9.9	ug/Kg	1	14-Oct-2015 17:09
Methyl acetate	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Methyl tert-butyl ether	ND		5.0	ug/Kg	1	14-Oct-2015 17:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 2 - 2015	Lab ID:HS15100411-02
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCL VOLATILES - SW8260C		**Method:SW8260**				Analyst: WLR
Methylcyclohexane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
o-Xylene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Styrene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Tetrachloroethene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Toluene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
trans-1,2-Dichloroethene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
trans-1,3-Dichloropropene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Trichloroethene	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Trichlorofluoromethane	ND		5.0	ug/Kg	1	14-Oct-2015 17:09
Vinyl chloride	ND		2.0	ug/Kg	1	14-Oct-2015 17:09
Xylenes, Total	ND		15	ug/Kg	1	14-Oct-2015 17:09
Surr: 1,2-Dichloroethane-d4	*98.3*		*70-128*	*%REC*	*1*	*14-Oct-2015 17:09*
Surr: 4-Bromofluorobenzene	*91.6*		*73-126*	*%REC*	*1*	*14-Oct-2015 17:09*
Surr: Dibromofluoromethane	*106*		*71-128*	*%REC*	*1*	*14-Oct-2015 17:09*
Surr: Toluene-d8	*104*		*73-127*	*%REC*	*1*	*14-Oct-2015 17:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 2 - 2015	Lab ID:HS15100411-02
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 13-Oct-2015		Analyst: LG
1,1'-Biphenyl	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2,4,5-Trichlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2,4,6-Trichlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2,4-Dichlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2,4-Dimethylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2,4-Dinitrophenol	ND		13	ug/Kg	1	15-Oct-2015 15:17
2,4-Dinitrotoluene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2,6-Dinitrotoluene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2-Chloronaphthalene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2-Chlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2-Methylnaphthalene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2-Methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2-Nitroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
2-Nitrophenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
3&4-Methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
3,3'-Dichlorobenzidine	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
3-Nitroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4,6-Dinitro-2-methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4-Bromophenyl phenyl ether	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4-Chloro-3-methylphenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4-Chloroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4-Chlorophenyl phenyl ether	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4-Nitroaniline	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
4-Nitrophenol	ND		13	ug/Kg	1	15-Oct-2015 15:17
Acenaphthene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Acenaphthylene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Acetophenone	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Anthracene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Atrazine	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Benz(a)anthracene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Benzaldehyde	ND	n	6.6	ug/Kg	1	15-Oct-2015 15:17
Benzo(a)pyrene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Benzo(b)fluoranthene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Benzo(g,h,i)perylene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Benzo(k)fluoranthene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Bis(2-chloroethoxy)methane	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Bis(2-chloroethyl)ether	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Bis(2-chloroisopropyl)ether	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Bis(2-ethylhexyl)phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 15:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 2 - 2015	Lab ID:HS15100411-02
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**		Prep:SW3541 / 13-Oct-2015		**Analyst: LG**
Butyl benzyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Caprolactam	**7.4**		**6.6**	**ug/Kg**	1	15-Oct-2015 15:17
Carbazole	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Chrysene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Dibenz(a,h)anthracene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Dibenzofuran	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Diethyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Dimethyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Di-n-butyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Di-n-octyl phthalate	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Fluoranthene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Fluorene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Hexachlorobenzene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Hexachlorobutadiene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Hexachlorocyclopentadiene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Hexachloroethane	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Indeno(1,2,3-cd)pyrene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Isophorone	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Naphthalene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Nitrobenzene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
N-Nitrosodi-n-propylamine	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
N-Nitrosodiphenylamine	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Pentachlorophenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Phenanthrene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Phenol	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Pyrene	ND		6.6	ug/Kg	1	15-Oct-2015 15:17
Surr: 2,4,6-Tribromophenol	*92.4*		*36-126*	*%REC*	*1*	*15-Oct-2015 15:17*
Surr: 2-Fluorobiphenyl	*84.9*		*43-125*	*%REC*	*1*	*15-Oct-2015 15:17*
Surr: 2-Fluorophenol	*73.4*		*37-125*	*%REC*	*1*	*15-Oct-2015 15:17*
Surr: 4-Terphenyl-d14	*96.3*		*32-125*	*%REC*	*1*	*15-Oct-2015 15:17*
Surr: Nitrobenzene-d5	*85.2*		*37-125*	*%REC*	*1*	*15-Oct-2015 15:17*
Surr: Phenol-d6	*79.2*		*40-125*	*%REC*	*1*	*15-Oct-2015 15:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS / RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	Borrow 2 - 2015	Lab ID:HS15100411-02
Collection Date:	08-Oct-2015 13:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
CHLORINATED HERBICIDES BY SW8151A		**Method:SW8151**		Prep:SW8151 / 15-Oct-2015		**Analyst: STH**
2,4,5-T	ND		3.3	ug/Kg	1	19-Oct-2015 12:30
2,4,5-TP (Silvex)	ND		3.3	ug/Kg	1	19-Oct-2015 12:30
2,4-D	ND		6.6	ug/Kg	1	19-Oct-2015 12:30
2,4-DB	ND		6.6	ug/Kg	1	19-Oct-2015 12:30
Dalapon	ND		3.3	ug/Kg	1	19-Oct-2015 12:30
Dicamba	ND		3.3	ug/Kg	1	19-Oct-2015 12:30
Dichlorprop	ND		6.6	ug/Kg	1	19-Oct-2015 12:30
Dinoseb	ND		3.3	ug/Kg	1	19-Oct-2015 12:30
MCPA	ND		660	ug/Kg	1	19-Oct-2015 12:30
MCPP	ND		660	ug/Kg	1	19-Oct-2015 12:30
Surr: DCAA	*121*		*30-150*	*%REC*	*1*	*19-Oct-2015 12:30*
ORGANOCHLORINE PESTICIDES BY SW8081B		**Method:SW8081**		Prep:SW3541 / 15-Oct-2015		**Analyst: STH**
4,4'-DDD	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
4,4'-DDE	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
4,4'-DDT	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
Aldrin	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
alpha-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
beta-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
Chlordane	ND		17	ug/Kg	1	16-Oct-2015 15:27
delta-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
Dieldrin	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
Endosulfan I	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
Endosulfan II	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
Endosulfan sulfate	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
Endrin	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
Endrin aldehyde	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
Endrin ketone	ND		3.3	ug/Kg	1	16-Oct-2015 15:27
gamma-BHC	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
Heptachlor	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
Heptachlor epoxide	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
Methoxychlor	ND		17	ug/Kg	1	16-Oct-2015 15:27
Toxaphene	ND		17	ug/Kg	1	16-Oct-2015 15:27
Surr: Decachlorobiphenyl	*104*		*59-144*	*%REC*	*1*	*16-Oct-2015 15:27*
Surr: Tetrachloro-m-xylene	*117*		*56.9-130*	*%REC*	*1*	*16-Oct-2015 15:27*
MISCELLANEOUS PESTICIDES BY SW8081B		**Method:SW8081**		Prep:SW3541 / 15-Oct-2015		**Analyst: STH**
alpha-Chlordane	ND		1.7	ug/Kg	1	16-Oct-2015 15:27
gamma-Chlordane	ND		1.7	ug/Kg	1	16-Oct-2015 15:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**	
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411	
Sample ID:	Borrow 2 - 2015	Lab ID:HS15100411-02	
Collection Date:	08-Oct-2015 13:00	Matrix:Soil	

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
PCBS BY SW8082A		**Method:SW8082**		Prep:SW3541/3665A / 15-Oct-2015		**Analyst: STH**
Aroclor 1016	ND		17	ug/Kg	1	16-Oct-2015 16:44
Aroclor 1221	ND		17	ug/Kg	1	16-Oct-2015 16:44
Aroclor 1232	ND		17	ug/Kg	1	16-Oct-2015 16:44
Aroclor 1242	ND		17	ug/Kg	1	16-Oct-2015 16:44
Aroclor 1248	ND		17	ug/Kg	1	16-Oct-2015 16:44
Aroclor 1254	ND		17	ug/Kg	1	16-Oct-2015 16:44
Aroclor 1260	ND		17	ug/Kg	1	16-Oct-2015 16:44
Surr: Decachlorobiphenyl	*124*		*54-143*	*%REC*	*1*	*16-Oct-2015 16:44*
Surr: Tetrachloro-m-xylene	*117*		*50-140*	*%REC*	*1*	*16-Oct-2015 16:44*
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 13-Oct-2015		**Analyst: JCJ**
Arsenic	**4.38**		**0.486**	**mg/Kg**	1	13-Oct-2015 20:43
Barium	**114**		**0.486**	**mg/Kg**	1	13-Oct-2015 20:43
Cadmium	**0.851**		**0.486**	**mg/Kg**	1	13-Oct-2015 20:43
Chromium	**12.3**		**0.486**	**mg/Kg**	1	13-Oct-2015 20:43
Lead	**12.3**		**0.486**	**mg/Kg**	1	13-Oct-2015 20:43
Selenium	**1.65**		**0.486**	**mg/Kg**	1	13-Oct-2015 20:43
Silver	ND		0.486	mg/Kg	1	13-Oct-2015 20:43
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				**Analyst: SFE**
Gasoline Range Organics	ND		0.050	mg/Kg	1	13-Oct-2015 22:28
Surr: 4-Bromofluorobenzene	*81.3*		*70-130*	*%REC*	*1*	*13-Oct-2015 22:28*
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 13-Oct-2015		**Analyst: OFO**
Mercury	**9.52**		**3.49**	**ug/Kg**	1	13-Oct-2015 16:55
MOISTURE		**Method:SW3550**				**Analyst: JHD**
Percent Moisture	**10.8**		**0.0100**	**wt%**	1	14-Oct-2015 13:34
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 15-Oct-2015		**Analyst: KMB**
TPH (Diesel Range)	ND		1.7	mg/Kg	1	16-Oct-2015 15:53
Surr: 2-Fluorobiphenyl	*79.4*		*60-135*	*%REC*	*1*	*16-Oct-2015 15:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS / RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	TB-09/29/2015-03	Lab ID:HS15100411-03
Collection Date:	08-Oct-2015 00:00	Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCL VOLATILES - SW8260C		**Method:SW8260**				Analyst: PC
1,1,1-Trichloroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,1,2,2-Tetrachloroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,1,2-Trichlor-1,2,2-trifluoroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,1,2-Trichloroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,1-Dichloroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,1-Dichloroethene	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,2,4-Trichlorobenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,2-Dibromo-3-chloropropane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,2-Dibromoethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,2-Dichlorobenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,2-Dichloroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,2-Dichloropropane	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,3-Dichlorobenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
1,4-Dichlorobenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
2-Butanone	ND		10	ug/L	1	13-Oct-2015 15:49
2-Hexanone	ND		10	ug/L	1	13-Oct-2015 15:49
4-Methyl-2-pentanone	ND		10	ug/L	1	13-Oct-2015 15:49
Acetone	ND		10	ug/L	1	13-Oct-2015 15:49
Benzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Bromodichloromethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
Bromoform	ND		5.0	ug/L	1	13-Oct-2015 15:49
Bromomethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
Carbon disulfide	ND		10	ug/L	1	13-Oct-2015 15:49
Carbon tetrachloride	ND		5.0	ug/L	1	13-Oct-2015 15:49
Chlorobenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Chloroethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
Chloroform	ND		5.0	ug/L	1	13-Oct-2015 15:49
Chloromethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
cis-1,2-Dichloroethene	ND		5.0	ug/L	1	13-Oct-2015 15:49
cis-1,3-Dichloropropene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Cyclohexane	ND	n	5.0	ug/L	1	13-Oct-2015 15:49
Dibromochloromethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
Dichlorodifluoromethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
Dichloromethane	ND		10	ug/L	1	13-Oct-2015 15:49
Ethylbenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Isopropylbenzene	ND		5.0	ug/L	1	13-Oct-2015 15:49
m,p-Xylene	ND		10	ug/L	1	13-Oct-2015 15:49
Methyl acetate	ND		5.0	ug/L	1	13-Oct-2015 15:49
Methyl tert-butyl ether	ND		5.0	ug/L	1	13-Oct-2015 15:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS. RIGHT PARTNER

Client:	Project Navigator, Ltd	**ANALYTICAL REPORT**
Project:	Nat Zinc 07-115-400	WorkOrder:HS15100411
Sample ID:	TB-09/29/2015-03	Lab ID:HS15100411-03
Collection Date:	08-Oct-2015 00:00	Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCL VOLATILES - SW8260C		**Method:SW8260**				Analyst: PC
Methylcyclohexane	ND		5.0	ug/L	1	13-Oct-2015 15:49
o-Xylene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Styrene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Tetrachloroethene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Toluene	ND		5.0	ug/L	1	13-Oct-2015 15:49
trans-1,2-Dichloroethene	ND		5.0	ug/L	1	13-Oct-2015 15:49
trans-1,3-Dichloropropene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Trichloroethene	ND		5.0	ug/L	1	13-Oct-2015 15:49
Trichlorofluoromethane	ND		5.0	ug/L	1	13-Oct-2015 15:49
Vinyl chloride	ND		2.0	ug/L	1	13-Oct-2015 15:49
Xylenes, Total	ND		15	ug/L	1	13-Oct-2015 15:49
Surr: 1,2-Dichloroethane-d4	*94.7*		*70-125*	*%REC*	*1*	*13-Oct-2015 15:49*
Surr: 4-Bromofluorobenzene	*88.3*		*72-125*	*%REC*	*1*	*13-Oct-2015 15:49*
Surr: Dibromofluoromethane	*96.9*		*71-125*	*%REC*	*1*	*13-Oct-2015 15:49*
Surr: Toluene-d8	*95.8*		*75-125*	*%REC*	*1*	*13-Oct-2015 15:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

WEIGHT LOG

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

Batch ID: 585 **Method:** TCL VOLATILES - SW8260C

SampID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS15100411-01	1	5.236 (g)	5 (mL)	0.95	Bulk (5030B)
HS15100411-02	1	5.196 (g)	5 (mL)	0.99	Bulk (5030B)

Batch ID: 97991 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	0.5541	50 (mL)	90.24
HS15100411-02	1	0.514	50 (mL)	97.28

Batch ID: 98004 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	0.5627	40 (mL)	71.09
HS15100411-02	1	0.5716	40 (mL)	69.98

Batch ID: 98014 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3541_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	30.04	1 (mL)	0.03329
HS15100411-02	1	30.09	1 (mL)	0.03323

Batch ID: 98069 **Method:** PCBS BY SW8082A **Prep:** PCBPR_SOX

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	30.05	10 (mL)	0.3328
HS15100411-02	1	30	10 (mL)	0.3333

Batch ID: 98070 **Method:** MISCELLANEOUS PESTICIDES BY SW8081B **Prep:** PESTPR_SOX

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	30.05	10 (mL)	0.3328
HS15100411-02	1	30	10 (mL)	0.3333
HS15100411-01	1	30.05	10 (mL)	0.3328
HS15100411-02	1	30	10 (mL)	0.3333

Batch ID: 98071 **Method:** CHLORINATED HERBICIDES BY SW8151A **Prep:** 8151PRS

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	30.03	10 (mL)	0.333
HS15100411-02	1	30.07	10 (mL)	0.3326

RIGHT SOLUTIONS | RIGHT PARTNER

WEIGHT LOG

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

Batch ID: 98072 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS15100411-01	1	30.03	1 (mL)	0.0333
HS15100411-02	1	30	1 (mL)	0.03333

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 97991	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		13 Oct 2015 08:15	14 Oct 2015 13:50	5
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		13 Oct 2015 08:15	13 Oct 2015 20:39	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		13 Oct 2015 08:15	13 Oct 2015 20:43	1
Batch ID 98004	**Test Name :** MERCURY BY SW7471B			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		13 Oct 2015 10:35	13 Oct 2015 16:53	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		13 Oct 2015 10:35	13 Oct 2015 16:55	1
Batch ID 98014	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		13 Oct 2015 18:33	15 Oct 2015 01:14	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		13 Oct 2015 18:33	15 Oct 2015 15:17	1
Batch ID 98069	**Test Name :** PCBS BY SW8082A			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:56	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 16:44	1
Batch ID 98070	**Test Name :** MISCELLANEOUS PESTICIDES BY SW8081B			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:14	1
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:14	1
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:14	1
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:14	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:27	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:27	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:27	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:41	16 Oct 2015 15:27	1
Batch ID 98071	**Test Name :** CHLORINATED HERBICIDES BY SW8151A			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:42	19 Oct 2015 12:02	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:42	19 Oct 2015 12:30	1
Batch ID 98072	**Test Name :** TPH DRO/ORO BY SW8015C			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00		15 Oct 2015 10:45	16 Oct 2015 14:21	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00		15 Oct 2015 10:45	16 Oct 2015 15:53	1
Batch ID R263023	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00			13 Oct 2015 22:12	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00			13 Oct 2015 22:28	1
Batch ID R263029	**Test Name :** TCL VOLATILES - SW8260C			**Matrix:** Water		
HS15100411-03	TB-09/29/2015-03	08 Oct 2015 00:00			13 Oct 2015 15:49	1
Batch ID R263032	**Test Name :** TCL VOLATILES - SW8260C			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00			14 Oct 2015 16:46	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00			14 Oct 2015 17:09	1

RIGHT SOLUTIONS · RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R263059	**Test Name :** MOISTURE			**Matrix:** Soil		
HS15100411-01	Borrow 1 -2015	08 Oct 2015 13:00			14 Oct 2015 13:34	1
HS15100411-02	Borrow 2 - 2015	08 Oct 2015 13:00			14 Oct 2015 13:34	1

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Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98069 **Instrument: ECD_7** **Method: SW8082**

MBLK Sample ID: **MBLK-98069** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:23**
Client ID: Run ID: **ECD_7_263209** SeqNo: **3464052** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	17								
Aroclor 1221	ND	17								
Aroclor 1232	ND	17								
Aroclor 1242	ND	17								
Aroclor 1248	ND	17								
Aroclor 1254	ND	17								
Aroclor 1260	ND	17								
Surr: Decachlorobiphenyl	*6.805*	*1.6*	*6.667*	*0*	*102*	*54 - 143*				
Surr: Tetrachloro-m-xylene	*6.181*	*1.6*	*6.667*	*0*	*92.7*	*50 - 140*				

LCS Sample ID: **LCS-98069** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:40**
Client ID: Run ID: **ECD_7_263209** SeqNo: **3464053** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	168.5	17	166.7	0	101	53 - 135				
Aroclor 1260	180.9	17	166.7	0	109	54 - 137				
Surr: Decachlorobiphenyl	*7.742*	*1.6*	*6.667*	*0*	*116*	*54 - 143*				
Surr: Tetrachloro-m-xylene	*7.193*	*1.6*	*6.667*	*0*	*108*	*50 - 140*				

MS Sample ID: **HS15100411-01MS** Units: **ug/Kg** Analysis Date: **16-Oct-2015 16:12**
Client ID: **Borrow 1 -2015** Run ID: **ECD_7_263209** SeqNo: **3464055** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	214.3	17	333.2	0	64.3	53 - 135				
Aroclor 1260	230.6	17	333.2	0	69.2	54 - 137				
Surr: Decachlorobiphenyl	*9.096*	*1.6*	*6.663*	*0*	*137*	*54 - 143*				
Surr: Tetrachloro-m-xylene	*8.163*	*1.6*	*6.663*	*0*	*123*	*50 - 140*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98069 **Instrument: ECD_7** **Method: SW8082**

MSD Sample ID: **HS15100411-01MSD** Units: **ug/Kg** Analysis Date: **16-Oct-2015 16:28**
Client ID: **Borrow 1 -2015** Run ID: **ECD_7_263209** SeqNo: **3464056** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	215.6	17	333.3	0	64.7	53 - 135	214.3	0.639	30	
Aroclor 1260	234.3	17	333.3	0	70.3	54 - 137	230.6	1.59	30	
Surr: Decachlorobiphenyl	*9.037*	*1.6*	*6.665*	*0*	*136*	*54 - 143*	*9.096*	*0.658*	*30*	
Surr: Tetrachloro-m-xylene	*7.972*	*1.6*	*6.665*	*0*	*120*	*50 - 140*	*8.163*	*2.37*	*30*	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS / RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98070 **Instrument: ECD_11** **Method: SW8081**

MBLK Sample ID: **MBLK-98070** Units: **ug/Kg** Analysis Date: **16-Oct-2015 14:48**
Client ID: Run ID: **ECD_11_263203** SeqNo: **3463991** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	ND	3.3								
4,4'-DDE	ND	3.3								
4,4'-DDT	ND	3.3								
Aldrin	ND	1.7								
alpha-BHC	ND	1.7								
beta-BHC	ND	1.7								
Chlordane	ND	17								
delta-BHC	ND	1.7								
Dieldrin	ND	3.3								
Endosulfan I	ND	1.7								
Endosulfan II	ND	3.3								
Endosulfan sulfate	ND	3.3								
Endrin	ND	3.3								
Endrin aldehyde	ND	3.3								
Endrin ketone	ND	3.3								
gamma-BHC	ND	1.7								
Heptachlor	ND	1.7								
Heptachlor epoxide	ND	1.7								
Methoxychlor	ND	17								
Toxaphene	ND	17								
Surr: Decachlorobiphenyl	*7.691*	*0*	*6.667*	*0*	*115*	*59 - 144*				
Surr: Tetrachloro-m-xylene	*7.223*	*0*	*6.667*	*0*	*108*	*56.9 - 130*				

MBLK Sample ID: **MBLK-98070** Units: **ug/Kg** Analysis Date: **16-Oct-2015 14:48**
Client ID: Run ID: **ECD_11_263203** SeqNo: **3464020** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
alpha-Chlordane	ND	1.7								
gamma-Chlordane	ND	1.7								

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS · RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98070 **Instrument: ECD_11** **Method: SW8081**

LCS Sample ID: **LCS-98070** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:01**
Client ID: Run ID: **ECD_11_263203** SeqNo: **3463992** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	14.59	3.3	16.67	0	87.6	53 - 138				
4,4'-DDE	14.84	3.3	16.67	0	89.0	57 - 136				
4,4'-DDT	16.28	3.3	16.67	0	97.7	53 - 139				
Aldrin	6.833	1.7	8.333	0	82.0	52 - 130				
alpha-BHC	7.27	1.7	8.333	0	87.2	52 - 130				
beta-BHC	6.952	1.7	8.333	0	83.4	62 - 130				
delta-BHC	6.167	1.7	8.333	0	74.0	41 - 137				
Dieldrin	14.69	3.3	16.67	0	88.1	54 - 138				
Endosulfan I	6.398	1.7	8.333	0	76.8	55 - 132				
Endosulfan II	14.61	3.3	16.67	0	87.7	59 - 134				
Endosulfan sulfate	15.21	3.3	16.67	0	91.3	54 - 141				
Endrin	15.82	3.3	16.67	0	94.9	60 - 157				
Endrin aldehyde	13.67	3.3	16.67	0	82.0	56 - 146				
Endrin ketone	14.12	3.3	16.67	0	84.7	56 - 153				
gamma-BHC	6.988	1.7	8.333	0	83.9	52 - 133				
Heptachlor	7.24	1.7	8.333	0	86.9	54 - 134				
Heptachlor epoxide	7.082	1.7	8.333	0	85.0	58 - 130				
Methoxychlor	79.12	17	83.3	0	95.0	60 - 140				
Surr: Decachlorobiphenyl	*7.73*	*0*	*6.667*	*0*	*116*	*59 - 144*				
Surr: Tetrachloro-m-xylene	*7.068*	*0*	*6.667*	*0*	*106*	*56.9 - 130*				

LCS Sample ID: **LCS-98070** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:01**
Client ID: Run ID: **ECD_11_263203** SeqNo: **3464021** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
alpha-Chlordane	6.806	1.7	8.333	0	81.7	55 - 132				
gamma-Chlordane	6.951	1.7	8.333	0	83.4	60 - 129				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS · RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98070 **Instrument: ECD_11** **Method: SW8081**

MS Sample ID: **HS15100411-02MS** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:40**
Client ID: **Borrow 2 - 2015** Run ID: **ECD_11_263203** SeqNo: **3463995** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	12.87	3.3	16.64	0	77.3	53 - 138				
4,4'-DDE	13.03	3.3	16.64	0	78.3	57 - 136				
4,4'-DDT	14.48	3.3	16.64	0	87.0	53 - 139				
Aldrin	6.415	1.7	8.322	0	77.1	52 - 130				
alpha-BHC	6.792	1.7	8.322	0	81.6	52 - 130				
beta-BHC	6.752	1.7	8.322	0	81.1	62 - 130				
delta-BHC	6.595	1.7	8.322	0	79.2	41 - 137				
Dieldrin	12.84	3.3	16.64	0	77.2	54 - 138				
Endosulfan I	5.645	1.7	8.322	0	67.8	55 - 132				
Endosulfan II	12.72	3.3	16.64	0	76.4	59 - 134				
Endosulfan sulfate	13.77	3.3	16.64	0	82.8	54 - 141				
Endrin	14.69	3.3	16.64	0	88.3	60 - 157				
Endrin aldehyde	12.78	3.3	16.64	0	76.8	56 - 146				
Endrin ketone	12.36	3.3	16.64	0	74.3	56 - 153				
gamma-BHC	6.66	1.7	8.322	0	80.0	52 - 133				
Heptachlor	7.22	1.7	8.322	0	86.8	54 - 134				
Heptachlor epoxide	5.87	1.7	8.322	0	70.5	58 - 130				
Methoxychlor	72.93	17	83.19	0	87.7	60 - 140				
Surr: Decachlorobiphenyl	*6.344*	*0*	*6.658*	*0*	*95.3*	*59 - 144*				
Surr: Tetrachloro-m-xylene	*7.326*	*0*	*6.658*	*0*	*110*	*56.9 - 130*				

MS Sample ID: **HS15100411-02MS** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:40**
Client ID: **Borrow 2 - 2015** Run ID: **ECD_11_263203** SeqNo: **3464024** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
alpha-Chlordane	5.836	1.7	8.322	0	70.1	55 - 132				
gamma-Chlordane	6.89	1.7	8.322	0	82.8	60 - 129				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98070 **Instrument: ECD_11** **Method: SW8081**

MSD Sample ID: **HS15100411-02MSD** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:53**
Client ID: **Borrow 2 - 2015** Run ID: **ECD_11_263203** SeqNo: **3463996** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	12.69	3.3	16.66	0	76.1	53 - 138	12.87	1.42	30	
4,4'-DDE	13.38	3.3	16.66	0	80.3	57 - 136	13.03	2.61	30	
4,4'-DDT	14.34	3.3	16.66	0	86.1	53 - 139	14.48	0.973	30	
Aldrin	6.414	1.7	8.331	0	77.0	52 - 130	6.415	0.0299	30	
alpha-BHC	6.85	1.7	8.331	0	82.2	52 - 130	6.792	0.852	30	
beta-BHC	6.735	1.7	8.331	0	80.9	62 - 130	6.752	0.246	30	
delta-BHC	6.489	1.7	8.331	0	77.9	41 - 137	6.595	1.62	30	
Dieldrin	12.74	3.3	16.66	0	76.5	54 - 138	12.84	0.788	30	
Endosulfan I	5.401	1.7	8.331	0	64.8	55 - 132	5.645	4.43	30	
Endosulfan II	12.48	3.3	16.66	0	74.9	59 - 134	12.72	1.91	30	
Endosulfan sulfate	13.51	3.3	16.66	0	81.1	54 - 141	13.77	1.93	30	
Endrin	14.6	3.3	16.66	0	87.7	60 - 157	14.69	0.596	30	
Endrin aldehyde	12.74	3.3	16.66	0	76.5	56 - 146	12.78	0.341	30	
Endrin ketone	12.01	3.3	16.66	0	72.1	56 - 153	12.36	2.91	30	
gamma-BHC	6.621	1.7	8.331	0	79.5	52 - 133	6.66	0.592	30	
Heptachlor	7.16	1.7	8.331	0	86.0	54 - 134	7.22	0.836	30	
Heptachlor epoxide	5.844	1.7	8.331	0	70.2	58 - 130	5.87	0.429	30	
Methoxychlor	71.74	17	83.27	0	86.2	60 - 140	72.93	1.64	30	
Surr: Decachlorobiphenyl	*6.323*	*0*	*6.664*	*0*	*94.9*	*59 - 144*	*6.344*	*0.331*	*30*	
Surr: Tetrachloro-m-xylene	*7.438*	*0*	*6.664*	*0*	*112*	*56.9 - 130*	*7.326*	*1.52*	*30*	

MSD Sample ID: **HS15100411-02MSD** Units: **ug/Kg** Analysis Date: **16-Oct-2015 15:53**
Client ID: **Borrow 2 - 2015** Run ID: **ECD_11_263203** SeqNo: **3464025** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
alpha-Chlordane	5.99	1.7	8.33	0	71.9	55 - 132	5.836	2.61	30	
gamma-Chlordane	7.045	1.7	8.33	0	84.6	60 - 129	6.89	2.22	30	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS · RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98071 **Instrument: ECD_9** **Method: SW8151**

MBLK Sample ID: **MBLK-98071** Units: **ug/Kg** Analysis Date: **19-Oct-2015 10:51**
Client ID: Run ID: **ECD_9_263276** SeqNo: **3465478** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	ND	3.3								
2,4,5-TP (Silvex)	ND	3.3								
2,4-D	ND	6.6								
2,4-DB	ND	6.6								
Dalapon	ND	3.3								
Dicamba	ND	3.3								
Dichlorprop	ND	6.6								
Dinoseb	ND	3.3								
MCPA	ND	660								
MCPP	ND	660								
Surr: DCAA	*203.1*	*0*	*166.7*	*0*	*122*	*30 - 150*				

LCS Sample ID: **LCS-98071** Units: **ug/Kg** Analysis Date: **19-Oct-2015 11:20**
Client ID: Run ID: **ECD_9_263276** SeqNo: **3465479** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	132.7	3.3	166.7	0	79.6	50 - 150				
2,4,5-TP (Silvex)	140.9	3.3	166.7	0	84.5	50 - 150				
2,4-D	138.2	6.6	166.7	0	82.9	40 - 150				
2,4-DB	142.4	6.6	166.7	0	85.4	40 - 150				
Dalapon	135.7	3.3	166.7	0	81.4	30 - 150				
Dicamba	138.8	3.3	166.7	0	83.3	40 - 150				
Dichlorprop	139	6.6	166.7	0	83.4	40 - 150				
Dinoseb	135.6	3.3	166.7	0	81.3	40 - 150				
MCPA	14460	660	16670	0	86.7	40 - 150				
MCPP	18710	660	16670	0	112	40 - 150				
Surr: DCAA	*290.9*	*0*	*333.3*	*0*	*87.3*	*30 - 150*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98071 **Instrument: ECD_9** **Method: SW8151**

MS Sample ID: **HS15100411-02MS** Units: **ug/Kg** Analysis Date: **19-Oct-2015 12:59**
Client ID: **Borrow 2 - 2015** Run ID: **ECD_9_263276** SeqNo: **3465526** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	97.3	3.3	83.31	0	117	50 - 150				
2,4,5-TP (Silvex)	103.2	3.3	83.31	0	124	50 - 150				
2,4-D	102.2	6.6	83.31	0	123	40 - 150				
2,4-DB	112	6.6	83.31	0	134	40 - 150				
Dalapon	103.3	3.3	83.31	0	124	30 - 150				
Dicamba	101.7	3.3	83.31	0	122	40 - 150				
Dichlorprop	91.76	6.6	83.31	0	110	40 - 150				P
Dinoseb	104.1	3.3	83.31	0	125	40 - 150				
MCPA	8768	660	8331	0	105	40 - 150				
MCPP	8508	660	8331	0	102	40 - 150				
Surr: DCAA	*212.7*	*0*	*166.6*	*0*	*128*	*30 - 150*				

MSD Sample ID: **HS15100411-02MSD** Units: **ug/Kg** Analysis Date: **19-Oct-2015 13:28**
Client ID: **Borrow 2 - 2015** Run ID: **ECD_9_263276** SeqNo: **3465527** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	107.2	3.3	83.33	0	129	50 - 150	97.3	9.68	30	
2,4,5-TP (Silvex)	112.1	3.3	83.33	0	134	50 - 150	103.2	8.27	30	
2,4-D	111	6.6	83.33	0	133	40 - 150	102.2	8.25	30	
2,4-DB	123.8	6.6	83.33	0	149	40 - 150	112	9.98	30	
Dalapon	112.6	3.3	83.33	0	135	30 - 150	103.3	8.62	30	
Dicamba	111	3.3	83.33	0	133	40 - 150	101.7	8.7	30	
Dichlorprop	101.2	6.6	83.33	0	121	40 - 150	91.76	9.76	30	P
Dinoseb	108.7	3.3	83.33	0	130	40 - 150	104.1	4.27	30	
MCPA	8703	660	8333	0	104	40 - 150	8768	0.753	30	
MCPP	9471	660	8333	0	114	40 - 150	8508	10.7	30	
Surr: DCAA	*234.8*	*0*	*166.7*	*0*	*141*	*30 - 150*	*212.7*	*9.86*	*30*	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98072 **Instrument: FID-8** **Method: SW8015M**

MBLK Sample ID: **MBLK-98072** Units: **mg/Kg** Analysis Date: **16-Oct-2015 13:33**
Client ID: Run ID: **FID-8_263206** SeqNo: **3464037** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	1.7								
Surr: 2-Fluorobiphenyl	*2.878*	*0.10*	*3.33*	*0*	*86.4*	*60 - 135*				

LCS Sample ID: **LCS-98072** Units: **mg/Kg** Analysis Date: **16-Oct-2015 13:57**
Client ID: Run ID: **FID-8_263206** SeqNo: **3464038** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	25.59	1.7	33.33	0	76.8	70 - 130				
Surr: 2-Fluorobiphenyl	*2.83*	*0.10*	*3.33*	*0*	*85.0*	*60 - 135*				

MS Sample ID: **HS15100411-01MS** Units: **mg/Kg** Analysis Date: **16-Oct-2015 14:45**
Client ID: **Borrow 1 -2015** Run ID: **FID-8_263206** SeqNo: **3464040** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	33.39	1.7	33.26	0.228	99.7	70 - 130				
Surr: 2-Fluorobiphenyl	*3.585*	*0.10*	*3.323*	*0*	*108*	*60 - 135*				

MSD Sample ID: **HS15100411-01MSD** Units: **mg/Kg** Analysis Date: **16-Oct-2015 15:30**
Client ID: **Borrow 1 -2015** Run ID: **FID-8_263206** SeqNo: **3464041** PrepDate: **15-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	29.33	1.7	33.29	0.228	87.4	70 - 130	33.39	12.9	30	
Surr: 2-Fluorobiphenyl	*3.219*	*0.10*	*3.326*	*0*	*96.8*	*60 - 135*	*3.585*	*10.8*	*30*	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263023 **Instrument: FID-14** **Method: SW8015**

MBLK Sample ID: **BLK-151013** Units: **mg/Kg** Analysis Date: **13-Oct-2015 18:55**
Client ID: Run ID: **FID-14_263023** SeqNo: **3460343** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.050								
Surr: 4-Bromofluorobenzene	*0.07905*	*0.0050*	*0.1*	*0*	*79.1*	*70 - 130*				

LCS Sample ID: **LCS-151013** Units: **mg/Kg** Analysis Date: **13-Oct-2015 18:23**
Client ID: Run ID: **FID-14_263023** SeqNo: **3460341** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.029	0.050	1	0	103	70 - 130				
Surr: 4-Bromofluorobenzene	*0.09369*	*0.0050*	*0.1*	*0*	*93.7*	*70 - 130*				

MS Sample ID: **HS15100394-01MS** Units: **mg/Kg** Analysis Date: **13-Oct-2015 19:32**
Client ID: Run ID: **FID-14_263023** SeqNo: **3460345** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9467	0.050	1	0	94.7	70 - 130				
Surr: 4-Bromofluorobenzene	*0.08978*	*0.0050*	*0.1*	*0*	*89.8*	*70 - 130*				

MSD Sample ID: **HS15100394-01MSD** Units: **mg/Kg** Analysis Date: **13-Oct-2015 19:48**
Client ID: Run ID: **FID-14_263023** SeqNo: **3460346** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9005	0.050	1	0	90.0	70 - 130	0.9467	5	30	
Surr: 4-Bromofluorobenzene	*0.08044*	*0.0050*	*0.1*	*0*	*80.4*	*70 - 130*	*0.08978*	*11*	*30*	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 97991 **Instrument: ICPMS03** **Method: SW6020**

MBLK Sample ID: **MBLK-97991** Units: **mg/Kg** Analysis Date: **13-Oct-2015 20:30**
Client ID: Run ID: **ICPMS03_262968** SeqNo: **3460001** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.500								
Barium	ND	0.500								
Cadmium	ND	0.500								
Chromium	ND	0.500								
Lead	ND	0.500								
Selenium	ND	0.500								
Silver	ND	0.500								

LCS Sample ID: **MLCS-97991** Units: **mg/Kg** Analysis Date: **13-Oct-2015 20:35**
Client ID: Run ID: **ICPMS03_262968** SeqNo: **3460002** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.131	0.500	10	0	91.3	80 - 120				
Barium	9.765	0.500	10	0	97.6	80 - 120				
Cadmium	9.609	0.500	10	0	96.1	80 - 120				
Chromium	9.305	0.500	10	0	93.0	80 - 120				
Lead	9.787	0.500	10	0	97.9	80 - 120				
Selenium	8.976	0.500	10	0	89.8	80 - 120				
Silver	9.189	0.500	10	0	91.9	80 - 120				

MS Sample ID: **HS15100438-21MS** Units: **mg/Kg** Analysis Date: **13-Oct-2015 21:13**
Client ID: Run ID: **ICPMS03_262968** SeqNo: **3460011** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	37.69	0.459	9.184	21.23	179	75 - 125				S
Barium	163.5	0.459	9.184	122.8	443	75 - 125				SO
Cadmium	9.026	0.459	9.184	0.4568	93.3	75 - 125				
Chromium	45.41	0.459	9.184	30.1	167	75 - 125				S
Lead	36.57	0.459	9.184	23.81	139	75 - 125				S
Silver	8.015	0.459	9.184	0.1889	85.2	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 97991 **Instrument: ICPMS03** **Method: SW6020**

MS Sample ID: **HS15100438-21MS** Units: **mg/Kg** Analysis Date: **14-Oct-2015 14:08**
Client ID: Run ID: **ICPMS03_263047** SeqNo: **3461028** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	9.8	0.459	9.184	1.296	92.6	75 - 125				

MSD Sample ID: **HS15100438-21MSD** Units: **mg/Kg** Analysis Date: **13-Oct-2015 21:18**
Client ID: Run ID: **ICPMS03_262968** SeqNo: **3460012** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	40.96	0.468	9.367	21.23	211	75 - 125	37.69	8.31	20	S
Barium	168.6	0.468	9.367	122.8	489	75 - 125	163.5	3.08	20	SO
Cadmium	9.342	0.468	9.367	0.4568	94.9	75 - 125	9.026	3.45	20	
Chromium	51.11	0.468	9.367	30.1	224	75 - 125	45.41	11.8	20	S
Lead	39.57	0.468	9.367	23.81	168	75 - 125	36.57	7.89	20	S
Silver	8.458	0.468	9.367	0.1889	88.3	75 - 125	8.015	5.38	20	

MSD Sample ID: **HS15100438-21MSD** Units: **mg/Kg** Analysis Date: **14-Oct-2015 14:12**
Client ID: Run ID: **ICPMS03_263047** SeqNo: **3461029** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	10.29	0.468	9.367	1.296	96.1	75 - 125	9.8	4.92	20	

PDS Sample ID: **HS15100438-21BS** Units: **mg/Kg** Analysis Date: **13-Oct-2015 21:22**
Client ID: Run ID: **ICPMS03_262968** SeqNo: **3460013** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	29.9	0.486	9.724	21.23	89.2	75 - 125				
Barium	131.5	0.486	9.724	122.8	89.0	75 - 125				O
Cadmium	9.236	0.486	9.724	0.4568	90.3	75 - 125				
Chromium	39.6	0.486	9.724	30.1	97.7	75 - 125				
Lead	32.5	0.486	9.724	23.81	89.3	75 - 125				
Silver	8.591	0.486	9.724	0.1889	86.4	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 97991 **Instrument: ICPMS03** **Method: SW6020**

PDS Sample ID: **HS15100438-21BS** Units: **mg/Kg** Analysis Date: **14-Oct-2015 14:17**
Client ID: Run ID: **ICPMS03_263047** SeqNo: **3461030** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	10.2	0.486	9.724	1.296	91.6	75 - 125				

SD Sample ID: **HS15100438-21 DIL SX** Units: **mg/Kg** Analysis Date: **13-Oct-2015 21:09**
Client ID: Run ID: **ICPMS03_262968** SeqNo: **3460010** PrepDate: **13-Oct-2015** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	22.69	2.43					21.23	6.89	10	
Barium	125.1	2.43					122.8	1.86	10	
Cadmium	0.493	2.43					0.4568	0	10	J
Chromium	31.29	2.43					30.1	3.97	10	
Lead	25.6	2.43					23.81	7.49	10	
Silver	ND	2.43					0.1889	0	10	

SD Sample ID: **HS15100438-21 DIL SX** Units: **mg/Kg** Analysis Date: **14-Oct-2015 14:04**
Client ID: Run ID: **ICPMS03_263047** SeqNo: **3461027** PrepDate: **13-Oct-2015** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Selenium	1.354	2.43					1.296	0	10	J

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98004 **Instrument: HG02** **Method: SW7471A**

MBLK Sample ID: **MBLK-98004** Units: **ug/Kg** Analysis Date: **13-Oct-2015 16:23**
Client ID: Run ID: **HG02_263004** SeqNo: **3459802** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.32								

LCS Sample ID: **LCS-98004** Units: **ug/Kg** Analysis Date: **13-Oct-2015 16:25**
Client ID: Run ID: **HG02_263004** SeqNo: **3459803** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	360	3.32	333.3	0	108	85 - 115				

MS Sample ID: **HS15100415-01MS** Units: **ug/Kg** Analysis Date: **13-Oct-2015 16:29**
Client ID: Run ID: **HG02_263004** SeqNo: **3459805** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	384.9	3.46	347.3	6.679	109	85 - 115				

MSD Sample ID: **HS15100415-01MSD** Units: **ug/Kg** Analysis Date: **13-Oct-2015 16:31**
Client ID: Run ID: **HG02_263004** SeqNo: **3459806** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	381.6	3.46	346.9	6.679	108	85 - 115	384.9	0.846	20	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-98014** Units: **ug/Kg** Analysis Date: **14-Oct-2015 16:18**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462139** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1´-Biphenyl	ND	6.6								
2,4,5-Trichlorophenol	ND	6.6								
2,4,6-Trichlorophenol	ND	6.6								
2,4-Dichlorophenol	ND	6.6								
2,4-Dimethylphenol	ND	6.6								
2,4-Dinitrophenol	ND	13								
2,4-Dinitrotoluene	ND	6.6								
2,6-Dinitrotoluene	ND	6.6								
2-Chloronaphthalene	ND	6.6								
2-Chlorophenol	ND	6.6								
2-Methylnaphthalene	ND	3.3								
2-Methylphenol	ND	6.6								
2-Nitroaniline	ND	6.6								
2-Nitrophenol	ND	6.6								
3&4-Methylphenol	ND	6.6								
3,3´-Dichlorobenzidine	ND	6.6								
3-Nitroaniline	ND	6.6								
4,6-Dinitro-2-methylphenol	ND	6.6								
4-Bromophenyl phenyl ether	ND	6.6								
4-Chloro-3-methylphenol	ND	6.6								
4-Chloroaniline	ND	6.6								
4-Chlorophenyl phenyl ether	ND	6.6								
4-Nitroaniline	ND	6.6								
4-Nitrophenol	ND	13								
Acenaphthene	ND	3.3								
Acenaphthylene	ND	3.3								
Acetophenone	ND	6.6								
Anthracene	ND	3.3								
Atrazine	ND	6.6								
Benz(a)anthracene	ND	3.3								
Benzaldehyde	ND	6.6								
Benzo(a)pyrene	ND	3.3								
Benzo(b)fluoranthene	ND	3.3								
Benzo(g,h,i)perylene	ND	3.3								

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS. RIGHT PARTNER.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-98014** Units: **ug/Kg** Analysis Date: **14-Oct-2015 16:18**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462139** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	ND	3.3								
Bis(2-chloroethoxy)methane	ND	6.6								
Bis(2-chloroethyl)ether	ND	6.6								
Bis(2-chloroisopropyl)ether	ND	6.6								
Bis(2-ethylhexyl)phthalate	ND	6.6								
Butyl benzyl phthalate	ND	6.6								
Caprolactam	ND	6.6								
Carbazole	ND	6.6								
Chrysene	ND	3.3								
Dibenz(a,h)anthracene	ND	3.3								
Dibenzofuran	ND	3.3								
Diethyl phthalate	ND	6.6								
Dimethyl phthalate	ND	6.6								
Di-n-butyl phthalate	ND	6.6								
Di-n-octyl phthalate	ND	6.6								
Fluoranthene	ND	3.3								
Fluorene	ND	3.3								
Hexachlorobenzene	ND	6.6								
Hexachlorobutadiene	ND	6.6								
Hexachlorocyclopentadiene	ND	6.6								
Hexachloroethane	ND	6.6								
Indeno(1,2,3-cd)pyrene	ND	3.3								
Isophorone	ND	6.6								
Naphthalene	ND	3.3								
Nitrobenzene	ND	6.6								
N-Nitrosodi-n-propylamine	ND	6.6								
N-Nitrosodiphenylamine	ND	6.6								
Pentachlorophenol	ND	6.6								
Phenanthrene	ND	3.3								
Phenol	ND	6.6								
Pyrene	ND	3.3								
Surr: 2,4,6-Tribromophenol	*143.3*	*0*	*167*	*0*	*85.8*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*127.6*	*0*	*167*	*0*	*76.4*	*43 - 125*				
Surr: 2-Fluorophenol	*108.5*	*0*	*167*	*0*	*65.0*	*37 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-98014** Units: **ug/Kg** Analysis Date: **14-Oct-2015 16:18**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462139** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*129.7*	*0*	*167*	*0*	*77.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*125.5*	*0*	*167*	*0*	*75.2*	*37 - 125*				
Surr: Phenol-d6	*122.2*	*0*	*167*	*0*	*73.2*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-98014** Units: **ug/Kg** Analysis Date: **14-Oct-2015 15:59**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462138** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1´-Biphenyl	125.9	6.6	167	0	75.4	50 - 120				
2,4,5-Trichlorophenol	133.8	6.6	167	0	80.1	45 - 127				
2,4,6-Trichlorophenol	128.6	6.6	167	0	77.0	45 - 130				
2,4-Dichlorophenol	121.5	6.6	167	0	72.8	45 - 125				
2,4-Dimethylphenol	112.4	6.6	167	0	67.3	45 - 120				
2,4-Dinitrophenol	95.74	13	167	0	57.3	10 - 126				
2,4-Dinitrotoluene	120.3	6.6	167	0	72.0	50 - 130				
2,6-Dinitrotoluene	125	6.6	167	0	74.9	50 - 125				
2-Chloronaphthalene	116.9	6.6	167	0	70.0	50 - 145				
2-Chlorophenol	157.3	6.6	167	0	94.2	45 - 120				
2-Methylnaphthalene	120.6	3.3	167	0	72.2	50 - 120				
2-Methylphenol	172.7	6.6	167	0	103	45 - 120				
2-Nitroaniline	136.6	6.6	167	0	81.8	45 - 138				
2-Nitrophenol	131.3	6.6	167	0	78.6	45 - 125				
3&4-Methylphenol	158.2	6.6	167	0	94.8	45 - 120				
3,3´-Dichlorobenzidine	139.1	6.6	167	0	83.3	15 - 120				
3-Nitroaniline	131.6	6.6	167	0	78.8	40 - 120				
4,6-Dinitro-2-methylphenol	100.6	6.6	167	0	60.2	15 - 135				
4-Bromophenyl phenyl ether	131.8	6.6	167	0	78.9	50 - 125				
4-Chloro-3-methylphenol	127.7	6.6	167	0	76.4	45 - 130				
4-Chloroaniline	113.8	6.6	167	0	68.2	20 - 120				
4-Chlorophenyl phenyl ether	130.2	6.6	167	0	77.9	50 - 120				
4-Nitroaniline	138.4	6.6	167	0	82.9	50 - 127				
4-Nitrophenol	135.3	13	167	0	81.0	40 - 147				
Acenaphthene	123.9	3.3	167	0	74.2	50 - 120				
Acenaphthylene	126.4	3.3	167	0	75.7	50 - 120				
Acetophenone	111.9	6.6	167	0	67.0	50 - 120				
Anthracene	123.7	3.3	167	0	74.1	50 - 123				
Atrazine	125.3	6.6	167	0	75.0	29 - 148				
Benz(a)anthracene	127.2	3.3	167	0	76.2	50 - 131				
Benzaldehyde	44.58	6.6	167	0	26.7	22 - 129				
Benzo(a)pyrene	131.6	3.3	167	0	78.8	50 - 130				
Benzo(b)fluoranthene	137.3	3.3	167	0	82.2	50 - 137				
Benzo(g,h,i)perylene	133.4	3.3	167	0	79.9	50 - 130				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-98014** Units: **ug/Kg** Analysis Date: **14-Oct-2015 15:59**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462138** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	121.4	3.3	167	0	72.7	50 - 143				
Bis(2-chloroethoxy)methane	129.6	6.6	167	0	77.6	50 - 120				
Bis(2-chloroethyl)ether	183.3	6.6	167	0	110	45 - 127				
Bis(2-chloroisopropyl)ether	149.1	6.6	167	0	89.3	50 - 120				
Bis(2-ethylhexyl)phthalate	134	6.6	167	0	80.3	21 - 148				
Butyl benzyl phthalate	136	6.6	167	0	81.4	50 - 136				
Caprolactam	102.1	6.6	167	0	61.1	50 - 135				
Carbazole	126.9	6.6	167	0	76.0	50 - 143				
Chrysene	118.1	3.3	167	0	70.7	50 - 130				
Dibenz(a,h)anthracene	133.3	3.3	167	0	79.8	50 - 130				
Dibenzofuran	125	3.3	167	0	74.8	50 - 125				
Diethyl phthalate	125.5	6.6	167	0	75.2	50 - 125				
Dimethyl phthalate	114.8	6.6	167	0	68.7	50 - 125				
Di-n-butyl phthalate	131.3	6.6	167	0	78.6	50 - 140				
Di-n-octyl phthalate	133.1	6.6	167	0	79.7	50 - 140				
Fluoranthene	134.4	3.3	167	0	80.5	50 - 131				
Fluorene	129.8	3.3	167	0	77.7	50 - 125				
Hexachlorobenzene	131.3	6.6	167	0	78.6	50 - 124				
Hexachlorobutadiene	129.7	6.6	167	0	77.6	50 - 125				
Hexachlorocyclopentadiene	112.9	6.6	167	0	67.6	45 - 135				
Hexachloroethane	158.6	6.6	167	0	95.0	45 - 125				
Indeno(1,2,3-cd)pyrene	160.3	3.3	167	0	96.0	45 - 139				
Isophorone	114.8	6.6	167	0	68.7	45 - 130				
Naphthalene	116.5	3.3	167	0	69.7	50 - 125				
Nitrobenzene	128.2	6.6	167	0	76.8	50 - 125				
N-Nitrosodi-n-propylamine	159.9	6.6	167	0	95.8	45 - 120				
N-Nitrosodiphenylamine	125.8	6.6	167	0	75.3	50 - 130				
Pentachlorophenol	84.69	6.6	167	0	50.7	23 - 136				
Phenanthrene	121.8	3.3	167	0	73.0	50 - 125				
Phenol	174.2	6.6	167	0	104	45 - 130				
Pyrene	128.2	3.3	167	0	76.8	45 - 130				
Surr: 2,4,6-Tribromophenol	*143.9*	*0*	*167*	*0*	*86.1*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*122.2*	*0*	*167*	*0*	*73.2*	*43 - 125*				
Surr: 2-Fluorophenol	*120.3*	*0*	*167*	*0*	*72.1*	*37 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

LCS Sample ID: **LCS-98014** Units: **ug/Kg** Analysis Date: **14-Oct-2015 15:59**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462138** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*124.6*	*0*	*167*	*0*	*74.6*	*32 - 125*				
Surr: Nitrobenzene-d5	*125.7*	*0*	*167*	*0*	*75.3*	*37 - 125*				
Surr: Phenol-d6	*172.7*	*0*	*167*	*0*	*103*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS15100415-02MS** Units: **ug/Kg** Analysis Date: **14-Oct-2015 18:15**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462142** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	157.1	6.6	166.6	0	94.3	50 - 120				
2,4,5-Trichlorophenol	171.2	6.6	166.6	0	103	45 - 127				
2,4,6-Trichlorophenol	158.6	6.6	166.6	0	95.2	45 - 130				
2,4-Dichlorophenol	156.5	6.6	166.6	0	93.9	45 - 125				
2,4-Dimethylphenol	19.95	6.6	166.6	0	12.0	45 - 120				S
2,4-Dinitrophenol	93.3	13	166.6	0	56.0	10 - 126				
2,4-Dinitrotoluene	166	6.6	166.6	0	99.6	50 - 130				
2,6-Dinitrotoluene	163.9	6.6	166.6	0	98.4	50 - 125				
2-Chloronaphthalene	144.3	6.6	166.6	0	86.6	50 - 145				
2-Chlorophenol	163	6.6	166.6	0	97.9	45 - 120				
2-Methylnaphthalene	179.9	3.3	166.6	0	108	50 - 120				
2-Methylphenol	134.5	6.6	166.6	0	80.8	45 - 120				
2-Nitroaniline	188.5	6.6	166.6	0	113	45 - 138				
2-Nitrophenol	185.8	6.6	166.6	0	111	45 - 125				
3&4-Methylphenol	127.6	6.6	166.6	0	76.6	45 - 120				
3,3'-Dichlorobenzidine	123.1	6.6	166.6	0	73.9	15 - 120				
3-Nitroaniline	153.9	6.6	166.6	0	92.4	40 - 120				
4,6-Dinitro-2-methylphenol	187.9	6.6	166.6	0	113	15 - 135				
4-Bromophenyl phenyl ether	207.9	6.6	166.6	0	125	50 - 125				
4-Chloro-3-methylphenol	183.1	6.6	166.6	0	110	45 - 130				
4-Chloroaniline	128.9	6.6	166.6	0	77.3	20 - 120				
4-Chlorophenyl phenyl ether	166.7	6.6	166.6	0	100	50 - 120				
4-Nitroaniline	160.7	6.6	166.6	0	96.4	50 - 127				
4-Nitrophenol	216.5	13	166.6	0	130	40 - 147				
Acenaphthene	160.1	3.3	166.6	0	96.1	50 - 120				
Acenaphthylene	159.1	3.3	166.6	0	95.5	50 - 120				
Acetophenone	150.3	6.6	166.6	0	90.2	50 - 120				
Anthracene	148.4	3.3	166.6	0	89.1	50 - 123				
Atrazine	187.3	6.6	166.6	0	112	29 - 148				
Benz(a)anthracene	175.4	3.3	166.6	8.739	100	50 - 131				
Benzaldehyde	67.17	6.6	166.6	2.497	38.8	22 - 129				
Benzo(a)pyrene	161.3	3.3	166.6	5.789	93.3	50 - 130				
Benzo(b)fluoranthene	193.6	3.3	166.6	9.132	111	50 - 137				
Benzo(g,h,i)perylene	174.6	3.3	166.6	3.118	103	50 - 130				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS15100415-02MS** Units: **ug/Kg** Analysis Date: **14-Oct-2015 18:15**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462142** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	154.3	3.3	166.6	4.064	90.1	50 - 143				
Bis(2-chloroethoxy)methane	159	6.6	166.6	0	95.4	50 - 120				
Bis(2-chloroethyl)ether	197.9	6.6	166.6	0	119	45 - 127				
Bis(2-chloroisopropyl)ether	170.4	6.6	166.6	0	102	50 - 120				
Bis(2-ethylhexyl)phthalate	201.2	6.6	166.6	1.738	120	21 - 148				
Butyl benzyl phthalate	208.8	6.6	166.6	0	125	50 - 136				
Caprolactam	204	6.6	166.6	5.246	119	50 - 135				
Carbazole	161	6.6	166.6	2.111	95.3	50 - 143				
Chrysene	162.3	3.3	166.6	9.839	91.5	50 - 130				
Dibenz(a,h)anthracene	184.7	3.3	166.6	0	111	50 - 130				
Dibenzofuran	161.3	3.3	166.6	0	96.8	50 - 125				
Diethyl phthalate	169.3	6.6	166.6	0	102	50 - 125				
Dimethyl phthalate	153.3	6.6	166.6	0	92.0	50 - 125				
Di-n-butyl phthalate	183.3	6.6	166.6	0	110	50 - 140				
Di-n-octyl phthalate	185.9	6.6	166.6	0	112	50 - 140				
Fluoranthene	182	3.3	166.6	20.2	97.1	50 - 131				
Fluorene	170.2	3.3	166.6	0	102	50 - 125				
Hexachlorobenzene	214.3	6.6	166.6	0	129	50 - 124				S
Hexachlorobutadiene	180.1	6.6	166.6	0	108	50 - 125				
Hexachlorocyclopentadiene	153.2	6.6	166.6	0	92.0	45 - 135				
Hexachloroethane	164.1	6.6	166.6	0	98.5	45 - 125				
Indeno(1,2,3-cd)pyrene	201.2	3.3	166.6	4.791	118	45 - 139				
Isophorone	163.3	6.6	166.6	0	98.0	45 - 130				
Naphthalene	149.7	3.3	166.6	0	89.9	50 - 125				
Nitrobenzene	167.9	6.6	166.6	0	101	50 - 125				
N-Nitrosodi-n-propylamine	167.5	6.6	166.6	0	101	45 - 120				
N-Nitrosodiphenylamine	201.5	6.6	166.6	0	121	50 - 130				
Pentachlorophenol	126.9	6.6	166.6	0	76.2	23 - 136				
Phenanthrene	157.2	3.3	166.6	2.182	93.1	50 - 125				
Phenol	167.7	6.6	166.6	0	101	45 - 130				
Pyrene	180.2	3.3	166.6	20.12	96.1	45 - 130				
Surr: 2,4,6-Tribromophenol	*181.9*	*0*	*166.6*	*0*	*109*	*36 - 126*				
Surr: 2-Fluorobiphenyl	*153.1*	*0*	*166.6*	*0*	*91.9*	*43 - 125*				
Surr: 2-Fluorophenol	*135.6*	*0*	*166.6*	*0*	*81.4*	*37 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNERS

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS15100415-02MS** Units: **ug/Kg** Analysis Date: **14-Oct-2015 18:15**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462142** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*169.8*	*0*	*166.6*	*0*	*102*	*32 - 125*				
Surr: Nitrobenzene-d5	*169.4*	*0*	*166.6*	*0*	*102*	*37 - 125*				
Surr: Phenol-d6	*161.8*	*0*	*166.6*	*0*	*97.1*	*40 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS15100415-02MSD** Units: **ug/Kg** Analysis Date: **14-Oct-2015 17:56**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462141** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1´-Biphenyl	181.5	6.6	166.5	0	109	50 - 120	157.1	14.4	30	
2,4,5-Trichlorophenol	191.6	6.6	166.5	0	115	45 - 127	171.2	11.3	30	
2,4,6-Trichlorophenol	186.3	6.6	166.5	0	112	45 - 130	158.6	16	30	
2,4-Dichlorophenol	134.4	6.6	166.5	0	80.7	45 - 125	156.5	15.2	30	
2,4-Dimethylphenol	17.59	6.6	166.5	0	10.6	45 - 120	19.95	12.6	30	S
2,4-Dinitrophenol	147.2	13	166.5	0	88.4	10 - 126	93.3	44.8	30	R
2,4-Dinitrotoluene	158.4	6.6	166.5	0	95.1	50 - 130	166	4.66	30	
2,6-Dinitrotoluene	151.3	6.6	166.5	0	90.9	50 - 125	163.9	7.96	30	
2-Chloronaphthalene	167.7	6.6	166.5	0	101	50 - 145	144.3	15	30	
2-Chlorophenol	136.8	6.6	166.5	0	82.2	45 - 120	163	17.5	30	
2-Methylnaphthalene	150.4	3.3	166.5	0	90.3	50 - 120	179.9	17.9	30	
2-Methylphenol	95.02	6.6	166.5	0	57.1	45 - 120	134.5	34.4	30	R
2-Nitroaniline	191.3	6.6	166.5	0	115	45 - 138	188.5	1.47	30	
2-Nitrophenol	149.5	6.6	166.5	0	89.8	45 - 125	185.8	21.6	30	
3&4-Methylphenol	101.7	6.6	166.5	0	61.1	45 - 120	127.6	22.6	30	
3,3´-Dichlorobenzidine	78.29	6.6	166.5	0	47.0	15 - 120	123.1	44.5	30	R
3-Nitroaniline	135.3	6.6	166.5	0	81.3	40 - 120	153.9	12.9	30	
4,6-Dinitro-2-methylphenol	156.4	6.6	166.5	0	93.9	15 - 135	187.9	18.3	30	
4-Bromophenyl phenyl ether	154.7	6.6	166.5	0	92.9	50 - 125	207.9	29.3	30	
4-Chloro-3-methylphenol	138.2	6.6	166.5	0	83.0	45 - 130	183.1	27.9	30	
4-Chloroaniline	91.43	6.6	166.5	0	54.9	20 - 120	128.9	34	30	R
4-Chlorophenyl phenyl ether	153	6.6	166.5	0	91.9	50 - 120	166.7	8.54	30	
4-Nitroaniline	145.2	6.6	166.5	0	87.2	50 - 127	160.7	10.1	30	
4-Nitrophenol	207.1	13	166.5	0	124	40 - 147	216.5	4.44	30	
Acenaphthene	147.6	3.3	166.5	0	88.6	50 - 120	160.1	8.16	30	
Acenaphthylene	148.1	3.3	166.5	0	89.0	50 - 120	159.1	7.17	30	
Acetophenone	131.5	6.6	166.5	0	79.0	50 - 120	150.3	13.4	30	
Anthracene	144.5	3.3	166.5	0	86.8	50 - 123	148.4	2.67	30	
Atrazine	170	6.6	166.5	0	102	29 - 148	187.3	9.68	30	
Benz(a)anthracene	165.1	3.3	166.5	8.739	93.9	50 - 131	175.4	6.04	30	
Benzaldehyde	81.61	6.6	166.5	2.497	47.5	22 - 129	67.17	19.4	30	
Benzo(a)pyrene	162.8	3.3	166.5	5.789	94.3	50 - 130	161.3	0.916	30	
Benzo(b)fluoranthene	189.2	3.3	166.5	9.132	108	50 - 137	193.6	2.28	30	
Benzo(g,h,i)perylene	171.4	3.3	166.5	3.118	101	50 - 130	174.6	1.87	30	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS15100415-02MSD** Units: **ug/Kg** Analysis Date: **14-Oct-2015 17:56**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462141** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	154.1	3.3	166.5	4.064	90.1	50 - 143	154.3	0.0987	30	
Bis(2-chloroethoxy)methane	142.5	6.6	166.5	0	85.6	50 - 120	159	10.9	30	
Bis(2-chloroethyl)ether	167.3	6.6	166.5	0	101	45 - 127	197.9	16.7	30	
Bis(2-chloroisopropyl)ether	132.7	6.6	166.5	0	79.7	50 - 120	170.4	24.9	30	
Bis(2-ethylhexyl)phthalate	187.2	6.6	166.5	1.738	111	21 - 148	201.2	7.2	30	
Butyl benzyl phthalate	200.7	6.6	166.5	0	121	50 - 136	208.8	3.96	30	
Caprolactam	149.6	6.6	166.5	5.246	86.7	50 - 135	204	30.8	30	R
Carbazole	159.9	6.6	166.5	2.111	94.8	50 - 143	161	0.666	30	
Chrysene	155	3.3	166.5	9.839	87.2	50 - 130	162.3	4.55	30	
Dibenz(a,h)anthracene	180.3	3.3	166.5	0	108	50 - 130	184.7	2.39	30	
Dibenzofuran	151.4	3.3	166.5	0	90.9	50 - 125	161.3	6.33	30	
Diethyl phthalate	158.7	6.6	166.5	0	95.3	50 - 125	169.3	6.48	30	
Dimethyl phthalate	143.3	6.6	166.5	0	86.1	50 - 125	153.3	6.77	30	
Di-n-butyl phthalate	169	6.6	166.5	0	101	50 - 140	183.3	8.12	30	
Di-n-octyl phthalate	180.1	6.6	166.5	0	108	50 - 140	185.9	3.14	30	
Fluoranthene	169.9	3.3	166.5	20.2	89.9	50 - 131	182	6.87	30	
Fluorene	155.6	3.3	166.5	0	93.5	50 - 125	170.2	8.96	30	
Hexachlorobenzene	157.4	6.6	166.5	0	94.5	50 - 124	214.3	30.6	30	R
Hexachlorobutadiene	144.2	6.6	166.5	0	86.6	50 - 125	180.1	22.2	30	
Hexachlorocyclopentadiene	195	6.6	166.5	0	117	45 - 135	153.2	24	30	
Hexachloroethane	137.8	6.6	166.5	0	82.8	45 - 125	164.1	17.4	30	
Indeno(1,2,3-cd)pyrene	207	3.3	166.5	4.791	121	45 - 139	201.2	2.83	30	
Isophorone	138.6	6.6	166.5	0	83.2	45 - 130	163.3	16.4	30	
Naphthalene	134.2	3.3	166.5	0	80.6	50 - 125	149.7	11	30	
Nitrobenzene	149.1	6.6	166.5	0	89.5	50 - 125	167.9	11.9	30	
N-Nitrosodi-n-propylamine	141.8	6.6	166.5	0	85.2	45 - 120	167.5	16.6	30	
N-Nitrosodiphenylamine	134.6	6.6	166.5	0	80.9	50 - 130	201.5	39.8	30	R
Pentachlorophenol	147.1	6.6	166.5	0	88.3	23 - 136	126.9	14.7	30	
Phenanthrene	147.1	3.3	166.5	2.182	87.0	50 - 125	157.2	6.65	30	
Phenol	139.8	6.6	166.5	0	83.9	45 - 130	167.7	18.2	30	
Pyrene	165.3	3.3	166.5	20.12	87.2	45 - 130	180.2	8.59	30	
Surr: 2,4,6-Tribromophenol	*188*	*0*	*166.5*	*0*	*113*	*36 - 126*	*181.9*	*3.32*	*30*	
Surr: 2-Fluorobiphenyl	*173.1*	*0*	*166.5*	*0*	*104*	*43 - 125*	*153.1*	*12.3*	*30*	
Surr: 2-Fluorophenol	*116.1*	*0*	*166.5*	*0*	*69.7*	*37 - 125*	*135.6*	*15.5*	*30*	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: 98014 **Instrument: SV-7** **Method: SW8270**

MSD Sample ID: **HS15100415-02MSD** Units: **ug/Kg** Analysis Date: **14-Oct-2015 17:56**
Client ID: Run ID: **SV-7_263115** SeqNo: **3462141** PrepDate: **13-Oct-2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*158.6*	*0*	*166.5*	*0*	*95.3*	*32 - 125*	*169.8*	*6.83*	*30*	
Surr: Nitrobenzene-d5	*145.5*	*0*	*166.5*	*0*	*87.4*	*37 - 125*	*169.4*	*15.2*	*30*	
Surr: Phenol-d6	*141.2*	*0*	*166.5*	*0*	*84.8*	*40 - 125*	*161.8*	*13.6*	*30*	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-151013** Units: **ug/L** Analysis Date: **13-Oct-2015 11:45**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460474** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichlor-1,2,2-trifluoroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Cyclohexane	ND	5.0								
Dibromochloromethane	ND	5.0								
Dichlorodifluoromethane	ND	5.0								
Dichloromethane	ND	10								

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS · RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-151013** Units: **ug/L** Analysis Date: **13-Oct-2015 11:45**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460474** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl acetate	ND	5.0								
Methyl tert-butyl ether	ND	5.0								
Methylcyclohexane	ND	5.0								
o-Xylene	ND	5.0								
Styrene	ND	5.0								
Tetrachloroethene	ND	5.0								
Toluene	ND	5.0								
trans-1,2-Dichloroethene	ND	5.0								
trans-1,3-Dichloropropene	ND	5.0								
Trichloroethene	ND	5.0								
Trichlorofluoromethane	ND	5.0								
Vinyl chloride	ND	2.0								
Xylenes, Total	ND	15								
Surr: 1,2-Dichloroethane-d4	*46.69*	*0*	*50*	*0*	*93.4*	*70 - 125*				
Surr: 4-Bromofluorobenzene	*45.1*	*0*	*50*	*0*	*90.2*	*72 - 125*				
Surr: Dibromofluoromethane	*47.36*	*0*	*50*	*0*	*94.7*	*71 - 125*				
Surr: Toluene-d8	*47.17*	*0*	*50*	*0*	*94.3*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

PRIME SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

LCS Sample ID: **VLCSW-151013** Units: **ug/L** Analysis Date: **13-Oct-2015 10:32**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460473** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.94	5.0	50	0	102	75 - 130				
1,1,2,2-Tetrachloroethane	56.53	5.0	50	0	113	74 - 123				
1,1,2-Trichlor-1,2,2-trifluoroethane	51.37	5.0	50	0	103	70 - 130				
1,1,2-Trichloroethane	47.92	5.0	50	0	95.8	80 - 120				
1,1-Dichloroethane	47.49	5.0	50	0	95.0	76 - 120				
1,1-Dichloroethene	50.88	5.0	50	0	102	75 - 130				
1,2,4-Trichlorobenzene	60.52	5.0	50	0	121	75 - 126				
1,2-Dibromo-3-chloropropane	62.29	5.0	50	0	125	65 - 125				
1,2-Dibromoethane	53.01	5.0	50	0	106	80 - 121				
1,2-Dichlorobenzene	48.91	5.0	50	0	97.8	80 - 120				
1,2-Dichloroethane	48.56	5.0	50	0	97.1	76 - 120				
1,2-Dichloropropane	47.44	5.0	50	0	94.9	80 - 120				
1,3-Dichlorobenzene	49.32	5.0	50	0	98.6	80 - 120				
1,4-Dichlorobenzene	49.14	5.0	50	0	98.3	80 - 120				
2-Butanone	110.5	10	100	0	110	58 - 132				
2-Hexanone	110	10	100	0	110	61 - 130				
4-Methyl-2-pentanone	101.9	10	100	0	102	65 - 127				
Acetone	106	10	100	0	106	59 - 137				
Benzene	47.98	5.0	50	0	96.0	73 - 121				
Bromodichloromethane	49.84	5.0	50	0	99.7	75 - 125				
Bromoform	53.47	5.0	50	0	107	70 - 130				
Bromomethane	44.83	5.0	50	0	89.7	60 - 145				
Carbon disulfide	96.97	10	100	0	97.0	68 - 141				
Carbon tetrachloride	50.83	5.0	50	0	102	75 - 125				
Chlorobenzene	47.12	5.0	50	0	94.2	80 - 120				
Chloroethane	48.47	5.0	50	0	96.9	70 - 130				
Chloroform	48.14	5.0	50	0	96.3	70 - 130				
Chloromethane	43.49	5.0	50	0	87.0	67 - 123				
cis-1,2-Dichloroethene	49.65	5.0	50	0	99.3	78 - 120				
cis-1,3-Dichloropropene	53.34	5.0	50	0	107	80 - 120				
Cyclohexane	49.31	5.0	50	0	98.6	66 - 125				
Dibromochloromethane	51.04	5.0	50	0	102	80 - 120				
Dichlorodifluoromethane	47	5.0	50	0	94.0	63 - 125				
Dichloromethane	49.11	10	50	0	98.2	65 - 133				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

LCS Sample ID: **VLCSW-151013** Units: **ug/L** Analysis Date: **13-Oct-2015 10:32**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460473** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	47.37	5.0	50	0	94.7	80 - 120				
Isopropylbenzene	48.88	5.0	50	0	97.8	75 - 130				
m,p-Xylene	93.75	10	100	0	93.7	78 - 121				
Methyl acetate	50.87	5.0	50	0	102	60 - 130				
Methyl tert-butyl ether	49.3	5.0	50	0	98.6	70 - 125				
Methylcyclohexane	35.09	5.0	50	0	70.2	70 - 122				
o-Xylene	48.29	5.0	50	0	96.6	80 - 120				
Styrene	51.34	5.0	50	0	103	80 - 120				
Tetrachloroethene	48.3	5.0	50	0	96.6	74 - 125				
Toluene	48.04	5.0	50	0	96.1	80 - 120				
trans-1,2-Dichloroethene	52.11	5.0	50	0	104	78 - 120				
trans-1,3-Dichloropropene	52.19	5.0	50	0	104	80 - 120				
Trichloroethene	50.01	5.0	50	0	100	80 - 120				
Trichlorofluoromethane	52.46	5.0	50	0	105	72 - 130				
Vinyl chloride	49.49	2.0	50	0	99.0	70 - 127				
Xylenes, Total	142	15	150	0	94.7	80 - 120				
Surr: 1,2-Dichloroethane-d4	*46.72*	*0*	*50*	*0*	*93.4*	*70 - 125*				
Surr: 4-Bromofluorobenzene	*48.33*	*0*	*50*	*0*	*96.7*	*72 - 125*				
Surr: Dibromofluoromethane	*48.12*	*0*	*50*	*0*	*96.2*	*71 - 125*				
Surr: Toluene-d8	*47.33*	*0*	*50*	*0*	*94.7*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument:** VOA6 **Method:** SW8260

MS Sample ID: **HS15100398-06MS** Units: **ug/L** Analysis Date: **13-Oct-2015 13:47**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460479** PrepDate: DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	11020	1200	12500	0	88.2	75 - 130				
1,1,2,2-Tetrachloroethane	12310	1200	12500	0	98.5	74 - 123				
1,1,2-Trichlor-1,2,2-trifluoroethane	9641	1200	12500	0	77.1	70 - 130				
1,1,2-Trichloroethane	10980	1200	12500	0	87.8	80 - 120				
1,1-Dichloroethane	11020	1200	12500	0	88.1	76 - 120				
1,1-Dichloroethene	10340	1200	12500	0	82.7	75 - 130				
1,2,4-Trichlorobenzene	11830	1200	12500	0	94.7	75 - 126				
1,2-Dibromo-3-chloropropane	12610	1200	12500	0	101	65 - 125				
1,2-Dibromoethane	12120	1200	12500	0	97.0	80 - 121				
1,2-Dichlorobenzene	10050	1200	12500	0	80.4	80 - 120				
1,2-Dichloroethane	12390	1200	12500	0	99.1	76 - 120				
1,2-Dichloropropane	11230	1200	12500	0	89.8	80 - 120				
1,3-Dichlorobenzene	10100	1200	12500	0	80.8	80 - 120				
1,4-Dichlorobenzene	9998	1200	12500	0	80.0	80 - 120				S
2-Butanone	26540	2500	25000	0	106	58 - 132				
2-Hexanone	25150	2500	25000	0	101	61 - 130				
4-Methyl-2-pentanone	23010	2500	25000	0	92.0	65 - 127				
Acetone	27150	2500	25000	0	109	59 - 137				
Benzene	26920	1200	12500	16310	84.9	73 - 121				
Bromodichloromethane	11660	1200	12500	0	93.3	75 - 125				
Bromoform	11920	1200	12500	0	95.3	70 - 130				
Bromomethane	7740	1200	12500	0	61.9	60 - 145				
Carbon disulfide	21390	2500	25000	0	85.6	68 - 141				
Carbon tetrachloride	10180	1200	12500	0	81.4	75 - 125				
Chlorobenzene	10280	1200	12500	0	82.2	80 - 120				
Chloroethane	13310	1200	12500	0	106	70 - 130				
Chloroform	11310	1200	12500	0	90.5	70 - 130				
Chloromethane	9285	1200	12500	0	74.3	67 - 123				
cis-1,2-Dichloroethene	11770	1200	12500	0	94.2	78 - 120				
cis-1,3-Dichloropropene	12560	1200	12500	0	100	80 - 120				
Cyclohexane	10590	1200	12500	872.3	77.7	66 - 125				
Dibromochloromethane	11770	1200	12500	0	94.1	80 - 120				
Dichlorodifluoromethane	9384	1200	12500	0	75.1	63 - 125				
Dichloromethane	11530	2500	12500	0	92.2	65 - 133				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

MS Sample ID: **HS15100398-06MS** Units: **ug/L** Analysis Date: **13-Oct-2015 13:47**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460479** PrepDate: DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	9976	1200	12500	390.7	76.7	80 - 120				S
Isopropylbenzene	9432	1200	12500	0	75.5	75 - 130				
m,p-Xylene	19890	2500	25000	327.1	78.2	78 - 121				
Methyl acetate	13340	1200	12500	0	107	60 - 130				
Methyl tert-butyl ether	12460	1200	12500	0	99.7	70 - 125				
Methylcyclohexane	6024	1200	12500	280.7	45.9	70 - 122				S
o-Xylene	10040	1200	12500	0	80.3	80 - 120				
Styrene	11010	1200	12500	0	88.1	80 - 120				
Tetrachloroethene	9825	1200	12500	0	78.6	74 - 125				
Toluene	10360	1200	12500	0	82.9	80 - 120				
trans-1,2-Dichloroethene	11220	1200	12500	0	89.8	78 - 120				
trans-1,3-Dichloropropene	11780	1200	12500	0	94.2	80 - 120				
Trichloroethene	10880	1200	12500	0	87.1	80 - 120				
Trichlorofluoromethane	10290	1200	12500	0	82.4	72 - 130				
Vinyl chloride	10580	500	12500	0	84.6	70 - 127				
Xylenes, Total	29920	3800	37500	327.1	78.9	80 - 120				S
Surr: 1,2-Dichloroethane-d4	*11750*	*0*	*12500*	*0*	*94.0*	*70 - 125*				
Surr: 4-Bromofluorobenzene	*12010*	*0*	*12500*	*0*	*96.1*	*72 - 125*				
Surr: Dibromofluoromethane	*12070*	*0*	*12500*	*0*	*96.5*	*71 - 125*				
Surr: Toluene-d8	*11580*	*0*	*12500*	*0*	*92.7*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS15100398-06MSD** Units: ug/L Analysis Date: **13-Oct-2015 14:11**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460480** PrepDate: DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	10830	1200	12500	0	86.7	75 - 130	11020	1.75	20	
1,1,2,2-Tetrachloroethane	13070	1200	12500	0	105	74 - 123	12310	5.99	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	9444	1200	12500	0	75.6	70 - 130	9641	2.06	20	
1,1,2-Trichloroethane	10950	1200	12500	0	87.6	80 - 120	10980	0.209	20	
1,1-Dichloroethane	10580	1200	12500	0	84.7	76 - 120	11020	4.02	20	
1,1-Dichloroethene	10330	1200	12500	0	82.6	75 - 130	10340	0.127	20	
1,2,4-Trichlorobenzene	12250	1200	12500	0	98.0	75 - 126	11830	3.5	20	
1,2-Dibromo-3-chloropropane	14530	1200	12500	0	116	65 - 125	12610	14.2	20	
1,2-Dibromoethane	12360	1200	12500	0	98.9	80 - 121	12120	1.99	20	
1,2-Dichlorobenzene	10620	1200	12500	0	85.0	80 - 120	10050	5.54	20	
1,2-Dichloroethane	12140	1200	12500	0	97.1	76 - 120	12390	2.04	20	
1,2-Dichloropropane	10750	1200	12500	0	86.0	80 - 120	11230	4.37	20	
1,3-Dichlorobenzene	10300	1200	12500	0	82.4	80 - 120	10100	1.99	20	
1,4-Dichlorobenzene	10320	1200	12500	0	82.6	80 - 120	9998	3.19	20	
2-Butanone	27130	2500	25000	0	109	58 - 132	26540	2.22	20	
2-Hexanone	26430	2500	25000	0	106	61 - 130	25150	4.95	20	
4-Methyl-2-pentanone	24010	2500	25000	0	96.1	65 - 127	23010	4.26	20	
Acetone	27650	2500	25000	0	111	59 - 137	27150	1.85	20	
Benzene	25870	1200	12500	16310	76.5	73 - 121	26920	3.97	20	
Bromodichloromethane	11250	1200	12500	0	90.0	75 - 125	11660	3.6	20	
Bromoform	12180	1200	12500	0	97.5	70 - 130	11920	2.22	20	
Bromomethane	8995	1200	12500	0	72.0	60 - 145	7740	15	20	
Carbon disulfide	20790	2500	25000	0	83.2	68 - 141	21390	2.83	20	
Carbon tetrachloride	9940	1200	12500	0	79.5	75 - 125	10180	2.38	20	
Chlorobenzene	10300	1200	12500	0	82.4	80 - 120	10280	0.237	20	
Chloroethane	12170	1200	12500	0	97.3	76 - 121	13310	8.95	20	
Chloroform	10930	1200	12500	0	87.4	70 - 130	11310	3.41	20	
Chloromethane	9278	1200	12500	0	74.2	67 - 123	9285	0.0729	20	
cis-1,2-Dichloroethene	11730	1200	12500	0	93.8	78 - 120	11770	0.373	20	
cis-1,3-Dichloropropene	12560	1200	12500	0	101	80 - 120	12560	0.0128	20	
Cyclohexane	10350	1200	12500	872.3	75.8	66 - 125	10590	2.25	20	
Dibromochloromethane	11930	1200	12500	0	95.4	80 - 120	11770	1.36	20	
Dichlorodifluoromethane	9298	1200	12500	0	74.4	63 - 125	9384	0.92	20	
Dichloromethane	11400	2500	12500	0	91.2	65 - 133	11530	1.08	20	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

SOLUTIONS · RESULTS · PARTNERS

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263029 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS15100398-06MSD** Units: **ug/L** Analysis Date: **13-Oct-2015 14:11**
Client ID: Run ID: **VOA6_263029** SeqNo: **3460480** PrepDate: DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	10200	1200	12500	390.7	78.5	80 - 120	9976	2.23	20	S
Isopropylbenzene	9577	1200	12500	0	76.6	75 - 130	9432	1.53	20	
m,p-Xylene	20030	2500	25000	327.1	78.8	78 - 121	19890	0.707	20	
Methyl acetate	13530	1200	12500	0	108	60 - 130	13340	1.39	20	
Methyl tert-butyl ether	12390	1200	12500	0	99.1	70 - 125	12460	0.557	20	
Methylcyclohexane	5913	1200	12500	280.7	45.1	70 - 122	6024	1.86	20	S
o-Xylene	10160	1200	12500	0	81.3	80 - 120	10040	1.26	20	
Styrene	11150	1200	12500	0	89.2	80 - 120	11010	1.22	20	
Tetrachloroethene	9548	1200	12500	0	76.4	74 - 125	9825	2.86	20	
Toluene	10530	1200	12500	0	84.2	80 - 120	10360	1.58	20	
trans-1,2-Dichloroethene	11850	1200	12500	0	94.8	78 - 120	11220	5.45	20	
trans-1,3-Dichloropropene	11670	1200	12500	0	93.3	80 - 120	11780	0.976	20	
Trichloroethene	10740	1200	12500	0	85.9	80 - 120	10880	1.33	20	
Trichlorofluoromethane	10440	1200	12500	0	83.5	72 - 130	10290	1.38	20	
Vinyl chloride	10430	500	12500	0	83.5	70 - 127	10580	1.38	20	
Xylenes, Total	30190	3800	37500	327.1	79.6	78 - 121	29920	0.894	20	
Surr: 1,2-Dichloroethane-d4	*11840*	*0*	*12500*	*0*	*94.7*	*70 - 125*	*11750*	*0.707*	*20*	
Surr: 4-Bromofluorobenzene	*12350*	*0*	*12500*	*0*	*98.8*	*72 - 125*	*12010*	*2.83*	*20*	
Surr: Dibromofluoromethane	*11800*	*0*	*12500*	*0*	*94.4*	*71 - 125*	*12070*	*2.28*	*20*	
Surr: Toluene-d8	*11770*	*0*	*12500*	*0*	*94.2*	*75 - 125*	*11580*	*1.62*	*20*	

The following samples were anayzed in this batch: HS15100411-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument:** VOA5 **Method:** SW8260

MBLK Sample ID: VBLKS1-101415 Units: ug/Kg Analysis Date: 14-Oct-2015 08:36
Client ID: Run ID: VOA5_263032 SeqNo: 3460505 PrepDate: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichlor-1,2,2-trifluoroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	20								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	10								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	10								
Chloroform	ND	5.0								
Chloromethane	ND	10								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Cyclohexane	ND	5.0								
Dibromochloromethane	ND	5.0								
Dichlorodifluoromethane	ND	5.0								
Dichloromethane	ND	10								

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

MBLK Sample ID: **VBLKS1-101415** Units: **ug/Kg** Analysis Date: **14-Oct-2015 08:36**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460505** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl acetate	ND	5.0								
Methyl tert-butyl ether	ND	5.0								
Methylcyclohexane	ND	5.0								
o-Xylene	ND	5.0								
Styrene	ND	5.0								
Tetrachloroethene	ND	5.0								
Toluene	ND	5.0								
trans-1,2-Dichloroethene	ND	5.0								
trans-1,3-Dichloropropene	ND	5.0								
Trichloroethene	ND	5.0								
Trichlorofluoromethane	ND	5.0								
Vinyl chloride	ND	2.0								
Xylenes, Total	ND	10								
Surr: 1,2-Dichloroethane-d4	*50.43*	*0*	*50*	*0*	*101*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*46.79*	*0*	*50*	*0*	*93.6*	*73 - 126*				
Surr: Dibromofluoromethane	*50.99*	*0*	*50*	*0*	*102*	*71 - 128*				
Surr: Toluene-d8	*52.18*	*0*	*50*	*0*	*104*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

LCS Sample ID: **VLCSS1-101415** Units: **ug/Kg** Analysis Date: **14-Oct-2015 07:49**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460504** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	45.17	5.0	50	0	90.3	79 - 128				
1,1,2,2-Tetrachloroethane	49.44	5.0	50	0	98.9	75 - 123				
1,1,2-Trichlor-1,2,2-trifluoroethane	47.53	5.0	50	0	95.1	76 - 127				
1,1,2-Trichloroethane	46.91	5.0	50	0	93.8	77 - 120				
1,1-Dichloroethane	49.14	5.0	50	0	98.3	75 - 124				
1,1-Dichloroethene	51.96	5.0	50	0	104	76 - 128				
1,2,4-Trichlorobenzene	45.51	5.0	50	0	91.0	74 - 128				
1,2-Dibromo-3-chloropropane	48.15	5.0	50	0	96.3	66 - 129				
1,2-Dibromoethane	45.21	5.0	50	0	90.4	70 - 120				
1,2-Dichlorobenzene	48.04	5.0	50	0	96.1	75 - 120				
1,2-Dichloroethane	47.06	5.0	50	0	94.1	73 - 121				
1,2-Dichloropropane	46.93	5.0	50	0	93.9	75 - 124				
1,3-Dichlorobenzene	47.62	5.0	50	0	95.2	70 - 125				
1,4-Dichlorobenzene	46.77	5.0	50	0	93.5	77 - 120				
2-Butanone	89.33	10	100	0	89.3	65 - 130				
2-Hexanone	92.85	10	100	0	92.8	65 - 133				
4-Methyl-2-pentanone	95.87	10	100	0	95.9	69 - 130				
Acetone	92.72	20	100	0	92.7	53 - 142				
Benzene	48.49	5.0	50	0	97.0	79 - 122				
Bromodichloromethane	49.07	5.0	50	0	98.1	79 - 121				
Bromoform	46.9	5.0	50	0	93.8	74 - 125				
Bromomethane	41.05	10	50	0	82.1	68 - 131				
Carbon disulfide	96.99	10	100	0	97.0	78 - 131				
Carbon tetrachloride	43.72	5.0	50	0	87.4	74 - 126				
Chlorobenzene	47.13	5.0	50	0	94.3	79 - 120				
Chloroethane	47.9	10	50	0	95.8	74 - 126				
Chloroform	47.25	5.0	50	0	94.5	78 - 122				
Chloromethane	44.94	10	50	0	89.9	69 - 129				
cis-1,2-Dichloroethene	47.96	5.0	50	0	95.9	78 - 122				
cis-1,3-Dichloropropene	49.53	5.0	50	0	99.1	77 - 123				
Cyclohexane	47.17	5.0	50	0	94.3	74 - 126				
Dibromochloromethane	48.52	5.0	50	0	97.0	78 - 122				
Dichlorodifluoromethane	53.38	5.0	50	0	107	57 - 140				
Dichloromethane	44.76	10	50	0	89.5	65 - 130				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

LCS Sample ID: **VLCSS1-101415** Units: **ug/Kg** Analysis Date: **14-Oct-2015 07:49**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460504** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	47.65	5.0	50	0	95.3	80 - 122				
Isopropylbenzene	43.09	5.0	50	0	86.2	72 - 127				
m,p-Xylene	89.35	10	100	0	89.3	79 - 122				
Methyl acetate	42.85	5.0	50	0	85.7	69 - 123				
Methyl tert-butyl ether	46.04	5.0	50	0	92.1	76 - 124				
Methylcyclohexane	45.72	5.0	50	0	91.4	77 - 127				
o-Xylene	44.61	5.0	50	0	89.2	80 - 123				
Styrene	43.13	5.0	50	0	86.3	78 - 124				
Tetrachloroethene	45.27	5.0	50	0	90.5	70 - 130				
Toluene	44.24	5.0	50	0	88.5	79 - 120				
trans-1,2-Dichloroethene	49.75	5.0	50	0	99.5	79 - 122				
trans-1,3-Dichloropropene	44.37	5.0	50	0	88.7	77 - 120				
Trichloroethene	48.84	5.0	50	0	97.7	75 - 123				
Trichlorofluoromethane	45	5.0	50	0	90.0	75 - 126				
Vinyl chloride	50.62	2.0	50	0	101	76 - 126				
Xylenes, Total	134	10	150	0	89.3	80 - 120				
Surr: 1,2-Dichloroethane-d4	*52.06*	*0*	*50*	*0*	*104*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*50.06*	*0*	*50*	*0*	*100*	*73 - 126*				
Surr: Dibromofluoromethane	*51.37*	*0*	*50*	*0*	*103*	*71 - 128*				
Surr: Toluene-d8	*51.19*	*0*	*50*	*0*	*102*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS. RIGHT PARTNER.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

MS Sample ID: **HS15100416-11MS** Units: **ug/Kg** Analysis Date: **14-Oct-2015 10:09**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460509** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.54	5.0	49.5	0	88.0	79 - 128				
1,1,2,2-Tetrachloroethane	42.43	5.0	49.5	0	85.7	75 - 123				
1,1,2-Trichlor-1,2,2-trifluoroethane	42.43	5.0	49.5	0	85.7	76 - 127				
1,1,2-Trichloroethane	43.2	5.0	49.5	0	87.3	77 - 120				
1,1-Dichloroethane	48.38	5.0	49.5	0	97.7	75 - 124				
1,1-Dichloroethene	48.58	5.0	49.5	0	98.1	76 - 128				
1,2,4-Trichlorobenzene	28.31	5.0	49.5	0	57.2	74 - 128				S
1,2-Dibromo-3-chloropropane	37.15	5.0	49.5	0	75.0	66 - 129				
1,2-Dibromoethane	40.9	5.0	49.5	0	82.6	70 - 120				
1,2-Dichlorobenzene	37.97	5.0	49.5	0	76.7	75 - 120				
1,2-Dichloroethane	41.76	5.0	49.5	0	84.4	73 - 121				
1,2-Dichloropropane	43.41	5.0	49.5	0	87.7	75 - 124				
1,3-Dichlorobenzene	39.11	5.0	49.5	0	79.0	70 - 125				
1,4-Dichlorobenzene	37.79	5.0	49.5	0	76.3	77 - 120				S
2-Butanone	76.36	9.9	99	0	77.1	65 - 130				
2-Hexanone	71.81	9.9	99	0	72.5	65 - 133				
4-Methyl-2-pentanone	77.01	9.9	99	0	77.8	69 - 130				
Acetone	91.45	20	99	0	92.4	53 - 142				
Benzene	46.94	5.0	49.5	0	94.8	79 - 122				
Bromodichloromethane	46.71	5.0	49.5	0	94.4	79 - 121				
Bromoform	38.81	5.0	49.5	0	78.4	74 - 125				
Bromomethane	43.8	9.9	49.5	0	88.5	68 - 131				
Carbon disulfide	90.74	9.9	99	0	91.7	78 - 131				
Carbon tetrachloride	42.3	5.0	49.5	0	85.5	74 - 126				
Chlorobenzene	43.04	5.0	49.5	0	86.9	79 - 120				
Chloroethane	46.85	9.9	49.5	0	94.6	74 - 126				
Chloroform	46.13	5.0	49.5	0	93.2	78 - 122				
Chloromethane	43.45	9.9	49.5	0	87.8	69 - 129				
cis-1,2-Dichloroethene	46.6	5.0	49.5	0	94.1	78 - 122				
cis-1,3-Dichloropropene	45.53	5.0	49.5	0	92.0	77 - 123				
Cyclohexane	41.96	5.0	49.5	0	84.8	74 - 126				
Dibromochloromethane	43.73	5.0	49.5	0	88.3	78 - 122				
Dichlorodifluoromethane	48.99	5.0	49.5	0	99.0	57 - 140				
Dichloromethane	43	9.9	49.5	0	86.9	65 - 130				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

MS Sample ID: **HS15100416-11MS** Units: **ug/Kg** Analysis Date: **14-Oct-2015 10:09**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460509** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	44.75	5.0	49.5	0	90.4	80 - 122				
Isopropylbenzene	38.76	5.0	49.5	0	78.3	72 - 127				
m,p-Xylene	82.9	9.9	99	0	83.7	79 - 122				
Methyl acetate	35.47	5.0	49.5	0	71.7	69 - 123				
Methyl tert-butyl ether	41.8	5.0	49.5	0	84.4	76 - 124				
Methylcyclohexane	39.45	5.0	49.5	0	79.7	77 - 127				
o-Xylene	40.17	5.0	49.5	0	81.2	80 - 123				
Styrene	37.53	5.0	49.5	0	75.8	78 - 124				S
Tetrachloroethene	40.16	5.0	49.5	4.167	72.7	70 - 130				
Toluene	42.71	5.0	49.5	0	86.3	79 - 120				
trans-1,2-Dichloroethene	48.24	5.0	49.5	0	97.5	79 - 122				
trans-1,3-Dichloropropene	39.19	5.0	49.5	0	79.2	77 - 120				
Trichloroethene	45.65	5.0	49.5	0	92.2	75 - 123				
Trichlorofluoromethane	43.15	5.0	49.5	0	87.2	75 - 126				
Vinyl chloride	51.07	2.0	49.5	0	103	76 - 126				
Xylenes, Total	123.1	9.9	148.5	0	82.9	80 - 120				
Surr: 1,2-Dichloroethane-d4	*50.07*	*0*	*49.5*	*0*	*101*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*48.7*	*0*	*49.5*	*0*	*98.4*	*73 - 126*				
Surr: Dibromofluoromethane	*50.63*	*0*	*49.5*	*0*	*102*	*71 - 128*				
Surr: Toluene-d8	*50.7*	*0*	*49.5*	*0*	*102*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

MSD Sample ID: **HS15100416-11MSD** Units: **ug/Kg** Analysis Date: **14-Oct-2015 10:32**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460510** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	42.22	5.0	50	0	84.4	79 - 128	43.54	3.09	30	
1,1,2,2-Tetrachloroethane	41.13	5.0	50	0	82.3	75 - 123	42.43	3.1	30	
1,1,2-Trichlor-1,2,2-trifluoroethane	43.81	5.0	50	0	87.6	76 - 127	42.43	3.2	30	
1,1,2-Trichloroethane	41.26	5.0	50	0	82.5	77 - 120	43.2	4.61	30	
1,1-Dichloroethane	46.65	5.0	50	0	93.3	75 - 124	48.38	3.64	30	
1,1-Dichloroethene	48.64	5.0	50	0	97.3	76 - 128	48.58	0.115	30	
1,2,4-Trichlorobenzene	25.7	5.0	50	0	51.4	74 - 128	28.31	9.68	30	S
1,2-Dibromo-3-chloropropane	37.21	5.0	50	0	74.4	66 - 129	37.15	0.171	30	
1,2-Dibromoethane	39.99	5.0	50	0	80.0	70 - 120	40.9	2.24	30	
1,2-Dichlorobenzene	33.27	5.0	50	0	66.5	75 - 120	37.97	13.2	30	S
1,2-Dichloroethane	41.87	5.0	50	0	83.7	73 - 121	41.76	0.259	30	
1,2-Dichloropropane	42.14	5.0	50	0	84.3	75 - 124	43.41	2.95	30	
1,3-Dichlorobenzene	34.36	5.0	50	0	68.7	70 - 125	39.11	12.9	30	S
1,4-Dichlorobenzene	33.86	5.0	50	0	67.7	77 - 120	37.79	11	30	S
2-Butanone	79.09	10	100	0	79.1	65 - 130	76.36	3.52	30	
2-Hexanone	78.7	10	100	0	78.7	65 - 133	71.81	9.15	30	
4-Methyl-2-pentanone	82.16	10	100	0	82.2	69 - 130	77.01	6.46	30	
Acetone	100.6	20	100	0	101	53 - 142	91.45	9.53	30	
Benzene	44.62	5.0	50	0	89.2	79 - 122	46.94	5.08	30	
Bromodichloromethane	43.62	5.0	50	0	87.2	79 - 121	46.71	6.83	30	
Bromoform	37.84	5.0	50	0	75.7	74 - 125	38.81	2.54	30	
Bromomethane	41.24	10	50	0	82.5	68 - 131	43.8	6	30	
Carbon disulfide	89.57	10	100	0	89.6	78 - 131	90.74	1.3	30	
Carbon tetrachloride	41.16	5.0	50	0	82.3	74 - 126	42.3	2.72	30	
Chlorobenzene	40.19	5.0	50	0	80.4	79 - 120	43.04	6.85	30	
Chloroethane	47.82	10	50	0	95.6	74 - 126	46.85	2.06	30	
Chloroform	44.54	5.0	50	0	89.1	78 - 122	46.13	3.52	30	
Chloromethane	42.81	10	50	0	85.6	69 - 129	43.45	1.47	30	
cis-1,2-Dichloroethene	43.96	5.0	50	0	87.9	78 - 122	46.6	5.83	30	
cis-1,3-Dichloropropene	43.84	5.0	50	0	87.7	77 - 123	45.53	3.78	30	
Cyclohexane	41.14	5.0	50	0	82.3	74 - 126	41.96	1.97	30	
Dibromochloromethane	42.57	5.0	50	0	85.1	78 - 122	43.73	2.68	30	
Dichlorodifluoromethane	49.18	5.0	50	0	98.4	57 - 140	48.99	0.399	30	
Dichloromethane	42.24	10	50	0	84.5	65 - 130	43	1.78	30	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263032 **Instrument: VOA5** **Method: SW8260**

MSD Sample ID: **HS15100416-11MSD** Units: **ug/Kg** Analysis Date: **14-Oct-2015 10:32**
Client ID: Run ID: **VOA5_263032** SeqNo: **3460510** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylbenzene	41.56	5.0	50	0	83.1	80 - 122	44.75	7.4	30	
Isopropylbenzene	36.3	5.0	50	0	72.6	72 - 127	38.76	6.57	30	
m,p-Xylene	77.5	10	100	0	77.5	79 - 122	82.9	6.74	30	S
Methyl acetate	38.18	5.0	50	0	76.4	69 - 123	35.47	7.35	30	
Methyl tert-butyl ether	42.75	5.0	50	0	85.5	76 - 124	41.8	2.25	30	
Methylcyclohexane	35.8	5.0	50	0	71.6	77 - 127	39.45	9.69	30	S
o-Xylene	36.91	5.0	50	0	73.8	80 - 123	40.17	8.46	30	S
Styrene	35.59	5.0	50	0	71.2	78 - 124	37.53	5.32	30	S
Tetrachloroethene	36.87	5.0	50	4.167	65.4	70 - 130	40.16	8.54	30	S
Toluene	40.99	5.0	50	0	82.0	79 - 120	42.71	4.1	30	
trans-1,2-Dichloroethene	47.23	5.0	50	0	94.5	79 - 122	48.24	2.13	30	
trans-1,3-Dichloropropene	38.27	5.0	50	0	76.5	77 - 120	39.19	2.38	30	S
Trichloroethene	43.23	5.0	50	0	86.5	75 - 123	45.65	5.46	30	
Trichlorofluoromethane	43.14	5.0	50	0	86.3	75 - 126	43.15	0.0283	30	
Vinyl chloride	50.23	2.0	50	0	100	76 - 126	51.07	1.67	30	
Xylenes, Total	114.4	10	150	0	76.3	80 - 120	123.1	7.3	30	S
Surr: 1,2-Dichloroethane-d4	*51.86*	*0*	*50*	*0*	*104*	*70 - 128*	*50.07*	*3.5*	*30*	
Surr: 4-Bromofluorobenzene	*48.28*	*0*	*50*	*0*	*96.6*	*73 - 126*	*48.7*	*0.876*	*30*	
Surr: Dibromofluoromethane	*52.28*	*0*	*50*	*0*	*105*	*71 - 128*	*50.63*	*3.22*	*30*	
Surr: Toluene-d8	*51.1*	*0*	*50*	*0*	*102*	*73 - 127*	*50.7*	*0.789*	*30*	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: HS15100411

QC BATCH REPORT

Batch ID: R263059 **Instrument: Balance1** **Method: SW3550**

DUP Sample ID: **HS15100244-07DUP** Units: **wt%** Analysis Date: **14-Oct-2015 13:34**
Client ID: Run ID: **Balance1_263059** SeqNo: **3460891** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	14.1	0.0100					14.1	0	20	

The following samples were anayzed in this batch: HS15100411-01 HS15100411-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
WorkOrder: **HS15100411**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	15-024-0	27-Mar-2016
California	2919	31-Jul-2016
Dept of Defense	L2231 Rev 3-20-2014	22-Dec-2015
Illinois	003622	09-May-2016
Kansas	E-10352 2014-2015	30-Nov-2015
Kentucky	KY 2015-2016	30-Apr-2016
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2015	31-Dec-2015
North Dakota	R-193 2015-2016	30-Apr-2016
Oklahoma	2015-047	31-Aug-2016
Texas	T104704231-15-15	30-Apr-2016

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Project Navigator, Ltd
Project: Nat Zinc 07-115-400
Work Order: HS15100411

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS15100411-01	Borrow 1 -2015	Login	10/10/2015 12:01:19 PM	PMG	VW-2
HS15100411-01	Borrow 1 -2015	Login	10/10/2015 12:01:19 PM	PMG	BTEX B1
HS15100411-01	Borrow 1 -2015	Login	10/10/2015 12:01:19 PM	PMG	14C
HS15100411-01	Borrow 1 -2015	Login	10/10/2015 12:01:19 PM	PMG	14C
HS15100411-01	Borrow 1 -2015	Login	10/10/2015 12:01:19 PM	PMG	14C
HS15100411-02	Borrow 2 - 2015	Login	10/10/2015 12:01:19 PM	PMG	VW-2
HS15100411-02	Borrow 2 - 2015	Login	10/10/2015 12:01:19 PM	PMG	BTEX B1
HS15100411-02	Borrow 2 - 2015	Login	10/10/2015 12:01:19 PM	PMG	14C
HS15100411-02	Borrow 2 - 2015	Login	10/10/2015 12:01:19 PM	PMG	14C
HS15100411-02	Borrow 2 - 2015	Login	10/10/2015 12:01:19 PM	PMG	14C
HS15100411-03	TB-09/29/2015-03	Login	10/10/2015 12:12:38 PM	PMG	VW-3
HS15100411-01	Borrow 1 -2015	Out	10/13/2015 3:56:07 PM	OFO	METPREP
HS15100411-02	Borrow 2 - 2015	Out	10/13/2015 3:56:07 PM	OFO	METPREP
HS15100411-01	Borrow 1 -2015	Return	10/13/2015 3:57:12 PM	OFO	14C
HS15100411-02	Borrow 2 - 2015	Return	10/13/2015 3:57:12 PM	OFO	14C
HS15100411-01	Borrow 1 -2015	Return	10/14/2015 7:37:10 AM	AAP	14C
HS15100411-02	Borrow 2 - 2015	Return	10/14/2015 7:37:10 AM	AAP	14C

Sample Receipt Checklist

Client Name: PROJECT NAVIGATOR
Work Order: HS15100411

Date/Time Received: 09-Oct-2015 08:44
Received by: RPG

Checklist completed by: *Paresh M. Giga* (eSignature) 10-Oct-2015 (Date)

Reviewed by: *Erica Padilla* (eSignature) 13-Oct-2015 (Date)

Matrices: Soil/Water

Carrier name: FedEx

	Yes	No	Not Present / N/A
Shipping container/cooler in good condition?	☑	☐	Not Present ☐
Custody seals intact on shipping container/cooler?	☑	☐	Not Present ☐
Custody seals intact on sample bottles?	☐	☐	Not Present ☑
Chain of custody present?	☑	☐	
Chain of custody signed when relinquished and received?	☑	☐	
Chain of custody agrees with sample labels?	☐	☑	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
TX1005 solids received in hermetically sealed vials?	☐	☑	N/A ☐
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	
Temperature(s)/Thermometer(s):	2.0c/1.7c U/C		IR6
Cooler(s)/Kit(s):	Blue		
Date/Time sample(s) sent to storage:	10/10/15 12:15		
Water - VOA vials have zero headspace?	☑	☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	☑	☐	N/A ☐
pH adjusted?	☐	☑	N/A ☐
pH adjusted by:			

Login Notes: Sampling times do not match - All jars received for Borrow 1 & Borrow 2 have 15:00 as sampling times

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

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ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Forr

Page ____ of ____

COC ID: 134888

HS15100411

, WV

Project Navigator, Ltd
Mat Zinc 07-115-400

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	MAT ZINC	Project Name	MAT ZINC	A	Total VOC/SVOC/Metals/Pest/Herb
Work Order		Project Number	07-115-400	B	8015 GRO
Company Name	Project Navigator, Ltd	Bill To Company	Project Navigator, Ltd	C	8015 DRO
Send Report To	Philip Jen	Invoice Attn		D	
Address	10497 Town and Country Way	Address	10497 Town and Country Way	E	
	Suite 830		Suite 830	F	
City/State/Zip	Houston, TX 77024	City/State/Zip	Houston, TX 77024	G	
Phone	(713) 468-6354	Phone	(713) 468-5004	H	
Fax		Fax		I	
e-Mail Address	pjen@projectnavigator.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	BORROW 1 - 2015	10-8-15	1300	S		5	SEE ABOVE										
2	BORROW 2 - 2015	10-8-15	1300	S		5	SEE ABOVE										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign

Shipment Method

Required Turnaround Time: (Check Box)
☐ Std 10 WK days ☒ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
M. Landress	10-8-15	1500	RG 10/9/15 0844
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: Sample State: KANSAS

Cooler ID	Cooler Temp.
Refrig. column.	4°C 2°

QC Package: (Check One Box Below)
☒ Level 2 Std QC ☐ TRRP ChkList
☐ Level 3 Std QC/Row da ☐ TRRP Level 4
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

IAA 6 CH -0,3

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ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL
Date: Time:
Name: Mark London
Company: Pro-Net Navigator

Seal Broken By:
Date:

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL
Date:
Name:
Company: Time:
Mark London
Pro-Net Navigator

Seal Broken By:
Date:

TRK# 0201 7746 9867 9636

FRI - 09 OCT 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

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FIELD SAMPLE QA ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

March 02, 2016

Mark Landress
Project Navigator, Ltd.
10497 Town and Country Way
Suite 830
Houston, TX 77024

RE: Project: NATIONAL ZINC
Pace Project No.: 60213437

Dear Mark Landress:
Enclosed are the analytical results for sample(s) received by the laboratory on February 20, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures

cc: Philip Jen, Project Navigator, Ltd.

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CERTIFICATIONS

Project: NATIONAL ZINC
Pace Project No.: 60213437

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: NATIONAL ZINC
Pace Project No.: 60213437

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60213437001	529 W 1ST #2 SINGLE PT	Solid	02/18/16 14:32	02/20/16 08:30
60213437002	529 W 1ST #2 SINGLE PT DUP	Solid	02/18/16 14:38	02/20/16 08:30
60213437003	326 W 4TH PR SPL 1	Solid	02/18/16 14:45	02/20/16 08:30
60213437004	0 E 1ST PARK PR SPL 1	Solid	02/18/16 14:52	02/20/16 08:30

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SAMPLE ANALYTE COUNT

Project: NATIONAL ZINC
Pace Project No.: 60213437

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60213437001	529 W 1ST #2 SINGLE PT	EPA 6020	RJS	4	PASI-M
		ASTM D2974	JDL	1	PASI-M
60213437002	529 W 1ST #2 SINGLE PT DUP	EPA 6020	RJS	4	PASI-M
		ASTM D2974	JDL	1	PASI-M
60213437003	326 W 4TH PR SPL 1	EPA 6020	RJS	4	PASI-M
		ASTM D2974	JDL	1	PASI-M
60213437004	0 E 1ST PARK PR SPL 1	EPA 6020	RJS	4	PASI-M
		ASTM D2974	JDL	1	PASI-M

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ANALYTICAL RESULTS

Project: NATIONAL ZINC
Pace Project No.: 60213437

Sample: 529 W 1ST #2 SINGLE PT **Lab ID: 60213437001** Collected: 02/18/16 14:32 Received: 02/20/16 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050							
Arsenic	**17.0**	mg/kg	0.49	20	02/25/16 13:44	02/27/16 00:23	7440-38-2	
Cadmium	**8.0**	mg/kg	0.078	20	02/25/16 13:44	02/27/16 00:23	7440-43-9	
Lead	**521**	mg/kg	0.97	200	02/25/16 13:44	02/29/16 10:24	7439-92-1	M6
Zinc	**1850**	mg/kg	48.7	200	02/25/16 13:44	02/29/16 10:24	7440-66-6	M6
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**18.6**	%	0.10	1		02/24/16 12:59		

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ANALYTICAL RESULTS

Project: NATIONAL ZINC
Pace Project No.: 60213437

Sample: 529 W 1ST #2 SINGLE PT DUP **Lab ID: 60213437002** Collected: 02/18/16 14:38 Received: 02/20/16 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050							
Arsenic	**18.0**	mg/kg	0.52	20	02/25/16 13:44	02/26/16 23:30	7440-38-2	
Cadmium	**8.7**	mg/kg	0.083	20	02/25/16 13:44	02/26/16 23:30	7440-43-9	
Lead	**467**	mg/kg	1.0	200	02/25/16 13:44	02/29/16 10:37	7439-92-1	
Zinc	**1760**	mg/kg	51.8	200	02/25/16 13:44	02/29/16 10:37	7440-66-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**18.3**	%	0.10	1		02/24/16 13:00		

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ANALYTICAL RESULTS

Project: NATIONAL ZINC
Pace Project No.: 60213437

Sample: 326 W 4TH PR SPL 1 **Lab ID: 60213437003** Collected: 02/18/16 14:45 Received: 02/20/16 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050							
Arsenic	**37.0**	mg/kg	0.46	20	02/25/16 13:44	02/26/16 23:34	7440-38-2	
Cadmium	**14.5**	mg/kg	0.073	20	02/25/16 13:44	02/26/16 23:34	7440-43-9	
Lead	**1690**	mg/kg	0.92	200	02/25/16 13:44	02/29/16 10:42	7439-92-1	
Zinc	**6530**	mg/kg	459	2000	02/25/16 13:44	02/29/16 10:46	7440-66-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**14.2**	%	0.10	1		02/24/16 13:00		

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ANALYTICAL RESULTS

Project: NATIONAL ZINC
Pace Project No.: 60213437

Sample: 0 E 1ST PARK PR SPL 1 **Lab ID: 60213437004** Collected: 02/18/16 14:52 Received: 02/20/16 08:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050							
Arsenic	**17.6**	mg/kg	0.54	20	02/25/16 13:44	02/26/16 23:39	7440-38-2	
Cadmium	**7.9**	mg/kg	0.087	20	02/25/16 13:44	02/26/16 23:39	7440-43-9	
Lead	**141**	mg/kg	0.11	20	02/25/16 13:44	02/26/16 23:39	7439-92-1	
Zinc	**3120**	mg/kg	54.4	200	02/25/16 13:44	02/29/16 10:59	7440-66-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**16.4**	%	0.10	1		02/24/16 13:00		

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QUALITY CONTROL DATA

Project: NATIONAL ZINC
Pace Project No.: 60213437

QC Batch: MPRP/61592 Analysis Method: EPA 6020
QC Batch Method: EPA 3050 Analysis Description: 6020 MET
Associated Lab Samples: 60213437001, 60213437002, 60213437003, 60213437004

METHOD BLANK: 2197077 Matrix: Solid
Associated Lab Samples: 60213437001, 60213437002, 60213437003, 60213437004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.50	02/26/16 23:21	
Cadmium	mg/kg	ND	0.080	02/26/16 23:21	
Lead	mg/kg	ND	0.10	02/26/16 23:21	
Zinc	mg/kg	ND	5.0	02/26/16 23:21	

LABORATORY CONTROL SAMPLE: 2197078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	19.4	20.8	107	80-120	
Cadmium	mg/kg	19.4	20.9	107	80-120	
Lead	mg/kg	19.4	21.3	110	80-120	
Zinc	mg/kg	19.4	21.0	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2197079 2197080

Parameter	Units	60213437001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	17.0	22.4	20.8	42.2	36.5	113	94	80-120	14	20	
Cadmium	mg/kg	8.0	22.4	20.8	32.9	29.4	112	103	80-120	11	20	
Lead	mg/kg	521	22.4	20.8	442	412	-354	-522	80-120	7	20	E,M6
Zinc	mg/kg	1850	22.4	20.8	1770	1720	-356	-628	80-120	3	20	E,M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: NATIONAL ZINC
Pace Project No.: 60213437

QC Batch: MPRP/61607 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60213437001, 60213437002, 60213437003, 60213437004

SAMPLE DUPLICATE: 2197833

Parameter	Units	10339471003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.2	6.8	5	30	

SAMPLE DUPLICATE: 2197834

Parameter	Units	60213438006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.8	20.6	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: NATIONAL ZINC
Pace Project No.: 60213437

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NATIONAL ZINC
Pace Project No.: 60213437

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60213437001	529 W 1ST #2 SINGLE PT	EPA 3050	MPRP/61592	EPA 6020	ICPM/28458
60213437002	529 W 1ST #2 SINGLE PT DUP	EPA 3050	MPRP/61592	EPA 6020	ICPM/28458
60213437003	326 W 4TH PR SPL 1	EPA 3050	MPRP/61592	EPA 6020	ICPM/28458
60213437004	0 E 1ST PARK PR SPL 1	EPA 3050	MPRP/61592	EPA 6020	ICPM/28458
60213437001	529 W 1ST #2 SINGLE PT	ASTM D2974	MPRP/61607		
60213437002	529 W 1ST #2 SINGLE PT DUP	ASTM D2974	MPRP/61607		
60213437003	326 W 4TH PR SPL 1	ASTM D2974	MPRP/61607		
60213437004	0 E 1ST PARK PR SPL 1	ASTM D2974	MPRP/61607		

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Sample Condition Upon Receipt

WO# : 60213437

60213437

Client Name: Project Navigator

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7756 8638 1527 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☑ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: CF +0.8 T-239 / CF +0.7 T-262 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 3.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 2/20/16

Chain of Custody present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.	
Sufficient volume:	☑Yes ☐No ☐N/A	8.	
Correct containers used:	☑Yes ☐No ☐N/A		
Pace containers used:	☑Yes ☐No ☐N/A	9.	
Containers intact:	☑Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.	
Sample labels match COC:	☑Yes ☐No ☐N/A		
Includes date/time/ID/analyses Matrix: PV 2/20/16 KS SL		13.	
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A		
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.	
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed	Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A		
Pace Trip Blank lot # (if purchased):		15.	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State: KS	
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☑N/A	18.	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Project Navigator, LTD.	Report To:	Philip Jen	Attention:	Jamie Church
Address:	10497 Town & Country Way, Ste 830	Copy To:		Company Name:	Pace
	Houston, TX 77024			Address:	
Email To:	pjen@projectnavigator.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	832-215-5589 Fax:	Project Name:	National Zinc	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:		Project Number:		Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: KS

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite Endgrab DATE	Composite Endgrab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6020 Metals (Pb, Zn, As, Cd)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	529 W 1st #2 single pt	SL	C			2/18/16	1432			X									X		1BPBU w1
2	529 W 1st #2 singlept DuP	SL	C			2/18/16	1438			X									X		w2
3	326 W 4th PR SPL 1	SL	C			2/18/16	1445			X									X		w3
4	Ø E 1st Park PR SPL 1	SL	C			2/18/16	1452			X									X		w4
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
6020 Metals RWO to MN	PNL	2/19/16	0835	[illegible]	2/20/16	0830	3.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Carl Johnson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/18/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Field Backup

Photos

Field Maps

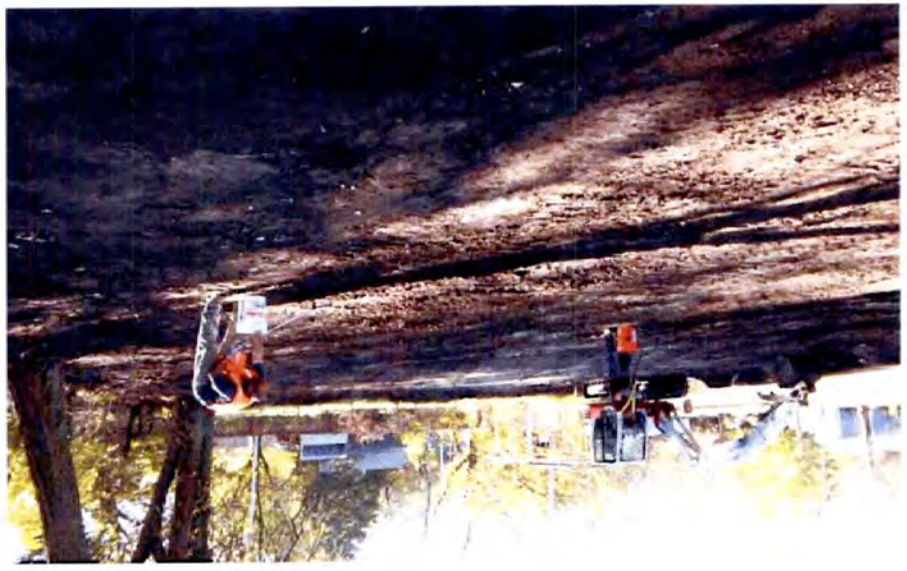
Contractor Logs

Cherryvale, Kansas Early Action Removal 2015

1st Street Park
Field Backup

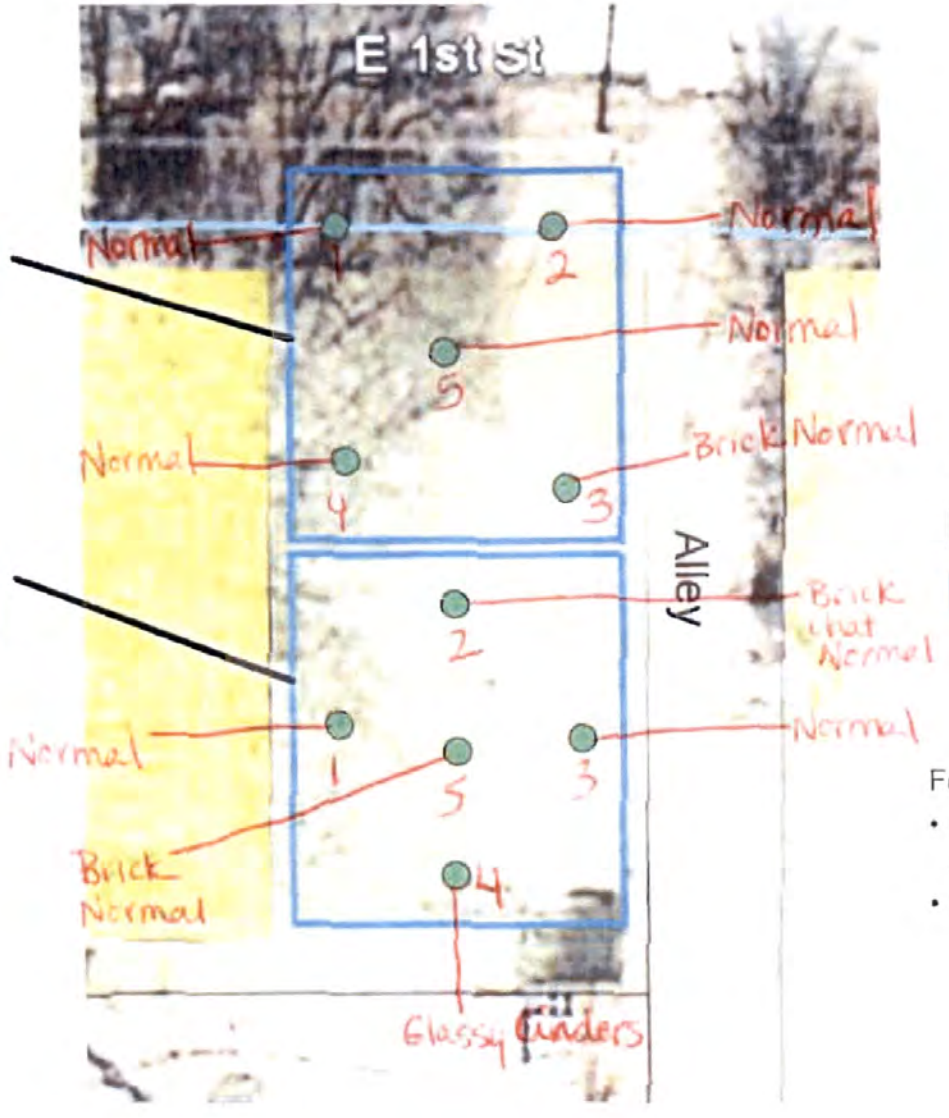
Cherryvale, Kansas Early Action Removal 2015

& E. 1st
Park
Post Remediation
Sample 1 + 2
10-28-15



Sample	Depth	Pb (mg/kg)
1-A	0-6"	1,017
1-B	6-12"	780
1-C	12-18"	153

Sample	Depth	Pb (mg/kg)
2-A	0-6"	2,466
2-B	6-12"	3,885
2-C	12-18"	3,400



Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

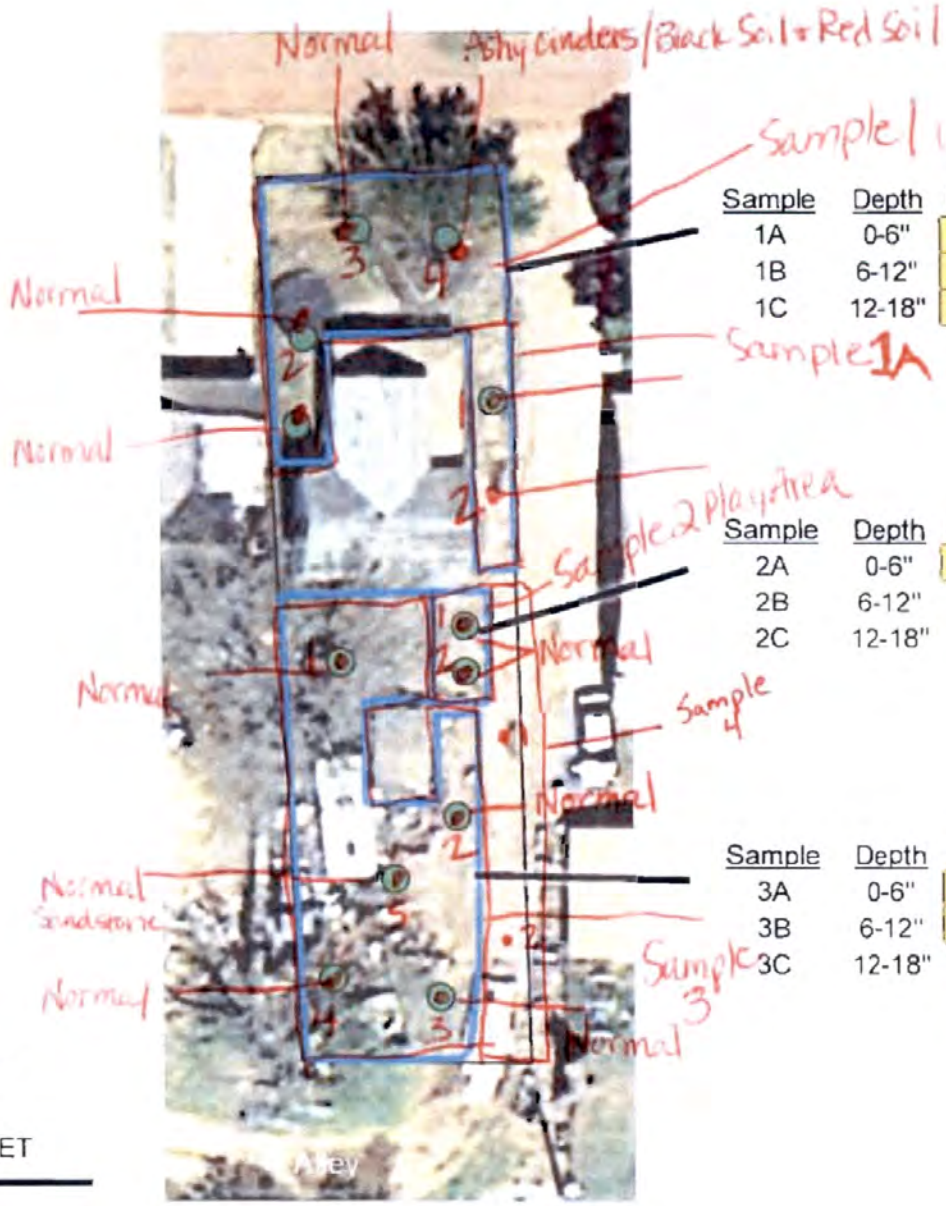
- Granular ashy SRM exposed under swings, and adjacent property.
- Soil fill with brick and SRM debris.

50 FEET

0 N. Wilson R8004 NE6 **00 E 1st Park Composite Sample Results**		**Figure 8**
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties START - 3:10 - 4:32 END 10/28/15 DMU CJ/MR	July 2015	PROJECT NAVIGATOR, LTD.

219 W 1st St.
Field Backup

Cherryvale, Kansas Early Action Removal 2015



Sample	Depth	Pb (mg/kg)
1A	0-6"	6280
1B	6-12"	703
1C	12-18"	532

Sample	Depth	Pb (mg/kg)
2A	0-6"	1297
2B	6-12"	162
2C	12-18"	115

Sample	Depth	Pb (mg/kg)
3A	0-6"	942
3B	6-12"	708
3C	12-18"	167

Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

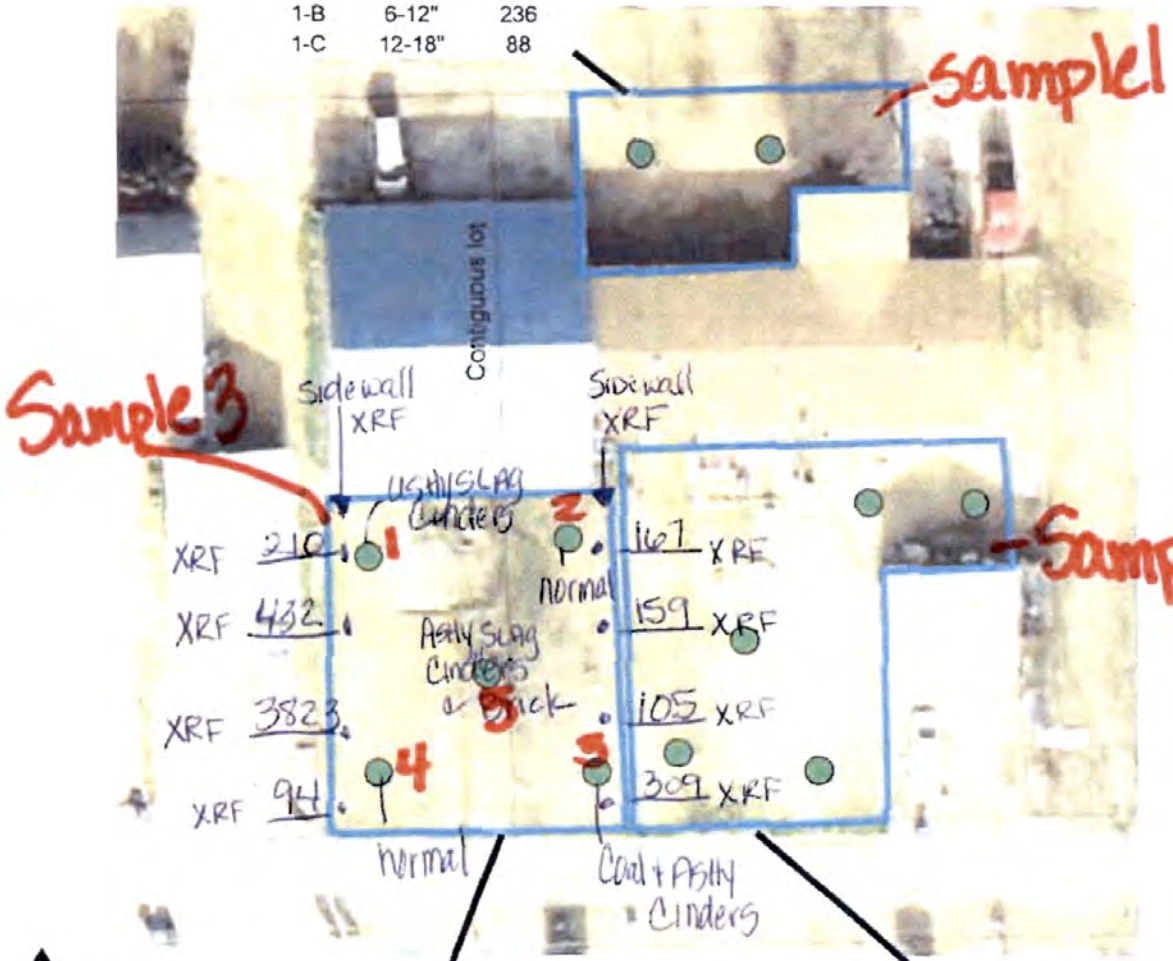
- SRM exposed from removed brick throughout property.
- Back yard observed at time of inspection with non-working motor vehicles, firewood, brick and miscellaneous small engine parts and other items that could potentially obstruct soil activities if not removed.

50 FEET

219 W 1st Composite Sample Results Ferguson		Figure 2
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties Start 2-2-3-26 end DMC/CJ/MC 10/21/15	July 2015	Project Navigator, Ltd.

10/21/15 START END 230 336
219 W. 1st
Ferguson
Post Remediation
5pt Sample 0-6"
DMC / CJ / MC
Sample 5-1-Normal Red Soil
2 Normal Red Soil XRF 18Pb(90sec)
3 Normal Red Soil XRF 18Pb(40sec)
4 Normal Red Soil
5 Normal Red Soil Sandstone
219 W. 1st
Ferguson
Pre Remediation
2 pt. Sample 0-6"
Sample 2 Pky Area
DMC / CJ / MC
1 Normal Red Soil
2 Normal Red Soil
XRF 82Pb(40sec)
XRF 58Pb(40sec)

Sample	Depth	Pb (mg/kg)
1-A	0-6"	395
1-B	6-12"	236
1-C	12-18"	88



Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

- Daycare center has been idle but permit active.
- Play area filled in with gray ashy SRM.
- Retort fragments noted in front ROW by road north side

Sample	Depth	Pb (mg/kg)
3-A	0-6"	686
3-B	6-12"	5188
3-C	12-18"	1082

Sample	Depth	Pb (mg/kg)
2-A	0-6"	326
2-B	6-12"	332
2-C	12-18"	191

50 FEET

317 W 4th Composite Sample Results Forman		Figure 3
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties	July 2015	Project Navigator, Ltd.

10/19/15 8:42 - 9:30
317 W. 4th Forman
XRF DMC/CJ/MC/NA RAW DATA
XRF 208 15 sec. (W. of Tree)
XRF 312 15 sec (~~S of~~ next to House)
XRF 1342 15 sec. (Center)
XRF 786 15 sec. (Center)
XRF 80 15 sec (Center)
XRF 10,000 15 sec (Middle of fence)
XRF 496 15 sec (Center)
XRF 1388 15 sec (Center)
XRF 193 15 sec (Center)
XRF 2700 15 sec (Center 2in)

10/19/15 2:00 2:47

317 W 4th St.
Field Backup

Cherryvale, Kansas Early Action Removal 2015

326 W 4th St.
Field Backup

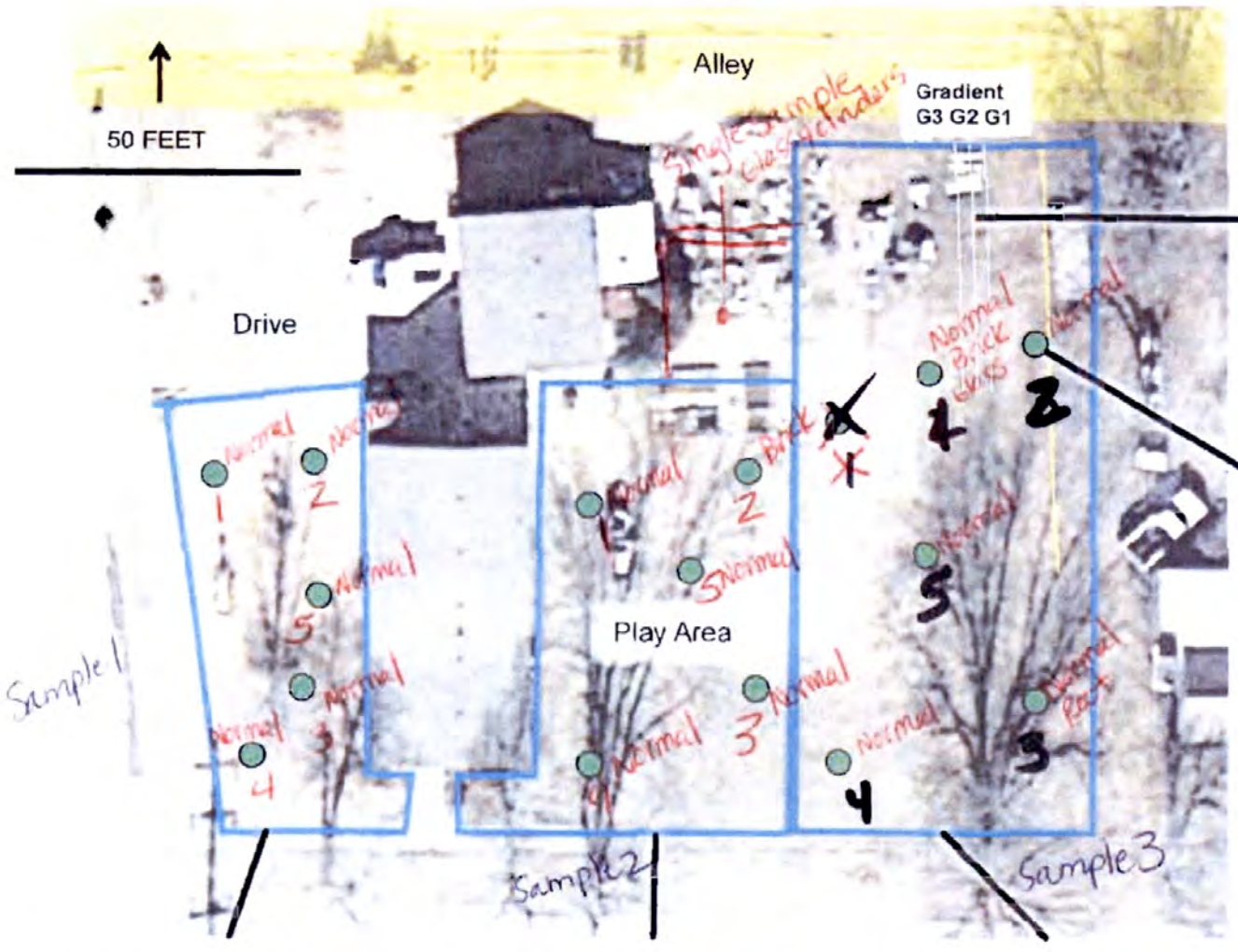
Cherryvale, Kansas Early Action Removal 2015

326 W 4th
Jewett
Post Remediation
Sample 3
10-15-15

326 W. 4th
Jewett
Post Remediation
Sample 1
10/15/15

326 W. 4th
Jewett
Post Remediation
Single Sample
10-15-15

326 W. 4th
Jewett
Post Remediation
Single Sample
10-15-15



Sample	Depth	Pb (mg/kg)
G-1-A	0-6"	673
G-1-B	6-12"	412
G-1-C	12-18"	488
G-2-A	0-6"	603
G-2-B	6-12"	349
G-2-C	12-18"	308
G-3-A	0-6"	767
G-3-B	6-12"	434
G-3-C	12-18"	373
SP-1-A	0-6"	888
SP-1-B	6-12"	592
SP-1-C	12-18"	641

Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

- Abundant granular glassy and red colored SRM east side of property.
- Fill on west side.
- Granular SRM in drip edge west side of residence.
- SRM noted in alley north side.

Sample	Depth	Pb (mg/kg)
1-A	0-6"	951
1-B	6-12"	584
1-C	12-18"	514

Sample	Depth	Pb (mg/kg)
2-A	0-6"	536
2-B	6-12"	388
2-C	12-18"	203

Sample	Depth	Pb (mg/kg)
3-A	0-6"	4,479
3-B	6-12"	2,010
3-C	12-18"	830

326 W 4th Composite Sample Results Jewett		**Figure 4**
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties	July 2015	Project Navigator, Ltd.

10/15/15

78

DML, CJ/MC/NA

10/15/15 4:27
326 W. 4th
Jewett
Sample 3
Post Remediation
~~0~~ 0-6"

Sample 3 5pt Sample
1 Black Soil, Brick, Glass Normal Charcoal
2 Black Soil Normal
3 Black Soil Root Normal
4 Black Soil Normal
5 Black Soil Normal
Sieved, Bagged, Filled Holes

Single Sample – ~~1 Etc~~
1 – Black Soil, Glassy Cinders
Non-Sieved Bagged Filled Holes
Sample 2 Play Area 5pt Sample
1 Black Soil Sandstone, Clay Normal
2 Black Soil Brick Normal
3 Black Soil Normal
4 Black Soil Normal
5 Black Soil Coal Normal
Sieved Bagged Filled Holes

10/15/15
Sample 1:
1 Black Soil Sandstone Normal
2 Black Soil Sandstone Normal
3 Black Soil Root Normal
4 Black Soil Normal
5 Black Soil Normal
Sieved Bagged, Filled Holes
10/19/15 8:42 - 9:30
317 W. 4th Forman
XRF DMC/CT/ML/NA RAW DATA
XRF 208 15 sec. (W. of Tree)
XRF 312 15 sec (~~Sof~~ Next to House)
XRF 1342 15 sec. (Center)
XRF 786 15 sec. (Center)
XRF 80 15 sec (Center)
XRF 10,000 15 sec (Middle of fence)
XRF 496 15 sec (Center)
XRF 1388 15 sec (Center)
XRF 193 15 sec (Center)
XRF 2700 15 sec (Center 2in)
Initials 7:00 7:47

416 N. Maple St.
Field Backup

Cherryvale, Kansas Early Action Removal 2015

CAUTION

416 N. Maple
10-2-15
Sample 1A
Post Remediation
Robertson

416 N. Maple
10-2-15
Sample 1
Robertson
Post Remediation

416 N. Maple
10-2-15
Sample 1A
Post Remediation
Robertson

416 N. Morse
10-2-15
Sample 1
Robertson

10/2/15 4 & N Maple CS, MZ, DMC, NA

Robertson Post Remediation

NW Quadrant Sample 1

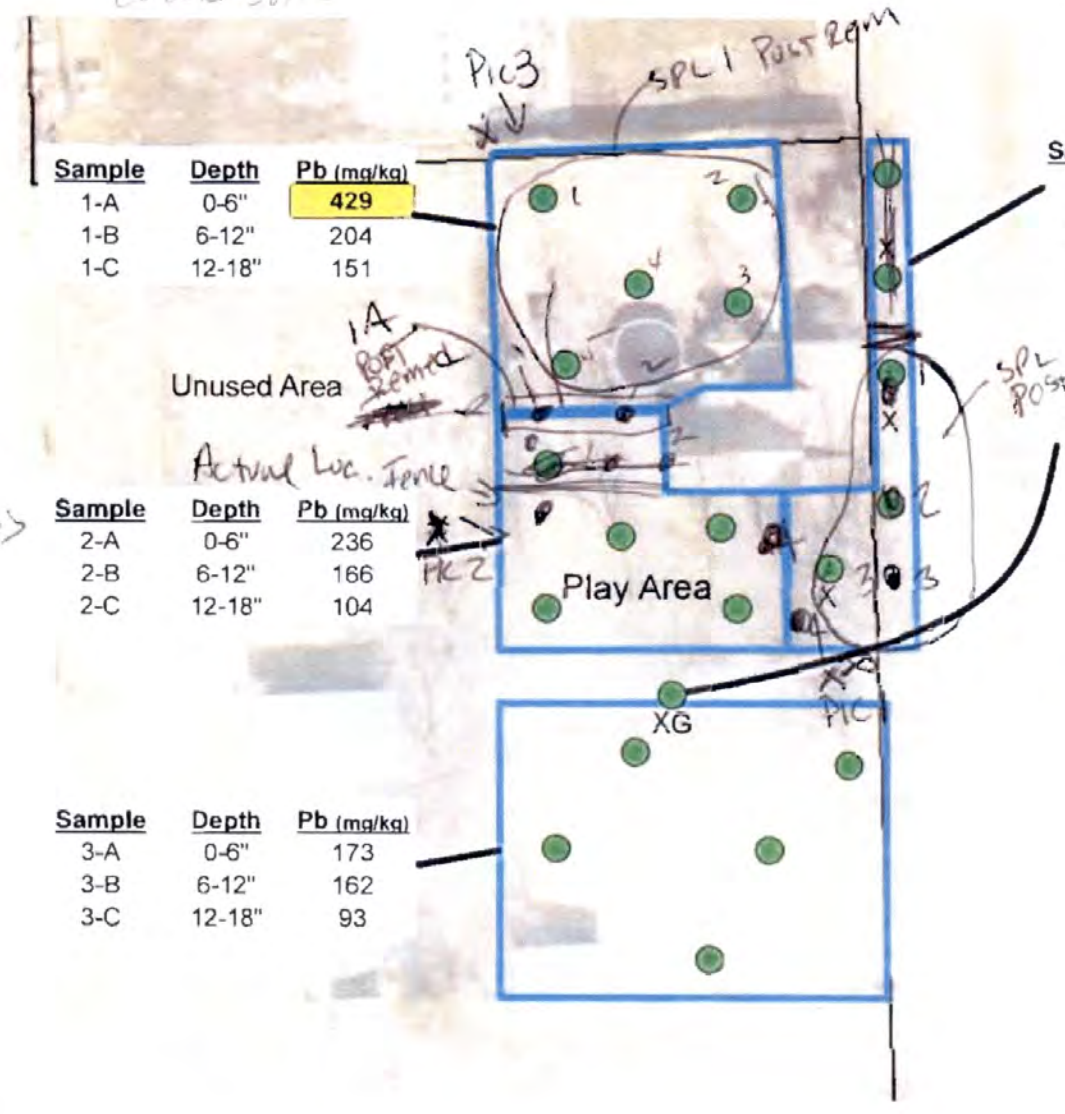
0-6" -1 Normal looking soil
2 Normal looking soil
3 Normal looking soil
4 Normal looking soil
5 Normal looking soil

Sample 1A

Seperate Composit (Refer to map)
two points
1 - Normal looking soil
2 - Normal looking soil

Sample 4

East Quadrant
1 - gravel + normal looking soil
2 - Normal looking dirt
3 - Reddish Soil
4 - Normal looking soil



Sample	Depth	Pb (mg/kg)
1-A	0-6"	429
1-B	6-12"	204
1-C	12-18"	151

Sample	Depth	Pb (mg/kg)
2-A	0-6"	236
2-B	6-12"	166
2-C	12-18"	104

Sample	Depth	Pb (mg/kg)
3-A	0-6"	173
3-B	6-12"	162
3-C	12-18"	93

Sample	Depth	Pb (mg/kg)
4-A	0-6"	642
4-B	6-12"	149
4-C	12-18"	145

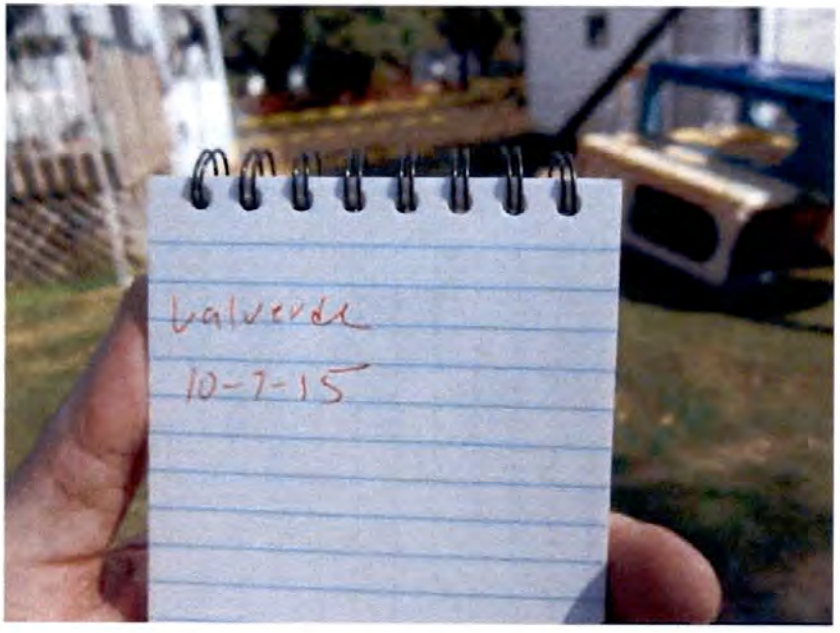
Sample	Depth	Pb (mg/kg)
DW-A	0-6"	204
DW-B	6-12"	244
DW-C	12-18"	104

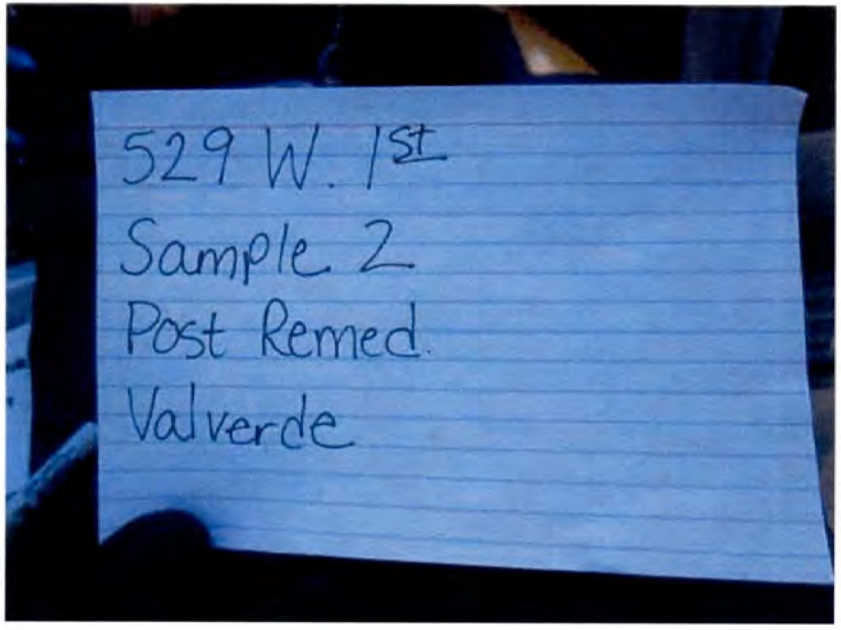
416 N Maple Composite Sample Results		Figure 5
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties	July 2015	PROJECT NAVIGATOR, LTD.

529 W. 1st St.
Field Backup

Cherryvale, Kansas Early Action Removal 2015

529 W. 1ST
Valverde PLAY
10-5-15 AREA
PRE Remedial


Valverde
10-7-15


529 W. 1st
Sample 2
Post Remed.
Valverde

529 W. 1st
Valverde
Sample 2 Fence
Post Remediation

Sample	Depth	Pb (mg/kg)
Ditch A	0-6"	1104
Ditch B	6-12"	1541
Ditch C	12-18"	527
G-1-A	0-6"	1228
G-1-B	6-12"	772
G-1-C	12-18"	207
G-2-A	0-6"	1021
G-2-B	6-12"	591
G-2-C	12-18"	149
G-3-A	0-6"	1110
G-3-B	6-12"	242
G-3-C	12-18"	254

Sample	Depth	Pb (mg/kg)
1-A	0-6"	331
1-B	6-12"	240
1-C	12-18"	85

Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

- Isolated retort fragments east side.
- Granular SRM noted south side by garage.
- Granular SRM abundant in north ditch.
- (x) Retort fragment

Sample	Depth	Pb (mg/kg)
3-A	0-6"	1496
3-B	6-12"	584
3-C	12-18"	187

50 FEET

Sample	Depth	Pb (mg/kg)
2-A	0-6"	535
2-B	6-12"	274
2-C	12-18"	81

SPL 2 area other than play area.

10-8-15 Post Removal Checked Sample 3

529 W 1st Composite Sample Results Valverde NW18	Figure 6
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties	July 2015

SWTS MC/MC

10/5/15 529 W. 1ST DMC, MC/W, NA
2:00 PM 2:51 PM
Valverde Pre-Remediation
Play area test
0-6" - had bricks
6-12 - brick fragments

XRF Pb 165 [illegible]

10/8/15 9:05 10:30
529 W 1st
Sample 2 - Play Area
Post Remediation
3 pt Composite Sample
Sample 2 0-6"
~~XRF~~ Pb - 64 60sec

XRF Pb - 37 60sec

10/8/15
529 W 1st
Valverde
Sample 2
5 pt Composite Sample
Post Remediation
Sample 2 0-6"
XRF Pb 119 60 sec.
XRF Pb - 112 60 sec

529 W. 1st
Valverde
Sample 2 Single
1 pt. Composite Sample
Post Remediation
Sample 2 Single 0-6"
XRF Pb - 280 40 sec
XRF Pb - 245 40 sec

529 W. 1st
Valverde
Sample 2A (East Fence line)
3 pt. Composite Sample
Post Remediation
Sample 2A 0-6"
ML / DML / CJ / NA / Mark
XRF Pb 45 60 sec
XRF Pb 35 60 sec

76

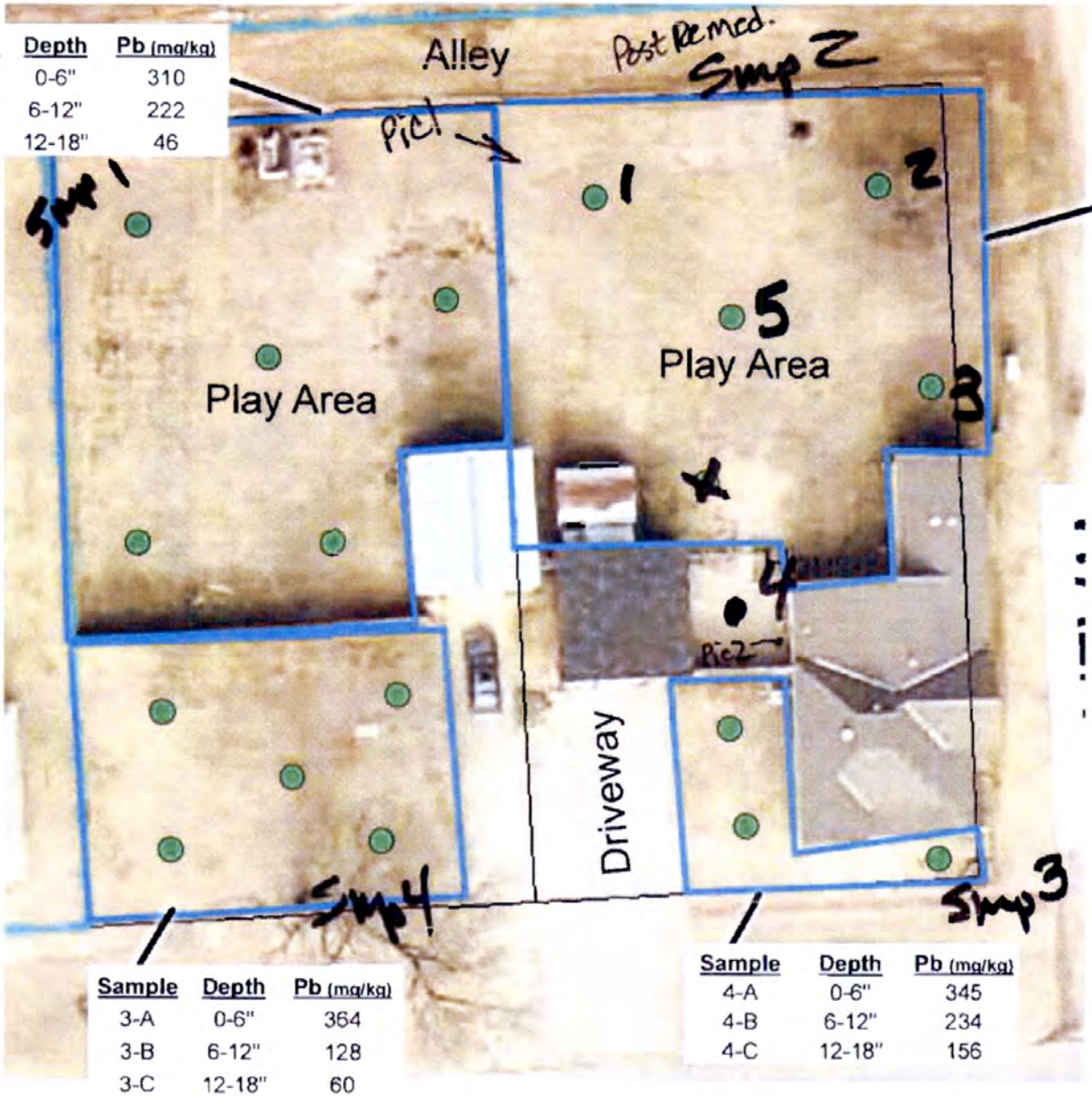
10-12-15
8 1:23 1:40
529 W 1st
Valverde
Sample 2 Fence
Post Remediation
2 pt Composite Sample
0-6" MU/CJ/DMU/NA

XRF Pb 173 60 sec
XRF Pb 173 60 sec
XRF Pb 177 60 sec

WICHE 9:25 11:16

902 W. Main St.
Field Backup

Cherryvale, Kansas Early Action Removal 2015



Sample	Depth	Pb (mg/kg)
1-A	0-6"	310
1-B	6-12"	222
1-C	12-18"	46

Sample	Depth	Pb (mg/kg)
2-A	0-6"	1175
2-B	6-12"	744
2-C	12-18"	160

Sample	Depth	Pb (mg/kg)
3-A	0-6"	364
3-B	6-12"	128
3-C	12-18"	60

Sample	Depth	Pb (mg/kg)
4-A	0-6"	345
4-B	6-12"	234
4-C	12-18"	156

Legend

- Parcel Boundary
- Sample Composite Subarea
- Sample Aliquot

Features

- Active daycare center.
- Play area contains granular gray ashy SRM with fill.

50 FEET

902 W Main, Composite Sample Results		Figure 7
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties	July 2015	Project Navigator, Ltd.

SWTS Mi/mi

10/05/15 902 W. Main DMC, NM, US
2:54PM
Beye Post Remediation
Spot XRF - Pb 1066 - Between Buildings

10/05/10 902 W. Main Boye Cont. 70
5pt 0-6" Composite Sample

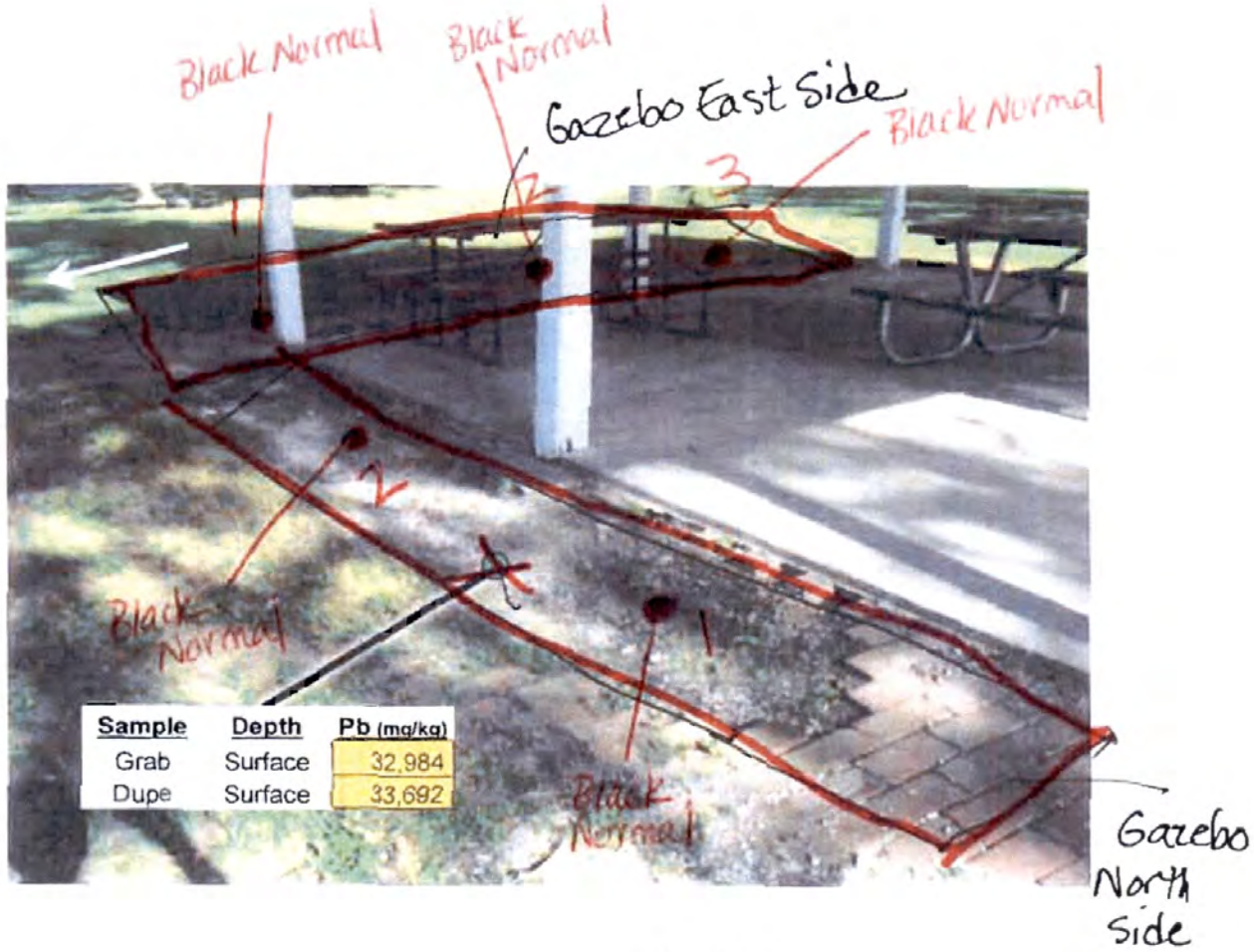
Spot XRF SW Corner 597 Pb
NW Corner 91 Pb
Concrete Pad 250 Pb
SE Corner 260 Pb
NE Corner 43 Pb

10/6/15 9:15
902 W. Main
Post Remediation
5 pt Composite Sample
Sample 2 0-6"
XRF Pb - 349 30 sec
XRF Pb - 158 30 sec
XRF Pb - 163 30 sec

Logan Park Gazebo Field Backup

Cherryvale, Kansas Early Action Removal 2015

Logan Park East Side Gazebo Location



Sample	Depth	Pb (mg/kg)
Grab	Surface	32,984
Dupe	Surface	33,692

Features

- Ashy SRM exposed where brick is removed next to slab.

Logan Park Gazebo Grab Sample Results		Figure 9
Phase 2 RSE, Cherryvale, Kansas Data Evaluation of Early Action Properties	July 2015	Project Navigator, Ltd.

10/15/15 71.

10/19/15 2:00 2:47
Logan Park East Side -Post Remediation
Gazebo Location 0-6" 3pt
1 Black Soil Normal
2 Black Soil Normal
3 Black Soil Normal

80
10/19/15
Logan Park North Side 0-6"
Gazebo 3pt
Post Remediation
1 - Black Soil Normal
2 - Black Soil Normal
~~3 - Black Soil Normal~~

Contractor Field Backup

Cherryvale, Kansas Early Action Removal 2015

ENTACT, LLC

1 E. Oakhill Dr. Suite 102 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Monday, October 12, 2015***	***Work Desc.: 2015 Residential Early Action***

Took 5 cy of impacted soil from 529 W. 1st to repository then moved the excavtion crew to start new yard at 326 W.4th, backfill crew hauled in 30 cy of topsoil and 12 cy of pea gravel for play area at 529 W.1st

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO	4			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	28		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1 E. Oakhill Dr. Suite 102 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date *Tuesday, October 13, 2015*	***Work Desc.: 2015 Residential Early Action***

Move one crew to 326 W. 4th st to start excavtion haul 60 cy of impacted soil to repository.backfill crew finished 529 W. 1st hauled in 25 cy of topsoil and half of load of pea gravel 6 tons.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1 E. Oakhill Dr. Suite 102 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Wednesday, October 14, 2015***	***Work Desc.: 2015 Residential Early Action***

All personnel at 326 W. 4th st hauled off 180 cy of impacted soil to repository both crews are excavting.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	3		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1 E. Oakhill Dr. Suite 102 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report		*Client/Customer:*	*US Steel*
Location: Cherryvale, Kansas		*Prepared By:*	*Mike Carretta*
Date	***Thursday, October 15, 2015***	***Work Desc.:***	***2015 Residential Early Action***

Move one crew to 317 W. 4th st to start excavtion they hauled off 65 cy of impacted soil to repository, the crew that stayed at 326 W, 4th st hauled off 380 cy of impacted soil. Sod was delivered from Green Acres sod farm sod crew completed installation at 416 N.Maple 902 W. Main and 529 W. 1st st.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	8.5			
Nathaniel Livingston	Operator OT	2			
James Livingston	Operator ST	8.5			
James Livingston	Operator OT	2			
Billy Davis	Driver ST	8.5			
Billy Davis	Driver OT	2			
James Wheeler	Driver ST	8.5			
James Wheeler	Driver OT	2			
Robert Briley	Laborer ST	8.5			
Robert Briley	Laborer OT	2			
Cordero Smith	Laborer ST	8.5			
Cordero Smith	Laborer OT	2			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1 E. Oakhill Dr. Suite 102 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Friday, October 16, 2015***	***Work Desc.: 2015 Residential Early Action***

Excavtion crew at 317 W.4h st completes excavtion hauled off 55 cy of impacted soil. The crew at 326 W. 4th st also completes this yard hauled off 85 cy of impacted soil.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT	10.5			
James Livingston	Operator ST				
James Livingston	Operator OT	10.5			
Billy Davis	Driver ST				
Billy Davis	Driver OT	10.5			
James Wheeler	Driver ST				
James Wheeler	Driver OT	10.5			
Robert Briley	Laborer ST				
Robert Briley	Laborer OT	10.5			
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT	10.5			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	4		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1010 Executive Court, Suite 280 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Monday, October 19, 2015***	***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Start excavtion at Logan Park hauled off 20 cy of impacted soil, hauled in 15 cy of commom soil and one load of crushed stone 5 cy Park completed. Start backfill at 326 W.4th

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	3		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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1010 Executive Court, Suite 280 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Tuesday, October 20, 2015***	***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Move an excation crew to 219 W. 1st st start excavtion crew in this yard all day op. and laborer only. Backfill crew completes 326 W. 4th st ha
Also lay down Approx.of 3200' of barrier fence at 326 W. 4th st.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report
Location: Cherryvale, Kansas
Date ***Wednesday, October 21, 2015***

Client/Customer: US Steel
Prepared By: Mike Carretta
Work Desc.: 2015 Residential Early Action

DESCRIPTION OF WORK PERFORMED

Excavtion crew hauled off 80 cy of impacted soil at 219 W.1st st backfill crew hauled in 85 cy of topsoil at 317 W. 4th st

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Thursday, October 22, 2015***	***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Excavtion crew at 219 W.1st st hauled off 65 cy of impacted soil, backfill crew hauled in 55 cy of topsoil at 317 W. 4th st yard complete. Move

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	8.5			
Nathaniel Livingston	Operator OT	2			
James Livingston	Operator ST	8.5			
James Livingston	Operator OT	2			
Billy Davis	Driver ST	8.5			
Billy Davis	Driver OT	2			
James Wheeler	Driver ST	8.5			
James Wheeler	Driver OT	2			
Robert Briley	Laborer ST	8.5			
Robert Briley	Laborer OT	2			
Cordero Smith	Laborer ST	8.5			
Cordero Smith	Laborer OT	2			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report | *Client/Customer: US Steel*
Location: Cherryvale, Kansas | *Prepared By: Mike Carretta*
Date ***Friday, October 23, 2015*** | ***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Backfilling 219 W. 1st hauled in 31.85 tons of crushed stone and 80 cy of topsoil.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT	10.5			
James Livingston	Operator ST				
James Livingston	Operator OT	0			
Billy Davis	Driver ST				
Billy Davis	Driver OT	10.5			
James Wheeler	Driver ST				
James Wheeler	Driver OT	10.5			
Robert Briley	Laborer ST				
Robert Briley	Laborer OT	10.5			
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT	10.5			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck			
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report | *Client/Customer: US Steel*
Location: Cherryvale, Kansas | *Prepared By: Mike Carretta*
Date ***Monday, October 26, 2015*** | ***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Backfilling 219 W. 1st hauled in 15.51 crushed stone and 5 cy of topsoil.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	4		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	4		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report		*Client/Customer: US Steel*
Location: Cherryvale, Kansas		*Prepared By: Mike Carretta*
Date	***Tuesday, October 27, 2015***	***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Excavate driveway area at 219 W. 1st hauled off 20 cy of impacted soil, also completed backfill with 10 cy of common fill and 15.18 tons of cru
Move mini to start excavtion at city park.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	3		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Wednesday, October 28, 2015***	***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Start excavtion and complete excavtion at City Park hauled off 210 cy of impacted soil lay down 2860' of barrier fence. Sod completed at 326 a

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO	8			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	0			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	0			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck			
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report
Location: Cherryvale, Kansas
Date ***Thursday, October 29, 2015***

Client/Customer: US Steel
Prepared By: Mike Carretta
Work Desc.: 2015 Residential Early Action

DESCRIPTION OF WORK PERFORMED

Start and complete backfill at City Park hauled in 250 cy of topsoil. Sod complete at 219 W.1st st.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO	10.5			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	8.5			
Nathaniel Livingston	Operator OT	2			
James Livingston	Operator ST	0			
James Livingston	Operator OT	0			
Billy Davis	Driver ST	8.5			
Billy Davis	Driver OT	2			
James Wheeler	Driver ST	8.5			
James Wheeler	Driver OT	2			
Robert Briley	Laborer ST	8.5			
Robert Briley	Laborer OT	2			
Cordero Smith	Laborer ST	0			
Cordero Smith	Laborer OT	0			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	4		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***Friday, October 30, 2015***	***Work Desc.: 2015 Residential Early Action***

DESCRIPTION OF WORK PERFORMED

Jason grading out repository for tarp placement.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	8			
Jerry Overton	HSO	4			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST				
Billy Davis	Driver OT				
James Wheeler	Driver ST				
James Wheeler	Driver OT				
Robert Briley	Laborer ST				
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck			
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer			
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report		*Client/Customer: US Steel*
Location: Cherryvale, Kansas		*Prepared By: Mike Carretta*
Date	***Monday, October 5, 2015***	***Work Desc.: 2015 Residential Early Action***

All personnel were at 902 W. Main all day 10.5 hrs there were 160 cy of impacted soil removed.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	10.5			
Jerry Overton	HSO	4			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	3		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report — *Client/Customer: US Steel*

Location: Cherryvale, Kansas — *Prepared By: Mike Carretta*

Date ***Tuesday, October 6, 2015*** — ***Work Desc.: 2015 Residential Early Action***

Move James and C.J. with mini to 529 W. 1st to prep yard and start excavation James Wheeler truck driver hauled 60 cy of impacted soil to repository. Nat and Robert stay at 902 W. Main and completed excavtion Billy Davis hauled 35 cy of impacted soil to the repository then proceeded to backfill this yard, we used a single axle truck which hauled 70 cy of topsoil and a tandem truck which hauled in 216 cy of topsoil yard complete.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	10.5			
Jerry Overton	HSO	10.5			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

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Daily Report — *Client/Customer: US Steel*
Location: Cherryvale, Kansas — *Prepared By: Mike Carretta*
Date ***Wednesday, October 7, 2015*** — ***Work Desc.: 2015 Residential Early Action***

Excavtion continues at 529 W. 1st crew is James L. C.J. and truck driver James W. crew in yard all day 10.5 hrs hauled off 35 cy of impacted soil to repository. Nat and Robert on backfill at 416 N. Maple truck driver Billy Davis hauled in one load of rock and 55 cy of topsoil. Tandem truck hauled in 180 cy of topsoil yard was completed moved crew to 529 W.1st to help on excvation Billy hauled off 10 cy of impacted soil.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report — *Client/Customer: US Steel*

Location: Cherryvale, Kansas — *Prepared By: Mike Carretta*

Date *Thursday, October 8, 2015* — ***Work Desc.: 2015 Residential Early Action***

All crew personnel were at 529 W.1st excavtion crew hauled off 60 cy of impacted soil to repository while backfill crew hauled in 173 cy of topsoil all personnel were in yard 10.5 hrs

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	11			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	8.5			
Nathaniel Livingston	Operator OT	2			
James Livingston	Operator ST	8.5			
James Livingston	Operator OT	2			
Billy Davis	Driver ST	8.5			
Billy Davis	Driver OT	2			
James Wheeler	Driver ST	8.5			
James Wheeler	Driver OT	2			
Robert Briley	Laborer ST	8.5			
Robert Briley	Laborer OT	2			
Cordero Smith	Laborer ST	8.5			
Cordero Smith	Laborer OT	2			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	25		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date *Friday, October 9, 2015*	***Work Desc.: 2015 Residential Early Action***

started raining at 7 a.m. off and on until 8:30 sent crew home keep James L. and he greased and fueled all euipment no field work activity

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	8			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT	2			
James Livingston	Operator ST				
James Livingston	Operator OT	4.5			
Billy Davis	Driver ST				
Billy Davis	Driver OT	2			
James Wheeler	Driver ST				
James Wheeler	Driver OT	2			
Robert Briley	Laborer ST				
Robert Briley	Laborer OT	2			
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT	2			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck			
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer			
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***9/21/15 thru 9/25/15***	***Work Desc.: 2015 Residential Early Action***

The work that I preformed throughout this week are Monday arrive look at maps and did a walk thru on all yards to see what equipment is needed. Tueday call in locates and ordered equipment. Wednesday went to see Mike Carretta to recevie $300.00 petty cash also went to Neosho Mo. to pick up job trailer. Thursday meet wtih United Rentals sales Rep recevied skid steer and mini on site. Friday recieved two pickup trucks and two dump trucks on site

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM				
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST				
Billy Davis	Driver OT				
James Wheeler	Driver ST				
James Wheeler	Driver OT				
Robert Briley	Laborer ST				
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck			
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer			
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1010 Executive Court, Suite 280 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***9/21/15 thru 9/25/15***	***Work Desc.: 2015 Residential Early Action***

The work that I preformed thoughout this week are Monday arrive look at maps and did a walk thru on all yards to see what equipment is needed. Tueday call in locat

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM				
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST				
Billy Davis	Driver OT				
James Wheeler	Driver ST				
James Wheeler	Driver OT				
Robert Briley	Laborer ST				
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck			
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer			
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report	*Client/Customer: US Steel*
Location: Cherryvale, Kansas	*Prepared By: Mike Carretta*
Date ***9=28-15***	***Work Desc.: 2015 Residential Early Action***

All the crew was at the repository after our site and safety orientation which was from 7-12. At 1:00 we started hauling soil in and laying barrier fence down on the bottom of the cell we are constructing. Truck drivers Billy and James hauled 4 loads of soil and one load of base rock a piece. Both labors laid fence down which included 500' and backed trucks up for dumping Cordero and Robert. James was on the mini trenching in for silt fence, Nat as on the skid steer constructing berm

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	10			
Jerry Overton	HSO	10			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST				
Billy Davis	Driver OT				
James Wheeler	Driver ST				
James Wheeler	Driver OT				
Robert Briley	Laborer ST				
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck			
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer			
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

1 E. Oakhill Dr. Suite 102 Westmont, IL 60559 Phone: (630) 986-2900 Fax: (630)986-0653

Daily Report		*Client/Customer:*	*US Steel*
Location: Cherryvale, Kansas		*Prepared By:*	*Mike Carretta*
Date	***Tuesday, September 29, 2015***	***Work Desc.:***	***2015 Residential Early Action***

All crew members are in staging area helping construct berm, laying barrier fence down and excavating trench for silt fence.
Crew installed 300' of silt fence and laid down 2300' of barrier fence also hauled in 36 loads of soil, finished berm construction.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	10.5			
Jerry Overton	HSO	10.5			

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Mini	10.5		
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report		*Client/Customer:*	*US Steel*
Location: Cherryvale, Kansas		*Prepared By:*	*Mike Carretta*
Date	***Monday, September 28, 2015***	***Work Desc.:***	***2015 Residential Early Action***

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM				
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST				
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST				
James Livingston	Operator OT				
Billy Davis	Driver ST				
Billy Davis	Driver OT				
James Wheeler	Driver ST				
James Wheeler	Driver OT				
Robert Briley	Laborer ST				
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST				
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator			
ER-2 Single Axle Dump Truck			
ER-3 Single Axle Dump Truck			
ER-4 Water Truck			
ER-5 Water Truck			
ER-6 Skid Steer			
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel			
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report		*Client/Customer: US Steel*
Location: Cherryvale, Kansas		*Prepared By: Mike Carretta*
Date	***Thursday, October 1, 2015***	***Work Desc.: 2015 Residential Early Action***

all personnel were at 416 N. Maple excavtion starts remain in yard all day

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	10.5			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	10.5			
Nathaniel Livingston	Operator OT				
James Livingston	Operator ST	10.5			
James Livingston	Operator OT				
Billy Davis	Driver ST	10.5			
Billy Davis	Driver OT				
James Wheeler	Driver ST	10.5			
James Wheeler	Driver OT				
Robert Briley	Laborer ST	10.5			
Robert Briley	Laborer OT				
Cordero Smith	Laborer ST	10.5			
Cordero Smith	Laborer OT				

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	1		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	22		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

ENTACT, LLC

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Daily Report		*Client/Customer:*	*US Steel*
Location: Cherryvale, Kansas		*Prepared By:*	*Mike Carretta*
Date	***Friday, October 2, 2015***	***Work Desc.:***	***2015 Residential Early Action***

James Livington and Codero Smith were at 416 N. Maple for eight hrs then move to 904 W. Main to start the next excavtion. Nat and Robert stay at 416 N. Maple and starting backfilling front yard keep both trucks to haul backfill soil.

MANAGEMENT/STAFF LABOR

Name of Employee	Position/Title	Hours			Work Type/Location
Maynard Randall	FPM	10.5			
Jerry Overton	HSO				

CRAFT LABOR

Description	Position/Title	Hours			Work Type/Location
Nathaniel Livingston	Operator ST	9			
Nathaniel Livingston	Operator OT	1.5			
James Livingston	Operator ST	9			
James Livingston	Operator OT	1.5			
Billy Davis	Driver ST	9			
Billy Davis	Driver OT	1.5			
James Wheeler	Driver ST	9			
James Wheeler	Driver OT	1.5			
Robert Briley	Laborer ST	9			
Robert Briley	Laborer OT	1.5			
Cordero Smith	Laborer ST	9			
Cordero Smith	Laborer OT	1.5			

EQUIPMENT

Equipment Description	QTY (Hrs)		
ER-1 Mini-Excavator	10.5		
ER-2 Single Axle Dump Truck	10.5		
ER-3 Single Axle Dump Truck	10.5		
ER-4 Water Truck	2		
ER-5 Water Truck			
ER-6 Skid Steer	10.5		
ER-7 Skid Steer			
ER-8 Dozer			

SUBCONTRACTORS/MATERIALS/OTHER

Description	QTY		
Fuel	32		
Backfill			
Cover Soils with Pile			
Sod			
Hydroseed (pile)			

C3-063-00026 1.0

Pamela Green

From: Pamela Green
Sent: Monday, May 09, 2016 10:43 AM
To: 'Mark Landress'
Cc: wanderson@dsda.com
Subject: RE: Cherryvale Early Action Removal Report

Good morning Mark – We do not have any major comments for the Early Action Removal Report, but we have the following minor comments for your consideration:

1. In Figure 5 (416 N. Maple), the confirmation sample at the bottom of the excavation for Sample 1a is shown to be 1152.7 mg/kg. When looking at Table 2, I think this might just be a typographical error in the figure and should be well below the SSV.

2. In Table 1, the action completed at 317 W. 4th looks like it should include the addition of marker fabric around the tree base at the center of the excavation area.

3. The depth of the excavation is missing in Figures 6 and 9.

4. In Figure 6 (529 W. 1st), the sample aliquot symbols are missing in the play area, and the results for the sample composite area to the north are missing.

5. Please include field notes in the appendices.

If you want to send an electronic copy of the replacement pages, I can print and insert them into the hard copy of the report. Let me know if you have any questions.

Thanks,

Pamela D. Green
Environmental Scientist
Site Remediation Unit
Bureau of Environmental Remediation
Kansas Department of Health & Environment
Phone: 785.296.1935

From: Mark Landress [mailto:mlandress@projectnavigator.com]
Sent: Tuesday, March 29, 2016 8:53 AM
To: Pamela Green <PGreen@kdheks.gov>
Cc: wanderson@dsda.com
Subject: Cherryvale Early Action Removal Report

Pam, please find attached the report for the Cherryvale early removal action. A hard copy is being sent also. Let me know if you have any questions. Thanks.

Regards,
Mark Landress, PG
Project Navigator, Ltd.

Phone: 713-468-5886 Cell: 713-539-3636
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