

# Phase II Environmental Site Assessment Addendum

RECEIVED

Revision 0

JAN 16 2018

**B&T Metals**  
**1855 3rd Street**

Nebraska Dept. of Environmental Quality  
By: \_\_\_\_\_ DEC #192

**Gering, Scotts Bluff County, Nebraska**

January 12, 2018

Terracon Project No. 05177725A

EPA Cooperative Agreement No. BF-97746301

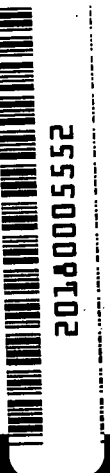
NDEQ IIS: 57172

NDEQ Program ID: BF00327

ACRES # 206544

**Prepared for:**  
**City of Gering**  
**Gering, Nebraska**

**Prepared by:**  
**Terracon Consultants, Inc.**  
**Omaha, Nebraska**



terracon.com

# Terracon

Environmental ☐ Facilities ☐ Geotechnical ☐ Materials ☐

January 12, 2018

City of Gering  
1025 P Street  
Gering, Nebraska 69341

Re: Phase II Environmental Site Assessment Addendum (Revision 0)  
B&T Metals Facility  
1855 3rd Street  
Gering, Scotts Bluff County, Nebraska  
EPA Cooperative Agreement # BF-97746301  
NDEQ IIS: 57172  
NDEQ Program ID: BF00327  
ACRES # 206544  
Terracon Project No. 05177725A

RECEIVED

JAN 16 2018

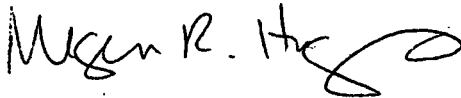
Nebraska Dept of Environmental Quality  
By: \_\_\_\_\_ DEQ#182 \_\_\_\_\_

Terracon has conducted additional sampling and investigation as an amendment to the Phase II Environmental Site Assessment Report (ESA) (Revision 1) issued June 21, 2017. The addendum services were conducted to address data gaps identified by and comments received from the Nebraska Department of Environmental Quality (NDEQ) in response to their review of the Phase II Environmental Site Assessment Report, Revision 0, dated January 26, 2017, and Revision 1, dated June 21, 2017, for the B & T Metals site.

The addendum services were conducted in general accordance with the PSAP Amendment (Revision 1), dated August 28, 2017, a companion document to the PSAP (Revision 2) and the Quality Assurance Project Plan – Revision 1, EPA Brownfields Hazardous Substance Assessments, Gering, Scotts Bluff County, Nebraska, EPA Cooperative Agreement No. BF-97746301, November 13, 2015.

If there are questions concerning the amendment or if we may be of further assistance, please contact the Assessment Coordinator, Ms. Megan Hughes at [402-384-7025] or [Megan.Hughes@terracon.com](mailto:Megan.Hughes@terracon.com).

Sincerely,  
Terracon Consultants, Inc.



Megan R. Hughes  
Phase II Assessment Coordinator



Michael Reif, P.E.  
Senior Technical Reviewer

MRH/MBR:mrh/nlm

Distribution: Addressee (pdf, 1 unbound)  
Sabine Martin, CTOR Solutions (pdf)  
Nancy Harris, NDEQ (pdf, 1 unbound)

## TABLE OF CONTENTS

	<u>Page</u>
<b>EXECUTIVE SUMMARY .....</b>	<b>i</b>
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
<b>2.0 SCOPE OF SERVICES .....</b>	<b>1</b>
<b>3.0 FIELD PROCEDURES.....</b>	<b>2</b>
3.1 Direct Push Boring Advancement.....	2
3.2 Hand Auger Boring Advancement.....	2
3.3 Soil Sampling and Testing .....	2
3.4 Cleaning Operations and Other Measures to Reduce Cross-Contamination.....	3
<b>4.0 SAMPLING AND ANALYSIS RESULTS .....</b>	<b>4</b>
4.1 Soil.....	4
<b>5.0 DATA QUALITY REVIEW.....</b>	<b>4</b>
5.1 Field Data Quality Review .....	4
5.2 Quality Control Parameters.....	4
5.3 Precision .....	5
5.4 Representativeness.....	5
5.5 Completeness .....	6
5.6 Comparability .....	6
5.7 Sensitivity .....	6
5.8 Laboratory Data Quality Review.....	6
<b>6.0 INVESTIGATION DERIVED WASTE.....</b>	<b>6</b>
<b>7.0 DISCUSSION .....</b>	<b>6</b>
<b>8.0 CONCLUSIONS .....</b>	<b>7</b>
<b>9.0 DEVIATIONS FROM THE PSAP AMENDMENT.....</b>	<b>7</b>
<b>10.0 REFERENCES .....</b>	<b>7</b>
<b>11.0 GENERAL COMMENTS .....</b>	<b>7</b>



## **TABLE OF CONTENTS (CONTINUED)**

### **APPENDIX A - FIGURES**

Exhibit 1 – Topographic/Location Map

Exhibit 2 – Sample Location Diagram

### **APPENDIX B - TABLES**

Table 1 – Soil Sample Detection Summary

Table 2 – Soil TCLP Detection Summary

### **APPENDIX C - LABORATORY REPORTS & CHAIN-OF-CUSTODY DOCUMENTATION**

### **APPENDIX D - FIELD NOTES**

### **APPENDIX E - PSAP AMENDMENT**

### **APPENDIX F - PHOTOLOG**

## **EXECUTIVE SUMMARY**

Phase I and Phase II Environmental Site Assessments (ESA) have been conducted for the B&T Metals facility located at 1855 3<sup>rd</sup> Street in Gering, Nebraska. The addendum report provided herein discusses the activities and results of the Property-Specific Sampling and Analysis Plan Amendment, Revision 1 work. The Phase II ESA Addendum scope of services was developed based on the findings from the Phase I and Phase II ESAs. The purpose was to further evaluate the data gaps and comments presented by the NDEQ in response to Terracon's submittal of the Phase II Environmental Site Assessment Report, Revision 0, dated January 26, 2017, and Revision 1, dated June 21, 2017 for the B & T Metals site.

On July 27, 2017, the NDEQ, Terracon, and representatives of the City of Gering participated in a conference call to discuss the data gaps and comments. The following data gaps are addressed in the PSAP Amendment and this Phase II ESA Addendum:

- Further define the nature and extent of lead contamination in soil at the site in the following areas: boring location GP-10, scrap area #3, the concrete battery storage pad, and along the railroad tracks.

On August 31 and September 1, 2017, 45 soil borings were advanced using a direct push Geoprobe® unit (86 samples collected in total) and a hand auger (66 samples collected in total) to collect shallow soil samples for total lead and toxic characteristic leaching procedure (TCLP) lead testing. Soil samples were not sieved. Soil samples were screened for total lead concentrations using an x-ray fluorescence (XRF) unit to determine horizontal spacing of sampling locations and/or to identify additional sampling locations. A percentage of samples were submitted to a laboratory for total lead analysis. Select composite samples were submitted to a laboratory for TCLP lead analysis. The boring/sample locations are depicted on Exhibit 2, Appendix A.

**PHASE II ENVIRONMENTAL SITE ASSESSMENT ADDENDUM**

**REVISION 0**

**B&T METALS**

**1855 3<sup>rd</sup> STREET**

**GERING, SCOTTS BLUFF COUNTY, NEBRASKA**

**EPA COOPERATIVE AGREEMENT # BF-97746301**

**ACRES # 206544**

**NDEQ IIS: 57172**

**NDEQ Program ID: BF00327**

**Terracon Project No. 05177725A**

**January 12, 2018**

## **1.0 INTRODUCTION**

Terracon has conducted additional sampling as an amendment to the Phase II Environmental Site Assessment (ESA) of the above referenced site in Gering, Scotts Bluff County, Nebraska and the results of the additional sampling event are reported in this Phase II ESA Addendum. The site is located at 1855 3<sup>rd</sup> Street in Gering, Nebraska. Its location is depicted on Exhibits 1 and 2 (Appendix A).

The purpose for conducting the amendment was to further evaluate the data gaps and comments presented by the NDEQ in response to Terracon's submittal of the Phase II Environmental Site Assessment Report, Revision 0, dated January 26, 2017, and Revision 1, dated June 21, 2017 for the B & T Metals site.

On July 27, 2017, the NDEQ, Terracon, and representatives of the City of Gering participated in a conference call to discuss the data gaps and comments. The following data gaps are addressed in the PSAP Amendment and this Phase II ESA Addendum:

- Further define the nature and extent of lead contamination in soil at the site in the following areas: boring location GP-10, scrap area #3, the concrete battery storage pad, and along the railroad tracks.

## **2.0 SCOPE OF SERVICES**

The scope of services is presented in the Property Specific Sampling and Analysis Plan Amendment (PSAPA), Revision 1 provided in Appendix E, dated August 28, 2017.

### **3.0 FIELD PROCEDURES**

Sampling methods used were generally consistent with those described in Section 4.0 of the PSAPA and briefly described in this section.

#### **3.1 Direct Push Boring Advancement**

Terracon mobilized to the site on August 31, 2017. A direct push Geoprobe® unit equipped with a hydraulic head was used to perform soil sampling activities at locations GP-10R, GP-10A, GP-10B, GP-10C, CSSA3-4R, CSSA3-5R, CSBA-6, CSBA-9, and CSBA-7. The locations and are presented on Table 1, Appendix B and Exhibit 2, Appendix A.

#### **3.2 Hand Auger Boring Advancement**

On August 31 and September 1, 2017, Terracon used a hand auger to collect samples at locations that were not accessible to the Geoprobe® unit. The hand auger location boring designations are presented on Table 1, Appendix B and locations are depicted on Exhibit 2, Appendix A.

#### **3.3 Soil Sampling and Testing**

Soil samples were not sieved, but readily observable and removable metal debris was excluded from the samples as practical. An x-ray fluorescence (XRF) unit was used to screen soil at the discrete sampling locations for lead concentrations to determine horizontal spacing of sampling locations and/or to identify additional sampling locations. Samples were also containerized and a 10% frequency of samples were submitted to the laboratory for analysis of total lead by Method 6010B. In addition, several composite samples were collected, screened with the XRF, and submitted to the laboratory for toxicity characteristic leaching procedure (TCLP) lead analysis by Method 1311.

Prior to field activities, Terracon was notified by utility locators that the work area was covered with weeds. The City of Gering was contacted to clear weeds from the work area. Upon arrival to the site on August 31, 2017, Terracon field personnel observed several soil piles on the site property. The City of Gering stated that the soil piles were created by inadvertently pushing soil along with weeds with a loader to clear a portion of the property of weeds for the field work. Because of debris on the ground surface, a mower could not be used to clear weeds. The soil piles were not generated by digging and subsequently moving soils across the site. The soil piles were measured to be up to approximately 35 to 42 inches high and included a mix of weeds, soil, and debris. The client was notified and additional composite samples (three from

each pile) were collected and field XRF screened from the soil piles and analyzed by the laboratory for TCLP lead. The soil pile locations are noted on Exhibit 2, Appendix A, and are labeled as north, east, and south.

At each of the boring locations GP-10R, GP-10A, GP-10B, GP-10C, CSSA3-4R, CSSA3-5R, CSBA-6, CSBA-9, and CSBA-7 continuous soil cores were collected with a Geoprobe® Macro-Core soil sampler fitted with single-use PVC liners to a maximum depth of approximately 48 inches below grade (BG). At locations not accessible to the Geoprobe, hand auger samples were collected generally to a depth of approximately 12 inches BG, although a few locations were advanced deeper (up to 30 inches BG). Sample intervals were generally 0 to 2 inches BG, 3 to 6 inches BG, and at approximate 6 inch intervals thereafter, and are noted on Table 1, Appendix B. The soil samples were screened with the XRF and samples were collected and stored on ice in a cooler. Soil samples were visually observed, and lithology and color was recorded. This information is provided in Table 1, Appendix B. Sample locations that exhibited elevated XRF readings for lead were further evaluated by stepping out and collecting additional samples. The soil sampling locations are depicted on Exhibit 2, Appendix A.

Following sample collection, the boreholes were backfilled with bentonite.

The soil samples were kept cool in insulated coolers containing ice during periods of field work and transporting. The samples were placed in refrigeration upon reaching Terracon's Omaha office following field tasks for overnight storage. Samples selected for laboratory analysis were placed back into insulated coolers containing ice, the coolers were sealed, and the coolers with their contents were shipped under chain-of-custody procedures using a FedEx overnight courier to TestAmerica Laboratories of Cedar Falls, Iowa for analysis.

### **3.4 Cleaning Operations and Other Measures to Reduce Cross-Contamination**

Sampling equipment and the working end of the Geoprobe® were cleaned prior to and at the completion of the field exploration with a solution of potable water and Alconox® detergent followed by a water rinse. Downhole sampling tooling and the hand auger were cleaned between borings with a solution of potable water and Alconox® detergent followed by a water rinse. Cleaning was accomplished using Terracon Standard Operating Procedures for EPA Brownfields Grant Projects (TSOP) E.2405 Cleaning-General and TSOP E.2410 Cleaning-Manual Washing. Cleaning fluids were collected and sampled; the results are discussed in Section 6.0.

Single-use disposable supplies were used to collect samples wherever practical, such as the PVC liners of the Marco-core®. Clean, single-use, disposable sampling gloves were used each time a sample was collected to reduce chances of cross contaminating samples.

## **4.0 SAMPLING AND ANALYSIS RESULTS**

### **4.1 Soil**

XRF test results and laboratory analytical results are summarized on Tables 1 and 2, Appendix B. The data indicates the lead soil impact within the sampling area was generally concentrated in the upper 6 to 12 inches of soil. Contaminant concentrations generally decrease with depth, following the 0 to 6-inch range, with the exception of location CSBA-10 which is located near the former battery storage area. Shallow soil sampled at this location showed XRF results for lead above 400 ppm up to 24 inches below ground surface. The 25 to 30-inch interval screening result was reported as 76 ppm using the XRF; therefore, additional deeper samples below 30 inches were not collected.

Seventeen (17) discrete samples and three (3) composite samples (the composites from the three soil pile areas) were submitted to the laboratory for analysis of total lead on September 5, 2017 and twenty (20) additional discrete samples were submitted to the laboratory for total lead analysis on December 5, 2017. The laboratory analysis was proposed to provide an indication of the XRFs accuracy when compared to laboratory analytical techniques. Samples with XRF readings below approximately 50 ppm (mg/kg) were comparable, but the variation between XRF and laboratory results increased as the concentrations increased. In general, results above approximately 400 ppm, as tested by the XRF, indicated higher laboratory results. The laboratory report has been included in Appendix C. The laboratory results for XRF and total lead are summarized on Table 1, Appendix B.

Ten composite samples were submitted to the laboratory and analyzed for TCLP, the results are summarized on Table 2, Appendix B. The TCLP results reported eight of the ten samples above the Environmental Protection Agency (EPA) allowable limit for the toxicity characteristic for lead (5 mg/l).

## **5.0 DATA QUALITY REVIEW**

### **5.1 Field Data Quality Review**

The NDEQ Generic Quality Assurance Project Plan (QAPP) and the Site Specific QAPP Addendum (QAPPA) included in the PSAPA set forth procedures and methods for data collection. The PSAP/PSAPA defined the specific procedures necessary to maintain data quality to support the project decisions. The QAPPA required both field and laboratory checks to monitor conformance with project quality limits.

### **5.2 Quality Control Parameters**

The NDEQ Generic Quality Assurance Project Plan (QAPP) and the Site Specific QAPP Addendum (QAPPA) included in the PSAPA set forth procedures and methods for data

collection. The PSAP/PSAPA defined the specific procedures necessary to maintain data quality to support the project decisions. The QAPPA required both field and laboratory checks to monitor conformance with project quality limits.

### **5.3 Precision**

As described in the NDEQ Generic QAPP, precision is evaluated using the relative percent difference (RPD) between an actual sample and a duplicate sample. As groundwater samples were not collected, field duplicate samples were not required and RPD were not calculated. The laboratory duplicate samples (two duplicates, from GP-10C 19-24" and soil piles south) had RPD that were outside control limits; however, for one of the samples one or both of the sample results were less than 5 times the reporting limit (RL). The data are considered valid because the absolute difference is less than the RL. Laboratory samples were collected to compare to XRF screening results to total lead laboratory results, and are discussed in Section 4.1.

Accuracy is evaluated using a percent recovery measured in spiked and un-spiked samples. Accuracy is a function of the laboratory method, and parameters regarding accuracy are included in the data quality packages provided by the laboratory with each sample delivery group (SDG). The laboratory report indicates the RPD for matrix spike duplicate sample for laboratory batch 178539 (containing 16 of the total lead analysis samples and the ten TCLP extract lead samples) exceeds control limits; however, the analyte concentration present in the original sample is greater than 4 times the matrix spike concentration so the control limits are not applicable. Therefore, the results are adequate for project decision making. The rinsate water sample results indicate the accuracy of the sample results is adequate for project decision making.

Laboratory reports identified sample holding times were not exceeded.

### **5.4 Representativeness**

Representativeness of the field assessment activities to document the degree to which the sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition was evaluated. Review of field methods and procedures indicate that sample collection, handling, and transportation were conducted in general agreement with the QAPP/QAPPA and PSAP/PSAPA.

Review of laboratory analytical results for total lead concentrations indicates the data is not consistent (on the basis of greater than 20 percent variance) with XRF results. The variance is likely due to the heterogeneity of soil samples and the presence of fine pieces of scrap metal in the samples.

### **5.5 Completeness**

Laboratory analysis was completed on each of the samples collected in the field and submitted for analysis. No data was rejected based on review of the data. Completeness was determined to be 100 percent for samples submitted to the laboratory.

### **5.6 Comparability**

To produce comparable data, the units specified for analytical results obtained during the field activities are consistent throughout this project and standardized analytical methods have been used for each parameter.

### **5.7 Sensitivity**

The laboratory sample reporting limits (SRL) for soil was sufficient to report concentrations below applicable regulatory action levels, so the sample results are of appropriate sensitivity. In a few cases, dilutions were required for laboratory analyses because of matrix interference, resulting in increased SRL. These dilutions did not increase SRL above regulatory levels, so the sample results are of appropriate sensitivity.

### **5.8 Laboratory Data Quality Review**

The project laboratories completed Level 4 reviews, including validation and verification of laboratory data and processes. Case narratives included in the laboratory sample delivery group (SDG) reports summarize the results for laboratory method blanks, laboratory control samples, matrix spike samples, and matrix spike duplicate samples. The SDG reports and documentation are in accordance with the QAPP.

## **6.0 INVESTIGATION DERIVED WASTE**

Field activities generated a 5-gallon bucket of rinsate water from cleaning sampling equipment. The rinsate water was sampled for both total and dissolved lead. Laboratory results were reported above the Nebraska Voluntary Cleanup Program Remedial Goal (NE VCP-RG) for ingestion of groundwater of 0.015 milligrams per liter (mg/L) but below the TCLP limit of 5 mg/L. The laboratory report is provided in Appendix C. Arrangements will be made with the local waste water treatment plant for disposal. The 5-gallon bucket is currently sealed, labeled, and is stored at the site property (locked and gated).

## **7.0 DISCUSSION**

A discussion of lead concentrations for is as follows:

- The laboratory results and field screening results generally report total lead exceedances above 400 ppm (residential soil regulatory level) at 0 to 6 inches BG in areas of the site property. Results appear to generally decrease below 6 inches BG,



with the exception of a limited area near the former battery storage pad where total lead levels were above 400 ppm to depths of up to approximately 24 inches BG.

- The laboratory results report the TCLP lead concentrations exceed the USEPA maximum concentration for the toxicity characteristic of lead in eight of the ten samples submitted for TCLP analysis.

## **8.0 CONCLUSIONS**

The Phase II assessment amendment identified shallow soil contaminant concentrations above the regulatory levels for residential soil. The compound of potential concern is lead.

Terracon's recommendations are consistent with the recommendations provided in the Phase II assessment report, localized soil removal from the impacted areas be implemented and a 1 to 2 foot earthen cap be placed at the site prior to redevelopment activities.

## **9.0 DEVIATIONS FROM THE PSAP AMENDMENT**

Deviations from the PSAPA are presented below:

- Additional samples were collected, field screened and analyzed at the laboratory from the north, east, and south soil pile locations. The soil piles were discovered upon mobilization to the site on August 31, 2017.
- Equipment rinsate samples were collected of the water generated from equipment cleaning operations, but an equipment rinsate blank sample was not collected, as required by the QAPPA.

## **10.0 REFERENCES**

Sources of information used to prepare this addendum are consistent with the Phase II Assessment sources, with the addition of the following:

- Property-Specific Sampling and Analysis Plan Amendment (revision 1), dated August 28, 2017.

## **11.0 GENERAL COMMENTS**

The analysis and opinions expressed in this report are based upon the data obtained from the indicated soil borings advanced at the indicated locations and from other information discussed

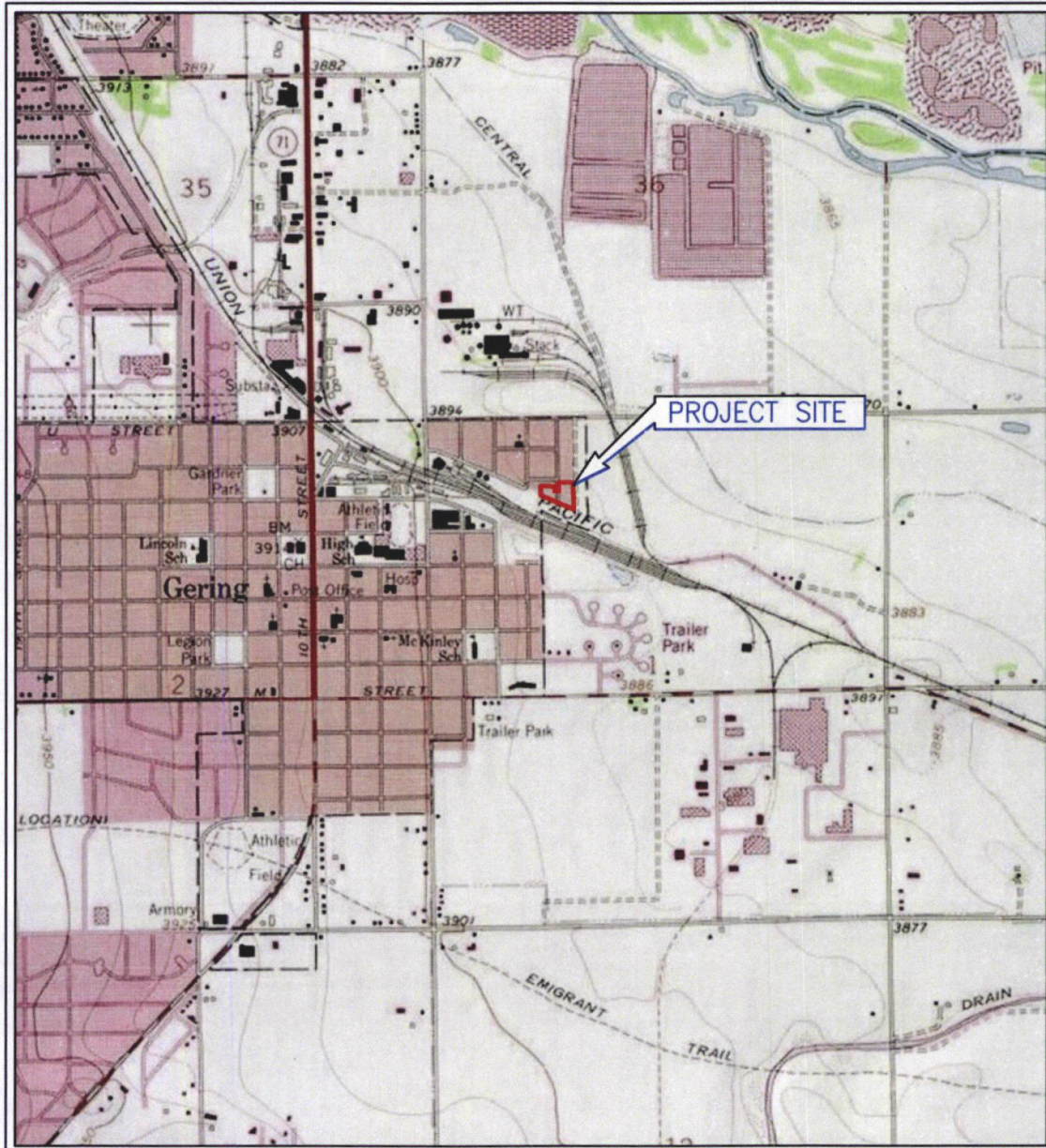
in this report. This report does not reflect any variations in contaminant distribution which may occur beyond or between the indicated boring locations.

This report is prepared for the exclusive use of the City of Gering for specific application to the project as discussed and has been prepared in accordance with generally accepted local assessment practices within the scope of the client's directives. No warranties, either express or implied, are intended or made. Should any changes in the nature or location of contaminants as outlined be observed, the conclusions and recommendations contained in this report cannot be considered valid unless the changes are reviewed and the conclusions and objectives of this report are modified or verified in writing by Terracon.

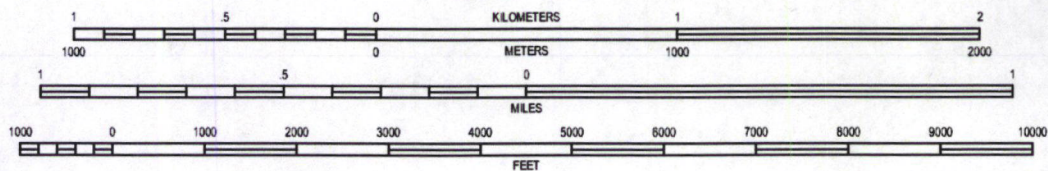
# APPENDIX A



UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SCOTTSBLUFF SOUTH, NEBRASKA  
QUADRANGLE  
1976  
7.5 MINUTE SERIES (TOPOGRAPHIC)



Project Mgr:	MRH
Drawn By:	PAI
Checked By:	MRH
Approved By:	MEH
Project No:	05177725A
Scale:	AS SHOWN
File No:	05177725AC01
Date:	8/17/17

**Terracon**  
Consulting Engineers and Scientists  
15080 A CIRCLE OMAHA, NE 68144  
PH. (402) 330-2202 FAX. (402) 330-7806

TOPOGRAPHIC / LOCATION MAP	
B & T METALS 1855 3rd STREET GERING NEBRASKA	

EXHIBIT
1







**TABLE 1**  
**SOIL SAMPLE DETECTION SUMMARY**  
**B&T METALS**  
**1855 3RD STREET**  
**GERING, NEBRASKA**  
**TERRACON PROJECT NO.05177725A**

Sample Name	Sample Interval (Inches below grade)	Collection Date	Time	GPS Location	Sample Colletion Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)
<b>Boring Location GP-10 Area Samples</b>										
GP-10R	0-2"	8/31/2017	8:14:00 AM	41.82749, -103.64988	G	top soil	brown		16 +/- 2	
GP-10R	0-2" - Additional	8/31/2017	9:17:00 AM	41.82749, -103.64988	G	top soil	brown		53 +/- 2	
GP-10R	3-6"	8/31/2017	8:59:00 AM	41.82749, -103.64988	G	top soil	brown		13 +/- 2	
GP-10R	3-6" - Additional	8/31/2017	9:20:00 AM	41.82749, -103.64988	G	top soil	brown		15 +/- 2	
GP-10R	7-12"	8/31/2017	9:00:00 AM	41.82749, -103.64988	G	silt with sand	light brown		16 +/- 2	
GP-10R	13-18"	8/31/2017	9:01:00 AM	41.82749, -103.64988	G	silt with sand	light brown		13 +/- 2	
GP-10R	19-24"	8/31/2017	9:01:00 AM	41.82749, -103.64988	G	silt with sand	light brown		7 +/- 2	
GP-10R	25-30"	8/31/2017	9:02:00 AM	41.82749, -103.64988	G	silt with sand	light brown		11 +/- 2	
GP-10R	31-36"	8/31/2017	9:03:00 AM	41.82749, -103.64988	G	silt with sand	light brown		8 +/- 2	
GP-10R	37-42"	8/31/2017	9:04:00 AM	41.82749, -103.64988	G	silt with sand	light brown		7 +/- 2	
GP-10R	43-48"	8/31/2017	9:05:00 AM	41.82749, -103.64988	G	silt with sand	light brown		8 +/- 2	
GP-10A	0-2"	8/31/2017	9:32:00 AM	41.82752, -103.64987	G	top soil	brown	5.1	685 +/- 15	1760
GP-10A	0-2" - Additional	8/31/2017	9:42:00 AM	41.82752, -103.64987	G	top soil	brown		547 +/- 15	
GP-10A	3-6"	8/31/2017	9:33:00 AM	41.82752, -103.64987	G	top soil	brown		1224 +/- 24	1340
GP-10A	3-6" - Additional	8/31/2017	9:45:00 AM	41.82752, -103.64987	G	top soil	brown		455 +/- 12	
GP-10A	7-12"	8/31/2017	9:34:00 AM	41.82752, -103.64987	G	silt with sand	light brown		138 +/- 4	
GP-10A	13-18"	8/31/2017	9:35:00 AM	41.82752, -103.64987	G	silt with sand	light brown		49 +/- 3	
GP-10A	19-24"	8/31/2017	9:36:00 AM	41.82752, -103.64987	G	silt with sand	light brown		9 +/- 2	
GP-10A	25-30"	8/31/2017	9:37:00 AM	41.82752, -103.64987	G	silt with sand	light brown		37 +/- 3	
GP-10A	31-36"	8/31/2017	9:38:00 AM	41.82752, -103.64987	G	silt with sand	light brown		21 +/- 3	
GP-10A	37-42"	8/31/2017	9:39:00 AM	41.82752, -103.64987	G	silt with sand	light brown		20 +/- 2	
GP-10A	43-48"	8/31/2017	9:40:00 AM	41.82752, -103.64987	G	silt with sand	light brown		119 +/- 5	
GP-10A-1	0-2"	9/1/2017	10:32:00 AM	41.82756, -103.64983	H	top soil with debris	brown		951 +/- 20	
GP-10A-1	3-6"	9/1/2017	10:33:00 AM	41.82756, -103.64983	H	silt with sand	light brown		495 +/- 12	1450
GP-10A-1	7-12"	9/1/2017	10:34:00 AM	41.82756, -103.64983	H	silt with sand	light brown		21 +/- 2	
GP-10A-2	0-2"	9/1/2017	10:35:00 AM	41.82748, -103.64987	H	top soil with debris	brown		492 +/- 11	1780
GP-10A-2	3-6"	9/1/2017	10:36:00 AM	41.82748, -103.64987	H	silt with sand	light brown		221 +/- 7	
GP-10A-2	7-12"	9/1/2017	10:37:00 AM	41.82748, -103.64987	H	silt with sand	light brown		11 +/- 2	
GP-10B	0-2"	8/31/2017	9:55:00 AM	41.82743, -103.64986	G	top soil	brown		71 +/- 4	
GP-10B	0-2" - Additional	8/31/2017	10:09:00 AM	41.82743, -103.64986	G	top soil	brown		297 +/- 10	
GP-10B	3-6"	8/31/2017	9:56:00 AM	41.82743, -103.64986	G	top soil	brown		32 +/- 3	
GP-10B	3-6" - Additional	8/31/2017	10:10:00 AM	41.82743, -103.64986	G	top soil	brown		197 +/- 7	
GP-10B	7-12"	8/31/2017	9:57:00 AM	41.82743, -103.64986	G	silt with sand	light brown		33 +/- 3	
GP-10B	13-18"	8/31/2017	9:58:00 AM	41.82743, -103.64986	G	silt with sand	light brown		97 +/- 5	
GP-10B	19-24"	8/31/2017	9:59:00 AM	41.82743, -103.64986	G	silt with sand	light brown		26 +/- 3	
GP-10B	25-30"	8/31/2017	10:00:00 AM	41.82743, -103.64986	G	silt with sand	light brown		63 +/- 4	
GP-10B	31-36"	8/31/2017	10:01:00 AM	41.82743, -103.64986	G	silt with sand	light brown		18 +/- 3	
GP-10B	37-42"	8/31/2017	10:02:00 AM	41.82743, -103.64986	G	silt with sand	light brown		ND +/- 6	
GP-10B	43-48"	8/31/2017	10:03:00 AM	41.82743, -103.64986	G	silt with sand	light brown		9 +/- 2	
GP-10C	0-2"	8/31/2017	10:15:00 AM	41.82749, -103.649995	G	top soil	brown	12.5	19 +/- 2	32
GP-10C	0-2" - Additional	8/31/2017	10:29:00 AM	41.82749, -103.64995	G	top soil	brown		21 +/- 3	
GP-10C	3-6"	8/31/2017	10:16:00 AM	41.82749, -103.64995	G	top soil	brown		23 +/- 3	
GP-10C	3-6" - Additional	8/31/2017	10:31:00 AM	41.82749, -103.64995	G	top soil	brown		14 +/- 2	



**TABLE 1**  
**SOIL SAMPLE DETECTION SUMMARY**  
**B&T METALS**  
**1855 3RD STREET**  
**GERING, NEBRASKA**  
**TERRACON PROJECT NO.05177725A**

Sample Name	Sample Interval (inches below grade)	Collection Date	Time	GPS Location	Sample Colletion Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)
GP-10C	7-12"	8/31/2017	10:17:00 AM	41.82749, -103.64995	G	silt with sand	light brown		11 +/- 2	
GP-10C	13-18"	8/31/2017	10:18:00 AM	41.82749, -103.64995	G	silt with sand	light brown		8 +/- 2	
GP-10C	19-24"	8/31/2017	10:19:00 AM	41.82749, -103.64995	G	silt with sand	light brown	15.1	11 +/- 2	14.2
GP-10C	25-30"	8/31/2017	10:20:00 AM	41.82749, -103.64995	G	silt with sand	light brown		7 +/- 2	
GP-10C	31-36"	8/31/2017	10:21:00 AM	41.82749, -103.64995	G	silt with sand	light brown		8 +/- 2	
GP-10C	37-42"	8/31/2017	10:22:00 AM	41.82749, -103.64995	G	silt with sand	light brown		ND +/- 3	
GP-10C	43-48"	8/31/2017	10:23:00 AM	41.82749, -103.64995	G	silt with sand	light brown		10 +/- 2	
<b>Scrap Area 3 Samples</b>										
CSSA3-1R	0-2"	8/31/2017	3:12:00 PM	41.82739, -103.64981	H	top soil with debris	brown	14.5	592 +/- 12	2060
CSSA3-1R	3-6"	8/31/2017	3:13:00 PM	41.82739, -103.64981	H	top soil with debris	brown	22.7	19 +/- 2	47.3
CSSA3-1R	7-12"	8/31/2017	3:15:00 PM	41.82739, -103.64981	H	silt with sand	light brown		7 +/- 2	
CSSA3-2A	0-2"	9/1/2017	10:56:00 AM	41.82730, -103.64958	H	top soil with debris	brown		3038 +/- 48	
CSSA3-2A	3-6"	9/1/2017	10:57:00 AM	41.82730, -103.64958	H	top soil with debris	brown	9.6	548 +/- 12	17900
CSSA3-2A	7-12"	9/1/2017	10:59:00 AM	41.82730, -103.64958	H	silt with sand	light brown		120 +/- 4	
CSSA3-2R	0-2"	8/31/2017	2:50:00 PM	41.82738, -103.64957	H	top soil with debris	brown	10.2	2257 +/- 41	14400
CSSA3-2R	3-6"	8/31/2017	2:51:00 PM	41.82738, -103.64957	H	silt with sand	light brown	10.7	1271 +/- 25	3870
CSSA3-2R	7-12"	8/31/2017	2:52:00 PM	41.82738, -103.64957	H	silt with sand	light brown		77 +/- 4	
CSSA3-3R	0-2"	8/31/2017	2:35:00 PM	41.82730, -103.64928	H	top soil	brown		44 +/- 3	
CSSA3-3R	3-6"	8/31/2017	2:36:00 PM	41.82730, -103.64928	H	silt with sand	light brown		32 +/- 3	
CSSA3-3R	7-12"	8/31/2017	2:37:00 PM	41.82730, -103.64928	H	silt with sand	light brown		14 +/- 2	
CSSA3-4A	0-2"	9/1/2017	10:41:00 AM	41.82746, -103.64935	H	top soil with orgainic	brown		76 +/- 4	
CSSA3-4A	3-6"	9/1/2017	10:42:00 AM	41.82746, -103.64935	H	silt with sand	light brown		99 +/- 4	
CSSA3-4A	7-12"	9/1/2017	10:43:00 AM	41.82746, -103.64935	H	silt with sand	light brown	11.4	15 +/- 2	17.6
CSSA3-4R	0-2"	8/31/2017	10:42:00 AM	41.82740, -103.64948	G	top soil	brown	29.8	572 +/- 13	39.9
CSSA3-4R	0-2" - Additional	8/31/2017	11:03:00 AM	41.82740, -103.64948	G	top soil	brown		1802 +/- 33	
CSSA3-4R	3-6"	8/31/2017	10:43:00 AM	41.82740, -103.64948	G	top soil	brown		275 +/- 8	
CSSA3-4R	3-6" - Additional	8/31/2017	11:04:00 AM	41.82740, -103.64948	G	top soil	brown		366 +/- 10	
CSSA3-4R	7-12"	8/31/2017	10:44:00 AM	41.82740, -103.64948	G	silt with sand	light brown		13 +/- 2	
CSSA3-4R	13-18"	8/31/2017	10:45:00 AM	41.82740, -103.64948	G	silt with sand	light brown		12 +/- 2	
CSSA3-4R	19-24"	8/31/2017	10:46:00 AM	41.82740, -103.64948	G	silt with sand	light brown		10 +/- 2	
CSSA3-4R	25-30"	8/31/2017	10:47:00 AM	41.82740, -103.64948	G	silt with sand	light brown		8 +/- 2	
CSSA3-4R	31-36"	8/31/2017	10:48:00 AM	41.82740, -103.64948	G	silt with sand	light brown		7 +/- 2	
CSSA3-4R	37-42"	8/31/2017	10:49:00 AM	41.82740, -103.64948	G	silt with sand	light brown		ND < 3	
CSSA3-4R	43-48"	8/31/2017	10:50:00 AM	41.82740, -103.64948	G	silt with sand	light brown		ND < 3	
CSSA3-5A	0-2"	9/1/2017	10:46:00 AM	41.82748, -103.64971	H	top soil with orgainic	brown		815 +/- 17	
CSSA3-5A	3-6"	9/1/2017	10:48:00 AM	41.82748, -103.64971	H	silt with sand	light brown	11.5	343 +/- 9	384
CSSA3-5A	7-12"	9/1/2017	10:49:00 AM	41.82748, -103.64971	H	silt with sand	light brown		9 +/- 2	
CSSA3-5B	0-2"	9/1/2017	10:51:00 AM	41.82738, -103.64975	H	top soil with orgainic	brown	4.3	685 +/- 14	1850
CSSA3-5B	3-6"	9/1/2017	10:53:00 AM	41.82738, -103.64975	H	silt with sand	light brown	6.6	975 +/- 18	3530
CSSA3-5B	7-12"	9/1/2017	10:54:00 AM	41.82738, -103.64975	H	silt with sand	light brown		27 +/- 3	
CSSA3-5R	0-2"	8/31/2017	11:06:00 AM	41.82746, -103.64974	G	top soil with debris	brown		1292 +/- 24	
CSSA3-5R	0-2" - Additional	8/31/2017	11:23:00 AM	41.82746, -103.64974	G	top soil	brown		1016 +/- 20	
CSSA3-5R	3-6"	8/31/2017	11:07:00 AM	41.82746, -103.64974	G	top soil with debris	brown	8.6	700 +/- 15	4840
CSSA3-5R	3-6" - Additional	8/31/2017	11:25:00 AM	41.82746, -103.64974	G	top soil	brown		1784 +/- 32	



**TABLE 1**  
**SOIL SAMPLE DETECTION SUMMARY**  
**B&T METALS**  
**1855 3RD STREET**  
**GERING, NEBRASKA**  
**TERRACON PROJECT NO.05177725A**

Sample Name	Sample Interval (inches below grade)	Collection Date	Time	GPS Location	Sample Colletion Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)
CSSA3-5R	7-12"	8/31/2017	11:08:00 AM	41.82746, -103.64974	G	top soil with debris	brown		104 +/- 5	
CSSA3-5R	13-18"	8/31/2017	11:09:00 AM	41.82746, -103.64974	G	silt with sand	light brown		74 +/- 4	
CSSA3-5R	19-24"	8/31/2017	11:10:00 AM	41.82746, -103.64974	G	silt with sand	light brown	15.4	64 +/- 4	20.8
CSSA3-5R	25-30"	8/31/2017	11:11:00 AM	41.82746, -103.64974	G	silt with sand	light brown		12 +/- 2	
<b>Concrete Battery Storage Pad Area Samples</b>										
CSBA-6	8-16"	8/31/2017	11:36:00 AM	41.82751, -103.65015	G	0-8" concrete	black	13.4	16 +/- 2	
CSBA-6	8-16" - Additional	8/31/2017	11:44:00 AM	41.82751, -103.65015	G	0-8" concrete	black		162 +/- 6	
CSBA-6	8-16"	8/31/2017	11:38:00 AM	41.82751, -103.65015	G	top soil with clay	black	13.4	849 +/- 2	1810
CSBA-6	8-16" - Additional	8/31/2017	11:46:00 AM	41.82751, -103.65015	G	top soil with clay	brown		133 +/- 5	
CSBA-6	17-22"	8/31/2017	11:39:00 AM	41.82751, -103.65015	G	top soil with clay	brown	15.5	12 +/- 2	21.3
CSBA-6	23-28"	8/31/2017	11:40:00 AM	41.82751, -103.65015	G	silt with sand	light brown		18 +/- 5	
CSBA-6	29-48"	8/31/2017	11:42:00 AM	41.82751, -103.65015	G	silt with sand	light brown		ND < 5	
CSBA-7	0-2"	8/31/2017	12:39:00 PM	41.82750, -103.65013	G	top soil with gravel	brown		152 +/- 6	
CSBA-7	0-2" - Additional	8/31/2017	1:56:00 PM	41.82750, -103.65013	G	top soil with gravel	brown		1661 +/- 27	
CSBA-7	3-6"	8/31/2017	12:40:00 PM	41.82750, -103.65013	G	top soil with gravel	brown	4.1	13 +/- 2	5770
CSBA-7	3-6" - Additional	8/31/2017	1:57:00 PM	41.82750, -103.65013	G	top soil with gravel	brown		936 +/- 18	
CSBA-7	7-12"	8/31/2017	12:41:00 PM	41.82750, -103.65013	G	silt with sand	light brown		246 +/- 7	
CSBA-7	13-18"	8/31/2017	12:42:00 PM	41.82750, -103.65013	G	silt with sand	light brown		38 +/- 3	
CSBA-7	19-24"	8/31/2017	1:52:00 PM	41.82750, -103.65013	G	silt with sand	light brown		202 +/- 7	
CSBA-7	25-30"	8/31/2017	1:54:00 PM	41.82750, -103.65013	G	silt with sand	light brown		22 +/- 2	
CSBA-7A	0-2"	9/1/2017	11:55:00 AM	41.82759, -103.65012	H	top soil with debris & gravel	brown	2.6	908 +/- 18	1700
CSBA-7A	3-6"	9/1/2017	11:57:00 AM	41.82759, -103.65012	H	top soil with debris & gravel	brown	3.0	615 +/- 13	3110
CSBA-7A	7-12"	9/1/2017	11:58:00 AM	41.82759, -103.65012	H	silt with sand	light brown	15.0	98 +/- 4	150
CSBA-9	0-2"	8/31/2017	11:57:00 AM	41.82751, -103.65018	G	gravel & sand with debris	brown		387 +/- 11	
CSBA-9	0-2" - Additional	8/31/2017	12:08:00 PM	41.82751, -103.65018	G	gravel & sand with debris	brown		1306 +/- 26	
CSBA-9	3-6"	8/31/2017	11:58:00 AM	41.82751, -103.65018	G	gravel & sand with debris	brown	10.5	1717 +/- 3	2730
CSBA-9	3-6" - Additional	8/31/2017	12:09:00 PM	41.82751, -103.65018	G	gravel & sand with debris	brown		624 +/- 15	
CSBA-9	7-12"	8/31/2017	11:59:00 AM	41.82751, -103.65018	G	silt with sand	brown		494 +/- 14	
CSBA-9	13-18"	8/31/2017	12:00:00 PM	41.82751, -103.65018	G	silt with sand	brown		47 +/- 3	
CSBA-9	19-24"	8/31/2017	12:01:00 PM	41.82751, -103.65018	G	silt with sand	light brown		15 +/- 2	
CSBA-9	25-30"	8/31/2017	12:02:00 PM	41.82751, -103.65018	G	silt with sand	light brown		16 +/- 2	
CSBA-9A	0-2"	9/1/2017	12:00:00 PM	41.82750, -103.65027	H	top soil with debris	brown	11.8	4795 +/- 81	18800
CSBA-9A	3-6"	9/1/2017	12:02:00 PM	41.82750, -103.65027	H	top soil with debris	brown	26.3	3363 +/- 55	10700
CSBA-9A	7-12"	9/1/2017	12:04:00 PM	41.82750, -103.65027	H	silt with sand	light brown		208 +/- 7	
CSBA-9A	13-18"	9/1/2017	12:06:00 PM	41.82750, -103.65027	H	silt with sand	light brown		265 +/- 7	
CSBA-10	0-2"	8/31/2017	2:09:00 PM	41.82747, -103.65018	H	top soil with debris	brown	13.5	491 +/- 11	11800
CSBA-10	3-6"	8/31/2017	2:10:00 PM	41.82747, -103.65018	H	top soil	brown		609 +/- 13	
CSBA-10	7-12"	8/31/2017	2:12:00 PM	41.82747, -103.65018	H	top soil	brown	9.1	1475 +/- 27	2720
CSBA-10	13-18"	8/31/2017	2:17:00 PM	41.82747, -103.65018	H	silt with sand	light brown		2147 +/- 37	
CSBA-10	19-24"	8/31/2017	2:20:00 PM	41.82747, -103.65018	H	silt with sand	light brown	14.0	594 +/- 14	3340
CSBA-10	25-30"	8/31/2017	2:21:00 PM	41.82747, -103.65018	H	silt with sand	light brown		76 +/- 4	
CSBA-10A	0-2"	9/1/2017	12:10:00 PM	41.82742, -103.65020	H	top soil with debris	brown		275 +/- 8	
CSBA-10A	3-6"	9/1/2017	12:11:00 PM	41.82742, -103.65020	H	top soil with debris	brown		321 +/- 8	
CSBA-10A	7-12"	9/1/2017	12:13:00 PM	41.82742, -103.65020	H	top soil with debris	brown		300 +/- 8	



**TABLE 1**  
**SOIL SAMPLE DETECTION SUMMARY**  
**B&T METALS**  
**1855 3RD STREET**  
**GERING, NEBRASKA**  
**TERRACON PROJECT NO.05177725A**

Sample Name	Sample Interval (Inches below grade)	Collection Date	Time	GPS Location	Sample Colletion Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)
CSBA-10A	13-18"	9/1/2017	12:14:00 PM	41.82742, -103.65020	H	silt with sand	light brown	7.6	133 +/- 5	314
CSBA-10A	19-24"	9/1/2017	12:15:00 PM	41.82742, -103.65020	H	silt with sand	light brown	6.6	92 +/- 4	200
<b>Railroad Track Area Samples</b>										
CSRR-1R	0-2"	8/31/2017	3:22:00 PM	41.82750, -103.65047	H	top soil	brown		52 +/- 3	
CSRR-1R	3-6"	8/31/2017	3:24:00 PM	41.82750, -103.65047	H	silt with sand	light brown		19 +/- 2	
CSRR-1R	7-12"	8/31/2017	3:26:00 PM	41.82750, -103.65047	H	silt with sand	light brown		10 +/- 2	
CSRR-2R	0-2"	8/31/2017	7:58:00 PM	41.82741, -103.65016	H	top soil	brown		336 +/- 9	
CSRR-2R	3-6"	8/31/2017	8:00:00 PM	41.82741, -103.65016	H	top soil	brown	11.3	337 +/- 9	1310
CSRR-2R	7-12"	8/31/2017	8:01:00 PM	41.82741, -103.65016	H	silt with sand	light brown		122 +/- 5	
CSRR-3R	0-2"	8/31/2017	8:04:00 PM	41.82736, -103.64996	H	top soil with debris	brown	5.2	436 +/- 11	909
CSRR-3R	3-6"	8/31/2017	8:06:00 PM	41.82736, -103.64996	H	silt with sand	light brown		72 +/- 4	141
CSRR-3R	7-12"	8/31/2017	8:07:00 PM	41.82736, -103.64996	H	silt with sand	light brown		107 +/- 5	
CSRR-4R	0-2"	8/31/2017	8:13:00 PM	41.82736, -103.64970	H	top soil	brown		204 +/- 7	
CSRR-4R	3-6"	8/31/2017	8:15:00 PM	41.82736, -103.64970	H	silt with sand	light brown		69 +/- 4	
CSRR-4R	7-12"	8/31/2017	8:17:00 PM	41.82736, -103.64970	H	silt with sand	light brown		195 +/- 6	
CSRR-5R	0-2"	8/31/2017	8:24:00 PM	41.82715, -103.64941	H	top soil	brown		95 +/- 4	
CSRR-5R	3-6"	8/31/2017	8:25:00 PM	41.82715, -103.64941	H	silt with sand	light brown		159 +/- 6	
CSRR-5R	7-12"	8/31/2017	8:26:00 PM	41.82715, -103.64941	H	silt with sand	light brown		43 +/- 3	
CSRR-6R	0-2"	8/31/2017	3:28:00 PM	41.82745, -103.65032	H	top soil with debris	brown	9.0	459 +/- 3	1790
CSRR-6R	3-6"	8/31/2017	3:30:00 PM	41.82745, -103.65032	H	top soil with debris	brown		103 +/- 5	
CSRR-6R	7-12"	8/31/2017	3:32:00 PM	41.82745, -103.65032	H	silt with sand	light brown		96 +/- 4	
CSRR-7R	0-2"	8/31/2017	8:20:00 PM	41.82722, -103.64960	H	top soil	brown		57 +/- 4	
CSRR-7R	3-6"	8/31/2017	8:22:00 PM	41.82722, -103.64960	H	silt with sand	light brown	3.4	47 +/- 3	47.4
CSRR-7R	7-12"	8/31/2017	8:23:00 PM	41.82722, -103.64960	H	silt with sand	light brown		14 +/- 2	
North Stock Piles	Composite	9/5/2017	10:46:00 AM		H	top soil with debris	brown		527 +/- 12	
North Stock Piles	Composite	9/5/2017	10:47:00 AM		H	top soil with debris	brown		361 +/- 10	1160
North Stock Piles	Composite	9/5/2017	10:49:00 AM		H	top soil with debris	brown		553 +/- 12	
East Stock Piles	Composite	9/5/2017	10:50:00 AM		H	top soil with debris	brown	3.2	1301 +/- 25	
East Stock Piles	Composite	9/5/2017	10:52:00 AM		H	top soil with debris	brown		418 +/- 10	8970
East Stock Piles	Composite	9/5/2017	10:53:00 AM		H	top soil with debris	brown		2457 +/- 43	
South Stock Piles	Composite	9/5/2017	10:55:00 AM		H	top soil with debris	brown		179 +/- 7	
South Stock Piles	Composite	9/5/2017	10:56:00 AM		H	top soil with debris	brown		601 +/- 13	2110
South Stock Piles	Composite	9/5/2017	10:57:00 AM		H	top soil with debris	brown		674 +/- 15	
<sup>1</sup> NDEQ VCP RG - Residential Direct Contact Exposure Pathway									400	400
<sup>2</sup> NDEQ VCP RG - Industrial Direct Contact Exposure Pathway									750	750

**NOTES:**

ppm = parts per million, approximately equivalent to milligrams per kilogram (mg/kg)

Yellow highlight exceeds NDEQ VCP RG - Residential Soil

<sup>1</sup> Nebraska Voluntary Cleanup Program Remedial Goal (NDEQ VCP RG), September 2012, Residential Direct Contact

<sup>2</sup> Nebraska Voluntary Cleanup Program Remedial Goal (NDEQ VCP RG), September 2012, Industrial Direct Contact



**TABLE 2**  
**SOIL TCLP SAMPLE DETECTION SUMMARY**  
**B&T METALS**  
**1855 3rd STREET**  
**GERING, NEBRASKA**  
**TERRACON PROJECT NO. 05177725A**

Sample No.	Collection Date	Time	Sample Name	Sample Interval	Relative Moisture Content (%)	TCLP Lab Result - Lead (mg/L)
1	8/31/2017 to 9/1/2017	AM	North Stock Piles Composite	NA	2.4	7.83
2	8/31/2017 to 9/1/2017	AM	South Stock Piles Composite	NA	3.4	5.50
3	8/31/2017 to 9/1/2017	AM	East Stock Piles Composite	NA	3.2	115.0
4	8/31/2017 to 9/1/2017	AM	Scrap Area #3 Composite	0-2"	Not reported	83.3
5	8/31/2017 to 9/1/2017	AM	Scrap Area #3 Composite	3-6"	Not reported	10.2
6	8/31/2017 to 9/1/2017	AM	GP-10 Composite	0-2"	Not reported	3.47
7	8/31/2017 to 9/1/2017	AM	GP-10 Composite	3-6"	Not reported	2.71
8	8/31/2017 to 9/1/2017	AM	Battery Area Composite	0-2"	Not reported	22.3
9	8/31/2017 to 9/1/2017	AM	Battery Area Composite	3-6"	Not reported	7.14
10	8/31/2017 to 9/1/2017	AM	CSBA-10A Composite	7-24"	Not reported	5.61
<b>EPA TCLP Maximum</b>						<b>5.0</b>

**NOTES:**

mg/L = milligram per liter

" = inch

<sup>1</sup>Environmental Protection Agency Maximum Concentration of Contaminants for Toxicity Characteristic

Toxicity characteristic leaching procedure = TCLP

Yellow highlight indicates exceedance of TCLP maximum

# **APPENDIX C**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Cedar Falls  
704 Enterprise Drive  
Cedar Falls, IA 50613  
Tel: (319)277-2401

TestAmerica Job ID: 310-113500-1  
TestAmerica Sample Delivery Group: 05177725A  
Client Project/Site: B&T Metals - Gering, NE  
Revision: 1

For:  
Terracon Consulting Eng & Scientists  
15080 A Circle  
Omaha, Nebraska 68144

Attn: Megan Hughes



Authorized for release by:  
9/13/2017 12:09:24 PM

Shawn Hayes, Senior Project Manager  
(319)277-2401  
shawn.hayes@testamericainc.com

### LINKS

Review your project  
results through

**Total Access**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10

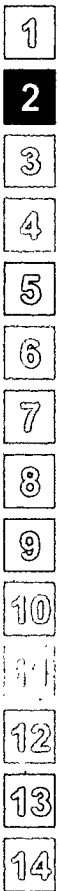
12

13

14

# Table of Contents

Cover Page .....	1
Table of Contents .....	2
Case Narrative .....	3
Sample Summary .....	4
Detection Summary .....	5
Client Sample Results .....	8
Definitions .....	35
QC Sample Results .....	36
QC Association .....	38
Chronicle .....	41
Certification Summary .....	47
Method Summary .....	48
Chain of Custody .....	49
Receipt Checklists .....	53



## Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Job ID: 310-113500-1**

**Laboratory: TestAmerica Cedar Falls**

### Narrative

#### Job Narrative 310-113500-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/6/2017 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5° C.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method(s) 1311: EPA Method 1311 requires the room temperature to be maintained at 23 +/- 2 degrees Celsius for the duration of the leaching process. For batch 310-178154, the temperature 20.6-22.9 was outside of this range.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Sample Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-113500-1	Soil Piles East	Soil	08/31/17 16:05	09/06/17 10:05
310-113500-2	GP-10C 0-2"	Soil	08/31/17 10:15	09/06/17 10:05
310-113500-3	CSBA-10 7-12"	Soil	08/31/17 14:12	09/06/17 10:05
310-113500-4	CSBA-10 0-2"	Soil	08/31/17 14:09	09/06/17 10:05
310-113500-5	CSSA3-5R 19-24"	Soil	08/31/17 11:10	09/06/17 10:05
310-113500-6	CSBA-10A 13-18"	Soil	09/01/17 12:15	09/06/17 10:05
310-113500-7	CSSA3-2R 0-2"	Soil	08/31/17 14:50	09/06/17 10:05
310-113500-8	CSSA3-4A 7-12"	Soil	09/01/17 10:43	09/06/17 10:05
310-113500-9	CSSA3-5B 0-2"	Soil	09/01/17 10:51	09/06/17 10:05
310-113500-10	CSBA-9A 0-2"	Soil	09/01/17 12:00	09/06/17 10:05
310-113500-11	GP-10C 19-24"	Soil	08/31/17 10:19	09/06/17 10:05
310-113500-12	CSSA3-1R 0-2"	Soil	08/31/17 15:12	09/06/17 10:05
310-113500-13	CSRR-7R 3-6"	Soil	08/31/17 08:22	09/06/17 10:05
310-113500-14	CSRR-3R 0-2"	Soil	08/31/17 20:09	09/06/17 10:05
310-113500-15	GP-10A 0-2"	Soil	08/31/17 09:32	09/06/17 10:05
310-113500-16	CSBA6 8-16"	Soil	08/31/17 11:36	09/06/17 10:05
310-113500-17	CSBA-7A 7-12"	Soil	09/01/17 11:58	09/06/17 10:05
310-113500-18	CSBA-7A 0-2"	Soil	09/01/17 11:55	09/06/17 10:05
310-113500-19	Soil Piles North	Soil	08/31/17 16:00	09/06/17 10:05
310-113500-20	Soil Piles South	Soil	08/31/17 16:10	09/06/17 10:05
310-113500-21	Scrap Area #3 Composite 0-2"	Soil	09/01/17 00:00	09/06/17 10:05
310-113500-22	Scrap Area #3 Composite 3-6"	Soil	09/01/17 00:00	09/06/17 10:05
310-113500-23	GP-10 0-2" Composite	Soil	09/01/17 00:00	09/06/17 10:05
310-113500-24	Battery Area Composite 0-2"	Soil	09/01/17 00:00	09/06/17 10:05
310-113500-25	GP-10 Composite 3-6"	Soil	09/01/17 00:00	09/06/17 10:05
310-113500-26	Battery Area Composite 3-6"	Soil	09/01/17 00:00	09/06/17 10:05
310-113500-27	CSBA-10A Composite 7-24"	Soil	09/01/17 00:00	09/06/17 10:05

TestAmerica Cedar Falls



## Detection Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

### Client Sample ID: Soil Piles East

Lab Sample ID: 310-113500-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	8970	F2	11.5		mg/Kg	3	✖	6010C	Total/NA
Lead	115		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: GP-10C 0-2"

Lab Sample ID: 310-113500-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	32.0		4.27		mg/Kg	1	✖	6010C	Total/NA

### Client Sample ID: CSBA-10 7-12"

Lab Sample ID: 310-113500-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	2720		27.3		mg/Kg	7	✖	6010C	Total/NA

### Client Sample ID: CSBA-10 0-2"

Lab Sample ID: 310-113500-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	11800		17.8		mg/Kg	4	✖	6010C	Total/NA

### Client Sample ID: CSSA3-5R 19-24"

Lab Sample ID: 310-113500-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	20.8		8.64		mg/Kg	2	✖	6010C	Total/NA

### Client Sample ID: CSBA-10A 13-18"

Lab Sample ID: 310-113500-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	314		7.77		mg/Kg	2	✖	6010C	Total/NA

### Client Sample ID: CSSA3-2R 0-2"

Lab Sample ID: 310-113500-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	14400		23.9		mg/Kg	6	✖	6010C	Total/NA

### Client Sample ID: CSSA3-4A 7-12"

Lab Sample ID: 310-113500-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	17.6		4.21		mg/Kg	1	✖	6010C	Total/NA

### Client Sample ID: CSSA3-5B 0-2"

Lab Sample ID: 310-113500-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1850		11.2		mg/Kg	3	✖	6010C	Total/NA

### Client Sample ID: CSBA-9A 0-2"

Lab Sample ID: 310-113500-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	18800		28.3		mg/Kg	7	✖	6010C	Total/NA

### Client Sample ID: GP-10C 19-24"

Lab Sample ID: 310-113500-11

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls



## Detection Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

### Client Sample ID: GP-10C 19-24" (Continued)

Lab Sample ID: 310-113500-11

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	14.2		8.46		mg/Kg	2	✱	6010C	Total/NA

### Client Sample ID: CSSA3-1R 0-2"

Lab Sample ID: 310-113500-12

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	2060		8.40		mg/Kg	2	✱	6010C	Total/NA

### Client Sample ID: CSRR-7R 3-6"

Lab Sample ID: 310-113500-13

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	47.4		3.73		mg/Kg	1	✱	6010C	Total/NA

### Client Sample ID: CSRR-3R 0-2"

Lab Sample ID: 310-113500-14

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	909		14.9		mg/Kg	4	✱	6010C	Total/NA

### Client Sample ID: GP-10A 0-2"

Lab Sample ID: 310-113500-15

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	1760		12.0		mg/Kg	3	✱	6010C	Total/NA

### Client Sample ID: CSBA6 8-16"

Lab Sample ID: 310-113500-16

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	1810		24.6		mg/Kg	6	✱	6010C	Total/NA

### Client Sample ID: CSBA-7A 7-12"

Lab Sample ID: 310-113500-17

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	150		4.42		mg/Kg	1	✱	6010C	Total/NA

### Client Sample ID: CSBA-7A 0-2"

Lab Sample ID: 310-113500-18

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	1700		7.58		mg/Kg	2	✱	6010C	Total/NA

### Client Sample ID: Soil Piles North

Lab Sample ID: 310-113500-19

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	1160		7.44		mg/Kg	2	✱	6010C	Total/NA
Lead	7.83		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: Soil Piles South

Lab Sample ID: 310-113500-20

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	2110		9.43		mg/Kg	2	✱	6010C	Total/NA
Lead	5.50		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: Scrap Area #3 Composite 0-2"

Lab Sample ID: 310-113500-21

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

## Detection Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

### Client Sample ID: Scrap Area #3 Composite 0-2" (Continued) Lab Sample ID: 310-113500-21

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	83.3		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: Scrap Area #3 Composite 3-6" Lab Sample ID: 310-113500-22

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	10.2		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: GP-10 0-2" Composite Lab Sample ID: 310-113500-23

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	3.47		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: Battery Area Composite 0-2" Lab Sample ID: 310-113500-24

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	22.3		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: GP-10 Composite 3-6" Lab Sample ID: 310-113500-25

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	2.71		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: Battery Area Composite 3-6" Lab Sample ID: 310-113500-26

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	7.14		0.100		mg/L	1		6010C	TCLP

### Client Sample ID: CSBA-10A Composite 7-24" Lab Sample ID: 310-113500-27

Analyte	Result	Qualifier	RL	MDL	Unit	DII Fac	D	Method	Prep Type
Lead	5.61		0.100		mg/L	1		6010C	TCLP

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Soil Piles East**

**Lab Sample ID: 310-113500-1**

Date Collected: 08/31/17 16:05

Matrix: Soil

Date Received: 09/06/17 10:05

<b>Method: 6010C - Metals (ICP)</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	8970	F2	11.5		mg/Kg	⊗	09/07/17 10:00	09/12/17 12:47	3
<b>Method: 6010C - Metals (ICP) - TCLP</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	115		0.100		mg/L		09/11/17 08:13	09/12/17 13:56	1
<b>General Chemistry</b>									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.2		0.1		%			09/06/17 14:31	1
Percent Solids	96.8		0.1		%			09/06/17 14:31	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10C 0-2"**

**Lab Sample ID: 310-113500-2**

**Date Collected: 08/31/17 10:15**

**Matrix: Soil**

**Date Received: 09/06/17 10:05**

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	32.0		4.27		mg/Kg	✱	09/07/17 10:00	09/07/17 23:00	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.5		0.1		%			09/06/17 14:31	1
Percent Solids	87.5		0.1		%			09/06/17 14:31	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-10 7-12"**

**Lab Sample ID: 310-113500-3**

Date Collected: 08/31/17 14:12

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2720		27.3		mg/Kg	*	09/07/17 10:00	09/12/17 12:52	7

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.1		0.1		%			09/06/17 14:31	1
Percent Solids	90.9		0.1		%			09/06/17 14:31	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-10 0-2"**

**Lab Sample ID: 310-113500-4**

**Date Collected: 08/31/17 14:09**

**Matrix: Soil**

**Date Received: 09/06/17 10:05**

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	11800		17.8		mg/Kg	*	09/07/17 10:00	09/12/17 12:54	4

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.5		0.1		%			09/06/17 14:31	1
Percent Solids	86.5		0.1		%			09/06/17 14:31	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSSA3-5R 19-24"**

**Lab Sample ID: 310-113500-5**

Date Collected: 08/31/17 11:10

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	20.8		8.64		mg/Kg	✱	09/07/17 10:00	09/12/17 12:56	2
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.4		0.1		%			09/06/17 14:31	1
Percent Solids	84.6		0.1		%			09/06/17 14:31	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-10A 13-18"**

**Lab Sample ID: 310-113500-6**

Date Collected: 09/01/17 12:15

Matrix: Soil

Date Received: 09/06/17 10:05

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	314		7.77		mg/Kg	☼	09/07/17 10:00	09/12/17 12:58	2

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.6		0.1		%			09/06/17 14:37	1
Percent Solids	92.4		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSSA3-2R 0-2"**

**Lab Sample ID: 310-113500-7**

**Date Collected: 08/31/17 14:50**

**Matrix: Soil**

**Date Received: 09/06/17 10:05**

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	14400		23.9		mg/Kg	✱	09/07/17 10:00	09/12/17 13:05	6
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.2		0.1		%			09/06/17 14:37	1
Percent Solids	89.8		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSSA3-4A 7-12"**

**Lab Sample ID: 310-113500-8**

Date Collected: 09/01/17 10:43

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	17.6		4.21		mg/Kg	✱	09/07/17 10:00	09/07/17 23:17	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.4		0.1		%			09/06/17 14:37	1
Percent Solids	88.6		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSSA3-5B 0-2"**

**Lab Sample ID: 310-113500-9**

Date Collected: 09/01/17 10:51

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1850		11.2		mg/Kg	✱	09/07/17 10:00	09/12/17 13:07	3

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.3		0.1		%			09/06/17 14:37	1
Percent Solids	95.7		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-9A 0-2"**

**Lab Sample ID: 310-113500-10**

Date Collected: 09/01/17 12:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	18800		28.3		mg/Kg	*	09/07/17 10:00	09/12/17 13:09	7
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.8		0.1		%			09/06/17 14:37	1
Percent Solids	88.2		0.1		%			09/06/17 14:37	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10C 19-24"**

**Lab Sample ID: 310-113500-11**

Date Collected: 08/31/17 10:19

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	14.2		8.46		mg/Kg	*	09/07/17 10:00	09/12/17 13:11	2

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.1		0.1		%			09/06/17 14:37	1
Percent Solids	84.9		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSSA3-1R 0-2"**

**Lab Sample ID: 310-113500-12**

Date Collected: 08/31/17 15:12

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2060		8.40		mg/Kg	✱	09/07/17 10:00	09/12/17 13:16	2
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.5		0.1		%			09/06/17 14:37	1
Percent Solids	85.5		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSRR-7R 3-6"**

**Lab Sample ID: 310-113500-13**

Date Collected: 08/31/17 08:22

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	47.4		3.73		mg/Kg	*	09/07/17 10:00	09/07/17 23:30	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.4		0.1		%			09/06/17 14:37	1
Percent Solids	96.6		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSRR-3R 0-2"**

**Lab Sample ID: 310-113500-14**

Date Collected: 08/31/17 20:09

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	909		14.9		mg/Kg	✱	09/07/17 10:00	09/12/17 13:18	4
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.2		0.1		%			09/06/17 14:37	1
Percent Solids	94.8		0.1		%			09/06/17 14:37	1



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10A 0-2"**

**Lab Sample ID: 310-113500-15**

Date Collected: 08/31/17 09:32

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1760		12.0		mg/Kg	☼	09/07/17 10:00	09/12/17 13:20	3
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.1		0.1		%			09/06/17 14:37	1
Percent Solids	94.9		0.1		%			09/06/17 14:37	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA6 8-16"**

**Lab Sample ID: 310-113500-16**

**Date Collected: 08/31/17 11:36**

**Matrix: Soil**

**Date Received: 09/06/17 10:05**

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1810		24.6		mg/Kg	✱	09/07/17 10:00	09/12/17 13:22	6

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.4		0.1		%			09/06/17 14:44	1
Percent Solids	86.6		0.1		%			09/06/17 14:44	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-7A 7-12"**

**Lab Sample ID: 310-113500-17**

Date Collected: 09/01/17 11:58

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	150		4.42		mg/Kg	*	09/07/17 10:00	09/07/17 23:42	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	15.0		0.1		%			09/06/17 14:44	1
Percent Solids	85.0		0.1		%			09/06/17 14:44	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-7A 0-2"**

**Lab Sample ID: 310-113500-18**

**Date Collected: 09/01/17 11:55**

**Matrix: Soil**

**Date Received: 09/06/17 10:05**

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	1700		7.58		mg/Kg	☒	09/07/17 10:00	09/12/17 13:24	2

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	2.6		0.1		%			09/06/17 14:44	1
Percent Solids	97.4		0.1		%			09/06/17 14:44	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Soil Piles North**

**Lab Sample ID: 310-113500-19**

Date Collected: 08/31/17 16:00

Matrix: Soil

Date Received: 09/06/17 10:05

<b>Method: 6010C - Metals (ICP)</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1160		7.44		mg/Kg	*	09/07/17 10:00	09/12/17 13:31	2
<b>Method: 6010C - Metals (ICP) - TCLP</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	7.83		0.100		mg/L		09/11/17 08:13	09/12/17 13:58	1
<b>General Chemistry</b>									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.4		0.1		%			09/06/17 14:44	1
Percent Solids	97.6		0.1		%			09/06/17 14:44	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Soil Piles South**

**Lab Sample ID: 310-113500-20**

Date Collected: 08/31/17 16:10

Matrix: Soil

Date Received: 09/06/17 10:05

<b>Method: 6010C - Metals (ICP)</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2110		9.43		mg/Kg	☆	09/07/17 07:54	09/07/17 20:53	2
<b>Method: 6010C - Metals (ICP) - TCLP</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.50		0.100		mg/L		09/11/17 08:13	09/12/17 14:00	1
<b>General Chemistry</b>									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.4		0.1		%			09/06/17 14:44	1
Percent Solids	96.6		0.1		%			09/06/17 14:44	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Scrap Area #3 Composite 0-2"**

**Lab Sample ID: 310-113500-21**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	83.3		0.100		mg/L		09/11/17 08:13	09/12/17 14:02	1

1

2

3

4

5

6

7

8

9

10

12

13

14

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Scrap Area #3 Composite 3-6"**

**Lab Sample ID: 310-113500-22**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	10.2		0.100		mg/L		09/11/17 08:13	09/12/17 14:05	1

TestAmerica Cedar Falls



## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10 0-2" Composite**

**Lab Sample ID: 310-113500-23**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.47		0.100		mg/L		09/11/17 08:13	09/12/17 14:09	1

1

2

3

4

5

6

7

8

9

10

12

13

14

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Battery Area Composite 0-2"**

**Lab Sample ID: 310-113500-24**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	22.3		0.100		mg/L		09/11/17 08:13	09/12/17 14:11	1

TestAmerica Cedar Falls

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10 Composite 3-6"**

**Lab Sample ID: 310-113500-25**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.71		0.100		mg/L		09/11/17 08:13	09/12/17 14:13	1

1

2

3

4

5

6

7

8

9

10

12

13

14

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Battery Area Composite 3-6"**

**Lab Sample ID: 310-113500-26**

**Date Collected: 09/01/17 00:00**

**Matrix: Soil**

**Date Received: 09/06/17 10:05**

**Method: 6010C - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	7.14		0.100		mg/L		09/11/17 08:13	09/12/17 14:15	1

TestAmerica Cedar Falls

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-10A Composite 7-24"**

**Lab Sample ID: 310-113500-27**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.61		0.100		mg/L		09/11/17 08:13	09/12/17 14:21	1

TestAmerica Cedar Falls

## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

### Qualifiers

#### Metals

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
F3	Duplicate RPD exceeds the control limit

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

## Method: 6010C - Metals (ICP)

Lab Sample ID: MB 310-177971/1-A										Client Sample ID: Method Blank										
Matrix: Solid										Prep Type: Total/NA										
Analysis Batch: 178199										Prep Batch: 177971										
Analyte	MB	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac										
Lead	Result	Qualifier		4.28		mg/Kg		09/07/17 10:00	09/07/17 22:45	1										
Lead	<4.28																			
Lab Sample ID: LCS 310-177971/2-A										Client Sample ID: Lab Control Sample										
Matrix: Solid										Prep Type: Total/NA										
Analysis Batch: 178199										Prep Batch: 177971										
Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits										
Lead			Added	Result	Qualifier	mg/Kg		99		80 - 120										
Lead			162	159.7																
Lab Sample ID: 310-113500-1 MS										Client Sample ID: Soil Piles East										
Matrix: Soil										Prep Type: Total/NA										
Analysis Batch: 178539										Prep Batch: 177971										
Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits										
Lead	Result	Qualifier	Added	Result	Qualifier	mg/Kg		78		75 - 125										
Lead	8970	F2	155	9086	4															
Lab Sample ID: 310-113500-1 MSD										Client Sample ID: Soil Piles East										
Matrix: Soil										Prep Type: Total/NA										
Analysis Batch: 178539										Prep Batch: 177971										
Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit							
Lead	Result	Qualifier	Added	Result	Qualifier	mg/Kg		4945		75 - 125	58		20							
Lead	8970	F2	152	16460	4 F2															
Lab Sample ID: 310-113500-11 DU										Client Sample ID: GP-10C 19-24"										
Matrix: Soil										Prep Type: Total/NA										
Analysis Batch: 178539										Prep Batch: 177971										
Analyte	Sample	Sample		DU	DU	Unit	D				RPD	Limit								
Lead	Result	Qualifier		Result	Qualifier	mg/Kg					32	20								
Lead	14.2			10.30	F5															
Lab Sample ID: MB 310-177972/1-A										Client Sample ID: Method Blank										
Matrix: Solid										Prep Type: Total/NA										
Analysis Batch: 178199										Prep Batch: 177972										
Analyte	MB	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac										
Lead	Result	Qualifier		4.57		mg/Kg		09/07/17 10:00	09/07/17 19:39	1										
Lead	<4.57																			
Lab Sample ID: LCS 310-177972/2-A										Client Sample ID: Lab Control Sample										
Matrix: Solid										Prep Type: Total/NA										
Analysis Batch: 178199										Prep Batch: 177972										
Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits										
Lead			Added	Result	Qualifier	mg/Kg		101		80 - 120										
Lead			193	194.7																
Lab Sample ID: 310-113500-20 DU										Client Sample ID: Soil Piles South										
Matrix: Soil										Prep Type: Total/NA										
Analysis Batch: 178199										Prep Batch: 177972										
Analyte	Sample	Sample		DU	DU	Unit	D				RPD	Limit								
Lead	Result	Qualifier		Result	Qualifier	mg/Kg					40	20								
Lead	2110			3157	F3															

TestAmerica Cedar Falls

# QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

Lab Sample ID: LB 310-178154/1-B  
Matrix: Solid  
Analysis Batch: 178539

Client Sample ID: Method Blank  
Prep Type: TCLP  
Prep Batch: 178311

Analyte	LB	LB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead		Result	Qualifier				09/11/17 08:13	09/12/17 13:35	1
		<0.100		0.100	mg/L				

Lab Sample ID: LCS 310-178154/2-B  
Matrix: Solid  
Analysis Batch: 178539

Client Sample ID: Lab Control Sample  
Prep Type: TCLP  
Prep Batch: 178311

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
Lead	Added	Result	Qualifier				Limits
	4.00	3.943		mg/L		99	80 - 120

Lab Sample ID: 310-113500-22 MS  
Matrix: Soil  
Analysis Batch: 178539

Client Sample ID: Scrap Area #3 Composite 3-6"  
Prep Type: TCLP  
Prep Batch: 178311

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
Lead	Result	Qualifier	Added	Result	Qualifier				Limits
	10.2		4.00	13.66		mg/L		86	75 - 125

## Method: Moisture - Percent Moisture

Lab Sample ID: 310-113500-6 DU  
Matrix: Soil  
Analysis Batch: 177961

Client Sample ID: CSBA-10A 13-18"  
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
Percent Moisture	Result	Qualifier	Result	Qualifier				6	20
Percent Solids	92.4		91.9		%			0.5	20

Lab Sample ID: 310-113500-16 DU  
Matrix: Soil  
Analysis Batch: 177961

Client Sample ID: CSBA6 8-16"  
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
Percent Moisture	Result	Qualifier	Result	Qualifier				1	20
Percent Solids	86.6		86.4		%			0.2	20



# QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

## Metals

### Prep Batch: 177971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-1	Soil Piles East	Total/NA	Soil	3050B	
310-113500-2	GP-10C 0-2"	Total/NA	Soil	3050B	
310-113500-3	CSBA-10 7-12"	Total/NA	Soil	3050B	
310-113500-4	CSBA-10 0-2"	Total/NA	Soil	3050B	
310-113500-5	CSSA3-5R 19-24"	Total/NA	Soil	3050B	
310-113500-6	CSBA-10A 13-18"	Total/NA	Soil	3050B	
310-113500-7	CSSA3-2R 0-2"	Total/NA	Soil	3050B	
310-113500-8	CSSA3-4A 7-12"	Total/NA	Soil	3050B	
310-113500-9	CSSA3-5B 0-2"	Total/NA	Soil	3050B	
310-113500-10	CSBA-9A 0-2"	Total/NA	Soil	3050B	
310-113500-11	GP-10C 19-24"	Total/NA	Soil	3050B	
310-113500-12	CSSA3-1R 0-2"	Total/NA	Soil	3050B	
310-113500-13	CSRR-7R 3-6"	Total/NA	Soil	3050B	
310-113500-14	CSRR-3R 0-2"	Total/NA	Soil	3050B	
310-113500-15	GP-10A 0-2"	Total/NA	Soil	3050B	
310-113500-16	CSBA6 8-16"	Total/NA	Soil	3050B	
310-113500-17	CSBA-7A 7-12"	Total/NA	Soil	3050B	
310-113500-18	CSBA-7A 0-2"	Total/NA	Soil	3050B	
310-113500-19	Soil Piles North	Total/NA	Soil	3050B	
MB 310-177971/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 310-177971/2-A	Lab Control Sample	Total/NA	Solid	3050B	
310-113500-1 MS	Soil Piles East	Total/NA	Soil	3050B	
310-113500-1 MSD	Soil Piles East	Total/NA	Soil	3050B	
310-113500-11 DU	GP-10C 19-24"	Total/NA	Soil	3050B	

### Prep Batch: 177972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-20	Soil Piles South	Total/NA	Soil	3050B	
MB 310-177972/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 310-177972/2-A	Lab Control Sample	Total/NA	Solid	3050B	
310-113500-20 DU	Soil Piles South	Total/NA	Soil	3050B	

### Leach Batch: 178154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-1	Soil Piles East	TCLP	Soil	1311	
310-113500-19	Soil Piles North	TCLP	Soil	1311	
310-113500-20	Soil Piles South	TCLP	Soil	1311	
310-113500-21	Scrap Area #3 Composite 0-2"	TCLP	Soil	1311	
310-113500-22	Scrap Area #3 Composite 3-6"	TCLP	Soil	1311	
310-113500-23	GP-10 0-2" Composite	TCLP	Soil	1311	
310-113500-24	Battery Area Composite 0-2"	TCLP	Soil	1311	
310-113500-25	GP-10 Composite 3-6"	TCLP	Soil	1311	
310-113500-26	Battery Area Composite 3-6"	TCLP	Soil	1311	
310-113500-27	CSBA-10A Composite 7-24"	TCLP	Soil	1311	
LB 310-178154/1-B	Method Blank	TCLP	Solid	1311	
LCS 310-178154/2-B	Lab Control Sample	TCLP	Solid	1311	
310-113500-22 MS	Scrap Area #3 Composite 3-6"	TCLP	Soil	1311	

### Analysis Batch: 178199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-2	GP-10C 0-2"	Total/NA	Soil	6010C	177971

TestAmerica Cedar Falls

# QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

## Metals (Continued)

### Analysis Batch: 178199 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-8	CSSA3-4A 7-12"	Total/NA	Soil	6010C	177971
310-113500-13	CSRR-7R 3-6"	Total/NA	Soil	6010C	177971
310-113500-17	CSBA-7A 7-12"	Total/NA	Soil	6010C	177971
310-113500-20	Soil Piles South	Total/NA	Soil	6010C	177972
MB 310-177971/1-A	Method Blank	Total/NA	Solid	6010C	177971
MB 310-177972/1-A	Method Blank	Total/NA	Solid	6010C	177972
LCS 310-177971/2-A	Lab Control Sample	Total/NA	Solid	6010C	177971
LCS 310-177972/2-A	Lab Control Sample	Total/NA	Solid	6010C	177972
310-113500-20 DU	Soil Piles South	Total/NA	Soil	6010C	177972

### Prep Batch: 178311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-1	Soil Piles East	TCLP	Soil	3010A	178154
310-113500-19	Soil Piles North	TCLP	Soil	3010A	178154
310-113500-20	Soil Piles South	TCLP	Soil	3010A	178154
310-113500-21	Scrap Area #3 Composite 0-2"	TCLP	Soil	3010A	178154
310-113500-22	Scrap Area #3 Composite 3-6"	TCLP	Soil	3010A	178154
310-113500-23	GP-10 0-2" Composite	TCLP	Soil	3010A	178154
310-113500-24	Battery Area Composite 0-2"	TCLP	Soil	3010A	178154
310-113500-25	GP-10 Composite 3-6"	TCLP	Soil	3010A	178154
310-113500-26	Battery Area Composite 3-6"	TCLP	Soil	3010A	178154
310-113500-27	CSBA-10A Composite 7-24"	TCLP	Soil	3010A	178154
LB 310-178154/1-B	Method Blank	TCLP	Solid	3010A	178154
LCS 310-178154/2-B	Lab Control Sample	TCLP	Solid	3010A	178154
310-113500-22 MS	Scrap Area #3 Composite 3-6"	TCLP	Soil	3010A	178154

### Analysis Batch: 178539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-1	Soil Piles East	TCLP	Soil	6010C	178311
310-113500-1	Soil Piles East	Total/NA	Soil	6010C	177971
310-113500-3	CSBA-10 7-12"	Total/NA	Soil	6010C	177971
310-113500-4	CSBA-10 0-2"	Total/NA	Soil	6010C	177971
310-113500-5	CSSA3-5R 19-24"	Total/NA	Soil	6010C	177971
310-113500-6	CSBA-10A 13-18"	Total/NA	Soil	6010C	177971
310-113500-7	CSSA3-2R 0-2"	Total/NA	Soil	6010C	177971
310-113500-9	CSSA3-5B 0-2"	Total/NA	Soil	6010C	177971
310-113500-10	CSBA-9A 0-2"	Total/NA	Soil	6010C	177971
310-113500-11	GP-10C 19-24"	Total/NA	Soil	6010C	177971
310-113500-12	CSSA3-1R 0-2"	Total/NA	Soil	6010C	177971
310-113500-14	CSRR-3R 0-2"	Total/NA	Soil	6010C	177971
310-113500-15	GP-10A 0-2"	Total/NA	Soil	6010C	177971
310-113500-16	CSBA6 8-16"	Total/NA	Soil	6010C	177971
310-113500-18	CSBA-7A 0-2"	Total/NA	Soil	6010C	177971
310-113500-19	Soil Piles North	TCLP	Soil	6010C	178311
310-113500-19	Soil Piles North	Total/NA	Soil	6010C	177971
310-113500-20	Soil Piles South	TCLP	Soil	6010C	178311
310-113500-21	Scrap Area #3 Composite 0-2"	TCLP	Soil	6010C	178311
310-113500-22	Scrap Area #3 Composite 3-6"	TCLP	Soil	6010C	178311
310-113500-23	GP-10 0-2" Composite	TCLP	Soil	6010C	178311
310-113500-24	Battery Area Composite 0-2"	TCLP	Soil	6010C	178311
310-113500-25	GP-10 Composite 3-6"	TCLP	Soil	6010C	178311

TestAmerica Cedar Falls

# QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

## Metals (Continued)

### Analysis Batch: 178539 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-26	Battery Area Composite 3-6"	TCLP	Soil	6010C	178311
310-113500-27	CSBA-10A Composite 7-24"	TCLP	Soil	6010C	178311
LB 310-178154/1-B	Method Blank	TCLP	Solid	6010C	178311
LCS 310-178154/2-B	Lab Control Sample	TCLP	Solid	6010C	178311
310-113500-1 MS	Soil Piles East	Total/NA	Soil	6010C	177971
310-113500-1 MSD	Soil Piles East	Total/NA	Soil	6010C	177971
310-113500-22 MS	Scrap Area #3 Composite 3-6"	TCLP	Soil	6010C	178311
310-113500-11 DU	GP-10C 19-24"	Total/NA	Soil	6010C	177971

## General Chemistry

### Analysis Batch: 177961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-113500-1	Soil Piles East	Total/NA	Soil	Moisture	
310-113500-2	GP-10C 0-2"	Total/NA	Soil	Moisture	
310-113500-3	CSBA-10 7-12"	Total/NA	Soil	Moisture	
310-113500-4	CSBA-10 0-2"	Total/NA	Soil	Moisture	
310-113500-5	CSSA3-5R 19-24"	Total/NA	Soil	Moisture	
310-113500-6	CSBA-10A 13-18"	Total/NA	Soil	Moisture	
310-113500-7	CSSA3-2R 0-2"	Total/NA	Soil	Moisture	
310-113500-8	CSSA3-4A 7-12"	Total/NA	Soil	Moisture	
310-113500-9	CSSA3-5B 0-2"	Total/NA	Soil	Moisture	
310-113500-10	CSBA-9A 0-2"	Total/NA	Soil	Moisture	
310-113500-11	GP-10C 19-24"	Total/NA	Soil	Moisture	
310-113500-12	CSSA3-1R 0-2"	Total/NA	Soil	Moisture	
310-113500-13	CSRR-7R 3-6"	Total/NA	Soil	Moisture	
310-113500-14	CSRR-3R 0-2"	Total/NA	Soil	Moisture	
310-113500-15	GP-10A 0-2"	Total/NA	Soil	Moisture	
310-113500-16	CSBA6 8-16"	Total/NA	Soil	Moisture	
310-113500-17	CSBA-7A 7-12"	Total/NA	Soil	Moisture	
310-113500-18	CSBA-7A 0-2"	Total/NA	Soil	Moisture	
310-113500-19	Soil Piles North	Total/NA	Soil	Moisture	
310-113500-20	Soil Piles South	Total/NA	Soil	Moisture	
310-113500-6 DU	CSBA-10A 13-18"	Total/NA	Soil	Moisture	
310-113500-16 DU	CSBA6 8-16"	Total/NA	Soil	Moisture	

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: Soil Piles East**

**Lab Sample ID: 310-113500-1**

Date Collected: 08/31/17 16:05

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 13:56	SAD	TAL CF
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		3	178539	09/12/17 12:47	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:31	SAS	TAL CF

**Client Sample ID: GP-10C 0-2"**

**Lab Sample ID: 310-113500-2**

Date Collected: 08/31/17 10:15

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	178199	09/07/17 23:00	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:31	SAS	TAL CF

**Client Sample ID: CSBA-10 7-12"**

**Lab Sample ID: 310-113500-3**

Date Collected: 08/31/17 14:12

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		7	178539	09/12/17 12:52	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:31	SAS	TAL CF

**Client Sample ID: CSBA-10 0-2"**

**Lab Sample ID: 310-113500-4**

Date Collected: 08/31/17 14:09

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		4	178539	09/12/17 12:54	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:31	SAS	TAL CF

**Client Sample ID: CSSA3-5R 19-24"**

**Lab Sample ID: 310-113500-5**

Date Collected: 08/31/17 11:10

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	178539	09/12/17 12:56	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:31	SAS	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: CSBA-10A 13-18"**

**Lab Sample ID: 310-113500-6**

Date Collected: 09/01/17 12:15

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	178539	09/12/17 12:58	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSSA3-2R 0-2"**

**Lab Sample ID: 310-113500-7**

Date Collected: 08/31/17 14:50

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		6	178539	09/12/17 13:05	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSSA3-4A 7-12"**

**Lab Sample ID: 310-113500-8**

Date Collected: 09/01/17 10:43

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	178199	09/07/17 23:17	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSSA3-5B 0-2"**

**Lab Sample ID: 310-113500-9**

Date Collected: 09/01/17 10:51

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		3	178539	09/12/17 13:07	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSBA-9A 0-2"**

**Lab Sample ID: 310-113500-10**

Date Collected: 09/01/17 12:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		7	178539	09/12/17 13:09	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10C 19-24"**

**Lab Sample ID: 310-113500-11**

Date Collected: 08/31/17 10:19

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	178539	09/12/17 13:11	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSSA3-1R 0-2"**

**Lab Sample ID: 310-113500-12**

Date Collected: 08/31/17 15:12

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	178539	09/12/17 13:16	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSRR-7R 3-6"**

**Lab Sample ID: 310-113500-13**

Date Collected: 08/31/17 08:22

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	178199	09/07/17 23:30	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: CSRR-3R 0-2"**

**Lab Sample ID: 310-113500-14**

Date Collected: 08/31/17 20:09

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		4	178539	09/12/17 13:18	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

**Client Sample ID: GP-10A 0-2"**

**Lab Sample ID: 310-113500-15**

Date Collected: 08/31/17 09:32

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		3	178539	09/12/17 13:20	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:37	SAS	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

## Client Sample ID: CSBA6 8-16"

Lab Sample ID: 310-113500-16

Date Collected: 08/31/17 11:36

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		6	178539	09/12/17 13:22	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:44	SAS	TAL CF

## Client Sample ID: CSBA-7A 7-12"

Lab Sample ID: 310-113500-17

Date Collected: 09/01/17 11:58

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	178199	09/07/17 23:42	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:44	SAS	TAL CF

## Client Sample ID: CSBA-7A 0-2"

Lab Sample ID: 310-113500-18

Date Collected: 09/01/17 11:55

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	178539	09/12/17 13:24	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:44	SAS	TAL CF

## Client Sample ID: Soil Piles North

Lab Sample ID: 310-113500-19

Date Collected: 08/31/17 16:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 13:58	SAD	TAL CF
Total/NA	Prep	3050B			177971	09/07/17 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	178539	09/12/17 13:31	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:44	SAS	TAL CF

## Client Sample ID: Soil Piles South

Lab Sample ID: 310-113500-20

Date Collected: 08/31/17 16:10

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:00	SAD	TAL CF
Total/NA	Prep	3050B			177972	09/07/17 07:54	JNR	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

## Client Sample ID: Soil Piles South

Lab Sample ID: 310-113500-20

Date Collected: 08/31/17 16:10

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		2	178199	09/07/17 20:53	SAD	TAL CF
Total/NA	Analysis	Moisture		1	177961	09/06/17 14:44	SAS	TAL CF

## Client Sample ID: Scrap Area #3 Composite 0-2"

Lab Sample ID: 310-113500-21

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:02	SAD	TAL CF

## Client Sample ID: Scrap Area #3 Composite 3-6"

Lab Sample ID: 310-113500-22

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:05	SAD	TAL CF

## Client Sample ID: GP-10 0-2" Composite

Lab Sample ID: 310-113500-23

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:09	SAD	TAL CF

## Client Sample ID: Battery Area Composite 0-2"

Lab Sample ID: 310-113500-24

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:11	SAD	TAL CF

TestAmerica Cedar Falls



## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

**Client Sample ID: GP-10 Composite 3-6"**

**Lab Sample ID: 310-113500-25**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:13	SAD	TAL CF

**Client Sample ID: Battery Area Composite 3-6"**

**Lab Sample ID: 310-113500-26**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:15	SAD	TAL CF

**Client Sample ID: CSBA-10A Composite 7-24"**

**Lab Sample ID: 310-113500-27**

Date Collected: 09/01/17 00:00

Matrix: Soil

Date Received: 09/06/17 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			178154	09/07/17 14:40	JTA	TAL CF
TCLP	Prep	3010A			178311	09/11/17 08:13	JNR	TAL CF
TCLP	Analysis	6010C		1	178539	09/12/17 14:21	SAD	TAL CF

### Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

## Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

### Laboratory: TestAmerica Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-18
Georgia	State Program	4	IA100001 (OR)	09-29-17 *
Illinois	NELAP	5	200024	11-29-17
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-18
Minnesota	NELAP	5	019-999-319	12-31-17
Minnesota (Petrofund)	State Program	1	3349	08-22-17 *
North Dakota	State Program	8	R-186	09-29-17 *
Oregon	NELAP	10	IA100001	09-29-17 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Cedar Falls

## Method Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals - Gering, NE

TestAmerica Job ID: 310-113500-1  
SDG: 05177725A

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CF
Moisture	Percent Moisture	EPA	TAL CF

### Protocol References:

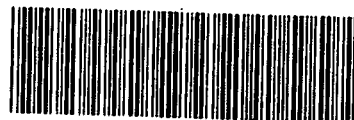
EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



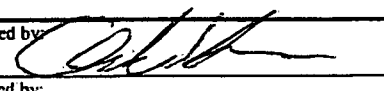
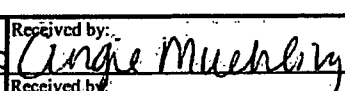
## Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Terracon</u>			
City/State: <u>Omaha, NE</u>		Project: <u>B&amp;T Metals</u>	
<b>Receipt Information</b>			
Date/Time Received: <u>9-6-17 1005</u>		Received By: <u>DA</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?		If yes: Cooler ID: <u>SPM-01</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # _____ of _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>G</u>		Correction Factor (°C): <u>-0.1</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>3.6</u>		Corrected Temp (°C): <u>3.5</u>	
• Sample Container Temperature			
Sample ID(s) & bottle type used:		CONTAINER 1 CONTAINER 2	
Uncorrected Temp (°C):		Corrected Temp (°C):	
TEMP 1 TEMP 2		TEMP 1 TEMP 2	
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			

**Cedar Falls, IA 50613**  
**phone 319.277.2401 fax 319.277.2425**

# TestAmerica

**TestAmerica Laboratories, Inc.**

Client Contact		Project Manager: Megan Hughes		Site Contact: Andrew Herman		Date:		COC No:	
Terracon Consultants Inc:		Tel/Fax: 402-330-2202 megan.hughes@terracon.com		Lab Contact:		Carrier: FedEx		____ of ____ COCs	
15080 A Circle		Analysis Turnaround Time		<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Filtered Sample</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Lead (6010B)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TCLP Lead (Method 1311)</div> </div>					
Omaha, NE 68144		Calendar (C) or Work Days (W) W 5							
(402) 330-2202 Phone		TAT if different from Below _____							
(402) 330-7606 FAX		<input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day							
Project Name: B & T Metals								Job No. 05177725A	
Site: Gering, NE								SDG No.	
P O #: 05177725A									
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.			Sample Specific Notes:
Soil Piles East		8/31/17	1805	G	S	4	X	Y	
GP-10C 0-2"		8/31/17	1015	G	S	1	X		
CSBA-10 7-12"		8/31/17	1412	G	S	1	X		
CSBA-10 0-2"		8/31/17	1409	G	S	1	X		
CSSA3-5R 19-24"		8/31/17	1110	G	S	1	X		
CSBA-10A 13-18" 9/1/17		8/31/17	1215	G	S	1	Y		
CSSA-2R 0-2"		8/31/17	1450	G	S	1	Y		
CSSA3-4A 7-12"		9/1/17	1051	G	S	1	X		
CSSA3-5B 0-2"		9/1/17	1051	G	S	1	X		
CSBA-9A 0-2"		9/1/17	1200	G	S	1	X		
GP-10C 19-24"		8/31/17	1019	G	S	1	X		
CSSA3-1R 0-2"		8/31/17	1512	G	S	1	X		
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other							1,2	1	
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison/B <input type="checkbox"/> Unknown <input type="checkbox"/>							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Special Instructions/QC Requirements & Comments:									
Please note relative moisture content in laboratory report:									
Relinquished by: 		Company: Terracon		Date/Time: 9/5/17 5:30		Received by: 		Company: Test America	
Relinquished by:		Company:		Date/Time:		Received by:		Company:	
Relinquished by:		Company:		Date/Time:		Received by:		Company:	

Form No. CA-C-WI-002, dated 04/07/2011

Cedar Falls  
704 Enterprise Drive


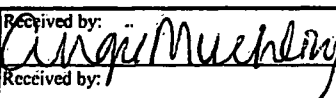
Cedar Falls, IA 50613  
phone 319.277.2401 fax 319.277.2425

## Chain of Custody Record

TestAmerica

THE LEADERSHIP IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

<b>Client Contact</b>		<b>Project Manager: Megan Hughes</b>		<b>Site Contact: Andrew Herman</b>		<b>Date:</b>		<b>COC No:</b>	
Terracon Consultants Inc.		Tel/Fax: 402-330-2202 megan.hughes@terracon.com		Lab Contact:		Carrier: FedEx		2 of COCs	
15080 A Circle		<b>Analysis Turnaround Time</b>		<div>Filtered Sample</div> <div>Total Lead (600B)</div> <div>TCLP Lead (Method 1311)</div>				Job No. 05177725A	
Omaha, NE 68144		Calendar (C) or Work Days (W) W 5						SDG No.	
(402) 330-2202 Phone		TAT if different from Below							
(402) 330-7606 FAX		<input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day							
Project Name: B & T Metals									
Site: Gering, NE									
P O #: 05177725A									
<b>Sample Identification</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type</b>	<b>Matrix</b>	<b># of Cont.</b>			<b>Sample Specific Notes:</b>
CSRR - 7R 0-2" 3-6"		8/31/17	822	G	S	1	X		
CSRR - 3R 0-2"		8/31/17	2009	G	S	1	X		
GP-10A 0-2"		8/31/17	932	G	S	1	X		
ASBA 6 8-16"		8/31/17	1136	G	S	1	X		
SBA - 7A 7-12"		9/1/17	1158	G	S	1	X		
SBR - 7A 0-2"		9/1/17	1155	G	S	1	X		
Soil piles North		8/31/17	1600	G	S	4	X X		
Soil piles South		8/31/17	1610	G	S	4	X X		
Scrap Area #3 Composite 0-2"		8/31-9/1/17	AM	C	S	3	X		
Scrap Area #3 Composite 3-6"		8/31-9/1/17	AM	C	S	3	X		
GP-10 0-2" Composite		8/31-9/1/17	AM	C	S	3	X		
Battery Area Composite 0-2"		8/31-9/1/17	AM	C	S	3	Y		
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other							1,2 1		
<b>Possible Hazard Identification</b>							<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>		
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
<b>Special Instructions/QC Requirements &amp; Comments:</b>									
<del>Remove central zone</del>									
Please note relative moisture content in laboratory report									
Relinquished by: 		Company: Terracon		Date/Time: 9/5/17 5:30		Received by: 		Company: TestAmerica	
Relinquished by:		Company:		Date/Time:		Received by:		Company:	
Relinquished by:		Company:		Date/Time:		Received by:		Company:	

Form No. CA-C-WI-002, dated 04/07/2011

**Cedar Falls, IA 50613**  
**phone 319.277.2401 fax 319.277.2425**

# TestAmerica

III. LEADERSHIP DEVELOPMENT STRATEGIES 11/11/07

**TestAmerica Laboratories, Inc.**

[illegible]

Form No. CA-C-WI-002, dated 04/07/2011

## Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 310-113500-1

SDG Number: 05177725A

Login Number: 113500

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Muehling, Angela C

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

1

2

3

4

5

6

7

8

9

10

11

12

13

14



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Cedar Falls  
704 Enterprise Drive  
Cedar Falls, IA 50613  
Tel: (319)277-2401

TestAmerica Job ID: 310-114206-1  
TestAmerica Sample Delivery Group: 05177725A  
Client Project/Site: B&T Metals

For:  
Terracon Consulting Eng & Scientists  
15080 A Circle  
Omaha, Nebraska 68144

Attn: Megan Hughes

*Angela Muehling*

Authorized for release by:  
9/20/2017 8:58:17 AM  
Angela Muehling, Project Manager I  
angela.muehling@testamericainc.com

Designee for  
Shawn Hayes, Senior Project Manager  
(319)277-2401  
shawn.hayes@testamericainc.com

### LINKS

Review your project  
results through

**Total Access**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10

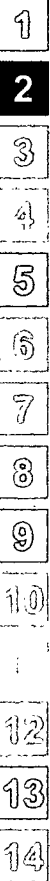
12

13

14

# Table of Contents

Cover Page .....	1
Table of Contents .....	2
Case Narrative .....	3
Sample Summary .....	4
Detection Summary .....	5
Client Sample Results .....	6
Definitions .....	7
QC Sample Results .....	8
QC Association .....	9
Chronicle .....	10
Certification Summary .....	11
Method Summary .....	12
Chain of Custody .....	13
Receipt Checklists .....	16



## Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

**Job ID: 310-114206-1**

**Laboratory: TestAmerica Cedar Falls**

### Narrative

**Job Narrative**  
**310-114206-1**

### Comments

No additional comments.

### Receipt

The sample was received on 9/14/2017 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Sample Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-114206-1	Rinsate Water	Water	08/31/17 17:30	09/14/17 10:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

## Detection Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

**Client Sample ID: Rinsate Water**

**Lab Sample ID: 310-114206-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.765		0.000500		mg/L	1		6020A	Total/NA
Lead	0.251		0.000500		mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

## Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

**Client Sample ID: Rinsate Water**

**Lab Sample ID: 310-114206-1**

Date Collected: 08/31/17 17:30

Matrix: Water

Date Received: 09/14/17 10:00

Method: 6020A - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.765		0.000500		mg/L		09/18/17 10:00	09/19/17 23:05	1

Method: 6020A - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.251		0.000500		mg/L		09/18/17 10:00	09/19/17 20:28	1

## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

## Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-178956/1-A  
Matrix: Water  
Analysis Batch: 179386

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 178956

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		09/18/17 10:00	09/19/17 21:48	1

Lab Sample ID: LCS 310-178956/2-A  
Matrix: Water  
Analysis Batch: 179386

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 178956

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	0.0200	0.02144		mg/L		107	80 - 120

Lab Sample ID: MB 310-178968/1-B  
Matrix: Water  
Analysis Batch: 179386

Client Sample ID: Method Blank  
Prep Type: Dissolved  
Prep Batch: 178972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		09/18/17 10:00	09/19/17 20:03	1

Lab Sample ID: LCS 310-178968/2-B  
Matrix: Water  
Analysis Batch: 179386

Client Sample ID: Lab Control Sample  
Prep Type: Dissolved  
Prep Batch: 178972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	0.0200	0.02166		mg/L		108	80 - 120



## QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

### Metals

#### Prep Batch: 178956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-114206-1	Rinsate Water	Total/NA	Water	3010A	
MB 310-178956/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-178956/2-A	Lab Control Sample	Total/NA	Water	3010A	

#### Filtration Batch: 178968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-178968/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 310-178968/2-B	Lab Control Sample	Dissolved	Water	Filtration	

#### Prep Batch: 178972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-114206-1	Rinsate Water	Dissolved	Water	3010A	
MB 310-178968/1-B	Method Blank	Dissolved	Water	3010A	178968
LCS 310-178968/2-B	Lab Control Sample	Dissolved	Water	3010A	178968

#### Analysis Batch: 179386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-114206-1	Rinsate Water	Dissolved	Water	6020A	178972
310-114206-1	Rinsate Water	Total/NA	Water	6020A	178956
MB 310-178956/1-A	Method Blank	Total/NA	Water	6020A	178956
MB 310-178968/1-B	Method Blank	Dissolved	Water	6020A	178972
LCS 310-178956/2-A	Lab Control Sample	Total/NA	Water	6020A	178956
LCS 310-178968/2-B	Lab Control Sample	Dissolved	Water	6020A	178972

## Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

**Client Sample ID: Rinsate Water**

**Lab Sample ID: 310-114206-1**

**Date Collected: 08/31/17 17:30**

**Matrix: Water**

**Date Received: 09/14/17 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			178972	09/18/17 10:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	179386	09/19/17 20:28	OAD	TAL CF
Total/NA	Prep	3010A			178956	09/18/17 10:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	179386	09/19/17 23:05	OAD	TAL CF

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

## Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

### Laboratory: TestAmerica Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-18
Georgia	State Program	4	IA100001 (OR)	09-29-17 *
Illinois	NELAP	5	200024	11-29-17
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-18
Minnesota	NELAP	5	019-999-319	12-31-17
Minnesota (Petrofund)	State Program	1	3349	08-22-17 *
North Dakota	State Program	8	R-186	09-29-17 *
Oregon	NELAP	10	IA100001	09-29-17 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Cedar Falls

## Method Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B&T Metals

TestAmerica Job ID: 310-114206-1  
SDG: 05177725A

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste; Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14



### Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Terracon</u>			
City/State: <u>Omaha NE</u>		Project: <u>B &amp; T Metals</u>	
<b>Receipt Information</b>			
Date/Time Received: <u>09-14-17 1000</u>		Received By: <u>[Signature]</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?		If yes: Cooler ID:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # _____ of _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>H</u>		Correction Factor (°C): <u>0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.4</u>		Corrected Temp (°C): <u>1.4</u>	
• Sample Container Temperature			
Sample ID(s) & bottle type used:		CONTAINER 1 CONTAINER 2	
Uncorrected Temp (°C):		Corrected Temp (°C):	
TEMP 1 TEMP 2		TEMP 1 TEMP 2	
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			

## 704 Enterprise Drive

# TestAmerica

**THE LEADER IN ENVIRONMENTAL TESTING**

phone 319.277.2401 fax 319.277.2425

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:**TestAmerica Laboratories, Inc.**[illegible]

Form No. CA-C-WI-002, Rev. 4.12, dated 6/12/2017

Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> pH	<u>Preservative</u> Added (mls)	<u>Lot #</u>
Rinsate Water	310-114206-A-1	Plastic 250ml - w/nitric - dis	<2	_____	_____
Rinsate Water	310-114206-B-1	Plastic 1 liter - Nitric Acid	<2	_____	_____

## Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 310-114206-1

SDG Number: 05177725A

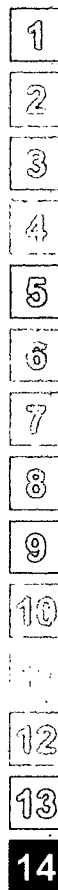
Login Number: 114206

List Number: 1

Creator: Marzen, Brita K

List Source: TestAmerica Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Cedar Falls  
704 Enterprise Drive  
Cedar Falls, IA 50613  
Tel: (319)277-2401

TestAmerica Job ID: 310-120157-1  
TestAmerica Sample Delivery Group: 051777725A  
Client Project/Site: B T Metals - Gering, NE

For:  
Terracon Consulting Eng & Scientists  
15080 A Circle  
Omaha, Nebraska 68144

Attn: Megan Hughes



Authorized for release by:  
12/15/2017 10:53:49 AM

Shawn Hayes, Senior Project Manager  
(319)277-2401  
shawn.hayes@testamericainc.com

### LINKS

Review your project  
results through

**Total Access**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10

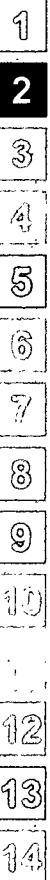
12

13

14

# Table of Contents

Cover Page .....	1
Table of Contents .....	2
Case Narrative .....	3
Sample Summary .....	4
Detection Summary .....	5
Client Sample Results .....	7
Definitions .....	27
QC Sample Results .....	28
QC Association .....	30
Chronicle .....	32
Certification Summary .....	36
Method Summary .....	37
Chain of Custody .....	38
Receipt Checklists .....	43



## Case Narrative

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Job ID: 310-120157-1**

**Laboratory: TestAmerica Cedar Falls**

### Narrative

**Job Narrative**  
**310-120157-1**

### Comments

No additional comments.

### Receipt

The samples were received on 12/6/2017 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Sample Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-120157-1	GP-10A (3-6")	Soil	08/31/17 09:33	12/06/17 10:10
310-120157-3	CSSA3-4R (0-2")	Soil	08/31/17 10:42	12/06/17 10:10
310-120157-6	CSSA3-5R (3-6")	Soil	08/31/17 11:07	12/06/17 10:10
310-120157-8	CSBA-6 (17-22")	Soil	08/31/17 11:39	12/06/17 10:10
310-120157-9	CSBA-9 (3-6")	Soil	08/31/17 11:58	12/06/17 10:10
310-120157-12	CSBA-7 (3-6")	Soil	08/31/17 12:40	12/06/17 10:10
310-120157-14	CSBA-10 (19-24")	Soil	08/31/17 14:20	12/06/17 10:10
310-120157-16	CSSA3-2R (3-6")	Soil	08/31/17 14:51	12/06/17 10:10
310-120157-18	CSSA3-1R (3-6")	Soil	08/31/17 15:13	12/06/17 10:10
310-120157-19	CSRR-6R (0-2")	Soil	08/31/17 15:28	12/06/17 10:10
310-120157-21	CSRR-2R (3-6")	Soil	08/31/17 08:00	12/06/17 10:10
310-120157-23	CSRR-3R (3-6")	Soil	08/31/17 08:06	12/06/17 10:10
310-120157-25	GP-10A-1 (3-6")	Soil	09/01/17 10:33	12/06/17 10:10
310-120157-27	GP-10A-2 (0-2")	Soil	09/01/17 10:35	12/06/17 10:10
310-120157-29	CSSA3-5A (3-6")	Soil	09/01/17 10:48	12/06/17 10:10
310-120157-31	CSSA3-5B (3-6")	Soil	09/01/17 10:53	12/06/17 10:10
310-120157-33	CSSA3-2A (3-6")	Soil	09/01/17 10:57	12/06/17 10:10
310-120157-35	CSBA-7A (3-6")	Soil	09/01/17 11:57	12/06/17 10:10
310-120157-36	CSBA-9A (3-6")	Soil	09/01/17 12:02	12/06/17 10:10
310-120157-39	CSBA-10A (19-24")	Soil	09/01/17 12:15	12/06/17 10:10

# Detection Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

## Client Sample ID: GP-10A (3-6")

## Lab Sample ID: 310-120157-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1340		8.36		mg/Kg	2	✖	6010C	Total/NA

## Client Sample ID: CSSA3-4R (0-2")

## Lab Sample ID: 310-120157-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	39.9		5.24		mg/Kg	1	✖	6010C	Total/NA

## Client Sample ID: CSSA3-5R (3-6")

## Lab Sample ID: 310-120157-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	4840		12.7		mg/Kg	3	✖	6010C	Total/NA

## Client Sample ID: CSBA-6 (17-22")

## Lab Sample ID: 310-120157-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	21.3		4.50		mg/Kg	1	✖	6010C	Total/NA

## Client Sample ID: CSBA-9 (3-6")

## Lab Sample ID: 310-120157-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	2730		14.5		mg/Kg	3	✖	6010C	Total/NA

## Client Sample ID: CSBA-7 (3-6")

## Lab Sample ID: 310-120157-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	5770		9.19		mg/Kg	2	✖	6010C	Total/NA

## Client Sample ID: CSBA-10 (19-24")

## Lab Sample ID: 310-120157-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3340		10.0		mg/Kg	2	✖	6010C	Total/NA

## Client Sample ID: CSSA3-2R (3-6")

## Lab Sample ID: 310-120157-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3870		12.8		mg/Kg	3	✖	6010C	Total/NA

## Client Sample ID: CSSA3-1R (3-6")

## Lab Sample ID: 310-120157-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	47.3		5.18		mg/Kg	1	✖	6010C	Total/NA

## Client Sample ID: CSRR-6R (0-2")

## Lab Sample ID: 310-120157-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1790		8.87		mg/Kg	2	✖	6010C	Total/NA

## Client Sample ID: CSRR-2R (3-6")

## Lab Sample ID: 310-120157-21

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

# Detection Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

## Client Sample ID: CSRR-2R (3-6") (Continued)

Lab Sample ID: 310-120157-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1310		15.6		mg/Kg	3	✱	6010C	Total/NA

## Client Sample ID: CSRR-3R (3-6")

Lab Sample ID: 310-120157-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	141		4.55		mg/Kg	1	✱	6010C	Total/NA

## Client Sample ID: GP-10A-1 (3-6")

Lab Sample ID: 310-120157-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1450		9.18		mg/Kg	2	✱	6010C	Total/NA

## Client Sample ID: GP-10A-2 (0-2")

Lab Sample ID: 310-120157-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1780		10.4		mg/Kg	2	✱	6010C	Total/NA

## Client Sample ID: CSSA3-5A (3-6")

Lab Sample ID: 310-120157-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	384		5.32		mg/Kg	1	✱	6010C	Total/NA

## Client Sample ID: CSSA3-5B (3-6")

Lab Sample ID: 310-120157-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3530		13.1		mg/Kg	3	✱	6010C	Total/NA

## Client Sample ID: CSSA3-2A (3-6")

Lab Sample ID: 310-120157-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	17900		5.03		mg/Kg	1	✱	6010C	Total/NA

## Client Sample ID: CSBA-7A (3-6")

Lab Sample ID: 310-120157-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	3110		17.7		mg/Kg	4	✱	6010C	Total/NA

## Client Sample ID: CSBA-9A (3-6")

Lab Sample ID: 310-120157-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	10700		33.1		mg/Kg	6	✱	6010C	Total/NA

## Client Sample ID: CSBA-10A (19-24")

Lab Sample ID: 310-120157-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	200		4.27		mg/Kg	1	✱	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: GP-10A (3-6")**

**Lab Sample ID: 310-120157-1**

Date Collected: 08/31/17 09:33

Matrix: Soil

Date Received: 12/06/17 10:10

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1340		8.36		mg/Kg	☒	12/07/17 14:43	12/11/17 15:13	2

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.8		0.1		%			12/06/17 15:55	1
Percent Solids	87.2		0.1		%			12/06/17 15:55	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-4R (0-2")**

**Lab Sample ID: 310-120157-3**

Date Collected: 08/31/17 10:42

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	39.9		5.24		mg/Kg	*	12/07/17 14:43	12/08/17 01:30	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	29.8		0.1		%			12/06/17 15:55	1
Percent Solids	70.2		0.1		%			12/06/17 15:55	1



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-5R (3-6")**

**Lab Sample ID: 310-120157-6**

**Date Collected: 08/31/17 11:07**

**Matrix: Soil**

**Date Received: 12/06/17 10:10**

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	4840		12.7		mg/Kg	☼	12/07/17 14:43	12/11/17 15:20	3

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.6		0.1		%			12/06/17 15:55	1
Percent Solids	91.4		0.1		%			12/06/17 15:55	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-6 (17-22")**

**Lab Sample ID: 310-120157-8**

Date Collected: 08/31/17 11:39

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	21.3		4.50		mg/Kg	✱	12/07/17 14:43	12/08/17 01:34	1
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	15.5		0.1		%			12/06/17 15:55	1
Percent Solids	84.5		0.1		%			12/06/17 15:55	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-9 (3-6")**

**Lab Sample ID: 310-120157-9**

Date Collected: 08/31/17 11:58

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2730		14.5		mg/Kg	✱	12/07/17 14:43	12/11/17 15:22	3

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.5		0.1		%			12/06/17 15:55	1
Percent Solids	89.5		0.1		%			12/06/17 15:55	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-7 (3-6")**

**Lab Sample ID: 310-120157-12**

Date Collected: 08/31/17 12:40

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5770		9.19		mg/Kg	*	12/07/17 14:43	12/11/17 15:24	2
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.1		0.1		%			12/06/17 15:55	1
Percent Solids	95.9		0.1		%			12/06/17 15:55	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-10 (19-24")**

**Lab Sample ID: 310-120157-14**

Date Collected: 08/31/17 14:20

Matrix: Soil

Date Received: 12/06/17 10:10

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	3340		10.0		mg/Kg	☼	12/07/17 14:43	12/11/17 15:27	2

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	14.0		0.1		%			12/06/17 15:55	1
Percent Solids	86.0		0.1		%			12/06/17 15:55	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-2R (3-6")**

**Lab Sample ID: 310-120157-16**

Date Collected: 08/31/17 14:51

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	3870		12.8		mg/Kg	*	12/07/17 14:43	12/11/17 15:29	3

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	10.7		0.1		%			12/06/17 15:55	1
Percent Solids	89.3		0.1		%			12/06/17 15:55	1



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-1R (3-6")**

**Lab Sample ID: 310-120157-18**

Date Collected: 08/31/17 15:13

Matrix: Soil

Date Received: 12/06/17 10:10

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	47.3		5.18		mg/Kg	✱	12/07/17 14:43	12/08/17 01:48	1

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	DII Fac
Percent Moisture	22.7		0.1		%			12/06/17 15:55	1
Percent Solids	77.3		0.1		%			12/06/17 15:55	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSRR-6R (0-2")**

**Lab Sample ID: 310-120157-19**

Date Collected: 08/31/17 15:28

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1790		8.87		mg/Kg	*	12/07/17 14:43	12/11/17 15:31	2
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.0		0.1		%			12/06/17 16:06	1
Percent Solids	91.0		0.1		%			12/06/17 16:06	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSRR-2R (3-6")**

**Lab Sample ID: 310-120157-21**

Date Collected: 08/31/17 08:00

Matrix: Soil

Date Received: 12/06/17 10:10

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1310		15.6		mg/Kg	✱	12/07/17 14:43	12/11/17 15:39	3

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.3		0.1		%			12/06/17 16:06	1
Percent Solids	88.7		0.1		%			12/06/17 16:06	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSRR-3R (3-6")**

**Lab Sample ID: 310-120157-23**

Date Collected: 08/31/17 08:06

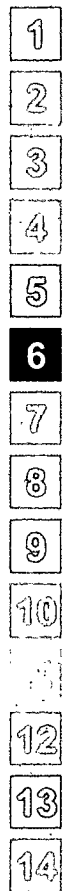
Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	141		4.55		mg/Kg	*	12/07/17 14:43	12/08/17 01:57	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.9		0.1		%			12/06/17 16:06	1
Percent Solids	86.1		0.1		%			12/06/17 16:06	1



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: GP-10A-1 (3-6")**

**Lab Sample ID: 310-120157-25**

Date Collected: 09/01/17 10:33

Matrix: Soil

Date Received: 12/06/17 10:10

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1450		9.18		mg/Kg	✱	12/07/17 14:43	12/11/17 15:41	2

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.1		0.1		%			12/06/17 16:06	1
Percent Solids	78.9		0.1		%			12/06/17 16:06	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: GP-10A-2 (0-2")**

**Lab Sample ID: 310-120157-27**

Date Collected: 09/01/17 10:35

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1780		10.4		mg/Kg	✱	12/07/17 14:43	12/11/17 15:43	2

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.5		0.1		%			12/06/17 16:06	1
Percent Solids	94.5		0.1		%			12/06/17 16:06	1

TestAmerica Cedar Falls

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-5A (3-6")**

**Lab Sample ID: 310-120157-29**

Date Collected: 09/01/17 10:48

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	384		5.32		mg/Kg	☒	12/07/17 14:43	12/08/17 02:03	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.5		0.1		%			12/06/17 16:06	1
Percent Solids	88.5		0.1		%			12/06/17 16:06	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

Client Sample ID: CSSA3-5B (3-6")

Lab Sample ID: 310-120157-31

Date Collected: 09/01/17 10:53

Matrix: Soil

Date Received: 12/06/17 10:10

## Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3530		13.1		mg/Kg	✱	12/07/17 14:43	12/11/17 17:07	3

## General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.6		0.1		%			12/06/17 16:06	1
Percent Solids	93.4		0.1		%			12/06/17 16:06	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-2A (3-6")**

**Lab Sample ID: 310-120157-33**

**Date Collected: 09/01/17 10:57**

**Matrix: Soil**

**Date Received: 12/06/17 10:10**

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	17900		5.03		mg/Kg	✱	12/07/17 14:43	12/08/17 02:07	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.6		0.1		%			12/06/17 16:06	1
Percent Solids	90.4		0.1		%			12/06/17 16:06	1

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-7A (3-6")**

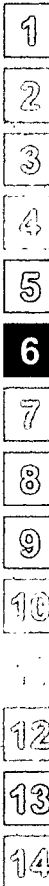
**Lab Sample ID: 310-120157-35**

Date Collected: 09/01/17 11:57

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3110		17.7		mg/Kg	*	12/07/17 14:43	12/11/17 17:05	4
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.0		0.1		%			12/06/17 16:25	1
Percent Solids	97.0		0.1		%			12/06/17 16:25	1



# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-9A (3-6")**

**Lab Sample ID: 310-120157-36**

Date Collected: 09/01/17 12:02

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	10700		33.1		mg/Kg	☼	12/06/17 14:36	12/11/17 16:47	6
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	26.3		0.1		%			12/06/17 16:25	1
Percent Solids	73.7		0.1		%			12/06/17 16:25	1

TestAmerica Cedar Falls

# Client Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-10A (19-24")**

**Lab Sample ID: 310-120157-39**

Date Collected: 09/01/17 12:15

Matrix: Soil

Date Received: 12/06/17 10:10

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	200		4.27		mg/Kg	*	12/06/17 14:36	12/08/17 01:06	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.6		0.1		%			12/06/17 16:25	1
Percent Solids	93.4		0.1		%			12/06/17 16:25	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



## Definitions/Glossary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

## Method: 6010C - Metals (ICP)

Lab Sample ID: MB 310-188143/1-A  
Matrix: Solid  
Analysis Batch: 188531

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 188143

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<3.62		3.62		mg/Kg		12/06/17 10:00	12/08/17 00:05	1

Lab Sample ID: LCS 310-188143/2-A  
Matrix: Solid  
Analysis Batch: 188531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 188143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	176	176.2		mg/Kg		100	80 - 120

Lab Sample ID: MB 310-188263/1-A  
Matrix: Solid  
Analysis Batch: 188531

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 188263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<4.34		4.34		mg/Kg		12/07/17 14:43	12/08/17 01:11	1

Lab Sample ID: LCS 310-188263/2-A  
Matrix: Solid  
Analysis Batch: 188531

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 188263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	183	187.1		mg/Kg		102	80 - 120

Lab Sample ID: 310-120157-1 MS  
Matrix: Soil  
Analysis Batch: 188808

Client Sample ID: GP-10A (3-6")  
Prep Type: Total/NA  
Prep Batch: 188263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	1340		204	1532	4	mg/Kg	☼	92	75 - 125

Lab Sample ID: 310-120157-1 MSD  
Matrix: Soil  
Analysis Batch: 188808

Client Sample ID: GP-10A (3-6")  
Prep Type: Total/NA  
Prep Batch: 188263

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lead	1340		202	1497	4	mg/Kg	☼	76	75 - 125	2	20

Lab Sample ID: 310-120157-19 DU  
Matrix: Soil  
Analysis Batch: 188808

Client Sample ID: CSRR-6R (0-2")  
Prep Type: Total/NA  
Prep Batch: 188263

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	1790		1619		mg/Kg	☼	10	20

TestAmerica Cedar Falls

# QC Sample Results

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

## Method: Moisture - Percent Moisture

Lab Sample ID: 310-120157-19 DU

Matrix: Soil

Analysis Batch: 188287

Client Sample ID: CSRR-6R (0-2")

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	9.0		9.6		%		6	20
Percent Solids	91.0		90.4		%		0.6	20

Lab Sample ID: 310-120157-35 DU

Matrix: Soil

Analysis Batch: 188287

Client Sample ID: CSBA-7A (3-6")

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	3.0		3.6		%		17	20
Percent Solids	97.0		96.4		%		0.6	20

# QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

## Metals

### Prep Batch: 188143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-120157-36	CSBA-9A (3-6")	Total/NA	Soil	3050B	
310-120157-39	CSBA-10A (19-24")	Total/NA	Soil	3050B	
MB 310-188143/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 310-188143/2-A	Lab Control Sample	Total/NA	Solid	3050B	

### Prep Batch: 188263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-120157-1	GP-10A (3-6")	Total/NA	Soil	3050B	
310-120157-3	CSSA3-4R (0-2")	Total/NA	Soil	3050B	
310-120157-6	CSSA3-5R (3-6")	Total/NA	Soil	3050B	
310-120157-8	CSBA-6 (17-22")	Total/NA	Soil	3050B	
310-120157-9	CSBA-9 (3-6")	Total/NA	Soil	3050B	
310-120157-12	CSBA-7 (3-6")	Total/NA	Soil	3050B	
310-120157-14	CSBA-10 (19-24")	Total/NA	Soil	3050B	
310-120157-16	CSSA3-2R (3-6")	Total/NA	Soil	3050B	
310-120157-18	CSSA3-1R (3-6")	Total/NA	Soil	3050B	
310-120157-19	CSRR-6R (0-2")	Total/NA	Soil	3050B	
310-120157-21	CSRR-2R (3-6")	Total/NA	Soil	3050B	
310-120157-23	CSRR-3R (3-6")	Total/NA	Soil	3050B	
310-120157-25	GP-10A-1 (3-6")	Total/NA	Soil	3050B	
310-120157-27	GP-10A-2 (0-2")	Total/NA	Soil	3050B	
310-120157-29	CSSA3-5A (3-6")	Total/NA	Soil	3050B	
310-120157-31	CSSA3-5B (3-6")	Total/NA	Soil	3050B	
310-120157-33	CSSA3-2A (3-6")	Total/NA	Soil	3050B	
310-120157-35	CSBA-7A (3-6")	Total/NA	Soil	3050B	
MB 310-188263/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 310-188263/2-A	Lab Control Sample	Total/NA	Solid	3050B	
310-120157-1 MS	GP-10A (3-6")	Total/NA	Soil	3050B	
310-120157-1 MSD	GP-10A (3-6")	Total/NA	Soil	3050B	
310-120157-19 DU	CSRR-6R (0-2")	Total/NA	Soil	3050B	

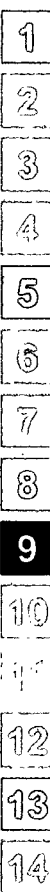
### Analysis Batch: 188531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-120157-3	CSSA3-4R (0-2")	Total/NA	Soil	6010C	188263
310-120157-8	CSBA-6 (17-22")	Total/NA	Soil	6010C	188263
310-120157-18	CSSA3-1R (3-6")	Total/NA	Soil	6010C	188263
310-120157-23	CSRR-3R (3-6")	Total/NA	Soil	6010C	188263
310-120157-29	CSSA3-5A (3-6")	Total/NA	Soil	6010C	188263
310-120157-33	CSSA3-2A (3-6")	Total/NA	Soil	6010C	188263
310-120157-39	CSBA-10A (19-24")	Total/NA	Soil	6010C	188143
MB 310-188143/1-A	Method Blank	Total/NA	Solid	6010C	188143
MB 310-188263/1-A	Method Blank	Total/NA	Solid	6010C	188263
LCS 310-188143/2-A	Lab Control Sample	Total/NA	Solid	6010C	188143
LCS 310-188263/2-A	Lab Control Sample	Total/NA	Solid	6010C	188263

### Analysis Batch: 188808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-120157-1	GP-10A (3-6")	Total/NA	Soil	6010C	188263
310-120157-6	CSSA3-5R (3-6")	Total/NA	Soil	6010C	188263
310-120157-9	CSBA-9 (3-6")	Total/NA	Soil	6010C	188263
310-120157-12	CSBA-7 (3-6")	Total/NA	Soil	6010C	188263

TestAmerica Cedar Falls



# QC Association Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

## Metals (Continued)

### Analysis Batch: 188808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-120157-14	CSBA-10 (19-24")	Total/NA	Soil	6010C	188263
310-120157-16	CSSA3-2R (3-6")	Total/NA	Soil	6010C	188263
310-120157-19	CSRR-6R (0-2")	Total/NA	Soil	6010C	188263
310-120157-21	CSRR-2R (3-6")	Total/NA	Soil	6010C	188263
310-120157-25	GP-10A-1 (3-6")	Total/NA	Soil	6010C	188263
310-120157-27	GP-10A-2 (0-2")	Total/NA	Soil	6010C	188263
310-120157-31	CSSA3-5B (3-6")	Total/NA	Soil	6010C	188263
310-120157-35	CSBA-7A (3-6")	Total/NA	Soil	6010C	188263
310-120157-36	CSBA-9A (3-6")	Total/NA	Soil	6010C	188143
310-120157-1 MS	GP-10A (3-6")	Total/NA	Soil	6010C	188263
310-120157-1 MSD	GP-10A (3-6")	Total/NA	Soil	6010C	188263
310-120157-19 DU	CSRR-6R (0-2")	Total/NA	Soil	6010C	188263

## General Chemistry

### Analysis Batch: 188287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-120157-1	GP-10A (3-6")	Total/NA	Soil	Moisture	
310-120157-3	CSSA3-4R (0-2")	Total/NA	Soil	Moisture	
310-120157-6	CSSA3-5R (3-6")	Total/NA	Soil	Moisture	
310-120157-8	CSBA-6 (17-22")	Total/NA	Soil	Moisture	
310-120157-9	CSBA-9 (3-6")	Total/NA	Soil	Moisture	
310-120157-12	CSBA-7 (3-6")	Total/NA	Soil	Moisture	
310-120157-14	CSBA-10 (19-24")	Total/NA	Soil	Moisture	
310-120157-16	CSSA3-2R (3-6")	Total/NA	Soil	Moisture	
310-120157-18	CSSA3-1R (3-6")	Total/NA	Soil	Moisture	
310-120157-19	CSRR-6R (0-2")	Total/NA	Soil	Moisture	
310-120157-21	CSRR-2R (3-6")	Total/NA	Soil	Moisture	
310-120157-23	CSRR-3R (3-6")	Total/NA	Soil	Moisture	
310-120157-25	GP-10A-1 (3-6")	Total/NA	Soil	Moisture	
310-120157-27	GP-10A-2 (0-2")	Total/NA	Soil	Moisture	
310-120157-29	CSSA3-5A (3-6")	Total/NA	Soil	Moisture	
310-120157-31	CSSA3-5B (3-6")	Total/NA	Soil	Moisture	
310-120157-33	CSSA3-2A (3-6")	Total/NA	Soil	Moisture	
310-120157-35	CSBA-7A (3-6")	Total/NA	Soil	Moisture	
310-120157-36	CSBA-9A (3-6")	Total/NA	Soil	Moisture	
310-120157-39	CSBA-10A (19-24")	Total/NA	Soil	Moisture	
310-120157-19 DU	CSRR-6R (0-2")	Total/NA	Soil	Moisture	
310-120157-35 DU	CSBA-7A (3-6")	Total/NA	Soil	Moisture	

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: GP-10A (3-6")**

**Lab Sample ID: 310-120157-1**

Date Collected: 08/31/17 09:33

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		2	188808	12/11/17 15:13	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSSA3-4R (0-2")**

**Lab Sample ID: 310-120157-3**

Date Collected: 08/31/17 10:42

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 01:30	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSSA3-5R (3-6")**

**Lab Sample ID: 310-120157-6**

Date Collected: 08/31/17 11:07

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		3	188808	12/11/17 15:20	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSBA-6 (17-22")**

**Lab Sample ID: 310-120157-8**

Date Collected: 08/31/17 11:39

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 01:34	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSBA-9 (3-6")**

**Lab Sample ID: 310-120157-9**

Date Collected: 08/31/17 11:58

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		3	188808	12/11/17 15:22	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSBA-7 (3-6")**

**Lab Sample ID: 310-120157-12**

Date Collected: 08/31/17 12:40

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		2	188808	12/11/17 15:24	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSBA-10 (19-24")**

**Lab Sample ID: 310-120157-14**

Date Collected: 08/31/17 14:20

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		2	188808	12/11/17 15:27	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSSA3-2R (3-6")**

**Lab Sample ID: 310-120157-16**

Date Collected: 08/31/17 14:51

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		3	188808	12/11/17 15:29	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSSA3-1R (3-6")**

**Lab Sample ID: 310-120157-18**

Date Collected: 08/31/17 15:13

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 01:48	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 15:55	SAS	TAL CF

**Client Sample ID: CSRR-6R (0-2")**

**Lab Sample ID: 310-120157-19**

Date Collected: 08/31/17 15:28

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		2	188808	12/11/17 15:31	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

TestAmerica Cedar Falls



# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSRR-2R (3-6")**

**Lab Sample ID: 310-120157-21**

Date Collected: 08/31/17 08:00

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		3	188808	12/11/17 15:39	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

**Client Sample ID: CSRR-3R (3-6")**

**Lab Sample ID: 310-120157-23**

Date Collected: 08/31/17 08:06

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 01:57	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

**Client Sample ID: GP-10A-1 (3-6")**

**Lab Sample ID: 310-120157-25**

Date Collected: 09/01/17 10:33

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		2	188808	12/11/17 15:41	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

**Client Sample ID: GP-10A-2 (0-2")**

**Lab Sample ID: 310-120157-27**

Date Collected: 09/01/17 10:35

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		2	188808	12/11/17 15:43	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

**Client Sample ID: CSSA3-5A (3-6")**

**Lab Sample ID: 310-120157-29**

Date Collected: 09/01/17 10:48

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 02:03	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

**Client Sample ID: CSSA3-5B (3-6")**

**Lab Sample ID: 310-120157-31**

Date Collected: 09/01/17 10:53

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		3	188808	12/11/17 17:07	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

**Client Sample ID: CSSA3-2A (3-6")**

**Lab Sample ID: 310-120157-33**

Date Collected: 09/01/17 10:57

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 02:07	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:06	SAS	TAL CF

**Client Sample ID: CSBA-7A (3-6")**

**Lab Sample ID: 310-120157-35**

Date Collected: 09/01/17 11:57

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188263	12/07/17 14:43	JNR	TAL CF
Total/NA	Analysis	6010C		4	188808	12/11/17 17:05	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:25	SAS	TAL CF

**Client Sample ID: CSBA-9A (3-6")**

**Lab Sample ID: 310-120157-36**

Date Collected: 09/01/17 12:02

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188143	12/06/17 14:36	JNR	TAL CF
Total/NA	Analysis	6010C		6	188808	12/11/17 16:47	JIS	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:25	SAS	TAL CF

**Client Sample ID: CSBA-10A (19-24")**

**Lab Sample ID: 310-120157-39**

Date Collected: 09/01/17 12:15

Matrix: Soil

Date Received: 12/06/17 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			188143	12/06/17 14:36	JNR	TAL CF
Total/NA	Analysis	6010C		1	188531	12/08/17 01:06	SAD	TAL CF
Total/NA	Analysis	Moisture		1	188287	12/06/17 16:25	SAS	TAL CF

## Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TestAmerica Cedar Falls

## Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

### Laboratory: TestAmerica Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-18
Georgia	State Program	4	IA100001 (OR)	09-29-18
Illinois	NELAP	5	200024	11-29-18
Iowa	State Program	7	007	12-01-17 *
Kansas	NELAP	7	E-10341	01-31-18
Minnesota	NELAP	5	019-999-319	12-31-17 *
Minnesota (Petrofund)	State Program	1	3349	08-22-18
North Dakota	State Program	8	R-186	09-29-18
Oregon	NELAP	10	IA100001	09-29-18

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Cedar Falls

## Method Summary

Client: Terracon Consulting Eng & Scientists  
Project/Site: B T Metals - Gering, NE

TestAmerica Job ID: 310-120157-1  
SDG: 051777725A

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CF
Moisture	Percent Moisture	EPA	TAL CF

### Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

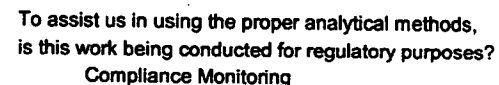
TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401



310-120157 Chain of Custody

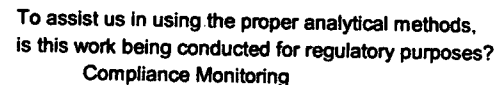
## Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>			
Client: <u>Terracon</u>			
City/State: <u>Omaha, NE</u>		Project: <u>BT 170915</u>	
<b>Receipt Information</b>			
Date/Time Received: <u>12/6/17</u> <u>10:10</u>		Received By: <u>TO</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
<b>Condition of Cooler/Containers</b>			
Sample(s) received in Cooler?		If yes: Cooler ID: <u>P-107</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # _____ of _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Cooler Custody Seals Present?		If yes: Cooler custody seals intact?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?		If yes: Sample custody seals intact?	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Trip Blank Present?		If yes: Which VOA samples are in cooler? ↓	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>Temperature Record</b>			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>G</u>		Correction Factor (°C): <u>-0.1</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.8</u>		Corrected Temp (°C): <u>1.7</u>	
• Sample Container Temperature			
Sample ID(s) & bottle type used: CONTAINER 1		CONTAINER 2	
Uncorrected Temp (°C): TEMP 1 TEMP 2		Corrected Temp (°C): TEMP 1 TEMP 2	
<b>Exceptions Noted</b>			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
<b>Additional Comments</b>			



Quote #: PO#: 051777725A

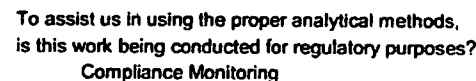
12/15/2017



Sampler Signature: Debra L. Eaton

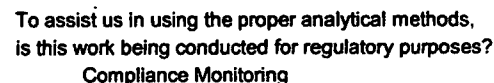
Quote #: PO#: 051777725A





Quote #: PO#: 051777725A

12/15/2017



Quote #: PO#: 051777725A

# **Login Sample Receipt Checklist**

Client: Terracon Consulting Eng & Scientists

Job Number: 310-120157-1

SDG Number: 051777725A

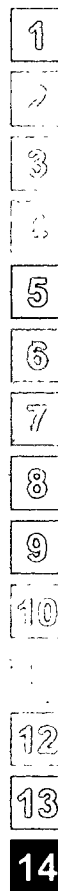
Login Number: 120157

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Muehling, Angela C

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# **APPENDIX D**

August 31, 2017

\* When arrived on-site the scrap areas #3 + #1 were disturbed. I spoke to Mike and he indicated the city cleared weeds by using a loader. There were piles of soil around north, east, & south sides. The ground appeared to have cuts from a depth of 1" to 12". ~~off~~ I called Megan Hughes to discuss what we needed to do. She said to take pictures and send to her. She discussed w/ Mike Ruff and MDEQ/City of Gary staff.

\*  
Megan said we needed to take pictures with a tape measure to show depth of cut (from loader) + app. ~~height~~ height of soil piles on the no., east, & so. sides. Also said we needed to take composite samples of soil piles. I sampled composites from (1) North piles, (2) East piles + (3) South piles.

August 31, 2017

(A.4.)  
I (Andrew Herman) arrived on site at 7:10 and met w/ Craig to get things ready. ~~Geo probe crew~~ ~~arrived~~ arrived on site at 7:30 and they unloaded geo probe equipment. I started GPS unit + XRF. Ran XRF standard calibration. Advanced GP-10R boring and began to reach samples. XRF showed low battery and would not read samples. I called the rental company to trouble shoot. He indicated it may be the 11 pin (display unit) which may not be working. We charged unit for ~30 minutes. Re-calibrated XRF and analyzed remaining intervals of GP-10.

Advanced - GP 10-A (North)  
with Geo probe { - GP 10-B (Southwest)  
- GP 10-C (Southwest)  
CSSA3-4R  
CSSA3-5R  
CSBA-6 (Center of pad)  
CSBA-9 (West of pad)  
CSBA-8 (East of pad)  
CSBA-7 (North of pad)

8/31 cont.

after advancing last accessible  
(to geo-probe equipment) bearings near  
pad, told geo-probe crew called  
lower site. They started to wrap  
up equipment & load up. Craig  
& I continued to read samples  
from pad. On CSBA-7 samples  
i-proq battery died again. We  
stopped and charged unit. Went  
to lunch.

After lunch read remaining CSBA-7 <sup>7-10</sup>  
samples. We then started hand  
auger sampling at remaining locations:

A.H.  
CSBA

- CSBA-10
- CSSA3-3R
- CSSA3-1R
- CSRR-1R
- CSRR-6R

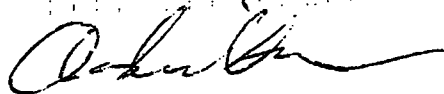
The battery died again, so we put  
on charger. I called Mogan to let  
her know and hand augered the  
remaining samples:

8/31 cont.

CSRR-2R  
CSRR-4R  
CSRR-7R  
CSRR-5R  
★★

I tried to read remaining samples  
and was in error that would not  
allow to analyze sample. I called  
Mogan to discuss. She indicated  
to try to charge again and read  
remaining sample. Craig & I left  
site at app. 6:20.

I arrived at hotel & put batteries  
on chargers. Went to dinner &  
returned to read remaining samples.  
I discussed w/ Mogan & Mike R. &  
and we discussed plan to "step out"  
on hot spots. I told them would  
call in the morning from the site.  
I sent readings so they could review.



9/1/17

I (Anders Herman) arrived on site (7:45) and called Mike Reif & Morgan Hughes to discuss locations of additional samples (step-out). After discussing, I started to sample using a hand auger, the following samples were collected:

- 8:57 - CSSA 3-4A (northwest)
- 9:11 - CSSA 3-5A (north)
- 9:15 - CSSA 3-5B (south) \* mixed several types of debris (metal, etc.)
- 9:40 - CSSA 3-2A (south)
- 10:00 - GP-10A-1 (north) \* mixed several types of debris to 7-12"
- 10:15 GP-10A-2 (south)
- 10:12 ~~GP~~ CSSA-7A (north) - debris to 6"
- 11:21 - CSBA-9A (west)
- 11:34 - CSBA-10A (south) - debris to 18"

After collecting samples, I did samples using XRF. Called again to discuss sample results w/ Reif & Hughes. After discussing, Anders had was ok to leave. Wrapped up site (closed gate) & drove back to Omaha office. Arrived 3:00pm. Put samples in cooler and left office.





# **APPENDIX E**

# **Property-Specific Sampling and Analysis Plan Amendment (Revision 1)**

**B&T Metals**

**1855 3<sup>rd</sup> Street**

**Gering, Scotts Bluff County, Nebraska**

**EPA Cooperative Agreement No. BF-97746301**

**ACRES #206549**

**NDEQ IIS: 44132**

**NDEQ Program ID: BF00274**

**August 28, 2017**

**Terracon Project No. 05177725A**

**Prepared for:**  
**City of Gering**  
**Gering, Nebraska**

**Prepared by:**  
**Terracon Consultants, Inc.**  
**Omaha, Nebraska**

terracon.com

**Terracon**

Environmental



Facilities



Geotechnical



Materials



August 28, 2017

City of Gering  
1025 P Street  
Gering, NE 69341

Attn: Mr. Paul Snarr  
P: (308) 436 5096  
E: psnarr@gering.org

Re: Property-Specific Sampling and Analysis Plan Amendment, Revision 1  
B & T Metals  
1855 3<sup>rd</sup> Street  
Gering, Scotts Bluff County, Nebraska  
EPA Brownfields Hazardous Substance Assessments  
EPA Cooperative Agreement # BF-97746301  
ACRES # 206549  
NDEQ IIS: 44132  
NDEQ Program ID: BF00274  
Terracon Project No. 05177725A

Dear Mr. Snarr:

Terracon Consultants, Inc. (Terracon) is pleased to submit an amendment to the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016. The PSAP Amendment (PSAPA) has been developed to provide a specific scope of work based on the data gaps comment letters received from the NDEQ, dated August 15, 2016 and May 5, 2017 in response to Terracon's submittal of the Phase II Environmental Site Assessment Report, Revision 0, dated January 26, 2017, and Revision 1, dated June 21, 2017 for the B & T Metals site.

The PSAPA is a companion document to the PSAP dated September 12, 2016 and the Quality Assurance Project Plan - Revision 1, EPA Brownfields Hazardous Substance Assessments, Gering, Scotts Bluff County, Nebraska, EPA Cooperative Agreement No. BF-97746301, November 13, 2015.

This document is prepared for the exclusive use of our client for the specific application to the project discussed and has been prepared in accordance with generally accepted environmental consulting practices. No warranties, express or implied, are intended or made. In the event any changes in conditions as outlined in this plan are observed, the conclusions contained in this document cannot be considered valid unless the changes are reviewed and the conclusions of this document are modified or verified in writing by the environmental professional.

Terracon Consultants, Inc. 15080 A Circle Omaha, Nebraska 68144  
P [402] 330 2202 F [402] 330 7606 terracon.com

Environmental



Facilities



Geotechnical

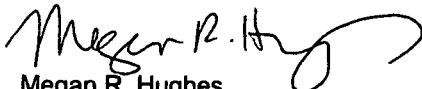


Materials

If there are questions concerning the PSAPA or if we may be of further assistance, please contact the Assessment Coordinator, Ms. Megan Hughes at [402-384-7025] or [Megan.Hughes@terracon.com](mailto:Megan.Hughes@terracon.com).

Sincerely,

**Terracon Consultants, Inc.**

  
Megan R. Hughes  
Phase II Assessment Coordinator

  
Michael Reif, P.E.  
Senior Technical Reviewer

MRH/MBR:mr/nlm

Attachments:

Distribution: Addressee (pdf, 1 bound)

## TABLE OF CONTENTS

	<u>Page</u>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
1.1 Objective .....	1
<b>2.0 SCOPE OF SERVICES.....</b>	<b>2</b>
<b>3.0 SAMPLING APPROACH .....</b>	<b>3</b>
<b>4.0 FIELD PROCEDURES.....</b>	<b>3</b>
4.1 Soil Collection.....	3
4.2 Sample Handling .....	5
4.3 QC Sample Collection .....	5
4.4 Cleaning and Investigation Derived Waste .....	6
<b>5.0 REPORTING.....</b>	<b>6</b>
<b>6.0 SCHEDULE .....</b>	<b>6</b>
<b>7.0 HEALTH AND SAFETY .....</b>	<b>7</b>
<b>8.0 KEY UNDERSTANDINGS .....</b>	<b>7</b>
<b>9.0 GENERAL COMMENTS .....</b>	<b>7</b>

### **APPENDIX A – FIGURES**

Figure 1 – Topographic / Location Map

Figure 2 – Sample Location Diagram

### **APPENDIX B – PROPERTY-SPECIFIC SAMPLING AND ANALYSIS PLAN (REVISION 2), SEPTEMBER 12, 2016**

### **APPENDIX C – SITE SPECIFIC QAPP ADDENDUM**

**PROPERTY-SPECIFIC SAMPLING AND ANALYSIS PLAN  
AMENDMENT, REVISION 1**

**B&T METALS**

**1855 3<sup>rd</sup> STREET**

**GERING, SCOTTS BLUFF COUNTY, NEBRASKA**

**EPA COOPERATIVE AGREEMENT # BF-97746301**

**ACRES # 206549**

**NDEQ IIS: 44132**

**NDEQ Program ID: BF00274**

**Terracon Project No. 05177725A**

**August 28, 2017**

## **1.0 INTRODUCTION**

Terracon conducted a Phase II Environmental Site Assessment (ESA) of the above referenced site in Gering, Scotts Bluff County, Nebraska. The site is located at 1855 3<sup>rd</sup> Street in Gering, Nebraska. The location is depicted on Exhibits 1 and 2 (Appendix A).

The purpose for conducting the Phase II ESA was to assess soil and groundwater at the site for the presence of various chemicals related to historical on-site activities. The scope of services was developed based on the results of Terracon's Phase I Environmental Site Assessment (ESA) dated November 16, 2015. The scope of services, as described in the Phase II ESA Report, Revision 0, dated January 26, 2017, and Revision 1, dated June 21, 2017, was conducted in accordance with the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016.

This plan is a companion document to the PSAP dated September 12, 2016 and the Quality Assurance Project Plan - Revision 1, EPA Brownfields Hazardous Substance Assessments, Gering, Scotts Bluff County, Nebraska, EPA Cooperative Agreement No. BF-97746301, November 13, 2015. (A copy of the PSAP dated September 12, 2016 is provided in Appendix B)

### **1.1 Objective**

The purpose of the PSAP Amendment (PSAPA) is to evaluate the data gaps presented in the Nebraska Department of Environmental Quality (NDEQ) comment letters, dated May 5, 2017, and July 6, 2017, following their review of the Phase II Environmental Site Assessment Reports (Revision 0) dated January 26, 2017 and (Revision 1), dated June 21, 2017.

On July 27, 2017 the NDEQ, Terracon, and the City of Gering participated in a conference call to discuss the data gap comment letter. The following data gaps are addressed in this PSAPA:

- Further define the nature and extent of lead contamination in soil at the site in the following areas: boring location GP-10, scrap area #3, the concrete battery storage pad, and along the railroad tracks.

## **2.0 SCOPE OF SERVICES**

Our services will be conducted as follows:

- Collect discrete shallow soil samples from borings using a Geoprobe® unit and a hand auger (to be used at locations inaccessible for the Geoprobe unit).
- An x-ray fluorescence (XRF) unit will be used in the field to screen soil at discrete sampling locations for lead concentrations. No sieving of soil samples will be conducted prior to XRF screening.
- Discrete samples collected will be submitted to the laboratory for total lead by Method 6010B, and up to six composite samples will be submitted to the laboratory for toxicity characteristic leaching procedure (TCLP) by Method 1311.
- Terracon will collect sampling location coordinates using a Global Positioning System (GPS).
- The nature and extent of lead contamination in soil will be used as a basis for evaluating the need for remedial action and remedial options and costs.
- An adaptive sampling approach will be used pending review of the XRF screening results. Additional sampling locations and/or depths will be selected/determined in an attempt to further delineate areas both horizontally and vertically at locations that exceed lead concentrations of 750 parts per million (ppm). Samples collected with the Geoprobe® unit will be collected using a four-foot long Geoprobe® macrocore sampler device, which will result in a soil core of up to four foot long, depending on recovery percentages. The initial round of samples collected with a hand auger will be collected at a depth of up to approximately 12 inches below ground surface (bgs). In the area adjacent to the railroad tracks, the initial XRF screening samples will be collected from the surface (0 to 2 inches), 6 inches bgs, and 12 inches bgs. If it is determined that deeper samples are needed for screening with the XRF at a hand auger boring location (if shallower sample concentrations exceed 750 ppm), the deeper samples will be collected at approximate 6 inch intervals, up to a maximum depth of 3 feet bgs (or until advancement with a hand auger is no longer feasible).
- Provide an addendum to the Phase II Environmental Site Assessment Report (Revision 1), dated June 21, 2017, reporting the findings of additional assessment.

### 3.0 SAMPLING APPROACH

The contaminants of concern (COC) associated with the historical use of the site and findings of previous assessment activities includes:

- Lead (in soil)

Soil samples will be collected and analyzed with an XRF. The samples will be collected and visually inspected for the presence of scrap metal fragments prior to analysis. As requested by the NDEQ in the conference call, select samples (approximately 10%) will be submitted for laboratory analysis of lead so that XRF and laboratory results can be compared. In addition, the NDEQ expressed concern that the high levels of lead in soil previously identified in some areas of the site may represent hazardous waste if removed from the site. The NDEQ recommended further waste characterization of the soil prior to conducting remedial action at the site.

### 4.0 FIELD PROCEDURES

#### 4.1 Soil Collection

The table below is a summary of sample collection and analysis information for the proposed work scope.

Location	Sample Collection Information	Rational for Location and Collection	Screening
GP-10	Collect a 0-4 ft bgs soil core* at the GP-10 location. Step out in three directions from GP-10 and collect a 0-4 ft bgs soil core* from each location. Samples will be collected using a Geoprobe®. The soil core length and sample depth has been determined based on the length of the Geoprobe® sampling equipment.	Assess soil at depths greater than 0-2 ft bgs at GP-10 based on the previous (October 2016) lead result of 1,240 ppm collected from the 0-2 ft bgs interval. Assess soil around GP-10 to further delineate the GP-10 results. Results from the XRF screening will determine whether additional sample locations will be needed. An attempt will be made to further delineate areas both horizontally and vertically by "stepping out" from the sampling locations.**	Soil will be screened every approximately six inches for lead using the XRF. Should concentrations exceed 750 ppm in the initial 0-4 ft bgs sample, deeper soil samples (collected with the Geoprobe®) will be collected and XRF screened with the intent of continuing until XRF screening results are reported less than 750 ppm.**
Railroad Tracks (CSRR-1, CSRR-2, CSRR-3, CSRR-4, CSRR-5)	Samples will be collected using a hand auger (this area is inaccessible to the Geoprobe®). Samples will be collected from 0-12 inches bgs and screened using the XRF. Results	Assess soil in the upper 12 inches at previous composite sample locations based on the lead result of 14,600 ppm (October 2016). Due to the size of the area, previous composite sampling locations	Soil from the upper 12 inches will be screened every approximately six inches (surface [0-2 inch], 6 inch, and 12 inch depths) for lead using the XRF. Should concentrations exceed 750



Location	Sample Collection Information	Rational for Location and Collection	Screening
Railroad Tracks (CSRR-1, CSRR-2, CSRR-3, CSRR-4, CSRR-5) (cont.)	from the XRF screening will determine whether additional sample locations and depths will be needed. Should XRF screening results indicate the need for samples to be collected beneath 12 inches bgs, an attempt will be made to collect samples at 6-inch intervals or the maximum depth the hand auger equipment can feasibly reach.	will be screened with an XRF to identify "hot spots". An adaptive sampling approach will be used pending review of XRF results. An attempt will be made to further delineate areas both horizontally and vertically at locations where screening results are above 750 ppm.**	ppm, deeper soils will be screened at approximate 6-inch intervals until XRF screening values are recorded at less than 750 ppm** and/or to the maximum depth the hand auger equipment can feasibly reach.
Scrap Area #3 (CSSA3-1, CSSA3-2, CSSA3-3, CSSA3-4, CSSA3-5)	Samples will be collected within this area using both hand auger and Geoprobe® equipment. Samples will be collected from 0-12 inches bgs using a hand auger. If the sample location is accessible a Geoprobe® will be used to collect a soil core/sample from 0-4 ft bgs.* Results from the XRF screening will determine whether additional sample locations and depths will be needed.**	Assess soil in the upper 12 inches at previous composite sample locations based on the lead result of 2,550 ppm (October 2016). Due to the size of the area, previous composite sampling locations will be screened with an XRF to identify "hot spots". An adaptive sampling approach will be used pending review of XRF results. An attempt will be made to further delineate areas both horizontally and vertically at locations where screening results are above 750 ppm.**	Soil will be screened every approximately six inches for lead using the XRF. Should concentrations exceed 750 ppm, deeper soil samples will be screened at approximate six inch intervals up the maximum depth the hand auger equipment can feasibly reach. If the area is accessible to the Geoprobe® deeper samples will be collected at four foot intervals and screened every six inches until lead concentrations are reported less than 750 ppm.**
Battery Storage Area (CSBA-1, CSBA-2, CSBA-3, CSBA-4, CSBA-5)	Using a Geoprobe® a soil core/sample* will be collected at 0-4 ft bgs in the center of the former battery storage concrete pad. Samples will also be collected at locations north, east, and south of the concrete pad at the 0-4 ft bgs interval using a Geoprobe®. A building is present to the west. Results from the XRF screening will determine whether additional sample locations and depths will be needed.	The composite soil sample collected in the upper 12 inches at this location in October 2016 reported lead as 3,190 ppm. Based on the relatively small size of this area, Terracon proposes to collect a deeper sample from the center of the concrete pad for lead screening to assess the depth of lead impact greater than 750 ppm. The soil within the area immediately surrounding the pad will be screened for lead using the XRF. Adaptive sampling for locations beyond the north, south, east locations will be selected based on review of XRF results in an attempt to further delineate both vertically and horizontally areas above 750 ppm**.	Soil will be screened every approximately six inches for lead using the XRF. Should concentrations exceed 750 ppm, deeper soil (collected from the Geoprobe®) will be screened at six inch intervals until screening results are reported less than 750 ppm.**

Location	Sample Collection Information	Rational for Location and Collection	Screening
Composite Sampling Locations	Up to six multi-point composite soil samples will be collected and analyzed for TCLP lead by Method 1311	Composite soil samples will be collected from locations that are representative of material that could be removed from the site during remedial actions in order to make a determination regarding remedial options and cost for soil disposal in the future.	Soil will be collected based on XRF screening results from the sample locations discussed above.

\* The soil core length may be less than 4 feet depending on the recovery

\*\* The intent is to define the vertical and horizontal extent of lead in soil to 750 ppm; however, only one day of field activity is planned. Therefore, it may not be feasible at all locations.

Soil samples will be collected for laboratory analysis of lead at a 10% frequency during XRF field screening. The samples will be selected from locations and depths that will represent the range of XRF readings encountered; a combination of high, middle, and low XRF values.

Terracon field personnel will record sample locations and descriptions of the characteristics for each soil sample including lithology, color, and relative moisture content. Terracon's field personnel conducting the XRF testing will have the appropriate training and 40-hour HAZWOPER training. Appropriate personal protective equipment (PPE) will be used by field personnel during field activities.

## 4.2 Sample Handling

Soil samples collected with the Geoprobe® will be in PVC liners until they are removed for field XRF screening and soil classification. At locations that are inaccessible to the Geoprobe® unit soil samples will be collected using a hand auger.

Soil samples selected for laboratory testing will be placed to laboratory-supplied containers and placed in an insulated cooler for overnight shipment to the laboratory. Soil collected and not submitted for laboratory analysis will be stored in sealed 5-gallon buckets at the site property.

Sample collection and shipping will be conducted in general accordance with the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016 located in Appendix B.

## 4.3 QC Sample Collection

QC procedures for soil sample collection will be conducted in general accordance with the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016 located in Appendix B.

#### **4.4 Cleaning and Investigation Derived Waste**

The Geoprobe® unit and its ancillary sampling equipment will be cleaned prior to and at the completion of the field investigation with potable water and Alconox detergent. Care will be taken to collect soil samples such that the samples do not come into contact with sampling equipment so that equipment decontamination is not necessary between sampling events. Hand auger equipment will be cleaned with an Alconox solution and de-ionized rinse water during sampling for use between sampling locations.

Cleaning fluids will be collected and containerized in sealable 5-gallon buckets. Cleaning fluids will be disposed of at the City of Gering wastewater treatment plant. Arrangements will be made with Ms. Kristin Vogel with the City of Gering to dispose of the cleaning fluids immediately following the fieldwork.

Soil cores will be generated as a consequence of soil sampling. Soil cores will be containerized in sealable 5-gallon buckets. The soil cores will be disposed of at the City of Gering landfill, arrangements will be made with Mr. Pat Heath with the City of Gering pending the results of the laboratory analysis.

### **5.0 REPORTING**

The Phase II addendum report will be submitted to the client that presents the results of the assessment, based upon the scope of services and limitations described herein.

Attachments will include the following:

- site location map
- scaled site map depicting sampling locations
- summary tables of laboratory analytical results
- laboratory analytical reports
- XRF screening results
- photos of field activities, and
- field log detailing field work.

Following receipt of review comments, the report will be revised, if necessary. Final reports will be submitted in hard copy form and in electronic form.

### **6.0 SCHEDULE**

Services will be initiated upon approval of this PSAPA and authorization to proceed by the City of Gering. If situations/conditions are discovered that might cause additional delays, the City of Gering will be notified.

## **7.0 HEALTH AND SAFETY**

The Health and Safety Plan has been approved and is provided in the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016 located in Appendix B.

## **8.0 KEY UNDERSTANDINGS**

- Terracon will require access during normal business hours.
- Terracon does not warrant the work of regulatory agencies or other third parties supplying information used in the compilation of the report.
- Services will be initiated upon approval of this work plan and authorization to proceed by the client. The draft report will be submitted approximately two weeks after receipt of the results from the laboratory.

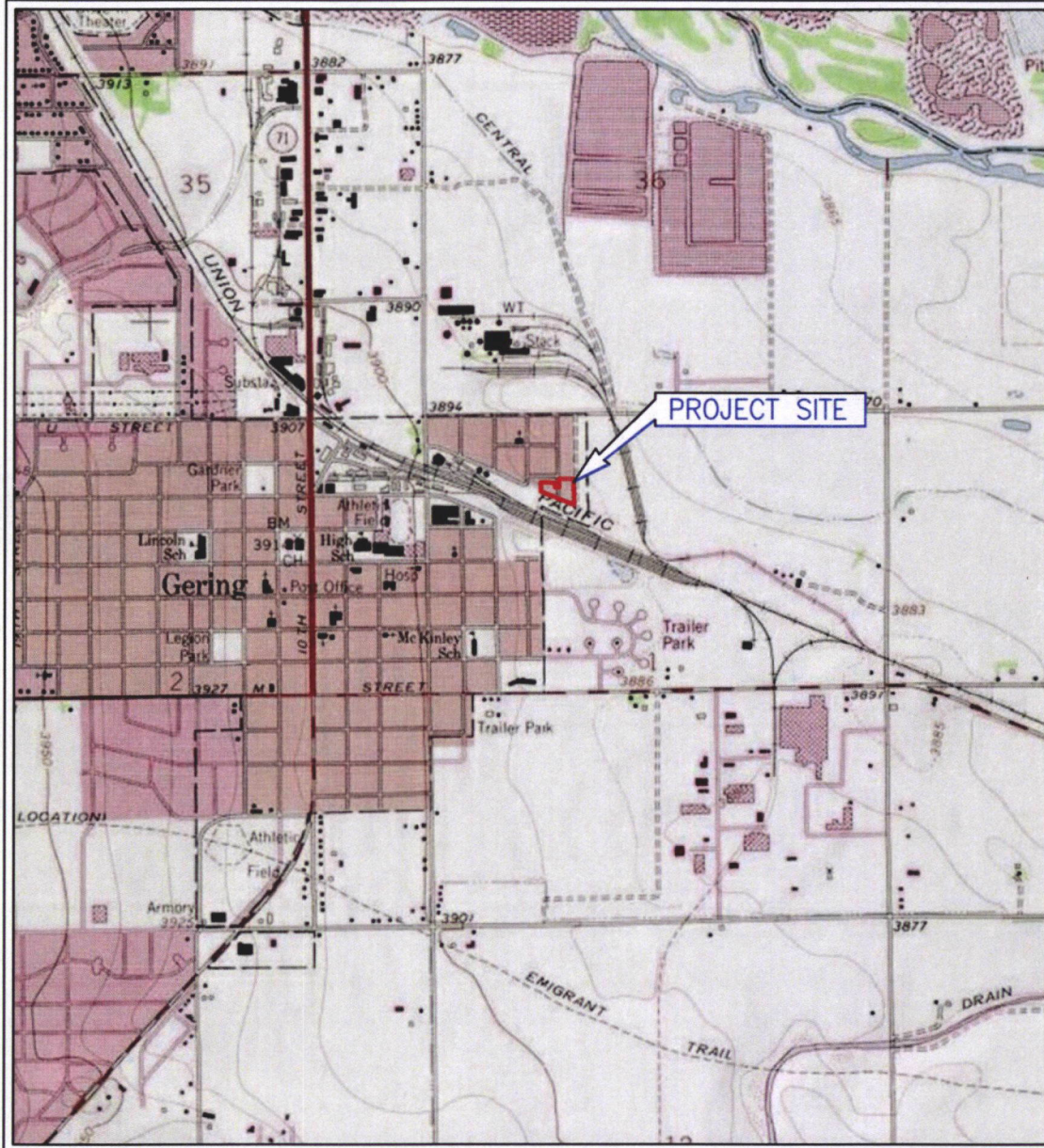
## **9.0 GENERAL COMMENTS**

This PSAP Amendment was prepared in accordance with generally accepted geoenvironmental engineering practices. No warranties, either express or implied, are made or intended.

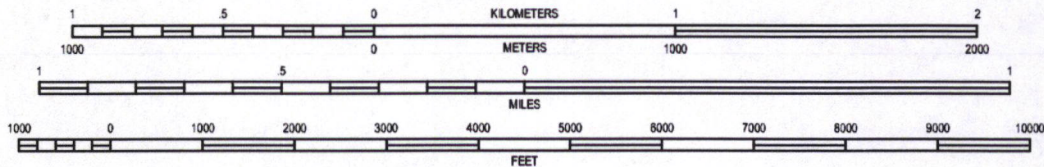
# **APPENDIX A**



UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SCOTT'SBLUFF SOUTH, NEBRASKA  
QUADRANGLE  
1976  
7.5 MINUTE SERIES (TOPOGRAPHIC)



Project Mgr:	MRH	Project No:	05177725A	TOPOGRAPHIC / LOCATION MAP		EXHIBIT
Drawn By:	PAI	Scale:	AS SHOWN			
Checked By:	MRH	File No:	05177725AC01	B & T METALS 1855 3RD STREET GERING NEBRASKA		1
Approved By:	MEH	Date:	8/17/17			

**Terracon**  
Consulting Engineers and Scientists

15080 A CIRCLE OMAHA, NE 68144  
PH. (402) 330-2232 FAX. (402) 330-7836







# **APPENDIX B**



# **Property-Specific Sampling and Analysis Plan, Revision No. 2**

**B&T Metals**

**1855 3<sup>rd</sup> Street**

**Gering, Scotts Bluff County, Nebraska**

**EPA Cooperative Agreement No. BF-97746301**

**ACRES #206549**

**NDEQ IIS: 44132**

**NDEQ Program ID: BF00274**

**September 12, 2016**

**Terracon Project No. 24159093 / 05159093**



**Prepared for:**

**City of Gering**

**Gering, Nebraska**

**Prepared by:**

**Terracon Consultants, Inc.**

**Omaha, Nebraska**



September 12, 2016

City of Gering  
1025 P Street  
Gering, Nebraska 69341

Attn: Mr. Paul Snarr  
P: (308) 436 5096  
E: psnarr@gering.org

Re: Property-Specific Sampling and Analysis Plan, Revision No. 2  
B & T Metals  
1855 3<sup>rd</sup> Street  
Gering, Scotts Bluff County, Nebraska  
EPA Brownfields Hazardous Substance Assessments  
EPA Cooperative Agreement # BF-97746301  
ACRES # 206549  
NDEQ IIS: 44132  
NDEQ Program ID: BF00274  
Gering, Nebraska

Terracon Project No. 24159093 / 05159093

Dear Mr. Snarr:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Property-Specific Sampling and Analysis Plan, Revision 1 (PSAP) to you under the Professional Services Agreement between Terracon and the City of Gering dated May 28, 2015. This plan was developed as part of the community-wide United States Environmental Protection Agency, Region 7 (EPA) Brownfields Hazardous Substances Assessment Grant, EPA Cooperative Agreement No. BF-97746301.

Services are consistent with the EPA-approved *CERCLA Section 104(k) Assessment Cooperative Agreement Work Plan for Gering, Nebraska - Brownfields Assessment Cooperative Agreement, Project Period: October 1, 2014 – September 30, 2017*. This project and assessment support progress toward EPA's Strategic Plan Goal 3 "*Cleaning Up Communities and Advancing Sustainable Development*", Objective 3.1 "*Promote Sustainable and Livable Communities*". The City of Gering is a member of the Tenth Street Corridor Brownfield Coalition, engaging other members relative to local and regional redevelopment goals.

Consistent with the EPA-approved cooperative agreement work plan and previous Section 104(k) work done under grant in EPA Region 7, the PSAP for conducting this assessment will parallel that of the Nebraska Department of Environmental Quality's (NDEQ) Superfund and Section

Terracon Consultants, Inc. 15080 A Circle Omaha, Nebraska 68144  
P [402] 330 2202 F [402] 330 7606 terracon.com

Environmental

Facilities

Geotechnical

Materials

128(a) Assessment program. Through mutual agreement between City of Gering as cooperative agreement recipient, EPA and NDEQ, the state agency will provide primary review and approval of this PSAP. This has been previously discussed between Mr. Tom Buell, NDEQ and the EPA Project Officer Ms. Jennifer Morris, EPA specific to the Gering project.

The PSAP has been developed to provide a specific scope of work based on the results for the Phase I Environmental Assessment. It is guided by the *Quality Assurance Project Plan - Revision 1, EPA Brownfields Hazardous Substance Assessments, Gering, Scotts Bluff County, Nebraska, EPA Cooperative Agreement No. BF-97746301, November 13, 2015. Terracon Project No. 24159093 / 05159043* (NDEQ signed the signature page on November 16, 2015). A Site-Specific QAPP Addendum for NDEQ's QAPP for Superfund Assessment and Section 128(a) Assessment Programs (June 2009) is part of this plan.

This document is prepared for the exclusive use of our client for the specific application to the project discussed and has been prepared in accordance with generally accepted environmental consulting practices. No warranties, express or implied, are intended or made. In the event any changes in conditions as outlined in this plan are observed, the conclusions contained in this document cannot be considered valid unless the changes are reviewed and the conclusions of this document are modified or verified in writing by the environmental professional.

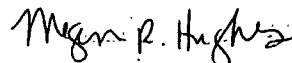
If there are questions concerning the PSAP or if we may be of further assistance, please contact the Phase II Assessment Coordinator, Ms. Megan Hughes at [402-384-7025] or [Megan.Hughes@terracon.com](mailto:Megan.Hughes@terracon.com). Alternatively, you may also contact the Senior Technical Reviewer, Mr. Mike Hagemeister at [402-384-7019] or [Mike.Hagemeister@terracon.com](mailto:Mike.Hagemeister@terracon.com).

Sincerely,

**Terracon Consultants, Inc.**



Michael E. Hagemeister, P.E.  
Senior Technical Reviewer



Megan R. Hughes  
Phase II Assessment Coordinator

MEH/MRH:meh/kmt

## TABLE OF CONTENTS (REVISION 0)

	<u>Page</u>
<b>1.0 Introduction .....</b>	<b>1</b>
1.1 Objective .....	1
1.2 Site Location and Background Information .....	2
<b>2.0 Scope of Services .....</b>	<b>3</b>
<b>3.0 Project organization and responsibility.....</b>	<b>3</b>
<b>4.0 Sampling Approach .....</b>	<b>3</b>
<b>5.0 Field Procedures .....</b>	<b>4</b>
5.1 Soil Sampling.....	6
5.2 Groundwater Elevations and Sampling.....	6
5.3 Sample Handling .....	7
5.4 QC Sample Collection .....	8
5.5 Cleaning and Investigation Derived Waste .....	9
5.6 Laboratory Selection and Analytical Methods .....	10
<b>6.0 Reporting .....</b>	<b>10</b>
<b>7.0 Schedule .....</b>	<b>10</b>
<b>8.0 Health and safety.....</b>	<b>11</b>
<b>9.0 Key understandings .....</b>	<b>11</b>
<b>10.0 General Comments .....</b>	<b>11</b>

### **APPENDIX A – FIGURES**

Figure 1 – Topographic / Location Map

Figure 2 – Proposed Sample Location Diagram

### **APPENDIX B – TABLES**

Table 1 – Sampling and Analysis Matrix Summary

Table 2 – Laboratory Provided Analyte Reporting Limits and Method Detection Limits

### **APPENDIX C – QUALITY ASSURANCE PROJECT PLAN ADDENDUM**

### **APPENDIX D – TABLE 3 - 2016 PROJECT SCHEDULE**

### **APPENDIX E – SITE SAFETY AND HEALTH PLAN**

# **PROPERTY-SPECIFIC SAMPLING AND ANALYSIS PLAN**

**REVISION No. 2**

**B&T Metals**

**1855 3<sup>rd</sup> Street**

**Gering, Scotts Bluff County, Nebraska**

**EPA COOPERATIVE AGREEMENT # BF-97746301**

**ACRES # 206549**

**NDEQ IIS: 44132**

**NDEQ Program ID: BF00274**

**Terracon Project No. 05159093**

**September 12, 2016**

## **1.0 INTRODUCTION**

This plan is intended as a streamlined, property-specific addendum to the *Quality Assurance Project Plan - Revision 1, EPA Brownfields Hazardous Substance Assessments, Gering, Scotts Bluff County, Nebraska, EPA Cooperative Agreement No. BF-97746301, November 13, 2015. Terracon Project No. 24159093 / 05159043 (QAPP)*. The generic QAPP has been approved by NDEQ (signed by NDEQ on November 16, 2015). A Site-Specific QAPP Addendum for NDEQ's QAPP for Superfund Assessment and Section 128(a) Assessment Programs (June 2009) is part of the PSAP as Appendix C.

This property was approved for Phase I environmental site assessment using EPA grant funding by USEPA, Region 7 via email (Jennifer Morris) on May 8, 2015 as "City of Gering – Site Liability Determination (B&T Metals)". A Site-Specific QAPP Addendum for NDEQ's QAPP for Superfund Assessment and Section 128(a) Assessment Programs (June 2009) is part of the PSAP as Appendix C.

## **1.1 Objective**

The purpose of the PSAP is to evaluate Recognized Environmental Concerns (RECs) identified during the Phase I Environmental Site Assessment (ESA), for the B&T Metals site, dated November 16, 2015.

The City intends to promote these properties as part of a long-term community redevelopment plan. The degree to which RECs or data gaps are actually representative of environmental impacts as determined under Nebraska regulations can affect financing. The type and magnitude of impairment directly relate to decisions and negotiations. The following elements are necessary in considering feasibility of property redevelopment:



- Does the potential for environmental impairment implied by a Brownfields Phase I assessment REC actually exist?
- If identified, has a potential condition actually resulted in environmental impairment?
- If impaired, does the degree of impairment remove a property from consideration of purchase or redevelopment?

Terracon identified the following on-site recognized environmental conditions (RECs) in connection with the site:

- **REC 1:** Several empty 55-gallon drums of hydraulic oil and a 5-gallon gas can were observed stored outdoors on the ground surface at the site. The 5-gallon gas can was leaking onto the soil surface. Petroleum-based oils and lubricants and their residues are commonly associated with metal scrapping and salvage operations. Soil staining was observed around some of the empty hydraulic oil drums. Considering the nature of metal salvage and scrapping operations, potential releases could reasonably be expected to be co-mingled with non-petroleum materials, such as polychlorinated biphenyls (PCBs), until otherwise differentiated by chemical analysis.
- **REC 2:** Several empty and half-full unlabeled 55-gallon drums with unknown substances were observed stored outdoors on the ground surface at the site. Some of the drums were leaking unknown substances onto the soil surface. It is Terracon's understanding that the drums have since been removed from the site property.
- **REC 3:** Soil staining throughout the site at several locations from releases of unknown substances.

Significant data gaps were not identified as part of the Phase I ESA. As such, there is no work scope consideration for data gaps.

## **1.2 Site Location and Background Information**

The site, B&T Metals, is located at 1855 3<sup>rd</sup> Street in Gering Nebraska. The location of the property is indicated on the topographic map included as Exhibit 1 of Appendix A. The site property is a total of 1.63 acres made up of six privately owned lots totaling 1.15 acres and an encroachment of an additional 0.48 acres onto the City's Right-of-Way. The site has been improved with two storage buildings, concrete paved parking, a concrete pad, and outdoor storage areas without hard surfacing. The site features are illustrated on Exhibit 2, Site Diagram, in Appendix A. At the time of the site reconnaissance on September 9, 2015, the site was an inactive former metal recycling facility with significant artifacts of the former business remaining on the property. It was reported during the interview for the Phase I ESA that metal recycling business operated at the property for approximately of 60 years.

This PSAP pertains to and sets forth the site assessment activities and field sampling locations for the site. This PSAP is to be used in conjunction with the Community-Wide QAPP Revision 1 for the City of Gering, Grant BF-97746301, dated November 13, 2015. The QAPP describes data collection procedures and data evaluation processes to ensure that appropriate levels of data quality are obtained for field sampling, testing, and analytical activities. The PSAP provides a discussion of specific site objectives, site description, and details regarding site-specific field sampling, analytical testing, and Quality Assurance (QA) / Quality Control (QC) activities through a QAPP Addendum to the QAPP.

## **2.0 SCOPE OF SERVICES**

Our services will be conducted as the following tasks:

- Conduct soil and groundwater sampling to assess subsurface conditions at the site.
- Provide a technical report of the findings of the subsurface assessment. Soil and groundwater analytical results will be compared to relevant NDEQ Voluntary Clean-up Program (VCP) Remediation Goals (RGs).

## **3.0 PROJECT ORGANIZATION AND RESPONSIBILITY**

The Terracon team will include Clay Muirhead as Project Manager (PM), Megan Hughes as Phase II Assessment Coordinator (AC), and Michael Hagemeister as Senior Technical Reviewer. Mr. David Koch is the Brownfields Senior Project Advisor. TestAmerica Laboratories in Cedar Falls, Iowa will provide laboratory analysis for samples collected.

## **4.0 SAMPLING APPROACH**

The contaminants of concern (COC) associated with the site include:

- volatile organic compounds (VOCs) from historical site operations;
- poly-aromatic hydrocarbons (PAHs) from historical site operations;
- RCRA Metals, from historical site operations, including battery recycling/reclamation; and
- polychlorinated biphenyls (PCBs), soil staining from historical site operations.

A site-specific QAPP Addendum that supplements the Community-wide QAPP is included in Appendix C. Also included is a project specific time table in Appendix D. The proposed sampling locations are depicted on Exhibit 2 of Appendix A. Field conditions will determine the actual sampling locations and sampling approach, such a deviation would be discussed with the client, the NDEQ, and reported in the final report.



## 5.0 FIELD PROCEDURES

The project will make use a variety of routine technical and data quality management procedures. As set forth in the Generic NDEQ QAPP, quality process and data quality indicators are improved with routine, repeatable implementation of field procedures. In part, quality process is enhanced through the use of standard operating procedures. The following *Table of Terracon Standard Operating Procedures* are available for use in this PSAP. More detailed discussion of some procedures are identified hereafter.

TABLE OF TERRACON STANDARD OPERATING PROCEDURES For EPA Brownfield Cooperative Agreement Projects (TSOPs)			
REFERENCE NUMBER		TITLE	LAST REVISED OR REVIEWED
X	E.10	Project Mobilization	November 2013
X	E.20	Standard Safe Operating Procedures for Hazardous Waste Operations	November 2013
X	E.30	Chain of Custody Documentation	November 2013
X	E.35	Field Recordkeeping and Documentation	December 2013
X	E.40	Field Quality Audits and Corrective Action	January 2014
X	E.50	Sampling – Environmental Representativeness	November 2013
X	E.100	Surface & Near Surface Soil Sampling – Grab	November 2013
	E.150	Soil Sampling – Low Level Volatile By TerraCore™	November 2013
	E.155	Soil Sampling – High Level Volatile By TerraCore™	May 2014
	E.200	Surface Soil Sampling – Oakfield	November 2013
X	E.300	Sampling & Drilling Platforms	November 2013
	E.310	Auger Drilling and Sampling	November 2013
	E.320	Hollow-stem Auger Drilling	November 2013
	E.325	Casing Advance Drilling	November 2013
	E.330	Fluid Rotary Drilling and Sampling	November 2013
	E.340	Air Rotary Drilling and Sampling	November 2013
X	E.400	Subsurface Sampling – Geoprobe®-like Platforms	November 2013
X	E.410	Subsurface Sampling – General Push-Probe Technology	November 2013
	E.450	Subsurface Soil Sampling – Xitech Sampler	November 2013
	E.460	Subsurface Sampling – Shelby Tube	November 2013
	E.465	Subsurface Sampling – Split Barrel	November 2013
X	E.468	Sample Handling – Soil (Level D)	November 2013
X	E.470	Sample Handling – Groundwater (Non-Hazardous)	November 2013
	E.480	Surface Water Sampling	June 2012
	E.500	pH Field Screening – Soil	November 2013
X	E.530	pH Field Screening – Water	November 2013
	E.540	Conductivity Field Screening – Water	November 2013
X	E.550	Field Surface Screening – Soil / Photoionization Detector	November 2013
X	E.552	Field Headspace Screening – Soil / Photoionization Detector	November 2013
X	E.554	Field Screening – Air / Photoionization Detector	October 2013
	E.556	Field Screening – Laser Induced Fluorescence	May 2014
	E.558	Field Screening – Passive Soil Gas Sampling	October 2013
	E.560	SVOC Field Screening – Soil /Ultraviolet	November 2013
	E.570	Temperature Field Screening	November 2013

**TABLE OF TERRACON STANDARD OPERATING PROCEDURES**  
For EPA Brownfield Cooperative Agreement Projects (TSOPs)

REFERENCE NUMBER	TITLE	LAST REVISED OR REVIEWED
E.580	Turbidity Field Screening	November 2013
E.590	Airborne Lead and Particulate Matter Monitoring	November 2013
E.600	H <sub>2</sub> S Field Screening – Field Detector	November 2013
E.605	Methane – Field Detector	November 2013
E.610	Radioactivity – Field Detector	November 2013
E.620	Polychlorinated Biphenyl Field Screening: Clor-N-Oil Field Detector	November 2013
E.623	Polychlorinated Biphenyl Field Screening: Clor-N-Soil Field Detector	November 2013
E.630	X-Ray Fluorescence (XRF) Screening – Airborne Dust	November 2013
E.634	X-Ray Fluorescence (XRF) Screening – Lead Paint	November 2013
E.638	X-Ray Fluorescence (XRF) Screening – Soil/Fills	November 2013
E.700	Well Construction – Temporary	November 2013
E.800	Well Construction – Permanent	November 2013
E.900	Well Security – Type A (Simple Cap)	November 2013
E.905	Well Security – Type B (Locking Expansion)	November 2013
E.910	Well Security – Type B (Protective Casing)	November 2013
E.920	Well Security – Type C (Flush Mount)	November 2013
E.1300	Well Development – Volumetric	November 2013
E.1400	Well Development – Parametric	November 2013
X E.1500	Boring Abandonment – Commercial Sealant	November 2013
E.1600	Boring Abandonment – Tremie Grout	November 2013
E.1700	Well Abandonment – Iowa IAC39 Criteria	November 2013
X E.1800	Field Measurement – Surface Layout	November 2013
X E.1805	Field Measurement – Elevations	November 2013
E.1808	Field Measurement – Licensed Survey	November 2013
X E.1810	Field Measurement – Subsurface Soils	November 2013
X E.1820	Field Measurement – Groundwater	November 2013
E.1830	Field Measurement – Free-Phase Product	November 2013
E.1840	Field Measurement – Hydraulic Conductivity Testing (Slug)	November 2013
E.1870	Field Measurement – Electromagnetic Survey	November 2013
X E.1900	Groundwater Sampling – Bailer	November 2013
X E.2000	Groundwater Sampling – Low Flow Pumping	November 2013
E.2100	Soil Vapor Sampling – Iowa IAC135	November 2013
X E.2210	Site Housekeeping - General	November 2013
E.2220	Site Housekeeping - Disposal of Spent Supplies	November 2013
X E.2230	Site Housekeeping - Handling and Storage of Drill Cuttings IDW (Non-Hazardous)	November 2013
X E.2235	Handling and Storage of Drill Cuttings IDW (Hazardous)	November 2013
X E.2240	Site Security Procedures	November 2013
X E.2405	Cleaning - General	November 2013
X E.2410	Cleaning - Manual Washing	November 2013
E.2420	Cleaning - High-Pressure, Hot-water Washing	November 2013
E.3000	Bulk Sampling of Suspect Asbestos-Containing Material (ACM)	November 2013
E.4000	Sampling of Potential Lead-Based Paint (LBP)	November 2013

## **5.1 Soil Sampling**

Soil samples will be collected in continuous fashion using a macro-core sampler advanced using a direct push probe (TSOPs E.400 and E.410). Soil samples will be collected for field screening, laboratory analysis, field soil classification, and preparation of soil boring logs. Field screening will involve the use of a photo-ionization detector (PID) instrument (TSOP E.552) for indications of volatile organic compounds (VOCs). The PID will be equipped with an 11.7 eV lamp, which is compatible for use in detecting a range of VOCs including some chlorinated solvents that have a relatively high electron potential.

Soil samples (collected for laboratory analysis of VOCs) from within the vadose zone at each boring that exhibits the highest PID response or the most obvious visual indication of chemical impact will be submitted for laboratory analysis. If soils do not appear to be impacted based on the PID or visual indicators, a soil sample from each boring will be collected from the 2-4 foot sampling interval and will be submitted for laboratory testing of VOCs. Field screening methods are not readily available to guide selecting soils samples for analysis of PAHs. Terracon will evaluate soil samples in the field for potential staining as a guide in selecting soil samples for laboratory analyses. In the absence of field indicators of potential impact, soil samples collected from the 0-1 or 1-2 foot sampling intervals will be selected for laboratory analyses

The soil analytical program includes eight RCRA metals and PCBs. Terracon will evaluate surface soils for RCRA metals and PCBs by composite sampling. The site property has been divided into four scrap areas, five composite samples will be collected from both 0-1 and 1-12 inches below ground surface at five locations in each scrap area (as depicted on the Proposed Sampling Location Diagram, Exhibit 2 in Appendix A). This approach will also be used to assess surface soil conditions along the railroad tracks and near the former battery storage area.

See Table 1 (Appendix B) for details regarding specific sample collection depths, laboratory test analytes, and laboratory methods.

## **5.2 Groundwater Elevations and Sampling**

Groundwater samples will be collected from stainless steel probe rods with a SP-16 groundwater sampler (or equal) or small diameter temporary PVC well casings installed in the open boreholes created by the macro-core sampler. Temporary well casings will facilitate groundwater sampling during possible instances of slow groundwater recharge or borehole collapse caused by non-cohesive materials in the saturated zone. The water samples will be collected using either a foot-valve pump and new single-use disposable tubing, a peristaltic pump and new single-use disposable tubing, or small diameter bailers.

Providing that the boreholes allow for installation (do not collapse), temporary well casings will be installed at sample locations GP-1, GP-2, GP-3, and GP-4. The top of casing will be surveyed to a relative site benchmark with an assumed elevation of 100.00 feet. Elevation measurements will

be collected per SOP E.1805. Depth to groundwater measurements will be collected from the temporary wells after a minimum of a 12-hour stabilization period in order to develop a groundwater contour flow diagram of the site as part of this work effort. Following measurement of the groundwater levels, the temporary well casings will be removed and borings abandoned with granular bentonite.

Nine groundwater samples are planned to be collected for eight RCRA metals as part of the groundwater sampling program. Since direct-push technology is planned for the sampling event, proper development of the sample point is not practical prior to groundwater sample collection, so groundwater samples with elevated turbidity are anticipated. As such, Terracon is proposing that a single groundwater sample from each planned location be split, with one sample being analyzed for total metals and the other for dissolved metals. The sample to be analyzed for dissolved metals will be field filtered with a new single-use 0.45-micron high-capacity filter prior to preservation.

At each location, the groundwater sample planned for VOC analyses will be collected first following with the remaining constituents in no particular order. Groundwater samples will be submitted for laboratory analysis. See Table 1 (Appendix B) for details regarding specific laboratory test analytes and laboratory methods.

### **5.3 Sample Handling**

Samples will be collected and transferred to laboratory-supplied containers (some which require special preservation as presented on Table 2 of Appendix B) and placed on ice (all non-metal parameters are required to be kept at 4°C) in an insulated cooler for overnight shipment to the laboratory.

Samples will be shipped via overnight courier to TestAmerica Laboratories of Cedar Falls, Iowa. The sample container labels will indicate:

- Sample number
- Time and date of collection
- Name of site
- Project Number

Chain-of-custody (COC) protocol will be followed during sample collection, storage, shipment, and analysis procedures. A COC record will accompany samples during collection and shipment. The COC forms will be filled out, signed, and dated in permanent ink by a sampling team member. The COC records will include the following information:

- Sample identification
- Date and time of collection

- Sample type
- Number of sample containers
- Laboratory analysis to be performed
- Signature of designated individual responsible for sample custody
- Signature of laboratory person(s) receiving samples
- Requested Analysis.

#### **5.4 QC Sample Collection**

QC procedures for groundwater sample collection will be accomplished by the following:

- One blind duplicate sample will be collected for every group of twenty or fewer groundwater samples collected in the field (not including other QA/QC samples). The blind duplicates will be analyzed for the same parameters as their corresponding counterpart samples.
- One trip blank will be prepared by a laboratory and will accompany the sample containers from the time they are shipped from the laboratory to the time when the laboratory receives the containers with samples. The trip blank will be analyzed for the same parameters as other samples to be analyzed.
- A temperature blank will accompany each cooler.
- One field blank will be prepared by a Terracon environmental professional in the field and will accompany the sample containers in a cooler during field activities. The field blank will be analyzed for the same parameters as other samples to be analyzed.
- One equipment rinsate blank will be collected during the field work for evaluating the adequacy of equipment cleaning. The rinsate blank will be analyzed for the same parameters as other samples to be analyzed.
- Matrix spike (MS) and matrix spike duplicate (MSD) samples are typically created and tested by the analyzing laboratory in batches for a pre-determined number of samples. Terracon will request that the analyzing laboratory create and test MS and MSD samples for each batch of 20 or fewer samples (both groundwater and soil) that are specifically collected for this project. A total of one soil sample and one groundwater sample are expected to be tested as MS and MSD samples. Terracon will specify the sample to be used for MS/MSD analyses. Extra volume of the specified sample will need to be collected during field procedures.

QC water samples are listed along with groundwater samples in Table 1 (Appendix B). There will be no QC soil sampling / analyses, which is a deviation from the NDEQ Generic QAPP.

## **5.5 Cleaning and Investigation Derived Waste**

The direct push probe unit and its ancillary sampling equipment will be cleaned prior to and at the completion of the field investigation with potable water and Alconox detergent. Soil and groundwater sampling equipment will be cleaned between boring locations to reduce the chances of cross contamination between borings. In addition, disposable, single-use acetate liners will be used inside macro-core samplers to reduce the chances of cross contamination of soil samples. Cleaning fluids will be collected and containerized in metal drums or plastic totes. Cleaning fluids will remain stored inside drums/totes on the subject site until arrangements for disposal (including waste characterization) have been secured. Arrangements for leaving and securing the liquid waste at the site will need to be made with the property owners. Terracon will evaluate groundwater analytical results collected for this work scope and make a recommendation in the Phase II report on appropriate disposal. In the event that the analytical results indicate potential hazardous waste in the container(s) based on sample results, a follow up composite sample may be collected for toxic characteristic leaching procedure (TCLP) analysis for VOCs and 8 RCRA metals. Arrangements will be made for the appropriate disposal of cleaning fluids, contingent upon NDEQ approval of the said recommendation.

Soil cores will be generated as a consequence of soil sampling with a macro-core sampler. Soil cores will be containerized in a drum. Terracon will evaluate the soil analytical results collected for this work scope and make a recommendation in the Phase II report on appropriate disposal. Indication that the waste is not considered to be hazardous waste may be based on a comparison to industrial clean-up standards listed in the VCP guidance or the 20 times rule for metals. In the event that the analytical results indicate potential hazardous waste in the container(s) based on sample results, a follow up composite sample may be collected for TCLP VOCs and 8 RCRA metals. Arrangements will be made for the appropriate disposal of soil cuttings, contingent upon NDEQ approval of Terracon's disposal recommendation.

Acetate liners used for collecting soil, plastic tubing used to sample groundwater, sampling gloves, small diameter temporary well casing and screen, possible Ty-vek uniforms, etc. are examples of other investigation derived wastes expected to be generated. These types of waste will be placed in ordinary plastic garbage bags and discarded at a sanitary landfill. For some of these items, such as used well casing, containerization will not be conducted and cleaning to remove soil/mud may or may not be performed using alconox detergent and/or potable water prior to leaving the job site.



## **5.6 Laboratory Selection and Analytical Methods**

TestAmerica, Inc. of Cedar Falls, Iowa will be the laboratory used for analyzing soil and water, samples. The Cedar Falls, Iowa laboratory is one of several TestAmerica labs located in the United States. TestAmerica is a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory that maintain various certifications for various states and federal agencies (i.e. U.S. Army Corp of Engineers, United States Department of Agriculture, Food and Drug Administration). The Cedar Falls, Iowa laboratory is a NELAP lab.

Soil and water samples will be analyzed for VOCs (volatile organic compounds), PAHs (poly-aromatic hydrocarbons), eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) and PCBs. Lists of specific analytes and their respective reporting limit concentrations are provided in Table 2 of Appendix B. Information provided on Tables 1 and 2 of Appendix B are intended to meet the requirements of the analytical service request form requirement listed in Section 3.4.2 of the NDEQ Generic QAPP.

## **6.0 REPORTING**

The PSAP report will be submitted to the client, presenting the results of the assessment, based upon the scope of services and limitations described herein.

Attachments will include the following:

- site location map
- scaled site map depicting boring locations
- summary tables of laboratory analytical results
- laboratory analytical reports
- boring logs
- photos of field activities
- field log detailing field work.

Following receipt of review comments, the report will be revised, if necessary. Final reports will be submitted in hard copy form and in electronic form.

## **7.0 SCHEDULE**

Services will be initiated upon approval of this PSAP and authorization to proceed by the City of Gering. Terracon has tentatively planned to mobilize to the site within approximately two-working weeks of NDEQ approval of this PSAP. If situations/conditions are discovered that might cause additional delays, the City of Gering will be notified. A copy of the tentative schedule has been provided in Appendix D.

## **8.0 HEALTH AND SAFETY**

Terracon has a 100% commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety culture, Terracon will develop a safety plan to be used by our personnel during field services. Prior to commencement of on-site activities, Terracon will hold a meeting to review health and safety needs for this specific project. At this time, we anticipate performing fieldwork in a USEPA Level D work uniform consisting of hard hats, safety glasses, protective gloves, and steel-toed boots. It may become necessary to upgrade this level of protection, at additional cost, while sampling activities are being conducted in the event that petroleum or chemical constituents are encountered in soils or groundwater that present an increased risk for personal exposure. A copy of the Health and Safety Plan has been provided in Appendix E.

Project field personnel have completed EPA/OSHA mandatory 40-hour training and subsequent annual eight-hour site supervisor and refresher courses for work around hazardous materials in accordance with 29 CFR 1910.120.

## **9.0 KEY UNDERSTANDINGS**

- Terracon will require access during normal business hours.
- Terracon does not warrant the work of regulatory agencies or other third parties supplying information used in the compilation of the report.
- Services will be initiated upon approval of this work plan and authorization to proceed by the client. The draft report will be submitted approximately two weeks after receipt of the results from the laboratory.

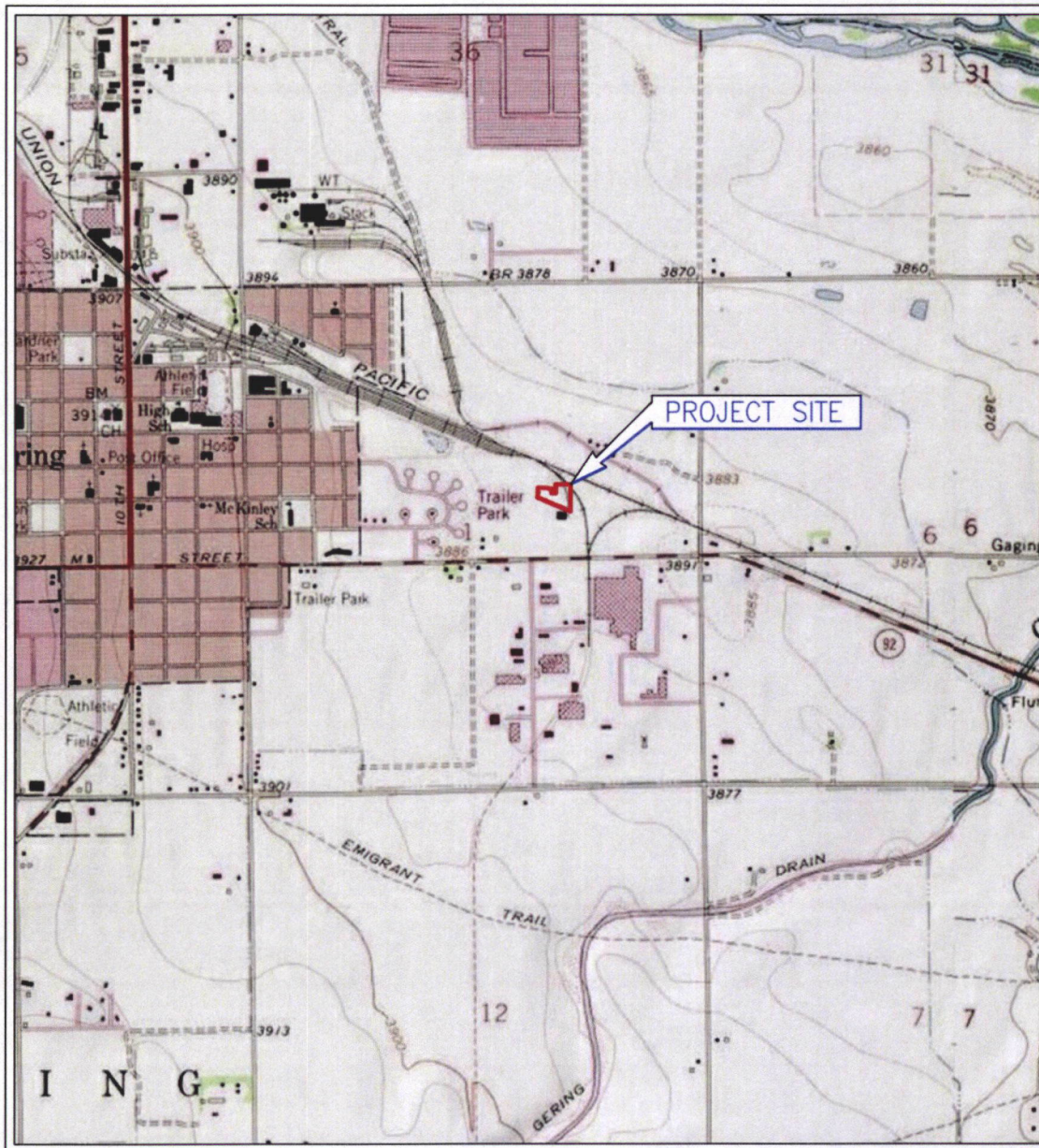
## **10.0 GENERAL COMMENTS**

This PSAP was prepared in accordance with generally accepted geo-environmental engineering practices. No warranties, either express or implied, are made or intended.

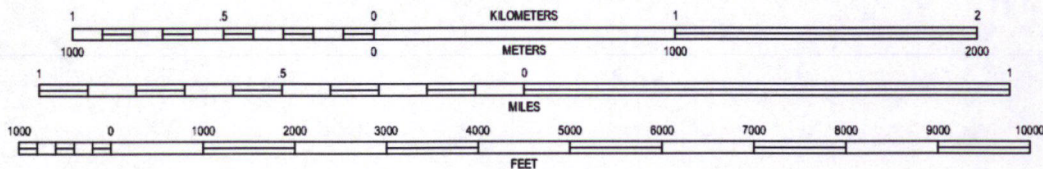
# **APPENDIX A**



UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SCOTTSBLUFF SOUTH, NEBRASKA  
QUADRANGLE  
1976  
7.5 MINUTE SERIES (TOPOGRAPHIC)



Project Mgr:	MRH
Drawn By:	PAI
Checked By:	MRH
Approved By:	MEH
Project No:	05159093
Scale:	AS SHOWN
File No:	05159093C02
Date:	8/31/16

**Terracon**  
Consulting Engineers and Scientists  
15080 A CIRCLE OMAHA, NE 68144  
PH. (402) 330-2202 FAX. (402) 330-7806

TOPOGRAPHIC / LOCATION MAP

**B & T METALS**  
1855 3rd STREET

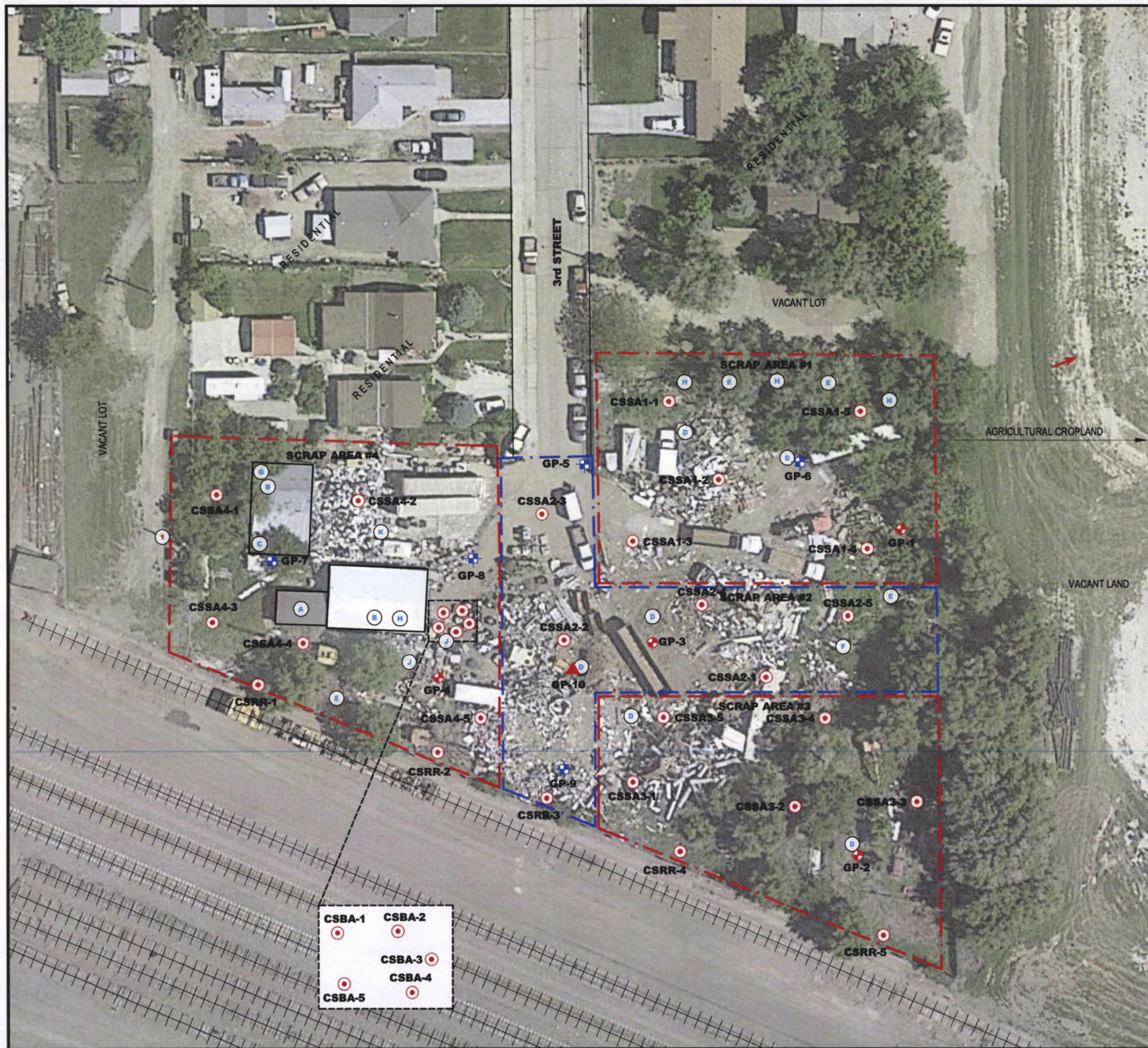
GERING

NEBRASKA

EXHIBIT

1





### GENERAL LEGEND

- 1 POLE-MOUNTED TRANSFORMER
- A OFFICE
- B SHOP BUILDING
- C FRENCH DRAIN
- D STAINED SOIL
- E 55-GALLON DRUMS
- F HAND PUMP
- G 55-GALLON DRUM WHITE TRAFFIC PAINT
- H TIRES
- J BATTERY RECYCLING CONCRETE PAD
- K FORMER BUILDING LOCATION  
(BURNED DOWN ~12 YEARS PRIOR)
- APPROXIMATE SITE BOUNDARY
- — APPROXIMATE BOUNDARY FOR  
CITY OF GERING PROPERTY
- ++ RAILROAD TRACKS
- ▶ PRESUMED GROUNDWATER FLOW DIRECTION

### SAMPLING LEGEND







- |              |                                                                                       |                                                        |
|--------------|---------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>GP-2</b>  |    | TEMPORARY WELL GEOPROBE LOCATION<br>SOIL & GROUNDWATER |
| <b>GP-6</b>  |    | GEOPROBE LOCATION<br>SOIL & GROUNDWATER                |
| <b>GP-10</b> |    | GEOPROBE LOCATION<br>SOIL ONLY                         |
| <b>CSSA1</b> |    | COMPOSITE SAMPLES SCRAP AREA #1                        |
| <b>CSSA2</b> |    | COMPOSITE SAMPLES SCRAP AREA #2                        |
| <b>CSSA3</b> |  | COMPOSITE SAMPLES SCRAP AREA #3                        |
| <b>CSSA4</b> |  | COMPOSITE SAMPLES SCRAP AREA #4                        |
| <b>CSBA</b>  |  | COMPOSITE SAMPLES BATTERY STORAGE AREA                 |
| <b>CSRR</b>  |  | COMPOSITE SAMPLES RAILROAD TRACKS                      |

IMAGE SOURCE: GOOGLE EARTH PRO, 2014

## PROPOSED SAMPLING LOCATION DIAGRAM

**B & T METALS**  
1855 3rd STREET

**Terracon**  
Consulting Engineers and Scientists

5080 A CIRCLE  
PH. (402) 330-2202  
FAX. (402) 330-7606  
OMAHA, NE 68144

[illegible]

DESIGNED BY:	MIRH
DRAWN BY:	PAI
APPVD. BY:	MEH
SCALE:	AS SHOWN
DATE:	8/31/16
JOB NO.	05159093
ACAD NO.	05159093C02
EXHIBIT:	2

		CLINICAL	NELSON	LATITUDE:	8/3/2018 2:23 PM
Project\201803159093\PROJECT DOCUMENTS\Reports-Letters-Drafts To Clients\Diagrams-Drawings-Figures\05159093CJ2.dwg					
Layout: 200					



# **APPENDIX B**

**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
Property Specific Sampling and Analysis Plan, Revision No. 2

B&T Metals  
1855 3<sup>rd</sup> Street  
Gering, Nebraska  
Terracon Project No. 05159093

Sample ID	Location	Purpose	No. of Samples	Medium	Depth	Analyses	Laboratory Containers/Volumes	Holding Time Requirements	Analytical Methods
Boring GP-1 through GP-9	See Exhibit 2, Appendix A	Assess subsurface soil and groundwater for RECs 1 through 3	1 per boring	Soil	0-1 or 1-2 ft bgs 2-4 ft (VOCs)	VOCs PAHs PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 Days (VOCs) 14 days (PAH and PCB extraction) 180 Days (metals, except mercury) 28 Days (mercury)	8260C LL 8270D SIM LL 8082A 7010 7471B 6010C
			1 per boring	Groundwater	Within 5 ft below observed water table	VOCs PAHs PCBs 8 RCRA Metals pH (field)	Three 40-ml glass vials with Teflon-lined septum caps Hydrochloric acid (HCL) preservative  Two 1,000-ml amber glass bottle with Teflon-lined caps (PAHs and PCBs)  One 1,000-ml glass or polyethylene bottle, HNO <sub>3</sub> preserved container (8-RCRA Metals)	14 Days (VOCs) 7 Days (PAH and PCB extraction) 180 Days (metals, except mercury) 28 Days (mercury) In field (pH)	8260C 8270D SIM LL 8082A 7470A 6020A
Boring GP-10	See Exhibit 2, Appendix A	Assess subsurface vadose soil for RECs 1 through 3	1 per boring	Soil	0-1 or 1-2 ft bgs (PAHs, PCBs, 8 RCRA Metals) 2-4 ft (VOCs)	VOCs PAHs PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 Days (VOCs) 14 days (PAH and PCB extraction) 180 Days (metals, except mercury) 28 Days (mercury)	8260C LL 8270D SIM LL 8082A 7010 7471B 6010C



**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
**Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals  
1855 3<sup>rd</sup> Street  
Gering, Nebraska  
Terracon Project No. 05159093

Sample ID	Location	Purpose	No. of Samples	Medium	Depth	Analyses	Laboratory Containers/Volumes	Holding Time Requirements	Analytical Methods
Scrap Area #1 CSSA1-1 CSSA1-2 CSSA1-3 CSSA1-4 CSSA1-5	See Exhibit 2, Appendix A	Assess shallow surface soil RECs 1 through 3	2	Soil	0-1 inches bgs 1-12 inches bgs	PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 days (PCB extraction) 180 Days (metals, except mercury)	8082A 7010 7471B 6010C
Scrap Area #2 CSSA2-1 CSSA2-2 CSSA2-3 CSSA2-4 CSSA2-5	See Exhibit 2, Appendix A	Assess shallow surface soil RECs 1 through 3	2	Soil	0-1 inches bgs 1-12 inches bgs	PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 days (PCB extraction) 180 Days (metals, except mercury)	8082A 7010 7471B 6010C

**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
**Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals  
1855 3<sup>rd</sup> Street  
Gering, Nebraska  
Terracon Project No. 05159093

Sample ID	Location	Purpose	No. of Samples	Medium	Depth	Analyses	Laboratory Containers/Volumes	Holding Time Requirements	Analytical Methods
Scrap Area #3 CSSA3-1 CSSA3-2 CSSA3-3 CSSA3-4 CSSA3-5	See Exhibit 2, Appendix A	Assess shallow surface soil RECs 1 through 3	2	Soil	0-1 inches bgs 1-12 inches bgs	PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 days (PCB extraction) 180 Days (metals, except mercury)	8082A 7010 7471B 6010C
Scrap Area #4 CSSA4-1 CSSA4-2 CSSA4-3 CSSA4-4 CSSA4-5	See Exhibit 2, Appendix A	Assess shallow surface soil RECs 1 through 3	2	Soil	0-1 inches bgs 1-12 inches bgs	PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 days (PCB extraction) 180 Days (metals, except mercury)	8082A 7010 7471B 6010C

**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
**Property Specific Sampling and Analysis Plan, Revision No. 2**

**B&T Metals**  
**1855 3<sup>rd</sup> Street**  
**Gering, Nebraska**  
**Terracon Project No. 05159093**

<b>Sample ID</b>	<b>Location</b>	<b>Purpose</b>	<b>No. of Samples</b>	<b>Medium</b>	<b>Depth</b>	<b>Analyses</b>	<b>Laboratory Containers/Volumes</b>	<b>Holding Time Requirements</b>	<b>Analytical Methods</b>
Battery Storage Area CSBA-1 CSBA-2 CSSB-3 CSSB-4 CSSB-5	See Exhibit 2, Appendix A	Assess shallow surface soil RECs 1 through 3	2	Soil	0-1 inches bgs 1-12 inches bgs	PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 days (PCB extraction) 180 Days (metals, except mercury)	8082A 7010 7471B 6010C
Railroad Tracks CSRR-1 CSRR-2 CSRR-3 CSRR-4 CSRR-5	See Exhibit 2, Appendix A	Assess shallow surface soil RECs 1 through 3	2	Soil	0-1 inches bgs 1-12 inches bgs	PCBs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 days (PCB extraction) 180 Days (metals, except mercury)	8082A 7010 7471B 6010C

**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
**Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals  
1855 3<sup>rd</sup> Street  
Gering, Nebraska  
Terracon Project No. 05159093

Sample ID	Location	Purpose	No. of Samples	Medium	Depth	Analyses	Laboratory Containers/Volumes	Holding Time Requirements	Analytical Methods
Blind duplicates	Not applicable	QC	0	Soil	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
			One duplicate for every group of 20 or fewer samples	Groundwater	Consistent with respective duplicate samples	VOCs PAHs PCBs 8 RCRA Metals	Three 40-ml glass vials with Teflon-lined septum caps Hydrochloric acid (HCL) preservative  Two 1,000-ml amber glass bottle with Teflon-lined caps (PAHs and PCBs)  One 1,000-ml glass or polyethylene bottle, HNO <sub>3</sub> preserved container (8-RCRA Metals)	14 Days (VOCs)  7 Days (PAH and PCB extraction)  180 Days (metals, except mercury)  28 Days (mercury)	8260C 8270D SIM LL 8082A 7470A 6020A
Trip blanks	Not applicable	QC	0	Soil	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
			1	Groundwater	Not applicable	VOCs	Three 40 ml glass Teflon lined septum vials, HCL preserved	14 Days	8260C

**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
**Property Specific Sampling and Analysis Plan, Revision No. 2**

**B&T Metals**  
**1855 3<sup>rd</sup> Street**  
**Gering, Nebraska**  
**Terracon Project No. 05159093**

Sample ID	Location	Purpose	No. of Samples	Medium	Depth	Analyses	Laboratory Containers/Volumes	Holding Time Requirements	Analytical Methods
Field blanks	Not Applicable	QC	0	Soil	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
			1	Groundwater	Not applicable	VOCs PAHs PCBs 8 RCRA Metals	Three 40-ml glass vials with Teflon-lined septum caps Hydrochloric acid (HCL) preservative  Two 1,000-ml amber glass bottle with Teflon-lined caps (PAHs and PCBs)  One 1,000-ml glass or polyethylene bottle, HNO <sub>3</sub> preserved container (8-RCRA Metals)	14 Days (VOCs)  7 Days (PAH and PCB extraction)  180 Days (metals, except mercury)  28 Days (mercury)	8260C 8270D SIM LL 8082A 7470A 6020A
Equipment rinsate blanks	Not Applicable	QC	1	Water	Not Applicable	VOCs PAHs PCBs 8 RCRA Metals	Three 40-ml glass vials with Teflon-lined septum caps Hydrochloric acid (HCL) preservative  Two 1,000-ml amber glass bottle with Teflon-lined caps (PAHs and PCBs)  One 1,000-ml glass or polyethylene bottle, HNO <sub>3</sub> preserved container (8-RCRA Metals)	14 Days (VOCs)  7 Days (PAH and PCB extraction)  180 Days (metals, except mercury)  28 Days (mercury)	8260C 8270D SIM LL 8082A 7470A 6020A

**TABLE 1**  
**SAMPLING AND ANALYSIS MATRIX SUMMARY**  
**Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals  
1855 3<sup>rd</sup> Street  
Gering, Nebraska  
Terracon Project No. 05159093

Sample ID	Location	Purpose	No. of Samples	Medium	Depth	Analyses	Laboratory Containers/Volumes	Holding Time Requirements	Analytical Methods
Decontamination Fluids	Not Applicable	TCLP Waste characterization	0 or 1 Contingent upon analytical results or field indications of gross contamination in soil/groundwater	water	Not Applicable	VOCs 8 RCRA Metals	Three 40-ml glass vials with Teflon-lined septum caps HCL preservative  One 1,000-ml glass or polyethylene bottle, HNO <sub>3</sub> preserved container (8-RCRA Metals)	14 Days 180 Days (metals, except mercury)  28 Days (mercury)	TCLP Extraction + 8260C 7470A 6020A
Core soil cuttings	Not Applicable	TCLP Waste characterization	0 or 1 Contingent upon analytical results or field indications of gross contamination in soil/groundwater	water	Not Applicable	VOCs 8 RCRA Metals	4 ounce glass jar with a Teflon lined cap per each parameter group	14 Days (VOCs) 180 Days (metals, except mercury)  28 Days (mercury)	TCLP Extraction + 8260C 7010 7471B 6010C

- Notes : 1) GP-1 through GP-4 will have temporary well casings installed to allow for water level measurements. Installation of temporary casings are contingent upon borehole not collapsing upon tool removal.
- 2) VOCs = volatile organic compounds
- 3) PAHs = Poly Aromatic Hydrocarbons
- 4) 8 RCRA Metals = Arsenic, Barium, Cadmium, Chromium (total), Lead, Mercury, Selenium, Silver. Dissolved metals samples not to be preserved before field filtration.
- 5) PCBs = Polychlorinated Biphenyls



**TABLE 2**  
**LABORATORY PROVIDED ANALYTE REPORTING LIMITS AND METHOD DETECTION LIMITS**  
**Property-Specific Sampling and Analysis Plan, Revision No. 0**

M and T Metals  
Gering, Nebraska  
Terracon Project No. 05159093

Soil: Volatile Organic Compounds - VOCs (8260C- Low Level)			
Analyte Description	CAS Number	Reference RL - Limit (mg/Kg)	Reference MDL - Limit (mg/Kg)
Acetone	67-64-1	0.0500	0.00685
Benzene	71-43-2	0.00500	0.000430
Bromobenzene	108-86-1	0.00500	0.000200
Bromochloromethane	74-97-5	0.00500	0.000240
Bromodichloromethane	75-27-4	0.00500	0.000390
Bromoform	75-25-2	0.0100	0.000220
Bromomethane	74-83-9	0.0200	0.000310
2-Butanone (MEK)	78-93-3	0.0500	0.00646
n-Butylbenzene	104-51-8	0.00500	0.000230
sec-Butylbenzene	135-98-8	0.00500	0.000140
tert-Butylbenzene	98-06-6	0.00500	0.000140
Carbon disulfide	75-15-0	0.00500	0.000350
Carbon tetrachloride	56-23-5	0.00500	0.000160
Chlorobenzene	108-90-7	0.00500	0.000300
Chlorodibromomethane	124-48-1	0.00500	0.000220
Chloroethane	75-00-3	0.0200	0.000260
Chloroform	67-66-3	0.00500	0.000390
Chloromethane	74-87-3	0.0200	0.000190
2-Chlorotoluene	95-49-8	0.00500	0.000230
4-Chlorotoluene	106-43-4	0.00500	0.000290
1,2-Dibromo-3-Chloropropane	96-12-8	0.0500	0.00339
1,2-Dibromoethane (EDB)	106-93-4	0.0500	0.000190
Dibromomethane	74-95-3	0.00500	0.000170
1,2-Dichlorobenzene	95-50-1	0.00500	0.000330
1,3-Dichlorobenzene	541-73-1	0.00500	0.000280
1,4-Dichlorobenzene	106-46-7	0.00500	0.000310
Dichlorodifluoromethane	75-71-8	0.0150	0.000250
1,1-Dichloroethane	75-34-3	0.00500	0.000270
1,2-Dichloroethane	107-06-2	0.00500	0.000310
1,1-Dichloroethene	75-35-4	0.00500	0.000190
cis-1,2-Dichloroethene	156-59-2	0.00500	0.000270
trans-1,2-Dichloroethene	156-60-5	0.00500	0.000190
1,2-Dichloropropane	78-87-5	0.00500	0.000430
1,3-Dichloropropane	142-28-9	0.00500	0.000130
2,2-Dichloropropane	594-20-7	0.0200	0.000230
1,1-Dichloropropene	563-58-6	0.00500	0.000210
cis-1,3-Dichloropropene	10061-01-5	0.00500	0.000470
trans-1,3-Dichloropropene	10061-02-6	0.00500	0.000180
Ethylbenzene	100-41-4	0.00500	0.000360
Hexachlorobutadiene	87-68-3	0.0250	0.000390
Hexane	110-54-3	0.0250	0.000280
Isopropylbenzene	98-82-8	0.00500	0.000100
p-Isopropyltoluene	99-87-6	0.00500	0.000160

**TABLE 2**  
**LABORATORY PROVIDED ANALYTE REPORTING LIMITS AND METHOD DETECTION LIMITS**  
**Property-Specific Sampling and Analysis Plan, Revision No. 0**

M and T Metals  
Gering, Nebraska  
Terracon Project No. 05159093

Soil: Volatile Organic Compounds - VOCs (8260C Low Level) cont.			
Analyte Description	CAS Number	Reference RL - Limit (mg/Kg)	Reference MDL - Limit (mg/Kg)
Methylene Chloride	75-09-2	0.0500	0.000320
Methyl tert-butyl ether	1634-04-4	0.00500	0.000220
Naphthalene	91-20-3	0.0250	0.000140
N-Propylbenzene	103-65-1	0.00500	0.000160
Styrene	100-42-5	0.00500	0.000110
1,1,1,2-Tetrachloroethane	630-20-6	0.00500	0.000280
1,1,2,2-Tetrachloroethane	79-34-5	0.00500	0.000190
Tetrachloroethene	127-18-4	0.00500	0.000200
Toluene	108-88-3	0.00500	0.000350
1,2,3-Trichlorobenzene	87-61-6	0.0250	0.00358
1,2,4-Trichlorobenzene	120-82-1	0.0250	0.000870
1,1,1-Trichloroethane	71-55-6	0.00500	0.000220
1,1,2-Trichloroethane	79-00-5	0.00500	0.000320
Trichloroethene	79-01-6	0.00500	0.000200
Trichlorofluoromethane	75-69-4	0.0200	0.000220
1,2,3-Trichloropropane	96-18-4	0.00500	0.000480
1,2,4-Trimethylbenzene	95-63-6	0.00500	0.000640
1,3,5-Trimethylbenzene	108-67-8	0.00500	0.000160
Vinyl chloride	75-01-4	0.0150	0.000290
Xylenes, Total	1330-20-7	0.0150	0.00101
Soil: Poly Aromatic Hydrocarbons (8270D SIM LL)			
Analyte Description	CAS Number	Reference RL - Limit (mg/Kg)	Reference MDL - Limit (mg/Kg)
Acenaphthene	83-32-9	0.0100	0.00317
Acenaphthylene	208-96-8	0.0100	0.00199
Anthracene	120-12-7	0.0100	0.00305
Benzo[a]anthracene	56-55-3	0.0100	0.00218
Benzo[a]pyrene	50-32-8	0.0100	0.00133
Benzo[b]fluoranthene	205-99-2	0.0100	0.00145
Benzo[g,h,i]perylene	191-24-2	0.0100	0.00147
Benzo[k]fluoranthene	207-08-9	0.0100	0.00126
Chrysene	218-01-9	0.0100	0.00134
Dibenz[a,h]anthracene	53-70-3	0.0100	0.00138
Fluoranthene	206-44-0	0.0100	0.00294
Fluorene	86-73-7	0.0100	0.00379
Indeno[1,2,3-cd]pyrene	193-39-5	0.0100	0.00144
2-Methylnaphthalene	91-57-6	0.0100	0.00346
Naphthalene	91-20-3	0.0100	0.00434
Phenanthrene	85-01-8	0.0100	0.00262
Pyrene	129-00-0	0.0100	0.00265

**TABLE 2**  
**LABORATORY PROVIDED ANALYTE REPORTING LIMITS AND METHOD DETECTION LIMITS**  
**Property-Specific Sampling and Analysis Plan, Revision No. 0**

M and T Metals  
Gering, Nebraska  
Terracon Project No. 05159093

Soil: RCRA Metals; Arsenic by 7010, Mercury by 7471B others by 6010			
Analyte Description	CAS Number	Reference RL - Limit (mg/Kg)	Reference MDL - Limit (mg/Kg)
Arsenic	7440-38-2	0.200	0.0370
Barium	7440-39-3	0.500	0.295
Cadmium	7440-43-9	1.00	0.249
Chromium	7440-47-3	1.00	0.280
Lead	7439-92-1	5.00	0.990
Selenium	7782-49-2	7.50	3.00
Silver	7440-22-4	1.00	0.311
Mercury	7439-97-6	0.0200	0.00682
Soil: PCBs by 8082A			
Analyte Description	CAS Number	Reference RL - Limit (mg/Kg)	Reference MDL - Limit (mg/Kg)
PCB-1016	12674-11-2	0.0500	0.00130
PCB-1221	11104-28-2	0.0500	0.0134
PCB-1232	11141-16-5	0.0500	0.00500
PCB-1242	53469-21-9	0.0500	0.00540
PCB-1248	12672-29-6	0.0500	0.00340
PCB-1254	11097-69-1	0.0500	0.00320
PCB-1260	11096-82-5	0.0500	0.00170
PCB-1268	11100-14-4	0.0500	0.000700

**TABLE 2**  
**LABORATORY PROVIDED ANALYTE REPORTING LIMITS AND METHOD DETECTION LIMITS**  
**Property-Specific Sampling and Analysis Plan, Revision No. 0**

M and T Metals  
Gering, Nebraska  
Terracon Project No. 05159093

Groundwater: Volatile Organic Compounds - VOCs (8260C)			
Analyte Description	CAS Number	Reference RL - Limit (mg/L)	Reference MDL - Limit (mg/L)
Acetone	67-64-1	0.0100	0.00179
Benzene	71-43-2	0.000500	0.000110
Bromobenzene	108-86-1	0.00100	0.000210
Bromochloromethane	74-97-5	0.00500	0.000120
Bromodichloromethane	75-27-4	0.00100	0.000120
Bromoform	75-25-2	0.00500	0.000140
Bromomethane	74-83-9	0.00400	0.000220
2-Butanone (MEK)	78-93-3	0.0100	0.000470
n-Butylbenzene	104-51-8	0.00100	0.000370
sec-Butylbenzene	135-98-8	0.00100	0.000200
tert-Butylbenzene	98-06-6	0.00100	0.000120
Carbon disulfide	75-15-0	0.00100	0.000150
Carbon tetrachloride	56-23-5	0.00200	0.000240
Chlorobenzene	108-90-7	0.00100	0.000190
Chlorodibromomethane	124-48-1	0.00500	0.000200
Chloroethane	75-00-3	0.00400	0.000150
Chloroform	67-66-3	0.00100	0.000280
Chloromethane	74-87-3	0.00300	0.000310
2-Chlorotoluene	95-49-8	0.00100	0.000120
4-Chlorotoluene	106-43-4	0.00100	0.000130
1,2-Dibromo-3-Chloropropane	96-12-8	0.0100	0.000500
1,2-Dibromoethane (EDB)	106-93-4	0.0100	0.000130
Dibromomethane	74-95-3	0.00100	0.000180
1,2-Dichlorobenzene	95-50-1	0.00100	0.000140
1,3-Dichlorobenzene	541-73-1	0.00100	0.000170
1,4-Dichlorobenzene	106-46-7	0.00100	0.000200
Dichlorodifluoromethane	75-71-8	0.00300	0.000200
1,1-Dichloroethane	75-34-3	0.00100	0.000210
1,2-Dichloroethane	107-06-2	0.00100	0.000180
1,1-Dichloroethene	75-35-4	0.00200	0.000150
cis-1,2-Dichloroethene	156-59-2	0.00100	0.000130
trans-1,2-Dichloroethene	156-60-5	0.00100	0.000210
1,2-Dichloropropane	78-87-5	0.00100	0.000870
1,3-Dichloropropane	142-28-9	0.00100	0.000160
2,2-Dichloropropane	594-20-7	0.00400	0.000180
1,1-Dichloropropene	563-58-6	0.00100	0.000150
cis-1,3-Dichloropropene	10061-01-5	0.00500	0.000150
trans-1,3-Dichloropropene	10061-02-6	0.00500	0.000220
Ethylbenzene	100-41-4	0.00100	0.000210
Hexachlorobutadiene	87-68-3	0.00500	0.000200
Hexane	110-54-3	0.00100	0.000200
Isopropylbenzene	98-82-8	0.00100	0.000190

**TABLE 2**  
**LABORATORY PROVIDED ANALYTE REPORTING LIMITS AND METHOD DETECTION LIMITS**  
**Property-Specific Sampling and Analysis Plan, Revision No. 0**

M and T Metals  
Gering, Nebraska  
Terracon Project No. 05159093

Groundwater: Volatile Organic Compounds - VOCs (8260C) cont.			
Analyte Description	CAS Number	Reference RL - Limit (mg/L)	Reference MDL - Limit (mg/L)
p-Isopropyltoluene	99-87-6	0.00100	0.000140
Methylene Chloride	75-09-2	0.00500	0.000170
Methyl tert-butyl ether	1634-04-4	0.00100	0.000160
Naphthalene	91-20-3	0.00500	0.000370
N-Propylbenzene	103-65-1	0.00100	0.000100
Styrene	100-42-5	0.00100	0.000100
1,1,1,2-Tetrachloroethane	630-20-6	0.00100	0.000210
1,1,2,2-Tetrachloroethane	79-34-5	0.00100	0.000100
Tetrachloroethene	127-18-4	0.00100	0.000180
Toluene	108-88-3	0.00100	0.000150
1,2,3-Trichlorobenzene	87-61-6	0.00500	0.000160
1,2,4-Trichlorobenzene	120-82-1	0.00500	0.000160
1,1,1-Trichloroethane	71-55-6	0.00100	0.000120
1,1,2-Trichloroethane	79-00-5	0.00100	0.000120
Trichloroethene	79-01-6	0.00100	0.000190
Trichlorofluoromethane	75-69-4	0.00400	0.000170
1,2,3-Trichloropropane	96-18-4	0.00100	0.000190
1,2,4-Trimethylbenzene	95-63-6	0.00100	0.000200
1,3,5-Trimethylbenzene	108-67-8	0.00100	0.000200
Vinyl chloride	75-01-4	0.00100	0.000100
Xylenes, Total	1330-20-7	0.00300	0.000130
Groundwater: Poly Aromatic Hydrocarbons (8270D SIM LL)			
Analyte Description	CAS Number	Reference RL - Limit (mg/L)	Reference MDL - Limit (mg/L)
Acenaphthene	83-32-9	0.000100	0.0000350
Acenaphthylene	208-96-8	0.000100	0.0000360
Anthracene	120-12-7	0.000100	0.0000200
Benzo[a]anthracene	56-55-3	0.000100	0.0000190
Benzo[a]pyrene	50-32-8	0.000100	0.0000190
Benzo[b]fluoranthene	205-99-2	0.000100	0.0000200
Benzo[g,h,i]perylene	191-24-2	0.000100	0.0000130
Benzo[k]fluoranthene	207-08-9	0.000100	0.0000150
Chrysene	218-01-9	0.000100	0.0000160
Dibenz(a,h)anthracene	53-70-3	0.000100	0.0000130
Fluoranthene	206-44-0	0.000100	0.0000160
Fluorene	86-73-7	0.000100	0.0000230
Indeno[1,2,3-cd]pyrene	193-39-5	0.000100	0.0000170
2-Methylnaphthalene	91-57-6	0.000500	0.0000370
Naphthalene	91-20-3	0.000500	0.0000380
Phenanthrene	85-01-8	0.000100	0.0000260
Pyrene	129-00-0	0.000100	0.0000140

**TABLE 2**  
**LABORATORY PROVIDED ANALYTE REPORTING LIMITS AND METHOD DECTION LIMITS**  
**Property-Specific Sampling and Analysis Plan, Revision No. 0**

M and T Metals  
Gering, Nebraska  
Terracon Project No. 05159093

Groundwater: RCRA Metals; Mercury by 7470B others by 6020A			
Analyte Description	CAS Number	Reference RL - Limit (mg/L)	Reference MDL - Limit (mg/L)
Arsenic	7440-38-2	0.00200	0.000672
Barium	7440-39-3	0.00200	0.000844
Cadmium	7440-43-9	0.000500	0.0000351
Chromium	7440-47-3	0.00500	0.000355
Lead	7439-92-1	0.000500	0.000211
Selenium	7782-49-2	0.00500	0.000630
Silver	7440-22-4	0.00100	0.000153
Mercury	7439-97-6	0.000200	0.000142
Soil: PCBs by 8082A			
Analyte Description	CAS Number	Reference RL - Limit (mg/Kg)	Reference MDL - Limit (mg/Kg)
PCB-1016	12674-11-2	0.000800	0.0000434
PCB-1221	11104-28-2	0.000800	0.000160
PCB-1232	11141-16-5	0.000800	0.000110
PCB-1242	53469-21-9	0.000800	0.000130
PCB-1248	12672-29-6	0.000800	0.000110
PCB-1254	11097-69-1	0.000800	0.0000920
PCB-1260	11096-82-5	0.000800	0.0000440
PCB-1268	11100-14-4	0.000800	0.0000190
Polychlorinated biphenyls, Total	1336-36-3	0.000800	0.000160



# **APPENDIX C**

# THE CITY OF GERING

## SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN (QAPP) ADDENDUM

### SUPERFUND SITE ASSESSMENT & SECTION 128(a) ASSESSMENT PROGRAMS

Note: This Addendum was modified from the NDEQ's QAPP (2009) Addendum.

This Addendum supplements the Generic QAPP for Superfund Site Assessment and Section 128(a) Assessment activities (Revised June 2009) and includes documentation only for the specific site/project indicated. The Addendum is only necessary for projects with sampling requirements needed to accomplish site assessment activities.

#### 1. SITE NAME AND LOCATION:

**Name:** B&T Metals

**Address or Other Location Identifier:** 1855 3<sup>rd</sup> Street

**City:** Gering

**County:** Scotts Bluff

**State:** Nebraska

**ZIP:** 68341

**Site Point of Contact (POC) Name:** Mr. Paul Snarr

**POC Email:** psnarr@gering.org

**Telephone:** 308-436-5096

**FAX:**

**Directions to Site:** West Entrance off of N. 7<sup>th</sup> Street

**Map(s) attached:** Yes

#### 2. PROJECT MANAGEMENT AND PROJECT INFORMATION:

**Distribution List (Check as appropriate and identify):**

☒ Brownfield Project Manager: Paul Snarr and TCD

☒ NDEQ Project Manager: Sarah Sweeney

☒ Contractor Project Manager: Clay Muirhead

☒ Contractor QA Officer: Dave Koch

☒ Contractor Assessment Coordinator: Megan Hughes

☒ EPA Brownfields Grant Manager: Jennifer Morris

##### 2.1 Project and Task Organization (Check as appropriate and identify):

☒ Brownfield Project Manager: Paul Snarr and TCD

☒ Contractor Assessment Coordinator: Megan Hughes

☒ Contractor Project Manager: Clay Muirhead

☒ Field Coordinator: TBD

☒ Site Safety Officer: TBD

☒ Senior Technical Reviewer: Mike Hagemelster

☒ NDEQ Project Manager: Sarah Sweeney

☒ Contractor QA Officer: Dave Koch

☒ EPA Brownfields Grant Manager: Jennifer Morris

##### 2.2 Problem Definition and Background: (Check to indicate items are attached)

☒ Discussion of site-specific conditions: Phase I Environmental Site Assessment Report, dated November 16, 2015

☐ Table indicating maximum concentrations detected

☒ Maps and Figures

☐ Table indicating concentrations of concern

☒ Table indicating number and types of field and QC samples to be collected

☐ Discussion of laboratory deviations from latest version of EPA SOP 2440.5 (if applicable)

##### 2.3 Project and Task Description/Type(s) (Check as appropriate):

☐ Pre-CERCLIS Screening Assessment (PCSA)

☐ Preliminary Assessment (PA)

☐ Combined Preliminary Assessment/Site Inspection (PA/SI)

☐ Abbreviated Preliminary Assessment (APA)

☐ Focused Site Inspection (FSI)

☐ Site Inspection (SI)

☐ Expanded Site Inspection (ESI)

☐ Site Re-Assessment (SI-2)

☐ Section 128(a) Assessment - Phase I Investigation

☐ Section 128(a) Assessment - Phase II Investigation

☒ Other (Specify and attach description): Section 104(k) Phase II Assessment

##### 2.4 Quality Objectives and Criteria for Measurement Data: (Check appropriate boxes)

Accuracy:

☒ According to Generic Site Assessment QAPP

☐ Identified in attached table

Precision

☒ According to Generic Site Assessment QAPP

☐ Identified in attached table

Representativeness:

☒ According to Generic Site Assessment QAPP

☐ Identified in attached table

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

Completeness:\* ☒ According to Generic Site Assessment QAPP ☐ Identified in attached table  
 Comparability: ☒ According to Generic Site Assessment QAPP ☐ Identified in attached table

\*A completeness goal of 100 % has been established for this project. However, a site disposition may still be possible from the remaining valid data.

Critical sample locations are included in (check one):

☐ Attached Table ☒ Attached Map ☐ Other (Describe):

### 2.5 Special Training/Certification Requirements: (Check appropriate boxes)

☒ OSHA 40-hour (HAZWOPER) ☒ Direct Push Probe/Geoprobe Operator  
☐ Mobile GC Field Analyst ☐ In-Field XRF Operator  
☐ Water Well Monitoring Supervisor and/or Technician ☐ Water Well Drilling Contractor and/or Drilling Supervisor  
☐ Pump Installation Contractor and/or Supervisor ☐ Drill Rig Operator  
☐ Other (specify): Asbestos Certified Technician

### 2.6 Documentation And Records Proposed For Project: (Check appropriate boxes):

☒ Health and Safety Plan ☒ Log Book/Field Notes ☐ Drilling permit(s)  
☐ Daily Tailgate Meeting Forms ☒ Field Sheets ☒ GPS Coordinates  
☒ Site Maps/Figures ☒ Chain-of-Custody ☐ Licensed surveyor site map  
☒ Site Sampling Map (attached) ☒ Site Photographs ☐ Calibration Records  
☐ Property Access Agreement ☐ Site Videotapes ☐ ASTM Phase I ESA Requirements  
☒ Property Ownership Records ☐ Utility Clearance Forms ☒ ASTM Phase II ESA Requirements  
☐ Sample documentation to follow latest version of EPA Region 7 SOP 2420.5  
☐ Other Documentation (Specify):  
☒ Reports, Deliverables, or Submittals Required (Specify): Report to be prepared and issued following field work and receipt of analytical results.

## 3. DATA GENERATION AND AQUISITION:

### 3.1 Sampling Process Design

#### A. General Sampling Approach (Check appropriate boxes):

☐ Probability Sampling ☒ Judgmental Sampling

#### Sampling Method:

☐ Simple Random Sampling ☐ Stratified Sampling ☒ Systematic/Grid Sampling  
☐ Ranked Set Sampling ☐ Adaptive Cluster Sampling ☐ Composite Sampling  
☒ Other: Per "PSAP"

#### B. Screening/Definitive Sampling (Check appropriate boxes):

☐ Screening without Definitive Confirmation  
☐ Screening with Definitive Confirmation.  
☒ Definitive Sampling – For Soil and Groundwater sampling

#### C. Biased/Judgmental Sampling:

☐ No (If No, explain the alternate sampling rationale and approach):  
☒ Yes (If Yes, the following applies):

#### EXPLAIN below: (Example Included)

The proposed sampling scheme will be a combination of judgmental and grid sampling in accordance with the PSAP (see Exhibit 2 of Appendix A). Judgmental sampling is the subjective (biased) selection of sampling locations based on available information, visual inspection, and professional judgment of the sampler. The site will also be gridded in an effort to assess the general soil and groundwater conditions across the site where various metal recycling operations occurred. Soil and groundwater sample locations

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

will be selected to detect hazardous substances or pollutants or contaminants near suspected sources and migration from them. Sample locations depicted in the attached site sketch are approximate and subject to change based on field conditions, data and safety factors. The number of samples is approximate and subject to change based on site conditions and suspected source areas, background, size of impacted areas, study objectives, scope of work and cost constraints. Subsurface soil depths are selected to detect suspected subsurface releases and potentially identify source areas. Depth of direct push samples is based on suspected depth to ground water and limitations of sampling equipment for conditions at the site.

### 3.2 Sample Methods Requirements (Specify all to be utilized):

Matrix	Sampling Method	Std. Operating Procedures	Sampling Equipment Proposed
<input checked="" type="checkbox"/> Soil	Sampling method will be in accordance with the described standard operating procedure (see next column)	Transfer samples to lab Provided containers, ship Samples to lab for analysis Under chain of custody Procedures (see PSAP for details) (consistent with EPA SOP 4230.3B)	Macro-core sampler used in Conjunction with direct push Geoprobe equipment.
<input type="checkbox"/> Soil Gas			
<input checked="" type="checkbox"/> Groundwater	Sampling method will be in accordance with the Described standard Operating procedure (see next column)	Transfer samples to lab Provided containers, ship samples to lab under chain of Custody procedures (see PSAP for details) consistent (With EPA SOP 4230.07 and 4230.10.)	Peristaltic pump with flexible Tubing and/or small diameter Bailer and/or ridged tubing outfitted with a foot-valve
<input type="checkbox"/> Surface Water			
<input type="checkbox"/> Sediment			
<input type="checkbox"/> Waste			
<input type="checkbox"/> Leachate			
<input type="checkbox"/> Air			
<input type="checkbox"/> Other (specify below):			

### 3.3 Sample Handling and Custody Requirements (Check appropriate box):

☒ In accordance with Generic QAPP and SOPs      ☒ Other (specify): Per PSAP

### 3.4 Analytical Methods Requirements (Check appropriate box):

☒ Identified in Attached Table    ☐ Other (Describe):

### 3.5 Quality Control Requirements (Check all appropriate boxes):

☐ Not Applicable      ☒ In accordance with Generic QAPP

☐ Specific requirements (state):

#### Field QC Samples to be collected:

<input checked="" type="checkbox"/> Duplicates	(frequency 1 per 10)	Prepared by: Field Crew	[Groundwater only]
<input checked="" type="checkbox"/> Trip Blanks	(frequency 1 per cooler)	Prepared by: Contract Laboratory	
<input checked="" type="checkbox"/> Field Blanks	(frequency 1 per 10)	Prepared by: Field Crew	[Based on groundwater samples]
<input checked="" type="checkbox"/> Equipment Rinsate Blanks	(frequency 2)	Prepared by: Field Personnel	
<input type="checkbox"/> Split Samples	(frequency )	Splits go to:	
<input type="checkbox"/> Matrix Spikes	(frequency )	Matrix and spike to be used:	
<input type="checkbox"/> Background Sample	(frequency )	Type:	
<input type="checkbox"/> Others (specify)	(frequency )		

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

☒ Matrix Spike/Matrix Spike Duplicate: (frequency 1 per 20) Extra sample volume to be collected: 2 extra purge vials for groundwater

### 3.6 Instrument/Equipment Testing, Inspection, and Maintenance Requirements (Check appropriate box):

☐ Not Applicable ☒ In accordance with Generic QAPP  
☒ Specific field or laboratory equipment requirements:  
Instrument: PID Testing, Inspection, or Maintenance Frequency: In accordance with manufacturer's recommendations  
Instrument: Testing, Inspection, or Maintenance Frequency:  
Critical Spare Parts Required:

### 3.7 Instrument/Equipment Calibration and Frequency (Check appropriate box):

☐ Not Applicable ☒ In accordance with Generic QAPP  
☒ Specific field equipment requirements:  
Instrument: PID Calibration Frequency: per manufacturers recommendations  
Instrument: Calibration Frequency:

### 3.8 Inspection/Acceptance Criteria for Supplies and Consumables (Check appropriate box):

☐ Not Applicable ☒ In accordance with Generic QAPP  
☒ Specific requirements (state):

### 3.9 Data Acquisition Requirements for Non-Direct Measurements (Check appropriate box):

☐ Not Applicable ☒ In accordance with Generic QAPP  
☐ Specific requirements (state):

### 3.10 Data Management (Check appropriate box):

☒ In accordance with Generic QAPP ☐ Specific requirements (state):

## 4. ASSESSMENT AND OVERSIGHT:

### 4.1A Assessment and Response Actions (Check all appropriate boxes):

☐ Peer Review ☒ Management Review ☐ Field Audit ☐ Lab Audit  
☐ Those pertaining to analytical phases of the project will be in accordance with Generic QAPP  
☐ Specific requirements (state):

### 4.1B Corrective Action (Check appropriate box):

☒ In accordance with Generic QAPP ☐ Specific requirements (state):

### 4.2 Reports to Management/Assessment Reporting (Check appropriate box):

☒ In accordance with Generic QAPP  
☐ In accordance with ASTM E-1527-05 Phase I Environmental Site Assessment Process  
☒ In accordance with ASTM E-1903-97 (2002) Phase II Environmental Site Assessment Process  
☒ Specific requirements (state): PSAP assessment report consistent with NDEQ Environmental Guidance Document – 2009

## 5. DATA VALIDATION AND USABILITY:

### 5.1 Data Review, Verification, and Validation Requirements (Check appropriate box):

☒ Data review and verification will be performed by Project Manager or QC officer delegate in accordance with Generic QAPP, with data validation conducted according to Generic QAPP

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

- ☐ Data review, validation and verification will be performed as follows with data validation conducted according to alternate methods (describe):

Field analysis utilized? (Select Yes or No) (If yes, memorandum, field analytical sheets, etc. from field analyst should be reviewed by Project Manager and/or Site QC Officer after completion of field analysis). Note: TBA *Triad Approach* requires site-specific QAPP for using field analysis.

### 5.2 Verification and Validation Methods (Check appropriate box):

- ☒ In accordance with Generic QAPP ☐ Specific requirements (state):

### 5.3 Reconciliation with User Requirements—Data Quality Objectives (Check appropriate box):

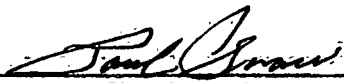
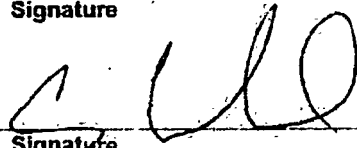
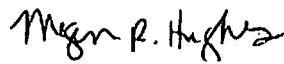
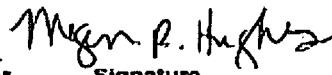
- ☒ In accordance with Generic QAPP ☐ Specific requirements (state):



## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

### 6. APPROVAL SIGNATURES & DATES:

Note: The QAPP Addendum will not be considered complete until all of the appropriate approval signatures indicated below are obtained. If the QAPP Addendum has to be revised after signatures (some or all) were obtained, new signatures will be required to properly finalize and approve the revised QAPP Addendum.

Paul Snarr Brownfield Project Manager (name)	 Signature	9-13-2016 Date
Clay Muirhead Contractor Project Manager (name)	 Signature	9/12/16 Date
Dave Koch Contractor QA Officer/Designee (name)	By  Signature	9/13/2016 Date
Megan Hughes Contractor Assessment Coordinator (name)	 Signature	9/13/2016 Date
Sarah Sweeney NDEQ Project Manager/Designee (name)	Signature	Date
Jennifer Morris EPA Brownfields Grant Manager (name)	Signature	Date

# APPENDIX D

**TABLE 3 – 2016 PROJECT SCHEDULE**  
**B&T METALS PHASE II ENVIRONMENTAL ASSESSMENT**  
**1855 3<sup>RD</sup> STREET**  
**GERING, NEBRASKA**  
**TERRACON PROJECT NO. 05159093**

<b>Activity</b>	<b>Planned Start Date</b>	<b>Planned Completion Date</b>
Prepare draft PSAP, Revision 1	-	August 31, 2016
NDEQ review and approval of PSAP	September 1, 2016	September 23, 2016
Issue final PSAP		September 30, 2016
Drilling and sampling	August 29, 2016	October 17, 2016
PSAP report preparations	November 7, 2016	November 11, 2016
Client review of PSAP report	November 14, 2016	November 18, 2016
Issue final PSAP report		November 25, 2016

# APPENDIX E

**Site Safety and Health Plan**  
**Chlorinated Solvents,**  
**Volatile Organic Compounds, Metals,**  
**Poly-Aromatic Hydrocarbons,**  
**Polychlorinated Biphenyl**  
**Contamination Anticipated**

**B&T Metals**  
**1855 3<sup>rd</sup> Street**  
**Gering, Scotts Bluff County, Nebraska**

June 25, 2016  
Terracon Project No. 05159093

**Client:**  
City of Gering

**Prepared by:**  
Terracon Consultants, Inc.  
Omaha, Nebraska

## INTRODUCTION

This Site Safety and Health Plan has been developed to keep Terracon personnel engaged in environmental services on the **B&T Metals** Project site safe so that they leave the site uninjured at the conclusion of every work day. Petroleum compounds/COCs relative to petroleum compounds are anticipated to be co-mingled in residual concentrations with other hazardous substances. Safety expectations of Terracon personnel working on this site will be as follows:

- Follow the safety rules applicable to your job.
- If it is not safe, do not do it; do not have your co-worker do it either.
- If you see something that is unsafe, **speak up** immediately, there and then, to your supervisor, no matter who – no matter what.
- If you are not sure of something or do not understand something, **speak up and ask**.

Terracon employees have the right to expect management cooperation in helping to keep them safe. Here is what you can expect from Terracon management while engaging in services at this project site:

- If you stop a task for a safety reason, we will back you up.
- If you bring up a safety concern, we will address it promptly. It will not go into a black hole.
- If there is an injury, we will conduct an incident investigation in a way that does not blame anyone – the person or people involved. The investigation will focus on learning, so that we can eliminate the next injury.

We want every employee to conduct field operations in accordance with our Incident and Injury-Free principals:

- Evaluate the hazards of the work you are getting into and control the hazards to the extent practical before engaging in site services.
- Be observant to people who are inexperienced anxious about their work and for those who are being complacent with safe work procedures. Speak up to both, out of care and concern, and help them see that doing their work safely is the right thing to do for both them and their families.
- Be open if someone speaks to you about potential unsafe behaviors or equipment, and cooperate in the spirit of getting the job done safely. Everybody deserves a future.





**PROJECT NAME: B&T Metals**

**LOCATION: 1855 3<sup>rd</sup> Street, Gering, Nebraska, 69341**

**TERRACON PROJECT NUMBER: 05159093**

**START DATE:**

## **1.0 APPLICABILITY**

This Site Safety and Health Plan (Plan) has been developed for the safety of Terracon personnel engaged in field services at the above referenced site. The purpose of this plan is to prevent adverse health effects from potential contaminants and safety hazards which may be present at this site.

Safety expectations of Terracon personnel working on this site will be as follows:

Follow the safety rules applicable to your job.

- If it is not safe, do not do it; do not have your co-worker do it either.
- If you see something that is unsafe, **speak up** immediately, there and then, to your supervisor, no matter who – no matter what.
- If you are not sure of something or do not understand something, **speak up and ask**.

Terracon employees have the right to expect management cooperation in helping to keep them safe. Here is what you can expect from Terracon management while engaging in services at this project site:

- If you stop a task for a safety reason, we will back you up.
- If you bring up a safety concern, we will address it promptly. It will not go into a black hole.
- If there is an injury, we will conduct an incident investigation in a way that does not blame anyone – the person or people involved. The investigation will focus on learning, so that we can eliminate the next injury.

We want every employee to conduct field operations in accordance with our Incident and Injury-Free principals:

- Evaluate the hazards of the work you are getting into and control the hazards to the extent practical before engaging in site services.
- Be observant to people who are inexperienced, are anxious about their work and/or for those who are being complacent with safe work procedures. Speak up to both, out of care and concern, and help them see that doing their work safely is the right thing to do for both them and their families.
- Be open if someone speaks to you about potential unsafe behaviors or equipment, and cooperate in the spirit of getting the job done safely. Everybody deserves a future.

## **2.0 SAFETY AND HEALTH ADMINISTRATION**

The Project Manager is ultimately responsible for seeing that work on this project is performed in accordance with the safety and health provisions contained in this Plan. The designated Site Safety and Health Officer (SSO) will monitor compliance with this Plan during field activities. All field team members engaged in project activities will be required to sign the "Acknowledgment of Instruction" form included with this Plan. The SSO will maintain a copy of this Plan on site for the duration of project activities.

Subcontractors engaged in project activity at these sites will comply with applicable provisions of the Occupational Safety and Health Act of 1970, the safety and health requirements set forth in Occupational Safety and Health Administration (OSHA) regulation 29 Code of Federal Regulations (CFR) 1910.120, where applicable, and any applicable state, city or local safety codes. Each subcontractor will be responsible for supplying a competent person to oversee the work they perform at this project site. The competent person for each subcontractor will bear primary responsibility for utilizing equipment and work practices necessary to protect the safety of the subcontractor's employees engaged in activities at this project site.

The subcontractor will maintain an orderly and safe work area around drilling/probe/excavation equipment to minimize the potential for accidents. In addition, the subcontractor will provide whatever safety barricades or warning devices are deemed necessary by Terracon to prevent accidents or injury to field personnel and the general public.

Subcontractors engaged on these project sites may utilize this site Safety and Health Plan for their employees, or each subcontractor may develop and utilize their own site Safety and Health Plan provided the provisions of the subcontractor's site Safety and Health Plan are at least as stringent as the requirements contained in this Plan. Decisions regarding equivalence of safety and health requirements will be made by Terracon Project Manager and Corporate Safety and Health Manager. Adoption of this Site Safety and Health Plan by subcontract employers shall not relieve any site subcontractor for the responsibility for the health and safety of its employees.

Terracon and subcontractor task leaders will be responsible for:

- Providing subordinate personnel a copy of this Plan, and briefing them on its content.
- Enforcing the applicable provisions of this Plan.
- Inspecting and maintaining equipment in compliance with applicable federal, state or local safety regulations.
- Enforcement of corrective actions.
- Investigation of accidents or injuries.

The following individuals will be responsible for implementation and enforcement of the Plan:

<u>TITLE</u>	<u>NAME</u>	<u>PHONE</u>
Assessment Coordinator:	Megan Hughes	402-384-7025
Terracon Safety and Health Manager:	Andrew Boehm	913-599-6886
Site Safety and Health Officer:	TBD	

<u>TITLE</u>	<u>NAME</u>	<u>PHONE</u>
Terracon Task Leader(s):	Mike Hagemeister Clay Muirhead	402-384-7019 307-638-5256
Subcontractor Crew Lead:	Patrick Martin	785-823-6205
Client Contact:	Paul Snarr	308-436-5096

If hazardous conditions develop during the course of project activity, the SSO will consult the Corporate Safety and Health Manager and coordinate actions required to safeguard site personnel and members of the general public. Additional safety measures will be verbally communicated to all project personnel, recorded in writing and appended to this Plan.

### **3.0 MEDICAL SURVEILLANCE REQUIREMENTS**

Terracon personnel participating in field operations on this project will be enrolled in a health monitoring program in accordance with the provisions of OSHA 29 CFR 1910.120 and 1910.134. Each project participant must be certified by a Doctor of Medicine as fit for respirator and semi-permeable/impermeable protective equipment use. The content and frequency of physical examinations will be determined by the Consulting physician in compliance with the requirements of 29 CFR 1910.120.

Follow-up medical examinations will also be provided in the event of illness or unprotected exposure to contaminants in excess of eight-hour time weighted average permissible exposure limits.

### **4.0 EMPLOYEE TRAINING REQUIREMENTS**

Terracon field personnel participating in this project must have completed 40-hour Hazardous Waste Site Training and at least three days supervised field experience per the requirements of OSHA 29 CFR 1910.120. In addition, a current 8-hour annual refresher training certificate will be required for all personnel. Training certificates will be maintained by the Corporate Safety and Health Manager in the Terracon Corporate Office.

Prior to the start of project activities, the Project Manager will discuss the contents of this Plan with Terracon personnel on-site. The proposed scope of work, potential site hazards, air monitoring requirements and action levels for upgrade/downgrade of personal protective equipment will be communicated to all field personnel.

### **5.0 RESPIRATORY PROTECTION PROGRAM**

Respirators used by Terracon personnel will be National Institute of Occupational Safety and Health (NIOSH) approved. Cartridges and filters for air purifying respirators will be appropriate for the contaminant(s) of concern (COCs). Cartridge/filter selection will be made by the Terracon Corporate Safety and Health Manager. Project personnel required to wear respiratory protection will be medically cleared for respirator use, trained and successfully fit tested in accordance with OSHA 29 CFR 1910.134. Personnel required to wear respirators will demonstrate competence in

donning/doffing and inspecting the equipment prior to job assignment. Project tasks requiring the use of supplied air respirators will require properly equipped backup personnel.

At a minimum, air purifying respirator cartridges will be changed daily prior to use. More frequent change of respirator cartridges may be specified based on the results of site air monitoring. Under no circumstances will air purifying respirators be used in areas deficient in oxygen (<19.5%), in areas classified as immediately dangerous to life and health (IDLH) or in areas where contaminants have not been characterized.

Respirators will be inspected and required fit checks will be performed prior to use, and any necessary repairs will be made before proceeding to the project site. Respirators will be sanitized daily after use.

## 6.0 SITE HISTORY/SCOPE OF SERVICES

Terracon personnel will perform intrusive activities at the site. Currently available information on operations and *suspected* COCs at the site is indicated below:

Operations:                      former metal recycling facility

Potential COCs:              VOCs, Chlorinated Solvents, poly aromatic hydrocarbons (PAHs), RCRA Metals

Services to be conducted on this project site will include the following (please check all that apply):

- |                                                                                    |                                                                                |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Soil/Groundwater Sampling                      | <input type="checkbox"/> Soil Boring (Hand Auger)                              |
| <input checked="" type="checkbox"/> Soil Boring (Geoprobe Rig)                     | <input type="checkbox"/> UST Removal ( <i>requires tank removal addendum</i> ) |
| <input type="checkbox"/> Remedial System Installation                              | <input type="checkbox"/> Monitoring Well Installation                          |
| <input type="checkbox"/> Other (wipe sampling using concentrated lab grade hexane) |                                                                                |

The personal protective equipment and direct-reading air monitoring protocols specified below are designed to prevent personnel exposure to contamination in excess of permissible exposure limits. Accordingly, Terracon personnel will abide by the personal protective equipment and air monitoring protocols contained in this Plan during site activities that pose a risk of potential exposure.

## 7.0 HAZARD ASSESSMENT

### 7.1 Chemical Hazards

Soils/groundwater at this project site may be contaminated with one or more COCs. Specific health hazard information on potential COCs are provided below. Based on available data, the following are considered the most likely COCs to be present:

## **GASOLINE**

### **Permissible Exposure Limit**

300 ppm ACGIH TLV

Gasoline is irritating to the skin, eyes and mucous membranes. Dermatitis may result from prolonged contact with the liquid. Gasoline acts as a central nervous system depressant. Exposure may cause staggering gait, slurred speech and mental confusion. Gasoline exposure may affect the liver, kidneys and spleen. Absorption of alkyl lead antiknock compounds contained in many gasolines poses an additional health concern, especially where there is prolonged skin contact.

## **DIESEL FUEL (No. 2-D)**

### **Permissible Exposure Limit**

100 mg/m<sup>3</sup> ppm ACGIH TLV (As mist/vapor)

Diesel fuel is a skin and mucous membrane irritant and a central nervous system depressant. Poisoning may affect the liver and kidneys. Skin contact may result in drying and cracking of the skin.

## **FUEL OIL (No. 6)**

### **Permissible Exposure Limit**

400 ppm OSHA PEL (as petroleum distillates/naphtha)

0.2 mg/m<sup>3</sup> OSHA PEL (Coal Tar Pitch Volatiles, "PNA's")

Fuel oil No. 6, or "Bunker Fuel", is of low volatility. It can be irritating to the eyes and skin. This substance is likely to contain polynuclear aromatic hydrocarbons (PNA's), some of which are considered carcinogenic. PNA's present a skin contact hazard. Avoid skin contact with potentially contaminated site materials.

## **BENZENE**

### **Permissible Exposure Limit**

1 ppm OSHA PEL

5 ppm OSHA 15 min STEL

0.5 ppm OSHA Action Level

Benzene is a central nervous system depressant and an eye and skin irritant. Poisoning may cause hemorrhages and immunosuppression. A relationship has been discovered between benzene exposure and leukemia. Benzene is regulated as an occupational carcinogen. Acute exposure may cause dizziness, excitation, weakness, headache, giddiness, breathlessness and chest constriction.

## **TOLUENE**

### **Permissible Exposure Limit**

20 ppm ACGIH TLV

(Skin Absorbable)

Toluene is an eye, skin and mucous membrane irritant and a central nervous system depressant. Poisoning may affect the liver and kidneys. Prolonged exposure may affect the heart and blood. The ingestion of alcoholic beverages may enhance the toxic effects of toluene. Symptoms of

exposure include respiratory tract irritation, headache, dizziness and eye irritation. Toluene may be absorbed to the bloodstream via skin contact.

#### **ETHYL BENZENE**

**Permissible Exposure Limit**  
20 ppm ACGIH TLV

Ethyl benzene is a skin, eye and mucous membrane irritant. It is moderately toxic by ingestion and slightly toxic by skin absorption. Ethyl benzene is a central nervous system depressant. Poisoning may affect the liver. Symptoms of exposure may include a sense of chest constriction and nervous disorders. Skin contact may result in first and second degree burns. The odor can be detected at 140 ppm and irritation occurs at ~200 ppm.

#### **XYLENE**

**Permissible Exposure Limit**  
100 ppm OSHA PEL

Xylene is a mild eye and mucous membrane irritant, primary skin irritant and a central nervous system depressant. Ingestion causes severe gastrointestinal upset and creates an aspiration hazard. Chronic inhalation results in symptoms that resemble acute poisoning, but are more severe systemically.

#### **TRICHLOROETHENE**

**Permissible Exposure Limit**  
100 ppm OSHA PEL  
200 ppm OSHA STEL  
50 ppm ACGIH TLV

Trichloroethene (TCE) is a clear, colorless volatile liquid with a sweet, chloroform-like odor. TCE is a narcotic, an irritant to the skin and mucous membranes, a liver and kidney toxin and is believed by NIOSH to be a potential human carcinogen. Workers exposed to concentrations averaging 10 ppm complained of headache, dizziness and sleepiness. Prolonged inhalation of vapors may result in central nervous system depression, nausea, narcosis, headache and nausea. Skin contact may cause drying, redness and irritation. Chronic exposure to TCE vapors may cause kidney and liver damage.

#### **TETRACHLOROETHENE**

**Permissible Exposure Limit**  
100 ppm OSHA PEL  
200 ppm OSHA STEL  
25 ppm ACGIH TLV

Tetrachloroethene (PCE) is a clear, colorless, volatile liquid with an ether-like odor. NIOSH considers PCE to be a potential human carcinogen. PCE causes central nervous system depression and liver damage. Defatting action of the skin can lead to dermatitis. Unconsciousness, dizziness, headache, vertigo and light narcosis have occurred in many instances after occupational exposure.



**Cis-1,2-DICHLOROETHENE**

**Permissible Exposure Limit**

200 ppm OSHA PEL

Cis-1,2-Dichloroethene is a colorless liquid with a sweet, pleasant odor. Skin contact may irritate skin and mucous membranes. It is a highly narcotic compound. Symptoms of acute exposure include central nervous system depression, nausea, vomiting, weakness and tremor.

**1,1,1-TRICHLOROETHANE**

**Permissible Exposure Limit**

350 ppm OSHA PEL

1,1,1-trichloroethane is a colorless liquid with a chloroform-like odor. Skin contact may irritate the skin and mucous membranes. It is a central nervous system depressant. Excessive absorption through the lungs or gastrointestinal tract produces CNS depression. Mild liver and kidney dysfunction has also been reported.

**BARIUM**

**Permissible Exposure Limit**

0.5 mg/m<sup>3</sup> OSHA PEL (soluble barium compounds)

Barium is a silvery-white metal found in nature. It occurs combined with other chemicals such as sulfur or carbon and oxygen. These combinations are called compounds. Barium compounds can also be produced by industry. The health effects of the different barium compounds depend on how well the compound dissolves in water. Barium compounds that do not dissolve well in water are not generally harmful and are often used by doctors for medical purposes. Those barium compounds that dissolve well in water may cause harmful health effects in people. Ingesting high levels of barium compounds that dissolve well in water over the short term has resulted in: Difficulties in breathing; Increased blood pressure; Changes in heart rhythm; Stomach irritation; Brain swelling; Muscle weakness; and, Damage to the liver, kidney, heart, and spleen.

**CHROMIUM**

**Permissible Exposure Limit**

1000 ug/m<sup>3</sup> OSHA PEL (Chromium 0)

500 ug/m<sup>3</sup> OSHA PEL (Chromium III)

100 ug/m<sup>3</sup> OSHA PEL (Chromium VI)

Chromium has three main forms chromium(0), chromium(III), and chromium(VI). Chromium(III) compounds are stable and occur naturally, in the environment. Chromium(0) does not occur naturally and chromium (VI) occurs only rarely. Chromium compounds have no taste or odor. All forms of chromium can be toxic at high levels, but chromium(VI) is more toxic than chromium(III). Breathing very high levels of chromium(VI) in air can damage and irritate your nose, lungs, stomach, and intestines. People who are allergic to chromium may also have asthma attacks after breathing high levels of either chromium(VI) or (III). Long term exposures to high or moderate levels of chromium(VI) cause damage to the nose (bleeding, itching, sores) and lungs, and can increase your risk of non-cancer lung diseases. Ingesting very large amounts of chromium can cause stomach upsets and ulcers, convulsions, kidney and liver damage, and even death.

## **LEAD**

### **Permissible Exposure Limit**

50 ug/m<sup>3</sup> OSHA PEL

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. It has no special taste or smell. Lead can be found in all parts of our environment. Most of it came from human activities like mining, manufacturing, and the burning of fossil fuels. Lead can affect almost every organ and system in your body. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common after exposure to high levels of lead. In adults, lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect the memory. Lead may cause anemia, a disorder of the blood. It can cause abortion and damage the male reproductive system. The connection between these effects and exposure to low levels of lead is uncertain.

### **PAHs (a.k.a. polycyclic aromatic hydrocarbons)**

#### **Permissible Exposure Limit**

0.2 ug/m<sup>3</sup> OSHA PEL

5 ug/m<sup>3</sup> OSHA PEL (Mineral oil mist containing PNAs)

PNAs are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PNAs are usually found as a mixture containing two or more of these compounds, such as soot. The Department of Health and Human Services has determined that some PNAs may reasonably be expected to be carcinogens. Some people who have breathed or touched mixtures of PNAs and other chemicals for long periods of time have developed cancer. Some PNAs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

## **7.2 Drilling Safety Precautions**

Activities to be performed on site may involve drilling and/or hydraulic probe equipment and materials. Personnel should be aware that as personal protective equipment increases, dexterity and visibility may be impacted and performing some tasks may be more difficult. Tape all loose protective clothing to avoid entanglement in rotating equipment.

Other drilling safety precautions to be observed during this assessment include the following:

- Before drilling proceeds, underground utilities must be located and marked.
- All personnel working around drill rigs will be familiarized with emergency shut-down procedures and the position of "kill" switches.
- No loose fitting clothing, jewelry or unsecured long hair is permitted near the rig.

- Keep hands and feet away from all moving parts while drilling is in progress. Shovel auger cuttings with long handled shovel. **DO NOT** use hands or feet.
- Daily inspection of all ropes, cables and moving parts is mandatory.
- A first aid kit and fire extinguisher will be immediately available at all times.
- All drill crews must consist of at least two persons.
- No drilling is permitted during impending electrical storms, tornadoes or when rain creates a hazardous work environment.
- A minimum horizontal and vertical clearance distance of **20 feet** must be maintained between the drill rig and overhead power lines; use spotters to help rig operator maneuver the vehicle when near overhead power lines.

### **7.3 Monitoring Well Sampling Precautions**

Personnel engaged in monitoring well sampling are advised that organic vapors from contaminated groundwater can collect in wells and be displaced by bailers.

- Approach monitoring wells from the upwind side.
- Remove the cap and allow the well to vent momentarily before introducing bailers.
- Keep breathing zone back and to the upwind side of wells during bailing activities.

### **7.4 Site Physical Hazards/Precautions**

The physical hazards associated with intrusive site activities can include inclement weather, material handling, slips/falls etc. Some anticipated hazards and means for preventing injury from those hazards are as follows:

- **Back Injuries due to improper lifting** - Use proper lifting techniques. Lift with the legs, not the back. Keep loads close to the body and avoid twisting. Loads heavier than 50 pounds (lbs.) require a second person or mechanical device for lifting. Use mechanical devices such as drum dollies, hand trucks, and tool hoists (for lifting augers) to lift or move heavy loads whenever possible.
- **Ergonomic Stress** - Lift carefully with load close to body with the legs taking most of the weight. Get help with lifts greater than 40 lbs. When working with a heavy tool or object, keep legs under the load and do not overreach or twist to the side. Reposition body to be more square to the load and work. Push loads, rather than pull, whenever feasible. Do not persist with lifting when the load is too heavy. Use a mechanical lifting aid or have a coworker assist with the lift. Rotate repetitive tasks to avoid soft-tissue fatigue.
- **Falls From Elevated Surfaces** - Protect employees from falling off surfaces that have a side or an edge that is 6 ft. or more above a lower level. Provide a safety harness and shock-absorbing lifeline or adequate fall protection where applicable. Employees must wear them when working 6 ft. or higher above the platform or main work deck. Install

either a guardrail system or fall arrest system that conforms to 29 CFR 1926.502 (d) and is approved by the American National Standards Institute.

- **Vehicles** - Obey all site traffic signs and speed limits. Seat belts must be functional and in use during operation of any site vehicles (including rentals). Operator shall regularly inspect the vehicle for defective parts, such as brakes, controls, motor, chassis and drives. Always be aware and stay alert to traffic around the work area.
- **Inclement Weather** – The project may be shut down by the SSO during the following inclement weather conditions: poor visibility; precipitation severe enough to impair safe movement or travel; lightning in the immediate area; steady winds in excess of 40 mph; or, other conditions as determined by the SSO or Corporate Safety and Health Manager. Work will resume when the conditions are deemed safe by the SSO.
- **Noise** - Wear hearing protection when speech becomes difficult to understand at a distance of 10 ft. and while standing within 20 to 25 ft. from heavy equipment, pneumatic power tools, steam cleaners, and other equipment in operation that can generate more than 85 decibels (A-weighted scale) (dB).
- **Slips, Trips, and Falls** - Clear work area of obstructions and debris before setting up. Alter work areas as necessary to provide a safe, reasonably level area. All walking and working surfaces shall continually be inspected and maintained to be free of slip, trip, and fall hazards. Keep platforms, stairs, and immediate work areas clear. Do not allow oil, grease, or excessive mud to accumulate in these areas. Eliminate slip, trip, and fall hazards or identify them clearly with caution tape, barricades, or equivalent means. Store loose or light material and debris in designated areas or containers. Secure tools, materials, and equipment subject to displacement or falling.
- **Traffic Control** - If site activities interrupt the normal flow of pedestrian or vehicular traffic, barricades and warning signs which comply with the Manual on Uniform Traffic Control Devices and/or State or local ordinances will be erected around affected equipment. Safety orange work vests will be worn by personnel working within 10 feet of any active roadway. All borings or partially completed groundwater monitoring wells will be adequately covered and/or barricaded if left unattended for any period of time.
- **Confined Spaces** – No work will be conducted within confined spaces without discussion with the Corporate Safety and Health Manager and development of a confined space safety plan and permit.

## 7.5 Biological Hazards

Biological hazards may include mosquitoes, ticks, wasps, spiders or other pests; poisonous plants (poison ivy, poison oak); snakes; thorny bushes and trees; and Potentially Infectious Medical Waste (PIMW).

### Mosquitoes

Mosquitoes bites may transmit West Nile virus. Most persons who are infected with West Nile virus will have no noticeable symptoms, or have an illness syndrome called "West Nile Fever" lasting 2-10 days. Common symptoms of West Nile Fever include headache, fever, and extreme

muscle weakness, occasionally accompanied by vomiting or skin rashes. In some cases, West Nile virus infection will cause severe neurologic disease such as meningitis, paralysis, or encephalitis (swelling and inflammation of the brain). Symptoms of West Nile meningitis or encephalitis may be intense headache, dizziness, stiff neck, marked weakness, muscle tremors, disorientation, mental confusion, or convulsions.

Workers should protect themselves from mosquito bites by applying insect repellent to exposed skin. Generally, the more active ingredient a repellent contains, the longer it can protect from mosquito bites. A higher percentage of active ingredient in a repellent does not mean that protection is better—just that it will last longer. Choose a repellent that provides protection for the amount of time that you will be outdoors. Repellents may irritate the eyes and mouth. Whenever an insecticide or insect repellent is used, workers must read and follow the manufacturer's DIRECTIONS FOR USE, as printed on the product.

Insect repellent containing diethyltoluamide (DEET) can be sprayed on skin or clothing to provide protection from mosquitoes. A repellent containing permethrin can also be sprayed on clothing. Repellents containing permethrin should not be applied directly to exposed skin. Workers should wear long-sleeved shirts and long pants whenever outdoors.

#### **Tick borne diseases**

Lyme Disease, Ehrlichiosis, Tularemia, Southern Tick-Associated Rash Illness (STARI), and Rocky Mountain Spotted Fever (RMSF) are diseases transmitted by ticks and may occur throughout the United States during spring, summer, and fall. Early diagnosis of tick borne diseases is essential to treatment of the disease.

Avoiding tick bites is the best way to reduce your risk of developing a tick-borne illness. The following personal tick bite prevention tips are recommended when exposure to a wooded or tick infested area is likely:

- Wear light colored clothing to make ticks easier to see.
- Wear long-sleeved shirts and long pants tucked into socks to deprive ticks of attachment sites.
- Check for ticks every three to four hours; particularly along waistbands, in the armpits, and groin area. Don't forget the back and the scalp!
- Use a tick repellent with DEET on skin and clothing according to the directions.
- Use a tick repellent with permethrin ON CLOTHING ONLY as directed by the label.

Additionally, workers should search the entire body every three or four hours for attached ticks. Ticks should be removed promptly and carefully without crushing. A gentle and steady pulling action should be used to avoid leaving the head or mouth parts in the skin.

#### **Stinging Insects**

To avoid stinging insects, it is important to learn what they look like and where they live. Most sting reactions are caused by five types of insects: yellow jackets, honeybees, paper wasps, hornets and fire ants. Yellow jackets are black with yellow markings, and are found in various climates. Their nests, which are made of a paper-Mache material, are usually located underground, but can sometimes be found in the walls of frame buildings, cracks in masonry or woodpiles.

Honeybees have a rounded, “fuzzy” body with dark brown coloring and yellow markings. Honeybees are non-aggressive and will only sting when provoked. However, Africanized honeybees, or so-called “killer bees” found in the southwestern United States and South and Central America, are more aggressive and may sting in swarms. Domesticated honeybees live in man-made hives, while wild honeybees live in colonies or “honeycombs” in hollow trees or cavities of buildings. Africanized honeybees may nest in holes in building frames, between fence posts, in old tires or holes in the ground, or other partially protected sites.

Paper wasps' slender, elongated bodies are black, brown, or red with yellow markings. Their nests are also made of a paper-like material that forms a circular comb of cells which opens downward. The nests are often located under eaves, behind shutters, or in shrubs or woodpiles. Hornets are black or brown with white, orange or yellow markings and are usually larger than yellow jackets. Their nests are gray or brown, football-shaped, and made of a paper material similar to that of yellow jackets' nests. Hornets' nests are usually found high above ground on branches of trees, in shrubbery, on gables or in tree hollows.

Fire ants are reddish brown to black stinging insects related to bees and wasps. They build nests of dirt in the ground that may be quite tall (18 inches) in the right kinds of soil. Fire ants may attack with little warning: after firmly grasping the victim's skin with its jaws, the fire ant arches its back as it inserts its rear stinger into the skin. It then pivots at the head and may inflict multiple stings in a circular pattern. Fire ant venom often causes an immediate burning sensation.

### **Preventing stings**

Personnel should stay out of the “territory” of the stinging insects' nests as much as possible. These insects are most likely to sting if their homes are disturbed, so it is important to have hives and nests around work areas destroyed. Since this activity can be dangerous, a trained exterminator should be hired.

If any flying stinging insects are encountered, workers should remain calm and quiet, and move slowly away from them. Many stinging insects are foraging for food. It is important to not look or smell like a flower—avoid brightly colored clothing and perfume when outdoors. Because the smell of food attracts insects, be careful when eating, or drinking sweet drinks like soda or juice outdoors. Keep food and beverages covered until consumed. Workers should avoid loose-fitting garments that can trap insects between material and skin.

### **Treating stings**

If stung by a honeybee that has left its stinger (and attached venom sac) in your skin, remove the stinger within 30 seconds to avoid receiving more venom. A quick scrape of a fingernail removes the stinger and sac. Squeezing the sac should be avoided—this forces more venom through the stinger and into the skin. Hornets, wasps, and yellow jackets do not usually leave their stingers. Try to remain calm, and brush these insects from the skin promptly with deliberate movements to prevent additional stings. Then, quietly and immediately leave the area.

If stung by fire ants, carefully brush them off to prevent repeated stings, and leave the area. Fire ant stings usually result in the development of a blister about 24 hours after the sting. The material in this will become cloudy and appear to be pustular. IT IS NOT! Fire ant venom kills bacteria, this is just dead tissue and should be left alone. It will dry and heal within the next 7 – 10 days. If the blister is opened it must be monitored for secondary bacterial infection. Diabetics and others with circulatory disorders, including varicose veins and phlebitis, can be particularly at risk for

complications, and should see a physician to monitor their condition after being stung. Up to 50% of patients develop large local reactions at the site of fire ant stings—swelling may last for several days and may be accompanied by itching, redness and pain.

Use topical steroid ointments or oral antihistamines to relieve itching. See your doctor if swelling progresses or if the sting site seems infected.

### **Poisonous Plants**

Poison ivy, poison oak or poison sumac may be present in the work area. Personnel should be alerted to the presence of these plants, and instructed on methods to prevent exposure.

The main control is to avoid contact with the plant, cover arms and hands, and use Ivy Block barrier cream on exposed skin. Particular attention must be given to avoiding skin contact with objects or protective clothing that have touched the plants. Treat every surface that may have touched the plant as contaminated, and practice contamination avoidance. If skin contact is made, the area should be washed immediately with Ivy Wipes or soap and water, and observed for signs of reddening.

Be observant for the presence of thorny bushes, plants and trees. To the extent possible these should be avoided to minimize wounds (e.g., punctures). If contact is required exercise care, wear heavy work gloves and appropriate clothing (e.g., long-sleeved shirt, long pants, work boots).

### **Snakes**

The possibility of encountering snakes exists, specifically for personnel working in heavily wooded/vegetated areas. Avoid walking in areas where snakes may nest or hide. When walking, always look ahead for signs of snakes. Employees should make as much noise as possible when approaching a possible snake area to give snakes time to leave. Use a long handled shovel, heavy equipment or other tools when moving or lifting objects that could be used by snakes as cover. Never reach under or behind objects or into other areas where snakes may hide. Look before placing your hands or feet anywhere, and do not put your hands or feet into places you cannot see. Avoid walking alone in snake-infested areas. Do not go out of your way to disturb or kill a snake. Avoid snakes – living and dead. Even dead snakes can bite reflexively.

If an employee is bitten by a snake the following actions are recommended: An attempt should be made to identify the snake. Do not try and capture or kill the snake.

The victim should be transported to the nearest hospital within 30 minutes. First aid consists of washing the area around the wound to remove any unabsorbed venom. Keep the victim calm and limit the victim's physical activity. While limiting movement of the bitten body part, keep the bitten area at the level of the heart.

Remove constricting clothing or jewelry from the bite site because swelling may occur. Remove shoes if bitten on the leg.

- Do not apply a tourniquet.
- Clean the wound if possible.
- Do not pack wound in ice or apply heat.
- Do not give the victim a sedative or alcohol.
- Do not waste time capturing or killing the snake.



- Do not cut into the bite area; you might damage important nerves, tissues or muscles

#### **Potentially Infectious Medical Waste**

PIMW is not anticipated at the site. If PIMW is anticipated or encountered the PIMW should not be touched and the area evacuated. The Terracon Safety and Health Manager should be contacted for further instructions.

### **THIS PLAN IS NOT VALID FOR SITES WITH PIMW**

## **8.0 SITE CONTROL**

An exclusion zone, contaminant reduction zone and a support zone will be established whenever project activities require Level C or Level B personal protective equipment. Defined access and egress points will be established and personnel will enter only through those points.

As permitted by site topography, the area within a 50 foot radius of a drill rig, probe unit or excavation equipment be considered the site exclusion zone. Only those personnel designated by the Project Manager/SSO are allowed to enter the Exclusion Zone. Where practical, or where their use will prevent public injury, temporary signs or barricade fencing will be established to define the Exclusion Zone. **ABSOLUTELY NO SMOKING WILL BE PERMITTED WITHIN THE EXCLUSION OR CONTAMINANT REDUCTION ZONES ON PROJECT SITES WHERE COCS INCLUDE FLAMMABLE MATERIALS (E.G., PETROLEUM).**

If unauthorized personnel attempt to enter the exclusion zone, the SSO will verbally inform the individual(s) to leave the project site. If unauthorized individuals refuse to leave the exclusion zone or are considered in danger or pose danger to project personnel, the SSO will cease project activities (i.e., shut down drill rigs, excavation equipment, etc.) and notify the client representative or the local police of the situation. Site activities will not resume until unauthorized personnel have left the project site.

## **9.0 AIR MONITORING AND SITE ACTION LEVELS**

This air monitoring protocol is designed to prevent personnel exposure to airborne contaminants in excess of established permissible exposure limits. The results of field air monitoring will be used to determine the adequacy of initial personal protective equipment selection. Air monitoring equipment required for contaminated sites with volatile COCs will include the following:

- **Photoionization Detector**

Task Leader(s) will be knowledgeable in the operation of the photoionization detector (PID). A manual on the operation of the PID and the appropriate calibration kit will be mobilized to the project site with the instrument. Photoionization detectors will be calibrated under field conditions *each day* prior to use. Task Leaders are instructed to consult the manufacturer's specifications for appropriate calibration gas and calibration techniques. It is recommended that the ionization potential of the principal known COCs be evaluated prior to site mobilization. Where required, a higher energy (11.7 or 11.8 eV) lamp should be utilized on some chlorinated solvent project sites (e.g. methylene chloride). The higher energy lamps may typically be rented for the duration of the project.

A PID will be used to determine approximate volatile vapor concentrations in the BREATHING ZONE of site personnel. Continuous breathing zone air monitoring will be conducted during initial phases of intrusive activities (i.e., boring, excavation). If PID readings are less than 10 ppm, monitoring may be conducted at intervals of 10 minutes. If initial PID readings exceed 10 ppm, or if odors (e.g., chlorinated, volatile) become evident during auger advancement, continuous breathing zone air monitoring will be conducted.

If sustained PID readings in the breathing zone exceed 25 ppm, personnel will upgrade to respiratory protection as outlined below. Personnel will remain in air purifying respirators until the photoionization detector readings in the breathing zone have fallen and stabilized below 25 ppm.

### 9.1 Site Action Levels

The following action levels will be utilized in evaluating the appropriate PPE to be used for volatile constituents:

<u>COMPOUND</u>	<u>MODIFIED LEVEL D</u>	<u>LEVEL C</u>	<u>SITE EVACUATION</u>
Chlorinated VOCs	< 10 ppm	10-50 ppm	> 50 ppm
Petroleum VOCs	< 25 ppm	>25 ppm	> 300 ppm

If organic vapors in the breathing zone of site personnel exceed the **MODIFIED LEVEL D** criteria, personnel will upgrade to full face air purifying respirators equipped with organic vapor cartridges. Personnel will remain in Level C respiratory protection until sustained breathing zone volatile vapor readings remain below the **MODIFIED LEVEL D** criteria. If organic vapor readings exceed the **SITE EVACUATION** criteria, site personnel will evacuate the area and notify the Safety and Health Manager to discuss site conditions, additional monitoring requirements, enhanced respiratory protection and modification of this Plan.

The Action Levels indicated above are for air in the breathing zone and NOT applicable to vapor above containerized soil samples. The Action Levels are established to prevent exposure to airborne petroleum hydrocarbon vapors in excess of established exposure limits. Although the Action Levels indicated for Site Evacuation are within the protective capacity of the respirator cartridges specified below, personnel will evacuate to the UPWIND side of the site if the continuous breathing zone vapor concentrations exceed these limits. The SSO will contact the Corporate Safety and Health Manager for discussion and re-evaluation of personal protective equipment and air monitoring requirements if airborne contamination exceeds Site Evacuation Action Levels. In the event that site evacuation is required, a modification of this safety and health plan will be issued with contingencies for combustible gas monitoring and upgrading to Level B personal protective equipment.

### THIS PLAN IS NOT VALID FOR LEVEL B SITE ACTIVITIES

## 10.0 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

The air monitoring regimen identified above will allow initial project activity to begin in LEVEL D. LEVEL D personal protective equipment includes the following:

- **Hard Hat**
- **Safety Footwear (ASTM spec; Impermeable or with outer impermeable covers)**
- **Nitrile or Neoprene Rubber Outer Gloves**
- **Nitrile Glove Liners**
- **Safety Eye Wear (ANSI Z-87 specification)**
- **Hearing Protection (If within 10 feet of drill rigs, concrete coring or other equipment which impairs normal conversation at < 5 feet.)**

If "saturated" potentially contaminated soils and/or potential splashing conditions develop during the course of the field activities, personnel will upgrade to LEVEL D MODIFIED personal protective equipment. Level D Modified personal protective equipment ensemble consists of the above, plus:

- **Laminated Tyvek Coveralls**
- **Tape Sleeves/Legs to Gloves and Boots**

If air monitoring exceeds Action Level specified for upgrade to LEVEL C personal protective equipment, personnel will don:

- **Full Face Air Purifying Respirator**
- **Equipped with Combination Organic Vapor/Acid Gas/HEPA Cartridges**

Respirator cartridges will be changed daily prior to start of site activity.

## **11.0 DECONTAMINATION**

Equipment decontamination is required on sites with contamination. Personnel decontamination for projects below personal protective Level C will consist of washing off safety footwear, proper cleaning or disposal of outer and inner gloves and thorough washing of face, arms and hands. For projects involving Level C personal protective equipment, a decontamination station will be established and the following procedures enforced.

### **11.1 Personal Decontamination**

Personnel will establish a decontamination station on the interface of the Exclusion Zone. A Contaminant Reduction Zone will be established and will extend 10 feet beyond from the decontamination station.

- **Two Wash Tubs**
- **Scrub Brush**
- **Plastic Bags**
- **Water and Alconox Detergent**

The wash tub on the exclusion zone side of the site will contain a solution of water and Alconox detergent; the second wash tub will contain clean rinse water. Personnel decontamination will consist primarily of detergent washing and rinsing of reusable exterior protective gear. Coveralls will be removed by turning the clothing inside out.

Personnel may not leave the contaminant reduction zone without proceeding through the decontamination sequence described below. The general decontamination sequence should be as follows:

- Wash work gloves, boots and poly-laminated protective coveralls,
- Rinse work gloves, boots and coveralls,
- Remove tape at wrists and ankles,
- Remove protective coveralls,
- Remove respirator
- Dispose of spent cartridges; wash and rinse respirator
- Remove outer gloves
- Remove inner gloves

Expendable personal protective equipment will be placed in plastic trash bags, sealed and disposed of per client agreement. Decontamination solutions will be containerized or disposed of as arranged by Project Manager.

## **11.2 Equipment Decontamination**

Decontamination of equipment will be performed to limit the migration of contaminants off-site. All equipment will be cleaned prior to site entry to remove grease, oil and encrusted soil.

Decontamination of large equipment will consist of physically removing gross contamination with shovels, brushes etc. followed by detergent and water high pressure wash with a clean water rinse. The Project Manager is responsible for determining if decontamination solutions must be containerized. If so, a decontamination sump or polyethylene sheeting and fluid containers will be mobilized and established in the decontamination area. Decontamination of hand samplers and similar small equipment will be performed at a designated location within the Contaminant Reduction Zone. Decontamination of such equipment will consist of detergent solution wash and clean water rinse.

## **11.3 Power Washer/Decontamination Safety**

The operator should wear safety glasses or a face shield at all times during use of the power washer. Caution should be used while operating the washer to ensure that all Site personnel are out of the area.

## **12.0 SITE COMMUNICATIONS**

Communication between personnel within the Exclusion Zone will be via verbal communication or hand signals. Visual contact between members of task teams should be possible throughout the course of project activities. Contact with the SSO will be through direct verbal communication. The following hand signals will be used by personnel wherever respiratory protection and/or equipment noise limit verbal communication.

### **Signal**

### **Meaning**

Thumbs Up

OK; all is well

Grab throat with both hands  
Shake head, thumbs down  
Point right (when facing equipment operator)  
Point left (when facing equipment operator)  
Grab partner's wrist

Can't breathe  
NO, negative  
Move/steer left  
Move/steer right  
Leave area immediately

### 13.0 EMERGENCY RESPONSE PROCEDURES

The facility will be checked 24 hours in advance of filed work to confirm that the medical facility is open and actively supporting emergency services. The Project Manager is responsible for obtaining and recording the following emergency information prior to site mobilization:

**Location of Nearest Telephone:** \_On-site Terracon Personnel will have a cell phone

**Nearest Hospital/Clinic:** Regional West Medical Center **Phone:** 308-635-3711

**Estimated Drive Time:** 12 minutes

**Directions From Site: (Attach a Site Diagram as an Appendix to this Plan)** \_\_\_\_\_

---

---

---

---

<b>Ambulance:</b>	<b>911</b>
<b>Fire Department:</b>	<b>911</b>
<b>Police:</b>	<b>911</b>
<b>Polson Control Center:</b>	<b>1-800-222-1222</b>
<b>WorkCare (Managed Care Provider)</b>	<b>888-449-7787</b>
<b>Project Manager:</b>	<b>402-384-7019</b>
<b>Terracon Safety and Health Manager:</b>	<b>1-913-577-0419</b>
<b>SSO:</b>	<b>402-384-7025</b>
	<b>402-290-4815 (cell)</b>

The SSO shall have a cell phone with active coverage and a backup cellphone or vehicle charger in case of battery failure.

**Client Contact:** **308-436-5096**

### **13.1 Personal Injury**

The SSO and at least one other individual on site will be appropriately trained to administer first aid and CPR. A certificate issued by the American Red Cross, National Safety Council or equivalent will be considered appropriate.

In the event of non-life threatening injuries such as minor cuts, burns, exhaustion, heat cramps, insect stings, etc., the affected employee will be removed to a safe location and appropriate first aid measures should be rendered. It is the responsibility of every employee to report all unsafe acts and incidents (equipment or facility damages as well as injury accidents) to their direct supervisor as soon as possible. Personnel who incur injuries not requiring immediate medical attention are instructed to call WorkCare at 888-449-7787. The affected supervisor will complete an Accident/Injury Investigation form within 48 hours of the incident, and forward it to their home office or enter it directly into Terracon's Automated Claims Management System. Details will be shared with the client and/or contractor as may be required by contractual agreement. A root cause analysis will be prepared by the affected Office Manager. All reports must include written recommendations of actions the office will take to prevent a recurrence of the incident.

For more serious injuries the Site Safety Officer or designee will summon an ambulance to the project site. No attempt will be made by Terracon personnel to move the victim, without the aid and/or instructions of qualified medical personnel.

Where air monitoring indicates the absence of toxic gases or vapors, the ambulance will be directed to the affected employee. If site conditions warrant and as time permits, the wheels of the ambulance will be decontaminated with high pressure wash. The SSO or designee will accompany the ambulance to the medical facility, and provide guidance concerning additional decontamination which may be required for the injured employee, ambulance or attendants.

Whenever an injury occurs on sites with contamination requiring personal protective equipment greater than Level D modified, a minimum of two employees will don appropriate equipment and proceed to the victim. An ambulance will be called immediately. If the extent of injuries permit, the injured employee will be removed to fresh air. Appropriate first aid will be administered.

If rescuer(s) assess that the victim cannot be removed without a stretcher or other specialized equipment, the victim will be removed at the earliest possible moment by appropriately attired Terracon personnel with the direction and/or assistance of qualified medical response personnel. The injured employee will be immediately decontaminated and transported to the nearest medical facility. A crew member designated by the SSO will inform the ambulance crew of contaminants of concern and provide assistance with additional decontamination if required.

### **13.2 Evacuation and Shutdown Procedures**

The SSO will establish and notify site personnel of emergency "rally" points. In the event of a site emergency, personnel will immediately exit the site and assemble at the designated rally point. Evacuation routes will be dependent on site topography and wind conditions. The routes will be selected and presented by the SSO daily prior to site activity.

If emergency evacuation becomes necessary, the SSO will sound the emergency alarm (e.g. support vehicle horn or compressed air horn). Personnel will safely shutdown all electrical and mechanical equipment and quickly proceed to closest designated rally point. The SSO will then account for each crew member on site.

In the event that a Terracon employee does not report to the designated rally point within 5 minutes of the evacuation alarm, the SSO will perform an immediate assessment of site conditions. If site conditions do not pose an immediate hazard to life or health, the SSO will initiate search and rescue efforts utilizing two crew members attired in appropriate personal protective equipment.

## **14.0 THERMAL STRESS**

### **14.1 Heat Stress**

Whenever ambient temperature exceeds 70 degrees F and personal protective equipment requirements are Level D or Level D modified, the following heat stress monitoring and preventive measures will be implemented:

- Mobilize at least one gallon of water for each field employee during each day of site activity.
- Periodically observe personnel for signs of heat stress (excessive perspiration, flushed skin, nausea, etc.).
- Move affected workers out of contaminant zones,
- Loosen protective clothing and permit them to rest
- Have conscious, affected personnel drink at least one 8 oz. glass of cool water.
- Check pulse; personnel should not return to work until pulse rate is less than 90 beats/min.

### **14.2 Heat Stress in Level C/Level B PPE**

In addition to the above precautions, the following procedures will be implemented whenever the ambient temperature exceeds 70° F and personal protective equipment requirements are Level C or above. Ambient temperature will be measured with a dry bulb thermometer and percent cloud cover will be estimated:

1.0 = No Clouds  
0.75 = 25% Clouds  
0.5 = 50% Clouds  
0.25 = 75% Clouds  
0.0 = 100% Clouds).

Calculate the adjusted temperature using the following formula:

$$\text{ADJUSTED TEMPERATURE} = 13(\% \text{ CLOUD COVER}) + \text{DRY TEMPERATURE}$$

Rest regimens will be implemented at frequencies dependent upon adjusted temperature. Monitor pulse during each rest period.



**Adjusted Temperature**

90+  
87.5-90  
82.5-87.4  
77.5-82.5  
70.5-77.4

**Rest Period/Monitoring Frequency**

After 15 minutes  
After 30 minutes  
After 60 minutes  
After 90 minutes  
After 120 minutes

Employees will return to work only after their pulse rate is below 90. Fluid replacement will be encouraged during each rest period. The use of stimulants and alcoholic beverages in off hours should be discouraged to prevent heat related illnesses.

**14.3 Cold Stress**

Persons working outdoors in low temperatures are subject to cold stress, especially if the temperature is at or below freezing. Exposure to cold for a short period of time can cause severe injury to the surface of the body (frostbite), or result in profound general cooling, potentially resulting in clinical hypothermia and death. Areas of the body with high surface to volume area, such as fingers, toes, and ears are the most susceptible. In general, the body's response to cold stress progresses from frostbite to hypothermia. Recognition of the symptoms of cold stress is essential to worker protection when operating in low temperatures.

Utilize cold weather clothing available from Terracon's personal protective equipment vendor, including thermal hardhat liners, gloves, and footwear traction devices to prevent slips and falls on slick and icy walking surfaces.

**15.0 TRAFFIC CONTROL**

Worksites confront motorists with a situation they do not expect, cannot anticipate and find confusing. They also tend to create hazards with which the driver can collide. Worksites distract motorist's attention from the driving tasks and expose workers to oncoming traffic.

Some inadequate traffic control measures that have led to worksite traffic accidents include:

- Inadequate advance warning
- Inadequate and inappropriate signs and messages
- Confusing messages
- Inadequate guidance through the work zone
- Conflicting pavement markings
- Unprotected hazard such as shoulder drop offs

Whenever project sites under Terracon control will disrupt vehicle traffic or expose Terracon personnel to the hazards of vehicle traffic, (i.e., work on an active roadway, including shoulders) adequate traffic control measures must be implemented.

Terracon's preferred method for implementing traffic control is to request that clients assume this responsibility. Where clients refuse to assume responsibility, Terracon will attempt to sub-contract the service to a reputable traffic control firm. Terracon personnel with no training or experience in traffic flagging or the placement of traffic control devices such as signs, barricades

or flashers are prohibited from engaging in traffic control operations unless directed by a trained and experienced individual.

### **Project-Specific Traffic Control Requirements**

The Project Manager will be primarily responsible for assuring that traffic control measures utilized on the various compressor station project sites (where applicable) are in accordance with Department of Transportation requirements. All Terracon personnel working within 10 feet of an active roadway will wear ANSI Class III traffic safety vests as the outermost garment. All Terracon field personnel will participate in site traffic control briefings with affected field representatives where requested.

## **16.0 MOTOR VEHICLE SAFETY**

Vehicles must be periodically inspected in accordance with Terracon motor vehicle operations policies. Any vehicle found to be unsafe shall not be operated and shall be removed from service until it can be repaired or serviced and rendered safe. Driving at the maximum posted speed limit can be too fast for safety in some situations.

Drivers shall use good judgment and proceed at a speed suitable for the conditions of the vehicle, road, traffic, and weather. Vehicles are not to be moved until all passengers are properly seated inside the vehicle. All operators and passengers must use seat belts and shoulder harnesses, if the vehicle is so equipped.

Before driving, all windows should be cleared of any materials such as frost, mud, or dew that may reduce visibility. Drivers should not engage in distracting activities while a vehicle is in motion. The vehicle should be pulled over to the side of the road and stopped when performing activities such as dialing or using a mobile telephone or taking notes. If the phone rings while driving, let the cellular voice mail service take the call and listen to the message later when you are parked.

Vehicles should be properly parked. When possible, they should be parked so that no backing is required when leaving, unless doing so creates a greater hazard. Where backing is required when leaving a location, the driver shall walk around the vehicle prior to backing and inspect the area for any potential obstructions, or use a spotter. Hazard lights shall be utilized when parking on a road shoulder. Bridge load limits should be reviewed and a preapproved route established prior to transporting heavy equipment over county road bridges.

Items carried inside the vehicle should be secured to prevent them from being thrown about in event of emergency braking or sharp maneuvers. Items that cannot be secured must be carried in an enclosed trunk or luggage compartment that is physically separated from the passenger area.

All large tools should be carried outside the cab of the vehicle and be properly secured. All fittings, tools, supplies, equipment, and other cargo carried on cargo beds or in the back of trucks must be properly secured and restrained.

## **17.0 WORK AROUND OPEN WATER**

Work around open water and boats presents an unstable surface that may lead to falls and potential for drowning or injury. The following safety precautions are required. The "buddy system"

shall be used during all sampling tasks. Within 6 feet of unguarded water more than 3 feet deep, workers will don USCG Type III, V, or better personal floatation device (PFD) with retro reflective tape worn by all personnel aboard boat at all times. The maximum capacity (weight and passenger number) of the boat shall not be exceeded at any time (this number is listed on the boat tag). Workers should be cautious when boarding and keep weight toward center of boat. Personnel will not stand in the boat when underway. All equipment must be secured to the boat or securely stowed during transit. Appropriate footwear should be worn when it is necessary to access the shoreline by wading, and nonskid footwear must be worn on board. Employees should dress appropriately for the weather (sunscreen must be worn when sunburn is a threat). The boat must always proceed at a safe speed, under control, and ready to stop within a safe distance. A ring buoy with at least 90 feet of line shall be provided and readily available for emergency rescue operations. In open water areas, at least one life saving skiff shall be immediately available.

Hip waders shall be worn when sampling in shallow waters without a boat to safe guard against stepping on a deep hole or getting stuck in the mud. A PFD should be worn with the waders if you cannot always see to bottom. Use the "buddy system" but keep some distance apart when walking from point A to point B to reduce the risk of both people at the same time stepping in a deep hole. A ring buoy with at least 90 feet of line shall be provided and readily available for emergency rescue operations. If working in a small area close to shore, secure the worker with safety line and harness with the line tended by a second person on shore.

## **MAP TO HOSPITAL**

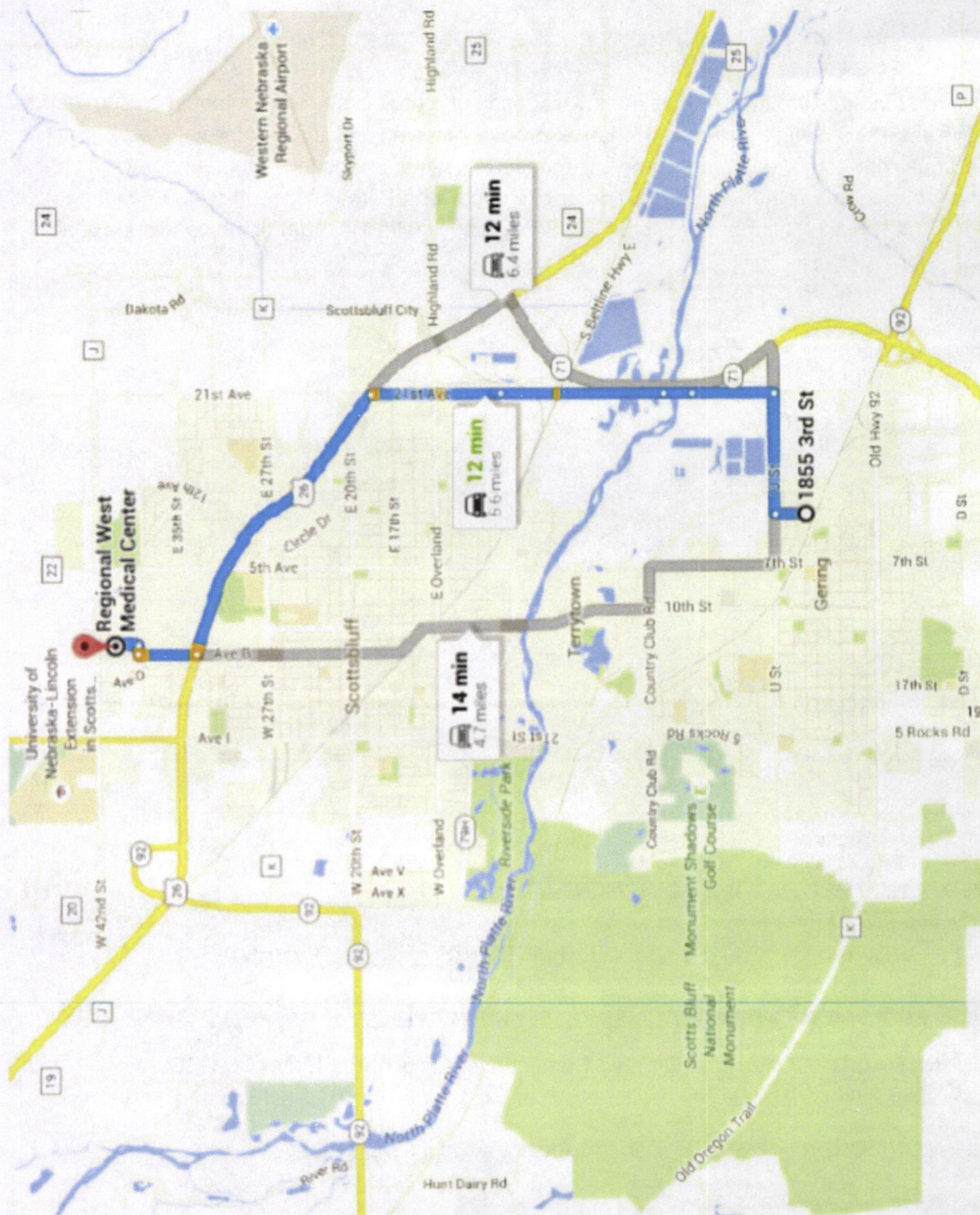


# Site Safety and Health Plan

City of Gering ■ B&T Metals

June 25, 2016 ■ Terracon Project No. 05159093

Terracon



Responsive ■ Resourceful ■ Reliable



**ACKNOWLEDGMENT OF INSTRUCTION**

I understand this project involves the investigation of a project site with potential contamination. I have read this Safety and Health Plan and have received instructions for safe work practices, personal protective equipment and air monitoring requirements. I further understand that if I encounter unanticipated contamination or site conditions I am to leave the site and immediately notify the Project Manager and Corporate Safety and Health Manager of the conditions observed.

**PROJECT NAME: B&T Metals**

**TERRACON JOB #: 05159093**

<u>Name (Please Print)</u>	<u>Signature</u>	<u>Date</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**PERSONAL PROTECTIVE EQUIPMENT UTILIZED:**

  X   LEVEL D             LEVEL D MODIFIED             LEVEL C

Safety briefing performed by: \_\_\_\_\_ Date: \_\_\_\_\_

**POTENTIAL COCs:** Volatile Organic Compounds, Chlorinated Solvents, PCBs, Poly-Aromatic Hydrocarbons, RCRA Metals

**AIR MONITORING RESULTS** (Attach separate page if required)

# **APPENDIX C**



**THE CITY OF GERING**  
**SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN (QAPP) ADDENDUM**  
**SUPERFUND SITE ASSESSMENT & SECTION 128(a) ASSESSMENT PROGRAMS**

Note: This Addendum was modified from the NDEQ's QAPP (2009) Addendum.

This Addendum supplements the Generic QAPP for Superfund Site Assessment and Section 128(a) Assessment activities (Revised June 2009) and includes documentation only for the specific site/project indicated. The Addendum is only necessary for projects with sampling requirements needed to accomplish site assessment activities.

**1. SITE NAME AND LOCATION:**

**Name:** B&T Metals

**Address or Other Location Identifier:** 1855 3<sup>rd</sup> Street

**City:** Gering **County:** Scotts Bluff **State:** Nebraska **ZIP:** 68341

**Site Point of Contact (POC) Name:** Mr. Paul Snarr **POC Email:** psnarr@gering.org

**Telephone:** 308-436-5096 **FAX:**

**Directions to Site:** West Entrance off of N. 7<sup>th</sup> Street **Map(s) attached:** Yes

**2. PROJECT MANAGEMENT AND PROJECT INFORMATION:**

**Distribution List (Check as appropriate and identify):**

- |                                                                                     |                                                                             |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Brownfield Project Manager: Paul Snarr and TCD  | <input checked="" type="checkbox"/> NDEQ Project Manager: Nancy Harris      |
| <input checked="" type="checkbox"/> Contractor Project Manager: Megan Hughes        | <input checked="" type="checkbox"/> Contractor QA Officer: Mike Hagemeister |
| <input checked="" type="checkbox"/> Contractor Assessment Coordinator: Megan Hughes | <input type="checkbox"/> EPA Brownfields Grant Manager:                     |

**2.1 Project and Task Organization (Check as appropriate and identify):**

- |                                                                                    |                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Brownfield Project Manager: Paul Snarr and TCD | <input checked="" type="checkbox"/> Contractor Assessment Coordinator: Megan Hughes |
| <input checked="" type="checkbox"/> Contractor Project Manager: Megan Hughes       | <input checked="" type="checkbox"/> Field Coordinator: Andrew Herman                |
| <input checked="" type="checkbox"/> Site Safety Officer: Andrew Herman             |                                                                                     |
| <input checked="" type="checkbox"/> Senior Technical Reviewer: Mike Reif           |                                                                                     |
| <input checked="" type="checkbox"/> NDEQ Project Manager: Nancy Harris             |                                                                                     |
| <input checked="" type="checkbox"/> Contractor QA Officer: Mike Hagemeister        |                                                                                     |
| <input type="checkbox"/> EPA Brownfields Grant Manager: deferred to NDEQ           |                                                                                     |

**2.2 Problem Definition and Background: (Check to indicate items are attached)**

- ☒ Discussion of site-specific conditions: see Phase I Environmental Site Assessment Report, dated November 16, 2015, Phase II ESA Report, Revision 1 dated June 21, 2017 (neither attached)
- ☐ Table indicating maximum concentrations detected
- ☒ Maps and Figures - in PSAP Amendment (PSAPA) ☐ Table indicating concentrations of concern
- ☐ Table indicating number and types of field and QC samples to be collected
- ☐ Discussion of laboratory deviations from latest version of EPA SOP 2440.5 (if applicable)

**2.3 Project and Task Description/Type(s) (Check as appropriate):**

- |                                                                                                                |                                                                             |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <input type="checkbox"/> Pre-CERCLIS Screening Assessment (PCSA)                                               | <input type="checkbox"/> Preliminary Assessment (PA)                        |
| <input type="checkbox"/> Combined Preliminary Assessment/Site Inspection (PA/SI)                               | <input type="checkbox"/> Abbreviated Preliminary Assessment (APA)           |
| <input type="checkbox"/> Focused Site Inspection (FSI)                                                         | <input type="checkbox"/> Site Inspection (SI)                               |
| <input type="checkbox"/> Expanded Site Inspection (ESI)                                                        | <input type="checkbox"/> Site Re-Assessment (SI-2)                          |
| <input type="checkbox"/> Section 128(a) Assessment - Phase I Investigation                                     | <input type="checkbox"/> Section 128(a) Assessment - Phase II Investigation |
| <input checked="" type="checkbox"/> Other (Specify and attach description): Section 104(k) Phase II Assessment |                                                                             |

**2.4 Quality Objectives and Criteria for Measurement Data: (Check appropriate boxes)**

**Accuracy:** ☒ According to Generic Site Assessment QAPP ☐ Identified in attached table

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

Precision	<input checked="" type="checkbox"/> According to Generic Site Assessment QAPP	<input type="checkbox"/> Identified in attached table
Representativeness:	<input checked="" type="checkbox"/> According to Generic Site Assessment QAPP	<input type="checkbox"/> Identified in attached table
Completeness:*	<input checked="" type="checkbox"/> According to Generic Site Assessment QAPP	<input type="checkbox"/> Identified in attached table
Comparability:	<input checked="" type="checkbox"/> According to Generic Site Assessment QAPP	<input type="checkbox"/> Identified in attached table

\*A completeness goal of 100 % has been established for this project. However, a site disposition may still be possible from the remaining valid data.

Critical sample locations are included in (check one):

☐ Attached Table      ☐ Attached Map      ☒ Other (Describe): PSAPA

### 2.5 Special Training/Certification Requirements: (Check appropriate boxes)

<input checked="" type="checkbox"/> OSHA 40-hour (HAZWOPER)	<input checked="" type="checkbox"/> Direct Push Probe/Geoprobe Operator
<input type="checkbox"/> Mobile GC Field Analyst	<input checked="" type="checkbox"/> In-Field XRF Operator
<input type="checkbox"/> Water Well Monitoring Supervisor and/or Technician	<input type="checkbox"/> Water Well Drilling Contractor and/or Drilling Supervisor
<input type="checkbox"/> Pump Installation Contractor and/or Supervisor	<input type="checkbox"/> Drill Rig Operator
<input type="checkbox"/> Other (specify): Asbestos Certified Technician	

### 2.6 Documentation And Records Proposed For Project: (Check appropriate boxes):

<input checked="" type="checkbox"/> Health and Safety Plan	<input checked="" type="checkbox"/> Log Book/Field Notes	<input type="checkbox"/> Drilling permit(s)
<input type="checkbox"/> Daily Tailgate Meeting Forms	<input checked="" type="checkbox"/> Field Sheets	<input checked="" type="checkbox"/> GPS Coordinates
<input checked="" type="checkbox"/> Site Maps/Figures	<input checked="" type="checkbox"/> Chain-of-Custody	<input type="checkbox"/> Licensed surveyor site map
<input checked="" type="checkbox"/> Site Sampling Map (attached)	<input checked="" type="checkbox"/> Site Photographs	<input type="checkbox"/> Calibration Records
<input type="checkbox"/> Property Access Agreement	<input type="checkbox"/> Site Videotapes	<input type="checkbox"/> ASTM Phase I ESA Requirements
<input checked="" type="checkbox"/> Property Ownership Records	<input type="checkbox"/> Utility Clearance Forms	<input checked="" type="checkbox"/> ASTM Phase II ESA Requirements
<input type="checkbox"/> Sample documentation to follow latest version of EPA Region 7 SOP 2420.5		
<input type="checkbox"/> Other Documentation (Specify):		
<input checked="" type="checkbox"/> Reports, Deliverables, or Submittals Required (Specify): Report to be prepared and issued following field work and receipt of analytical results.		

## 3. DATA GENERATION AND ACQUISITION:

### 3.1 Sampling Process Design

#### A. General Sampling Approach (Check appropriate boxes):

☐ Probability Sampling      ☒ Judgmental Sampling

#### Sampling Method:

<input type="checkbox"/> Simple Random Sampling	<input type="checkbox"/> Stratified Sampling	<input type="checkbox"/> Systematic/Grid Sampling
<input type="checkbox"/> Ranked Set Sampling	<input type="checkbox"/> Adaptive Cluster Sampling	<input type="checkbox"/> Composite Sampling
<input checked="" type="checkbox"/> Other: Per "PSAP/PSAPA"		

#### B. Screening/Definitive Sampling (Check appropriate boxes):

☐ Screening without Definitive Confirmation

☒ Screening with Definitive Confirmation. Confirmation sampling rate of 10 % of XRF field screening samples for lead in soil sampling

☒ Definitive Sampling – For Soil sampling

#### C. Biased/Judgmental Sampling:

☐ No (If No, explain the alternate sampling rationale and approach):

☒ Yes (If Yes, the following applies):

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

### EXPLAIN below: (Example Included)

The proposed sampling scheme will be a combination of judgmental and adaptive sampling as described in section 4.1 of the PSAPA. Judgmental sampling is the subjective (biased) selection of sampling locations based on available information, visual inspection, and professional judgment of the sampler in combination with previous data from the Phase II ESA, Revision 1. The adaptive sampling approach refers to the use of XRF results of an initial set of planned samples to determine additional sample locations to meet the project objectives for further horizontal and vertical delineation of lead in soil concentrations. Confirmation samples at a rate of 10% will be collected for laboratory analysis, and will be from locations/depths that represent a range of observed XRF values. Sample locations depicted in the PSAPA are approximate and subject to change based on field conditions, data and safety factors. The number of samples is approximate and subject to change based on site conditions and the size of impacted areas, study objectives, scope of work and cost constraints. Subsurface soil depths are selected to detect suspected subsurface releases and potentially identify source areas. Depth of direct push and hand auger samples is based on previously collected data and limitations of sampling equipment for conditions at the site.

### 3.2 Sample Methods Requirements (Specify all to be utilized):

Matrix	Sampling Method	Std. Operating Procedures	Sampling Equipment Proposed
<input checked="" type="checkbox"/> Soil	Sampling method will be in accordance with the described standard operating procedure (see next column)	For lab analysis, transfer samples to lab provided containers, ship samples to lab for analysis under chain of custody procedures (see PSAP and PSAPA for details) (consistent with EPA SOP 4230.3B)	Macro-core sampler used in conjunction with direct push Geoprobe equipment. Hand auger.
<input type="checkbox"/> Soil Gas			
<input type="checkbox"/> Groundwater			
<input type="checkbox"/> Surface Water			
<input type="checkbox"/> Sediment			
<input type="checkbox"/> Waste			
<input type="checkbox"/> Leachate			
<input type="checkbox"/> Air			
<input type="checkbox"/> Other (specify below):			

### 3.3 Sample Handling and Custody Requirements (Check appropriate box):

☒ In accordance with Generic QAPP and SOPs      ☒ Other (specify): Per PSAP and PSAPA

### 3.4 Analytical Methods Requirements (Check appropriate box):

☐ Identified in Attached Table    ☒ Other (Describe): Identified in PSAPA

### 3.5 Quality Control Requirements (Check all appropriate boxes):

☐ Not Applicable      ☒ In accordance with Generic QAPP  
☐ Specific requirements (state):

#### Field QC Samples to be collected:

<input type="checkbox"/> Duplicates	(frequency 1 per 10)	Prepared by: Field Crew [Groundwater only]
<input type="checkbox"/> Trip Blanks	(frequency 1 per cooler)	Prepared by: Contract Laboratory
<input type="checkbox"/> Field Blanks	(frequency 1 per 10)	Prepared by: Field Crew [Based on groundwater samples]
<input checked="" type="checkbox"/> Equipment Rinse Blanks	(frequency 2)	Prepared by: Field Personnel
<input type="checkbox"/> Split Samples	(frequency )	Splits go to:

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

- ☐ Matrix Spikes (frequency) Matrix and spike to be used:  
☐ Background Sample (frequency) Type:  
☐ Others (specify) (frequency)  
☒ Matrix Spike/Matrix Spike Duplicate: (frequency 1 per 20) Extra sample volume to be collected: None required

### 3.6 Instrument/Equipment Testing, Inspection, and Maintenance Requirements (Check appropriate box):

- ☐ Not Applicable ☒ In accordance with Generic QAPP  
☒ Specific field or laboratory equipment requirements:  
 Instrument: XRF Testing, Inspection, or Maintenance Frequency: In accordance with manufacturer's recommendations  
 Instrument: Testing, Inspection, or Maintenance Frequency:  
 Critical Spare Parts Required:

### 3.7 Instrument/Equipment Calibration and Frequency (Check appropriate box):

- ☐ Not Applicable ☒ In accordance with Generic QAPP  
☒ Specific field equipment requirements:  
 Instrument: XRF Calibration Frequency: per manufacturers recommendations  
 Instrument: Calibration Frequency:

### 3.8 Inspection/Acceptance Criteria for Supplies and Consumables (Check appropriate box):

- ☐ Not Applicable ☒ In accordance with Generic QAPP  
☐ Specific requirements (state):

### 3.9 Data Acquisition Requirements for Non-Direct Measurements (Check appropriate box):

- ☐ Not Applicable ☒ In accordance with Generic QAPP  
☐ Specific requirements (state):

### 3.10 Data Management (Check appropriate box):

- ☒ In accordance with Generic QAPP ☐ Specific requirements (state):

## 4. ASSESSMENT AND OVERSIGHT:

### 4.1A Assessment and Response Actions (Check all appropriate boxes):

- ☐ Peer Review ☒ Management Review ☐ Field Audit ☐ Lab Audit  
☐ Those pertaining to analytical phases of the project will be in accordance with Generic QAPP  
☐ Specific requirements (state):

### 4.1B Corrective Action (Check appropriate box):

- ☒ In accordance with Generic QAPP ☐ Specific requirements (state):

### 4.2 Reports to Management/Assessment Reporting (Check appropriate box):

- ☒ In accordance with Generic QAPP  
☐ In accordance with ASTM E-1527-05 Phase I Environmental Site Assessment Process  
☒ In accordance with ASTM E-1903-97 (2002) Phase II Environmental Site Assessment Process  
☒ Specific requirements (state): PSAP assessment report consistent with NDEQ Environmental Guidance Document – 2009

## 5. DATA VALIDATION AND USABILITY:

### 5.1 Data Review, Verification, and Validation Requirements (Check appropriate box):

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

☒ Data review and verification will be performed by Project Manager or QC officer delegate in accordance with Generic QAPP, with data validation conducted according to Generic QAPP

☐ Data review, validation and verification will be performed as follows with data validation conducted according to alternate methods (describe):

Field analysis utilized? (Select Yes or No) (If yes, memorandum, field analytical sheets, etc. from field analyst should be reviewed by Project Manager and/or Site QC Officer after completion of field analysis). Note: TBA *Triad Approach* requires site-specific QAPP for using field analysis.

### 5.2 Verification and Validation Methods (Check appropriate box):

☒ In accordance with Generic QAPP

☐ Specific requirements (state):

### 5.3 Reconciliation with User Requirements—Data Quality Objectives (Check appropriate box):

☒ In accordance with Generic QAPP

☐ Specific requirements (state):

## NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

### 6. APPROVAL SIGNATURES & DATES:


Note: The QAPP Addendum will not be considered complete until all of the appropriate approval signatures indicated below are obtained. If the QAPP Addendum has to be revised after signatures (some or all) were obtained, new signatures will be required to properly finalize and approve the revised QAPP Addendum.

Paul Snarr  
Brownfield Project Manager  
(name)

  
Signature

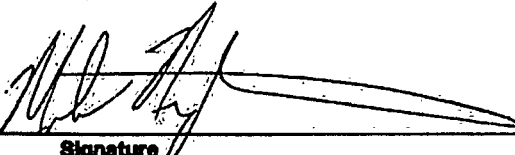
8-26-2017  
Date

Megan Hughes  
Contractor Project Manager  
(name)

  
Signature

8-28-2017  
Date

Mike Hagemeister  
Contractor QA Officer/Designee  
(name)

  
Signature

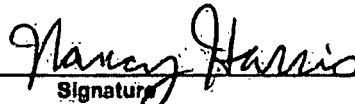
8-28-17  
Date

Megan Hughes  
Contractor Assessment Coordinator  
(name)

  
Signature

8-28-2017  
Date

Nancy Harris  
NDEQ Project Manager/Designee  
(name)

  
Signature

8-29-17  
Date

Deferred to NDEQ  
EPA Brownfields Grant Manager  
(name)

Signature

Date

**NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)**



# **APPENDIX F**



Project Name: B&T Metals  
Terracon Project No. 05177725A  
Date Photos Taken: August 31 and September 1, 2017

**Terracon**



**Photo #1** View of the geo-probe equipment, field staff, and GP-10R location (left).



**Photo #2** View of the geo-probe equipment, field staff, and GP-10R and GP-10A.



**Photo #3** View of the north stockpiles (approximately 3-foot-high pile).



**Photo #4** View of the north stock piles looking west.



**Photo #5** View of the east stock piles, approximately 4-foot-high pile.



**Photo #6** View of the south stock piles.



Project Name: B&T Metals  
Terracon Project No. 05177725A  
Date Photos Taken: August 31 and September 1, 2017

**Terracon**



**Photo #7** View of site (with vegetation & up to 12 inches of removed from site, prior to Terracon arriving on site), looking to northeast.



**Photo #8** View of approximate 8 to 12 inch cut on the site.



**Photo #9** View of several metal object observed throughout the site (on the ground surface).



**Photo #10** View of the storage building, concrete pad south, metal debris piles, and 55-gallon drums on the site.