

Phase II Environmental Site Assessment Addendum II Revision 0

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AUG 16 2018

B&T Metals
1855 3rd Street

Gering, Scotts Bluff County, Nebraska

Nebraska Dept. of Environmental Quality

By: _____ DEQ#182 _____

August 15, 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



20180055385

Environmental



Facilities



Geotechnical



Materials



August 15, 2018

City of Gering
1025 P Street
Gering, Nebraska 69341

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AUG 16 2018

Re: Phase II Environmental Site Assessment Addendum II (Revision 0)

B&T Metals
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

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 Addendum (ESA) (Revision 0), issued January 12, 2018. The addendum services were conducted to evaluate the general comments presented in a letter from the Nebraska Department of Environmental Quality (NDEQ) "Review Comments for the Supplemental Phase II Addendum", dated March 16, 2018.

The addendum services were conducted in general accordance with the PSAP Amendment II (Revision 1), dated June 6, 2018, 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.

Sincerely,
Terracon Consultants, Inc.


Megan R. Hughes
Phase II Assessment Coordinator


Michael Reif, P.E.
Senior Technical Reviewer

MRH/MBR:mrh/nlm

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TABLE OF CONTENTS

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

**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 – Summary of Detected RCRA Metal Analytes in Groundwater Samples

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

APPENDIX D - FIELD NOTES

APPENDIX E - PSAP AMENDMENT II

APPENDIX F – BORING LOGS

APPENDIX G - PHOTOLOG

EXECUTIVE SUMMARY

Phase I and Phase II Environmental Site Assessments (ESA) have been conducted for the B&T Metals facility located at 1855 3rd Street in Gering, Nebraska. The addendum report provided herein discusses the activities and results of the Property-Specific Sampling and Analysis Plan Amendment II, Revision 1 work. The Phase II ESA Addendum scope of services was developed based on a May 11th, 2018 conference call with the NDEQ, Terracon, and the City of Gering in response to the NDEQ letter “Review Comments for the Supplemental Phase II Addendum”, dated March 16, 2018. The purpose was to address the following comments:

- Further define the nature and extent of lead contamination in soil at the site in the railroad tracks area.
- Collection of several soil samples to be analyzed for lead using the synthetic precipitation leaching procedure (SPLP)
- Collect groundwater from the eastern adjoining property to evaluate if lead contamination has migrated off-site (under the assumption of groundwater flow generally to the east).

On June 18 and June 19, 2018, thirty-nine soil borings were advanced using a direct push Geoprobe® unit and a hand auger/shovel to collect shallow soil samples for total lead and lead SPLP testing analysis. In accordance with the approved work plan, soil samples were not sieved. Groundwater samples were collected from two locations for total and dissolved lead. The boring/sample locations are depicted on Exhibit 2, Appendix A.

**PHASE II ENVIRONMENTAL SITE ASSESSMENT ADDENDUM II
REVISION 0
B&T METALS
1855 3rd STREET
GERING, SCOTTS BLUFF COUNTY, NEBRASKA
EPA COOPERATIVE AGREEMENT # BF-97746301
ACRES # 206544
NDEQ IIS: 57172
NDEQ Program ID: BF00327**

**Terracon Project No. 05177725A
August 15, 2018**

1.0 INTRODUCTION

Terracon has conducted additional sampling as a second 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 II Report. The site is located at 1855 3rd Street in Gering, Nebraska. Its location is depicted on Exhibits 1 and 2 (Appendix A).

The Phase II ESA Addendum II scope of services was developed based on a May 11th, 2018 conference call with the NDEQ, Terracon, and the City of Gering in response to the NDEQ letter “Review Comments for the Supplemental Phase II Addendum”, dated March 16, 2018. The purpose was to address the following comments:

- Further define the nature and extent of lead contamination in soil at the site in the railroad tracks area.
- Collection of several soil samples to be analyzed for lead using the synthetic precipitation leaching procedure (SPLP)
- Collect groundwater from the eastern adjoining property to evaluate if lead contamination has migrated off-site (under the assumption of groundwater flow generally to the east).

2.0 SCOPE OF SERVICES

The scope of services is presented in the Property Specific Sampling and Analysis Plan Amendment II (PSAPA), Revision 1 provided in Appendix E, dated June 6, 2018.

3.0 FIELD PROCEDURES

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

3.1 Direct Push Boring Advancement

Terracon mobilized to the site on June 19, 2018. A direct push Geoprobe® unit equipped with a hydraulic head was used to perform soil sampling activities at locations CSSA3-5R and CSBA-6. The Geoprobe® unit was also utilized for the advancement of boring locations GP-11 and GP-12 located east of the site property and advanced for the purpose of collecting groundwater samples. The locations are presented in Table 1, Appendix B and Exhibit 2, Appendix A.

3.2 Hand Auger Boring Advancement

On June 18, 2018, Terracon used a hand auger and/or shovel to collect samples at locations that were not accessible to the Geoprobe® unit. The hand auger/shovel location boring designations are presented in Table 1, Appendix B and locations are depicted on Exhibit 2, Appendix A.

3.3 Soil Sampling and Testing

In accordance with the approved PSAPA, soil samples were not sieved. Readily observable and removable metal debris was excluded from the samples as practical.

The soil samples were collected at sampling depths shown in Table 1, Appendix B. The soil samples were collected, placed in labeled zip lock bags, 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.

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 Fort Collins, Colorado office following field tasks for overnight storage. Samples selected for laboratory analysis were containerized into 4-oz glass jars and 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 Groundwater Sampling and Testing

Groundwater samples were collected from two boring locations (GP-11 and GP-12). Groundwater sample locations were selected on the east adjoining property, down-gradient of

the site. Groundwater samples were generally collected just below the water table. Groundwater samples were collected utilizing a Geoprobe® SP-16 groundwater sampling apparatus that was driven below the water table. The groundwater samples were collected using new single-use disposable tubing equipped with a foot valve.

The depth to groundwater was measured inside the probe rods with an electronic water level indicator. The depth to groundwater measurements are recorded in the individual boring logs located in Appendix F.

Water samples were transferred to laboratory-supplied containers for later analytical testing in accordance with the table below.

**TABLE 1
SUMMARY OF GROUNDWATER SAMPLES COLLECTED**

Analyte	Laboratory Method	Container Size / Number	Preservative	0.45 Micron Filtration	# of Samples
Lead (Dissolved)	6020A	250 ml polyethylene bottle	HNO ₃	Yes	4
Lead (Total)	6020A	250 ml polyethylene bottle	HNO ₃	No	4

Notes:

HNO₃ = Nitric Acid

The groundwater samples were kept cool (stored at or below 4°C) in insulated coolers containing ice during periods of field work and transporting. A temperature blank accompanied each cooler. The samples were placed in refrigeration upon reaching Terracon’s Ft. Collins, Colorado office following field tasks for overnight storage. Samples 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.

3.5 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 and shovel were cleaned between sampling locations 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

Thirty-nine (39) discrete samples were submitted to the laboratory for analysis. A total of 17 samples were submitted for total lead analysis (Method 6010B) and 22 samples were submitted for lead in the SPLP extract/leachate by Method 6010C. The laboratory report has been included in Appendix C and the laboratory results are summarized in Table 1, Appendix B.

From the 17 samples submitted for total lead analysis four samples exceed the NDEQ VCP RG for residential properties. Site-specific soil remediation criteria based on SPLP extract/leachate results have not been established.

4.2 Groundwater

Groundwater samples were collected from two boring locations (GP-11 and GP-12). Laboratory analytical results are summarized in Table 2 of Appendix B. Included in this table are regulatory action or guidance level comparison concentrations taken from the Nebraska Voluntary Cleanup Program Remediation Goals (NE VCP RGs) for comparison to reported values. Comparisons to the reference concentrations provide an indication of the significance of the detected analytes, but do not necessarily indicate a requirement for cleanup. Total lead and dissolved lead were reported below the NE VCP RGs in the groundwater samples collected from boring locations GP-11 and GP-12. The groundwater results are summarized on the table below:

**TABLE 2
 SUMMARY OF GROUNDWATER RESULTS**

Location	Date	Depth to Groundwater (feet)	Lead (Total) mg/L	Lead (Dissolved) mg/L
GP-11	6/19/2018	14.0	0.0047	<0.0005
GP-12 (Total)	6/19/2018	10.0	0.0031	<0.0005

Notes:
 mg/L = milligram per liter

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 PSAPA/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 PSAPA/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. Duplicate soil samples were not collected. One duplicate groundwater sample was collected for laboratory analysis. Results of the blind duplicate (GP-B) are summarized along with the duplicate's corresponding sample: GP-12. The laboratory duplicate sample was reported inside the control limits.

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 the matrix spike duplicate sample for laboratory batch 207107 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.

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 PSAPA/PSAPA.

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 and groundwater 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. 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 DEVIATIONS FROM THE PSAP AMENDMENT

Deviations from the PSAPA II were not reported.

8.0 REFERENCES

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

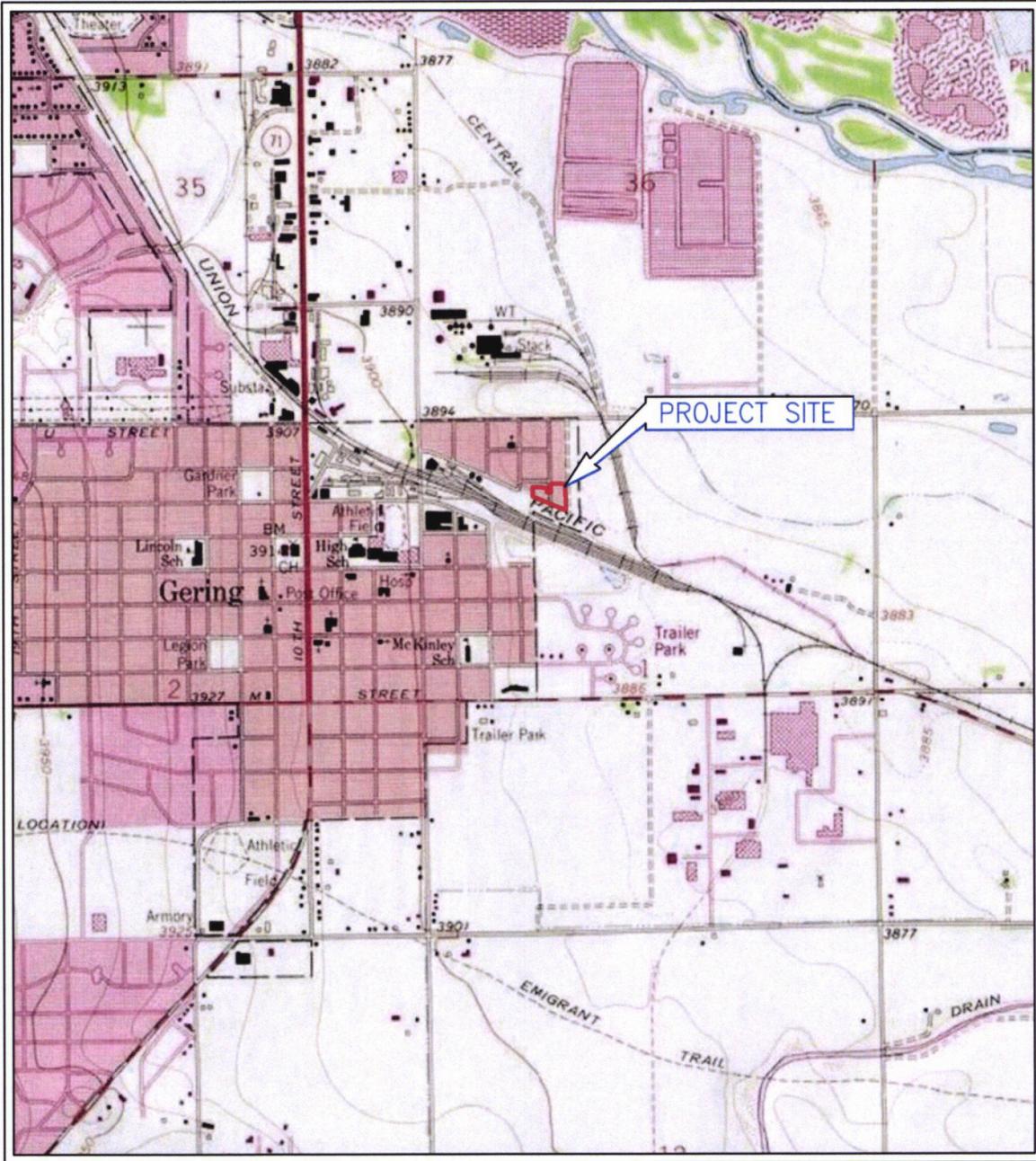
- Property-Specific Sampling and Analysis Plan Amendment II (revision 1), dated June 6, 2018.

11.0 GENERAL COMMENTS

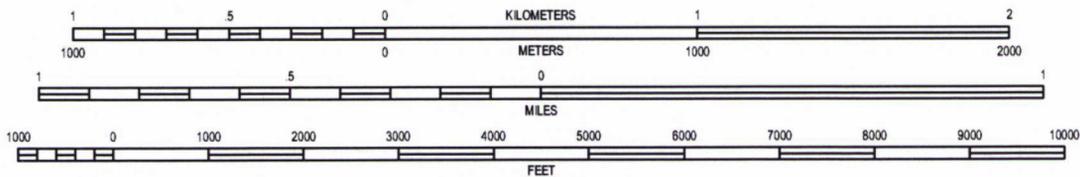
The analysis and opinions expressed in this report are based upon the data obtained from the indicated soil borings advanced at the indicated locations and from other information discussed in this report. This report does not reflect any variations in contaminant distribution which may occur beyond or 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



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

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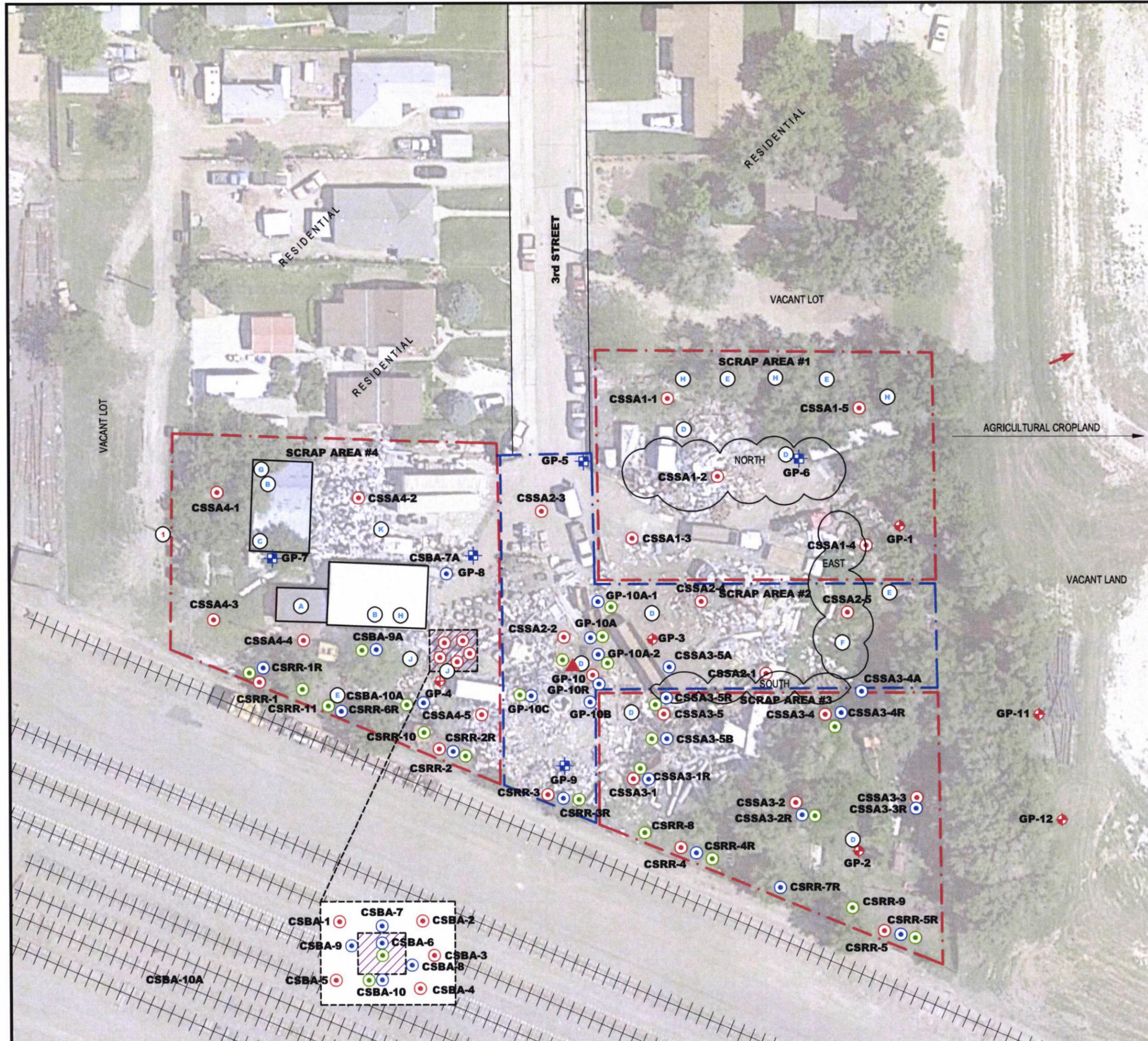
TOPOGRAPHIC / LOCATION MAP

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) OUT-OF-SERVICE HAND PUMP (CONNECTED TO CITY WATER)
- (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

- GP-2 ⬇️ TEMPORARY WELL GEOPROBE LOCATION SOIL & GROUNDWATER
- GP-6 ⬆️ GEOPROBE LOCATION SOIL & GROUNDWATER
- GP-10 ⬆️ GEOPROBE LOCATION SOIL ONLY
- CSSA1 ○ COMPOSITE SAMPLES SCRAP AREA #1
- CSSA2 ○ COMPOSITE SAMPLES SCRAP AREA #2
- CSSA3 ○ COMPOSITE SAMPLES SCRAP AREA #3
- CSSA4 ○ COMPOSITE SAMPLES SCRAP AREA #4
- CSBA ○ COMPOSITE SAMPLES BATTERY STORAGE AREA
- CSRR ○ COMPOSITE SAMPLES RAILROAD TRACKS
- SOIL SAMPLE COLLECTED 8/31-9/1/17
- SOIL PILES
- SOIL SAMPLE COLLECTED 6/18-6/19/18

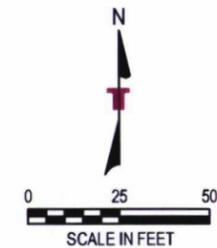


IMAGE SOURCE: GOOGLE EARTH PRO, 2014

DESIGNED BY: MRH	PAI	AS SHOWN	8/8/18	0517725A	0517725AC03	2
DRAWN BY: PAI	MEH	DATE:		JOB NO.:	ACAD NO.:	EXHIBIT:
APP'D BY:						

SAMPLING LOCATION DIAGRAM

B & T METALS
1655 3rd STREET

GERING NEBRASKA

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REV	DATE	BY	DESCRIPTION

APPENDIX B

**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)	SPLP ³ Lead (mg/l)
Boring Location GP-10 Area Samples											
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"	6/18/2018	1:20:00 PM	41.82752, -103.64987	H	top soil	brown				0.164
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"	6/18/2018	1:20:00 PM	41.82752, -103.64987	H	top soil	brown				0.180
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	3-6"	6/18/2018	1:30:00 PM	41.82748, -103.64987	H	silt with sand	light brown				<0.100
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	0-2"	6/18/2018	1:15:00 PM	41.82748, -103.64987	H	top soil with debris	brown				0.147
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, -103.64995	G	top soil	brown	12.5	19 +/- 2	32	
GP-10C	0-2"	6/18/2018	1:00:00 PM	41.82749, -103.64995	H	top soil	brown				0.262
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		
GP-10C	7-12"	8/31/2017	10:17:00 AM	41.82749, -103.64995	G	silt with sand	light brown		11 +/- 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)	SPLP ³ Lead (mg/l)
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		
Scrap Area 3 Samples											
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	0-2"	6/18/2018	2:45:00 PM	41.82739, -103.64981	H	top soil with debris	brown				0.566
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	3-6"	6/18/2018	4:55:00 PM	41.82730, -103.64958	H	top soil with debris	brown				0.176
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	0-2"	6/18/2018	3:25:00 PM	41.82738, -103.64957	H	top soil with debris	brown				<0.100
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	3-6"	6/18/2018	3:27:00 PM	41.82738, -103.64957	H	silt with sand	light brown				<0.100
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 organic	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"	6/18/2018	4:50:00 PM	41.82740, -103.64948	H	top soil	brown				0.439
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 organic	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 organic	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	3-6"	6/18/2018	2:40:00 PM	41.82738, -103.64975	H						0.148
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		
CSSA3-5R	7-12"	8/31/2017	11:08:00 AM	41.82746, -103.64974	G	top soil with debris	brown		104 +/- 5		

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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 Collection Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)	SPLP ³ Lead (mg/l)
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	19-24"	6/19/2018	11:00:00 AM	41.82746, -103.64974	G	silt with sand	light brown				<0.100
CSSA3-5R	25-30"	8/31/2017	11:11:00 AM	41.82746, -103.64974	G	silt with sand	light brown		12 +/- 2		
Concrete Battery Storage Pad Area Samples											
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	8-16"	6/19/2018	10:40:00 AM	41.82751, -103.65015	G	top soil with clay	brown				<0.100
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	17-22"	6/19/2018	10:42:00 AM	41.82751, -103.65015	G	top soil with clay	brown				<0.100
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-7A	7-12"	6/18/2018	4:10:00 PM	41.82759, -103.65012	H	silt with sand	light brown				1.97
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	0-2"	6/18/2018	11:45:00 AM	41.82750, -103.65027	H	top soil with debris	brown				<0.100
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	0-2"	6/18/2018	12:30:00 PM	41.82747, -103.65018	H	top soil with debris	brown				0.169
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	7-12"	6/18/2018	12:30:00 PM	41.82747, -103.65018	H	top soil	brown				0.733
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		

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1855 3RD STREET
GERING, NEBRASKA
TERRACON PROJECT NO.05177725A**

Sample Name	Sample Interval (inches below grade)	Collection Date	Time	GPS Location	Sample Collection Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)	SPLP ³ Lead (mg/l)
CSBA-10A	7-12"	6/18/2018	11:55:00 AM	41.82742, -103.65020	H	top soil with debris	brown				0.139
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	
Railroad Track Area Samples											
CSRR-1R	0-2"	8/31/2017	3:22:00 PM	41.82750, -103.65047	H	top soil	brown		52 +/- 3		
CSRR-1R	0-2"	6/18/2018	4:30:00 PM	41.82750, -103.65047	H	top soil	brown	16.9		147	
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-2R	7-12"	6/18/2018	12:50:00 PM	41.82741, -103.65016	H	silt with sand	light brown				<0.100
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	0-2"	6/18/2018	3:05:00 PM	41.82736, -103.64996	H	top soil with debris	brown	16.4		1040	
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	3-6"	6/18/2018	3:06:00 PM	41.82736, -103.64996	H	silt with sand	light brown				0.243
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	0-2"	6/18/2018	3:15:00 PM	41.82736, -103.64970	H	top soil	brown	9.8		125	
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	0-2"	6/18/2018	3:30:00 PM	41.82715, -103.64941	H	top soil	brown	13.5		135	
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	0-2"	6/18/2018	12:00:00 PM	41.82745, -103.65032	H	top soil with debris	brown				0.230
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	3-6"	6/18/2018	12:00:00 PM	41.82745, -103.65032	H	top soil with debris	brown	14.9		679	
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		
CSRR-8	0-2"	6/18/2018	3:00:00 PM	41.82719, -103.64986	H	silt with sand	light brown	5.7		95.9	
CSRR-8	3-6"	6/18/2018	3:02:00 PM	41.82719, -103.64986	H	silt with sand	light brown	5.4		40.4	
CSRR-8	7-12"	6/18/2018	3:04:00 PM	41.82719, -103.64986	H	silt with sand	light brown	6.3		214	
CSRR-9	0-2"	6/18/2018	3:35:00 PM	41.82719, -103.64948	H	silt with sand	light brown	10.9		89.1	
CSRR-9	3-6"	6/18/2018	3:36:00 PM	41.82719, -103.64948	H	silt with sand	light brown	4.1		41.6	
CSRR-9	7-12"	6/18/2018	3:37:00 PM	41.82719, -103.64948	H	silt with sand	light brown	3.8		68.1	
CSRR-10	0-2"	6/18/2018	12:15:00 PM	41.82739, -103.65020	H	silt with sand	light brown	10.5		367	
CSRR-10	3-6"	6/18/2018	12:15:00 PM	41.82739, -103.65020	H	silt with sand	light brown	6.9		388	
CSRR-10	7-12"	6/18/2018	12:15:00 PM	41.82739, -103.65020	H	sand	light brown	6.5		173	
CSRR-11	0-2"	6/18/2018	4:35:00 PM	41.82746, -103.65045	H	silt and sand	light-dark brown	12.1		731	
CSRR-11	3-6"	6/18/2018	4:36:00 PM	41.82746, -103.65045	H	silt and sand	light-dark brown	10.5		585	
CSRR-11	7-12"	6/18/2018	4:37:00 PM	41.82746, -103.65045	H	silt and sand	light-dark brown	3.6		193	
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		

**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)	SPLP ³ Lead (mg/l)
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	2110	
South Stock Piles	Composite	9/5/2017	10:56:00 AM		H	top soil with debris	brown		601 +/- 13		
South Stock Piles	Composite	9/5/2017	10:57:00 AM		H	top soil with debris	brown		674 +/- 15		
¹ NDEQ VCP RG - Residential Direct Contact Exposure Pathway									400	400	
² 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

Green highlight represents the addition of the most recent analytical data- 6/18/2018 and 6/19/2018

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

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

³ Synthetic Precipitation Leaching Procedure

Table 2
SUMMARY OF DETECTED RCRA METAL ANALYTES IN GROUNDWATER SAMPLES
B and T Metals
1855 3rd Street
Gering, Scotts Bluff County, Nebraska
Terracon Project No. 24159093 / 05159093/05177725A

Sample I.D. / Boring Number	Sample Collection Date	RCRA Dissolved (mg/L)							
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Silver	Selenium
GP-1	10/6/2016	0.0554	0.0837	<0.0005	<0.005	0.00987	<0.0002	<0.001	<0.005
GP-2	10/6/2016	0.0240	0.0831	<0.0005	<0.005	<0.005	<0.0002	<0.001	<0.0250
GP-3	10/6/2016	0.0219	0.0598	<0.0005	<0.005	0.000778	<0.0002	<0.001	<0.005
GP-A (GP-3 Duplicate)	10/6/2016	0.0221	0.0651	<0.0005	<0.005	0.00163	<0.0002	<0.001	<0.005
GP-4	10/6/2016	0.00974	0.0699	<0.0005	<0.005	0.000843	<0.0002	<0.001	0.00542
GP-5	10/6/2016	0.00423	0.055	<0.0005	<0.005	<0.0005	<0.0002	<0.001	<0.005
GP-6	10/6/2016	0.00489	0.067	<0.0005	<0.005	<0.0005	<0.0002	<0.001	<0.005
GP-7	10/6/2016	0.00291	0.163	<0.0005	<0.005	0.00103	<0.0002	<0.001	<0.005
GP-8	10/6/2016	0.0185	0.143	0.000601	0.00898	0.0344	<0.0002	<0.001	<0.005
GP-9	10/6/2016	0.00313	0.133	<0.0005	<0.005	0.0126	<0.0002	<0.00100	<0.005
GP-11	6/19/2018	NT	NT	NT	NT	<0.0005	NT	NT	NT
GP-12	6/19/2018	NT	NT	NT	NT	<0.0005	NT	NT	NT
GP-B (Duplicate GP-12)	6/19/2018	NT	NT	NT	NT	<0.0005	NT	NT	NT
Trip Blank (C13)	10/5/2016	NT	NT	NT	NT	NT	NT	NT	NT
Field Blank	10/6/2016	<0.00200	<0.00200	<0.0005	<0.005	0.000871	<0.0002	<0.001	<0.005
Equipment Blank	10/6/2016	<0.00200	<0.00200	<0.0005	<0.005	<0.0005	<0.0002	<0.001	<0.005
Equipment Blank (EB-1)	6/19/2018	NT	NT	NT	NT	<0.0005	NT	NT	NT
Trip Blank (8-J)	10/5/2016	NT	NT	NT	NT	NT	NT	NT	NT
Trip Blank (17-C)	10/5/2016	NT	NT	NT	NT	NT	NT	NT	NT
¹ NE-VCP RGs		0.05	2	0.005	0.1	0.015	0.002	0.1 ²	0.05

Notes:

Metals analysis by Method 6010C, except Arsenic by Method 7010 and Mercury by Method 7471B.

Bold results indicate sample laboratory result exceeded NDEQ action level.

NT = Compound was not tested for that particular sample.

< indicates less than

Green highlight represents the addition of the most recent analytical data - 6/19/2018

This table summarizes analytes where a positive detection was reported. Refer to the laboratory reports in Appendix D for a list of parameters in the analysis suite.

mg/L = milligrams per liter

¹Nebraska Voluntary Clean-Up Program (VCP) Remediation Goals (RG) - Groundwater

² Silver and Compounds

Table 2
SUMMARY OF DETECTED RCRA METAL ANALYTES IN GROUNDWATER SAMPLES
B and T Metals
1855 3rd Street
Gering, Scotts Bluff County, Nebraska
Terracon Project No. 24159093 / 05159093/05177725A

Sample I.D. / Boring Number	Sample Collection Date	RCRA Total (mg/L)							
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Silver	Selenium
GP-1	10/6/2016	0.0975	1.01	0.00549	<0.005	0.00252	<0.0002	<0.001	<0.0250
GP-2	10/6/2016	0.0589	0.352	0.00919	0.00544	0.213	0.000551	<0.001	<0.0250
GP-3	10/6/2016	0.0527	0.296	0.0109	0.00633	0.118	0.000743	<0.001	<0.0250
GP-A (GP-3 Duplicate)	10/6/2016	0.057	0.319	0.0133	0.0097	0.278	0.000604	<0.001	<0.0250
GP-4	10/6/2016	0.0346	0.276	0.0076	<0.005	0.0413	<0.0002	<0.001	<0.0250
GP-5	10/6/2016	0.0361	0.376	0.00448	0.023	0.0423	<0.0002	<0.001	<0.0250
GP-6	10/6/2016	0.0377	0.266	0.00288	0.0438	0.0944	<0.0002	<0.001	<0.0250
GP-7	10/6/2016	0.00511	1.12	0.00427	0.00896	0.00441	0.000216	<0.001	<0.0250
GP-8	10/6/2016	0.0347	0.23	0.00206	0.0179	0.0858	<0.0002	<0.001	<0.0250
GP-9	10/6/2016	0.0209	0.552	0.00507	0.036	0.00733	<0.0002	<0.001	<0.0250
GP-11	6/19/2018	NT	NT	NT	NT	0.0047	NT	NT	NT
GP-12	6/19/2018	NT	NT	NT	NT	0.00305	NT	NT	NT
GP-B (Duplicate GP-12)	6/19/2018	NT	NT	NT	NT	0.00176	NT	NT	NT
Trip Blank (C13)	10/5/2016	NT	NT	NT	NT	NT	NT	NT	NT
Field Blank	10/6/2016	<0.00200	<0.00200	<0.0005	<0.005	<0.0005	<0.0002	<0.001	<0.005
Equipment Blank	10/6/2016	<0.00200	<0.00200	<0.0005	<0.005	0.00052	<0.0002	<0.001	<0.005
Equipment Blank (EB-1)	6/19/2018	NT	NT	NT	NT	<0.0005	NT	NT	NT
Trip Blank (8-J)	10/5/2016	NT	NT	NT	NT	NT	NT	NT	NT
Trip Blank (17-C)	10/5/2016	NT	NT	NT	NT	NT	NT	NT	NT
¹ NE-VCP RGs		0.05	2	0.005	0.1	0.015	0.002	100 ²	0.05

Notes:

Metals analysis by Method 6010C, except Arsenic by Method 7010 and Mercury by Method 7471B.

Bold results indicate sample laboratory result exceeded NDEQ action level.

NT=Compound was not tested for that particular sample.

< indicates less than

This table summarizes analytes where a positive detection was reported. Refer to the laboratory reports in Appendix D for a list of parameters in the analysis suite.

mg/L = milligrams per liter

¹Nebraska Voluntary Clean-Up Program (VCP) Remediation Goals (RG) - Groundwater

² Silver and Compounds

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: 310-132859-1
TestAmerica Sample Delivery Group: 05177725A
Client Project/Site: B&T Metals
Revision: 1

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

Attn: Megan Hughes



Authorized for release by:
6/29/2018 5:42:42 PM

Shawn Hayes, Senior Project Manager
(319)229-8211
shawn.hayes@testamericainc.com

LINKS

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results through
Total Access

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 **Ask
The
Expert**

Visit us at:
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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	9
Definitions	48
QC Sample Results	49
QC Association	51
Chronicle	55
Certification Summary	63
Method Summary	64
Chain of Custody	65
Receipt Checklists	71

Case Narrative

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Job ID: 310-132859-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative 310-132859-1

Comments

No additional comments.

Receipt

The samples were received on 6/20/2018 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 9.8° C and 15.2° 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

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: 310-132859-1
 SDG: 05177725A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-132859-1	CSRR-11 (0-2)	Soil	06/18/18 16:35	06/20/18 10:00
310-132859-2	CSRR-11 (3-6)	Soil	06/18/18 16:36	06/20/18 10:00
310-132859-3	CSRR-11 (7-12)	Soil	06/18/18 16:37	06/20/18 10:00
310-132859-4	GP-10A (0-2)	Soil	06/18/18 13:20	06/20/18 10:00
310-132859-5	GP-10A (3-6)	Soil	06/18/18 13:20	06/20/18 10:00
310-132859-6	GP-10A-1 (3-6)	Soil	06/18/18 13:30	06/20/18 10:00
310-132859-7	GP-10A-2 (0-2)	Soil	06/18/18 13:15	06/20/18 10:00
310-132859-8	GP-10C (0-2)	Soil	06/18/18 13:00	06/20/18 10:00
310-132859-9	CSSA3-1R (0-2)	Soil	06/18/18 14:45	06/20/18 10:00
310-132859-10	CSSA3-2 (3-6)	Soil	06/18/18 16:55	06/20/18 10:00
310-132859-11	CSSA3-2R (0-2)	Soil	06/18/18 15:25	06/20/18 10:00
310-132859-12	CSSA3-2R (3-6)	Soil	06/18/18 15:27	06/20/18 10:00
310-132859-13	CSSA3-4R (0-2)	Soil	06/18/18 16:50	06/20/18 10:00
310-132859-14	CSSA3-5B (3-6)	Soil	06/18/18 14:40	06/20/18 10:00
310-132859-15	CSSA3-5R (19-24)	Soil	06/19/18 11:00	06/20/18 10:00
310-132859-16	CSRR-5R (0-2)	Soil	06/18/18 15:30	06/20/18 10:00
310-132859-17	CSRR-6R (0-2)	Soil	06/18/18 12:00	06/20/18 10:00
310-132859-18	CSRR-6R (3-6)	Soil	06/18/18 12:00	06/20/18 10:00
310-132859-19	CSRR-8 (0-2)	Soil	06/18/18 15:00	06/20/18 10:00
310-132859-20	CSRR-8 (3-6)	Soil	06/18/18 15:02	06/20/18 10:00
310-132859-21	CSRR-8 (7-12)	Soil	06/18/18 15:04	06/20/18 10:00
310-132859-22	CSRR-9 (0-2)	Soil	06/18/18 15:35	06/20/18 10:00
310-132859-23	CSRR-9 (3-6)	Soil	06/18/18 15:36	06/20/18 10:00
310-132859-24	CSRR-9 (7-12)	Soil	06/18/18 15:37	06/20/18 10:00
310-132859-25	CSRR-10 (0-2)	Soil	06/18/18 12:15	06/20/18 10:00
310-132859-26	CSRR-10 (3-6)	Soil	06/18/18 12:15	06/20/18 10:00
310-132859-27	CSRR-10 (7-12)	Soil	06/18/18 12:15	06/20/18 10:00
310-132859-28	CSBA-6 (8-16)	Soil	06/19/18 10:40	06/20/18 10:00
310-132859-29	CSBA-6 (17-22)	Soil	06/19/18 10:42	06/20/18 10:00
310-132859-30	CSBA-7A (7-12)	Soil	06/18/18 16:10	06/20/18 10:00
310-132859-31	CSBA-9A (0-2)	Soil	06/18/18 11:45	06/20/18 10:00
310-132859-32	CSBA-10 (0-2)	Soil	06/18/18 12:30	06/20/18 10:00
310-132859-33	CSBA-10 (7-12)	Soil	06/18/18 12:30	06/20/18 10:00
310-132859-34	CSBA-10A (7-12)	Soil	06/18/18 11:55	06/20/18 10:00
310-132859-35	CSRR-1R (0-2)	Soil	06/18/18 16:30	06/20/18 10:00
310-132859-36	CSRR-2R (7-12)	Soil	06/18/18 12:50	06/20/18 10:00
310-132859-37	CSRR-3R (0-2)	Soil	06/18/18 15:05	06/20/18 10:00
310-132859-38	CSRR-3R (3-6)	Soil	06/18/18 15:06	06/20/18 10:00
310-132859-39	CSRR-4R (0-2)	Soil	06/18/18 15:15	06/20/18 10:00

Detection Summary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-11 (0-2)

Lab Sample ID: 310-132859-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	731		8.80		mg/Kg	2	☒	6010C	Total/NA

Client Sample ID: CSRR-11 (3-6)

Lab Sample ID: 310-132859-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	585		8.31		mg/Kg	2	☒	6010C	Total/NA

Client Sample ID: CSRR-11 (7-12)

Lab Sample ID: 310-132859-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	193		3.96		mg/Kg	1	☒	6010C	Total/NA

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

Lab Sample ID: 310-132859-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.164		0.100		mg/L	1		6010C	SPLP West

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

Lab Sample ID: 310-132859-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.180		0.100		mg/L	1		6010C	SPLP West

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

Lab Sample ID: 310-132859-6

No Detections.

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

Lab Sample ID: 310-132859-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.147		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: GP-10C (0-2)

Lab Sample ID: 310-132859-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.262		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSSA3-1R (0-2)

Lab Sample ID: 310-132859-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.566		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSSA3-2 (3-6)

Lab Sample ID: 310-132859-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.176		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSSA3-2R (0-2)

Lab Sample ID: 310-132859-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Lab Sample ID: 310-132859-12

No Detections.

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

Lab Sample ID: 310-132859-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.439		0.100		mg/L	1		6010C	SPLP West

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

Lab Sample ID: 310-132859-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.148		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSSA3-5R (19-24)

Lab Sample ID: 310-132859-15

No Detections.

Client Sample ID: CSRR-5R (0-2)

Lab Sample ID: 310-132859-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	135		4.51		mg/Kg	1	*	6010C	Total/NA

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

Lab Sample ID: 310-132859-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.230		0.100		mg/L	1		6010C	SPLP West

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

Lab Sample ID: 310-132859-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	679		8.76		mg/Kg	2	*	6010C	Total/NA

Client Sample ID: CSRR-8 (0-2)

Lab Sample ID: 310-132859-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	95.9		3.95		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-8 (3-6)

Lab Sample ID: 310-132859-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	40.4		3.90		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-8 (7-12)

Lab Sample ID: 310-132859-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	214		4.18		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-9 (0-2)

Lab Sample ID: 310-132859-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	89.1		4.68		mg/Kg	1	*	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-9 (3-6)

Lab Sample ID: 310-132859-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	41.6		3.72		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-9 (7-12)

Lab Sample ID: 310-132859-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	68.1		4.02		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-10 (0-2)

Lab Sample ID: 310-132859-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	367		4.90		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-10 (3-6)

Lab Sample ID: 310-132859-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	388		4.40		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-10 (7-12)

Lab Sample ID: 310-132859-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	173		4.13		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSBA-6 (8-16)

Lab Sample ID: 310-132859-28

No Detections.

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

Lab Sample ID: 310-132859-29

No Detections.

Client Sample ID: CSBA-7A (7-12)

Lab Sample ID: 310-132859-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.97		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSBA-9A (0-2)

Lab Sample ID: 310-132859-31

No Detections.

Client Sample ID: CSBA-10 (0-2)

Lab Sample ID: 310-132859-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.169		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSBA-10 (7-12)

Lab Sample ID: 310-132859-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.733		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSBA-10A (7-12)

Lab Sample ID: 310-132859-34

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls

Detection Summary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-10A (7-12) (Continued)

Lab Sample ID: 310-132859-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.139		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSRR-1R (0-2)

Lab Sample ID: 310-132859-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	147		4.95		mg/Kg	1	*	6010C	Total/NA

Client Sample ID: CSRR-2R (7-12)

Lab Sample ID: 310-132859-36

No Detections.

Client Sample ID: CSRR-3R (0-2)

Lab Sample ID: 310-132859-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	1040		16.7		mg/Kg	4	*	6010C	Total/NA

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

Lab Sample ID: 310-132859-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.243		0.100		mg/L	1		6010C	SPLP West

Client Sample ID: CSRR-4R (0-2)

Lab Sample ID: 310-132859-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	125		4.60		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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-11 (0-2)

Lab Sample ID: 310-132859-1

Date Collected: 06/18/18 16:35

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	731		8.80		mg/Kg	*	06/21/18 08:00	06/22/18 15:03	2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.1		0.1		%			06/20/18 15:27	1
Percent Solids	87.9		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-11 (3-6)

Lab Sample ID: 310-132859-2

Date Collected: 06/18/18 16:36

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	585		8.31		mg/Kg	*	06/21/18 08:00	06/22/18 15:08	2
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.5		0.1		%			06/20/18 15:27	1
Percent Solids	89.5		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-11 (7-12)

Date Collected: 06/18/18 16:37

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-3

Matrix: Soil

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	193		3.96		mg/Kg	*	06/21/18 08:00	06/21/18 22:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.6		0.1		%			06/20/18 15:27	1
Percent Solids	96.4		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 13:20

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-4

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.164		0.100		mg/L		06/25/18 09:01	06/25/18 17:41	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 13:20

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-5

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.180		0.100		mg/L		06/25/18 09:01	06/25/18 17:47	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 13:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-6

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/25/18 09:01	06/25/18 17:49	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 13:15

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-7

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.147		0.100		mg/L		06/25/18 09:01	06/25/18 17:51	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: GP-10C (0-2)

Date Collected: 06/18/18 13:00

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-8

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.262		0.100		mg/L		06/25/18 09:01	06/25/18 17:52	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSSA3-1R (0-2)

Date Collected: 06/18/18 14:45

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-9

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.566		0.100		mg/L		06/25/18 09:01	06/25/18 17:58	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSSA3-2 (3-6)

Lab Sample ID: 310-132859-10

Date Collected: 06/18/18 16:55

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.176		0.100		mg/L		06/25/18 09:01	06/25/18 18:00	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSSA3-2R (0-2)

Lab Sample ID: 310-132859-11

Date Collected: 06/18/18 15:25

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/25/18 09:01	06/25/18 18:01	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 15:27

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-12

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/25/18 09:01	06/25/18 18:05	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Lab Sample ID: 310-132859-13

Date Collected: 06/18/18 16:50

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.439		0.100		mg/L		06/25/18 09:01	06/25/18 18:06	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 14:40

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-14

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.148		0.100		mg/L		06/25/18 09:01	06/25/18 18:08	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSSA3-5R (19-24)

Lab Sample ID: 310-132859-15

Date Collected: 06/19/18 11:00

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/25/18 09:01	06/25/18 18:10	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-5R (0-2)

Lab Sample ID: 310-132859-16

Date Collected: 06/18/18 15:30

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	135		4.51		mg/Kg	*	06/21/18 08:00	06/21/18 22:44	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.5		0.1		%			06/20/18 15:27	1
Percent Solids	86.5		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Lab Sample ID: 310-132859-17

Date Collected: 06/18/18 12:00

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.230		0.100		mg/L		06/25/18 09:01	06/25/18 18:11	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

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

Lab Sample ID: 310-132859-18

Date Collected: 06/18/18 12:00

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	679		8.76		mg/Kg	*	06/21/18 08:00	06/22/18 15:13	2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.9		0.1		%			06/20/18 15:27	1
Percent Solids	85.1		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-8 (0-2)

Lab Sample ID: 310-132859-19

Date Collected: 06/18/18 15:00

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	95.9		3.95		mg/Kg	*	06/21/18 08:00	06/21/18 22:47	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.7		0.1		%			06/20/18 15:27	1
Percent Solids	94.3		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-8 (3-6)

Date Collected: 06/18/18 15:02

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-20

Matrix: Soil

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	40.4		3.90		mg/Kg	*	06/21/18 08:00	06/21/18 22:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.4		0.1		%			06/20/18 15:27	1
Percent Solids	94.6		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-8 (7-12)

Lab Sample ID: 310-132859-21

Date Collected: 06/18/18 15:04

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	214		4.18		mg/Kg	*	06/21/18 08:00	06/21/18 22:50	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.3		0.1		%			06/20/18 15:27	1
Percent Solids	93.7		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-9 (0-2)

Date Collected: 06/18/18 15:35

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-22

Matrix: Soil

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	89.1		4.68		mg/Kg	*	06/21/18 08:00	06/21/18 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.9		0.1		%			06/20/18 15:27	1
Percent Solids	89.1		0.1		%			06/20/18 15:27	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-9 (3-6)

Lab Sample ID: 310-132859-23

Date Collected: 06/18/18 15:36

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	41.6		3.72		mg/Kg	*	06/21/18 08:00	06/21/18 22:54	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.1		0.1		%			06/20/18 15:38	1
Percent Solids	95.9		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

Client Sample ID: CSRR-9 (7-12)

Lab Sample ID: 310-132859-24

Date Collected: 06/18/18 15:37

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	68.1		4.02		mg/Kg	*	06/21/18 08:00	06/21/18 22:55	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.8		0.1		%			06/20/18 15:38	1
Percent Solids	96.2		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-10 (0-2)

Lab Sample ID: 310-132859-25

Date Collected: 06/18/18 12:15

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	367		4.90		mg/Kg	*	06/21/18 08:00	06/21/18 23:02	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.5		0.1		%			06/20/18 15:38	1
Percent Solids	89.5		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-10 (3-6)

Lab Sample ID: 310-132859-26

Date Collected: 06/18/18 12:15

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	388		4.40		mg/Kg	*	06/21/18 08:00	06/21/18 23:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		0.1		%			06/20/18 15:38	1
Percent Solids	93.1		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-10 (7-12)

Lab Sample ID: 310-132859-27

Date Collected: 06/18/18 12:15

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	173		4.13		mg/Kg	*	06/21/18 08:00	06/21/18 23:06	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.5		0.1		%			06/20/18 15:38	1
Percent Solids	93.5		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-6 (8-16)

Lab Sample ID: 310-132859-28

Date Collected: 06/19/18 10:40

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/27/18 11:11	06/27/18 16:31	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/19/18 10:42

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-29

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/27/18 11:11	06/27/18 16:32	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-7A (7-12)

Lab Sample ID: 310-132859-30

Date Collected: 06/18/18 16:10

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.97		0.100		mg/L		06/27/18 11:11	06/27/18 16:34	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-9A (0-2)

Lab Sample ID: 310-132859-31

Date Collected: 06/18/18 11:45

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/27/18 11:11	06/27/18 16:36	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-10 (0-2)

Date Collected: 06/18/18 12:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-32

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.169		0.100		mg/L		06/27/18 11:11	06/27/18 16:46	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-10 (7-12)

Lab Sample ID: 310-132859-33

Date Collected: 06/18/18 12:30

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.733		0.100		mg/L		06/27/18 11:11	06/27/18 16:48	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-10A (7-12)

Lab Sample ID: 310-132859-34

Date Collected: 06/18/18 11:55

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.139		0.100		mg/L		06/27/18 11:11	06/27/18 16:50	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-1R (0-2)

Lab Sample ID: 310-132859-35

Date Collected: 06/18/18 16:30

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	147		4.95		mg/Kg	*	06/21/18 08:00	06/21/18 23:07	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.9		0.1		%			06/20/18 15:38	1
Percent Solids	83.1		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-2R (7-12)

Date Collected: 06/18/18 12:50

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-36

Matrix: Soil

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/27/18 11:11	06/27/18 16:51	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

Client Sample ID: CSRR-3R (0-2)

Lab Sample ID: 310-132859-37

Date Collected: 06/18/18 15:05

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1040		16.7		mg/Kg	*	06/21/18 08:00	06/22/18 15:15	4

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.4		0.1		%			06/20/18 15:38	1
Percent Solids	83.6		0.1		%			06/20/18 15:38	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Lab Sample ID: 310-132859-38

Date Collected: 06/18/18 15:06

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.243		0.100		mg/L		06/27/18 11:11	06/27/18 16:53	1

Client Sample Results

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

Client Sample ID: CSRR-4R (0-2)

Lab Sample ID: 310-132859-39

Date Collected: 06/18/18 15:15

Matrix: Soil

Date Received: 06/20/18 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	125		4.60		mg/Kg	*	06/21/18 08:00	06/21/18 23:11	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.8		0.1		%			06/20/18 15:38	1
Percent Solids	90.2		0.1		%			06/20/18 15:38	1

Definitions/Glossary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 310-207107/1-A						Client Sample ID: Method Blank				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 207335						Prep Batch: 207107				
Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Lead	<4.44		4.44		mg/Kg		06/21/18 08:00	06/21/18 22:24	1	

Lab Sample ID: LCS 310-207107/2-A						Client Sample ID: Lab Control Sample				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 207335						Prep Batch: 207107				
Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits			
Lead	190	201.1		mg/Kg		106	80 - 120			

Lab Sample ID: 310-132859-1 MS						Client Sample ID: CSRR-11 (0-2)				
Matrix: Soil						Prep Type: Total/NA				
Analysis Batch: 207395						Prep Batch: 207107				
Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits	
Lead	731		165	1106	4	mg/Kg	☼	228	75 - 125	

Lab Sample ID: 310-132859-1 MSD						Client Sample ID: CSRR-11 (0-2)					
Matrix: Soil						Prep Type: Total/NA					
Analysis Batch: 207395						Prep Batch: 207107					
Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
Lead	731		177	1044	4	mg/Kg	☼	178	75 - 125	6	20

Lab Sample ID: 310-132859-24 DU						Client Sample ID: CSRR-9 (7-12)				
Matrix: Soil						Prep Type: Total/NA				
Analysis Batch: 207335						Prep Batch: 207107				
Analyte	Sample	Sample	Spike	DU	DU	Unit	D	RPD	Limit	
Lead	68.1			60.79		mg/Kg	☼	11	20	

Lab Sample ID: LB 310-207299/1-B						Client Sample ID: Method Blank				
Matrix: Solid						Prep Type: SPLP West				
Analysis Batch: 207692						Prep Batch: 207313				
Analyte	LB	LB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Lead	<0.100		0.100		mg/L		06/25/18 09:01	06/25/18 17:37	1	

Lab Sample ID: LCS 310-207299/2-B						Client Sample ID: Lab Control Sample				
Matrix: Solid						Prep Type: SPLP West				
Analysis Batch: 207692						Prep Batch: 207313				
Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits			
Lead	4.00	4.313		mg/L		108	80 - 120			

Lab Sample ID: 310-132859-4 MS						Client Sample ID: GP-10A (0-2)				
Matrix: Soil						Prep Type: SPLP West				
Analysis Batch: 207692						Prep Batch: 207313				
Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits	
Lead	0.164		4.00	4.552		mg/L		110	75 - 125	

TestAmerica Cedar Falls

QC Sample Results

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Lab Sample ID: 310-132859-11 MS
Matrix: Soil
Analysis Batch: 207692

Client Sample ID: CSSA3-2R (0-2)
Prep Type: SPLP West
Prep Batch: 207313
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	<0.100		4.00	4.330		mg/L		107	75 - 125

Lab Sample ID: LB 310-207632/1-B
Matrix: Solid
Analysis Batch: 207972

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 207693

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.100		0.100		mg/L		06/27/18 11:10	06/27/18 16:27	1

Lab Sample ID: LCS 310-207632/2-B
Matrix: Solid
Analysis Batch: 207972

Client Sample ID: Lab Control Sample
Prep Type: SPLP West
Prep Batch: 207693
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	4.00	4.220		mg/L		106	80 - 120

Lab Sample ID: 310-132859-31 MS
Matrix: Soil
Analysis Batch: 207972

Client Sample ID: CSBA-9A (0-2)
Prep Type: SPLP West
Prep Batch: 207693
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	<0.100		4.00	4.161		mg/L		104	75 - 125

Method: Moisture - Percent Moisture

Lab Sample ID: 310-132859-23 DU
Matrix: Soil
Analysis Batch: 207121

Client Sample ID: CSRR-9 (3-6)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	4.1		4.2		%		2	20
Percent Solids	95.9		95.8		%		0.08	20

QC Association Summary

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

Metals

Prep Batch: 207107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-1	CSRR-11 (0-2)	Total/NA	Soil	3050B	
310-132859-2	CSRR-11 (3-6)	Total/NA	Soil	3050B	
310-132859-3	CSRR-11 (7-12)	Total/NA	Soil	3050B	
310-132859-16	CSRR-5R (0-2)	Total/NA	Soil	3050B	
310-132859-18	CSRR-6R (3-6)	Total/NA	Soil	3050B	
310-132859-19	CSRR-8 (0-2)	Total/NA	Soil	3050B	
310-132859-20	CSRR-8 (3-6)	Total/NA	Soil	3050B	
310-132859-21	CSRR-8 (7-12)	Total/NA	Soil	3050B	
310-132859-22	CSRR-9 (0-2)	Total/NA	Soil	3050B	
310-132859-23	CSRR-9 (3-6)	Total/NA	Soil	3050B	
310-132859-24	CSRR-9 (7-12)	Total/NA	Soil	3050B	
310-132859-25	CSRR-10 (0-2)	Total/NA	Soil	3050B	
310-132859-26	CSRR-10 (3-6)	Total/NA	Soil	3050B	
310-132859-27	CSRR-10 (7-12)	Total/NA	Soil	3050B	
310-132859-35	CSRR-1R (0-2)	Total/NA	Soil	3050B	
310-132859-37	CSRR-3R (0-2)	Total/NA	Soil	3050B	
310-132859-39	CSRR-4R (0-2)	Total/NA	Soil	3050B	
MB 310-207107/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 310-207107/2-A	Lab Control Sample	Total/NA	Solid	3050B	
310-132859-1 MS	CSRR-11 (0-2)	Total/NA	Soil	3050B	
310-132859-1 MSD	CSRR-11 (0-2)	Total/NA	Soil	3050B	
310-132859-24 DU	CSRR-9 (7-12)	Total/NA	Soil	3050B	

Leach Batch: 207299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-4	GP-10A (0-2)	SPLP West	Soil	1312	
310-132859-5	GP-10A (3-6)	SPLP West	Soil	1312	
310-132859-6	GP-10A-1 (3-6)	SPLP West	Soil	1312	
310-132859-7	GP-10A-2 (0-2)	SPLP West	Soil	1312	
310-132859-8	GP-10C (0-2)	SPLP West	Soil	1312	
310-132859-9	CSSA3-1R (0-2)	SPLP West	Soil	1312	
310-132859-10	CSSA3-2 (3-6)	SPLP West	Soil	1312	
310-132859-11	CSSA3-2R (0-2)	SPLP West	Soil	1312	
310-132859-12	CSSA3-2R (3-6)	SPLP West	Soil	1312	
310-132859-13	CSSA3-4R (0-2)	SPLP West	Soil	1312	
310-132859-14	CSSA3-5B (3-6)	SPLP West	Soil	1312	
310-132859-15	CSSA3-5R (19-24)	SPLP West	Soil	1312	
310-132859-17	CSRR-6R (0-2)	SPLP West	Soil	1312	
LB 310-207299/1-B	Method Blank	SPLP West	Solid	1312	
LCS 310-207299/2-B	Lab Control Sample	SPLP West	Solid	1312	
310-132859-4 MS	GP-10A (0-2)	SPLP West	Soil	1312	
310-132859-11 MS	CSSA3-2R (0-2)	SPLP West	Soil	1312	

Prep Batch: 207313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-4	GP-10A (0-2)	SPLP West	Soil	3010A	207299
310-132859-5	GP-10A (3-6)	SPLP West	Soil	3010A	207299
310-132859-6	GP-10A-1 (3-6)	SPLP West	Soil	3010A	207299
310-132859-7	GP-10A-2 (0-2)	SPLP West	Soil	3010A	207299
310-132859-8	GP-10C (0-2)	SPLP West	Soil	3010A	207299
310-132859-9	CSSA3-1R (0-2)	SPLP West	Soil	3010A	207299

TestAmerica Cedar Falls

QC Association Summary

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

Metals (Continued)

Prep Batch: 207313 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-10	CSSA3-2 (3-6)	SPLP West	Soil	3010A	207299
310-132859-11	CSSA3-2R (0-2)	SPLP West	Soil	3010A	207299
310-132859-12	CSSA3-2R (3-6)	SPLP West	Soil	3010A	207299
310-132859-13	CSSA3-4R (0-2)	SPLP West	Soil	3010A	207299
310-132859-14	CSSA3-5B (3-6)	SPLP West	Soil	3010A	207299
310-132859-15	CSSA3-5R (19-24)	SPLP West	Soil	3010A	207299
310-132859-17	CSRR-6R (0-2)	SPLP West	Soil	3010A	207299
LB 310-207299/1-B	Method Blank	SPLP West	Solid	3010A	207299
LCS 310-207299/2-B	Lab Control Sample	SPLP West	Solid	3010A	207299
310-132859-4 MS	GP-10A (0-2)	SPLP West	Soil	3010A	207299
310-132859-11 MS	CSSA3-2R (0-2)	SPLP West	Soil	3010A	207299

Analysis Batch: 207335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-3	CSRR-11 (7-12)	Total/NA	Soil	6010C	207107
310-132859-16	CSRR-5R (0-2)	Total/NA	Soil	6010C	207107
310-132859-19	CSRR-8 (0-2)	Total/NA	Soil	6010C	207107
310-132859-20	CSRR-8 (3-6)	Total/NA	Soil	6010C	207107
310-132859-21	CSRR-8 (7-12)	Total/NA	Soil	6010C	207107
310-132859-22	CSRR-9 (0-2)	Total/NA	Soil	6010C	207107
310-132859-23	CSRR-9 (3-6)	Total/NA	Soil	6010C	207107
310-132859-24	CSRR-9 (7-12)	Total/NA	Soil	6010C	207107
310-132859-25	CSRR-10 (0-2)	Total/NA	Soil	6010C	207107
310-132859-26	CSRR-10 (3-6)	Total/NA	Soil	6010C	207107
310-132859-27	CSRR-10 (7-12)	Total/NA	Soil	6010C	207107
310-132859-35	CSRR-1R (0-2)	Total/NA	Soil	6010C	207107
310-132859-39	CSRR-4R (0-2)	Total/NA	Soil	6010C	207107
MB 310-207107/1-A	Method Blank	Total/NA	Solid	6010C	207107
LCS 310-207107/2-A	Lab Control Sample	Total/NA	Solid	6010C	207107
310-132859-24 DU	CSRR-9 (7-12)	Total/NA	Soil	6010C	207107

Analysis Batch: 207395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-1	CSRR-11 (0-2)	Total/NA	Soil	6010C	207107
310-132859-2	CSRR-11 (3-6)	Total/NA	Soil	6010C	207107
310-132859-18	CSRR-6R (3-6)	Total/NA	Soil	6010C	207107
310-132859-37	CSRR-3R (0-2)	Total/NA	Soil	6010C	207107
310-132859-1 MS	CSRR-11 (0-2)	Total/NA	Soil	6010C	207107
310-132859-1 MSD	CSRR-11 (0-2)	Total/NA	Soil	6010C	207107

Leach Batch: 207632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-28	CSBA-6 (8-16)	SPLP West	Soil	1312	
310-132859-29	CSBA-6 (17-22)	SPLP West	Soil	1312	
310-132859-30	CSBA-7A (7-12)	SPLP West	Soil	1312	
310-132859-31	CSBA-9A (0-2)	SPLP West	Soil	1312	
310-132859-32	CSBA-10 (0-2)	SPLP West	Soil	1312	
310-132859-33	CSBA-10 (7-12)	SPLP West	Soil	1312	
310-132859-34	CSBA-10A (7-12)	SPLP West	Soil	1312	
310-132859-36	CSRR-2R (7-12)	SPLP West	Soil	1312	
310-132859-38	CSRR-3R (3-6)	SPLP West	Soil	1312	

TestAmerica Cedar Falls

QC Association Summary

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

TestAmerica Job ID: 310-132859-1
 SDG: 05177725A

Metals (Continued)

Leach Batch: 207632 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 310-207632/1-B	Method Blank	SPLP West	Solid	1312	
LCS 310-207632/2-B	Lab Control Sample	SPLP West	Solid	1312	
310-132859-31 MS	CSBA-9A (0-2)	SPLP West	Soil	1312	

Analysis Batch: 207692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-4	GP-10A (0-2)	SPLP West	Soil	6010C	207313
310-132859-5	GP-10A (3-6)	SPLP West	Soil	6010C	207313
310-132859-6	GP-10A-1 (3-6)	SPLP West	Soil	6010C	207313
310-132859-7	GP-10A-2 (0-2)	SPLP West	Soil	6010C	207313
310-132859-8	GP-10C (0-2)	SPLP West	Soil	6010C	207313
310-132859-9	CSSA3-1R (0-2)	SPLP West	Soil	6010C	207313
310-132859-10	CSSA3-2 (3-6)	SPLP West	Soil	6010C	207313
310-132859-11	CSSA3-2R (0-2)	SPLP West	Soil	6010C	207313
310-132859-12	CSSA3-2R (3-6)	SPLP West	Soil	6010C	207313
310-132859-13	CSSA3-4R (0-2)	SPLP West	Soil	6010C	207313
310-132859-14	CSSA3-5B (3-6)	SPLP West	Soil	6010C	207313
310-132859-15	CSSA3-5R (19-24)	SPLP West	Soil	6010C	207313
310-132859-17	CSRR-6R (0-2)	SPLP West	Soil	6010C	207313
LB 310-207299/1-B	Method Blank	SPLP West	Solid	6010C	207313
LCS 310-207299/2-B	Lab Control Sample	SPLP West	Solid	6010C	207313
310-132859-4 MS	GP-10A (0-2)	SPLP West	Soil	6010C	207313
310-132859-11 MS	CSSA3-2R (0-2)	SPLP West	Soil	6010C	207313

Prep Batch: 207693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-28	CSBA-6 (8-16)	SPLP West	Soil	3010A	207632
310-132859-29	CSBA-6 (17-22)	SPLP West	Soil	3010A	207632
310-132859-30	CSBA-7A (7-12)	SPLP West	Soil	3010A	207632
310-132859-31	CSBA-9A (0-2)	SPLP West	Soil	3010A	207632
310-132859-32	CSBA-10 (0-2)	SPLP West	Soil	3010A	207632
310-132859-33	CSBA-10 (7-12)	SPLP West	Soil	3010A	207632
310-132859-34	CSBA-10A (7-12)	SPLP West	Soil	3010A	207632
310-132859-36	CSRR-2R (7-12)	SPLP West	Soil	3010A	207632
310-132859-38	CSRR-3R (3-6)	SPLP West	Soil	3010A	207632
LB 310-207632/1-B	Method Blank	SPLP West	Solid	3010A	207632
LCS 310-207632/2-B	Lab Control Sample	SPLP West	Solid	3010A	207632
310-132859-31 MS	CSBA-9A (0-2)	SPLP West	Soil	3010A	207632

Analysis Batch: 207972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-28	CSBA-6 (8-16)	SPLP West	Soil	6010C	207693
310-132859-29	CSBA-6 (17-22)	SPLP West	Soil	6010C	207693
310-132859-30	CSBA-7A (7-12)	SPLP West	Soil	6010C	207693
310-132859-31	CSBA-9A (0-2)	SPLP West	Soil	6010C	207693
310-132859-32	CSBA-10 (0-2)	SPLP West	Soil	6010C	207693
310-132859-33	CSBA-10 (7-12)	SPLP West	Soil	6010C	207693
310-132859-34	CSBA-10A (7-12)	SPLP West	Soil	6010C	207693
310-132859-36	CSRR-2R (7-12)	SPLP West	Soil	6010C	207693
310-132859-38	CSRR-3R (3-6)	SPLP West	Soil	6010C	207693
LB 310-207632/1-B	Method Blank	SPLP West	Solid	6010C	207693

TestAmerica Cedar Falls

QC Association Summary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Metals (Continued)

Analysis Batch: 207972 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-207632/2-B	Lab Control Sample	SPLP West	Solid	6010C	207693
310-132859-31 MS	CSBA-9A (0-2)	SPLP West	Soil	6010C	207693

General Chemistry

Analysis Batch: 207121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132859-1	CSRR-11 (0-2)	Total/NA	Soil	Moisture	
310-132859-2	CSRR-11 (3-6)	Total/NA	Soil	Moisture	
310-132859-3	CSRR-11 (7-12)	Total/NA	Soil	Moisture	
310-132859-16	CSRR-5R (0-2)	Total/NA	Soil	Moisture	
310-132859-18	CSRR-6R (3-6)	Total/NA	Soil	Moisture	
310-132859-19	CSRR-8 (0-2)	Total/NA	Soil	Moisture	
310-132859-20	CSRR-8 (3-6)	Total/NA	Soil	Moisture	
310-132859-21	CSRR-8 (7-12)	Total/NA	Soil	Moisture	
310-132859-22	CSRR-9 (0-2)	Total/NA	Soil	Moisture	
310-132859-23	CSRR-9 (3-6)	Total/NA	Soil	Moisture	
310-132859-24	CSRR-9 (7-12)	Total/NA	Soil	Moisture	
310-132859-25	CSRR-10 (0-2)	Total/NA	Soil	Moisture	
310-132859-26	CSRR-10 (3-6)	Total/NA	Soil	Moisture	
310-132859-27	CSRR-10 (7-12)	Total/NA	Soil	Moisture	
310-132859-35	CSRR-1R (0-2)	Total/NA	Soil	Moisture	
310-132859-37	CSRR-3R (0-2)	Total/NA	Soil	Moisture	
310-132859-39	CSRR-4R (0-2)	Total/NA	Soil	Moisture	
310-132859-23 DU	CSRR-9 (3-6)	Total/NA	Soil	Moisture	

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-11 (0-2)

Lab Sample ID: 310-132859-1

Date Collected: 06/18/18 16:35
Date Received: 06/20/18 10:00

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		2	207395	06/22/18 15:03	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Client Sample ID: CSRR-11 (3-6)

Lab Sample ID: 310-132859-2

Date Collected: 06/18/18 16:36
Date Received: 06/20/18 10:00

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		2	207395	06/22/18 15:08	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Client Sample ID: CSRR-11 (7-12)

Lab Sample ID: 310-132859-3

Date Collected: 06/18/18 16:37
Date Received: 06/20/18 10:00

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:42	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

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

Lab Sample ID: 310-132859-4

Date Collected: 06/18/18 13:20
Date Received: 06/20/18 10:00

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 17:41	SAD	TAL CF

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

Lab Sample ID: 310-132859-5

Date Collected: 06/18/18 13:20
Date Received: 06/20/18 10:00

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 17:47	SAD	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

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

Date Collected: 06/18/18 13:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-6

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 17:49	SAD	TAL CF

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

Date Collected: 06/18/18 13:15

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-7

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 17:51	SAD	TAL CF

Client Sample ID: GP-10C (0-2)

Date Collected: 06/18/18 13:00

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-8

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 17:52	SAD	TAL CF

Client Sample ID: CSSA3-1R (0-2)

Date Collected: 06/18/18 14:45

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-9

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 17:58	SAD	TAL CF

Client Sample ID: CSSA3-2 (3-6)

Date Collected: 06/18/18 16:55

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-10

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:00	SAD	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSSA3-2R (0-2)

Lab Sample ID: 310-132859-11

Date Collected: 06/18/18 15:25

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:01	SAD	TAL CF

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

Lab Sample ID: 310-132859-12

Date Collected: 06/18/18 15:27

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:05	SAD	TAL CF

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

Lab Sample ID: 310-132859-13

Date Collected: 06/18/18 16:50

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:06	SAD	TAL CF

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

Lab Sample ID: 310-132859-14

Date Collected: 06/18/18 14:40

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:08	SAD	TAL CF

Client Sample ID: CSSA3-5R (19-24)

Lab Sample ID: 310-132859-15

Date Collected: 06/19/18 11:00

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:10	SAD	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-5R (0-2)

Date Collected: 06/18/18 15:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-16

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:44	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

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

Date Collected: 06/18/18 12:00

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-17

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207299	06/21/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			207313	06/25/18 09:01	JNR	TAL CF
SPLP West	Analysis	6010C		1	207692	06/25/18 18:11	SAD	TAL CF

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

Date Collected: 06/18/18 12:00

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-18

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		2	207395	06/22/18 15:13	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Client Sample ID: CSRR-8 (0-2)

Date Collected: 06/18/18 15:00

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-19

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:47	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Client Sample ID: CSRR-8 (3-6)

Date Collected: 06/18/18 15:02

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-20

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:49	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-8 (7-12)

Lab Sample ID: 310-132859-21

Date Collected: 06/18/18 15:04

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:50	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Client Sample ID: CSRR-9 (0-2)

Lab Sample ID: 310-132859-22

Date Collected: 06/18/18 15:35

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:52	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:27	SAS	TAL CF

Client Sample ID: CSRR-9 (3-6)

Lab Sample ID: 310-132859-23

Date Collected: 06/18/18 15:36

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:54	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

Client Sample ID: CSRR-9 (7-12)

Lab Sample ID: 310-132859-24

Date Collected: 06/18/18 15:37

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 22:55	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

Client Sample ID: CSRR-10 (0-2)

Lab Sample ID: 310-132859-25

Date Collected: 06/18/18 12:15

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 23:02	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-10 (3-6)

Lab Sample ID: 310-132859-26

Date Collected: 06/18/18 12:15

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 23:04	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

Client Sample ID: CSRR-10 (7-12)

Lab Sample ID: 310-132859-27

Date Collected: 06/18/18 12:15

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 23:06	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

Client Sample ID: CSBA-6 (8-16)

Lab Sample ID: 310-132859-28

Date Collected: 06/19/18 10:40

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:31	SAD	TAL CF

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

Lab Sample ID: 310-132859-29

Date Collected: 06/19/18 10:42

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:32	SAD	TAL CF

Client Sample ID: CSBA-7A (7-12)

Lab Sample ID: 310-132859-30

Date Collected: 06/18/18 16:10

Matrix: Soil

Date Received: 06/20/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:34	SAD	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSBA-9A (0-2)

Date Collected: 06/18/18 11:45

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-31

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:36	SAD	TAL CF

Client Sample ID: CSBA-10 (0-2)

Date Collected: 06/18/18 12:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-32

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:46	SAD	TAL CF

Client Sample ID: CSBA-10 (7-12)

Date Collected: 06/18/18 12:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-33

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:48	SAD	TAL CF

Client Sample ID: CSBA-10A (7-12)

Date Collected: 06/18/18 11:55

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-34

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:50	SAD	TAL CF

Client Sample ID: CSRR-1R (0-2)

Date Collected: 06/18/18 16:30

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-35

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 23:07	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

Lab Chronicle

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Client Sample ID: CSRR-2R (7-12)

Date Collected: 06/18/18 12:50

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-36

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:51	SAD	TAL CF

Client Sample ID: CSRR-3R (0-2)

Date Collected: 06/18/18 15:05

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-37

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		4	207395	06/22/18 15:15	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	TAL CF

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

Date Collected: 06/18/18 15:06

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-38

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			207632	06/25/18 16:05	JTA	TAL CF
SPLP West	Prep	3010A			207693	06/27/18 11:11	JNR	TAL CF
SPLP West	Analysis	6010C		1	207972	06/27/18 16:53	SAD	TAL CF

Client Sample ID: CSRR-4R (0-2)

Date Collected: 06/18/18 15:15

Date Received: 06/20/18 10:00

Lab Sample ID: 310-132859-39

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207107	06/21/18 08:00	CJT	TAL CF
Total/NA	Analysis	6010C		1	207335	06/21/18 23:11	JIS	TAL CF
Total/NA	Analysis	Moisture		1	207121	06/20/18 15:38	SAS	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: 310-132859-1
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)	09-29-18
Illinois	NELAP	5	200024	11-29-18
Iowa	State Program	7	007	12-01-19
Kansas	NELAP	7	E-10341	01-31-19
Minnesota	NELAP	5	019-999-319	12-31-18
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

Method Summary

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

TestAmerica Job ID: 310-132859-1
SDG: 05177725A

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CF
Moisture	Percent Moisture	EPA	TAL CF
1312	SPLP Extraction	SW846	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
3050B	Preparation, Metals	SW846	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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Terracon</u>			
City/State: <u>Omaha NE</u>		Project: <u>B&T Metals</u>	
Receipt Information			
Date/Time Received: <u>6/20/18 1000</u>		Received By: <u>MRH</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID: <u>718</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # <u>1</u> of <u>2</u>	
<input checked="" type="checkbox"/> Yes <input 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? <u>1</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Temperature Record			
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>J</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):		Corrected Temp (°C):	
• Sample Container Temperature			
Container type(s) used: <u>250 ml Nitric</u> <u>150ml Nitric</u>			
Uncorrected Temp (°C): <u>15.4</u> <u>15.1</u>		Corrected Temp (°C): <u>15.5</u> <u>15.2</u>	
Exceptions Noted			
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, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>No temp blank</u>			

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>terracor</u>			
City/State: <u>Omaha</u> <u>NE</u>		Project: <u>B&T Metals</u>	
Receipt Information			
Date/Time Received: <u>6/20/18</u> <u>1000</u>		Received By: <u>MRH</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		If yes: Cooler ID: <u>T-1406</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Multiple Coolers?		If yes: Cooler # <u>2</u> of <u>2</u>	
<input checked="" type="checkbox"/> Yes <input 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			
Temperature Record			
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>J</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):		Corrected Temp (°C):	
• Sample Container Temperature			
Container type(s) used: <u>250ml Nitric</u> <u>250ml Nitric</u>			
Uncorrected Temp (°C): <u>18.3</u> <u>9.8</u>		Corrected Temp (°C): <u>18.4</u> <u>9.8</u>	
Exceptions Noted			
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, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>Not a lot of cooling media present.</u>			

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Megan Hughes		Site Contact: M Lamoll		Date: 6/19/18		COC No: 808				
Terracon Consultants Inc. 15080 A Circle Omaha, NE 68144 (402) 330-2202 Phone (402) 330-7606 FAX Project Name: B&T Metals Site: 1855 3rd Street, Gering, NE P O #: Project#05177725A		Tel/Fax: 402-330-2202 megan.hughes@terracon.com		Lab Contact: Shawn Hayes		Carrier: FedEx		2 of 4 COCs				
Analysis Turnaround Time		Calendar (C) or Work Days (W) <u>W</u>		Filtered Sample Total Lead (6010B) SPLP extract/leachate (6010C/1312) Lead only				Job No. Project # 05177725A				
TAT if different from Below _____		<input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day								SDG No.		
Sample Identification		Sample Date	Sample Time			Sample Type	Matrix	# of Cont.			Sample Specific Notes:	
GP-10A (0-2)		6/18	1320			G	S	2	X			
GP-10A (3-6)			1320	G	S	1	X					
GP-10A-1 (3-6)			1330	G	S	1	X					
GP-10A-2 (0-2)			1315	G	S	1	X					
GP-10C (0-2)			1300			1	X					
CSSA3-1R (0-2)			1445			1	X					
CSSA3-2R (3-6)			1655			1	X					
CSSA3-2R (0-2)			1525			1	X					
CSSA3-2R (3-6)			1527			1	X					
CSSA3-4R (0-2)			1650			1	X					
CSSA3-5B (3-6)		✓	1440			1	X					
CSSA3-5R (19-24)		6/19	1160	✓	✓	✓	X					
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____												
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Special Instructions/QC Requirements & Comments: <u>SPLP lead only</u> Times are central time zone REPORT RESULTS IN mg/L Chromatograms Needed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Relinquished by: <u>M Lamoll</u>		Company: Terracon		Date/Time: <u>6/19/18 1600</u>		Received by: <u>[Signature]</u>		Company: <u>TA</u>				
Relinquished by:		Company:		Date/Time:		Received by:		Company:				
Relinquished by:		Company:		Date/Time:		Received by:		Company:				

Page 68 of 71

6/29/2018 (Rev. 1)

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Megan Hughes			Site Contact: M Coull		Date: 6/18/18		COC No:	
Terracon Consultants Inc.		Tel/Fax: 402-330-2202 megan.hughes@terracon.com			Lab Contact:		Carrier: FedEx		4 of 4 COCs	
15080 A Circle		Analysis Turnaround Time			Filtered Sample Total Lead (6010B) SPLP extract/leachate (6010C/1312) <i>lead only</i>				Job No. Project # 05177725A	
Omaha, NE 68144		Calendar (C) or Work Days (W) W								
(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		Sample Date		Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:		
Site: 1855 3rd Street, Gering, NE										
P O #: Project#05177725A										
CSBA-6 (8-16)		6/19/18	1040	G	S	2		X		
CSBA-6 (17-22)		6/19/18	1042	G	S	2		X		
CSBA-7A (7-12)		6/18/18	1610	G	S	2		X		
CSBA-9A (0-2)		6/18/18	1145	G	S	2		X		
CSBA-10 (0-2)		6/18/18	1230	G	S	2		X		
CSBA-10 (7-12)		6/18/18	1230	G	S	2		X		
CSBA-10A (7-12)		6/18/18	1155	G	S	2		X		
CSRR-1R (0-2)		6/18/18	1630	G	S	1	X			
CSRR-2R (7-12)		6/18/18	1250	G	S	2		X		
CSRA-3R (0-2)		6/18/18	1505	G	S	1	X			
CSRR-3R (3-6)		6/18/18	1506	G	S	2		X		
CSRR-4R (0-2)		6/18/18	1515	G	S	1	X			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other <u>none</u>										
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements & Comments: <u>SPLP lead only</u> Times are central time zone REPORT RESULTS IN mg/L Chromatograms Needed? Yes ___ No <u>X</u>										
Relinquished by: <u>M Coull</u>		Company: Terracon		Date/Time: <u>6/19/18 1600</u>		Received by: <u>[Signature]</u>		Company: <u>[Signature]</u>		Date/Time: <u>6/20/18 1000</u>
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:

Page 70 of 71

6/29/2018 (Rev. 1)

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 310-132859-1

SDG Number: 05177725A

Login Number: 132859

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Meisheid, Heidi N

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ 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.	False	Thermal preservation not required.
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 <6mm (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: 310-132866-1
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



Authorized for release by:
7/2/2018 11:51:25 AM

Shawn Hayes, Senior Project Manager
(319)229-8211
shawn.hayes@testamericainc.com

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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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	6
Definitions	10
QC Sample Results	11
QC Association	13
Chronicle	14
Certification Summary	15
Method Summary	16
Chain of Custody	17
Receipt Checklists	21

Case Narrative

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

TestAmerica Job ID: 310-132866-1
SDG: 05177725A

Job ID: 310-132866-1

Laboratory: TestAmerica Cedar Falls

Narrative

**Job Narrative
310-132866-1**

Comments

No additional comments.

Receipt

The samples were received on 6/20/2018 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 9.8° C and 15.2° 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: 310-132866-1
SDG: 05177725A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-132866-1	GP-11	Ground Water	06/19/18 09:20	06/20/18 10:00
310-132866-2	GP-12	Ground Water	06/19/18 09:40	06/20/18 10:00
310-132866-3	GP-B	Ground Water	06/19/18 09:20	06/20/18 10:00
310-132866-4	EB-1	Water	06/19/18 00:00	06/20/18 10:00

Detection Summary

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

TestAmerica Job ID: 310-132866-1
SDG: 05177725A

Client Sample ID: GP-11

Lab Sample ID: 310-132866-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00470		0.000500		mg/L	1		6020A	Total/NA

Client Sample ID: GP-12

Lab Sample ID: 310-132866-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00305		0.000500		mg/L	1		6020A	Total/NA

Client Sample ID: GP-B

Lab Sample ID: 310-132866-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00176		0.000500		mg/L	1		6020A	Total/NA

Client Sample ID: EB-1

Lab Sample ID: 310-132866-4

No Detections.

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: 310-132866-1
SDG: 05177725A

Client Sample ID: GP-11

Lab Sample ID: 310-132866-1

Date Collected: 06/19/18 09:20

Matrix: Ground Water

Date Received: 06/20/18 10:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00470		0.000500		mg/L		06/25/18 08:53	06/28/18 19:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		06/25/18 09:07	06/28/18 20:56	1

Client Sample Results

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

TestAmerica Job ID: 310-132866-1
SDG: 05177725A

Client Sample ID: GP-12

Lab Sample ID: 310-132866-2

Date Collected: 06/19/18 09:40

Matrix: Ground Water

Date Received: 06/20/18 10:00

Method: 6020A - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00305		0.000500		mg/L		06/25/18 08:53	06/28/18 19:09	1

Method: 6020A - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		06/25/18 09:07	06/28/18 21:21	1

Client Sample Results

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

TestAmerica Job ID: 310-132866-1
 SDG: 05177725A

Client Sample ID: GP-B

Lab Sample ID: 310-132866-3

Date Collected: 06/19/18 09:20

Matrix: Ground Water

Date Received: 06/20/18 10:00

Method: 6020A - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00176		0.000500		mg/L		06/25/18 08:53	06/28/18 19:13	1

Method: 6020A - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		06/25/18 09:07	06/28/18 21:24	1

Client Sample Results

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

TestAmerica Job ID: 310-132866-1
SDG: 05177725A

Client Sample ID: EB-1

Lab Sample ID: 310-132866-4

Date Collected: 06/19/18 00:00

Matrix: Water

Date Received: 06/20/18 10:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		06/25/18 08:53	06/28/18 19:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000500		0.000500		mg/L		06/25/18 09:07	06/28/18 21:27	1

Definitions/Glossary

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

TestAmerica Job ID: 310-132866-1
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: 310-132866-1
 SDG: 05177725A

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-207524/1-A
 Matrix: Water
 Analysis Batch: 208061

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 207524

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	<0.000500		0.000500		mg/L		06/25/18 08:53	06/28/18 19:00	1

Lab Sample ID: LCS 310-207524/2-A
 Matrix: Water
 Analysis Batch: 208061

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 207524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 310-132866-4 MS
 Matrix: Water
 Analysis Batch: 208061

Client Sample ID: EB-1
 Prep Type: Total/NA
 Prep Batch: 207524

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 310-132866-4 MSD
 Matrix: Water
 Analysis Batch: 208061

Client Sample ID: EB-1
 Prep Type: Total/NA
 Prep Batch: 207524

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit

Lab Sample ID: MB 310-207526/1-A
 Matrix: Water
 Analysis Batch: 208061

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 207526

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	<0.000500		0.000500		mg/L		06/25/18 08:59	06/28/18 20:49	1

Lab Sample ID: LCS 310-207526/2-A
 Matrix: Water
 Analysis Batch: 208163

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 207526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 310-132866-1 MS
 Matrix: Ground Water
 Analysis Batch: 208061

Client Sample ID: GP-11
 Prep Type: Dissolved
 Prep Batch: 207526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 310-132866-1 MSD
 Matrix: Ground Water
 Analysis Batch: 208061

Client Sample ID: GP-11
 Prep Type: Dissolved
 Prep Batch: 207526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit

TestAmerica Cedar Falls

QC Sample Results

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

TestAmerica Job ID: 310-132866-1
SDG: 05177725A



QC Association Summary

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

TestAmerica Job ID: 310-132866-1
 SDG: 05177725A

Metals

Prep Batch: 207524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132866-1	GP-11	Total/NA	Ground Water	3010A	
310-132866-2	GP-12	Total/NA	Ground Water	3010A	
310-132866-3	GP-B	Total/NA	Ground Water	3010A	
310-132866-4	EB-1	Total/NA	Water	3010A	
MB 310-207524/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-207524/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-132866-4 MS	EB-1	Total/NA	Water	3010A	
310-132866-4 MSD	EB-1	Total/NA	Water	3010A	

Prep Batch: 207526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132866-1	GP-11	Dissolved	Ground Water	3010A	
310-132866-2	GP-12	Dissolved	Ground Water	3010A	
310-132866-3	GP-B	Dissolved	Ground Water	3010A	
310-132866-4	EB-1	Dissolved	Water	3010A	
MB 310-207526/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-207526/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-132866-1 MS	GP-11	Dissolved	Ground Water	3010A	
310-132866-1 MSD	GP-11	Dissolved	Ground Water	3010A	

Analysis Batch: 208061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132866-1	GP-11	Dissolved	Ground Water	6020A	207526
310-132866-1	GP-11	Total/NA	Ground Water	6020A	207524
310-132866-2	GP-12	Dissolved	Ground Water	6020A	207526
310-132866-2	GP-12	Total/NA	Ground Water	6020A	207524
310-132866-3	GP-B	Dissolved	Ground Water	6020A	207526
310-132866-3	GP-B	Total/NA	Ground Water	6020A	207524
310-132866-4	EB-1	Dissolved	Water	6020A	207526
310-132866-4	EB-1	Total/NA	Water	6020A	207524
MB 310-207524/1-A	Method Blank	Total/NA	Water	6020A	207524
MB 310-207526/1-A	Method Blank	Total/NA	Water	6020A	207526
LCS 310-207524/2-A	Lab Control Sample	Total/NA	Water	6020A	207524
310-132866-1 MS	GP-11	Dissolved	Ground Water	6020A	207526
310-132866-1 MSD	GP-11	Dissolved	Ground Water	6020A	207526
310-132866-4 MS	EB-1	Total/NA	Water	6020A	207524
310-132866-4 MSD	EB-1	Total/NA	Water	6020A	207524

Analysis Batch: 208163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-207526/2-A	Lab Control Sample	Total/NA	Water	6020A	207526

Lab Chronicle

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

TestAmerica Job ID: 310-132866-1
 SDG: 05177725A

Client Sample ID: GP-11

Date Collected: 06/19/18 09:20
 Date Received: 06/20/18 10:00

Lab Sample ID: 310-132866-1
 Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			207526	06/25/18 09:07	JNR	TAL CF
Dissolved	Analysis	6020A		1	208061	06/28/18 20:56	SAD	TAL CF
Total/NA	Prep	3010A			207524	06/25/18 08:53	JNR	TAL CF
Total/NA	Analysis	6020A		1	208061	06/28/18 19:06	SAD	TAL CF

Client Sample ID: GP-12

Date Collected: 06/19/18 09:40
 Date Received: 06/20/18 10:00

Lab Sample ID: 310-132866-2
 Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			207526	06/25/18 09:07	JNR	TAL CF
Dissolved	Analysis	6020A		1	208061	06/28/18 21:21	SAD	TAL CF
Total/NA	Prep	3010A			207524	06/25/18 08:53	JNR	TAL CF
Total/NA	Analysis	6020A		1	208061	06/28/18 19:09	SAD	TAL CF

Client Sample ID: GP-B

Date Collected: 06/19/18 09:20
 Date Received: 06/20/18 10:00

Lab Sample ID: 310-132866-3
 Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			207526	06/25/18 09:07	JNR	TAL CF
Dissolved	Analysis	6020A		1	208061	06/28/18 21:24	SAD	TAL CF
Total/NA	Prep	3010A			207524	06/25/18 08:53	JNR	TAL CF
Total/NA	Analysis	6020A		1	208061	06/28/18 19:13	SAD	TAL CF

Client Sample ID: EB-1

Date Collected: 06/19/18 00:00
 Date Received: 06/20/18 10:00

Lab Sample ID: 310-132866-4
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			207526	06/25/18 09:07	JNR	TAL CF
Dissolved	Analysis	6020A		1	208061	06/28/18 21:27	SAD	TAL CF
Total/NA	Prep	3010A			207524	06/25/18 08:53	JNR	TAL CF
Total/NA	Analysis	6020A		1	208061	06/28/18 19:16	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

TestAmerica Job ID: 310-132866-1
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)	09-29-18
Illinois	NELAP	5	200024	11-29-18
Iowa	State Program	7	007	12-01-19
Kansas	NELAP	7	E-10341	01-31-19
Minnesota	NELAP	5	019-999-319	12-31-18
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

Method Summary

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

TestAmerica Job ID: 310-132866-1
SDG: 05177725A

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
3010A	Preparation, Total Metals	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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Terracon</u>			
City/State: <u>Omaha NE</u>		Project: <u>B+T Metals</u>	
Receipt Information			
Date/Time Received: <u>6/20/18 1000</u>		Received By: <u>MRH</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: <u>718</u>	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>1</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? <u>1</u>	
Temperature Record			
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>J</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):		Corrected Temp (°C):	
• Sample Container Temperature			
Container type(s) used: <u>250 mL Nitric</u> <u>150 mL Nitric</u>			
Uncorrected Temp (°C): <u>15.4</u> <u>15.1</u>		Corrected Temp (°C): <u>15.5</u> <u>15.2</u>	
Exceptions Noted			
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, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>No temp blank</u>			

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>Terracon</u>			
City/State: <u>Omaha NE</u>	Project: <u>B&T Metals</u>		
Receipt Information			
Date/Time Received: <u>6/20/18 1000</u>	Received By: <u>MRH</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: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: <u>T-1406</u>	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? <u>1</u>	
Temperature Record			
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>J</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):		Corrected Temp (°C):	
• Sample Container Temperature			
Container type(s) used: <u>250ml Nitric</u>		<u>250ml Nitric</u>	
Uncorrected Temp (°C): <u>18.3</u> <u>9.8</u>		Corrected Temp (°C): <u>18.4</u> <u>9.8</u>	
Exceptions Noted			
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, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>Not a lot of cooling media present.</u>			

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
GP-11	310-132866-A-1	Plastic 250ml - w/nitric - dis	<2	_____	_____
GP-11	310-132866-B-1	Plastic 250ml - with Nitric Acid	>2	5	1932930
GP-12	310-132866-A-2	Plastic 250ml - w/nitric - dis	<2	_____	_____
GP-12	310-132866-B-2	Plastic 250ml - with Nitric Acid	>2	2.5	1932930
GP-B	310-132866-A-3	Plastic 250ml - w/nitric - dis	<2	_____	_____
GP-B	310-132866-B-3	Plastic 250ml - with Nitric Acid	>2	2.5	1932930
EB-1	310-132866-A-4	Plastic 250ml - w/nitric - dis	<2	_____	_____
EB-1	310-132866-B-4	Plastic 250ml - with Nitric Acid	<2	_____	1932930

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 310-132866-1

SDG Number: 05177725A

Login Number: 132866

List Source: TestAmerica Cedar Falls

List Number: 1

Creator: Patrick, Kathryn E

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.	False	Thermal preservation not required.
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.	False	GP-B bottles are labeled DP-B. Logged in per COC.
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

Projects (continued)

Gering, NE

6/18/18

0700 @ office packed truck

0830 left office

1100 on site, talked to pmp
manager, opened gate for us
property owner son has
gate open.

Sampled soil.

Left gate unlocked per
property manager.

1700 left site

1945 @ office

12.75 hours

0545 left house 6/19/18

0802 on site drillers not
here yet.

815 HASP w/ ESP

drilled GP11 & GP12

took samples DP-B-GP12

1030 signed out of site head
to soil samples

1040 2 soil samples

1100 left site

1415 @ office

unload truck, ship samples

1630

Na

Ad

Tel

APPENDIX E

Property-Specific Sampling and Analysis Plan Amendment II (Revision 1)

B&T Metals

1855 3rd Street

Gering, Scotts Bluff County, Nebraska

EPA Cooperative Agreement No. BF-97746301

ACRES #206544

NDEQ IIS: 57172

NDEQ Program ID: BF00327

June 6, 2018

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



June 6, 2018

City of Gering
1025 P Street
Gering, Nebraska 69341

Attn: Mr. Brendan Lilley
P: (308) 436 5096
E: BLilley@gering.org

Re: Property-Specific Sampling and Analysis Plan Amendment II, Revision 1
B & T Metals
1855 3rd Street
Gering, Scotts Bluff County, Nebraska
EPA Brownfields Hazardous Substance Assessments
EPA Cooperative Agreement # BF-97746301
ACRES # 206544
NDEQ IIS: 57172
NDEQ Program ID: BF00327
Terracon Project No. 05177725A

Dear Mr. Lilley:

Terracon Consultants, Inc. (Terracon) is pleased to submit a second amendment to the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016. The PSAP Amendment (PSAPA) II was developed to provide a specific scope of work based on the Nebraska Department of Environmental Quality (NDEQ) Review Comments on Supplemental Phase II Addendum, dated March 16, 2018, and subsequent discussions with the NDEQ.

The PSAP Amendment II 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

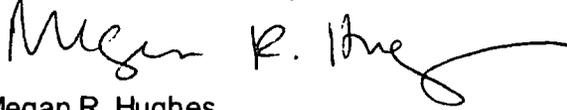


Materials

If there are questions concerning the PSAP 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.

Sincerely,

Terracon Consultants, Inc.



Megan R. Hughes
Phase II Assessment Coordinator



Michael Reif, P.E.
Senior Technical Reviewer

MRH/MBR:mbr/nlm

TABLE OF CONTENTS (REVISION 0)

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 Objective.....	2
2.0 SCOPE OF SERVICES	2
3.0 SAMPLING APPROACH	3
4.0 FIELD PROCEDURES	3
4.1 Groundwater Collection	3
4.2 Soil Collection	4
4.3 Sample Handling.....	5
4.4 QC Sample Collection	5
4.5 Cleaning and Investigation Derived Waste	6
5.0 REPORTING	7
6.0 SCHEDULE	7
7.0 HEALTH AND SAFETY	7
8.0 KEY UNDERSTANDINGS	7
9.0 GENERAL COMMENTS	8

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

APPENDIX D – SUPPORTING DOCUMENT

PROPERTY-SPECIFIC SAMPLING AND ANALYSIS PLAN AMENDMENT II, REVISION 1

**B&T METALS
1855 3rd STREET
GERING, SCOTTS BLUFF COUNTY, NEBRASKA
EPA COOPERATIVE AGREEMENT # BF-97746301
ACRES # 206544
NDEQ IIS: 57172
NDEQ Program ID: BF00327**

**Terracon Project No. 05177725A
June 6, 2018**

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 3rd 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.

Terracon conducted additional sampling and investigation as an amendment to the Phase II ESA Revision 1 issued June 21, 2018. The addendum services were conducted in general accordance with the PSAP Amendment (Revision 1), dated August 28, 2017. Terracon submitted the Phase II ESA Addendum Revision 0, dated January 12, 2018 to the Nebraska Department of Environmental Quality (NDEQ) for review. The NDEQ recommended additional site characterization be conducted at the site.

This plan is a companion document to the PSAP, Revision 2 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 II) is to evaluate the general comments presented in the NDEQ letter *Review Comments for the Supplemental Phase II Addendum*, dated March 16, 2018.

On May 11, 2018 the NDEQ, Terracon, and the City of Gering participated in a conference call to discuss the comments letter. The following comments are addressed in this PSAPA:

- Further define the nature and extent of lead contamination in soil at the site in the railroad tracks area.
- Collection of several soil samples to be analyzed for lead using the synthetic precipitation leaching procedure (SPLP)
- Collect groundwater from the eastern adjoining property to evaluate if lead contamination has migrated off-site (under the assumption of groundwater flow generally to the east).

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).
- Discrete soil samples collected will be submitted to the laboratory for total lead by Method 6010B, lead in the SPLP extract/leachate by Method 6010C (following extraction by Method 1312), which is referred to SLPL lead in this document.
- Groundwater samples collected will be submitted to the laboratory for both total and dissolved lead by Method 6010C.
- Terracon will document sampling location coordinates using a Global Positioning System (GPS).
- Provide a Supplemental Phase II report to the Phase II Environmental Site Assessment Report (Revision 1), dated June 21, 2017, reporting the findings of this additional assessment.

3.0 SAMPLING APPROACH

The contaminants of concern (COCs) associated with the historical use of the site and findings of previous assessment activities includes:

- Lead in soil
- Lead in groundwater

The soil samples will be collected, homogenized, and visually inspected for the presence of scrap metal fragments prior to analysis. Large metal fragments will be removed from the samples that are submitted to the laboratory for analysis. The proposed sampling locations are depicted in Exhibit 2 of Appendix A. Field conditions will determine the actual sampling locations, any deviations would be discussed with the City of Gering, the NDEQ and reported in the final report.

4.0 FIELD PROCEDURES

4.1 Groundwater Collection

The table below is a summary of groundwater sample collection and analysis information for the proposed work scope.

Location	Sample Collection Information	Rational for Location and Collection
GP-11 and GP-12	Collect a groundwater sample from each location, split the sample with one 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.	This area is accessible and is owned by the City of Gering. The location was chosen based on the need to sample groundwater off-site to assess for potential lead migration in groundwater to the east (under the assumption of groundwater flow generally to the east).

4.2 Soil Collection

The table below is a summary of soil sample collection and analysis information for the proposed work scope.

Location	Sample Collection Information	Rational for Location and Collection
Railroad Tracks CSRR-6R (0-2") CSRR-3R (0-2") CSRR-3R (3-6") CSRR-6R (3-6")	Samples will be collected using a hand auger (this area is inaccessible to the Geoprobe®).	The samples will be collected at previous sampling locations and depths (a variety of concentrations and soil types) and submitted for laboratory analysis of total lead, SPLP lead, and relative soil moisture. Locations/depths are highlighted in orange on Table 1 (taken from the Phase II ESA Addendum I) included in Appendix D.
Railroad Tracks CSRR-1R (0-2")* CSRR-2R (7-12")* CSRR-4R (0-2")* CSRR-5R (0-2")* CSRR-6R (3-6")*	Samples will be collected using a hand auger (this area is inaccessible to the Geoprobe®).	The samples will be recollected at previous locations with XRF results only and analyzed for total lead. Locations are to further define the lateral and vertical extent of lead in soil above the VCP RG. Locations are highlighted in pink on Table 1.
Railroad Tracks Additional Sample Locations CSRR-8* CSRR-9* CSRR-10* CSRR-11*	Samples will be collected using a hand auger (this area is inaccessible to the Geoprobe®). Samples will be collected from 0-2", 3-6", and 7-12".	Further delineation of lead in soil. Soil samples will be analyzed for total lead and relative soil moisture.
Scrap Area #3 CSSA3-2A (3-6") CSSA3-2R (0-2") CSSA3-1R (0-2") CSSA3-2R (3-6") CSSA3-5B (3-6") CSSA3-4R (0-2") CSSA3-5R (19-24")	Samples will be collected within this area using a hand auger.	The samples will be collected at previous sampling locations and depths and submitted for laboratory analysis of total lead, SPLP lead, and relative soil moisture. Locations and depths chosen over a range of previously reported concentrations and soil types. Locations/depths are highlighted in orange in Appendix D, Table 1.
Battery Storage Area CSBA-6 (8-16"), CSBA-10 (7-12"), CSBA-9A (0-2"), CSBA-10 (0-2"), CSBA-7A (7-12") CSBA-10A (7-12") CSBA-6 (17-22")	Using a Geoprobe® a soil core/samples will be recollected from previous sampling locations	The samples will be collected at previous sampling locations and depths and submitted for laboratory analysis of total lead, SPLP lead, and relative soil moisture. Locations/depths are highlighted in orange in Appendix D, Table 1.

Location	Sample Collection Information	Rational for Location and Collection
Boring Location GP-10 Area Samples GP-10A-2 (0-2") GP-10A (0-2") GP-10A (3-6") GP-10A-1 (3-6") GP-10C (0-2")	Samples will be collected within this area using a hand auger.	The samples will be collected for laboratory analysis of total lead, SPLP, and relative soil moisture. Locations/depths are highlighted in orange in Appendix D, Table 1.

*Samples will be held at the laboratory pending total lead results and may be later submitted for SPLP analysis.

Terracon field personnel will record sample locations and descriptions of the characteristics for each soil sample including lithology, color, and relative moisture content. Appropriate personal protective equipment (PPE) will be used by field personnel during field activities.

4.3 Sample Handling

Soil samples collected with the Geoprobe® will be in PVC liners. At locations that are inaccessible to the Geoprobe® unit soil samples will be collected using a hand auger.

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. The groundwater samples will be split at each of the boring locations, with one 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.

Samples selected for laboratory testing will be placed into laboratory-supplied containers and in an insulated cooler for overnight shipment to the laboratory.

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.

4.4 QC Sample Collection

The table below is a summary of QC sample collection and analysis information for the proposed work scope.

Type	Sample Collection Information	Rational
GP-B (Duplicate)	A duplicate groundwater sample will be collected from either boring location GP-11 or GP-12, the sample will be split with one 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.	The duplicate will be collected and analyzed to meet the QA/QC requirements
Equipment Blank	An equipment blank will be collected and analyzed for both total and dissolved metals. The sample collected for dissolved metals will be field filtered with a new single-use 0.45 micron high-capacity filter prior to preservation.	The equipment blank will be collected and analyzed to meet the QA/QC requirements.

QC procedures for 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. Field and trip blanks are not proposed as samples are being subjected to metals analysis only. Duplicates are not required for soil samples, per the PSAP.

4.5 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 Supplemental Phase II 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 table(s) of previous assessment results and supplemental laboratory analytical results
- laboratory analytical reports
- 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 PSAP amendment 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.

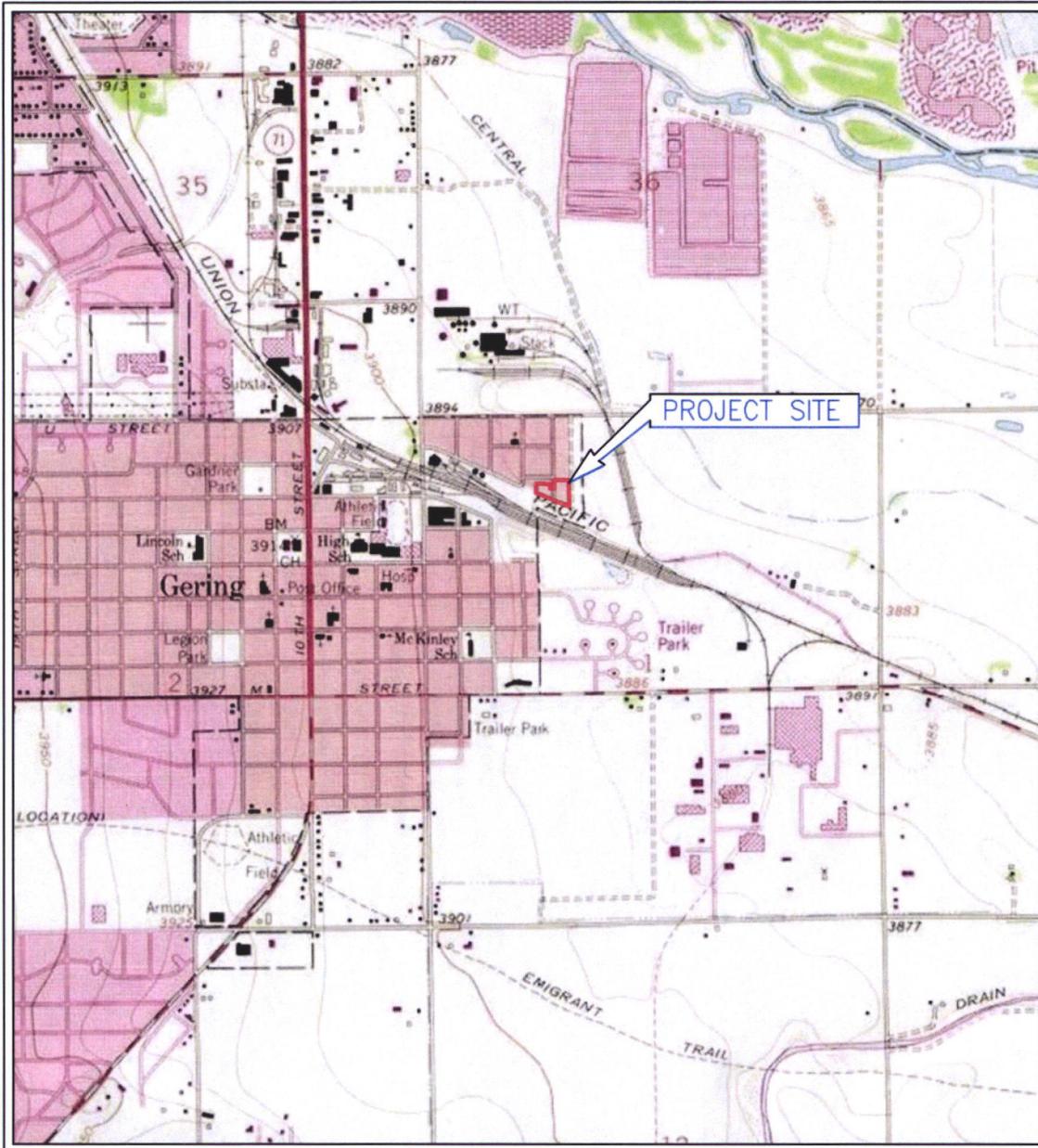
8.0 KEY UNDERSTANDINGS

- 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 three weeks after receipt of the results from the laboratory.

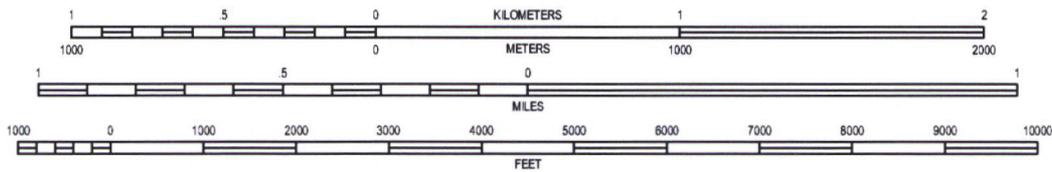
9.0 GENERAL COMMENTS

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



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

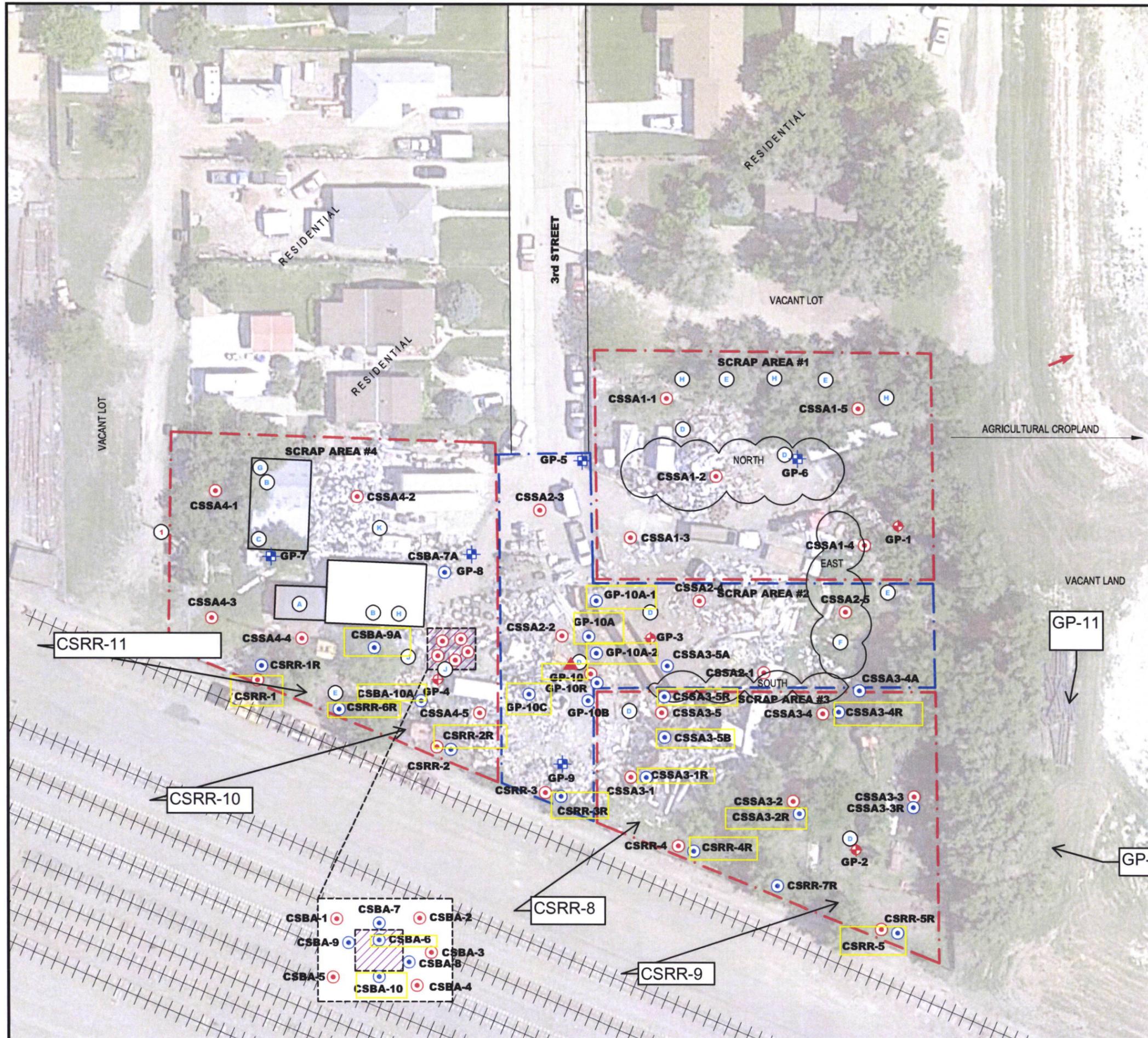
Terracon
Consulting Engineers and Scientists

15080 A CIRCLE OMAHA, NE 68144
PH. (402) 330-2202 FAX. (402) 330-7606

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 OUT-OF-SERVICE HAND PUMP (CONNECTED TO CITY WATER)
- 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

- GP-2 + TEMPORARY WELL GEOPROBE LOCATION SOIL & GROUNDWATER
- GP-6 + GEOPROBE LOCATION SOIL & GROUNDWATER
- GP-10 ▲ GEOPROBE LOCATION SOIL ONLY
- CSSA1 ○ COMPOSITE SAMPLES SCRAP AREA #1
- CSSA2 ○ COMPOSITE SAMPLES SCRAP AREA #2
- CSSA3 ○ COMPOSITE SAMPLES SCRAP AREA #3
- CSSA4 ○ COMPOSITE SAMPLES SCRAP AREA #4
- CSBA ○ COMPOSITE SAMPLES BATTERY STORAGE AREA
- CSRR ○ COMPOSITE SAMPLES RAILROAD TRACKS
- SOIL SAMPLE COLLECTED 8/31-9/1/17
- SOIL PILES
- For PSAPA II yellow designated locations will be sampled

IMAGE SOURCE: GOOGLE EARTH PRO, 2014

DESIGNED BY: MRH	1/12/2018	2
DRAWN BY: PAI		
APPROVED BY: MEH		
SCALE: AS SHOWN		
DATE: 1/12/18		
JOB NO. 0517725AC02		
ACAD. NO.		
EXHIBIT:		

SAMPLING LOCATION DIAGRAM

B & T METALS
1855 3rd STREET

GERING NEBRASKA

Terracon
Consulting Engineers and Scientists

OMAHA, NE 68144
PH. (402) 330-2202
FAX. (402) 330-7606

REV.	DATE	BY	DESCRIPTION

APPENDIX B

Property-Specific Sampling and Analysis Plan Amendment (Revision 1)

B&T Metals

1855 3rd 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 3rd 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.

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>
1.0 INTRODUCTION	1
1.1 Objective.....	1
2.0 SCOPE OF SERVICES.....	2
3.0 SAMPLING APPROACH	3
4.0 FIELD PROCEDURES	3
4.1 Soil Collection	3
4.2 Sample Handling.....	5
4.3 QC Sample Collection	5
4.4 Cleaning and Investigation Derived Waste	6
5.0 REPORTING	6
6.0 SCHEDULE.....	6
7.0 HEALTH AND SAFETY	7
8.0 KEY UNDERSTANDINGS	7
9.0 GENERAL COMMENTS.....	7

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 3rd 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 3rd 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

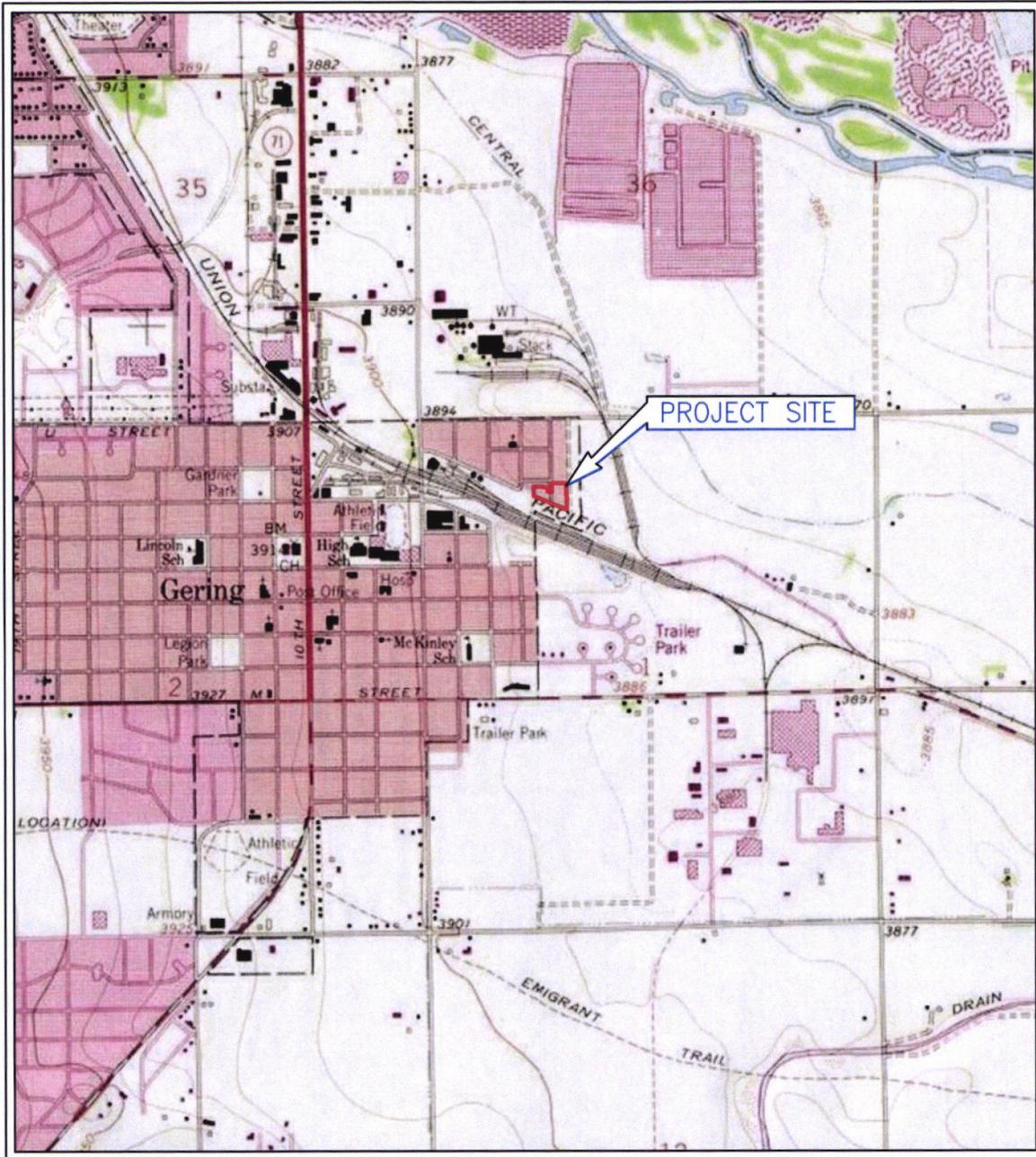
The Health and Safety Plan has been approved and is provided in the Property-Specific Sampling and Analysis Plan, Revision 2 (PSAP), dated September 12, 2016 located in Appendix B.

8.0 KEY UNDERSTANDINGS

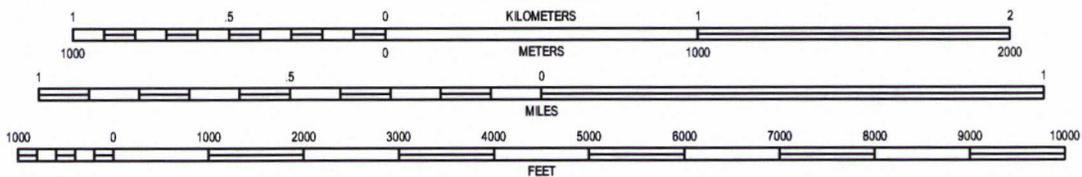
- Terracon will require access during normal business hours.
- Terracon does not warrant the work of regulatory agencies or other third parties supplying information used in the compilation of the report.
- Services will be initiated upon approval of this work plan and authorization to proceed by the 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.



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 Mngr:	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

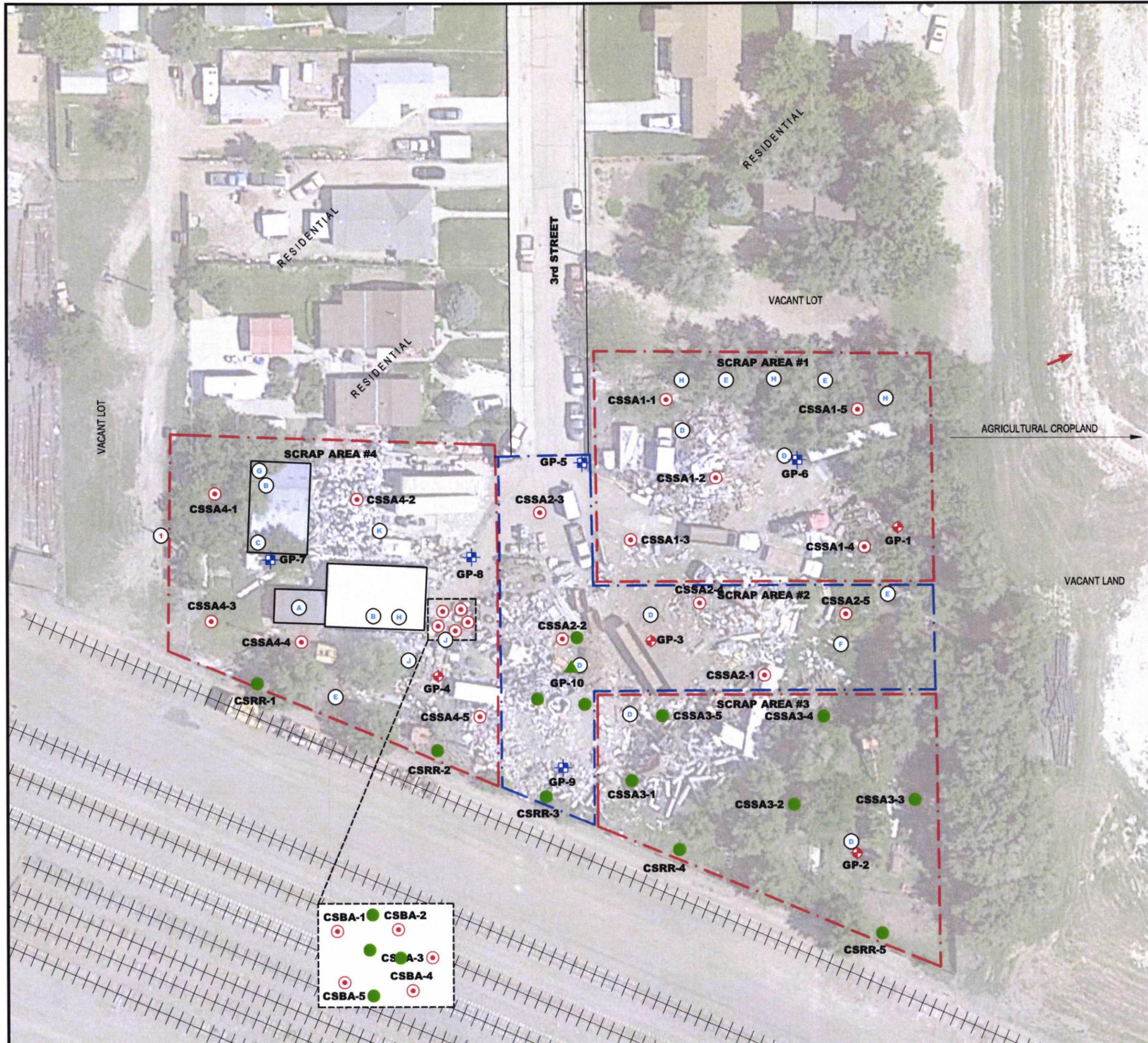
B & T METALS
1855 3rd STREET

GERING

NEBRASKA

EXHIBIT

1



- GENERAL LEGEND**
- (I) POLE-MOUNTED TRANSFORMER
 - (A) OFFICE
 - (B) SHOP BUILDING
 - (C) FRENCH DRAIN
 - (D) STAINED SOIL
 - (E) 55-GALLON DRUMS
 - (F) OUT-OF-SERVICE HAND PUMP (CONNECTED TO CITY WATER)
 - (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**
- GP-2 + TEMPORARY WELL GEOPROBE LOCATION SOIL & GROUNDWATER
 - GP-6 + GEOPROBE LOCATION SOIL & GROUNDWATER
 - GP-10 ▲ GEOPROBE LOCATION SOIL ONLY
 - CSSA1 ○ COMPOSITE SAMPLES SCRAP AREA #1
 - CSSA2 ○ COMPOSITE SAMPLES SCRAP AREA #2
 - CSSA3 ○ COMPOSITE SAMPLES SCRAP AREA #3
 - CSSA4 ○ COMPOSITE SAMPLES SCRAP AREA #4
 - CSBA ○ COMPOSITE SAMPLES BATTERY STORAGE AREA
 - CSRR ○ COMPOSITE SAMPLES RAILROAD TRACKS
 - PROPOSED XRF SCREENING LOCATIONS

IMAGE SOURCE: GOOGLE EARTH PRO, 2014

PROPOSED SAMPLING LOCATION DIAGRAM

B & T METALS
 1855 3rd STREET
 GERING, NEBRASKA

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REV.	DATE	BY	DESCRIPTION

DESIGNED BY: MRH	2
DRAWN BY: PAI	
APPROV. BY: MEH	
SCALE: AS SHOWN	
DATE: 8/31/16	
JOB NO. 05159093	
ACAD NO. 05159093C02	
EXHIBIT:	

Property-Specific Sampling and Analysis Plan, Revision No. 2

B&T Metals

1855 3rd 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 3rd 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

B&T Metals PSAP, Revision No. 2

EPA Brownfields Hazardous Substance Assessments ■ Gering, Nebraska
September 12, 2016 ■ Terracon Project No. 24159093 / 05159093

Terracon

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.

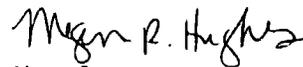
If there are questions concerning the PSAP or if we may be of further assistance, please contact the Phase II Assessment Coordinator, Ms. Megan Hughes at [402-384-7025] or Megan.Hughes@terracon.com. Alternatively, you may also contact the Senior Technical Reviewer, Mr. Mike Hagemester at [402-384-7019] or Mike.Hagemester@terracon.com.

Sincerely,

Terracon Consultants, Inc.



Michael E. Hagemester, P.E.
Senior Technical Reviewer



Megan R. Hughes
Phase II Assessment Coordinator

MEH/MRH:meh/kmt

TABLE OF CONTENTS (REVISION 0)

	<u>Page</u>
1.0 Introduction	1
1.1 Objective	1
1.2 Site Location and Background Information	2
2.0 Scope of Services	3
3.0 Project organization and responsibility	3
4.0 Sampling Approach	3
5.0 Field Procedures	4
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
6.0 Reporting	10
7.0 Schedule	10
8.0 Health and safety	11
9.0 Key understandings	11
10.0 General Comments	11

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 3rd 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 3rd 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 ₂ 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 – <i>Tremie</i> 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.

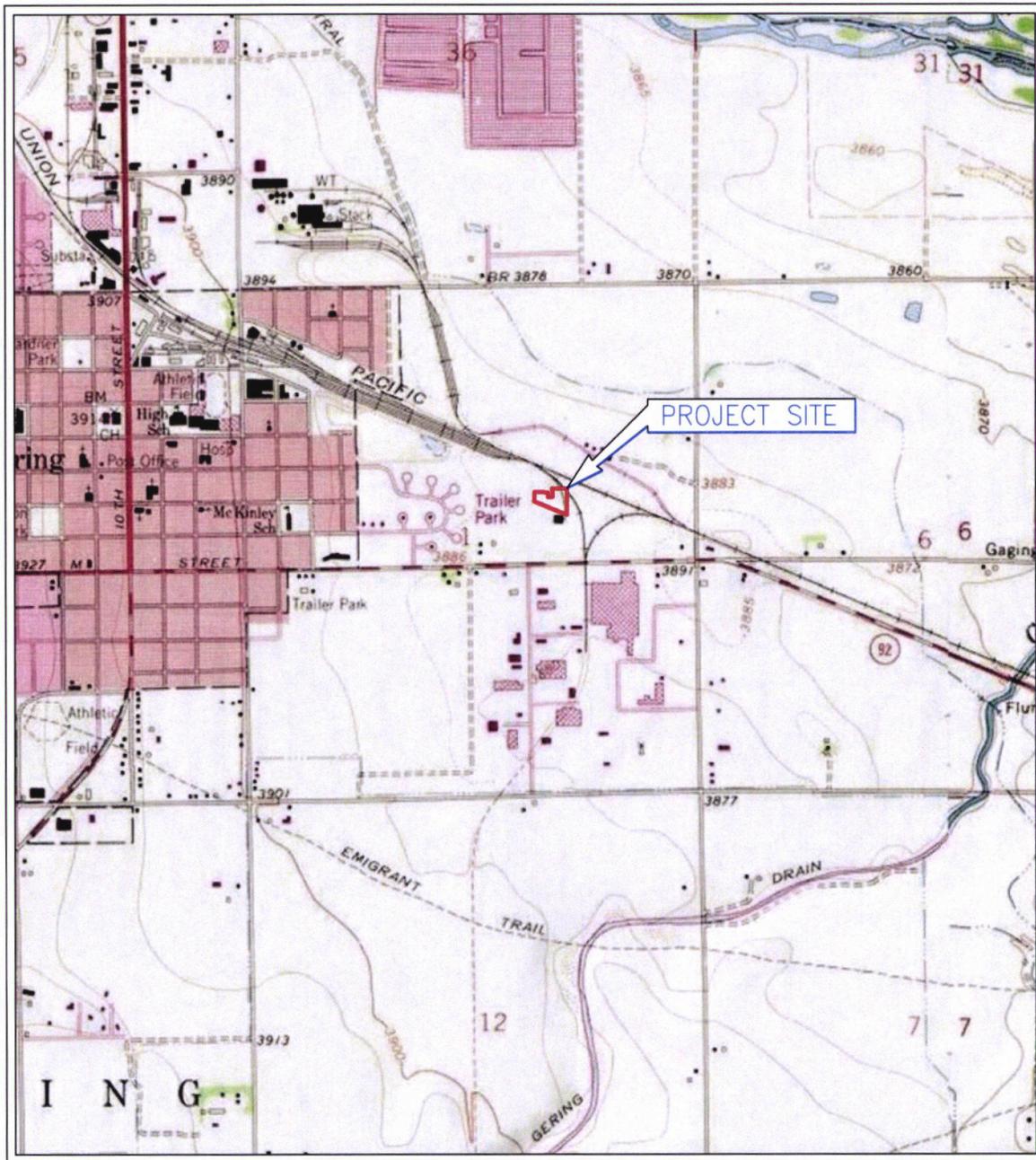
9.0 KEY UNDERSTANDINGS

- 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.

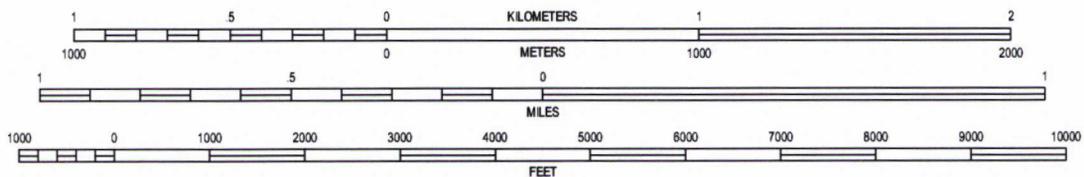
10.0 GENERAL COMMENTS

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



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 Mngr:	MRH	Project No:	05159093
Drawn By:	PAI	Scale:	AS SHOWN
Checked By:	MRH	File No:	05159093C02
Approved By:	MEH	Date:	8/31/16

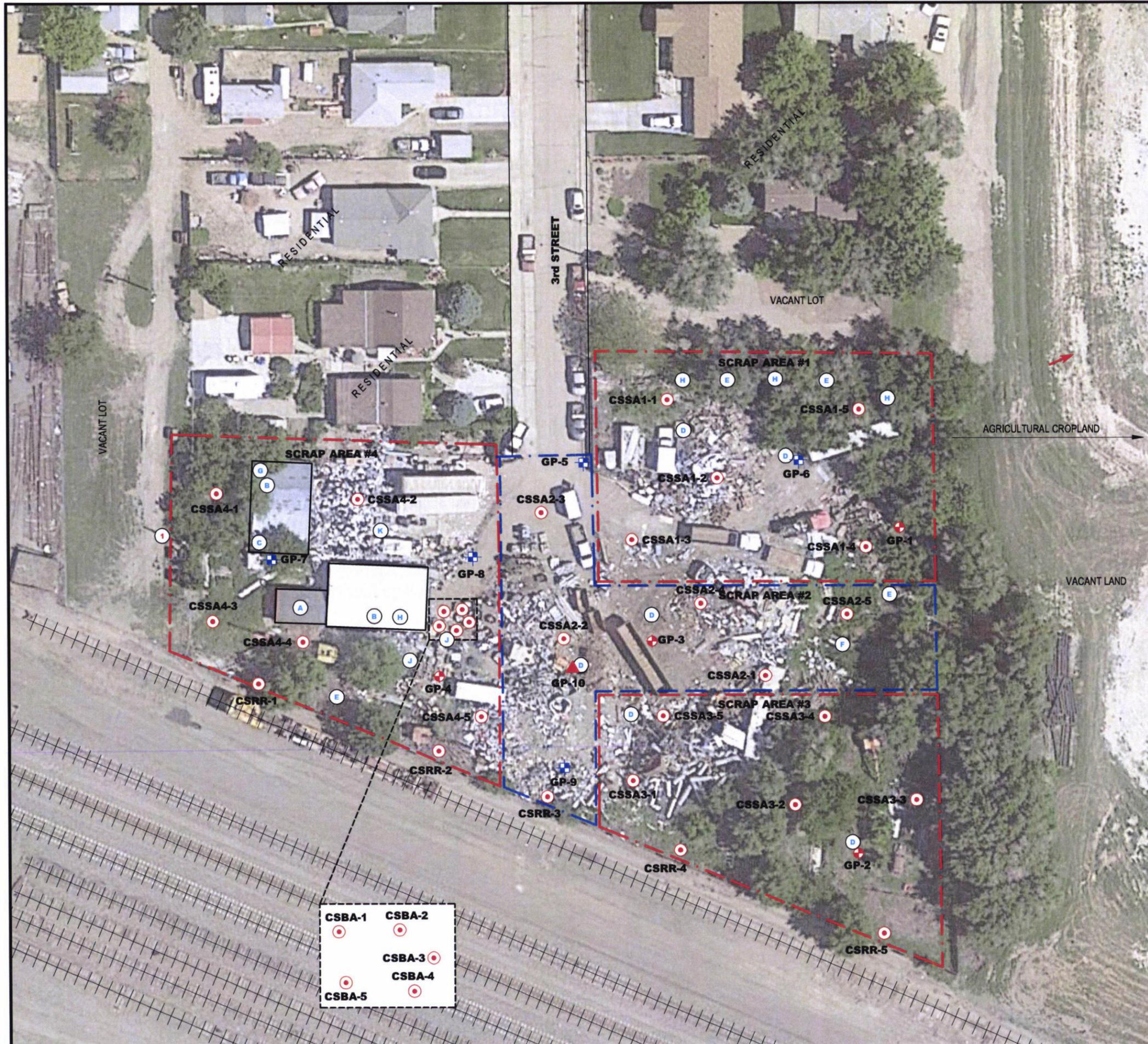
Terracon
Consulting Engineers and Scientists
15080 A CIRCLE OMAHA, NE 68144
PH. (402) 330-2202 FAX. (402) 330-7806

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

- GP-2 (red circle with cross) TEMPORARY WELL GEOPROBE LOCATION SOIL & GROUNDWATER
- GP-6 (blue square with cross) GEOPROBE LOCATION SOIL & GROUNDWATER
- GP-10 (red triangle) GEOPROBE LOCATION SOIL ONLY
- CSSA1 (red circle with dot) COMPOSITE SAMPLES SCRAP AREA #1
- CSSA2 (red circle with dot) COMPOSITE SAMPLES SCRAP AREA #2
- CSSA3 (red circle with dot) COMPOSITE SAMPLES SCRAP AREA #3
- CSSA4 (red circle with dot) COMPOSITE SAMPLES SCRAP AREA #4
- CSBA (red circle with dot) COMPOSITE SAMPLES BATTERY STORAGE AREA
- CSRR (red circle with dot) COMPOSITE SAMPLES RAILROAD TRACKS

IMAGE SOURCE: GOOGLE EARTH PRO, 2014

PROPOSED SAMPLING LOCATION DIAGRAM

Terracon
 Consulting Engineers and Scientists
 15080 A. CIRCLE OMAHA, NE 68144
 PH. (402) 330-2202 FAX. (402) 330-7606

REV.	DATE	BY	DESCRIPTION

DESIGNED BY: MRH	PAI	AS SHOWN	8/31/16	05159093	05159093C02	2
DRAWN BY: PAI	MEH	AS SHOWN	8/31/16	05159093	05159093C02	2
APP'D BY: MEH	AS SHOWN	8/31/16	05159093	05159093C02	2	
SCALE: AS SHOWN	8/31/16	05159093	05159093C02	2		
DATE: 8/31/16	05159093	05159093C02	2			
JOB NO. 05159093	05159093C02	2				
ACAD NO. 05159093C02	2					
EXHIBIT: 2						

NEBRASKA
 1855 3rd STREET
 GERING

B & T METALS

GERING

APPENDIX B

**TABLE 1
SAMPLING AND ANALYSIS MATRIX SUMMARY
Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals
1855 3rd 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 ₃ 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 3rd 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

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 SAMPLING AND ANALYSIS MATRIX SUMMARY
 Property Specific Sampling and Analysis Plan, Revision No. 2**

**B&T Metals
 1855 3rd 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

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 SAMPLING AND ANALYSIS MATRIX SUMMARY
 Property Specific Sampling and Analysis Plan, Revision No. 2**

**B&T Metals
 1855 3rd 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
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

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SAMPLING AND ANALYSIS MATRIX SUMMARY
Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals
1855 3rd 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 ₃ 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

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B&T Metals
1855 3rd 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 ₃ 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 ₃ 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

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SAMPLING AND ANALYSIS MATRIX SUMMARY
Property Specific Sampling and Analysis Plan, Revision No. 2**

B&T Metals
1855 3rd 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 ₃ 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 DETECTION 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

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):

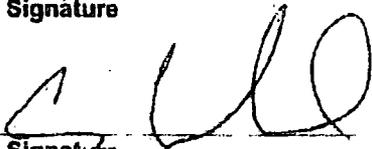
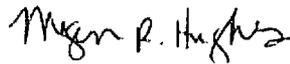
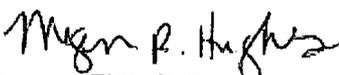
5.3 Reconciliation with User Requirements—Data Quality Objectives (Check appropriate box):

- 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.

<u>Paul Snarr</u> Brownfield Project Manager (name)	 Signature	<u>9-13-2016</u> Date
<u>Clay Muirhead</u> Contractor Project Manager (name)	 Signature	<u>9/12/16</u> Date
<u>Dave Koch</u> Contractor QA Officer/Designee (name)	BY  Signature	<u>9/13/2016</u> Date
<u>Megan Hughes</u> Contractor Assessment Coordinator (name)	 Signature	<u>9/13/2016</u> Date
<u>Sarah Sweeney</u> NDEQ Project Manager/Designee (name)	Signature	Date
<u>Jennifer Morris</u> EPA Brownfields Grant Manager (name)	Signature	Date

APPENDIX D

TABLE 3 – 2016 PROJECT SCHEDULE
B&T METALS PHASE II ENVIRONMENTAL ASSESSMENT
1855 3RD STREET
GERING, NEBRASKA
TERRACON PROJECT NO. 05159093

Activity	Planned Start Date	Planned Completion Date
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 3rd Street
Gering, Scotts Bluff County, Nebraska**

June 25, 2016
Terracon Project No. 05159093

Client:
City of Gering

Prepared by:
Terracon Consultants, Inc.
Omaha, Nebraska

Site Safety and Health Plan

City of Gering ■ Western Sugar Cooperative
November 12, 2015 ■ Terracon Project No. 05159093



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 3rd 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:

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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/m³ 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/m³ 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/m³ 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/m³ OSHA PEL (Chromium 0)
500 ug/m³ OSHA PEL (Chromium III)
100 ug/m³ 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/m³ 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/m³ OSHA PEL

5 ug/m³ 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)_____

Ambulance:	911
Fire Department:	911
Police:	911
Poison Control Center:	1-800-222-1222
WorkCare (Managed Care Provider)	888-449-7787
Project Manager:	402-384-7019
Terracon Safety and Health Manager:	1-913-577-0419
SSO:	402-384-7025 402-290-4815 (cell)

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.

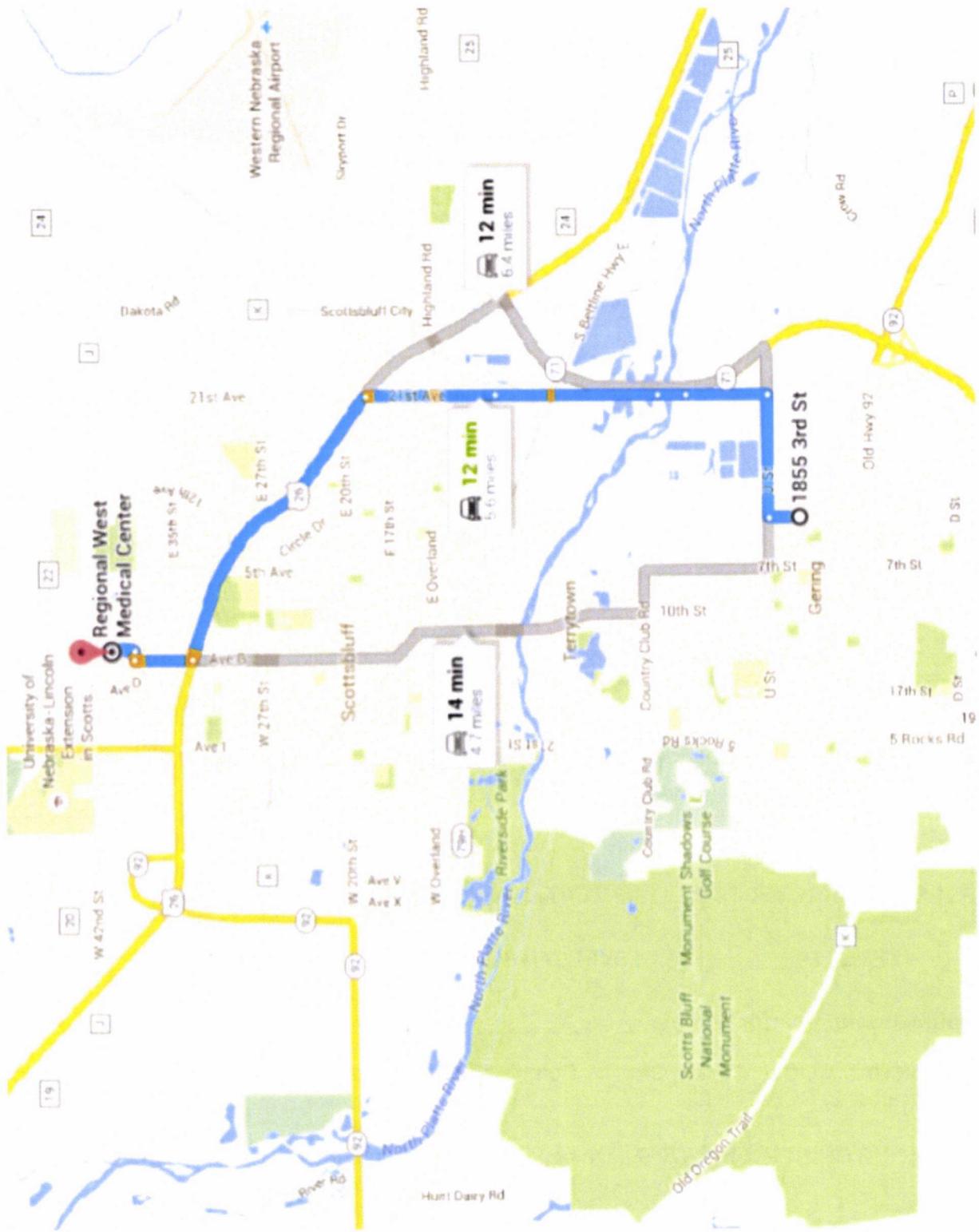
17.0 WORK AROUND OPEN WATER

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 (sunscreens 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



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:

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)

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"/>	<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 AQUISITION:

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 Rinsate 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

Date

Megan Hughes

Contractor Project Manager
(name)

Signature

Date

Mike Hagemeister

Contractor QA Officer/Designee
(name)

Signature

Date

Megan Hughes

Contractor Assessment Coordinator
(name)

Signature

Date

Nancy Harris

NDEQ Project Manager/Designee
(name)

Signature

Date

Deferred to NDEQ

EPA Brownfields Grant Manager
(name)

Signature

Date

NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

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 3rd Street

City: Gering

County: Scotts Bluff

State: Nebraska

ZIP: 68341

Site Point of Contact (POC) Name: Mr. Brendan Lilley

POC Email: BLilley@gering.org

Telephone: 308-436-5096

FAX:

Directions to Site: West Entrance off of N. 7th Street

Map(s) attached: Yes

2. PROJECT MANAGEMENT AND PROJECT INFORMATION:

Distribution List (Check as appropriate and identify):

- Brownfield Project Manager: Brendan Lilley and TCD
- Contractor Project Manager: Megan Hughes
- Contractor Assessment Coordinator: Megan Hughes

- NDEQ Project Manager: Nancy Harris
- Contractor QA Officer: Mike Hagemeister
- EPA Brownfields Grant Manager:

2.1 Project and Task Organization (Check as appropriate and identify):

- Brownfield Project Manager: Brendan Lilley and TCD
- Contractor Project Manager: Megan Hughes
- Site Safety Officer: Andrew Herman
- Senior Technical Reviewer: Mike Reif
- NDEQ Project Manager: Nancy Harris
- Contractor QA Officer: Mike Hagemeister
- EPA Brownfields Grant Manager: deferred to NDEQ
- Contractor Assessment Coordinator: Megan Hughes
- Field Coordinator:

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, 201, Phase II ESA Addendum, Revision 0 dated January 12, 2018 (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):

- Pre-CERCLIS Screening Assessment (PCSA)
- Combined Preliminary Assessment/Site Inspection (PA/SI)
- Focused Site Inspection (FSI)
- Expanded Site Inspection (ESI)
- Section 128(a) Assessment - Phase I Investigation
- Other (Specify and attach description): Section 104(k) Phase II Assessment
- Preliminary Assessment (PA)
- Abbreviated Preliminary Assessment (APA)
- Site Inspection (SI)
- Site Re-Assessment (SI-2)
- Section 128(a) Assessment - Phase II Investigation

2.4 Quality Objectives and Criteria for Measurement Data: (Check appropriate boxes)

NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

- | | | |
|---------------------|---|---|
| Accuracy: | <input checked="" type="checkbox"/> According to Generic Site Assessment QAPP | <input type="checkbox"/> Identified in attached table |
| 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 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"/> | <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 AQUISITION:

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. 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 is judgmental 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 and Phase II ESA Addendum. 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, PSAPA, and PSAP II 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 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 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 checked="" type="checkbox"/> Duplicates | (frequency 1 per 20) | 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 Rinsate Blanks | (frequency 1) | 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: |

NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

- 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: _____
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: _____ Calibration Frequency: _____ 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):

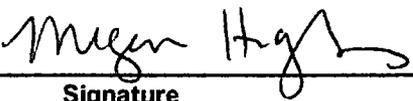
- Data review and verification will be performed by Project Manager or QC officer delegate in accordance with Generic QAPP, with data validation conducted according to Generic QAPP

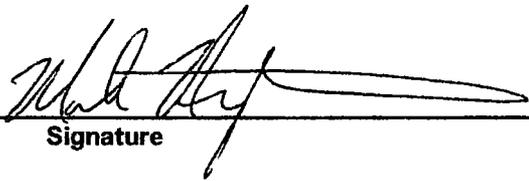
NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

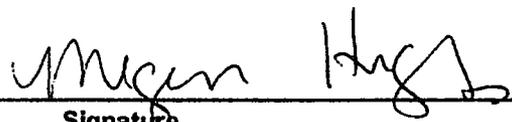
6. APPROVAL SIGNATURES & DATES:

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.

<u>Brendan Lilley</u> Brownfield Project Manager (name)	 Signature	<u>6/6/18</u> Date
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<u>Megan Hughes</u> Contractor Project Manager (name)	 Signature	<u>6/6/18</u> Date
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<u>Mike Hagemeister</u> Contractor QA Officer/Designee (name)	 Signature	<u>6/6/18</u> Date
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<u>Megan Hughes</u> Contractor Assessment Coordinator (name)	 Signature	<u>6/6/18</u> Date
--	---	-----------------------

<u>Nancy Harris</u> NDEQ Project Manager/Designee (name)	Signature	Date
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<u>Deferred to NDEQ</u> EPA Brownfields Grant Manager (name)	Signature	Date
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NDEQ SITE-SPECIFIC QAPP ADDENDUM FORM (Modified)

APPENDIX D

PSAPA Amendment II testing legend:

Orange highlighted rows: for SPLP lead

Pink highlighted rows: for delineation of total lead (samples held for potential SPLP lead testing)

**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 Collection Equipment: Geoprobe (G) or Hand Auger (H)	Lithology	Color	Relative Moisture Content (%)	XRF Lead Result (ppm)	Laboratory Total Lead Result (mg/kg)
Boring Location GP-10 Area Samples										
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, -103.64995	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	
Scrap Area 3 Samples										
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 organic	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 organic	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 organic	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	
Concrete Battery Storage Pad Area Samples										
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 Collection 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
Railroad Track Area Samples										
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	
¹ NDEQ VCP RG - Residential Direct Contact Exposure Pathway									400	400
² 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

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

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

APPENDIX F

PROBE LOG NO. GP-11

PROJECT: B & T Metals

CLIENT: City of Gering NE

SITE:
Gering, NE

GRAPHIC LOG	LOCATION See Site Diagram (Exhibit 2, Appendix A) Latitude: 41.82742° Longitude: -103.64896°	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (Ft.)	OVA/PID (ppm)
DEPTH	MATERIAL DESCRIPTION	ELEVATION (Ft.)				
1.0	SILTY CLAY , dark brown, dry	3784			1	
	SILTY CLAY (CL-ML) , light brown, dry				2	
4.0	SANDY SILTY CLAY (CL-ML) , light brown, dry	3781			3	
8.0	SANDY SILT (ML) , light brown, wet	3777			3	
12.0	SANDY SILT (ML) , light brown, wet	3773			2.5	
16.0	SANDY SILT (ML) , wet	3769	▽		4	
20.0	Screen deployed at 10-20 feet.	3765				
	Probe Terminated at 20 Feet	3765				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Macrocore 2.25", SP16

Abandonment Method:
Boring backfilled with hydrated bentonite

See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ 13.9 ft



15080 A Cir
Omaha, NE

Probe Started: 06-19-2018

Probe Completed: 06-19-2018

Drill Rig:

Driller:

Project No.: 05177725A

Exhibit: C-3

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 05177725A BORING LOGS.GPJ TERRACON DATATEMPLATE.GDT 8/10/18

PROBE LOG NO. GP-12

PROJECT: B & T Metals

CLIENT: City of Gering NE

SITE:

Gering, NE

GRAPHIC LOG	LOCATION See Site Diagram (Exhibit 2, Appendix A) Latitude: 41.82728° Longitude: -103.64896°	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (Ft.)	OVA/PID (ppm)
	Surface Elev.: 3886 (Ft.)					
	ELEVATION (Ft.)					
	0.5 SILT , dark brown, dry	3885.5			0.5	
	SILT (ML) , sandy, light brown, dry				3.5	
	4.0	3882			3	
	SANDY SILT (ML) , light brown, dry				3.5	
	8.0	3878	▽		4	
	SILTY SAND (SM) , light brown, wet				4	
	12.0	3874			4	
	SILTY SAND (SM) , light brown, wet				4	
	16.0	3870			4	
	SILTY SAND (SM) , light brown, wet				4	
	Screen deployed at 10-20 feet.				4	
	20.0	3866				
	Probe Terminated at 20 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown. Hammer Type: Automatic

Advancement Method:
Macrocore 2.25", SP16

Abandonment Method:
Boring backfilled with hydrated bentonite

See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ 9.9 ft



15080 A Cir
Omaha, NE

Probe Started: 06-19-2018

Probe Completed: 06-19-2018

Drill Rig:

Driller:

Project No.: 05177725A

Exhibit: C-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 05177725A BORING LOGS.GPJ TERRACON_DATATEMPLATE.GDT 8/10/18

APPENDIX G



Photo #1 View of the boring location GP-12



Photo #2 View of sample location CSSA3-5R



Photo #3 View of sampling location CSSA3-5B



Photo #4 View of sampling location CSSA3-1R



Photo #5 View of sampling location CSRR-6R



Photo #6 View of sampling location CSRR-5R



Photo #7 View of sampling location CSRR-1



Photo #8 View of sampling location CSBA-10A



Photo #9 View of sampling location CSBA-9A



Photo #10 View of sampling location CSBA-6



Photo #11 View of sampling location CSBA-7A