



Inactive CCR Impoundment Closure Certification

for Compliance with the Coal Combustion
Residuals (CCR) Rule

Valmont Station

Public Service Company of Colorado

May 6, 2022



Table of Contents

Certification	iii
1.0 Introduction.....	4
2.0 Facility Description.....	4
2.1 Inactive Pond Closure	4
3.0 Groundwater Monitoring.....	8
4.0 Closure Criteria.....	9
4.1 Sampling Results	9

List of Tables

Table 1. Groundwater Protection Standards for Detected Appendix IV COIs for the Settling Pond §257.95(d)(3)	8
Table 2. April 2021 Groundwater Concentrations Compared to Groundwater Protection Standards for Detected Appendix IV COIs for the Settling Pond 257.95(d)(3)	9

List of Figures

Figure 1. Vicinity Map for Valmont Station.....	6
Figure 2. Valmont Station – CCR units and monitoring well location map.	7

List of Attachments

Attachment 1: CCR Removal Certification
Attachment 2: April 2021 Laboratory Report

Table of Abbreviations and Acronyms

Abbreviation	Definition
BTV	background threshold value
CCR	Coal Combustion Residuals
CFR	Code of Federal Register
COI	constituent of interest
EPA	Environmental Protection Agency
GPS	Groundwater Protection Standard
HDR	HDR Engineering, Inc.
PSCo	Public Service Company of Colorado
SSI	statistically significant increase
TSS	Total Suspended Solids

Certification

Inactive CCR Impoundment Closure Certification for Valmont Station

I certify that to the best of my knowledge, the inactive Settling Pond at Valmont Station has completed closure in accordance with the Closure Plan and the requirements of the Federal Coal Combustion Residuals Rule (40 CFR 257, specifically §257.102(c) *Closure by removal of CCR*).

I am duly licensed Professional Engineer under the laws of the State of Colorado.



Matthew Rohr, PE
Colorado PE License 0053467
License renewal date October 31, 2023

5/6/2022

1.0 Introduction

The U.S. Environmental Protection Agency's (EPA's) final Coal Combustion Residuals (CCR) Rule establishes comprehensive a set of requirements for the management and disposal of CCR (or coal ash) in landfills and surface impoundments by electric utilities. Valmont Station, located in Boulder County, Colorado is owned and operated by Public Service Company of Colorado (PSCo), an Xcel Energy Company. Xcel Energy contracted HDR Engineering, Inc. (HDR) to provide oversight and engineer certification of closure by removal of coal combustion residuals (CCR) from the inactive CCR surface impoundment at the Valmont Generating Station under Title 40 of the Code of Federal Register (CFR) Part 257 (the CCR Rule).

2.0 Facility Description

The Valmont Station (Valmont or Site) is located in Boulder County, CO (**Figure 1**). Valmont is a former coal-fired, steam turbine electric generating station. Valmont retired the last coal fired unit in October 2017. One CCR surface impoundment, the Settling Pond, ceased receiving CCR prior to October 19, 2015 and therefore met the definition of an "Inactive CCR Surface Impoundment". The Settling Pond was located immediately adjacent on the west side of Leggett Reservoir (**Figure 2**).

2.1 Inactive Pond Closure

The Settling Pond was closed by removal of all CCR between January 9 and July 21, 2017. The CCR Rule Section 257.102(c) describes 'closure through removal of CCR' as:

1. Removing and decontaminating all areas affected by releases from the CCR unit;
2. Removal and decontamination are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed; and
3. Groundwater monitoring concentrations do not exceed the groundwater protection standards established pursuant to 40 CFR §257.95(h).

Closure of this impoundment was completed with oversight by an HDR Professional Engineer, who certified that removal of CCR from the impoundment met the first two criteria in 40 CFR §257.102(c). After excavation was deemed complete by a visual inspection, confirmatory soil sampling was conducted on the impoundment bottom to provide analytical validation of CCR removal. This approach complied with the Closure Plan for the inactive impoundment. The certification of CCR removal addressing the first two closure requirements of 40 CFR §257.102(c) was documented in a closure letter dated June 14, 2018, included in **Attachment 1**.

The third requirement for closure of a CCR surface impoundment through removal of CCR (i.e., clean closure) is a demonstration that groundwater monitoring concentrations do not exceed the groundwater protection standards (GPS) established pursuant to §257.95(h). PSCo conducted a groundwater monitoring program at the Settling Pond to meet the requirement for verification that groundwater monitoring concentrations do not exceed the GPS established pursuant to 40 CFR §257.95(h) for constituents listed in the CCR Rule Appendix IV. In compliance with the

CCR Rule, PSCo installed and certified a compliance groundwater monitoring network including one upgradient and three downgradient wells at the impoundment waste boundary. PSCo sampled for background water quality and established background threshold values. This closure certification describes the monitoring program completed by PSCo and demonstrates that the groundwater meets the closure requirements of 40 CFR §257.102(c), completing the closure for the Settling Pond.

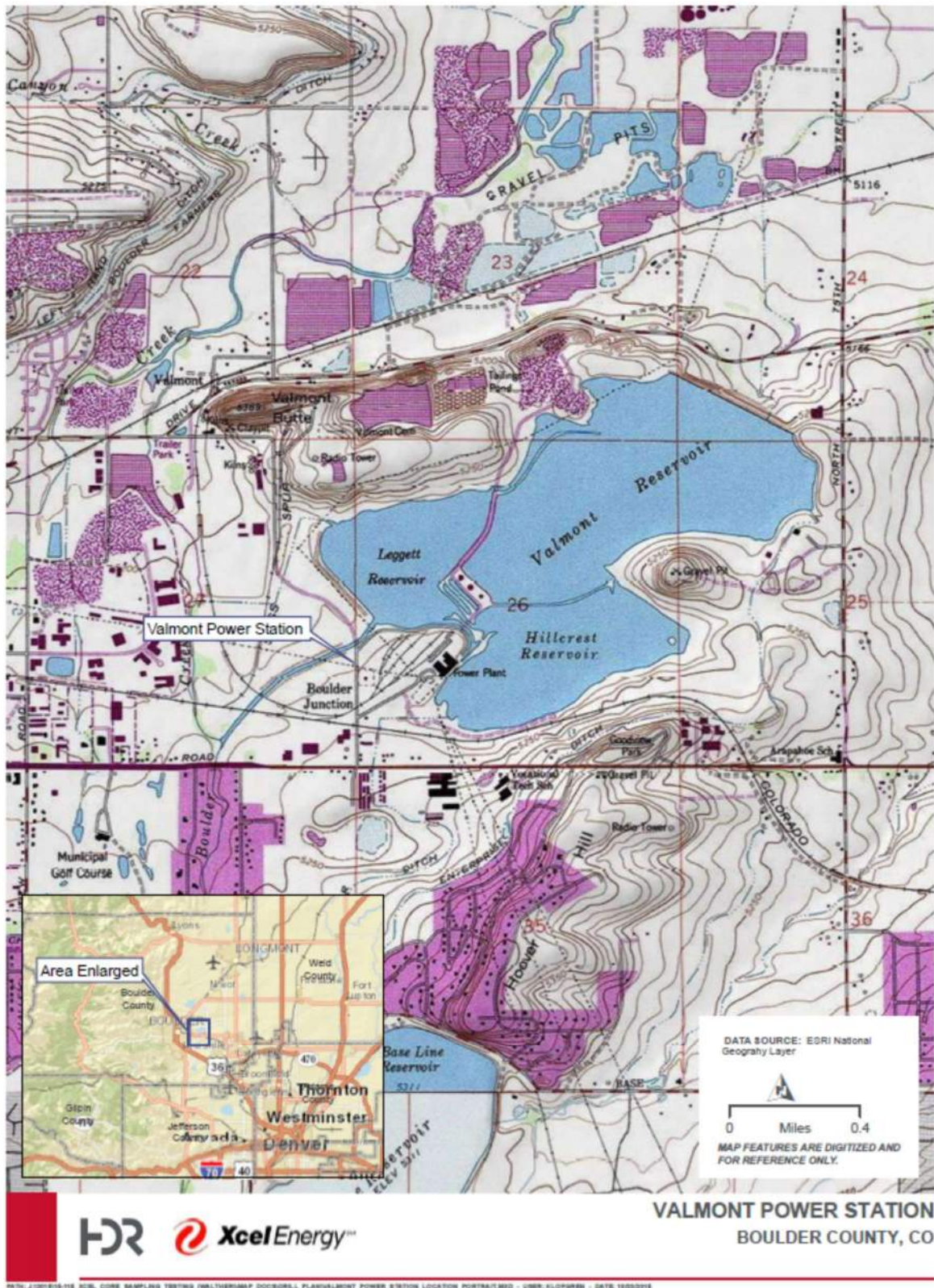


Figure 1. Vicinity Map for Valmont Station

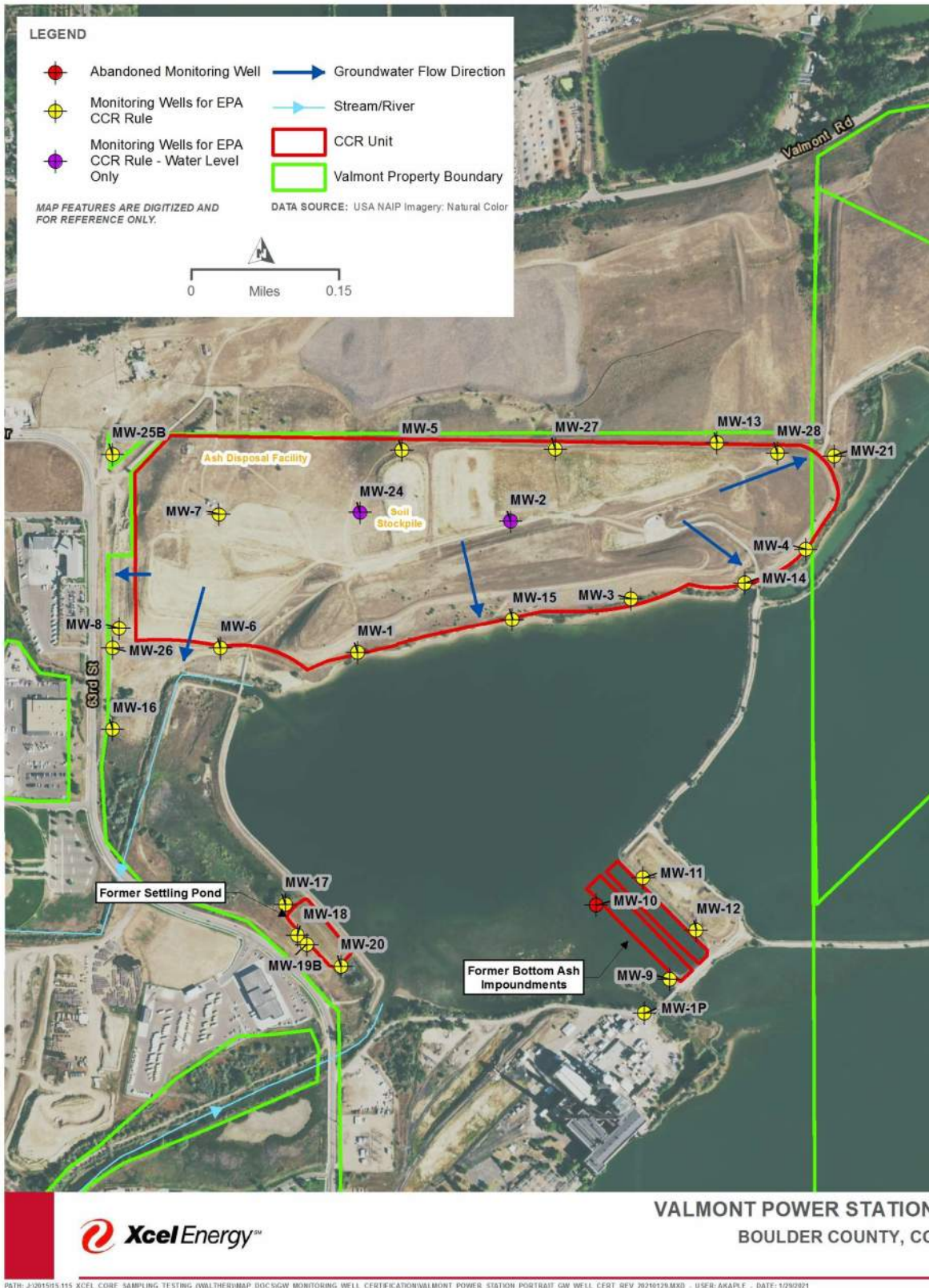


Figure 2. Valmont Station – CCR units and monitoring well location map.

3.0 Groundwater Monitoring

As described in the 2021 Annual Groundwater Monitoring and Corrective Action Annual Report and Semi-Annual Remedy Selection and Design Progress Report, Valmont was in assessment monitoring status for the Settling Pond groundwater monitoring program.

Four wells (MW-17, MW-18, MW-19B, MW-20) located around the perimeter of the (closed) Settling Pond comprise the certified monitoring network (**Figure 2**). The east side of the former pond is constrained by the Leggett reservoir embankment; thus, the four wells were sited around the other three sides of the pond to capture upgradient and downgradient conditions at the pond. The groundwater flow direction in the area of the Settling Pond is towards the northwest; therefore MW-20 is the upgradient well that represents background water quality for this CCR unit.

As stipulated in the CCR Rule, eight rounds of background groundwater sampling and the first detection monitoring sampling were completed by May 2019 for the closed Settling Pond. Background threshold values (BTVs) were calculated, and the detection monitoring results were compared to BTVs. In July 2019, a determination was made that concentrations of several Appendix III constituents of interest (COIs) had statistically significant increases (SSIs) over BTVs at one downgradient well (MW-19B). Therefore, these SSIs triggered the assessment monitoring program for the former Settling Pond. The initial assessment monitoring event was conducted on July 22, 2019, and the first semi-annual assessment monitoring event was conducted on October 22, 2019. In accordance with 40 CFR §257.95(h), GPS were established for each detected Appendix IV COI (**Table 1**).

Assessment monitoring continued in April and October 2020 and in April 2021 for the closed Settling Pond. During the April and October 2020 sampling events, detected Appendix IV COI concentrations in downgradient wells were compared against GPS and while there were one-time exceedances of GPS, it was not an SSL over GPS, in accordance with CCR Rule 257.95(f). An annual assessment monitoring event was completed April 2021 to sample all the monitoring wells around the pond (MW-17, MW-18, MW-19B, and MW-20) for all Appendix III and IV constituents plus total suspended solids (TSS).

Constituent	Unit	MCL	BTV (UTL)	GPS
Fluoride	mg/l	4.00	3.27	4.00
Arsenic	mg/l	0.0100	0.000750	0.0107**
Barium	mg/l	2.00	0.0266	2.00
Beryllium	mg/l	0.00400	0.000310	0.0040
Chromium	mg/l	0.100	0.00320	0.100
Cobalt	mg/l	0.00600*	0.000200	0.0060
Lead	mg/l	0.0150*	0.000450	0.0150
Lithium	mg/l	0.0400*	0.0429	0.0400
Molybdenum	mg/l	0.100*	0.0310	0.100
Selenium	Mg/L	0.05	0.00089	0.05
Radium-226-228	pci/l	5.0^	0.705	5.0

*EPA adopted health-based value in place of MCL.

** The upper tolerance limit (UTL) is used for GPS in arsenic when the BTV is higher than the MCL (40 CFR §257.95(h)).

^Colorado Water Quality Regulation.

4.0 Closure Criteria

The CCR Rule 40 CFR §257.102(c) indicates that removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring concentrations do not exceed the GPS. If the CCR unit status is in assessment monitoring but has not triggered assessment of corrective measures, as is the status of the closed Settling Pond, in accordance with §257.102(c) post-clean-out Appendix IV groundwater concentrations are compared to GPS and if concentrations are below GPS in all wells, then the CCR unit will be considered clean closed.

4.1 Sampling Results

In April 2021, annual assessment monitoring samples were collected from wells MW-17, MW-18, MW-19B, and MW-20 at the Settling Pond. Samples were analyzed for all Appendix III and Appendix IV COIs plus TSS. Laboratory reports for the April 2021 sample event is provided in **Attachment 2**. Downgradient well concentrations were compared against GPS and there were no exceedances (**Table 2**). Therefore, in accordance with the PSCo Statistical Procedures Plan and CCR Rule §257.102(c), clean closure criteria have been met.

Table 2. April 2021 Groundwater Concentrations Compared to Groundwater Protection Standards for Detected Appendix IV COIs for the Settling Pond 257.95(d)(3)

Constituent	Unit	GPS	April 30, 2021 Sample Results		
			MW-17	MW-18	MW-19B
Fluoride	mg/l	4.00	0.96	1.9	1.9
Arsenic	mg/l	0.0107	<0.00075	0.0019	0.00091
Barium	mg/l	2.00	0.11	0.029	0.068
Beryllium	mg/l	0.0040	<0.00031	<0.00031	<0.00031
Chromium	mg/l	0.100	<0.00098	0.0011	0.0011
Cobalt	mg/l	0.0060	0.00043	0.00019	0.00039
Lead	mg/l	0.0150	<0.00045	<0.00045	<0.00045
Lithium	mg/l	0.0400	0.0091	0.033	0.017
Molybdenum	mg/l	0.100	0.0066	0.019	0.058
Selenium	mg/l	0.05	<0.00089	<0.00089	0.017
Radium-226-228	pci/l	5.0	1.16	0.220	0.0491

In accordance with 40 CFR §257.104(d)(2-3), CCR units that elect to close by CCR removal are not subject to the post closure care criteria. Therefore, PSCo will cease groundwater monitoring for the Settling Pond. The impoundment is certified as clean closed.

Attachment 1
CCR Removal Certification

June 14, 2018

Ms. Jennifer McCarter
Xcel Energy
1800 Larimer St. Suite 400
Denver, CO 80202

**RE: Valmont Station Settling Pond
CCR Removal Certification**

Dear Ms. McCarter,

Public Service Company of Colorado (PSCo), an Xcel Energy Company, contracted with HDR Engineering, Inc. to provide oversight and engineer certification documentation of removal of coal combustion residuals (CCR) from the Settling Pond at the Valmont Generating Station (Valmont) under 40 CFR 257 (the CCR Rule). Valmont Station is located in Boulder County, Colorado. It historically consisted of six power generation units; however, coal operations ceased in 2017 (Unit 5). The site historically managed its bottom ash through ponds 3A and 3B. Bottom ash was pumped to these ponds as slurry. The inactive Settling Pond was constructed in 1973 with a PVC liner. It was used for bottom ash settling from 1973 to 1980. Bottom ash from this use had remained in the inactive pond since 1980.

Pursuant to section 257.100(c)(1) of the rule, on December 15, 2015, PSCo posted to its CCR Operating Record a Notification of Intent to Initiate Closure of this inactive impoundment through removal of CCR. On August 5, 2016, EPA published the 'Direct Final Rule', effective October 4, 2016, which eliminated Section 100 of the CCR Rule and established extended deadlines for provisions of the rule that became newly applicable to CCR impoundments that previously met the definition of 'inactive' impoundments.

The CCR Rule Section 257.102 (c) describes "closure through removal of CCR" as:

1. Removing and decontaminating all areas affected by releases from the CCR unit;
2. Removal and decontamination are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed; and
3. Groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to Section 257.95(h).

PSCo initiated and completed the physical closure of the impoundment, item 1 above, and performed the soil confirmation sampling and analytical testing to verify complete removal of areas affected by CCR (clean closure), item 2 above.

Project Approach

Establishment of Background Threshold Values

Site specific background soils were sampled at Valmont. Background soil samples were collected from multiple soil layers in eight soil borings. Each background soil boring was located hydraulically upgradient of the waste impoundment in areas unlikely to have been impacted by industrial activities at the site. From the eight borings, four samples were collected from a silt and sand layer, five samples from a clay layer, and eight samples from a lower weathered bedrock layer. Samples were collected and analyzed to establish background concentrations of the constituents of interest (COIs). The list of COIs was proposed by PSCo and agreed upon by Colorado Department of Public Health and Environment (CDPHE) upon approval of the Background Soil Sampling Plan (November 3, 2016) for PSCo's compliance with State Waste regulations (Table 1). The list of COIs approved by the CDPHE included all of the CCR Rule Appendix III and IV metals, plus several additional metals.

The results of the background soil samples were analyzed and background threshold values (BTVs) were calculated for each constituent. As recommended by the EPA Unified Guidance, HDR has selected the 95 percent upper tolerance limits (UTL95) to establish the BTVs for each of the COIs for each geologic layer. A summary of the background soil sample collection, analytical data, and statistical analyses to determine BTVs is provided in Attachment 1. The impoundment bottom after waste removal was composed of clay soil. Therefore, the BTVs for Valmont clay material are provided in Table 1.

Determination of Clean Closure Criteria

The CCR Rule 40 CFR 257.102 (c) does not define criteria to demonstrate that remaining soil is clean after removal of CCR. Therefore, multiple criteria (screening values) were used for redundant confirmation of clean closure. First, the confirmatory clay concentration (UCL95) for each COI was compared to the 2016 EPA Regional Screening Levels (RSL) (Table 1; EPA, 2016). Although the site is zoned heavy industrial, to be conservative the EPA RSLs for residential exposure scenarios were used as screening levels to determine whether constituent concentrations in clay confirmation samples warrant further investigation or cleanup. The target hazard quotient (THQ) of 0.1 was used (rather than 1.0) based on the EPA guidance to use THQ=0.1 when looking at multiple COIs. Second, the confirmatory clay concentration (UCL95) for each COI was compared to the clay BTV for each COI. Third, the EPA does not have RBSLs for radionuclides; however the EPA has Preliminary Remediation Goals (PRGs) for Radium 226 and 228 for both residential soils and worker composite soils (EPA, 2014). The PRGs for radium in residential soils are lower than certified laboratory reporting limits; therefore, the composite worker PRG is used for confirmatory soil screening (Table 2).

Pond Excavation and Confirmation Sample Collection

The Settling Pond was clean closed at Valmont Station between January 9 and July 21, 2017.

The waste material in the Settling Pond at Valmont was excavated in phases. The initial phase of excavation was on the northern half of the pond. Approximately 5 feet of coal ash and the underlying synthetic liner was removed using an excavator. The excavated coal ash was transported by haul trucks to the on-site coal ash disposal facility north of the Settling Pond. The synthetic liner in the Settling Pond was removed and transported to a licensed off-site landfill for disposal. A fractured rock and clay mixed material was exposed below the liner. A confirmatory soil sample was collected on the northern half of the pond at the bottom of the excavation (in the fractured rock/clay layer) to provide chemical validation of the pond cleanout. The soil sample was analyzed at the lab and had concentrations of vanadium and mercury over the screening levels. It was determined that the remainder of the pond would be excavated and sampled to determine the extent of the soil needing to be removed.

The remaining south side of the Settling Pond was excavated to remove the coal ash material, which was also transported by haul trucks to the on-site coal ash disposal facility north of the Settling Pond. The synthetic liner and grubbed material was removed and transported to a licensed off-site disposal facility. Upon visual confirmation of removal of ash and liner material by a Colorado Certified Professional Engineer, additional confirmation soil samples were collected. On February 23, 2017, six soil samples were collected from two locations and varying depths to determine the appropriate depth of excavation that would be required. One sample location was in the northern half of the pond and one sample was in the southern half of the pond. The samples were collected at the surface (the exposed excavation/pond bottom), at 8 inches below the excavation surface, and 24 inches below the excavation surface.

The samples were delivered under chain of custody documentation to Test America Laboratories, Inc. in Denver, Colorado for inorganic analysis via EPA Method 6010C with the exception of thallium which was analyzed via EPA Method 6020 in order to achieve the necessary detection limit. Results of the confirmatory soil sample analyses are provided in Table 1 and the laboratory reports are attached (Attachment 2).

The geologic material sampled at the surface and 8 inch depths was determined by the samplers to be a fill or import material that was unlike the background soils sampled; and therefore was not compared to the soil BTVs. Thus the sample results from those depths were only compared to the EPA RBSLs. The concentrations of vanadium, cobalt, lithium in the surface and 8 inch sample depths were above the EPA RBSLs for residential soils. The soils collected at 24 inch depth were the same clay material sampled as part of the background soil sampling, and therefore the confirmatory soils collected at 24 inch depth were compared to EPA RBSLs and the site specific BTVs for clay. The concentrations of all constituents in both 24 inch samples were below the BTVs for clay.

Due to the analytical results of the soil samples, PSCo excavated the fill material below the liner and above the native clay which was generally a thickness of 24 inches. This material was hauled to the on-site coal ash disposal facility. Three additional confirmatory soil samples were collected from the excavation bottom and stored in glass jars. Figure 1 provides the locations of the five confirmatory soil samples that represent the pond bottom. The samples were identified as "SP-#24" or "N-01-24" or "S-01-24". The "...24" represents the depth of the sample, in

inches, below the liner elevation. The samples were delivered under chain of custody documentation to ALS Laboratory in Ft Collins, Colorado for inorganic analysis via EPA Method 6010C and 6020 for thallium to achieve a lower detection limit. Results of the final confirmatory soil sample analyses are provided in Tables 1 and 2 and the laboratory reports are attached (Attachment 2).

Discussion Of Results

Results are summarized below.

- The concentration for each COI was below the 2016 EPA Residential RSLs and PRGs for radium (Table 1 and Table 2), except for arsenic, cobalt, lithium, thallium, and vanadium.
- Therefore, concentrations for arsenic, cobalt, lithium, thallium, and vanadium were compared to the calculated BTV. The concentration of each of these COIs was below the respective BTVs.
 - o Arsenic concentrations in confirmatory soil in the bottom of the pond (2.8-5.6 milligrams per kilogram (mg/kg)) were below the arsenic BTV (18 mg/kg)
 - o Cobalt confirmatory concentrations (4.5-8.6 mg/kg) were below the cobalt BTV (10 mg/kg)
 - o Lithium confirmatory concentrations (12-18 mg/kg) were below the lithium BTV (26 mg/kg)
 - o Thallium confirmatory concentrations (non-detects to 0.20 mg/kg) were below the thallium BTV (1.5 mg/kg)
 - o Vanadium confirmatory concentrations (36-47 mg/kg) were below the vanadium BTV (110 mg/kg).

The sample analytics do not indicate the presence of CCR impacted soils. Due to the visibly clean excavation and analytical results below the established clean closure criteria, removal of CCR and areas affected by releases from the CCR unit from the Settling Pond at Valmont Station has been completed.

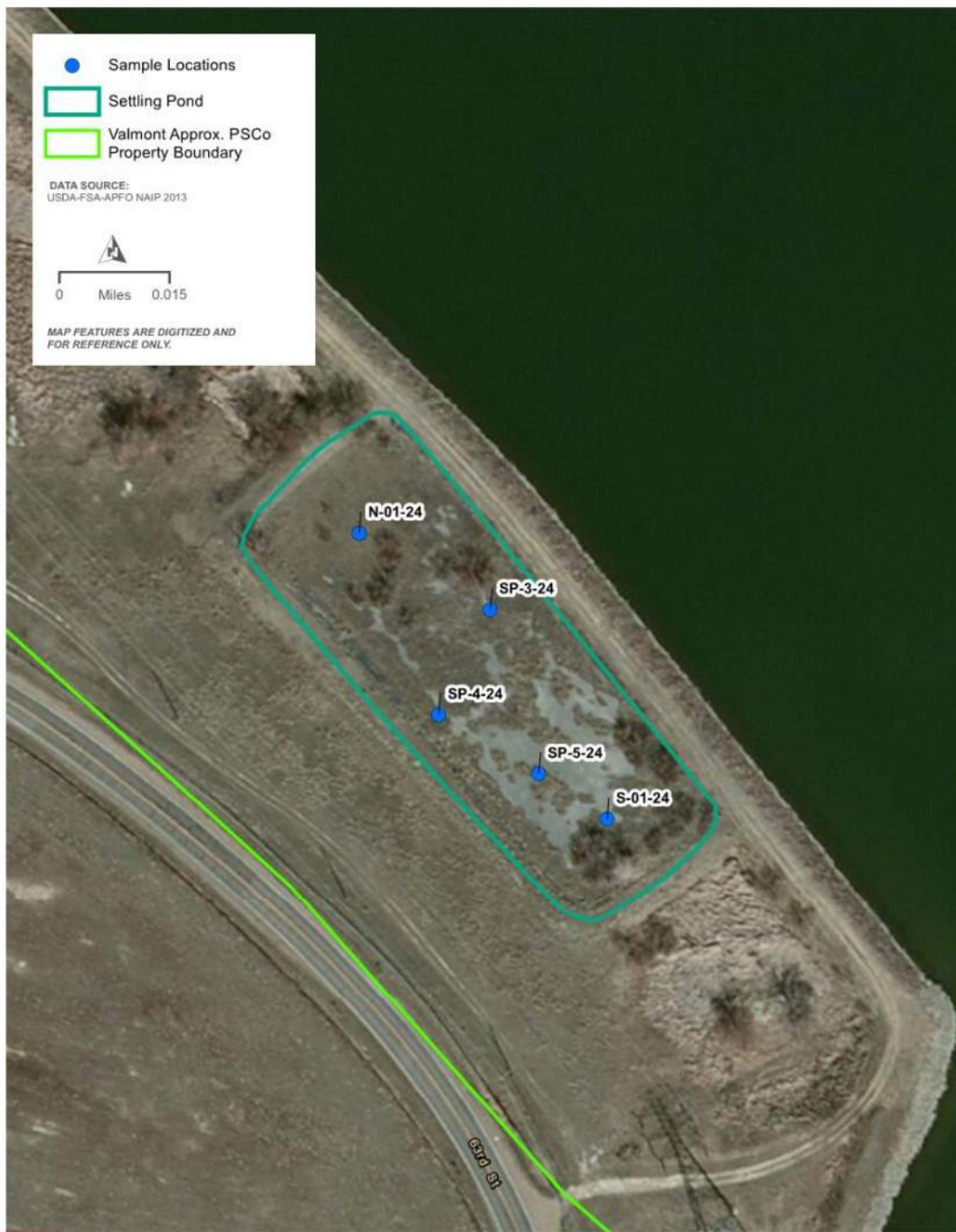


Figure 1. Settling Pond Confirmatory Soil Sample Locations.

Table 1. Confirmatory Soil Sample Analytical Results and Site Soil Screening Levels								
Constituent	BTV (mg/kg)	EPA Risk Based Soil Screening Levels (RBSLs) 2016 (mg/kg)		Valmont Lab Result (mg/kg)				
	5 Future Obs.	Residential	Industrial	SP-3-24	SP-4-24	SP-5-24	N-01-24	S-01-24
	Clay			Clay	Clay	Clay	Clay	Clay
Antimony	1.9	3.1	47	0.16	0.18	0.23	ND	ND
Arsenic	18	0.68	3.0	2.9	2.8	5.6	4	3.8
Barium	2100	1500	22000	130	160	390	180	190
Beryllium	2.8	16	230	0.46	0.48	0.91	0.59	0.88
Boron	560	1600	23000	ND	ND	37	8.9	8.2
Cadmium	0.910	7.1	98	ND	ND	ND	0.12	0.095
Chromium (III)	63	1200	150000	23	22	23	27	22
Chromium Total	42	NV	NV	23	22	23	21	19
Chromium (VI)	7.4	0.3	6.3	ND	ND	ND	ND	ND
Cobalt	10	2.3	35	6.6	5.9	8.6	5.2	4.5
Copper	55	310	4700	13	13	23	14	10
Fluoride	18	310	4700	27	18	3.1	9.9	7.2
Lead	28	400	800	9.2	6.8	14	8.3	7.5
Lithium	26	16	230	13	12	18	16	16
Mercury	0.052	1.1	4.6	ND	ND	ND	ND	ND
Molybdenum	4.4	39	580	0.77	0.89	0.75	ND	0.38
Nickel	29	150	2200	15	15	18	15	12
Selenium	3.1	39	580	ND	ND	1.2	ND	ND
Silver	1.3	39	580	ND	.053	ND	ND	ND
Thallium	1.5	0.078	1.2	0.18	0.16	0.20	ND	ND
Vanadium	110	39	580	39	36	47	36	34
Zinc	89	2300	35000	32	28	53	34	31

NV = No value

Table 2. Confirmatory Soil Radium Results and Screening Levels							
Constituent	BTV (mg/kg)	EPA Soil Preliminary Remediation Goals (PRGs) (pCi/g)	Valmont Lab Result (pCi/g)				
		Worker Composite	SP-3-24	SP-4-24	SP-5-24	N-01-24	S-01-24
Radium 226	--	3.1	0.74	0.94	0.82	0.70	0.51
Radium 228	--	7.5	2.83	1.95	2.06	2.54	2.01

--Radium was not analyzed in background soils

Final Site Disposition And As-Built Drawings

The final grading concept for the Settling Pond area was to restore the site to generally match the assumed grading at the site prior to the construction of the Settling Pond. The site was graded to connect the wetland area southeast of the Settling Pond to the wetland area down-gradient and northwest of the Settling Pond. The bank adjacent the Leggett Reservoir Embankment was graded at a 3 horizontal to 1 vertical (3:1) bank to support reservoir embankment stability. The bank on the west side was cut to final grade at grades flatter than 3:1. Topsoil type material onsite was stockpiled during construction and placed across the Settling Pond disturbed area at an approximate depth of 6 inches to reach final grade. The site was then hydro-mulched and seeded to promote a weed free vegetation cover.

After seeding and mulch placement, which was completed on August 18, 2017, a final As-Built survey was performed on August 21, 2017 by Flatirons, Inc. This survey is in Attachment 3 and represents the final topographic grades at the site post construction and seeding.

The site will continue to be monitored for compliance with construction stormwater permitting requirements until the site vegetation is reestablished. Reseeding and/or additional mulch will be applied as prudent to expedite re-vegetation and closure of the Construction Stormwater Management Permit.

Groundwater Monitoring

The third requirement for clean closure of a CCR impoundment is a demonstration that groundwater monitoring concentrations do not exceed the groundwater protection standard. When the EPA's CCR rule was first issued in April 2015, inactive impoundments were considered exempt from the groundwater monitoring requirement. Effective October 4th, 2016, EPA's Direct Final Rule vacated this exemption resulting in the requirement for installation of a groundwater monitoring system and the development of a groundwater sampling and analysis plan by April 17th, 2019. Groundwater monitoring requirements will be documented separately and are not a part of this report.

Certification Statement

I certify that to the best of my knowledge, the visually identifiable CCR material in the Settling Pond at Valmont Station has been removed and, in my professional opinion, that the pond bottom sampling analytic results indicate that impacted soil has been removed pursuant to the requirements of the Federal Coal Combustion Residuals Rule (40 CFR 257, specifically 257.102(c)). This certification does not include verification that groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to 257.95(h) for constituents listed in appendix IV of 40 CFR 257.

Sincerely,

HDR Engineering, Inc.

Brian J Brown
Colorado Professional Engineer, # 41644



cc: Marie Vagher, Xcel Energy
Matt Rohr, HDR

Enclosures:

Attachment 1 - Soil Background Study
Attachment 2 - Confirmatory Soil Laboratory Report
Attachment 3 - As-Build Survey

ATTACHMENT 1

Soil Background Study

Memo

Date: Thursday, February 23, 2017

Project: Valmont Station Site Civil

To: Marie Vagher, Xcel Energy

From: Matt Rohr, HDR, Inc.

Subject: Valmont Background Soil Study Results

Background Soil Sampling

During the week of November 7, 2016, HDR, Inc. (HDR) contracted with Site Services Drilling, LLC to perform soil boring and sampling operations at the Valmont Station located in Boulder, Colorado. The purpose of this investigation is to determine background soil concentrations for constituents of potential concern.

Drilling was accomplished with a track-mounted Geoprobe 5400 Direct Push Technology (DPT) drill rig. A total of eight (8) borings were completed. Locations of borings are illustrated on **Figure 1**. An HDR geologist was on site to log soil borings and collect soil samples for laboratory analyses.

In general, the soil profile of the site is comprised of two primary geologic layers; the Slocum Alluvium underlain by low permeability bedrock deposits of the Pierre Shale Formation. Alluvial material at the Valmont Station consisted primarily of silts with zones of sand, clay, and gravel to a lesser extent. Alluvium ranged from 5.0 feet to 21.3 feet thick. Alluvium was thickest in the two borings (SB05 and SB06) directly west of Leggett Reservoir. Bedrock underlying the alluvium is the Pierre Formation. The upper Pierre Formation at the site consists of a weathered siltstone or claystone.

A total of 17 soil samples were collected for laboratory analysis to determine background soil concentration of potential constituents of concern. Each soil type encountered in borings was collected. Not all geologic layers were sampled at each of the eight boring locations. Only four locations produced samples from the silt/sand layer, and five locations produced samples from the clay layer on November 7, 2016. All eight boring locations produced samples from the weathered bedrock layer on that sampling date. The silt/sand layers were typically situated between 3 to 9 feet below ground surface (bgs), depending on the boring location. Clay designated samples were extracted from materials 6 to 21 feet bgs, and samples taken from the weather bedrock layer were at depths ranging from 6 to 23 feet bgs. Boring logs are in **Appendix A**, boring photographs are in **Appendix B**, and field notes are in **Appendix C**.

Soil samples collected, sample depths, and texture are listed in **Table 2**. Soils were analyzed by Test America Laboratory for metals (Method 6010B), mercury (Method 7471A), and trivalent

chromium (Method 7196A). Samples were also analyzed for hexavalent chromium (Method 7196A) if detectable concentrations of trivalent chromium were reported. Soil sampling results are summarized in **Table 1** and the laboratory report is provided in **Appendix D**.

Table 1. Summary of Valmont Station Soil Boring Sampling and Analysis

Boring Number	Sample Depth Interval (feet bgs)	Lithologic Material Sampled	Total Depth of Boring (feet bgs)
SB01	6 - 8	clay	17.5
SB01	10 - 12	clay	
SB02	8 - 10	siltstone	17
SB02	11 - 13	siltstone	
SB03	8 - 10	silt	14
SB03	10 - 12	siltstone	
SB04	3 - 5	sand	10
SB04	7 - 9	silt	
SB05	7 - 9	silt	23
SB05	20 - 21	clay	
SB05	22 - 23	siltstone	
SB06	7 - 9	silt	20
SB06	16 - 19	clay	
SB07	3 - 5	sand	10
SB07	6 - 8	siltstone	
SB08	3 - 5	sand	8
SB08	6 - 8	siltstone	

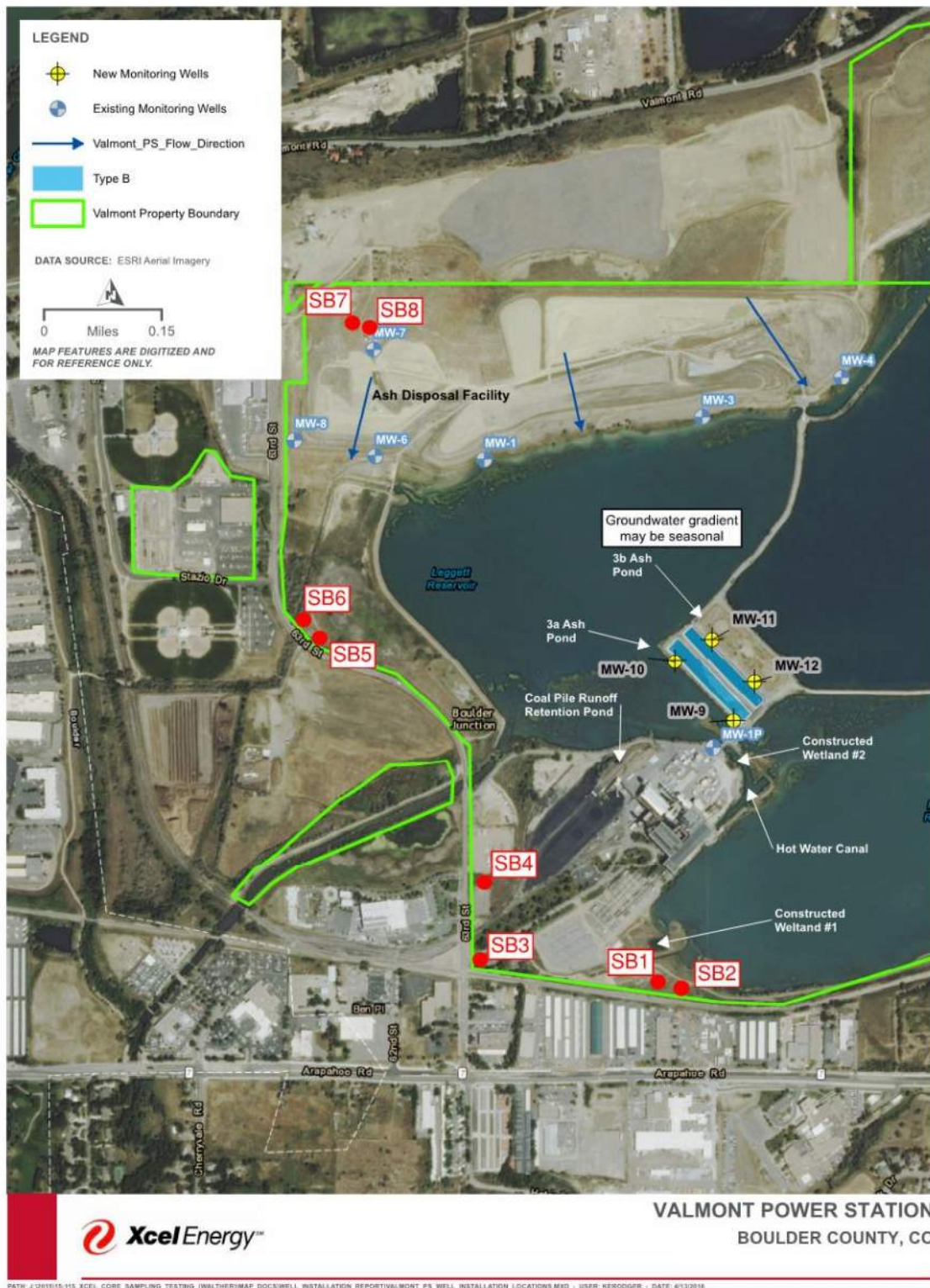


Figure 1. Soil Boring Locations

Statistical Analysis for Background Values

HDR conducted a statistical analysis of the background soil samples collected at the Valmont Station. The objective of the analysis is to calculate reference background concentration levels reflective of the variation in the potential constituents of concern (PCOC). For the purpose of this report, the reference background concentration levels are referred to as background threshold values (BTVs). To represent conditions unlikely to be impacted by industrial activities at the Valmont Station, HDR selected sampling locations which are hydraulically upgradient of the impoundments that are being cleaned out and are at the edge of the property.

As described above, beneath the station include alluvial material overlying the bedrock of the Pierre Formation. For statistical purposes, the soil profile was grouped into three soil types, 1) silt, sand, 2) clay, and 3) weathered bedrock. Each sample was grouped into one of the three soil types, as shown in Table 2.

Table 2. Boring Location Identification Codes and Depth

Sample ID	Boring Location	Soil, Field Identification	Statistical Soil Grouping	Sample Depth (feet)
SB1 6-8FT	SB1	clay	Clay	6-8
SB1 10-12FT		clay	Weathered Bedrock	10-12
SB2 8-10FT	SB2	siltstone	Weathered Bedrock	8-10
SB2 11-13FT		siltstone	Weathered Bedrock	11-13
SB3 8-10FT	SB3	silt	Clay	8-10
SB3 10-12FT		siltstone	Weathered Bedrock	10-12
SB4 3-5FT	SB4	sand	Silt, Sand	3-5
SB4 7-9FT		silt	Weathered Bedrock	7-9
SB5 7-9FT	SB5	silt	Silt, Sand	7-9
SB5 20-21FT		clay	Clay	20-21
SB5 22-23FT		siltstone	Weathered Bedrock	22-23
SB6 7-9FT	SB6	silt	Clay	7-9
SB6 17-19FT		clay	Clay	17-19
SB7 3-5FT	SB7	sand	Silt, Sand	3-5
SB7 6-8FT		siltstone	Weathered Bedrock	6-8
SB8 3-5FT	SB8	sand	Silt, Sand	3-5
SB8 6-8FT		siltstone	Weathered Bedrock	6-8

Statistical Methods

HDR used various techniques to assess the quality of the background samples for the PCOCs at each geologic layer. HDR tested for outliers using Dixon's tests as the number of samples were less than 25. To better understand the variability of concentrations among the eight boring locations, HDR used side-by-side box plots. As the samples from the eight boring locations are pooled prior to estimating the BTVs for each PCOC per geologic layer, HDR assumes that the variability in concentrations per layer is relatively uniform from one location to another. The statistical method used to produce the BTVs for each PCOC is the upper prediction limit (UPL)¹. As recommended by the EPA Unified Guidance², HDR has selected the 95 percent upper prediction limits (UPL95) to establish the BTVs for each of the PCOCs at the Valmont Station.

The UPL95 for each constituent represents a concentration value with a low probability (i.e., 5 percent chance) of being exceeded when a future sample(s) for the constituent is taken. If the concentration in the future sample is higher than the estimated UPL95, a statistically significant increase over background has occurred. Steps are taken to validate the observation by means of quality assurance checks and/or by re-sampling and/or to investigate for possible natural or anthropogenic reasons for observing a higher concentration than expected.

The type of UPL to use for each constituent depends on the distributional qualities of the sampled concentrations from the boring locations and geologic layers with consideration to the percentage of non-detects³ and sample size. HDR tested if the samples for a given PCOC within a geologic layer followed the parametric distributions of either gamma, lognormal or normal. If these parametric tests failed, then HDR used non-parametric methods for estimating the UPL.

For parametric UPLs, another consideration to address is the number of future samples selected for the comparison. Xcel Energy plans to clean close three Type B impoundments at the Valmont station. Two samples from each impoundment will be extracted during impoundment cleanout. The PCOCs in each of the two samples per geologic layer will be compared to their respective BTVs. Since two independent samples of a given PCOC in a given soil type will be used in the comparison, the parametric UPLs for two future samples will be calculated. Testing multiple samples simultaneously against a critical value increases the risk of a type 1 error rate or the false positive rate⁴. The UPL for ' k ' observations (where $k \geq 1$) automatically adjusts for this increased risk. Below is the formula for the UPL assuming normal

¹ Definition of Upper Prediction Limit (UPL): The upper boundary of a prediction interval for an independently obtained observation (or an independent future observation), ProUCL Version 5.0.00, Technical Guide.

² 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities: Unified Guidance. Office of Resource Conservation and Recovery, Program Implementation and Information Division, U.S. Environmental Protection Agency (EPA). EPA 530/R-09-007, page 2-15.

³ Trace concentrations of constituents may be present in groundwater samples but cannot be detected and are reported as less than the detection limit of the analytical instrument or laboratory method used. Such an observation is deemed to be a 'non-detect'. Values which can be measured are called detects.

⁴ When performing multiple comparisons in a statistical framework such as testing samples from each impoundment floor, the false positive rate (also known as the Type I Error rate) refers to the probability of falsely rejecting the null hypothesis when the null hypothesis is true.

distributional properties (The formula for the UPL varies slightly depending on whether the distribution is gamma, lognormal, normal or non-parametric):

$$UPL = \bar{x} + t_{1-\alpha/k, n-1} s_x \sqrt{1 + \frac{1}{n}},$$

where

$\bar{x}$	=	background (historical data) sample mean
s_x	=	background (historical data) standard deviation
t	=	critical value from the Student's t with $n-1$ degrees of freedom
α	=	Type I (false positive) error rate ($\alpha = 0.05$ for a 95 percent UPL)
n	=	number of observations in background dataset
k	=	number of future or independently obtained samples to be predicted.

There are two common methods to produce non-parametric UPLs, the non-parametric UPL, which is simply given by the m^{th} order statistic,

$$UPL = X_{(m)}, \text{ where } m = (n + 1)(1 - \alpha),$$

or the UPL based on Chebyshev's inequality given by

$$UPL = \bar{x}_{KM} + \left(\sqrt{\left(\frac{1}{\alpha} - 1\right) \left(1 + \frac{1}{n}\right)} \right) s_{xKM}.$$

For the 95 percent UPL, select $\alpha=0.05$. The Chebyshev inequality approach uses Kaplan-Meier methods to impute for non-detects. When a high level of non-detects have been observed, leaving only 1 to 4 detects, the use of Chebyshev's method is not recommended and the regular non-parametric UPL method should be used. Given that 8, 5 or 4 samples are available for the PCOCs sampled from the differing geologic layers, the non-parametric 95UPL is equivalent to the maximum.

When non-parametric methods are used to produce the BTVs, the value is fixed regardless of the number of future samples to be used in the comparison. One needs to monitor the false positive rate when comparing future samples to this type of BTV. The formula to estimate the false positive rate at a given site is $(1 - n/(n + k))$, where n is the number of samples in the background sample and k is the number of future independent samples used in the comparison.

Accommodating Non-Detects

Eight samples are considered a minimum sample size by the EPA's 2009 Unified Guidance Report (page 5-3) for the purpose of establishing reference background concentration levels, i.e., BTVS. When constituents have 50 percent or more of their observations as non-detects

within these small samples, the remaining detects, if any, provide limited statistical information from which to estimate BTVs. In those cases, HDR selects the maximum detected value⁵.

For samples containing non-detects at a rate of 50 percent or less, HDR used imputation methods for the non-detects. HDR used the software ProUCL (USEPA 2013)⁶ to impute the non-detects prior to estimating the 95UPLs. Depending on the parametric or non-parametric UPL procedure, imputation methods are either based on Regression order statistics or Kaplan-Meier methods. The results of all of the ProUCL output regarding the BTVs can be found in **Appendix E** of this file.

Statistical Results

Outliers

Based on the patterns of the detected data, 13 of the 22 PCOCs had at least one outlier at the 5 percent level of significance as shown in Table 2. Note that the weathered bedrock layer is the only layer with the minimum number of samples on which to apply statistical tests. Statistical outliers tests were conducted on the other layers for information purposes only.

HDR inspected the values and the conditions under which the samples were taken and found no anomalies in the process. The values are considered valid and realistic measurements for these constituents at the boring locations. Therefore, the values remained in the samples for further analysis.

⁵ The maximum observation is used in many instances to estimate an upper limit, especially for small samples (see EPA. 1992a. Supplemental Guidance to RAGS: Calculating the Concentration Term. Publication EPA 9285.7-081, May 1992 and EPA. 1992b. Statistical Analysis of Ground-water Monitoring Data at RCRA Facilities. Addendum to Interim Final Guidance. Washington DC: Office of Solid Waste. July 1992.).

⁶ Singh, Anita and Ashok K. Singh. 2013. ProUCL Version 5.0.00 User Guide: Statistical Software for Environmental Applications for Data Sets with and without Non-detect Observations. EPA/600/R-07/041.

Table 2: Detected Outliers for Potential Constituents of Concern (all in units mg/Kg)

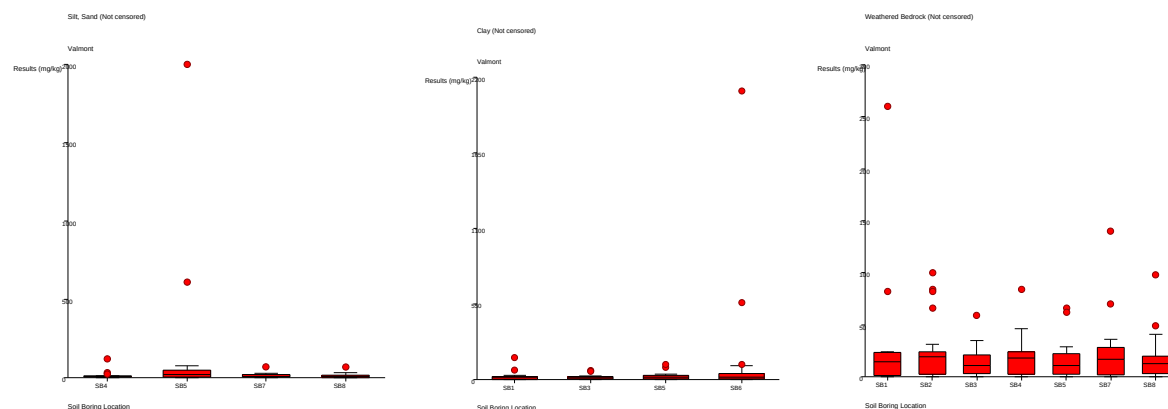
Constituent of Concern	CAS	Geological Layer	No. Obs.	No. NDs	Below MDL	Outliers (mg/kg)		
						Dixon's Test		Soil Boring Locations
						5% level of significance	1% level of significance	
Arsenic	7440-38-2	Silt, Sand	4	0	0.0%	15	15	SB6
Arsenic	7440-38-2	Clay	5	0	0.0%	18	none	SB5
Barium	7440-39-3	Silt, Sand	4	0	0.0%	2000	2000	SB6
Barium	7440-39-3	Clay	5	0	0.0%	2100	2100	SB5
Barium	7440-39-3	Weathered Bedrock	8	0	0.0%	260	none	SB1
Beryllium	7440-41-7	Silt, Sand	4	0	0.0%	3.9	3.9	SB6
Beryllium	7440-41-7	Clay	5	0	0.0%	2.8	2.8	SB5
Boron	7440-42-8	Silt, Sand	4	1	25.0%	610	610	SB6
Boron	7440-42-8	Clay	5	0	0.0%	560	560	SB5
Cadmium	7440-43-9	Silt, Sand	4	0	0.0%	6.6	6.6	SB6
Cadmium	7440-43-9	Clay	5	0	0.0%	0.91	0.91	SB7
Chromium	7440-47-3	Clay	5	0	0.0%	42	none	SB6
Chromium	7440-47-3	Weathered Bedrock	8	0	0.0%	15, 22	15	SB4, SB8
Cobalt	7440-48-4	Silt, Sand	4	0	0.0%	8.6	none	SB5
Cobalt	7440-48-4	Weathered Bedrock	8	0	0.0%	26	26	SB7
Copper	7440-50-8	Clay	5	0	0.0%	55	none	SB6
Cr (III)	16065-83-1	Silt, Sand	4	0	0.0%	68	none	SB6
Cr (III)	16065-83-1	Clay	5	0	0.0%	63	none	SB5
Cr (III)	16065-83-1	Weathered Bedrock	8	0	0.0%	18	none	SB8
Mercury	7439-97-6	Weathered Bedrock	8	0	0.0%	0.049	none	SB7
Molybdenum	7439-98-7	Clay	5	1	20.0%	4.4	4.4	SB6
Nickel	7440-02-0	Silt, Sand	4	0	0.0%	28	28	SB5
Nickel	7440-02-0	Weathered Bedrock	8	0	0.0%	36	none	SB7
Vanadium	7440-62-2	Silt, Sand	4	0	0.0%	76	none	SB6
Vanadium	7440-62-2	Clay	5	0	0.0%	110	110	SB5
Vanadium	7440-62-2	Weathered Bedrock	8	0	0.0%	41	None	SB8

Box Plots

HDR ran a box plot analysis for all observations per boring location per geologic layer for those PCOCs with no non-detects. PCOCs included in the box plot analysis in the silt/sand layers are arsenic, barium, beryllium, cadmium, chromium (total), cobalt, copper, Cr(III), fluoride, lead, lithium, nickel, vanadium, and zinc. The PCOCs, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, Cr(III), fluoride, lead, lithium, mercury, nickel, vanadium, and zinc are used to demonstrate variability across the locations in the clay layer and finally, PCOCs, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, Cr(III), fluoride, lead, lithium, mercury, nickel, vanadium, and zinc, are selected to analyze variability

across the boring locations in the weathered bedrock layer. Figure 1 below demonstrates visually the variability across the locations per geologic layer.

Figure 1: Box Plots of Concentrations of Potential Constituents of Concern by Geologic Layer and Well Location



Visual inspections of the box plots for all three layers show that the aggregations of the concentrations across the PCOCs demonstrate spatial invariability over the boring locations. The bulk of the observations lie within a consistent range across the boring locations. Tests for differences in means and medians of the concentrations across the boring locations for the weathered bedrock samples using analysis of variance (ANOVA) and Kruskal-Wallis ANOVA on ranks methods, respectively, show no statistical significance at the 5 percent level of significance, even with the outliers included. In other words, the populations of concentrations for the sampled PCOCs are homogeneous. A fundamental assumption is that the constituent concentrations sampled at these background locations, when pooled, serve as an estimate of overall field conditions for a given constituent. The statistical evidence from the data supports this assumption. While the other two layers had insufficient samples for robust statistical testing, the same tests also demonstrated no distributional differences across the locations.

Background Threshold Values

When the data supported the use of parametric UPL methods and provided there were at least 8 observations, HDR selected the 95UPLs for 1 and 2 future independent samples as the BTVs in Table 3. The BTVs for PCOCs which did not have a discernable distribution and also had 8 observations are based on non-parametric UPL methods. For the remaining PCOCs which had less than 8 observations or had 50 percent or more of the samples considered as non-detects, the maximum detected value is used to represent the BTV. While the use of the background maximum to represent the BTV has precedence, its use is associated with high false positive rates.

Table 3 includes the BTVs per PCOC for all three geologic layers. The silt/sand and clay layers contain samples which are less than the required minimum sample of 8 observations. Their BTVs are provided for information purposes. If future compliance testing is done at these layers, care should be taken when interpreting exceedances as they may not be indicative of a statistically significant increase over background.

HDR has included the method quantification limit where available. Soil samples from an impoundment floor's weathered bedrock layer having constituent concentrations greater than the method quantification limits in Table 3 will first be compared to the weathered bedrock's BTVs. If the soil concentration exceeds the established BTV for the same constituent, the sample will be flagged as potentially impacted.

Sampling at the three impoundments is planned during cleanout in 2017. If the parametric 95UPLs were used to establish the BTVs and if at least one of the two samples exceeds the 95UPL for two future samples, a statistically significant increase is detected.

For the 100 percent non-detect groups, the Unified Guidance (page 6-11) does recommend "A confirmed exceedance is registered if any well-constituent pair in the '100% non-detect' group exhibits quantified measurements (i.e., at or above the reporting limit [RL]) in two consecutive sample and resample events."

For the PCOCs groups where the non-parametric UPLs or the maximum detected values were used to represent the BTVs, an exceedance of the BTVs during the impoundment testing needs to consider the false positive rate of concluding that an exceedance has occurred when it really has not.

As described in the Statistical Methods Section, the formula to estimate the false positive rate at a given site is $(1 - n/(n + k))$, where n is the number of samples in the background sample and k is the number of future independent samples. For example, the BTV for selenium at the weathered bedrock layer is 3.2 mg/Kg. The BTV is based on 8 samples. If two future samples are taken at a given site, then the false positive rate is at most $[1-8/10] = 20\%$. This means that there is a 1 in 5 chance that an exceedance is due to random fluctuation. To increase the ability to detect an exceedance when one truly exists, one need to increase the number of background samples or implement a re-testing strategy⁷.

⁷ See page 18-19 of the Unified Guidance for a good demonstration of this issue.

Table 3: Background Threshold Values (BTVs) for Inorganic Constituents of Concern for all Impoundments (mg/kg)

Constituent	CAS	Geological Layer	n	No. Below MDL	% Below MDL	No. of Distinct Obs.	Statistical Method	BTV (mg/Kg)		MQL	Notes
								1 Future Obs.	2 Future Obs.		
Antimony	7440-36-0	Silt, Sand	4	4	100.0%	3	DQR	2.500	2.500	3.100	**
Antimony	7440-36-0	Clay	5	5	100.0%	5	DQR	1.900	1.900	3.100	**
Antimony	7440-36-0	Weathered Bedrock	8	8	100.0%	4	DQR	1.700	1.700	3.100	**
Arsenic	7440-38-2	Silt, Sand	4	0	0.0%	4	Maximum	15.000	15.000	0.680	***
Arsenic	7440-38-2	Clay	5	0	0.0%	5	Maximum	18.000	18.000	0.680	***
Arsenic	7440-38-2	Weathered Bedrock	8	0	0.0%	7	Parametric	13.270	15.020	0.680	
Barium	7440-39-3	Silt, Sand	4	0	0.0%	4	Maximum	2,000	2,000	1,500	***
Barium	7440-39-3	Clay	5	0	0.0%	5	Maximum	2,100	2,100	1,500	***
Barium	7440-39-3	Weathered Bedrock	8	0	0.0%	8	Parametric	271.900	342.600	1,500	
Beryllium	7440-41-7	Silt, Sand	4	0	0.0%	4	Maximum	3.900	3.900	16.000	***
Beryllium	7440-41-7	Clay	5	0	0.0%	5	Maximum	2.800	2.800	16.000	***
Beryllium	7440-41-7	Weathered Bedrock	8	0	0.0%	7	Parametric	0.948	1.016	16.000	
Boron	7440-42-8	Silt, Sand	4	1	25.0%	4	Maximum	610.000	610.000	1,600	***
Boron	7440-42-8	Clay	5	0	0.0%	5	Maximum	560.000	560.000	1,600	***
Boron	7440-42-8	Weathered Bedrock	8	0	0.0%	8	Parametric	14.020	17.045	1,600	
Cadmium	7440-43-9	Silt, Sand	4	0	0.0%	4	Maximum	6.600	6.600	7.100	***
Cadmium	7440-43-9	Clay	5	0	0.0%	4	Maximum	0.910	0.910	7.100	***
Cadmium	7440-43-9	Weathered Bedrock	8	0	0.0%	7	Parametric	0.331	0.374	7.100	
Chromium (III)	16065-83-1	Silt, Sand	4	0	0.0%	4	Maximum	68.000	68.000	12,000	***
Chromium (III)	16065-83-1	Clay	5	0	0.0%	5	Maximum	63.000	63.000	12,000	***
Chromium (III)	16065-83-1	Weathered Bedrock	8	0	0.0%	5	Parametric	27.730	29.150	12,000	
Chromium (Total)	7440-47-3	Silt, Sand	4	0	0.0%	4	Maximum	37.000	37.000		***
Chromium (Total)	7440-47-3	Clay	5	0	0.0%	5	Maximum	42.000	42.000		***
Chromium (Total)	7440-47-3	Weathered Bedrock	8	0	0.0%	4	Parametric	23.390	24.380		
Chromium(VI)	18540-29-9	Silt, Sand	4	4	100.0%	3	DQR	9.000	9.000	0.300	**
Chromium(VI)	18540-29-9	Clay	5	5	100.0%	5	DQR	7.400	7.400	0.300	**
Chromium(VI)	18540-29-9	Weathered Bedrock	8	8	100.0%	6	DQR	6.000	6.000	0.300	**

Constituent	CAS	Geological Layer	n	No. Below MDL	% Below MDL	No. of Distinct Obs.	Statistical Method	BTV (mg/Kg)		MQL	Notes
								1 Future Obs.	2 Future Obs.		
Cobalt	7440-48-4	Silt, Sand	4	0	0.0%	3	Maximum	8.600	8.600	2.300	***
Cobalt	7440-48-4	Clay	5	0	0.0%	5	Maximum	10.000	10.000	2.300	***
Cobalt	7440-48-4	Weathered Bedrock	8	0	0.0%	7	Non-Parametric	40.430	40.430	2.300	****
Copper	7440-50-8	Silt, Sand	4	0	0.0%	4	Maximum	38.000	38.000	310.000	***
Copper	7440-50-8	Clay	5	0	0.0%	5	Maximum	55.000	55.000	310.000	***
Copper	7440-50-8	Weathered Bedrock	8	0	0.0%	5	Parametric	24.075	26.690	310.000	
Fluoride	16984-48-8	Silt, Sand	4	0	0.0%	4	Maximum	3.900	3.900	310.000	***
Fluoride	16984-48-8	Clay	5	0	0.0%	5	Maximum	18.000	18.000	310.000	***
Fluoride	16984-48-8	Weathered Bedrock	8	0	0.0%	8	Parametric	38.465	50.110	310.000	
Lead	7439-92-1	Silt, Sand	4	0	0.0%	4	Maximum	18.000	18.000	400.000	***
Lead	7439-92-1	Clay	5	0	0.0%	5	Maximum	28.000	28.000	400.000	***
Lead	7439-92-1	Weathered Bedrock	8	0	0.0%	6	Parametric	23.950	26.575	400.000	
Lithium	7439-93-2	Silt, Sand	4	0	0.0%	4	Maximum	22.000	22.000	16.000	***
Lithium	7439-93-2	Clay	5	0	0.0%	4	Maximum	26.000	26.000	16.000	***
Lithium	7439-93-2	Weathered Bedrock	8	0	0.0%	6	Parametric	27.150	28.500	16.000	
Mercury	7439-97-6	Silt, Sand	4	1	25.0%	4	Maximum	0.029	0.029	1.100	***
Mercury	7439-97-6	Clay	5	0	0.0%	5	Maximum	0.052	0.052	1.100	***
Mercury	7439-97-6	Weathered Bedrock	8	0	0.0%	7	Parametric	0.049	0.052	1.100	
Molybdenum	7439-98-7	Silt, Sand	4	1	25.0%	4	Maximum	1.800	1.800	39.000	***
Molybdenum	7439-98-7	Clay	5	1	20.0%	5	Maximum	4.400	4.400	39.000	***
Molybdenum	7439-98-7	Weathered Bedrock	8	1	12.5%	8	Parametric	1.320	1.660	39.000	
Nickel	7440-02-0	Silt, Sand	4	0	0.0%	4	Maximum	28.000	28.000	150.000	***
Nickel	7440-02-0	Clay	5	0	0.0%	5	Maximum	29.000	29.000	150.000	***
Nickel	7440-02-0	Weathered Bedrock	8	0	0.0%	7	Parametric	37.715	42.955	150.000	
Selenium	7782-49-2	Silt, Sand	4	3	75.0%	4	Maximum	2.400	2.400	39.000	***
Selenium	7782-49-2	Clay	5	3	60.0%	5	Maximum	3.100	3.100	39.000	***
Selenium	7782-49-2	Weathered Bedrock	8	5	62.5%	8	Maximum	3.200	3.200	39.000	***
Silver	7440-22-4	Silt, Sand	4	4	100.0%	4	DQR	1.700	1.700	39.000	**

Constituent	CAS	Geological Layer	n	No. Below MDL	% Below MDL	No. of Distinct Obs.	Statistical Method	BTV (mg/Kg)		MQL	Notes
								1 Future Obs.	2 Future Obs.		
Silver	7440-22-4	Clay	5	5	100.0%	4	DQR	1.300	1.300	39.000	**
Silver	7440-22-4	Weathered Bedrock	8	8	100.0%	4	DQR	1.100	1.100	39.000	**
Thallium	7440-28-0	Silt, Sand	4	4	100.0%	4	DQR	2.000	2.000	0.078	**
Thallium	7440-28-0	Clay	5	5	100.0%	4	DQR	1.500	1.500	0.078	**
Thallium	7440-28-0	Weathered Bedrock	8	8	100.0%	4	DQR	1.400	1.400	0.078	**
Vanadium	7440-62-2	Silt, Sand	4	0	0.0%	4	Maximum	76.000	76.000	39.000	***
Vanadium	7440-62-2	Clay	5	0	0.0%	4	Maximum	110.000	110.000	39.000	***
Vanadium	7440-62-2	Weathered Bedrock	8	0	0.0%	5	Parametric	40.465	43.495	39.000	
Zinc	7440-66-6	Silt, Sand	4	0	0.0%	3	Maximum	43.000	43.000	2,300	***
Zinc	7440-66-6	Clay	5	0	0.0%	5	Maximum	89.000	89.000	2,300	***
Zinc	7440-66-6	Weathered Bedrock	8	0	0.0%	6	Parametric	103.000	112.250	2,300	

MDL - Method Detection Limit

DQR - Double Quantification Rule: For the 100 percent non-detect groups, the Unified Guidance (page 6-11) does recommend "A confirmed exceedance is registered if any well-constituent pair in the '100% non-detect' group exhibits quantified measurements (i.e., at or above the reporting limit [RL]) in two consecutive sample and resample events."

MQL - Method Quantification Limit

UTL - Upper Tolerance Limit

**All observations are non-detects, Recommend using the DQR process to determine if an exceedance has occurred.

***Data set is too small to compute reliable and meaningful statistics and estimates! Recommend maximum detected value as the provisional background threshold value until more samples can be collected.

Attachment A: Soil Boring Logs



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB01**

TOTAL DEPTH (FT.): **17.5**

PROJECT INFORMATION

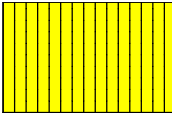
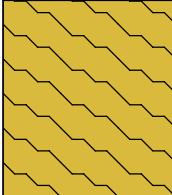
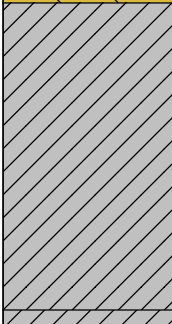
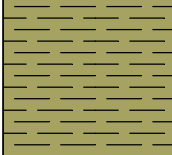
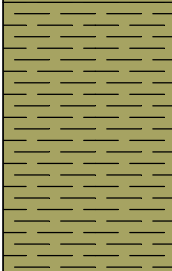
PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 0745**
END DATE/TIME: **11/7/16 0800**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4429600.227** E: **482763.9359**

☒ Water level during drilling

☒ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0		ML	Silt, gravelly, roots, 10YR 5/2 grayish brown, dry			
		CH	Clay, high plasticity, 10YR 5/2 grayish brown, yellowish mottling, moist, soft			
5		CL	Clay, silty, medium plasticity, 10YR 5/2 grayish brown, moist, medium stiff	6'-8' lab sample		
10		CL	Clay, silty, medium plasticity, 10YR 5/2 grayish brown, moist, medium stiff			
		ML/CL	Siltstone, crumbly, laminations, clay on top of weathered bedrock (Pierre Sh.), 10YR 5/4 yellowish brown, moist	10'-12' lab sample		
15		ML/CL	Siltstone, crumbly, laminations, clay on top of weathered bedrock (Pierre Sh.), 10YR 5/4 yellowish brown, moist			

NOTES: Southern Valmont boundary

Page 1 of 1



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB02**

TOTAL DEPTH (FT.): **17**

PROJECT INFORMATION

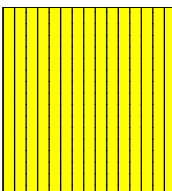
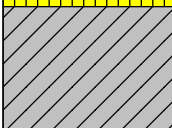
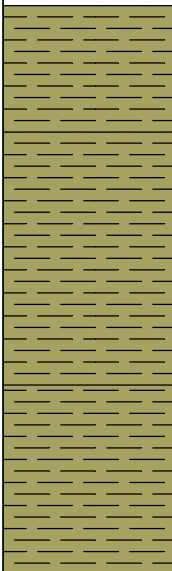
PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 0810**
END DATE/TIME: **11/7/16 0825**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4429585.675** E: **482812.8839**

☒ Water level during drilling

☒ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0		ML	Silt, gravelly, rocky, 5YR 3/2 dark reddish brown, dry			
		CL	Clay, silty, 10YR 5/2 grayish brown, gray mottling, moist, medium stiff			
5			no recovery			
		ML/CL	Siltstone, laminated, clayey, crumbly, 10 YR 5/4 yellowish brown, weathered bedrock (Pierre Sh.), yellow mottling, moist	8'-10' lab sample		
10		ML/CL	Siltstone, laminated, clayey, crumbly, 10 YR 5/4 yellowish brown, weathered bedrock (Pierre Sh.), yellow mottling, moist	11'-13' lab sample		
15		ML/CL	Siltstone, laminated, clayey, crumbly, 10 YR 5/4 yellowish brown, weathered bedrock (Pierre Sh.), yellow mottling, moist, refusal at 17'			

NOTES: Southern Valmont boundary



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB03**

TOTAL DEPTH (FT.): **14**

PROJECT INFORMATION

PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 0920**
END DATE/TIME: **11/7/16 0940**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4429641.238** E: **482393.5185**

☒ Water level during drilling

☒ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0						
		ML	Silt, gravelly, roots, 7.5YR 5/2 brown, dry			
		ML	Silt, sandy, gravelly with rocks (fill), 7.5YR 6/4 light brown, moist			
		SW	Sand, loose, medium fine, 7.5YR 5/2 brown, moist, loose			
5		ML	Silt, fine sand, some clay, 7.5YR 5/2 brown, moist			
		ML	Silt, clayey, moist, firm, 10YR 5/3 brown			
10		ML/CL	Siltstone, weathered bedrock, laminated clayey (Pierre Sh.), 10YR 6/4 light yellowish brown			

8'-10' lab
sample

10'-12' lab
sample



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB04**

TOTAL DEPTH (FT.): **10**

PROJECT INFORMATION

PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 0955**
END DATE/TIME: **11/7/16 1010**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4429798.665** E: **482400.1331**

☒ Water level during drilling

☒ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0		ML	Silt, with gravel, road base, 5YR 3/2 dark brown, dry			
		SW	Sand, fine grained, silty, 7.5YR 6/2 pinkish gray, dry			
5		SW	Sand, gravelly fill, pink to light yellowish brown, dry, drilling hard			
		ML	Siltstone, weathered bedrock (Pierre Sh.), 10YR 6/3 pale brown, moist			
10		ML/CL	Siltstone, weathered bedrock (Pierre Sh.), clayey laminated, moist, crushed liner, refusal at 10'			

3'-5' lab
sample

7'-9' lab
sample

NOTES: Southwest Valmont (west of coal pile)



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB05**

TOTAL DEPTH (FT.): **23**

PROJECT INFORMATION

PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 1035**
END DATE/TIME: **11/7/16 1050**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4430289.468** E: **482057.497**

☞ Water level during drilling

▼ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0						
		ML	Silt, 7.5YR 6/2 pinkish gray, dry/wet, saturated at 2-3'			
		SW	Sand, with coal fragments, some silt, 7.5YR 4/4 brown, moist			
5		ML	Silt, sandy, 7.5YR 6/2 mottled, wet			
		ML	Silt, clayey, 10YR3/2 very dark grayish brown, wet		7'-9' lab sample	
10		ML	Silt, sandy, 7.5YR 6/2 mottled, wet, , saturated at 6.2 to 9.4			
		ML	Silt, clayey, slightly plastic, 10YR 6/4 light yellowish brown, wet			
15		SW	Sand, gravelly, 7.5YR 4/4 brown, wet, loose, perched water 4 to 17.6'			
20		CH	Clay, highly plastic, FeOx mottling, 2.5YR 5/2 grayish brown, moist, medium stiff		20'-21' lab sample	
		ML/CL	Siltstone, laminated, clayey, weathered bedrock (Pierre Sh.), 10YR 5/4 yellowish brown, moist		22'-23' lab sample	

NOTES: West Valmont boundary



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB06**

TOTAL DEPTH (FT.): **20**

PROJECT INFORMATION

PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 1105**
END DATE/TIME: **11/7/16 1120**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4430335.771** E: **482025.747**

☒ Water level during drilling

☒ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0						
		ML	Silt, some clay, 10YR 6/3 pale brown, moist, medium soft			
5		ML	Silt, some clay, 10YR 6/3 pale brown, moist, medium soft			
		ML	Silt, some clay, 10YR 6/3 pale brown, moist, medium soft	7'-9' lab sample		
10		SW	Sand, gravelly, angular to rounded, granite and quartzite, 7.5YR 4/4 brown FeOx, moist			
		SW	Sand, gravelly, angular to rounded, granite and quartzite, 7.5YR 4/4 brown FeOx, moist			
15		CL	Clay, sandy with some gravel, 10YR 6/4 light yellowish brown, moist			
		CH	Clay, high plasticity, medium stiff, 2.5YR 5/2 grayish brown, mottled with FeOx, moist	16'-19' lab sample		
		ML/CL	Siltstone, weathered bedrock (Pierre Sh.), clayey, 2.5YR 5/4 light olive brown, moist			
20						

NOTES: West Valmont boundary



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB07**

TOTAL DEPTH (FT.): **10**

PROJECT INFORMATION

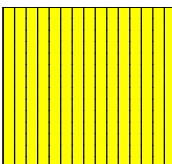
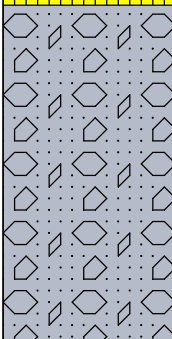
PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 1245**
END DATE/TIME: **11/7/16 1305**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4430952.251** E: **482124.9659**

☞ Water level during drilling

▼ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0		ML	Silt, gravelly, 7.5YR 3/2 dark brown, dry, loose			
		SW/GM	Sand, silty, gravelly, some quartzite, 10YR 6/1 gray, dry, loose			
		ML	Silt, tight, 2.5Y 4/2 dark grayish brown, moist, hard			
5		ML/CL	Siltstone, clayey, weathered bedrock (Pierre Sh.), 2.5Y 5/4 light olive brown, laminated friable, moist, very hard drilling			
10						

3'-5' lab
sample

6'-8' lab
sample



FIELD BOREHOLE LOG

BOREHOLE NO.: **SB08**

TOTAL DEPTH (FT.): **8**

PROJECT INFORMATION

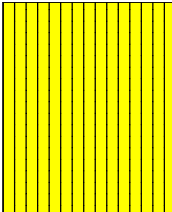
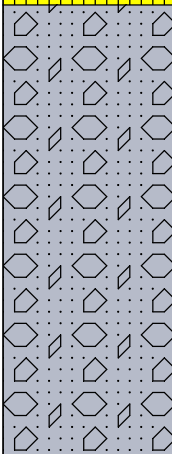
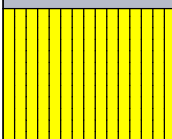
PROJECT: **Xcel Soil Bkg Study**
SITE LOCATION: **Xcel - Valmont**
JOB NO.: **10025968-19**
HYDROGEOLOGIST: **G. Kelly**
PROJECT MANAGER: **M. Rohr**
BEGIN DATE/TIME: **11/7/16 1310**
END DATE/TIME: **11/7/16 1325**

DRILLING INFORMATION

DRILLING CO.: **Site Services**
DRILLER: **Kann**
RIG TYPE: **Geoprobe**
METHOD OF DRILLING: **DPT - 2.25"**
SAMPLING METHODS: **Direct Push**
SAMPLING DEVICE: **Macro core 1.25"cont.**
COORD.: N: **4430944.313** E: **482165.9764**

☒ Water level during drilling

☒ Water level in completed well

DEPTH (Ft.)	PROFILE/ LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE	BLOWS / ft.	PID ppm
0		ML	Silt, 7.5YR 5/2 brown, dry, loose			
		SW/GM	Sand, medium/coarse, gravelly with rocks, granite, quartzite, 7.5YR 7/2 pinkish gray, dry	3'-5' lab sample		
5		ML	Silt, with some gravel, 10YR 5/2 graysih brown, loose			
		ML/CL	Siltstone, weathered bedrock (Pierre Sh.), clayey, 2.5Y 5/4 light olive brown, refusal at 8'	6'-8' lab sample		

Attachment B: Photographs



Photo 1. Valmont SB1 0-5 ft

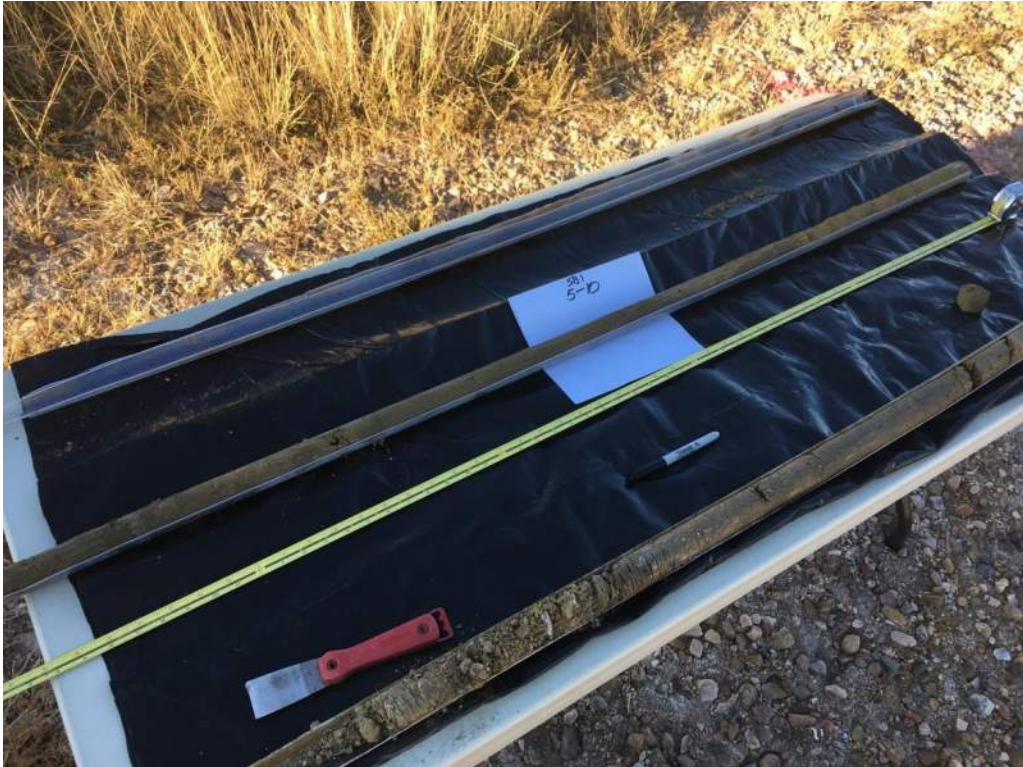


Photo 2. Valmont SB1 5-10 ft



Photo 3. Valmont SB1 10-13 ft



Photo 4. Valmont SB1 13-17.5 ft



Photo 5. Valmont SB2 0-5 ft



Photo 6. Valmont SB2 5-10 ft



Photo 7. Valmont SB2 10-14 ft



Photo 8. Valmont SB2 14-17 ft



Photo 9. Valmont SB3 0-5 ft



Photo 10. Valmont SB3 5-10 ft



Photo 11. Valmont SB3 10-14 ft



Photo 12. Valmont SB4 0-5 ft



Photo 13. Valmont SB4 5-9 ft



Photo 14. Valmont SB4 9-10 ft



Photo 15. Valmont SB5 0-5 ft



Photo 16. Valmont SB5 5-10 ft



Photo 17. Valmont SB5 10-15 ft



Photo 18. Valmont SB5 15-20 ft



Photo 19. Valmont SB5 20-23 ft



Photo 20. Valmont SB6 0-5 ft



Photo 21. Valmont SB6 5-10 ft



Photo 22. Valmont SB6 10-13 ft



Photo 23. Valmont SB6 13-15 ft



Photo 24. Valmont SB6 15-20 ft



Photo 25. Valmont SB7 0-5 ft



Photo 26. Valmont SB7 5-10 ft



Photo 27. Valmont SB8 0-5 ft



Photo 28. Valmont SB8 5-8 ft

Attachment C: Field Logbook Notes

11/7/16
Mon

VALMONT DRILLING

GK
65

0630 arrive at Valmont
40°F calm, partially cloudy

GLEN 720-530-8390

HDR - GREG KELLY

SITE SERVICES - Jason Kann, Jon ECKHOFF

0710 meet up w/ Glen Nishimoto (Xcel)

0730 Glen opened gates for SE boring logs

Tailgate Party - slips, trips, falls, overhead, ear protection
eye protection, steel toes, there are high pressure

Site Services - Jon Eckhoff

HDR - Greg Kelly

0745 begin SB1

0800 complete at 17.5 refusal

SB1 6-8 0750

SB1 10-12 0755

0810 SB2

0825 complete at 17 refusal

SB2 8-10 0820

SB2 11-13 0825

spoke w/ TAL

0840

4oz % moisture fluor Tri chrom

8oz metals merid

4oz Chrom VI

0850 Matt Rohr onsite

0855 Matt leaves

0920 begin SB3

0940 complete SB3 14'

SB3 8-10 0925

SB3 10-14 12 GK 0930

0955 begin SB4

SB4 3-5 0940

SB4 7-9 1005

1010 complete SB4 refusal @ 10'

1035 begin SB5

SB5 7-9 1040

1055 complete SB5

SB5 20-21 1050

SB5 22-23 1055

1105 begin SB6

1120 ~~Finish~~ GK

SB6 7-9 1110

SB6 17-18-19 1115

Finish SB6

GK

1245 Begin SB7

SB7 3-5 1245

1250 Finish SB7

SB7 6-8 1250

1300 Begin SB8

SB8 3-5 1300

1305 Finish SB8

SB8 6-8 1305

1400 leave site

not enough
sample to bag

*NOTE All holes backfilled w/ bentonite chips

Attachment D: Laboratory Analytical Data Reports

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-90702-1

Client Project/Site: Valmont Soil Sampling

For:

HDR Inc

1670 Broadway, Suite 3400

Denver, Colorado 80202

Attn: Matthew Rohr



Authorized for release by:

11/29/2016 11:49:50 AM

Stephanie Rothmeyer, Project Manager I

(303)736-0182

stephanie.rothmeyer@testamericainc.com

LINKS

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results through

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	14
Sample Summary	15
Client Sample Results	16
QC Sample Results	31
QC Association	38
Chronicle	45
Certification Summary	56
Chain of Custody	58
Receipt Checklists	63

Definitions/Glossary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Case Narrative

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Job ID: 280-90702-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Valmont Soil Sampling

Report Number: 280-90702-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/8/2016 at 11:46 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 1.1° C.

TOTAL METALS (ICP)

Samples SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT (280-90702-5), SB3 10-12FT (280-90702-6), SB4 3-5FT (280-90702-7), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), SB7 3-5FT (280-90702-14), SB7 6-8FT (280-90702-15), SB8 3-5FT (280-90702-16) and SB8 6-8FT (280-90702-17) were analyzed for Total Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/16/2016 and analyzed on 11/17/2016, 11/18/2016 and 11/19/2016.

Barium and Copper were detected in method blank MB 280-351228/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Molybdenum and Thallium failed the recovery criteria low for the MSD of sample SB1 6-8FT (280-90702-1) in batch 280-352102. Boron exceeded the RPD limit. Refer to the QC report for details.

The following samples could not be thoroughly homogenized before sub-sampling was performed due to sample matrix: SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT (280-90702-5), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), (280-90702-A-1 MS), (280-90702-A-1 MSD). The samples were clay.

The continuing calibration verification (CCV) associated with batch 280-352102 recovered above the upper control limit for Sb. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported.

The instrument blank for analytical batch 280-352250 contained Se greater than one-half the reporting limit (RL), and was not re-analyzed because the MB and samples attached to this CCB are below the RL for this element. The data have been qualified and reported.

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

TOTAL MERCURY (CVAA)

Samples SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT

Case Narrative

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Job ID: 280-90702-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

(280-90702-5), SB3 10-12FT (280-90702-6), SB4 3-5FT (280-90702-7), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), SB7 3-5FT (280-90702-14), SB7 6-8FT (280-90702-15), SB8 3-5FT (280-90702-16) and SB8 6-8FT (280-90702-17) were analyzed for total mercury (CVAA) in accordance with EPA SW-846 Method 7471A. The samples were prepared and analyzed on 11/16/2016.

The following samples could not be thoroughly homogenized before sub-sampling was performed due to sample matrix: SB1 6-8FT (280-90702-1), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB5 20-21FT (280-90702-10), SB8 6-8FT (280-90702-17). The sample could not be completely removed from its container due to its clay-like consistency.

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

HEXAVALENT CHROMIUM

Samples SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT (280-90702-5), SB3 10-12FT (280-90702-6), SB4 3-5FT (280-90702-7), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), SB7 3-5FT (280-90702-14), SB7 6-8FT (280-90702-15), SB8 3-5FT (280-90702-16) and SB8 6-8FT (280-90702-17) were analyzed for hexavalent chromium in accordance with EPA SW-846 Method 3060A/7196A. The samples were prepared on 11/12/2016 and analyzed on 11/18/2016.

Chromium(VI) failed the recovery criteria low for the MS of sample SB1 6-8FT (280-90702-1) in batch 490-388040. Refer to the QC report for details.

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

TRIVALENT CHROMIUM

Samples SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT (280-90702-5), SB3 10-12FT (280-90702-6), SB4 3-5FT (280-90702-7), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), SB7 3-5FT (280-90702-14), SB7 6-8FT (280-90702-15), SB8 3-5FT (280-90702-16) and SB8 6-8FT (280-90702-17) were analyzed for Trivalent Chromium in accordance with SW-846 7196A_CR3. The samples were analyzed on 11/21/2016.

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

ANIONS (28 DAYS)

Samples SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT (280-90702-5), SB3 10-12FT (280-90702-6), SB4 3-5FT (280-90702-7), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), SB7 3-5FT (280-90702-14), SB7 6-8FT (280-90702-15), SB8 3-5FT (280-90702-16) and SB8 6-8FT (280-90702-17) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056. The samples were leached on 11/26/2016 and analyzed on 11/27/2016.

Fluoride failed the recovery criteria low for the MSD of sample SB8 6-8FT (280-90702-17) in batch 280-353188. Refer to the QC report for details.

Fluoride exceeded the RPD limit for the duplicate of sample SB8 6-8FT (280-90702-17). Sample matrix interference and/or homogeneity are suspected because the associated laboratory control sample and laboratory control sample duplicate (LCS/LCSD) recoveries were within acceptance limits.

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

PERCENT SOLIDS

Samples SB1 6-8FT (280-90702-1), SB1 10-12FT (280-90702-2), SB2 8-10FT (280-90702-3), SB2 11-13FT (280-90702-4), SB3 8-10FT (280-90702-5), SB3 10-12FT (280-90702-6), SB4 3-5FT (280-90702-7), SB4 7-9FT (280-90702-8), SB5 7-9FT (280-90702-9), SB5 20-21FT (280-90702-10), SB5 22-23FT (280-90702-11), SB6 7-9FT (280-90702-12), SB6 17-19FT (280-90702-13), SB7 3-5FT (280-90702-14), SB7 6-8FT (280-90702-15), SB8 3-5FT (280-90702-16) and SB8 6-8FT (280-90702-17) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 11/09/2016.

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

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB1 6-8FT

Lab Sample ID: 280-90702-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.2		2.1	0.68	mg/Kg	1	☼	6010C	Total/NA
Barium	160	B	1.0	0.078	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.83		0.52	0.034	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.27	J	0.52	0.042	mg/Kg	1	☼	6010C	Total/NA
Chromium	22		1.5	0.060	mg/Kg	1	☼	6010C	Total/NA
Cobalt	7.5		1.0	0.10	mg/Kg	1	☼	6010C	Total/NA
Copper	17	B	2.1	0.22	mg/Kg	1	☼	6010C	Total/NA
Lead	20		0.93	0.28	mg/Kg	1	☼	6010C	Total/NA
Nickel	20		4.1	0.13	mg/Kg	1	☼	6010C	Total/NA
Boron	6.8	J F2	10	1.0	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.0	J	1.5	0.89	mg/Kg	1	☼	6010C	Total/NA
Vanadium	30		2.1	0.097	mg/Kg	1	☼	6010C	Total/NA
Zinc	69		3.1	0.41	mg/Kg	1	☼	6010C	Total/NA
Lithium	19		5.2	0.94	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.58	J F1	2.1	0.27	mg/Kg	1	☼	6010C	Total/NA
Mercury	23		23	7.5	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	27		2.5	2.5	mg/Kg	1	☼	7196A	Total/NA
Fluoride	2.4	J	12	0.99	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB1 10-12FT

Lab Sample ID: 280-90702-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.5		2.2	0.71	mg/Kg	1	☼	6010C	Total/NA
Barium	260	B	1.1	0.082	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.82		0.54	0.036	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.22	J	0.54	0.044	mg/Kg	1	☼	6010C	Total/NA
Chromium	19		1.6	0.062	mg/Kg	1	☼	6010C	Total/NA
Cobalt	10		1.1	0.11	mg/Kg	1	☼	6010C	Total/NA
Copper	19	B	2.2	0.23	mg/Kg	1	☼	6010C	Total/NA
Lead	19		0.97	0.29	mg/Kg	1	☼	6010C	Total/NA
Nickel	24		4.3	0.13	mg/Kg	1	☼	6010C	Total/NA
Boron	8.7	J	11	1.1	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.0	J	1.6	0.93	mg/Kg	1	☼	6010C	Total/NA
Vanadium	24		2.2	0.10	mg/Kg	1	☼	6010C	Total/NA
Zinc	82		3.2	0.43	mg/Kg	1	☼	6010C	Total/NA
Lithium	23		5.4	0.98	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.80	J	2.2	0.28	mg/Kg	1	☼	6010C	Total/NA
Mercury	38		24	7.7	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	23		2.4	2.4	mg/Kg	1	☼	7196A	Total/NA
Fluoride	8.4	J	12	0.97	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB2 8-10FT

Lab Sample ID: 280-90702-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		2.0	0.67	mg/Kg	1	☼	6010C	Total/NA
Barium	100	B	1.0	0.077	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.75		0.51	0.033	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.16	J	0.51	0.042	mg/Kg	1	☼	6010C	Total/NA
Chromium	20		1.5	0.059	mg/Kg	1	☼	6010C	Total/NA
Cobalt	10		1.0	0.10	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB2 8-10FT (Continued)

Lab Sample ID: 280-90702-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	19	B	2.0	0.22	mg/Kg	1	☼	6010C	Total/NA
Lead	14		0.91	0.27	mg/Kg	1	☼	6010C	Total/NA
Nickel	24		4.1	0.12	mg/Kg	1	☼	6010C	Total/NA
Boron	8.2	J	10	0.99	mg/Kg	1	☼	6010C	Total/NA
Selenium	2.3		1.5	0.87	mg/Kg	1	☼	6010C	Total/NA
Vanadium	29		2.0	0.095	mg/Kg	1	☼	6010C	Total/NA
Zinc	84		3.0	0.40	mg/Kg	1	☼	6010C	Total/NA
Lithium	24		5.1	0.92	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.88	J	2.0	0.26	mg/Kg	1	☼	6010C	Total/NA
Mercury	35		21	6.9	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	24		2.4	2.4	mg/Kg	1	☼	7196A	Total/NA
Fluoride	30		11	0.91	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB2 11-13FT

Lab Sample ID: 280-90702-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.5		2.1	0.69	mg/Kg	1	☼	6010C	Total/NA
Barium	66	B	1.1	0.080	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.84		0.53	0.035	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.21	J	0.53	0.043	mg/Kg	1	☼	6010C	Total/NA
Chromium	20		1.6	0.061	mg/Kg	1	☼	6010C	Total/NA
Cobalt	9.7		1.1	0.11	mg/Kg	1	☼	6010C	Total/NA
Copper	19	B	2.1	0.23	mg/Kg	1	☼	6010C	Total/NA
Lead	19		0.95	0.28	mg/Kg	1	☼	6010C	Total/NA
Nickel	21		4.2	0.13	mg/Kg	1	☼	6010C	Total/NA
Boron	12		11	1.0	mg/Kg	1	☼	6010C	Total/NA
Selenium	3.2		1.6	0.90	mg/Kg	1	☼	6010C	Total/NA
Vanadium	31		2.1	0.099	mg/Kg	1	☼	6010C	Total/NA
Zinc	82		3.2	0.42	mg/Kg	1	☼	6010C	Total/NA
Lithium	27		5.3	0.96	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.97	J	2.1	0.27	mg/Kg	1	☼	6010C	Total/NA
Mercury	37		24	7.7	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	24		2.4	2.4	mg/Kg	1	☼	7196A	Total/NA
Fluoride	19		11	0.92	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB3 8-10FT

Lab Sample ID: 280-90702-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.6		2.1	0.69	mg/Kg	1	☼	6010C	Total/NA
Barium	60	B	1.0	0.080	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.61		0.52	0.035	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.11	J	0.52	0.043	mg/Kg	1	☼	6010C	Total/NA
Chromium	19		1.6	0.061	mg/Kg	1	☼	6010C	Total/NA
Cobalt	7.1		1.0	0.10	mg/Kg	1	☼	6010C	Total/NA
Copper	12	B	2.1	0.23	mg/Kg	1	☼	6010C	Total/NA
Lead	12		0.94	0.28	mg/Kg	1	☼	6010C	Total/NA
Nickel	19		4.2	0.13	mg/Kg	1	☼	6010C	Total/NA
Boron	5.4	J	10	1.0	mg/Kg	1	☼	6010C	Total/NA
Vanadium	28		2.1	0.099	mg/Kg	1	☼	6010C	Total/NA
Zinc	66		3.1	0.42	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB3 8-10FT (Continued)

Lab Sample ID: 280-90702-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	21		5.2	0.96	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.54	J	2.1	0.27	mg/Kg	1	☼	6010C	Total/NA
Mercury	33		21	6.7	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	22		2.3	2.3	mg/Kg	1	☼	7196A	Total/NA
Fluoride	18		11	0.93	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB3 10-12FT

Lab Sample ID: 280-90702-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.5		2.0	0.67	mg/Kg	1	☼	6010C	Total/NA
Barium	35	B	1.0	0.077	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.60		0.50	0.033	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.13	J	0.50	0.041	mg/Kg	1	☼	6010C	Total/NA
Chromium	19		1.5	0.059	mg/Kg	1	☼	6010C	Total/NA
Cobalt	6.4		1.0	0.10	mg/Kg	1	☼	6010C	Total/NA
Copper	11	B	2.0	0.22	mg/Kg	1	☼	6010C	Total/NA
Lead	11		0.91	0.27	mg/Kg	1	☼	6010C	Total/NA
Nickel	17		4.0	0.12	mg/Kg	1	☼	6010C	Total/NA
Boron	4.9	J	10	0.99	mg/Kg	1	☼	6010C	Total/NA
Vanadium	26		2.0	0.095	mg/Kg	1	☼	6010C	Total/NA
Zinc	59		3.0	0.40	mg/Kg	1	☼	6010C	Total/NA
Lithium	20		5.0	0.92	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.52	J	2.0	0.26	mg/Kg	1	☼	6010C	Total/NA
Mercury	31		22	7.2	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	22		2.2	2.2	mg/Kg	1	☼	7196A	Total/NA
Fluoride	17		11	0.88	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB4 3-5FT

Lab Sample ID: 280-90702-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.3		1.7	0.56	mg/Kg	1	☼	6010C	Total/NA
Barium	120	B	0.85	0.064	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.41	J	0.42	0.028	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.078	J	0.42	0.035	mg/Kg	1	☼	6010C	Total/NA
Chromium	10		1.3	0.049	mg/Kg	1	☼	6010C	Total/NA
Cobalt	4.3		0.85	0.085	mg/Kg	1	☼	6010C	Total/NA
Copper	7.9	B	1.7	0.18	mg/Kg	1	☼	6010C	Total/NA
Lead	6.5		0.76	0.23	mg/Kg	1	☼	6010C	Total/NA
Nickel	10		3.4	0.10	mg/Kg	1	☼	6010C	Total/NA
Boron	1.9	J	8.5	0.83	mg/Kg	1	☼	6010C	Total/NA
Vanadium	23		1.7	0.080	mg/Kg	1	☼	6010C	Total/NA
Zinc	32		2.5	0.34	mg/Kg	1	☼	6010C	Total/NA
Lithium	9.8		4.2	0.77	mg/Kg	1	☼	6010C	Total/NA
Cr (III)	11		2.1	2.1	mg/Kg	1	☼	7196A	Total/NA
Fluoride	3.3	J	10	0.84	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB4 7-9FT

Lab Sample ID: 280-90702-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		2.2	0.74	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB4 7-9FT (Continued)

Lab Sample ID: 280-90702-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	46	B	1.1	0.085	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.78		0.56	0.037	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.21	J	0.56	0.046	mg/Kg	1	☼	6010C	Total/NA
Chromium	22		1.7	0.065	mg/Kg	1	☼	6010C	Total/NA
Cobalt	9.4		1.1	0.11	mg/Kg	1	☼	6010C	Total/NA
Copper	18	B	2.2	0.24	mg/Kg	1	☼	6010C	Total/NA
Lead	20		1.0	0.30	mg/Kg	1	☼	6010C	Total/NA
Nickel	23		4.5	0.14	mg/Kg	1	☼	6010C	Total/NA
Boron	4.1	J	11	1.1	mg/Kg	1	☼	6010C	Total/NA
Vanadium	29		2.2	0.11	mg/Kg	1	☼	6010C	Total/NA
Zinc	84		3.4	0.44	mg/Kg	1	☼	6010C	Total/NA
Lithium	22		5.6	1.0	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.65	J	2.2	0.29	mg/Kg	1	☼	6010C	Total/NA
Mercury	39		21	6.9	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	25		2.3	2.3	mg/Kg	1	☼	7196A	Total/NA
Fluoride	12		11	0.93	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB5 7-9FT

Lab Sample ID: 280-90702-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15		3.3	1.1	mg/Kg	1	☼	6010C	Total/NA
Barium	2000	B	1.7	0.13	mg/Kg	1	☼	6010C	Total/NA
Beryllium	3.9		0.83	0.055	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.69	J	0.83	0.068	mg/Kg	1	☼	6010C	Total/NA
Chromium	37		2.5	0.096	mg/Kg	1	☼	6010C	Total/NA
Cobalt	8.6		1.7	0.17	mg/Kg	1	☼	6010C	Total/NA
Copper	38	B	3.3	0.36	mg/Kg	1	☼	6010C	Total/NA
Lead	18		1.5	0.45	mg/Kg	1	☼	6010C	Total/NA
Nickel	28		6.6	0.20	mg/Kg	1	☼	6010C	Total/NA
Boron	610		17	1.6	mg/Kg	1	☼	6010C	Total/NA
Selenium	2.4	J	2.5	1.4	mg/Kg	1	☼	6010C	Total/NA
Vanadium	76		3.3	0.16	mg/Kg	1	☼	6010C	Total/NA
Zinc	43		5.0	0.66	mg/Kg	1	☼	6010C	Total/NA
Lithium	22		8.3	1.5	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	1.8	J	3.3	0.43	mg/Kg	1	☼	6010C	Total/NA
Mercury	18	J	34	11	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	68		3.7	3.7	mg/Kg	1	☼	7196A	Total/NA
Fluoride	2.8	J	18	1.4	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB5 20-21FT

Lab Sample ID: 280-90702-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.9		2.2	0.73	mg/Kg	1	☼	6010C	Total/NA
Barium	110	B	1.1	0.084	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.99		0.55	0.037	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.20	J	0.55	0.046	mg/Kg	1	☼	6010C	Total/NA
Chromium	25		1.7	0.064	mg/Kg	1	☼	6010C	Total/NA
Cobalt	10		1.1	0.11	mg/Kg	1	☼	6010C	Total/NA
Copper	22	B	2.2	0.24	mg/Kg	1	☼	6010C	Total/NA
Lead	17		1.0	0.30	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB5 20-21FT (Continued)

Lab Sample ID: 280-90702-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	24		4.4	0.14	mg/Kg	1	☼	6010C	Total/NA
Boron	5.8	J	11	1.1	mg/Kg	1	☼	6010C	Total/NA
Vanadium	41		2.2	0.10	mg/Kg	1	☼	6010C	Total/NA
Zinc	89		3.3	0.44	mg/Kg	1	☼	6010C	Total/NA
Lithium	26		5.5	1.0	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.29	J	2.2	0.29	mg/Kg	1	☼	6010C	Total/NA
Mercury	52		27	8.9	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	34		2.7	2.7	mg/Kg	1	☼	7196A	Total/NA
Fluoride	9.3	J	13	1.0	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB5 22-23FT

Lab Sample ID: 280-90702-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.6		1.9	0.63	mg/Kg	1	☼	6010C	Total/NA
Barium	62	B	0.95	0.072	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.60		0.48	0.031	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.12	J	0.48	0.039	mg/Kg	1	☼	6010C	Total/NA
Chromium	20		1.4	0.055	mg/Kg	1	☼	6010C	Total/NA
Cobalt	7.1		0.95	0.095	mg/Kg	1	☼	6010C	Total/NA
Copper	11	B	1.9	0.21	mg/Kg	1	☼	6010C	Total/NA
Lead	12		0.86	0.26	mg/Kg	1	☼	6010C	Total/NA
Nickel	16		3.8	0.12	mg/Kg	1	☼	6010C	Total/NA
Boron	4.8	J	9.5	0.93	mg/Kg	1	☼	6010C	Total/NA
Vanadium	29		1.9	0.089	mg/Kg	1	☼	6010C	Total/NA
Zinc	66		2.9	0.38	mg/Kg	1	☼	6010C	Total/NA
Lithium	21		4.8	0.87	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	0.27	J	1.9	0.25	mg/Kg	1	☼	6010C	Total/NA
Mercury	40		23	7.4	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	23		2.3	2.3	mg/Kg	1	☼	7196A	Total/NA
Fluoride	3.8	J	11	0.92	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB6 7-9FT

Lab Sample ID: 280-90702-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18		2.5	0.84	mg/Kg	1	☼	6010C	Total/NA
Barium	2100	B	1.3	0.096	mg/Kg	1	☼	6010C	Total/NA
Beryllium	2.8		0.63	0.042	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.91		0.63	0.052	mg/Kg	1	☼	6010C	Total/NA
Chromium	42		1.9	0.074	mg/Kg	1	☼	6010C	Total/NA
Cobalt	8.0		1.3	0.13	mg/Kg	1	☼	6010C	Total/NA
Copper	55	B	2.5	0.28	mg/Kg	1	☼	6010C	Total/NA
Lead	28		1.1	0.34	mg/Kg	1	☼	6010C	Total/NA
Nickel	29		5.1	0.16	mg/Kg	1	☼	6010C	Total/NA
Boron	560		13	1.2	mg/Kg	1	☼	6010C	Total/NA
Selenium	3.1		1.9	1.1	mg/Kg	1	☼	6010C	Total/NA
Vanadium	110		2.5	0.12	mg/Kg	1	☼	6010C	Total/NA
Zinc	62		3.8	0.50	mg/Kg	1	☼	6010C	Total/NA
Lithium	17		6.3	1.2	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	4.4		2.5	0.33	mg/Kg	1	☼	6010C	Total/NA
Mercury	20	J	26	8.4	ug/Kg	1	☼	7471A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB6 7-9FT (Continued)

Lab Sample ID: 280-90702-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (III)	63		3.0	3.0	mg/Kg	1	☼	7196A	Total/NA
Fluoride	4.2	J	15	1.2	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB6 17-19FT

Lab Sample ID: 280-90702-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.4		1.9	0.61	mg/Kg	1	☼	6010C	Total/NA
Barium	100	B	0.93	0.070	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.94		0.46	0.031	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.11	J	0.46	0.038	mg/Kg	1	☼	6010C	Total/NA
Chromium	24		1.4	0.054	mg/Kg	1	☼	6010C	Total/NA
Cobalt	6.6		0.93	0.093	mg/Kg	1	☼	6010C	Total/NA
Copper	16	B	1.9	0.20	mg/Kg	1	☼	6010C	Total/NA
Lead	14		0.83	0.25	mg/Kg	1	☼	6010C	Total/NA
Nickel	21		3.7	0.11	mg/Kg	1	☼	6010C	Total/NA
Boron	5.2	J	9.3	0.91	mg/Kg	1	☼	6010C	Total/NA
Vanadium	30		1.9	0.087	mg/Kg	1	☼	6010C	Total/NA
Zinc	84		2.8	0.37	mg/Kg	1	☼	6010C	Total/NA
Lithium	26		4.6	0.84	mg/Kg	1	☼	6010C	Total/NA
Mercury	26		24	7.6	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	30		2.5	2.5	mg/Kg	1	☼	7196A	Total/NA
Fluoride	8.1	J	12	1.0	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB7 3-5FT

Lab Sample ID: 280-90702-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.1		1.8	0.59	mg/Kg	1	☼	6010C	Total/NA
Barium	69	B	0.89	0.068	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.33	J	0.45	0.030	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.066	J	0.45	0.037	mg/Kg	1	☼	6010C	Total/NA
Chromium	20		1.3	0.052	mg/Kg	1	☼	6010C	Total/NA
Cobalt	4.9		0.89	0.089	mg/Kg	1	☼	6010C	Total/NA
Copper	15	B	1.8	0.19	mg/Kg	1	☼	6010C	Total/NA
Lead	4.8		0.80	0.24	mg/Kg	1	☼	6010C	Total/NA
Nickel	11		3.6	0.11	mg/Kg	1	☼	6010C	Total/NA
Vanadium	30		1.8	0.084	mg/Kg	1	☼	6010C	Total/NA
Zinc	27		2.7	0.36	mg/Kg	1	☼	6010C	Total/NA
Lithium	13		4.5	0.81	mg/Kg	1	☼	6010C	Total/NA
Molybdenum	1.7	J	1.8	0.23	mg/Kg	1	☼	6010C	Total/NA
Mercury	13	J	20	6.6	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	20		2.1	2.1	mg/Kg	1	☼	7196A	Total/NA
Fluoride	1.5	J	10	0.82	mg/Kg	1	☼	9056	Soluble

Client Sample ID: SB7 6-8FT

Lab Sample ID: 280-90702-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.9		1.9	0.63	mg/Kg	1	☼	6010C	Total/NA
Barium	140	B	0.96	0.073	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.73		0.48	0.032	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.28	J	0.48	0.039	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB7 6-8FT (Continued)

Lab Sample ID: 280-90702-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	20		1.4	0.056	mg/Kg	1		✱	6010C	Total/NA
Cobalt	26		0.96	0.096	mg/Kg	1		✱	6010C	Total/NA
Copper	15	B	1.9	0.21	mg/Kg	1		✱	6010C	Total/NA
Lead	17		0.86	0.26	mg/Kg	1		✱	6010C	Total/NA
Nickel	36		3.8	0.12	mg/Kg	1		✱	6010C	Total/NA
Boron	2.8	J	9.6	0.94	mg/Kg	1		✱	6010C	Total/NA
Vanadium	31		1.9	0.090	mg/Kg	1		✱	6010C	Total/NA
Zinc	70		2.9	0.38	mg/Kg	1		✱	6010C	Total/NA
Lithium	21		4.8	0.87	mg/Kg	1		✱	6010C	Total/NA
Molybdenum	0.34	J	1.9	0.25	mg/Kg	1		✱	6010C	Total/NA
Mercury	49		21	6.8	ug/Kg	1		✱	7471A	Total/NA
Cr (III)	23		2.3	2.3	mg/Kg	1		✱	7196A	Total/NA
Fluoride	4.4	J	12	0.95	mg/Kg	1		✱	9056	Soluble

Client Sample ID: SB8 3-5FT

Lab Sample ID: 280-90702-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	4.4		2.0	0.66	mg/Kg	1		✱	6010C	Total/NA
Barium	68	B	1.0	0.076	mg/Kg	1		✱	6010C	Total/NA
Beryllium	0.40	J	0.50	0.033	mg/Kg	1		✱	6010C	Total/NA
Cadmium	0.14	J	0.50	0.041	mg/Kg	1		✱	6010C	Total/NA
Chromium	16		1.5	0.058	mg/Kg	1		✱	6010C	Total/NA
Cobalt	4.3		1.0	0.10	mg/Kg	1		✱	6010C	Total/NA
Copper	9.7	B	2.0	0.22	mg/Kg	1		✱	6010C	Total/NA
Lead	12		0.90	0.27	mg/Kg	1		✱	6010C	Total/NA
Nickel	9.2		4.0	0.12	mg/Kg	1		✱	6010C	Total/NA
Boron	1.8	J	10	0.98	mg/Kg	1		✱	6010C	Total/NA
Vanadium	22		2.0	0.094	mg/Kg	1		✱	6010C	Total/NA
Zinc	32		3.0	0.40	mg/Kg	1		✱	6010C	Total/NA
Lithium	9.5		5.0	0.91	mg/Kg	1		✱	6010C	Total/NA
Molybdenum	1.2	J	2.0	0.26	mg/Kg	1		✱	6010C	Total/NA
Mercury	29		19	6.3	ug/Kg	1		✱	7471A	Total/NA
Cr (III)	17		2.1	2.1	mg/Kg	1		✱	7196A	Total/NA
Fluoride	3.9	J	10	0.82	mg/Kg	1		✱	9056	Soluble

Client Sample ID: SB8 6-8FT

Lab Sample ID: 280-90702-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	5.9		2.3	0.74	mg/Kg	1		✱	6010C	Total/NA
Barium	98	B	1.1	0.086	mg/Kg	1		✱	6010C	Total/NA
Beryllium	0.57		0.56	0.037	mg/Kg	1		✱	6010C	Total/NA
Cadmium	0.24	J	0.56	0.046	mg/Kg	1		✱	6010C	Total/NA
Chromium	15		1.7	0.065	mg/Kg	1		✱	6010C	Total/NA
Cobalt	5.9		1.1	0.11	mg/Kg	1		✱	6010C	Total/NA
Copper	13	B	2.3	0.24	mg/Kg	1		✱	6010C	Total/NA
Lead	12		1.0	0.30	mg/Kg	1		✱	6010C	Total/NA
Nickel	13		4.5	0.14	mg/Kg	1		✱	6010C	Total/NA
Boron	3.1	J	11	1.1	mg/Kg	1		✱	6010C	Total/NA
Vanadium	41		2.3	0.11	mg/Kg	1		✱	6010C	Total/NA
Zinc	49		3.4	0.45	mg/Kg	1		✱	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB8 6-8FT (Continued)

Lab Sample ID: 280-90702-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	20		5.6	1.0	mg/Kg	1	☼	6010C	Total/NA
Mercury	37		20	6.6	ug/Kg	1	☼	7471A	Total/NA
Cr (III)	18		2.3	2.3	mg/Kg	1	☼	7196A	Total/NA
Fluoride	3.5	J F1	11	0.90	mg/Kg	1	☼	9056	Soluble

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Method Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN
7196A	Chromium, Hexavalent	SW846	TAL NSH
7196A	Chromium, Trivalent (Colorimetric)	SW846	TAL DEN
9056	Anions, Ion Chromatography	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN

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 DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-90702-1	SB1 6-8FT	Solid	11/07/16 07:50	11/08/16 11:46
280-90702-2	SB1 10-12FT	Solid	11/07/16 07:55	11/08/16 11:46
280-90702-3	SB2 8-10FT	Solid	11/07/16 08:20	11/08/16 11:46
280-90702-4	SB2 11-13FT	Solid	11/07/16 08:25	11/08/16 11:46
280-90702-5	SB3 8-10FT	Solid	11/07/16 09:25	11/08/16 11:46
280-90702-6	SB3 10-12FT	Solid	11/07/16 09:30	11/08/16 11:46
280-90702-7	SB4 3-5FT	Solid	11/07/16 10:00	11/08/16 11:46
280-90702-8	SB4 7-9FT	Solid	11/07/16 10:05	11/08/16 11:46
280-90702-9	SB5 7-9FT	Solid	11/07/16 10:40	11/08/16 11:46
280-90702-10	SB5 20-21FT	Solid	11/07/16 10:50	11/08/16 11:46
280-90702-11	SB5 22-23FT	Solid	11/07/16 10:55	11/08/16 11:46
280-90702-12	SB6 7-9FT	Solid	11/07/16 11:10	11/08/16 11:46
280-90702-13	SB6 17-19FT	Solid	11/07/16 11:15	11/08/16 11:46
280-90702-14	SB7 3-5FT	Solid	11/07/16 12:45	11/08/16 11:46
280-90702-15	SB7 6-8FT	Solid	11/07/16 12:50	11/08/16 11:46
280-90702-16	SB8 3-5FT	Solid	11/07/16 13:00	11/08/16 11:46
280-90702-17	SB8 6-8FT	Solid	11/07/16 13:05	11/08/16 11:46

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP)

Client Sample ID: SB1 6-8FT
Date Collected: 11/07/16 07:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-1
Matrix: Solid
Percent Solids: 80.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.5	0.39	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Arsenic	7.2		2.1	0.68	mg/Kg	☼	11/16/16 07:00	11/19/16 14:00	1
Barium	160	B	1.0	0.078	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Beryllium	0.83		0.52	0.034	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Cadmium	0.27	J	0.52	0.042	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Chromium	22		1.5	0.060	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Cobalt	7.5		1.0	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Copper	17	B	2.1	0.22	mg/Kg	☼	11/16/16 07:00	11/18/16 12:15	1
Lead	20		0.93	0.28	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Nickel	20		4.1	0.13	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Boron	6.8	J F2	10	1.0	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Selenium	1.0	J	1.5	0.89	mg/Kg	☼	11/16/16 07:00	11/18/16 12:15	1
Silver	ND		1.0	0.17	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Thallium	ND	F1	1.2	0.67	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Vanadium	30		2.1	0.097	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Zinc	69		3.1	0.41	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Lithium	19		5.2	0.94	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1
Molybdenum	0.58	J F1	2.1	0.27	mg/Kg	☼	11/16/16 07:00	11/17/16 18:03	1

Client Sample ID: SB1 10-12FT
Date Collected: 11/07/16 07:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2
Matrix: Solid
Percent Solids: 81.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.6	0.41	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Arsenic	7.5		2.2	0.71	mg/Kg	☼	11/16/16 07:00	11/19/16 14:11	1
Barium	260	B	1.1	0.082	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Beryllium	0.82		0.54	0.036	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Cadmium	0.22	J	0.54	0.044	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Chromium	19		1.6	0.062	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Cobalt	10		1.1	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Copper	19	B	2.2	0.23	mg/Kg	☼	11/16/16 07:00	11/18/16 12:40	1
Lead	19		0.97	0.29	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Nickel	24		4.3	0.13	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Boron	8.7	J	11	1.1	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Selenium	1.0	J	1.6	0.93	mg/Kg	☼	11/16/16 07:00	11/18/16 12:40	1
Silver	ND		1.1	0.17	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Thallium	ND		1.3	0.70	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Vanadium	24		2.2	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Zinc	82		3.2	0.43	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Lithium	23		5.4	0.98	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1
Molybdenum	0.80	J	2.2	0.28	mg/Kg	☼	11/16/16 07:00	11/17/16 18:15	1

Client Sample ID: SB2 8-10FT
Date Collected: 11/07/16 08:20
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3
Matrix: Solid
Percent Solids: 83.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.5	0.39	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Arsenic	11		2.0	0.67	mg/Kg	☼	11/16/16 07:00	11/19/16 14:13	1
Barium	100	B	1.0	0.077	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Beryllium	0.75		0.51	0.033	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: SB2 8-10FT
Date Collected: 11/07/16 08:20
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3
Matrix: Solid
Percent Solids: 83.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.16	J	0.51	0.042	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Chromium	20		1.5	0.059	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Cobalt	10		1.0	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Copper	19	B	2.0	0.22	mg/Kg	☼	11/16/16 07:00	11/18/16 12:42	1
Lead	14		0.91	0.27	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Nickel	24		4.1	0.12	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Boron	8.2	J	10	0.99	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Selenium	2.3		1.5	0.87	mg/Kg	☼	11/16/16 07:00	11/19/16 14:13	1
Silver	ND		1.0	0.16	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Thallium	ND		1.2	0.66	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Vanadium	29		2.0	0.095	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Zinc	84		3.0	0.40	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Lithium	24		5.1	0.92	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1
Molybdenum	0.88	J	2.0	0.26	mg/Kg	☼	11/16/16 07:00	11/17/16 18:17	1

Client Sample ID: SB2 11-13FT
Date Collected: 11/07/16 08:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-4
Matrix: Solid
Percent Solids: 83.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.6	0.40	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Arsenic	8.5		2.1	0.69	mg/Kg	☼	11/16/16 07:00	11/19/16 14:26	1
Barium	66	B	1.1	0.080	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Beryllium	0.84		0.53	0.035	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Cadmium	0.21	J	0.53	0.043	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Chromium	20		1.6	0.061	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Cobalt	9.7		1.1	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Copper	19	B	2.1	0.23	mg/Kg	☼	11/16/16 07:00	11/18/16 12:45	1
Lead	19		0.95	0.28	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Nickel	21		4.2	0.13	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Boron	12		11	1.0	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Selenium	3.2		1.6	0.90	mg/Kg	☼	11/16/16 07:00	11/19/16 14:26	1
Silver	ND		1.1	0.17	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Thallium	ND		1.3	0.68	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Vanadium	31		2.1	0.099	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Zinc	82		3.2	0.42	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Lithium	27		5.3	0.96	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1
Molybdenum	0.97	J	2.1	0.27	mg/Kg	☼	11/16/16 07:00	11/17/16 18:20	1

Client Sample ID: SB3 8-10FT
Date Collected: 11/07/16 09:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.6	0.40	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Arsenic	6.6		2.1	0.69	mg/Kg	☼	11/16/16 07:00	11/19/16 14:28	1
Barium	60	B	1.0	0.080	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Beryllium	0.61		0.52	0.035	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Cadmium	0.11	J	0.52	0.043	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Chromium	19		1.6	0.061	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Cobalt	7.1		1.0	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Copper	12	B	2.1	0.23	mg/Kg	☼	11/16/16 07:00	11/18/16 12:47	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: SB3 8-10FT
Date Collected: 11/07/16 09:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	12		0.94	0.28	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Nickel	19		4.2	0.13	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Boron	5.4	J	10	1.0	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Selenium	ND		1.6	0.90	mg/Kg	☼	11/16/16 07:00	11/18/16 12:47	1
Silver	ND		1.0	0.17	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Thallium	ND		1.3	0.68	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Vanadium	28		2.1	0.099	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Zinc	66		3.1	0.42	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Lithium	21		5.2	0.96	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1
Molybdenum	0.54	J	2.1	0.27	mg/Kg	☼	11/16/16 07:00	11/17/16 18:32	1

Client Sample ID: SB3 10-12FT
Date Collected: 11/07/16 09:30
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-6
Matrix: Solid
Percent Solids: 89.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.5	0.38	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Arsenic	6.5		2.0	0.67	mg/Kg	☼	11/16/16 07:00	11/19/16 14:30	1
Barium	35	B	1.0	0.077	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Beryllium	0.60		0.50	0.033	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Cadmium	0.13	J	0.50	0.041	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Chromium	19		1.5	0.059	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Cobalt	6.4		1.0	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Copper	11	B	2.0	0.22	mg/Kg	☼	11/16/16 07:00	11/18/16 12:50	1
Lead	11		0.91	0.27	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Nickel	17		4.0	0.12	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Boron	4.9	J	10	0.99	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Selenium	ND		1.5	0.87	mg/Kg	☼	11/16/16 07:00	11/18/16 12:50	1
Silver	ND		1.0	0.16	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Thallium	ND		1.2	0.66	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Vanadium	26		2.0	0.095	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Zinc	59		3.0	0.40	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Lithium	20		5.0	0.92	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1
Molybdenum	0.52	J	2.0	0.26	mg/Kg	☼	11/16/16 07:00	11/17/16 18:35	1

Client Sample ID: SB4 3-5FT
Date Collected: 11/07/16 10:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7
Matrix: Solid
Percent Solids: 94.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.3	0.32	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Arsenic	4.3		1.7	0.56	mg/Kg	☼	11/16/16 07:00	11/19/16 14:33	1
Barium	120	B	0.85	0.064	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Beryllium	0.41	J	0.42	0.028	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Cadmium	0.078	J	0.42	0.035	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Chromium	10		1.3	0.049	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Cobalt	4.3		0.85	0.085	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Copper	7.9	B	1.7	0.18	mg/Kg	☼	11/16/16 07:00	11/18/16 12:52	1
Lead	6.5		0.76	0.23	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Nickel	10		3.4	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Boron	1.9	J	8.5	0.83	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Selenium	ND		1.3	0.73	mg/Kg	☼	11/16/16 07:00	11/18/16 12:52	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: SB4 3-5FT
Date Collected: 11/07/16 10:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7
Matrix: Solid
Percent Solids: 94.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.85	0.14	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Thallium	ND		1.0	0.55	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Vanadium	23		1.7	0.080	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Zinc	32		2.5	0.34	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Lithium	9.8		4.2	0.77	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1
Molybdenum	ND		1.7	0.22	mg/Kg	☼	11/16/16 07:00	11/17/16 18:37	1

Client Sample ID: SB4 7-9FT
Date Collected: 11/07/16 10:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-8
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.7	0.42	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Arsenic	11		2.2	0.74	mg/Kg	☼	11/16/16 07:00	11/19/16 14:35	1
Barium	46	B	1.1	0.085	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Beryllium	0.78		0.56	0.037	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Cadmium	0.21	J	0.56	0.046	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Chromium	22		1.7	0.065	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Cobalt	9.4		1.1	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Copper	18	B	2.2	0.24	mg/Kg	☼	11/16/16 07:00	11/18/16 12:54	1
Lead	20		1.0	0.30	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Nickel	23		4.5	0.14	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Boron	4.1	J	11	1.1	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Selenium	ND		1.7	0.96	mg/Kg	☼	11/16/16 07:00	11/18/16 12:54	1
Silver	ND		1.1	0.18	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Thallium	ND		1.3	0.73	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Vanadium	29		2.2	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Zinc	84		3.4	0.44	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Lithium	22		5.6	1.0	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1
Molybdenum	0.65	J	2.2	0.29	mg/Kg	☼	11/16/16 07:00	11/17/16 18:40	1

Client Sample ID: SB5 7-9FT
Date Collected: 11/07/16 10:40
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9
Matrix: Solid
Percent Solids: 54.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	2.5	0.63	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Arsenic	15		3.3	1.1	mg/Kg	☼	11/16/16 07:00	11/19/16 14:38	1
Barium	2000	B	1.7	0.13	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Beryllium	3.9		0.83	0.055	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Cadmium	0.69	J	0.83	0.068	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Chromium	37		2.5	0.096	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Cobalt	8.6		1.7	0.17	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Copper	38	B	3.3	0.36	mg/Kg	☼	11/16/16 07:00	11/18/16 12:57	1
Lead	18		1.5	0.45	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Nickel	28		6.6	0.20	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Boron	610		17	1.6	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Selenium	2.4	J	2.5	1.4	mg/Kg	☼	11/16/16 07:00	11/18/16 12:57	1
Silver	ND		1.7	0.26	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Thallium	ND		2.0	1.1	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Vanadium	76		3.3	0.16	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Zinc	43		5.0	0.66	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: SB5 7-9FT
Date Collected: 11/07/16 10:40
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9
Matrix: Solid
Percent Solids: 54.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	22		8.3	1.5	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1
Molybdenum	1.8	J	3.3	0.43	mg/Kg	☼	11/16/16 07:00	11/17/16 18:42	1

Client Sample ID: SB5 20-21FT
Date Collected: 11/07/16 10:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-10
Matrix: Solid
Percent Solids: 74.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.7	0.42	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Arsenic	7.9		2.2	0.73	mg/Kg	☼	11/16/16 07:00	11/19/16 14:50	1
Barium	110	B	1.1	0.084	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Beryllium	0.99		0.55	0.037	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Cadmium	0.20	J	0.55	0.046	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Chromium	25		1.7	0.064	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Cobalt	10		1.1	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Copper	22	B	2.2	0.24	mg/Kg	☼	11/16/16 07:00	11/18/16 13:10	1
Lead	17		1.0	0.30	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Nickel	24		4.4	0.14	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Boron	5.8	J	11	1.1	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Selenium	ND		1.7	0.95	mg/Kg	☼	11/16/16 07:00	11/18/16 13:10	1
Silver	ND		1.1	0.18	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Thallium	ND		1.3	0.72	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Vanadium	41		2.2	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Zinc	89		3.3	0.44	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Lithium	26		5.5	1.0	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1
Molybdenum	0.29	J	2.2	0.29	mg/Kg	☼	11/16/16 07:00	11/17/16 18:45	1

Client Sample ID: SB5 22-23FT
Date Collected: 11/07/16 10:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-11
Matrix: Solid
Percent Solids: 85.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.4	0.36	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Arsenic	4.6		1.9	0.63	mg/Kg	☼	11/16/16 07:00	11/19/16 14:52	1
Barium	62	B	0.95	0.072	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Beryllium	0.60		0.48	0.031	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Cadmium	0.12	J	0.48	0.039	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Chromium	20		1.4	0.055	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Cobalt	7.1		0.95	0.095	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Copper	11	B	1.9	0.21	mg/Kg	☼	11/16/16 07:00	11/18/16 13:12	1
Lead	12		0.86	0.26	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Nickel	16		3.8	0.12	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Boron	4.8	J	9.5	0.93	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Selenium	ND		1.4	0.82	mg/Kg	☼	11/16/16 07:00	11/18/16 13:12	1
Silver	ND		0.95	0.15	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Thallium	ND		1.1	0.62	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Vanadium	29		1.9	0.089	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Zinc	66		2.9	0.38	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Lithium	21		4.8	0.87	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1
Molybdenum	0.27	J	1.9	0.25	mg/Kg	☼	11/16/16 07:00	11/17/16 18:47	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP)

Client Sample ID: SB6 7-9FT
Date Collected: 11/07/16 11:10
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-12
Matrix: Solid
Percent Solids: 67.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.9	0.48	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Arsenic	18		2.5	0.84	mg/Kg	☼	11/16/16 07:00	11/19/16 14:55	1
Barium	2100	B	1.3	0.096	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Beryllium	2.8		0.63	0.042	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Cadmium	0.91		0.63	0.052	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Chromium	42		1.9	0.074	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Cobalt	8.0		1.3	0.13	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Copper	55	B	2.5	0.28	mg/Kg	☼	11/16/16 07:00	11/18/16 13:14	1
Lead	28		1.1	0.34	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Nickel	29		5.1	0.16	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Boron	560		13	1.2	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Selenium	3.1		1.9	1.1	mg/Kg	☼	11/16/16 07:00	11/18/16 13:14	1
Silver	ND		1.3	0.20	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Thallium	ND		1.5	0.82	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Vanadium	110		2.5	0.12	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Zinc	62		3.8	0.50	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Lithium	17		6.3	1.2	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1
Molybdenum	4.4		2.5	0.33	mg/Kg	☼	11/16/16 07:00	11/17/16 18:50	1

Client Sample ID: SB6 17-19FT
Date Collected: 11/07/16 11:15
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-13
Matrix: Solid
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.4	0.35	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Arsenic	3.4		1.9	0.61	mg/Kg	☼	11/16/16 07:00	11/19/16 14:57	1
Barium	100	B	0.93	0.070	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Beryllium	0.94		0.46	0.031	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Cadmium	0.11	J	0.46	0.038	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Chromium	24		1.4	0.054	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Cobalt	6.6		0.93	0.093	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Copper	16	B	1.9	0.20	mg/Kg	☼	11/16/16 07:00	11/18/16 13:17	1
Lead	14		0.83	0.25	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Nickel	21		3.7	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Boron	5.2	J	9.3	0.91	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Selenium	ND		1.4	0.80	mg/Kg	☼	11/16/16 07:00	11/18/16 13:17	1
Silver	ND		0.93	0.15	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Thallium	ND		1.1	0.60	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Vanadium	30		1.9	0.087	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Zinc	84		2.8	0.37	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Lithium	26		4.6	0.84	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1
Molybdenum	ND		1.9	0.24	mg/Kg	☼	11/16/16 07:00	11/17/16 18:52	1

Client Sample ID: SB7 3-5FT
Date Collected: 11/07/16 12:45
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14
Matrix: Solid
Percent Solids: 97.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.3	0.34	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Arsenic	3.1		1.8	0.59	mg/Kg	☼	11/16/16 07:00	11/19/16 15:00	1
Barium	69	B	0.89	0.068	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Beryllium	0.33	J	0.45	0.030	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: SB7 3-5FT
Date Collected: 11/07/16 12:45
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14
Matrix: Solid
Percent Solids: 97.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.066	J	0.45	0.037	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Chromium	20		1.3	0.052	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Cobalt	4.9		0.89	0.089	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Copper	15	B	1.8	0.19	mg/Kg	☼	11/16/16 07:00	11/18/16 13:19	1
Lead	4.8		0.80	0.24	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Nickel	11		3.6	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Boron	ND		8.9	0.88	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Selenium	ND		1.3	0.77	mg/Kg	☼	11/16/16 07:00	11/18/16 13:19	1
Silver	ND		0.89	0.14	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Thallium	ND		1.1	0.58	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Vanadium	30		1.8	0.084	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Zinc	27		2.7	0.36	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Lithium	13		4.5	0.81	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1
Molybdenum	1.7	J	1.8	0.23	mg/Kg	☼	11/16/16 07:00	11/17/16 18:55	1

Client Sample ID: SB7 6-8FT
Date Collected: 11/07/16 12:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-15
Matrix: Solid
Percent Solids: 85.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.4	0.37	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Arsenic	7.9		1.9	0.63	mg/Kg	☼	11/16/16 07:00	11/19/16 15:02	1
Barium	140	B	0.96	0.073	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Beryllium	0.73		0.48	0.032	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Cadmium	0.28	J	0.48	0.039	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Chromium	20		1.4	0.056	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Cobalt	26		0.96	0.096	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Copper	15	B	1.9	0.21	mg/Kg	☼	11/16/16 07:00	11/18/16 13:22	1
Lead	17		0.86	0.26	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Nickel	36		3.8	0.12	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Boron	2.8	J	9.6	0.94	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Selenium	ND		1.4	0.83	mg/Kg	☼	11/16/16 07:00	11/18/16 13:22	1
Silver	ND		0.96	0.15	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Thallium	ND		1.2	0.62	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Vanadium	31		1.9	0.090	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Zinc	70		2.9	0.38	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Lithium	21		4.8	0.87	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1
Molybdenum	0.34	J	1.9	0.25	mg/Kg	☼	11/16/16 07:00	11/17/16 19:07	1

Client Sample ID: SB8 3-5FT
Date Collected: 11/07/16 13:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-16
Matrix: Solid
Percent Solids: 95.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.5	0.38	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Arsenic	4.4		2.0	0.66	mg/Kg	☼	11/16/16 07:00	11/19/16 15:05	1
Barium	68	B	1.0	0.076	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Beryllium	0.40	J	0.50	0.033	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Cadmium	0.14	J	0.50	0.041	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Chromium	16		1.5	0.058	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Cobalt	4.3		1.0	0.10	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Copper	9.7	B	2.0	0.22	mg/Kg	☼	11/16/16 07:00	11/18/16 13:24	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: SB8 3-5FT
Date Collected: 11/07/16 13:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-16
Matrix: Solid
Percent Solids: 95.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	12		0.90	0.27	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Nickel	9.2		4.0	0.12	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Boron	1.8	J	10	0.98	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Selenium	ND		1.5	0.86	mg/Kg	☼	11/16/16 07:00	11/18/16 13:24	1
Silver	ND		1.0	0.16	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Thallium	ND		1.2	0.65	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Vanadium	22		2.0	0.094	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Zinc	32		3.0	0.40	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Lithium	9.5		5.0	0.91	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1
Molybdenum	1.2	J	2.0	0.26	mg/Kg	☼	11/16/16 07:00	11/17/16 19:10	1

Client Sample ID: SB8 6-8FT
Date Collected: 11/07/16 13:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-17
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.7	0.43	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Arsenic	5.9		2.3	0.74	mg/Kg	☼	11/16/16 07:00	11/19/16 15:07	1
Barium	98	B	1.1	0.086	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Beryllium	0.57		0.56	0.037	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Cadmium	0.24	J	0.56	0.046	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Chromium	15		1.7	0.065	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Cobalt	5.9		1.1	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Copper	13	B	2.3	0.24	mg/Kg	☼	11/16/16 07:00	11/18/16 13:27	1
Lead	12		1.0	0.30	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Nickel	13		4.5	0.14	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Boron	3.1	J	11	1.1	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Selenium	ND		1.7	0.97	mg/Kg	☼	11/16/16 07:00	11/18/16 13:27	1
Silver	ND		1.1	0.18	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Thallium	ND		1.4	0.73	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Vanadium	41		2.3	0.11	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Zinc	49		3.4	0.45	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Lithium	20		5.6	1.0	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1
Molybdenum	ND		2.3	0.29	mg/Kg	☼	11/16/16 07:00	11/17/16 19:12	1

Method: 7471A - Mercury (CVAA)

Client Sample ID: SB1 6-8FT
Date Collected: 11/07/16 07:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-1
Matrix: Solid
Percent Solids: 80.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	23		23	7.5	ug/Kg	☼	11/16/16 12:10	11/16/16 15:51	1

Client Sample ID: SB1 10-12FT
Date Collected: 11/07/16 07:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2
Matrix: Solid
Percent Solids: 81.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	38		24	7.7	ug/Kg	☼	11/16/16 12:10	11/16/16 15:53	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: SB2 8-10FT
Date Collected: 11/07/16 08:20
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3
Matrix: Solid
Percent Solids: 83.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	35		21	6.9	ug/Kg	☼	11/16/16 12:10	11/16/16 15:55	1

Client Sample ID: SB2 11-13FT
Date Collected: 11/07/16 08:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-4
Matrix: Solid
Percent Solids: 83.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	37		24	7.7	ug/Kg	☼	11/16/16 12:10	11/16/16 15:58	1

Client Sample ID: SB3 8-10FT
Date Collected: 11/07/16 09:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	33		21	6.7	ug/Kg	☼	11/16/16 12:10	11/16/16 16:00	1

Client Sample ID: SB3 10-12FT
Date Collected: 11/07/16 09:30
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-6
Matrix: Solid
Percent Solids: 89.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	31		22	7.2	ug/Kg	☼	11/16/16 12:10	11/16/16 16:02	1

Client Sample ID: SB4 3-5FT
Date Collected: 11/07/16 10:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7
Matrix: Solid
Percent Solids: 94.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		21	6.8	ug/Kg	☼	11/16/16 12:10	11/16/16 16:09	1

Client Sample ID: SB4 7-9FT
Date Collected: 11/07/16 10:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-8
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	39		21	6.9	ug/Kg	☼	11/16/16 12:10	11/16/16 16:11	1

Client Sample ID: SB5 7-9FT
Date Collected: 11/07/16 10:40
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9
Matrix: Solid
Percent Solids: 54.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	18	J	34	11	ug/Kg	☼	11/16/16 12:10	11/16/16 16:18	1

Client Sample ID: SB5 20-21FT
Date Collected: 11/07/16 10:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-10
Matrix: Solid
Percent Solids: 74.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	52		27	8.9	ug/Kg	☼	11/16/16 12:10	11/16/16 16:20	1

Client Sample ID: SB5 22-23FT
Date Collected: 11/07/16 10:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-11
Matrix: Solid
Percent Solids: 85.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	40		23	7.4	ug/Kg	☼	11/16/16 12:10	11/16/16 16:22	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: SB6 7-9FT
Date Collected: 11/07/16 11:10
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-12
Matrix: Solid
Percent Solids: 67.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	20	J	26	8.4	ug/Kg	☼	11/16/16 12:10	11/16/16 16:24	1

Client Sample ID: SB6 17-19FT
Date Collected: 11/07/16 11:15
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-13
Matrix: Solid
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	26		24	7.6	ug/Kg	☼	11/16/16 12:10	11/16/16 16:26	1

Client Sample ID: SB7 3-5FT
Date Collected: 11/07/16 12:45
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14
Matrix: Solid
Percent Solids: 97.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	13	J	20	6.6	ug/Kg	☼	11/16/16 12:10	11/16/16 16:29	1

Client Sample ID: SB7 6-8FT
Date Collected: 11/07/16 12:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-15
Matrix: Solid
Percent Solids: 85.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	49		21	6.8	ug/Kg	☼	11/16/16 12:10	11/16/16 16:31	1

Client Sample ID: SB8 3-5FT
Date Collected: 11/07/16 13:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-16
Matrix: Solid
Percent Solids: 95.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	29		19	6.3	ug/Kg	☼	11/16/16 12:10	11/16/16 16:33	1

Client Sample ID: SB8 6-8FT
Date Collected: 11/07/16 13:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-17
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	37		20	6.6	ug/Kg	☼	11/16/16 12:10	11/16/16 16:35	1

General Chemistry

Client Sample ID: SB1 6-8FT
Date Collected: 11/07/16 07:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-1
Matrix: Solid
Percent Solids: 80.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND	F1	6.1	2.4	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	27		2.5	2.5	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	19.9		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	80.1		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB1 10-12FT
Date Collected: 11/07/16 07:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2
Matrix: Solid
Percent Solids: 81.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		6.0	2.4	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	23		2.4	2.4	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	18.3		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	81.7		0.1	0.1	%			11/09/16 18:58	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry

Client Sample ID: SB2 8-10FT
Date Collected: 11/07/16 08:20
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3
Matrix: Solid
Percent Solids: 83.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.8	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	24		2.4	2.4	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	16.7		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	83.3		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB2 11-13FT
Date Collected: 11/07/16 08:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-4
Matrix: Solid
Percent Solids: 83.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.9	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	24		2.4	2.4	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	16.9		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	83.1		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB3 8-10FT
Date Collected: 11/07/16 09:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.7	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	22		2.3	2.3	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	13.2		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	86.8		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB3 10-12FT
Date Collected: 11/07/16 09:30
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-6
Matrix: Solid
Percent Solids: 89.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.5	2.2	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	22		2.2	2.2	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	10.1		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	89.9		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB4 3-5FT
Date Collected: 11/07/16 10:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7
Matrix: Solid
Percent Solids: 94.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.2	2.1	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	11		2.1	2.1	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	5.5		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	94.5		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB4 7-9FT
Date Collected: 11/07/16 10:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-8
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.6	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	25		2.3	2.3	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	13.9		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	86.1		0.1	0.1	%			11/09/16 18:58	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry

Client Sample ID: SB5 7-9FT
Date Collected: 11/07/16 10:40
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9
Matrix: Solid
Percent Solids: 54.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		9.0	3.6	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	68		3.7	3.7	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	45.4		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	54.6		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB5 20-21FT
Date Collected: 11/07/16 10:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-10
Matrix: Solid
Percent Solids: 74.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		6.5	2.6	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	34		2.7	2.7	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	25.3		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	74.7		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB5 22-23FT
Date Collected: 11/07/16 10:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-11
Matrix: Solid
Percent Solids: 85.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.8	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	23		2.3	2.3	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	14.1		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	85.9		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB6 7-9FT
Date Collected: 11/07/16 11:10
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-12
Matrix: Solid
Percent Solids: 67.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		7.4	2.9	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	63		3.0	3.0	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	32.8		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	67.2		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB6 17-19FT
Date Collected: 11/07/16 11:15
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-13
Matrix: Solid
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		6.2	2.5	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	30		2.5	2.5	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	21.1		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	78.9		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB7 3-5FT
Date Collected: 11/07/16 12:45
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14
Matrix: Solid
Percent Solids: 97.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.1	2.0	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	20		2.1	2.1	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	2.7		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	97.3		0.1	0.1	%			11/09/16 18:58	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry

Client Sample ID: SB7 6-8FT
Date Collected: 11/07/16 12:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-15
Matrix: Solid
Percent Solids: 85.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.8	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	23		2.3	2.3	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	14.2		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	85.8		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB8 3-5FT
Date Collected: 11/07/16 13:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-16
Matrix: Solid
Percent Solids: 95.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.1	2.0	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	17		2.1	2.1	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	4.7		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	95.3		0.1	0.1	%			11/09/16 18:58	1

Client Sample ID: SB8 6-8FT
Date Collected: 11/07/16 13:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-17
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		5.7	2.3	mg/Kg	☼	11/12/16 08:43	11/18/16 09:24	1
Cr (III)	18		2.3	2.3	mg/Kg	☼		11/21/16 16:25	1
Percent Moisture	12.3		0.1	0.1	%			11/09/16 18:58	1
Percent Solids	87.7		0.1	0.1	%			11/09/16 18:58	1

General Chemistry - Soluble

Client Sample ID: SB1 6-8FT
Date Collected: 11/07/16 07:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-1
Matrix: Solid
Percent Solids: 80.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.4	J	12	0.99	mg/Kg	☼		11/27/16 01:01	1

Client Sample ID: SB1 10-12FT
Date Collected: 11/07/16 07:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2
Matrix: Solid
Percent Solids: 81.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	8.4	J	12	0.97	mg/Kg	☼		11/27/16 01:18	1

Client Sample ID: SB2 8-10FT
Date Collected: 11/07/16 08:20
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3
Matrix: Solid
Percent Solids: 83.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	30		11	0.91	mg/Kg	☼		11/27/16 01:35	1

Client Sample ID: SB2 11-13FT
Date Collected: 11/07/16 08:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-4
Matrix: Solid
Percent Solids: 83.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	19		11	0.92	mg/Kg	☼		11/27/16 01:51	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry - Soluble

Client Sample ID: SB3 8-10FT
Date Collected: 11/07/16 09:25
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	18		11	0.93	mg/Kg	☼		11/27/16 02:08	1

Client Sample ID: SB3 10-12FT
Date Collected: 11/07/16 09:30
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-6
Matrix: Solid
Percent Solids: 89.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	17		11	0.88	mg/Kg	☼		11/27/16 02:25	1

Client Sample ID: SB4 3-5FT
Date Collected: 11/07/16 10:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7
Matrix: Solid
Percent Solids: 94.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.3	J	10	0.84	mg/Kg	☼		11/27/16 02:42	1

Client Sample ID: SB4 7-9FT
Date Collected: 11/07/16 10:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-8
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	12		11	0.93	mg/Kg	☼		11/27/16 02:59	1

Client Sample ID: SB5 7-9FT
Date Collected: 11/07/16 10:40
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9
Matrix: Solid
Percent Solids: 54.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.8	J	18	1.4	mg/Kg	☼		11/27/16 03:15	1

Client Sample ID: SB5 20-21FT
Date Collected: 11/07/16 10:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-10
Matrix: Solid
Percent Solids: 74.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	9.3	J	13	1.0	mg/Kg	☼		11/27/16 13:11	1

Client Sample ID: SB5 22-23FT
Date Collected: 11/07/16 10:55
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-11
Matrix: Solid
Percent Solids: 85.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.8	J	11	0.92	mg/Kg	☼		11/27/16 13:29	1

Client Sample ID: SB6 7-9FT
Date Collected: 11/07/16 11:10
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-12
Matrix: Solid
Percent Solids: 67.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	4.2	J	15	1.2	mg/Kg	☼		11/27/16 13:47	1

Client Sample ID: SB6 17-19FT
Date Collected: 11/07/16 11:15
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-13
Matrix: Solid
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	8.1	J	12	1.0	mg/Kg	☼		11/27/16 14:04	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry - Soluble

Client Sample ID: SB7 3-5FT
Date Collected: 11/07/16 12:45
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14
Matrix: Solid
Percent Solids: 97.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.5	J	10	0.82	mg/Kg	☼		11/27/16 14:22	1

Client Sample ID: SB7 6-8FT
Date Collected: 11/07/16 12:50
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-15
Matrix: Solid
Percent Solids: 85.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	4.4	J	12	0.95	mg/Kg	☼		11/27/16 16:08	1

Client Sample ID: SB8 3-5FT
Date Collected: 11/07/16 13:00
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-16
Matrix: Solid
Percent Solids: 95.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.9	J	10	0.82	mg/Kg	☼		11/27/16 16:26	1

Client Sample ID: SB8 6-8FT
Date Collected: 11/07/16 13:05
Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-17
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.5	J F1	11	0.90	mg/Kg	☼		11/27/16 16:44	1

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-351228/1-A

Matrix: Solid

Analysis Batch: 352102

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 351228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	1.5	0.38	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Barium	0.165	J	1.0	0.076	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Beryllium	ND		0.50	0.033	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Cadmium	ND		0.50	0.041	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Chromium	ND		1.5	0.058	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Cobalt	ND		1.0	0.10	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Lead	ND		0.90	0.27	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Nickel	ND		4.0	0.12	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Boron	ND		10	0.98	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Silver	ND		1.0	0.16	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Thallium	ND		1.2	0.65	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Vanadium	ND		2.0	0.094	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Zinc	ND		3.0	0.40	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Lithium	ND		5.0	0.91	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1
Molybdenum	ND		2.0	0.26	mg/Kg	-	11/16/16 07:00	11/17/16 17:58	1

Lab Sample ID: MB 280-351228/1-A

Matrix: Solid

Analysis Batch: 352250

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 351228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.453	J	2.0	0.22	mg/Kg	-	11/16/16 07:00	11/18/16 12:10	1
Selenium	ND		1.5	0.86	mg/Kg	-	11/16/16 07:00	11/18/16 12:10	1

Lab Sample ID: MB 280-351228/1-A

Matrix: Solid

Analysis Batch: 352326

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 351228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0	0.66	mg/Kg	-	11/16/16 07:00	11/19/16 13:55	1

Lab Sample ID: LCS 280-351228/2-A

Matrix: Solid

Analysis Batch: 352102

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 351228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	53.8	^	mg/Kg	-	108	82 - 110
Barium	200	195		mg/Kg	-	97	87 - 112
Beryllium	5.00	5.18		mg/Kg	-	104	84 - 114
Cadmium	10.0	10.5		mg/Kg	-	105	87 - 110
Chromium	20.0	19.8		mg/Kg	-	99	84 - 114
Cobalt	50.0	50.2		mg/Kg	-	100	87 - 110
Lead	50.0	50.5		mg/Kg	-	101	86 - 110
Nickel	50.0	50.0		mg/Kg	-	100	87 - 110
Boron	100	99.2		mg/Kg	-	99	80 - 120
Silver	5.00	5.18		mg/Kg	-	104	87 - 114
Thallium	200	196		mg/Kg	-	98	84 - 110
Vanadium	50.0	49.9		mg/Kg	-	100	88 - 110
Zinc	50.0	51.0		mg/Kg	-	102	76 - 114

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-351228/2-A
Matrix: Solid
Analysis Batch: 352102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	100	99.3		mg/Kg		99	90 - 110
Molybdenum	100	96.0		mg/Kg		96	86 - 110

Lab Sample ID: LCS 280-351228/2-A
Matrix: Solid
Analysis Batch: 352250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	25.0	25.7		mg/Kg		103	88 - 110
Selenium	200	198		mg/Kg		99	83 - 110

Lab Sample ID: LCS 280-351228/2-A
Matrix: Solid
Analysis Batch: 352326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	98.6		mg/Kg		99	85 - 110

Lab Sample ID: 280-90702-1 MS
Matrix: Solid
Analysis Batch: 352102

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	^	53.0	18.3	^	mg/Kg	⚠	35	20 - 200
Barium	160	B	212	360		mg/Kg	⚠	95	52 - 159
Beryllium	0.83		5.30	6.03		mg/Kg	⚠	98	72 - 105
Cadmium	0.27	J	10.6	10.2		mg/Kg	⚠	94	40 - 130
Chromium	22		21.2	48.5		mg/Kg	⚠	126	70 - 200
Cobalt	7.5		53.0	52.2		mg/Kg	⚠	84	72 - 106
Lead	20		53.0	66.6		mg/Kg	⚠	89	70 - 200
Nickel	20		53.0	65.0		mg/Kg	⚠	85	61 - 126
Boron	6.8	J F2	106	106		mg/Kg	⚠	94	80 - 120
Silver	ND		5.30	4.78		mg/Kg	⚠	90	75 - 141
Thallium	ND	F1	212	166		mg/Kg	⚠	78	78 - 101
Vanadium	30		53.0	97.2		mg/Kg	⚠	127	50 - 169
Zinc	69		53.0	117		mg/Kg	⚠	89	70 - 200
Lithium	19		106	122		mg/Kg	⚠	97	84 - 109
Molybdenum	0.58	J F1	106	83.0		mg/Kg	⚠	78	75 - 103

Lab Sample ID: 280-90702-1 MS
Matrix: Solid
Analysis Batch: 352250

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	17	B	26.5	43.6		mg/Kg	⚠	100	37 - 187
Selenium	1.0	J	212	179		mg/Kg	⚠	84	76 - 104

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 280-90702-1 MS
Matrix: Solid
Analysis Batch: 352326

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	7.2		106	98.7		mg/Kg	☼	86	76 - 111

Lab Sample ID: 280-90702-1 MSD
Matrix: Solid
Analysis Batch: 352102

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND	^	47.0	15.7	^	mg/Kg	☼	33	20 - 200	15	20
Barium	160	B	188	311		mg/Kg	☼	82	52 - 159	14	20
Beryllium	0.83		4.70	5.20		mg/Kg	☼	93	72 - 105	15	20
Cadmium	0.27	J	9.41	8.58		mg/Kg	☼	88	40 - 130	17	20
Chromium	22		18.8	41.5		mg/Kg	☼	105	70 - 200	16	20
Cobalt	7.5		47.0	44.9		mg/Kg	☼	79	72 - 106	15	20
Lead	20		47.0	56.5		mg/Kg	☼	78	70 - 200	16	20
Nickel	20		47.0	55.7		mg/Kg	☼	76	61 - 126	15	20
Boron	6.8	J F2	94.1	86.0	F2	mg/Kg	☼	84	80 - 120	21	20
Silver	ND		4.70	4.21		mg/Kg	☼	89	75 - 141	13	20
Thallium	ND	F1	188	140	F1	mg/Kg	☼	74	78 - 101	17	20
Vanadium	30		47.0	85.0		mg/Kg	☼	117	50 - 169	13	20
Zinc	69		47.0	109		mg/Kg	☼	84	70 - 200	7	20
Lithium	19		94.1	106		mg/Kg	☼	92	84 - 109	14	20
Molybdenum	0.58	J F1	94.1	69.4	F1	mg/Kg	☼	73	75 - 103	18	20

Lab Sample ID: 280-90702-1 MSD
Matrix: Solid
Analysis Batch: 352250

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Copper	17	B	23.5	37.7		mg/Kg	☼	88	37 - 187	15	20
Selenium	1.0	J	188	151		mg/Kg	☼	80	76 - 104	17	20

Lab Sample ID: 280-90702-1 MSD
Matrix: Solid
Analysis Batch: 352326

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 351228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	7.2		94.1	84.1		mg/Kg	☼	82	76 - 111	16	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-351594/1-A
Matrix: Solid
Analysis Batch: 351900

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 351594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		17	5.5	ug/Kg		11/16/16 12:10	11/16/16 15:42	1

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 280-351594/2-A
Matrix: Solid
Analysis Batch: 351900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	417	417		ug/Kg		100	87 - 111

Lab Sample ID: 280-90702-6 MS
Matrix: Solid
Analysis Batch: 351900

Client Sample ID: SB3 10-12FT
Prep Type: Total/NA
Prep Batch: 351594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	31		545	617		ug/Kg	✱	107	87 - 111

Lab Sample ID: 280-90702-6 MSD
Matrix: Solid
Analysis Batch: 351900

Client Sample ID: SB3 10-12FT
Prep Type: Total/NA
Prep Batch: 351594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	31		556	607		ug/Kg	✱	103	87 - 111	2	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 490-386229/1-A
Matrix: Solid
Analysis Batch: 388040

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 386229

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	ND		4.9	1.9	mg/Kg		11/12/16 08:43	11/18/16 09:24	1

Lab Sample ID: LCS 490-386229/26-A
Matrix: Solid
Analysis Batch: 388040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 386229

Analyte	Spike Added	LCSI Result	LCSI Qualifier	Unit	D	%Rec	Limits
Chromium(VI)	63.7	65.4		mg/Kg		103	80 - 120

Lab Sample ID: LCSS 490-386229/2-A
Matrix: Solid
Analysis Batch: 388040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 386229

Analyte	Spike Added	LCSS Result	LCSS Qualifier	Unit	D	%Rec	Limits
Chromium(VI)	39.3	41.8		mg/Kg		106	80 - 120

Lab Sample ID: 280-90702-1 MSI
Matrix: Solid
Analysis Batch: 388040

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 386229

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	Limits
Chromium(VI)	ND	F1	79.5	83.6		mg/Kg	✱	105	75 - 125

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 280-90702-1 MSS
Matrix: Solid
Analysis Batch: 388040

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 386229
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSS Result	MSS Qualifier	Unit	D	%Rec	Limits
Chromium(VI)	ND	F1	49.2	34.4	F1	mg/Kg	☼	70	75 - 125

Lab Sample ID: 280-90702-1 DU
Matrix: Solid
Analysis Batch: 388040

Client Sample ID: SB1 6-8FT
Prep Type: Total/NA
Prep Batch: 386229
RPD

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Chromium(VI)	ND	F1	ND		mg/Kg	☼	NC	20

Method: 7196A - Chromium, Trivalent (Colorimetric)

Lab Sample ID: MB 280-352499/1
Matrix: Solid
Analysis Batch: 352499

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		2.0	2.0	mg/Kg			11/21/16 16:25	1

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MRL 280-353161/3
Matrix: Solid
Analysis Batch: 353161

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.200	0.206	J	mg/L		103	50 - 150

Lab Sample ID: MRL 280-353188/3
Matrix: Solid
Analysis Batch: 353188

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.200	0.155	J	mg/L		78	50 - 150

Lab Sample ID: MB 280-353174/3-A
Matrix: Solid
Analysis Batch: 353161

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		10	0.82	mg/Kg			11/26/16 18:51	1

Lab Sample ID: LCS 280-353174/1-A
Matrix: Solid
Analysis Batch: 353161

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	50.0	51.6		mg/Kg		103	90 - 110

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-353174/2-A

Matrix: Solid

Analysis Batch: 353161

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	49.9	51.3		mg/Kg		103	90 - 110	1	10

Lab Sample ID: MB 280-353175/3-A

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		10	0.82	mg/Kg			11/27/16 12:54	1

Lab Sample ID: LCS 280-353175/1-A

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	50.0	51.7		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 280-353175/2-A

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	49.9	51.4		mg/Kg		103	90 - 110	1	10

Lab Sample ID: 280-90702-14 MS

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: SB7 3-5FT

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.5	J	49.6	41.0		mg/Kg	✱	80	80 - 120

Lab Sample ID: 280-90702-14 MSD

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: SB7 3-5FT

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.5	J	49.5	47.2		mg/Kg	✱	92	80 - 120	14	20

Lab Sample ID: 280-90702-17 MS

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: SB8 6-8FT

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	3.5	J F1	53.5	47.9		mg/Kg	✱	83	80 - 120

Lab Sample ID: 280-90702-17 MSD

Matrix: Solid

Analysis Batch: 353188

Client Sample ID: SB8 6-8FT

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	3.5	J F1	55.0	44.0	F1	mg/Kg	✱	74	80 - 120	9	20

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Lab Sample ID: 280-90702-14 DU
Matrix: Solid
Analysis Batch: 353188

Client Sample ID: SB7 3-5FT
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.5	J	1.48	J	mg/Kg	☼	3	10

Lab Sample ID: 280-90702-17 DU
Matrix: Solid
Analysis Batch: 353188

Client Sample ID: SB8 6-8FT
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	3.5	J F1	2.20	J F5	mg/Kg	☼	45	10

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Metals

Prep Batch: 351228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	3050B	
280-90702-2	SB1 10-12FT	Total/NA	Solid	3050B	
280-90702-3	SB2 8-10FT	Total/NA	Solid	3050B	
280-90702-4	SB2 11-13FT	Total/NA	Solid	3050B	
280-90702-5	SB3 8-10FT	Total/NA	Solid	3050B	
280-90702-6	SB3 10-12FT	Total/NA	Solid	3050B	
280-90702-7	SB4 3-5FT	Total/NA	Solid	3050B	
280-90702-8	SB4 7-9FT	Total/NA	Solid	3050B	
280-90702-9	SB5 7-9FT	Total/NA	Solid	3050B	
280-90702-10	SB5 20-21FT	Total/NA	Solid	3050B	
280-90702-11	SB5 22-23FT	Total/NA	Solid	3050B	
280-90702-12	SB6 7-9FT	Total/NA	Solid	3050B	
280-90702-13	SB6 17-19FT	Total/NA	Solid	3050B	
280-90702-14	SB7 3-5FT	Total/NA	Solid	3050B	
280-90702-15	SB7 6-8FT	Total/NA	Solid	3050B	
280-90702-16	SB8 3-5FT	Total/NA	Solid	3050B	
280-90702-17	SB8 6-8FT	Total/NA	Solid	3050B	
MB 280-351228/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-351228/2-A	Lab Control Sample	Total/NA	Solid	3050B	
280-90702-1 MS	SB1 6-8FT	Total/NA	Solid	3050B	
280-90702-1 MSD	SB1 6-8FT	Total/NA	Solid	3050B	

Prep Batch: 351594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	7471A	
280-90702-2	SB1 10-12FT	Total/NA	Solid	7471A	
280-90702-3	SB2 8-10FT	Total/NA	Solid	7471A	
280-90702-4	SB2 11-13FT	Total/NA	Solid	7471A	
280-90702-5	SB3 8-10FT	Total/NA	Solid	7471A	
280-90702-6	SB3 10-12FT	Total/NA	Solid	7471A	
280-90702-7	SB4 3-5FT	Total/NA	Solid	7471A	
280-90702-8	SB4 7-9FT	Total/NA	Solid	7471A	
280-90702-9	SB5 7-9FT	Total/NA	Solid	7471A	
280-90702-10	SB5 20-21FT	Total/NA	Solid	7471A	
280-90702-11	SB5 22-23FT	Total/NA	Solid	7471A	
280-90702-12	SB6 7-9FT	Total/NA	Solid	7471A	
280-90702-13	SB6 17-19FT	Total/NA	Solid	7471A	
280-90702-14	SB7 3-5FT	Total/NA	Solid	7471A	
280-90702-15	SB7 6-8FT	Total/NA	Solid	7471A	
280-90702-16	SB8 3-5FT	Total/NA	Solid	7471A	
280-90702-17	SB8 6-8FT	Total/NA	Solid	7471A	
MB 280-351594/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 280-351594/2-A	Lab Control Sample	Total/NA	Solid	7471A	
280-90702-6 MS	SB3 10-12FT	Total/NA	Solid	7471A	
280-90702-6 MSD	SB3 10-12FT	Total/NA	Solid	7471A	

Analysis Batch: 351900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	7471A	351594
280-90702-2	SB1 10-12FT	Total/NA	Solid	7471A	351594
280-90702-3	SB2 8-10FT	Total/NA	Solid	7471A	351594

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Metals (Continued)

Analysis Batch: 351900 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-4	SB2 11-13FT	Total/NA	Solid	7471A	351594
280-90702-5	SB3 8-10FT	Total/NA	Solid	7471A	351594
280-90702-6	SB3 10-12FT	Total/NA	Solid	7471A	351594
280-90702-7	SB4 3-5FT	Total/NA	Solid	7471A	351594
280-90702-8	SB4 7-9FT	Total/NA	Solid	7471A	351594
280-90702-9	SB5 7-9FT	Total/NA	Solid	7471A	351594
280-90702-10	SB5 20-21FT	Total/NA	Solid	7471A	351594
280-90702-11	SB5 22-23FT	Total/NA	Solid	7471A	351594
280-90702-12	SB6 7-9FT	Total/NA	Solid	7471A	351594
280-90702-13	SB6 17-19FT	Total/NA	Solid	7471A	351594
280-90702-14	SB7 3-5FT	Total/NA	Solid	7471A	351594
280-90702-15	SB7 6-8FT	Total/NA	Solid	7471A	351594
280-90702-16	SB8 3-5FT	Total/NA	Solid	7471A	351594
280-90702-17	SB8 6-8FT	Total/NA	Solid	7471A	351594
MB 280-351594/1-A	Method Blank	Total/NA	Solid	7471A	351594
LCS 280-351594/2-A	Lab Control Sample	Total/NA	Solid	7471A	351594
280-90702-6 MS	SB3 10-12FT	Total/NA	Solid	7471A	351594
280-90702-6 MSD	SB3 10-12FT	Total/NA	Solid	7471A	351594

Analysis Batch: 352102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	6010C	351228
280-90702-2	SB1 10-12FT	Total/NA	Solid	6010C	351228
280-90702-3	SB2 8-10FT	Total/NA	Solid	6010C	351228
280-90702-4	SB2 11-13FT	Total/NA	Solid	6010C	351228
280-90702-5	SB3 8-10FT	Total/NA	Solid	6010C	351228
280-90702-6	SB3 10-12FT	Total/NA	Solid	6010C	351228
280-90702-7	SB4 3-5FT	Total/NA	Solid	6010C	351228
280-90702-8	SB4 7-9FT	Total/NA	Solid	6010C	351228
280-90702-9	SB5 7-9FT	Total/NA	Solid	6010C	351228
280-90702-10	SB5 20-21FT	Total/NA	Solid	6010C	351228
280-90702-11	SB5 22-23FT	Total/NA	Solid	6010C	351228
280-90702-12	SB6 7-9FT	Total/NA	Solid	6010C	351228
280-90702-13	SB6 17-19FT	Total/NA	Solid	6010C	351228
280-90702-14	SB7 3-5FT	Total/NA	Solid	6010C	351228
280-90702-15	SB7 6-8FT	Total/NA	Solid	6010C	351228
280-90702-16	SB8 3-5FT	Total/NA	Solid	6010C	351228
280-90702-17	SB8 6-8FT	Total/NA	Solid	6010C	351228
MB 280-351228/1-A	Method Blank	Total/NA	Solid	6010C	351228
LCS 280-351228/2-A	Lab Control Sample	Total/NA	Solid	6010C	351228
280-90702-1 MS	SB1 6-8FT	Total/NA	Solid	6010C	351228
280-90702-1 MSD	SB1 6-8FT	Total/NA	Solid	6010C	351228

Analysis Batch: 352250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	6010C	351228
280-90702-2	SB1 10-12FT	Total/NA	Solid	6010C	351228
280-90702-3	SB2 8-10FT	Total/NA	Solid	6010C	351228
280-90702-4	SB2 11-13FT	Total/NA	Solid	6010C	351228
280-90702-5	SB3 8-10FT	Total/NA	Solid	6010C	351228
280-90702-6	SB3 10-12FT	Total/NA	Solid	6010C	351228

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Metals (Continued)

Analysis Batch: 352250 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-7	SB4 3-5FT	Total/NA	Solid	6010C	351228
280-90702-8	SB4 7-9FT	Total/NA	Solid	6010C	351228
280-90702-9	SB5 7-9FT	Total/NA	Solid	6010C	351228
280-90702-10	SB5 20-21FT	Total/NA	Solid	6010C	351228
280-90702-11	SB5 22-23FT	Total/NA	Solid	6010C	351228
280-90702-12	SB6 7-9FT	Total/NA	Solid	6010C	351228
280-90702-13	SB6 17-19FT	Total/NA	Solid	6010C	351228
280-90702-14	SB7 3-5FT	Total/NA	Solid	6010C	351228
280-90702-15	SB7 6-8FT	Total/NA	Solid	6010C	351228
280-90702-16	SB8 3-5FT	Total/NA	Solid	6010C	351228
280-90702-17	SB8 6-8FT	Total/NA	Solid	6010C	351228
MB 280-351228/1-A	Method Blank	Total/NA	Solid	6010C	351228
LCS 280-351228/2-A	Lab Control Sample	Total/NA	Solid	6010C	351228
280-90702-1 MS	SB1 6-8FT	Total/NA	Solid	6010C	351228
280-90702-1 MSD	SB1 6-8FT	Total/NA	Solid	6010C	351228

Analysis Batch: 352326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	6010C	351228
280-90702-2	SB1 10-12FT	Total/NA	Solid	6010C	351228
280-90702-3	SB2 8-10FT	Total/NA	Solid	6010C	351228
280-90702-4	SB2 11-13FT	Total/NA	Solid	6010C	351228
280-90702-5	SB3 8-10FT	Total/NA	Solid	6010C	351228
280-90702-6	SB3 10-12FT	Total/NA	Solid	6010C	351228
280-90702-7	SB4 3-5FT	Total/NA	Solid	6010C	351228
280-90702-8	SB4 7-9FT	Total/NA	Solid	6010C	351228
280-90702-9	SB5 7-9FT	Total/NA	Solid	6010C	351228
280-90702-10	SB5 20-21FT	Total/NA	Solid	6010C	351228
280-90702-11	SB5 22-23FT	Total/NA	Solid	6010C	351228
280-90702-12	SB6 7-9FT	Total/NA	Solid	6010C	351228
280-90702-13	SB6 17-19FT	Total/NA	Solid	6010C	351228
280-90702-14	SB7 3-5FT	Total/NA	Solid	6010C	351228
280-90702-15	SB7 6-8FT	Total/NA	Solid	6010C	351228
280-90702-16	SB8 3-5FT	Total/NA	Solid	6010C	351228
280-90702-17	SB8 6-8FT	Total/NA	Solid	6010C	351228
MB 280-351228/1-A	Method Blank	Total/NA	Solid	6010C	351228
LCS 280-351228/2-A	Lab Control Sample	Total/NA	Solid	6010C	351228
280-90702-1 MS	SB1 6-8FT	Total/NA	Solid	6010C	351228
280-90702-1 MSD	SB1 6-8FT	Total/NA	Solid	6010C	351228

General Chemistry

Analysis Batch: 350688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	Moisture	
280-90702-2	SB1 10-12FT	Total/NA	Solid	Moisture	
280-90702-3	SB2 8-10FT	Total/NA	Solid	Moisture	
280-90702-4	SB2 11-13FT	Total/NA	Solid	Moisture	
280-90702-5	SB3 8-10FT	Total/NA	Solid	Moisture	
280-90702-6	SB3 10-12FT	Total/NA	Solid	Moisture	

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry (Continued)

Analysis Batch: 350688 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-7	SB4 3-5FT	Total/NA	Solid	Moisture	
280-90702-8	SB4 7-9FT	Total/NA	Solid	Moisture	
280-90702-9	SB5 7-9FT	Total/NA	Solid	Moisture	
280-90702-10	SB5 20-21FT	Total/NA	Solid	Moisture	
280-90702-11	SB5 22-23FT	Total/NA	Solid	Moisture	
280-90702-12	SB6 7-9FT	Total/NA	Solid	Moisture	
280-90702-13	SB6 17-19FT	Total/NA	Solid	Moisture	
280-90702-14	SB7 3-5FT	Total/NA	Solid	Moisture	
280-90702-15	SB7 6-8FT	Total/NA	Solid	Moisture	
280-90702-16	SB8 3-5FT	Total/NA	Solid	Moisture	
280-90702-17	SB8 6-8FT	Total/NA	Solid	Moisture	

Analysis Batch: 352499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	7196A	
280-90702-2	SB1 10-12FT	Total/NA	Solid	7196A	
280-90702-3	SB2 8-10FT	Total/NA	Solid	7196A	
280-90702-4	SB2 11-13FT	Total/NA	Solid	7196A	
280-90702-5	SB3 8-10FT	Total/NA	Solid	7196A	
280-90702-6	SB3 10-12FT	Total/NA	Solid	7196A	
280-90702-7	SB4 3-5FT	Total/NA	Solid	7196A	
280-90702-8	SB4 7-9FT	Total/NA	Solid	7196A	
280-90702-9	SB5 7-9FT	Total/NA	Solid	7196A	
280-90702-10	SB5 20-21FT	Total/NA	Solid	7196A	
280-90702-11	SB5 22-23FT	Total/NA	Solid	7196A	
280-90702-12	SB6 7-9FT	Total/NA	Solid	7196A	
280-90702-13	SB6 17-19FT	Total/NA	Solid	7196A	
280-90702-14	SB7 3-5FT	Total/NA	Solid	7196A	
280-90702-15	SB7 6-8FT	Total/NA	Solid	7196A	
280-90702-16	SB8 3-5FT	Total/NA	Solid	7196A	
280-90702-17	SB8 6-8FT	Total/NA	Solid	7196A	
MB 280-352499/1	Method Blank	Total/NA	Solid	7196A	

Analysis Batch: 353161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Soluble	Solid	9056	353174
280-90702-2	SB1 10-12FT	Soluble	Solid	9056	353174
280-90702-3	SB2 8-10FT	Soluble	Solid	9056	353174
280-90702-4	SB2 11-13FT	Soluble	Solid	9056	353174
280-90702-5	SB3 8-10FT	Soluble	Solid	9056	353174
280-90702-6	SB3 10-12FT	Soluble	Solid	9056	353174
280-90702-7	SB4 3-5FT	Soluble	Solid	9056	353174
280-90702-8	SB4 7-9FT	Soluble	Solid	9056	353174
280-90702-9	SB5 7-9FT	Soluble	Solid	9056	353174
MB 280-353174/3-A	Method Blank	Soluble	Solid	9056	353174
LCS 280-353174/1-A	Lab Control Sample	Soluble	Solid	9056	353174
LCSD 280-353174/2-A	Lab Control Sample Dup	Soluble	Solid	9056	353174
MRL 280-353161/3	Lab Control Sample	Total/NA	Solid	9056	

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry (Continued)

Leach Batch: 353174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Soluble	Solid	DI Leach	
280-90702-2	SB1 10-12FT	Soluble	Solid	DI Leach	
280-90702-3	SB2 8-10FT	Soluble	Solid	DI Leach	
280-90702-4	SB2 11-13FT	Soluble	Solid	DI Leach	
280-90702-5	SB3 8-10FT	Soluble	Solid	DI Leach	
280-90702-6	SB3 10-12FT	Soluble	Solid	DI Leach	
280-90702-7	SB4 3-5FT	Soluble	Solid	DI Leach	
280-90702-8	SB4 7-9FT	Soluble	Solid	DI Leach	
280-90702-9	SB5 7-9FT	Soluble	Solid	DI Leach	
MB 280-353174/3-A	Method Blank	Soluble	Solid	DI Leach	
LCS 280-353174/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 280-353174/2-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 353175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-10	SB5 20-21FT	Soluble	Solid	DI Leach	
280-90702-11	SB5 22-23FT	Soluble	Solid	DI Leach	
280-90702-12	SB6 7-9FT	Soluble	Solid	DI Leach	
280-90702-13	SB6 17-19FT	Soluble	Solid	DI Leach	
280-90702-14	SB7 3-5FT	Soluble	Solid	DI Leach	
280-90702-15	SB7 6-8FT	Soluble	Solid	DI Leach	
280-90702-16	SB8 3-5FT	Soluble	Solid	DI Leach	
280-90702-17	SB8 6-8FT	Soluble	Solid	DI Leach	
MB 280-353175/3-A	Method Blank	Soluble	Solid	DI Leach	
LCS 280-353175/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 280-353175/2-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
280-90702-14 MS	SB7 3-5FT	Soluble	Solid	DI Leach	
280-90702-14 MSD	SB7 3-5FT	Soluble	Solid	DI Leach	
280-90702-17 MS	SB8 6-8FT	Soluble	Solid	DI Leach	
280-90702-17 MSD	SB8 6-8FT	Soluble	Solid	DI Leach	
280-90702-14 DU	SB7 3-5FT	Soluble	Solid	DI Leach	
280-90702-17 DU	SB8 6-8FT	Soluble	Solid	DI Leach	

Analysis Batch: 353188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-10	SB5 20-21FT	Soluble	Solid	9056	353175
280-90702-11	SB5 22-23FT	Soluble	Solid	9056	353175
280-90702-12	SB6 7-9FT	Soluble	Solid	9056	353175
280-90702-13	SB6 17-19FT	Soluble	Solid	9056	353175
280-90702-14	SB7 3-5FT	Soluble	Solid	9056	353175
280-90702-15	SB7 6-8FT	Soluble	Solid	9056	353175
280-90702-16	SB8 3-5FT	Soluble	Solid	9056	353175
280-90702-17	SB8 6-8FT	Soluble	Solid	9056	353175
MB 280-353175/3-A	Method Blank	Soluble	Solid	9056	353175
LCS 280-353175/1-A	Lab Control Sample	Soluble	Solid	9056	353175
LCSD 280-353175/2-A	Lab Control Sample Dup	Soluble	Solid	9056	353175
MRL 280-353188/3	Lab Control Sample	Total/NA	Solid	9056	
280-90702-14 MS	SB7 3-5FT	Soluble	Solid	9056	353175
280-90702-14 MSD	SB7 3-5FT	Soluble	Solid	9056	353175
280-90702-17 MS	SB8 6-8FT	Soluble	Solid	9056	353175
280-90702-17 MSD	SB8 6-8FT	Soluble	Solid	9056	353175

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry (Continued)

Analysis Batch: 353188 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-14 DU	SB7 3-5FT	Soluble	Solid	9056	353175
280-90702-17 DU	SB8 6-8FT	Soluble	Solid	9056	353175

Prep Batch: 386229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	3060A	
280-90702-2	SB1 10-12FT	Total/NA	Solid	3060A	
280-90702-3	SB2 8-10FT	Total/NA	Solid	3060A	
280-90702-4	SB2 11-13FT	Total/NA	Solid	3060A	
280-90702-5	SB3 8-10FT	Total/NA	Solid	3060A	
280-90702-6	SB3 10-12FT	Total/NA	Solid	3060A	
280-90702-7	SB4 3-5FT	Total/NA	Solid	3060A	
280-90702-8	SB4 7-9FT	Total/NA	Solid	3060A	
280-90702-9	SB5 7-9FT	Total/NA	Solid	3060A	
280-90702-10	SB5 20-21FT	Total/NA	Solid	3060A	
280-90702-11	SB5 22-23FT	Total/NA	Solid	3060A	
280-90702-12	SB6 7-9FT	Total/NA	Solid	3060A	
280-90702-13	SB6 17-19FT	Total/NA	Solid	3060A	
280-90702-14	SB7 3-5FT	Total/NA	Solid	3060A	
280-90702-15	SB7 6-8FT	Total/NA	Solid	3060A	
280-90702-16	SB8 3-5FT	Total/NA	Solid	3060A	
280-90702-17	SB8 6-8FT	Total/NA	Solid	3060A	
MB 490-386229/1-A	Method Blank	Total/NA	Solid	3060A	
LCSI 490-386229/26-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSS 490-386229/2-A	Lab Control Sample	Total/NA	Solid	3060A	
280-90702-1 MSI	SB1 6-8FT	Total/NA	Solid	3060A	
280-90702-1 MSS	SB1 6-8FT	Total/NA	Solid	3060A	
280-90702-1 DU	SB1 6-8FT	Total/NA	Solid	3060A	

Analysis Batch: 388040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1	SB1 6-8FT	Total/NA	Solid	7196A	386229
280-90702-2	SB1 10-12FT	Total/NA	Solid	7196A	386229
280-90702-3	SB2 8-10FT	Total/NA	Solid	7196A	386229
280-90702-4	SB2 11-13FT	Total/NA	Solid	7196A	386229
280-90702-5	SB3 8-10FT	Total/NA	Solid	7196A	386229
280-90702-6	SB3 10-12FT	Total/NA	Solid	7196A	386229
280-90702-7	SB4 3-5FT	Total/NA	Solid	7196A	386229
280-90702-8	SB4 7-9FT	Total/NA	Solid	7196A	386229
280-90702-9	SB5 7-9FT	Total/NA	Solid	7196A	386229
280-90702-10	SB5 20-21FT	Total/NA	Solid	7196A	386229
280-90702-11	SB5 22-23FT	Total/NA	Solid	7196A	386229
280-90702-12	SB6 7-9FT	Total/NA	Solid	7196A	386229
280-90702-13	SB6 17-19FT	Total/NA	Solid	7196A	386229
280-90702-14	SB7 3-5FT	Total/NA	Solid	7196A	386229
280-90702-15	SB7 6-8FT	Total/NA	Solid	7196A	386229
280-90702-16	SB8 3-5FT	Total/NA	Solid	7196A	386229
280-90702-17	SB8 6-8FT	Total/NA	Solid	7196A	386229
MB 490-386229/1-A	Method Blank	Total/NA	Solid	7196A	386229
LCSI 490-386229/26-A	Lab Control Sample	Total/NA	Solid	7196A	386229
LCSS 490-386229/2-A	Lab Control Sample	Total/NA	Solid	7196A	386229

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

General Chemistry (Continued)

Analysis Batch: 388040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90702-1 MSI	SB1 6-8FT	Total/NA	Solid	7196A	386229
280-90702-1 MSS	SB1 6-8FT	Total/NA	Solid	7196A	386229
280-90702-1 DU	SB1 6-8FT	Total/NA	Solid	7196A	386229

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB1 6-8FT

Date Collected: 11/07/16 07:50

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB1 6-8FT

Date Collected: 11/07/16 07:50

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-1

Matrix: Solid

Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.211 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:03	CML	TAL DEN
Total/NA	Prep	3050B			1.211 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:15	CRR	TAL DEN
Total/NA	Prep	3050B			1.211 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:00	CML	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 15:51	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5767 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.30 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 01:01	AFB	TAL DEN

Client Sample ID: SB1 10-12FT

Date Collected: 11/07/16 07:55

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB1 10-12FT

Date Collected: 11/07/16 07:55

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2

Matrix: Solid

Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.137 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:15	CML	TAL DEN
Total/NA	Prep	3050B			1.137 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:40	CRR	TAL DEN
Total/NA	Prep	3050B			1.137 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:11	CML	TAL DEN
Total/NA	Prep	7471A			0.53 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 15:53	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB1 10-12FT

Date Collected: 11/07/16 07:55

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-2

Matrix: Solid

Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.5458 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.35 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 01:18	AFB	TAL DEN

Client Sample ID: SB2 8-10FT

Date Collected: 11/07/16 08:20

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB2 8-10FT

Date Collected: 11/07/16 08:20

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-3

Matrix: Solid

Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.183 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:17	CML	TAL DEN
Total/NA	Prep	3050B			1.183 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:42	CRR	TAL DEN
Total/NA	Prep	3050B			1.183 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:13	CML	TAL DEN
Total/NA	Prep	7471A			0.58 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 15:55	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5769 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.78 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 01:35	AFB	TAL DEN

Client Sample ID: SB2 11-13FT

Date Collected: 11/07/16 08:25

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB2 11-13FT

Date Collected: 11/07/16 08:25

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-4

Matrix: Solid

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.144 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:20	CML	TAL DEN
Total/NA	Prep	3050B			1.144 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:45	CRR	TAL DEN
Total/NA	Prep	3050B			1.144 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:26	CML	TAL DEN
Total/NA	Prep	7471A			0.52 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 15:58	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5641 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.68 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 01:51	AFB	TAL DEN

Client Sample ID: SB3 8-10FT

Date Collected: 11/07/16 09:25

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB3 8-10FT

Date Collected: 11/07/16 09:25

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-5

Matrix: Solid

Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.098 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:32	CML	TAL DEN
Total/NA	Prep	3050B			1.098 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:47	CRR	TAL DEN
Total/NA	Prep	3050B			1.098 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:28	CML	TAL DEN
Total/NA	Prep	7471A			0.57 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:00	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5288 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.19 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 02:08	AFB	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB3 10-12FT

Date Collected: 11/07/16 09:30

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB3 10-12FT

Date Collected: 11/07/16 09:30

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-6

Matrix: Solid

Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.102 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:35	CML	TAL DEN
Total/NA	Prep	3050B			1.102 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:50	CRR	TAL DEN
Total/NA	Prep	3050B			1.102 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:30	CML	TAL DEN
Total/NA	Prep	7471A			0.51 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:02	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5479 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.41 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 02:25	AFB	TAL DEN

Client Sample ID: SB4 3-5FT

Date Collected: 11/07/16 10:00

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB4 3-5FT

Date Collected: 11/07/16 10:00

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7

Matrix: Solid

Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.251 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:37	CML	TAL DEN
Total/NA	Prep	3050B			1.251 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:52	CRR	TAL DEN
Total/NA	Prep	3050B			1.251 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:33	CML	TAL DEN
Total/NA	Prep	7471A			0.52 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:09	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5552 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB4 3-5FT

Date Collected: 11/07/16 10:00

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-7

Matrix: Solid

Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.39 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 02:42	AFB	TAL DEN

Client Sample ID: SB4 7-9FT

Date Collected: 11/07/16 10:05

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB4 7-9FT

Date Collected: 11/07/16 10:05

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-8

Matrix: Solid

Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.039 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:40	CML	TAL DEN
Total/NA	Prep	3050B			1.039 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:54	CRR	TAL DEN
Total/NA	Prep	3050B			1.039 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:35	CML	TAL DEN
Total/NA	Prep	7471A			0.56 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:11	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5788 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.28 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 02:59	AFB	TAL DEN

Client Sample ID: SB5 7-9FT

Date Collected: 11/07/16 10:40

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB5 7-9FT

Date Collected: 11/07/16 10:40

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-9

Matrix: Solid

Percent Solids: 54.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.107 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:42	CML	TAL DEN
Total/NA	Prep	3050B			1.107 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 12:57	CRR	TAL DEN
Total/NA	Prep	3050B			1.107 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:38	CML	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:18	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5522 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.40 g	100 mL	353174	11/26/16 14:45	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353161	11/27/16 03:15	AFB	TAL DEN

Client Sample ID: SB5 20-21FT

Date Collected: 11/07/16 10:50

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB5 20-21FT

Date Collected: 11/07/16 10:50

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-10

Matrix: Solid

Percent Solids: 74.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.206 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:45	CML	TAL DEN
Total/NA	Prep	3050B			1.206 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:10	CRR	TAL DEN
Total/NA	Prep	3050B			1.206 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:50	CML	TAL DEN
Total/NA	Prep	7471A			0.50 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:20	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5611 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.68 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 13:11	TLP	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB5 22-23FT

Lab Sample ID: 280-90702-11

Date Collected: 11/07/16 10:55

Matrix: Solid

Date Received: 11/08/16 11:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB5 22-23FT

Lab Sample ID: 280-90702-11

Date Collected: 11/07/16 10:55

Matrix: Solid

Date Received: 11/08/16 11:46

Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.223 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:47	CML	TAL DEN
Total/NA	Prep	3050B			1.223 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:12	CRR	TAL DEN
Total/NA	Prep	3050B			1.223 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:52	CML	TAL DEN
Total/NA	Prep	7471A			0.52 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:22	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5126 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.32 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 13:29	TLP	TAL DEN

Client Sample ID: SB6 7-9FT

Lab Sample ID: 280-90702-12

Date Collected: 11/07/16 11:10

Matrix: Solid

Date Received: 11/08/16 11:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB6 7-9FT

Lab Sample ID: 280-90702-12

Date Collected: 11/07/16 11:10

Matrix: Solid

Date Received: 11/08/16 11:46

Percent Solids: 67.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.174 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:50	CML	TAL DEN
Total/NA	Prep	3050B			1.174 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:14	CRR	TAL DEN
Total/NA	Prep	3050B			1.174 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:55	CML	TAL DEN
Total/NA	Prep	7471A			0.59 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:24	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5239 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB6 7-9FT

Date Collected: 11/07/16 11:10

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-12

Matrix: Solid

Percent Solids: 67.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.12 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 13:47	TLP	TAL DEN

Client Sample ID: SB6 17-19FT

Date Collected: 11/07/16 11:15

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB6 17-19FT

Date Collected: 11/07/16 11:15

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-13

Matrix: Solid

Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.367 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:52	CML	TAL DEN
Total/NA	Prep	3050B			1.367 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:17	CRR	TAL DEN
Total/NA	Prep	3050B			1.367 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 14:57	CML	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:26	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5563 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.31 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 14:04	TLP	TAL DEN

Client Sample ID: SB7 3-5FT

Date Collected: 11/07/16 12:45

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB7 3-5FT

Date Collected: 11/07/16 12:45

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-14

Matrix: Solid

Percent Solids: 97.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.149 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 18:55	CML	TAL DEN
Total/NA	Prep	3050B			1.149 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:19	CRR	TAL DEN
Total/NA	Prep	3050B			1.149 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 15:00	CML	TAL DEN
Total/NA	Prep	7471A			0.52 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:29	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5256 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.32 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 14:22	TLP	TAL DEN

Client Sample ID: SB7 6-8FT

Date Collected: 11/07/16 12:50

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB7 6-8FT

Date Collected: 11/07/16 12:50

Date Received: 11/08/16 11:46

Lab Sample ID: 280-90702-15

Matrix: Solid

Percent Solids: 85.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.213 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 19:07	CML	TAL DEN
Total/NA	Prep	3050B			1.213 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:22	CRR	TAL DEN
Total/NA	Prep	3050B			1.213 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 15:02	CML	TAL DEN
Total/NA	Prep	7471A			0.57 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:31	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5126 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.11 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 16:08	TLP	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB8 3-5FT

Lab Sample ID: 280-90702-16

Date Collected: 11/07/16 13:00

Matrix: Solid

Date Received: 11/08/16 11:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB8 3-5FT

Lab Sample ID: 280-90702-16

Date Collected: 11/07/16 13:00

Matrix: Solid

Date Received: 11/08/16 11:46

Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.052 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 19:10	CML	TAL DEN
Total/NA	Prep	3050B			1.052 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:24	CRR	TAL DEN
Total/NA	Prep	3050B			1.052 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 15:05	CML	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:33	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5874 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.50 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 16:26	TLP	TAL DEN

Client Sample ID: SB8 6-8FT

Lab Sample ID: 280-90702-17

Date Collected: 11/07/16 13:05

Matrix: Solid

Date Received: 11/08/16 11:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			350688	11/09/16 18:58	NJF	TAL DEN

Client Sample ID: SB8 6-8FT

Lab Sample ID: 280-90702-17

Date Collected: 11/07/16 13:05

Matrix: Solid

Date Received: 11/08/16 11:46

Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.011 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352102	11/17/16 19:12	CML	TAL DEN
Total/NA	Prep	3050B			1.011 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352250	11/18/16 13:27	CRR	TAL DEN
Total/NA	Prep	3050B			1.011 g	100 mL	351228	11/16/16 07:00	SUR	TAL DEN
Total/NA	Analysis	6010C		1			352326	11/19/16 15:07	CML	TAL DEN
Total/NA	Prep	7471A			0.57 g	50 mL	351594	11/16/16 12:10	CDH	TAL DEN
Total/NA	Analysis	7471A		1			351900	11/16/16 16:35	CDH	TAL DEN
Total/NA	Analysis	7196A		1			352499	11/21/16 16:25	DEG	TAL DEN
Total/NA	Prep	3060A			2.5180 g	500 mL	386229	11/12/16 08:43	DJP	TAL NSH

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Client Sample ID: SB8 6-8FT

Lab Sample ID: 280-90702-17

Date Collected: 11/07/16 13:05

Matrix: Solid

Date Received: 11/08/16 11:46

Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1	50 mL	50 mL	388040	11/18/16 09:24	DJP	TAL NSH
Soluble	Leach	DI Leach			10.39 g	100 mL	353175	11/26/16 16:01	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	353188	11/27/16 16:44	TLP	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-17
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	07-24-17
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-17
California	State Program	9	2938	10-31-16 *
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-17
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-16 *
Iowa	State Program	7	131	04-01-18

* Certification renewal pending - certification considered valid.

TestAmerica Denver

Certification Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-90702-1

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Kansas	NELAP	7	E-10229	11-30-16 *
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-16 *
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-17
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-16 *
Mississippi	State Program	4	N/A	06-30-17
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-17
North Carolina (WW/SW)	State Program	4	387	12-31-16 *
North Dakota	State Program	8	R-146	06-30-17
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-17
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-16 *
South Carolina	State Program	4	84009 (001)	02-18-17
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-16 *
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-17
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

* Certification renewal pending - certification considered valid.

TestAmerica Denver

Chain of Custody Record

Client Information Client Contact: Matthew Rohr Company: HDR Inc. Address: 1670 Broadway, Suite 3400 City: Denver State, Zip: CO, 80202 Phone: 907-644-2078(Tel) Email: Matthew.Rohr@hdrinc.com Project Name: <u>Valmont Soil Sampling</u> Site: <u>Valmont</u>		Lab PM: Rothmeyer, Stephanie K E-Mail: stephanie.rothmeyer@testamericainc.com Project # <u>28016050</u> SSOW#: <u>28016049</u>		Sampler: <u>GREG KELLY</u> Phone: <u>730 833 7275</u>		Carrier Tracking No(s): COC No: <u>001</u> Page: <u>1 of 3</u> Job #:											
Due Date Requested: TAT Requested (days): PO #: <u>907-644-2078(Tel)</u> Purchase Order Requested WO #:		Analysis Requested															
Sample Identification <u>SB1 6-8 ft</u> <u>SB1 10-12 ft</u> <u>SB2 8-10 ft</u> <u>SB2 11-13 ft</u> <u>SB3 8-10 ft</u> <u>SB3 10-12 ft</u> <u>SB4 3-5 ft</u> <u>SB4 7-9 ft</u> <u>SB5 7-9 ft</u> <u>SB5 20-21 ft</u> <u>SB5 22-23 ft</u>		Sample Date <u>11/2/16</u> <u>0750</u> <u>0755</u> <u>0830</u> <u>0835</u> <u>0925</u> <u>0930</u> <u>1000</u> <u>1005</u> <u>1040</u> <u>1050</u> <u>1055</u>		Sample Time <u>0750</u> <u>0755</u> <u>0830</u> <u>0835</u> <u>0925</u> <u>0930</u> <u>1000</u> <u>1005</u> <u>1040</u> <u>1050</u> <u>1055</u>		Matrix (W=water, S=solid, O=organic, BT=trace, A=air) <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u>		Field Filtered Sample (Yes or No) <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u>		Perform MS/MSD (Yes or No) <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u>		Trivalent Chromium - 7196A, CR3, Fluoride - 9056, 28D, Hexavalent Chromium - 7196A - Cr (VI) <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u> <u>N</u>		Total Number of Containers <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u>		Special Instructions/Note: 280-90702 Chain of Custody 	
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months Special Instructions/OC Requirements:															
Empty Kit Relinquished by: <u>Greg Kelly</u> Relinquished by: <u>Matthew Rohr</u> Relinquished by: <u>Matthew Rohr</u> Relinquished by:		Date: <u>11/8/16</u> <u>1115</u> <u>1148</u> <u>1148</u>		Date: <u>11/8/16</u> <u>1115</u> <u>1146</u> <u>1146</u>		Method of Shipment: Company: <u>HDR</u> Company: <u>TAP</u> Company:											
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: <u>11-8-16</u> Cooler Temperature(s) °C and Other Remarks: <u>1,1,1 Trs at 0.0 transferred SPU</u>															

Chain of Custody Record

Client Information Client Contact: Matthew Rohr Company: HDR Inc. Address: 1670 Broadway, Suite 3400 City: Denver State, Zip: CO, 80202 Phone: 907-644-2078(Tel) Email: Matthew.Rohr@hdrinc.com Project Name: Valmont Soil Sampling Site: VALMONT		Sampler: GREG KELLY Lab PM: Rothmeyer, Stephanie K E-Mail: stephanie.rothmeyer@testamericainc.com Phone: 720 583 7275		Carrier Tracking No(s): COC No: 002 Page: 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 28016049 SSOW #:		Analysis Requested Field Filtered Sample (Yes or No) ☒ Perform MS/MSD (Yes or No) ☒ Metals - 6010C, 7471A ☒ Hexavalent Chromium - 7196A - Cr (VI) ☒ Total Number of Containers:			
Sample Identification SB6 7-9 ft SB6 17-19 ft SB7 3-5 ft SB7 6-8 ft SB8 3-5 ft SB8 6-8 ft		Sample Date 11/7/16 11/7/16 11/7/16 11/7/16 11/7/16 11/7/16	Sample Time 1110 1115 1245 1250 1300 1305	Sample Type G-Comp G-grab G-grab G-grab G-grab G-grab	Matrix (W=Water, S=solid, O=soil, A=air) Preservation Code: S S S S S S
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months			
Empty Kit Relinquished by: Greg Kelly Relinquished by: Greg Kelly Relinquished by: Greg Kelly Relinquished by: Greg Kelly		Date: 11/8/16 1115 Date: 11/8/16 1146 Date: 11/8/16 1146 Date: 11/8/16 1146			
Custody Seals Intact: ☒ Yes ☐ No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

COOLER RECEIPT FORM



280-90702 Chain of Custody

Cooler Received/Opened On 11/10/2016 @ 0910

Time Samples Removed From Cooler 1030 Time Samples Placed In Storage 1035 (2 Hour Window)

1. Tracking # 0365 (last 4 digits, FedEx) Courier: FedEx
IR Gun ID 31470368 pH Strip Lot HC682547 Chlorine Strip Lot 061316w

2. Temperature of rep. sample or temp blank when opened: 3.2 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler?

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly?

6. Were custody papers inside cooler?

I certify that I opened the cooler and answered questions 1-6 (initial) PA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) HKG

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) HKG

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) HKG

I certify that I attached a label with the unique LIMS number to each container (initial) HKG

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#

4955 Yarrow Street
 Arvada, CO 80002
 Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Loc: 280
 90702



LABORATORY TESTING

Client Information (Sub Contract Lab)

Client Contact: _____
 Shipping/Receiving: _____

Sampler: _____
 Phone: _____
 Lab Pkt: _____
 Rothmeyer, Stephanie K
 E-Mail: stephanie.rothmeyer@testamerica.com

Company: TestAmerica Laboratories, Inc

Accreditations Required (See note):

Address: 2960 Foster Creighton Drive,

Due Date Requested: 11/21/2016

Page: 1 of 2

Job #: 280-90702-1

City: Nashville

TAT Requested (days):

Analysis Requested

Preservation Codes:

State, Zip: TN, 37204

PO #:

A - HCL

M - Hexane

Phone: 615-726-0177(Tel) 615-726-3404(Fax)

PO #:

B - NaOH

N - None

Email:

PO #:

C - Zn Acetate

O - AsHAc2

Project Name: Valmont Soil Sampling

Project #:

D - Nitric Acid

P - Na2OAS

Site:

SSOV#:

E - NaHSO4

Q - Na2SO3

Project Name: Valmont Soil Sampling

Project #:

F - MeOH

R - Na2S2O3

Site:

SSOV#:

G - Anchor

S - H2SO4

Project Name: Valmont Soil Sampling

Project #:

H - Ascorbic Acid

T - TSP Dodecahydrate

Site:

SSOV#:

I - Ice

U - Acetone

Project Name: Valmont Soil Sampling

Project #:

J - DI Water

V - MCAA

Site:

SSOV#:

K - EDTA

W - pH 4.5

Project Name: Valmont Soil Sampling

Project #:

L - EDTA

Z - other (specify)

Site:

SSOV#:

Other:

Z - other (specify)

Sample Identification - Client ID (Lab ID)

Sample Date

Sample Time

Sample Type (G=comp, G=grab, DT=issue, A=AI)

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

7196A/3060A Hexavalent Chromium (CrVI)

Total Number of containers

Special Instructions/Note:

SB1 6-8FT (280-90702-1)

11/7/16

Mountain

Solid

X

X

1

SB1 10-12FT (280-90702-2)

11/7/16

Mountain

Solid

X

X

1

SB2 8-10FT (280-90702-3)

11/7/16

Mountain

Solid

X

X

1

SB2 11-13FT (280-90702-4)

11/7/16

Mountain

Solid

X

X

1

SB3 8-10FT (280-90702-5)

11/7/16

Mountain

Solid

X

X

1

SB3 10-12FT (280-90702-6)

11/7/16

Mountain

Solid

X

X

1

SB4 3-5FT (280-90702-7)

11/7/16

Mountain

Solid

X

X

1

SB4 7-9FT (280-90702-8)

11/7/16

Mountain

Solid

X

X

1

SB5 7-9FT (280-90702-9)

11/7/16

Mountain

Solid

X

X

1

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analysis & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica Laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification

Unconfirmed

Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab

Archive For

Months

Deliverable Requested: I, II, III, IV, Other (Specify)

Special Instructions/QC Requirements:

Method of Shipment:

Empty Kit Relinquished by:

Date:

Time:

Received by:

Date/Time:

Company:

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Custody Seals Intact:

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

THE CLARKSON ENGINEERING TESTING

11/29/2016

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-90702-1

Login Number: 90702

List Source: TestAmerica Denver

List Number: 1

Creator: Kovitch, Christina M

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

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-90702-1

Login Number: 90702

List Number: 2

Creator: Gundi, Hozar K

List Source: TestAmerica Nashville

List Creation: 11/10/16 10:24 AM

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

Attachment E: 95UPL Output

Table A.1: Parametric and Non-Parametric Background Threshold Values (BTVs) for Inorganic Constituents of Concern for all Impoundments (mg/Kg) from ProUCL Output

Constituent	CAS	Geological Layer	n	No. Below MDL	% Below MDL	No. of Distinct Obs.	Lognormal (Full)		Lognormal (with BDLs)			Gamma (Full)				Gamma (with BDLs)				Normal (Full)		Normal (with BDLs)		Non-Parametric		Maximum*	ProUCL's Best Fit	HDR's Recommendations		Notes						
							sd	95th UPL		sd	LROS 95th UPL		KM 95th UPL	WH 95th UPL		HW 95th UPL		GROS-WH 95th UPL		GROS-HW 95th UPL		KM-WH 95th UPL	KM-HW 95th UPL	95th UPL				KM 95th UPL								
								1 Future Obs.	2 Future Obs.		1 Future Obs.	2 Future Obs.		1 Future Obs.	2 Future Obs.	1 Future Obs.	2 Future Obs.	1 Future Obs.	2 Future Obs.	1 Future Obs.	2 Future Obs.			1 Future Obs.	2 Future Obs.			1 Future Obs.	2 Future Obs.							
Antimony	7440-36-0	Silt, Sand	4	4	100.0%	3																								2,500	2,500	**				
Antimony	7440-36-0	Clay	5	5	100.0%	5																								1,900	1,900	**				
Antimony	7440-36-0	Weathered Bedrock	8	8	100.0%	4																								1,700	1,700	**				
Arsenic	7440-38-2	Silt, Sand	4	0	0.0%	4	0.694	33.820	64.370					26.740	39.680	28.010	43.380							21.340	26.500			15.000	33.820	15.000	Gamma; Lognormal; Normal	15.000	15.000	***		
Arsenic	7440-38-2	Clay	5	0	0.0%	5	0.594	29.850	45.420					25.060	33.120	25.930	35.140							21.510	25.410			18.000	34.970	18.000	Gamma; Lognormal; Normal	18.000	18.000	***		
Arsenic	7440-38-2	Weathered Bedrock	8	0	0.0%	7	0.300	13.820	16.040					13.200	14.900	13.340	15.140							12.460	13.600			11.000	18.430	11.000	Gamma; Lognormal; Normal	13.270	15.020			
Barium	7440-39-3	Silt, Sand	4	0	0.0%	4	1.615	12,846.000	57,421.000					5,180.000	9,438.000	5,972.000	12,157.000							3,083.000	3,971.000			2,000.000	5,230.000	2,000.000	Lognormal; Normal	2,000.000	2,000.000	***		
Barium	7440-39-3	Clay	5	0	0.0%	5	1.400	4,887.000	13,132.000					3,295.000	5,332.000	3,516.000	6,131.000							2,589.000	3,218.000			2,100.000	4,764.000	2,100.000	Lognormal	2,100.000	2,100.000	***		
Barium	7440-39-3	Weathered Bedrock	8	0	0.0%	8	0.640	302.200	415.800					268.900	335.700	274.900	349.500							246.900	283.100			260.000	436.700	260.000	Gamma; Lognormal; Normal	271.900	342.600			
Beryllium	7440-41-7	Silt, Sand	4	0	0.0%	4	1.171	14.750	43.650					8.700	14.730	9.550	17.530							5.892	7.524			3.900	9.839	3.900	Lognormal; Normal	3.900	3.900	***		
Beryllium	7440-41-7	Clay	5	0	0.0%	5	0.576	4.059	6.096					3.667	4.873	3.743	5.093							3.307	3.933			2.800	5.472	2.800	Gamma; Lognormal	2.800	2.800	***		
Beryllium	7440-41-7	Weathered Bedrock	8	0	0.0%	7	0.154	0.959	1.036					0.946	1.013	0.949	1.018							0.926	0.979			0.840	1.205	0.840	Gamma; Lognormal; Normal	0.948	1.016			
Boron	7440-42-8	Silt, Sand	4	1	25.0%	4				5.089	976,751.000	109,300,000.000	6,725.000					2,123.000	4,410.000	2,972.000	7,525.000	1,460.000	1,765.000					846.900	1,091.000	610.000	1,438.000	610.000	Lognormal; Normal	610.000	610.000	***
Boron	7440-42-8	Clay	5	0	0.0%	5	2.049	1,724.000	7,323.000					947.000	1,667.000	1,038.000	2,043.000							695.400	870.500					560.000	1,300.000	560.000	Non-Parametric	560.000	560.000	***
Boron	7440-42-8	Weathered Bedrock	8	0	0.0%	8	0.518	15.270	19.770					13.880	16.760	14.160	17.330							12.560	14.170			12.000	21.000	12.000	Gamma; Lognormal; Normal	14.020	17.045			
Cadmium	7440-43-9	Silt, Sand	4	0	0.0%	4	1.985	87.570	551.400					19.040	35.450	23.330	49.320							10.190	13.120			6.600	17.280	6.600	Gamma; Lognormal; Normal	6.600	6.600	***		
Cadmium	7440-43-9	Clay	5	0	0.0%	4	0.869	1.724	3.186					1.341	1.931	1.404	2.108							1.106	1.344			0.910	1.927	0.910	Gamma; Lognormal; Normal	0.910	0.910	***		
Cadmium	7440-43-9	Weathered Bedrock	8	0	0.0%	7	0.300	0.345	0.401					0.329	0.370	0.332	0.377							0.307	0.335			0.280	0.452	0.280	Gamma; Lognormal; Normal	0.331	0.374			
Chromium	7440-47-3	Silt, Sand	4	0	0.0%	4	0.543	77.510	128.300					62.890	87.150	65.570	93.770							51.240	61.980			37.000	77.220	37.000	Gamma; Lognormal; Normal	37.000	37.000	***		
Chromium	7440-47-3	Clay	5	0	0.0%	5	0.301	51.210	63.320					49.570	58.950	49.930	59.880							47.460	53.820			42.000	69.450	42.000	Gamma; Lognormal; Normal	42.000	42.000	***		
Chromium	7440-47-3	Weathered Bedrock	8	0	0.0%	4	0.111	24.090	25.460					23.820	25.040	23.880	25.140							23.390	24.380			22.000	28.600	22.000	Normal	23.390	24.380			
Chromium(VI)	18540-29-9	Silt, Sand	4	4	100.0%	3																									9,000	9,000	**			
Chromium(VI)	18540-29-9	Clay	5	5	100.0%	5																									7,400	7,400	**			
Chromium(VI)	18540-29-9	Weathered Bedrock	8	8	100.0%	6																									6,000	6,000	**			
Cobalt	7440-48-4	Silt, Sand	4	0	0.0%	3	0.331	12.610	17.130					11.880	15.060	12.040	15.480							10.970	12.890				8.600	15.610	8.600	Gamma; Lognormal; Normal	8.600	8.600	***	
Cobalt	7440-48-4	Clay	5	0	0.0%	5	0.159	11.230	12.570					11.110	12.270	11.140	12.340							10.910	11.830			10.000	14.110	10.000	Gamma; Lognormal; Normal	10.000	10.000	***		
Cobalt	7440-48-4	Weathered Bedrock	8	0	0.0%	7	0.461	23.860	30.020					23.510	28.230	23.560	28.580							23.540	26.760			26.000	40.430	26.000	Non-Parametric	40.430	40.430	****		
Copper	7440-50-8	Silt, Sand	4	0	0.0%	4	0.698	90.610	173.000					69.320	102.400	73.010	112.700							54.220	67.100			38.000	85.380	38.000	Gamma; Lognormal; Normal	38.000	38.000	***		
Copper	7440-50-8	Clay	5	0	0.0%	5	0.583	81.440	122.900					72.900	97.000	74.550	101.600							65.200	77.540			55.000	107.800	55.000	Gamma; Lognormal; Normal	55.000	55.000	***		
Copper	7440-50-8	Weathered Bedrock	8	0	0.0%	5	0.243	24.810	28.000					23.980	26.530	24.170	26.850							22.830	24.610			19.000	32.190	19.000	Gamma; Lognormal; Normal	24.075	26.690			
Cr (III)	16065-83-1	Silt, Sand	4	0	0.0%	4	0.781	175.100	361.000					128.300	195.100	136.100	217.500							98.110	122.500			68.000	157.000	68.000	Gamma; Lognormal; Normal	68.000	68.000	***		
Cr (III)	16065-83-1	Clay	5	0	0.0%	5	0.398	83.120	110.100					78.290	97.090	79.300	99.680							72.910	84.310			63.000	112.300	63.000	Gamma; Lognormal; Normal	63.000	63.000	***		
Cr (III)	16065-83-1	Weathered Bedrock	8	0	0.0%	5	0.101	27.730	29.150					27.460	28.740	27.520	28.830							27.010	28.070			25.000	32.560	25.000	Lognormal; Normal	27.730	29.150			
Fluoride	16984-48-8	Silt, Sand	4	0	0.0%	4	0.417	8.128	11.970					6.780	8.802	7.039	9.353							5.561	6.508			3.900	7.851	3.900	Gamma; Lognormal; Normal	3.900	3.900	***		
Fluoride	16984-48-8	Clay	5	0	0.0%	5	0.773	40.880	70.570					29.290</																						

ATTACHMENT 2

Confirmatory Soil Laboratory Reports



Thursday, April 27, 2017

Brian Brown
HDR
419 Canyon Blvd. Suite 316
Fort Collins, CO 80524

Re: ALS Workorder: 1704276
Project Name: XCEL Valmont Soil Confirmation
Project Number:

Dear Brown:

Three soil samples were received from HDR, on 4/12/2017. The samples were scheduled for the following analyses:

Gamma Spectroscopy

Inorganics

Metals

Radium-226

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Shiloh J. Summy
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



1704276

Metals:

The samples were analyzed following SW-846, 3rd Edition procedures. Analysis by ICPMS followed method 6020A and the current revision of SOP 827. Mercury analysis by CVAA followed method 7471A and the current revision of SOP 812.

- All initial and continuing calibration blanks were below the reporting limit for the requested analytes with the exception of the ICB and many CCBs for chromium associated with the 04/18/17 analytical run. The samples associated with the ICB and bracketed by these CCBs were re-analyzed with acceptable CCBs.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes with the exception of the LIV and many LCVs for barium, chromium, and nickel associated with the 04/18/17 analytical run. The samples associated with the LIV and LCVs were re-analyzed with acceptable LCVs.

All remaining acceptance criteria were met.

Inorganics:

The samples were analyzed following SW-846 and procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Hexavalent chromium	7196A	1122
Fluoride	300.0 Revision 2.1	1113

Chromium III is a calculated value derived from the subtraction of hexavalent chromium from total chromium.

A matrix spike (MS) and matrix spike duplicate (MSD) were prepared and analyzed with each batch. All guidance criteria for precision and accuracy were met with the following exceptions:

<u>Analyte</u>	<u>Sample ID</u>
Hexavalent chromium	1704276-1MS & MSD
Fluoride	1704276-1MS & MSD

The native sample results are flagged for hexavalent chromium and fluoride. The laboratory control samples indicate that the procedures were in control.

All remaining acceptance criteria were met.

**Gamma Spectroscopy:**

The samples were analyzed for the presence of gamma emitting radionuclides according to the current revision of SOP 713.

Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above the critical level, or the minimum library peak abundance must be attained. Nuclides not meeting these requirements have been flagged with a "TI" qualifier.

All remaining acceptance criteria were met.

Radium-226:

The samples were prepared and analyzed according to the current revision of SOP 783.

The radiometric recovery for the matrix spike of sample 1704276-1 is below the lower control limit of 57% at 56.1% for Ra-226. All other quality control criteria have been met. ALS does not control on matrix spike recovery. The result for this sample is considered an estimated value and is included in this data package.

All remaining acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1704276

Client Name: HDR

Client Project Name: XCEL Valmont Soil Confirmation

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SP-3-24	1704276-1		SOIL	12-Apr-17	10:00
SP-4-24	1704276-2		SOIL	12-Apr-17	10:05
SP-5-24	1704276-3		SOIL	12-Apr-17	10:10



Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

[illegible]



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: HD R

Workorder No: 1704274

Project Manager: _____

Initials: CDJ

Date: 4-12-17

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<u>NO</u>
2. Are custody seals on shipping containers intact?	<u>NONE</u>	YES	NO
3. Are Custody seals on sample containers intact?	<u>NONE</u>	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<u>YES</u>	NO
5. Are the COC and bottle labels complete and legible?		<u>YES</u>	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<u>YES</u>	NO
7. Were airbills / shipping documents present and/or removable?	<u>DROP OFF</u>	<u>YES</u>	<u>NO</u>
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<u>N/A</u>	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	<u>N/A</u>	YES	NO
10. Is there sufficient sample for the requested analyses?		<u>YES</u>	NO
11. Were all samples placed in the proper containers for the requested analyses?		<u>YES</u>	NO
12. Are all samples within holding times for the requested analyses?		<u>YES</u>	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<u>YES</u>	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	<u>N/A</u>	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	<u>N/A</u>	YES	NO
16. Were the samples shipped on ice?		<u>YES</u>	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <u>#2</u> #4		RAD ONLY	YES <u>NO</u>
Cooler #: <u>1</u>			
Temperature (°C): <u>11.0</u>			
No. of custody seals on cooler: <u>0</u>			
External µR/hr reading: <u>NA</u>			
Background µR/hr reading: <u>NA</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / <u>NA</u> (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? YES / NO / NA Contact: _____

Date/Time: _____

Project Manager Signature / Date: _____

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

Client: HDR
Project: XCEL Valmont Soil Confirmation
Sample ID: SP-3-24
Legal Location:
Collection Date: 4/12/2017 10:00

Date: 27-Apr-17
Work Order: 1704276
Lab ID: 1704276-1
Matrix: SOIL
Percent Moisture: 15.7

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gamma Spectroscopy Results						
Ra-228	2.83 (+/- 0.62)		PAI 713		Prep Date: 4/21/2017	PrepBy: MRL
			0.83	pCi/g	NA	4/21/2017 13:01
Hexavalent Chromium						
CHROMIUM VI	ND	N	SW7196		Prep Date: 4/13/2017	PrepBy: HMA
			0.12	MG/KG	1	4/13/2017
ICPMS Metals						
			SW6020		Prep Date: 4/17/2017	PrepBy: NAQ
SILVER	ND		49	UG/KG	10	4/18/2017 17:35
ARSENIC	2900		200	UG/KG	10	4/18/2017 17:35
BORON	ND		15000	UG/KG	10	4/18/2017 17:35
BARIUM	130000		490	UG/KG	10	4/20/2017 21:15
BERYLLIUM	460		49	UG/KG	10	4/18/2017 17:35
CADMIUM	ND		200	UG/KG	10	4/18/2017 17:35
COBALT	6600		490	UG/KG	10	4/18/2017 17:35
CHROMIUM	23000		980	UG/KG	10	4/20/2017 21:15
COPPER	13000		2000	UG/KG	10	4/18/2017 17:35
LITHIUM	13000		2000	UG/KG	10	4/18/2017 17:35
MOLYBDENUM	770		200	UG/KG	10	4/18/2017 17:35
NICKEL	15000		2000	UG/KG	10	4/20/2017 21:15
LEAD	9200		200	UG/KG	10	4/18/2017 17:35
ANTIMONY	160		98	UG/KG	10	4/18/2017 17:35
SELENIUM	ND		980	UG/KG	10	4/18/2017 17:35
THALLIUM	180		9.8	UG/KG	10	4/18/2017 17:35
VANADIUM	39000		490	UG/KG	10	4/18/2017 17:35
ZINC	32000		9800	UG/KG	10	4/18/2017 17:35
Ion Chromatography						
FLUORIDE	27	N	EPA300.0		Prep Date: 4/13/2017	PrepBy: AMG
			1.2	MG/KG	1	4/13/2017 12:31
Mercury						
MERCURY	ND		SW7471		Prep Date: 4/17/2017	PrepBy: AJL2
			0.036	MG/KG	1	4/17/2017 12:37
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.74 (+/- 0.3)	LT	PAI 783		Prep Date: 4/21/2017	PrepBy: HCJ
			0.23	pCi/g	NA	4/26/2017 15:38
Carr: BARIUM			40-110	%REC	DL = NA	4/26/2017 15:38
Trivalent Chromium (from Total Cr - Cr+6)						
CHROMIUM III	23		CRIII		Prep Date: 4/13/2017	PrepBy: HMA
			0.1	MG/KG	1	4/13/2017

Client: HDR
Project: XCEL Valmont Soil Confirmation
Sample ID: SP-4-24
Legal Location:
Collection Date: 4/12/2017 10:05

Date: 27-Apr-17
Work Order: 1704276
Lab ID: 1704276-2
Matrix: SOIL
Percent Moisture: 25.9

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gamma Spectroscopy Results						
Ra-228	1.95 (+/- 0.54)	TI	PAI 713 0.72	pCi/g	Prep Date: 4/21/2017 NA	PrepBy: MRL 4/21/2017 13:01
Hexavalent Chromium						
CHROMIUM VI	ND		SW7196 0.13	MG/KG	Prep Date: 4/13/2017 1	PrepBy: HMA 4/13/2017
ICPMS Metals						
SILVER	53		SW6020 52	UG/KG	Prep Date: 4/17/2017 10	PrepBy: NAQ 4/18/2017 17:38
ARSENIC	2800		210	UG/KG	10	4/18/2017 17:38
BORON	ND		16000	UG/KG	10	4/18/2017 17:38
BARIUM	160000		520	UG/KG	10	4/20/2017 21:18
BERYLLIUM	480		52	UG/KG	10	4/18/2017 17:38
CADMIUM	ND		210	UG/KG	10	4/18/2017 17:38
COBALT	5900		520	UG/KG	10	4/18/2017 17:38
CHROMIUM	22000		1000	UG/KG	10	4/20/2017 21:18
COPPER	13000		2100	UG/KG	10	4/18/2017 17:38
LITHIUM	12000		2100	UG/KG	10	4/18/2017 17:38
MOLYBDENUM	890		210	UG/KG	10	4/18/2017 17:38
NICKEL	15000		2100	UG/KG	10	4/20/2017 21:18
LEAD	6800		210	UG/KG	10	4/18/2017 17:38
ANTIMONY	180		100	UG/KG	10	4/18/2017 17:38
SELENIUM	ND		1000	UG/KG	10	4/18/2017 17:38
THALLIUM	160		10	UG/KG	10	4/18/2017 17:38
VANADIUM	36000		520	UG/KG	10	4/18/2017 17:38
ZINC	28000		10000	UG/KG	10	4/18/2017 17:38
Ion Chromatography						
FLUORIDE	18		EPA300.0 1.3	MG/KG	Prep Date: 4/13/2017 1	PrepBy: AMG 4/13/2017 13:17
Mercury						
MERCURY	ND		SW7471 0.045	MG/KG	Prep Date: 4/17/2017 1	PrepBy: AJL2 4/17/2017 12:39
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.94 (+/- 0.34)	LT	PAI 783 0.23	pCi/g	Prep Date: 4/21/2017 NA	PrepBy: HCJ 4/26/2017 16:10
Carr: BARIUM			40-110	%REC	DL = NA	4/26/2017 16:10
Trivalent Chromium (from Total Cr - Cr+6)						
CHROMIUM III	22		CRIII 0.1	MG/KG	Prep Date: 4/13/2017 1	PrepBy: HMA 4/13/2017

Client: HDR
Project: XCEL Valmont Soil Confirmation
Sample ID: SP-5-24
Legal Location:
Collection Date: 4/12/2017 10:10

Date: 27-Apr-17
Work Order: 1704276
Lab ID: 1704276-3
Matrix: SOIL
Percent Moisture: 20.9

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gamma Spectroscopy Results						
Ra-228	2.06 (+/- 0.5)	PAI 713	0.67	pCi/g	NA	Prep Date: 4/21/2017 PrepBy: MRL 4/21/2017 13:01
Hexavalent Chromium						
CHROMIUM VI	ND	SW7196	0.13	MG/KG	1	Prep Date: 4/13/2017 PrepBy: HMA 4/13/2017
ICPMS Metals						
SILVER	ND	SW6020	48	UG/KG	10	Prep Date: 4/17/2017 PrepBy: NAQ 4/18/2017 17:41
ARSENIC	5600		190	UG/KG	10	4/18/2017 17:41
BORON	37000		15000	UG/KG	10	4/18/2017 17:41
BARIUM	390000		480	UG/KG	10	4/20/2017 21:21
BERYLLIUM	910		48	UG/KG	10	4/18/2017 17:41
CADMIUM	ND		190	UG/KG	10	4/18/2017 17:41
COBALT	8600		480	UG/KG	10	4/18/2017 17:41
CHROMIUM	23000		970	UG/KG	10	4/20/2017 21:21
COPPER	23000		1900	UG/KG	10	4/18/2017 17:41
LITHIUM	18000		1900	UG/KG	10	4/18/2017 17:41
MOLYBDENUM	750		190	UG/KG	10	4/18/2017 17:41
NICKEL	18000		1900	UG/KG	10	4/20/2017 21:21
LEAD	14000		190	UG/KG	10	4/18/2017 17:41
ANTIMONY	230		97	UG/KG	10	4/18/2017 17:41
SELENIUM	1200		970	UG/KG	10	4/18/2017 17:41
THALLIUM	200		9.7	UG/KG	10	4/18/2017 17:41
VANADIUM	47000		480	UG/KG	10	4/18/2017 17:41
ZINC	53000		9700	UG/KG	10	4/18/2017 17:41
Ion Chromatography						
FLUORIDE	3.1	EPA300.0	1.3	MG/KG	1	Prep Date: 4/13/2017 PrepBy: AMG 4/13/2017 14:02
Mercury						
MERCURY	ND	SW7471	0.041	MG/KG	1	Prep Date: 4/17/2017 PrepBy: AJL2 4/17/2017 12:41
Radium-226 by Radon Emanation - Method 903.1						
Ra-226	0.82 (+/- 0.32)	PAI 783	0.3	pCi/g	NA	Prep Date: 4/21/2017 PrepBy: HCJ 4/26/2017 16:10
Carr: BARIUM			40-110	%REC	DL = NA	4/26/2017 16:10
Trivalent Chromium (from Total Cr - Cr+6)						
CHROMIUM III	23	CRIII	0.1	MG/KG	1	Prep Date: 4/13/2017 PrepBy: HMA 4/13/2017

Client: HDR
Project: XCEL Valmont Soil Confirmation
Sample ID: SP-5-24
Legal Location:
Collection Date: 4/12/2017 10:10

Date: 27-Apr-17
Work Order: 1704276
Lab ID: 1704276-3
Matrix: SOIL
Percent Moisture: 20.9

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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Explanation of Qualifiers

Radiochemistry:

U or ND - Result is less than the sample specific MDC.
 Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
 Y2 - Chemical Yield outside default limits.
 W - DER is greater than Warning Limit of 1.42
 * - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
 # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
 G - Sample density differs by more than 15% of LCS density.
 D - DER is greater than Control Limit
 M - Requested MDC not met.
 LT - Result is less than requested MDC but greater than achieved MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
 L - LCS Recovery below lower control limit.
 H - LCS Recovery above upper control limit.
 P - LCS, Matrix Spike Recovery within control limits.
 N - Matrix Spike Recovery outside control limits
 NC - Not Calculated for duplicate results less than 5 times MDC
 B - Analyte concentration greater than MDC.
 B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
 U or ND - Indicates that the compound was analyzed for but not detected.
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 M - Duplicate injection precision was not met.
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 * - Duplicate analysis (relative percent difference) not within control limits.
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
 E - Analyte concentration exceeds the upper level of the calibration range.
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
 A - A tentatively identified compound is a suspected aldol-condensation product.
 X - The analyte was diluted below an accurate quantitation level.
 * - The spike recovery is equal to or outside the control criteria used.
 + - The relative percent difference (RPD) equals or exceeds the control criteria.
 G - A pattern resembling gasoline was detected in this sample.
 D - A pattern resembling diesel was detected in this sample.
 M - A pattern resembling motor oil was detected in this sample.
 C - A pattern resembling crude oil was detected in this sample.
 4 - A pattern resembling JP-4 was detected in this sample.
 5 - A pattern resembling JP-5 was detected in this sample.
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS -- Fort Collins

Date: 4/27/2017 1:51:

Client: HDR

QC BATCH REPORT

Work Order: 1704276

Project: XCEL Valmont Soil Confirmation

Batch ID: RE170421-1-1

Instrument ID Alpha Scin

Method: Radium-226 by Radon Emanation

DUP	Sample ID: 1704276-1				Units: pCi/g		Analysis Date: 4/26/2017 15:38				
Client ID: SP-3-24			Run ID: RE170421-1A			Prep Date: 4/21/2017			DF: NA		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	0.68 (+/- 0.29)	0.23						0.74	0.1	2.1	LT

LCS	Sample ID: RE170421-1				Units: pCi/g		Analysis Date: 4/26/2017 16:10				
Client ID:	Run ID: RE170421-1A				Prep Date: 4/21/2017			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	37.1 (+/- 6.8)	0.3	46.03		80.5	57-126					P

MB	Sample ID: RE170421-1				Units: pCi/g		Analysis Date: 4/26/2017 16:10				
Client ID:	Run ID: RE170421-1A				Prep Date: 4/21/2017			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.22									U

MS	Sample ID: 1704276-1				Units: pCi/g		Analysis Date: 4/26/2017 15:38				
Client ID: SP-3-24			Run ID: RE170421-1A			Prep Date: 4/21/2017			DF: NA		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	25.3 (+/- 4.7)	0.2	43.75	0.74	56.1	57-126					N

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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Client: HDR
 Work Order: 1704276
 Project: XCEL Valmont Soil Confirmation

QC BATCH REPORT

Batch ID: **GS170421-1-1** Instrument ID: **GAMMA** Method: **Gamma Spectroscopy Results**

DUP	Sample ID: 1704276-1			Units: pCi/g			Analysis Date: 4/21/2017 13:55				
Client ID: SP-3-24		Run ID: GS170421-1A			Prep Date: 4/21/2017			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	2.88 (+/- 0.66)	0.84						2.83	0.06	2.1	

LCS	Sample ID: GS170421-1			Units: pCi/g		Analysis Date: 4/21/2017 13:40					
Client ID:	Run ID: GS170421-1A			Prep Date: 4/21/2017			DF: NA				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Am-241	980 (+/- 110)	0	996		98.1	85-115					P
Co-60	409 (+/- 48)	1	421.1		97.2	85-115					P
Cs-137	378 (+/- 44)	1	378.7		99.9	85-115					P

MB	Sample ID: GS170421-1				Units: pCi/g		Analysis Date: 4/21/2017 13:40				
Client ID:	Run ID: GS170421-1A				Prep Date: 4/21/2017			DF: NA			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	ND	0.4									U

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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Client: HDR
Work Order: 1704276
Project: XCEL Valmont Soil Confirmation

QC BATCH REPORT

Batch ID: **HG170417-1-1** Instrument ID: **CETAC7500** Method: **SW7471**

LCS	Sample ID: HG170417-1			Units: MG/KG			Analysis Date: 4/17/2017 12:35					
Client ID:	Run ID: HG170417-1A1			Prep Date: 4/17/2017			DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
MERCURY	0.157	0.0333	0.167		94	80-120				20		

MB	Sample ID: HG170417-1			Units: MG/KG			Analysis Date: 4/17/2017 12:33					
Client ID:	Run ID: HG170417-1A1			Prep Date: 4/17/2017			DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
MERCURY	ND	0.033										

MS	Sample ID: 1704276-3			Units: MG/KG			Analysis Date: 4/17/2017 12:48					
Client ID: SP-5-24	Run ID: HG170417-1A1			Prep Date: 4/17/2017			DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
MERCURY	0.438	0.0415	0.415	0.041	105	80-120				20		

MSD	Sample ID: 1704276-3			Units: MG/KG			Analysis Date: 4/17/2017 12:50					
Client ID: SP-5-24	Run ID: HG170417-1A1			Prep Date: 4/17/2017			DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
MERCURY	0.426	0.0413	0.413	0.041	103	80-120		0.438	3	20		

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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Client: HDR
 Work Order: 1704276
 Project: XCEL Valmont Soil Confirmation

QC BATCH REPORT

Batch ID: **IP170417-2-4** Instrument ID **ICPMS2** Method: **SW6020**

LCS	Sample ID: IP170417-2			Units: UG/KG		Analysis Date: 4/18/2017 15:54					
Client ID:	Run ID: IM170418-10A1				Prep Date: 4/17/2017				DF: 10		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
ANTIMONY	3070	100	3000		102	80-120				20	
ARSENIC	11200	200	10000		112	80-120				20	
BERYLLIUM	5320	50	5000		106	80-120				20	
BORON	102000	15000	100000		102	80-120				20	
CADMIUM	3270	200	3000		109	80-120				20	
COBALT	10300	500	10000		103	80-120				20	
COPPER	101000	2000	100000		101	80-120				20	
LEAD	5280	200	5000		106	80-120				20	
LITHIUM	114000	2000	100000		114	80-120				20	
MOLYBDENUM	10200	200	10000		102	80-120				20	
SELENIUM	10400	1000	10000		104	80-120				20	
SILVER	1070	50	1000		107	80-120				20	
THALLIUM	222	10	200		111	80-120				20	
VANADIUM	10500	500	10000		105	80-120				20	
ZINC	215000	10000	200000		108	80-120				20	

MB		Sample ID: IP170417-2			Units: UG/KG		Analysis Date: 4/18/2017 15:51				
Client ID:		Run ID: IM170418-10A1			Prep Date: 4/17/2017			DF: 10			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
ANTIMONY	ND	100									
ARSENIC	ND	200									
BERYLLIUM	ND	50									
BORON	ND	15000									
CADMIUM	ND	200									
COBALT	ND	500									
COPPER	ND	2000									
LEAD	ND	200									
LITHIUM	ND	2000									
MOLYBDENUM	ND	200									
SELENIUM	ND	1000									
SILVER	ND	50									
THALLIUM	ND	10									
VANADIUM	ND	500									
ZINC	ND	10000									

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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Client: HDR
Work Order: 1704276
Project: XCEL Valmont Soil Confirmation

QC BATCH REPORT

Batch ID: **IP170417-2-4** Instrument ID **ICPMS2** Method: **SW6020**

LCS Sample ID: **IP170417-2** Units: **UG/KG** Analysis Date: **4/20/2017 21:00**

Client ID: Run ID: **IM170420-10A1** Prep Date: **4/17/2017** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	10500	500	10000		105	80-120				20	
CHROMIUM	56900	1000	50000		114	80-120				20	
NICKEL	56300	2000	50000		113	80-120				20	

MB Sample ID: **IP170417-2** Units: **UG/KG** Analysis Date: **4/20/2017 20:48**

Client ID: Run ID: **IM170420-10A1** Prep Date: **4/17/2017** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	ND	500									
CHROMIUM	ND	1000									
NICKEL	ND	2000									

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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Client: HDR
 Work Order: 1704276
 Project: XCEL Valmont Soil Confirmation

QC BATCH REPORT

Batch ID: **CR170413-1-1** Instrument ID **Spec** Method: **SW7196**

LCS		Sample ID: CR170413-1			Units: MG/KG			Analysis Date: 4/13/2017			
Client ID:		Run ID: CR170413-1A1			Prep Date: 4/13/2017			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHROMIUM VI	2.99	0.1	3		100	80-120				20	

LCSD		Sample ID: CR170413-1			Units: MG/KG			Analysis Date: 4/13/2017			
Client ID:		Run ID: CR170413-1A1			Prep Date: 4/13/2017			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHROMIUM VI	2.88	0.1	3		96	80-120		2.99	4	20	

MB		Sample ID: CR170413-1			Units: MG/KG			Analysis Date: 4/13/2017			
Client ID:		Run ID: CR170413-1A1			Prep Date: 4/13/2017			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHROMIUM VI	ND	0.1									

MS		Sample ID: 1704276-1			Units: MG/KG			Analysis Date: 4/13/2017			
Client ID: SP-3-24		Run ID: CR170413-1A1			Prep Date: 4/13/2017			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHROMIUM VI	ND	0.116	1.16	0.12	0	75-125				20	N

MSD		Sample ID: 1704276-1			Units: MG/KG			Analysis Date: 4/13/2017			
Client ID: SP-3-24		Run ID: CR170413-1A1			Prep Date: 4/13/2017			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHROMIUM VI	ND	0.117	1.17	0.12	0	75-125		0.116		20	N

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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Client: HDR
 Work Order: 1704276
 Project: XCEL Valmont Soil Confirmation

QC BATCH REPORT

Batch ID: **IC170413-1-1** Instrument ID **IC-2** Method: **EPA300.0**

LCS	Sample ID: IC170413-1	Units: MG/KG			Analysis Date: 4/13/2017 12:01						
Client ID:	Run ID: IC170413-10A1			Prep Date: 4/13/2017			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	20	1	20		100	85-115				30	

LCSD	Sample ID: IC170413-1	Units: MG/KG			Analysis Date: 4/13/2017 12:16						
Client ID:	Run ID: IC170413-10A1			Prep Date: 4/13/2017			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	19.6	1	20		98	85-115			20	2	30

MB	Sample ID: IC170413-1	Units: MG/KG			Analysis Date: 4/13/2017 11:46						
Client ID:	Run ID: IC170413-10A1			Prep Date: 4/13/2017			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	ND	1									

MS	Sample ID: 1704276-1	Units: MG/KG			Analysis Date: 4/13/2017 12:46						
Client ID: SP-3-24	Run ID: IC170413-10A1			Prep Date: 4/13/2017			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	41	1.16	23.2		27	61	85-115			30	N

MSD	Sample ID: 1704276-1	Units: MG/KG			Analysis Date: 4/13/2017 13:02						
Client ID: SP-3-24	Run ID: IC170413-10A1			Prep Date: 4/13/2017			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	45.5	1.18	23.6		27	76	85-115		41	10	30

The following samples were analyzed in this batch:

1704276-1	1704276-2	1704276-3
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TECHNICAL BULLETIN ADDENDUM

The library used for analysis defines the gamma emission(s) to be used for analysis of each nuclide. If multiple gamma emissions are used for quantification, then a 'NET' quantification emission (or peak) must be defined in the library. This designation provides for the calculation of nuclide activity concentrations and detection limits in the case of non-presence of the nuclide. When the nuclide is not present, or the software is unable to resolve a peak at the library defined 'NET' energy, the software evaluates the 'NET' region of interest ('NET' peak energy $\pm$ 2 keV) by performing a summation of the net counts above the background level. This 'NET' quantification can result in net negative, zero, or positive activity results, and is highly dependent on the spectral distribution in the region of interest of the 'NET' peak. In cases where only the 'NET' peak is found, and the software performs a net quantification, the nuclide result will be flagged with an 'NQ' qualifier on the final reports. This indicates that the nuclide is not detected or supported at any level above the reported MDC. Results are submitted without further qualification.

All nuclides specified in the library of analysis for gamma spectroscopy are evaluated for positive OR tentative identification on the following criteria:

- The individual abundances for the gamma emissions specified for each nuclide are summed to obtain a total nuclide abundance.
- From the total nuclide abundance, a positive identification criterion is set as 75% of this total nuclide abundance.
- For all nuclide peaks that are not net quantified, those peak abundances are summed. The total non-net quantified peak sum is compared to the calculated 75% abundance criterion. If this sum is greater than the 75% criterion, the nuclide is considered to be positively identified at the reported concentration. If the sum is less than the 75% criterion, the nuclide is tentatively identified at the reported concentration. These results will be flagged with a 'TI' qualifier on the final reports to indicate that the 75% abundance criterion was not met.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-94224-1

Client Project/Site: Valmont Soil Sampling

For:

HDR Inc

3321 Bronson Blvd.

Kalamazoo, Michigan 49008

Attn: Molly Reeves



Authorized for release by:

3/6/2017 3:29:12 PM

Stephanie Rothmeyer, Project Manager I

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	9
Sample Summary	10
Client Sample Results	11
QC Sample Results	17
QC Association	22
Chronicle	26
Certification Summary	30
Chain of Custody	32
Receipt Checklists	34

Definitions/Glossary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Case Narrative

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Job ID: 280-94224-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Valmont Soil Sampling

Report Number: 280-94224-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 2/24/2017 at 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

TOTAL METALS (ICP)

Samples N-01-SURF (280-94224-1), N-01-8 (280-94224-2), N-01-24 (280-94224-3), S-01-SURF (280-94224-4), S-01-8 (280-94224-5) and S-01-24 (280-94224-6) were analyzed for Total Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/28/2017 and analyzed on 02/28/2017, 03/01/2017, 03/02/2017, 03/03/2017 and 03/06/2017.

Boron, Nickel and Barium were detected in method blank MB 280-363608/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Boron, Copper and Barium failed the recovery criteria low for the MS of sample N-01-SURF (280-94224-1) in batch 280-364026. Boron, Barium and Lithium failed the recovery criteria low for the MSD of sample N-01-SURF (280-94224-1) in batch 280-364214. Refer to the QC report for details.

Sample S-01-8 (280-94224-5)[2X] required dilution prior to analysis due to the presence of Ca which interferes with Li & Se. The reporting limits have been adjusted accordingly.

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

TOTAL MERCURY (CVAA)

Samples N-01-SURF (280-94224-1), N-01-8 (280-94224-2), N-01-24 (280-94224-3), S-01-SURF (280-94224-4), S-01-8 (280-94224-5) and S-01-24 (280-94224-6) were analyzed for total mercury (CVAA) in accordance with EPA SW-846 Method 7471A. The samples were prepared and analyzed on 03/01/2017.

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

HEXAVALENT CHROMIUM

Samples N-01-SURF (280-94224-1), N-01-8 (280-94224-2), N-01-24 (280-94224-3), S-01-SURF (280-94224-4), S-01-8 (280-94224-5) and S-01-24 (280-94224-6) were analyzed for hexavalent chromium in accordance with EPA SW-846 Method 3060A/7196A. The samples were prepared on 03/01/2017 and analyzed on 03/03/2017.

Case Narrative

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Job ID: 280-94224-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

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

TRIVALENT CHROMIUM

Samples N-01-SURF (280-94224-1), N-01-8 (280-94224-2), N-01-24 (280-94224-3), S-01-SURF (280-94224-4), S-01-8 (280-94224-5) and S-01-24 (280-94224-6) were analyzed for Trivalent Chromium in accordance with SW-846 7196A_CR3. The samples were analyzed on 03/06/2017.

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

ANIONS (28 DAYS)

Samples N-01-SURF (280-94224-1), N-01-8 (280-94224-2), N-01-24 (280-94224-3), S-01-SURF (280-94224-4), S-01-8 (280-94224-5) and S-01-24 (280-94224-6) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056. The samples were leached on 03/01/2017 and analyzed on 03/01/2017.

Fluoride failed the recovery criteria low for the MS and MSD of sample S-01-24 (280-94224-6) in batch 280-363868. Refer to the QC report for details.

Fluoride exceeded the RPD limit for the duplicate of sample S-01-24 (280-94224-6). Sample matrix interference and/or non-homogeneity are suspected.

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

PERCENT SOLIDS

Samples N-01-SURF (280-94224-1), N-01-8 (280-94224-2), N-01-24 (280-94224-3), S-01-SURF (280-94224-4), S-01-8 (280-94224-5) and S-01-24 (280-94224-6) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 02/27/2017.

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

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Client Sample ID: N-01-SURF

Lab Sample ID: 280-94224-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	7.6		2.2	0.73	mg/Kg	1		☒	6010C	Total/NA
Barium	610	F1 B	1.1	0.11	mg/Kg	1		☒	6010C	Total/NA
Beryllium	1.6		0.55	0.036	mg/Kg	1		☒	6010C	Total/NA
Boron	140	B F1	11	1.1	mg/Kg	1		☒	6010C	Total/NA
Cadmium	0.30	J	0.55	0.045	mg/Kg	1		☒	6010C	Total/NA
Chromium	29		1.7	0.064	mg/Kg	1		☒	6010C	Total/NA
Cobalt	11		1.1	0.11	mg/Kg	1		☒	6010C	Total/NA
Copper	68	F1	2.2	0.24	mg/Kg	1		☒	6010C	Total/NA
Lead	17		0.99	0.34	mg/Kg	1		☒	6010C	Total/NA
Lithium	22	F1	5.5	1.0	mg/Kg	1		☒	6010C	Total/NA
Molybdenum	1.1	J	2.2	0.29	mg/Kg	1		☒	6010C	Total/NA
Nickel	19	B	4.4	0.15	mg/Kg	1		☒	6010C	Total/NA
Selenium	1.4	J	1.7	0.95	mg/Kg	1		☒	6010C	Total/NA
Vanadium	93		2.2	0.10	mg/Kg	1		☒	6010C	Total/NA
Zinc	66		3.3	0.44	mg/Kg	1		☒	6010C	Total/NA
Cr (III)	33		2.3	2.3	mg/Kg	1		☒	7196A	Total/NA
Cr (VI)	0.17	J	0.46	0.13	mg/Kg	1		☒	7196A	Total/NA
Fluoride	3.0	J	11	0.91	mg/Kg	1		☒	9056	Soluble

Client Sample ID: N-01-8

Lab Sample ID: 280-94224-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	2.0		1.9	0.62	mg/Kg	1		☒	6010C	Total/NA
Barium	120	B	0.94	0.097	mg/Kg	1		☒	6010C	Total/NA
Beryllium	0.99		0.47	0.031	mg/Kg	1		☒	6010C	Total/NA
Boron	9.9	B	9.4	0.92	mg/Kg	1		☒	6010C	Total/NA
Chromium	18		1.4	0.054	mg/Kg	1		☒	6010C	Total/NA
Cobalt	12		0.94	0.094	mg/Kg	1		☒	6010C	Total/NA
Copper	75		1.9	0.20	mg/Kg	1		☒	6010C	Total/NA
Lead	6.8		0.84	0.29	mg/Kg	1		☒	6010C	Total/NA
Lithium	22		4.7	0.85	mg/Kg	1		☒	6010C	Total/NA
Nickel	14	B	3.7	0.12	mg/Kg	1		☒	6010C	Total/NA
Vanadium	68		1.9	0.088	mg/Kg	1		☒	6010C	Total/NA
Zinc	48		2.8	0.37	mg/Kg	1		☒	6010C	Total/NA
Cr (III)	21		2.3	2.3	mg/Kg	1		☒	7196A	Total/NA
Fluoride	1.2	J	11	0.93	mg/Kg	1		☒	9056	Soluble

Client Sample ID: N-01-24

Lab Sample ID: 280-94224-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	4.0		2.0	0.66	mg/Kg	1		☒	6010C	Total/NA
Barium	180	B	0.99	0.10	mg/Kg	1		☒	6010C	Total/NA
Beryllium	0.59		0.50	0.033	mg/Kg	1		☒	6010C	Total/NA
Boron	8.9	J B	9.9	0.97	mg/Kg	1		☒	6010C	Total/NA
Cadmium	0.12	J	0.50	0.041	mg/Kg	1		☒	6010C	Total/NA
Chromium	21		1.5	0.058	mg/Kg	1		☒	6010C	Total/NA
Cobalt	5.2		0.99	0.099	mg/Kg	1		☒	6010C	Total/NA
Copper	14		2.0	0.22	mg/Kg	1		☒	6010C	Total/NA
Lead	8.3		0.89	0.31	mg/Kg	1		☒	6010C	Total/NA
Lithium	16		5.0	0.90	mg/Kg	1		☒	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Client Sample ID: N-01-24 (Continued)

Lab Sample ID: 280-94224-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Nickel	15	B	4.0	0.13	mg/Kg	1		✱	6010C	Total/NA
Vanadium	36		2.0	0.093	mg/Kg	1		✱	6010C	Total/NA
Zinc	34		3.0	0.39	mg/Kg	1		✱	6010C	Total/NA
Cr (III)	27		2.6	2.6	mg/Kg	1		✱	7196A	Total/NA
Fluoride	9.9	J	12	1.0	mg/Kg	1		✱	9056	Soluble

Client Sample ID: S-01-SURF

Lab Sample ID: 280-94224-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	6.9		1.9	0.64	mg/Kg	1		✱	6010C	Total/NA
Barium	220	B	0.96	0.10	mg/Kg	1		✱	6010C	Total/NA
Beryllium	1.0		0.48	0.032	mg/Kg	1		✱	6010C	Total/NA
Boron	24	B	9.6	0.94	mg/Kg	1		✱	6010C	Total/NA
Cadmium	0.18	J	0.48	0.039	mg/Kg	1		✱	6010C	Total/NA
Chromium	25		1.4	0.056	mg/Kg	1		✱	6010C	Total/NA
Cobalt	8.3		0.96	0.096	mg/Kg	1		✱	6010C	Total/NA
Copper	24		1.9	0.21	mg/Kg	1		✱	6010C	Total/NA
Lead	15		0.86	0.30	mg/Kg	1		✱	6010C	Total/NA
Lithium	20		4.8	0.87	mg/Kg	1		✱	6010C	Total/NA
Molybdenum	0.56	J	1.9	0.25	mg/Kg	1		✱	6010C	Total/NA
Nickel	18	B	3.8	0.13	mg/Kg	1		✱	6010C	Total/NA
Vanadium	54		1.9	0.090	mg/Kg	1		✱	6010C	Total/NA
Zinc	61		2.9	0.38	mg/Kg	1		✱	6010C	Total/NA
Cr (III)	31		2.5	2.5	mg/Kg	1		✱	7196A	Total/NA
Fluoride	4.7	J	12	1.0	mg/Kg	1		✱	9056	Soluble

Client Sample ID: S-01-8

Lab Sample ID: 280-94224-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	3.7		2.1	0.69	mg/Kg	1		✱	6010C	Total/NA
Barium	220	B	1.0	0.11	mg/Kg	1		✱	6010C	Total/NA
Beryllium	0.54		0.52	0.034	mg/Kg	1		✱	6010C	Total/NA
Boron	9.5	J B	10	1.0	mg/Kg	1		✱	6010C	Total/NA
Cadmium	0.088	J	0.52	0.042	mg/Kg	1		✱	6010C	Total/NA
Chromium	18		1.6	0.060	mg/Kg	1		✱	6010C	Total/NA
Cobalt	4.2		1.0	0.10	mg/Kg	1		✱	6010C	Total/NA
Copper	10		2.1	0.22	mg/Kg	1		✱	6010C	Total/NA
Lead	7.0		0.93	0.32	mg/Kg	1		✱	6010C	Total/NA
Lithium	16	B	10	1.9	mg/Kg	2		✱	6010C	Total/NA
Molybdenum	0.48	J	2.1	0.27	mg/Kg	1		✱	6010C	Total/NA
Nickel	12	B	4.1	0.14	mg/Kg	1		✱	6010C	Total/NA
Vanadium	35		2.1	0.097	mg/Kg	1		✱	6010C	Total/NA
Zinc	28		3.1	0.41	mg/Kg	1		✱	6010C	Total/NA
Mercury	0.0081	J	0.023	0.0074	mg/Kg	1		✱	7471A	Total/NA
Cr (III)	22		2.5	2.5	mg/Kg	1		✱	7196A	Total/NA
Fluoride	12		12	1.0	mg/Kg	1		✱	9056	Soluble

Client Sample ID: S-01-24

Lab Sample ID: 280-94224-6

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Detection Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Client Sample ID: S-01-24 (Continued)

Lab Sample ID: 280-94224-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	3.8		1.8	0.60	mg/Kg	1		✱	6010C	Total/NA
Barium	190	B	0.90	0.094	mg/Kg	1		✱	6010C	Total/NA
Beryllium	0.88		0.45	0.030	mg/Kg	1		✱	6010C	Total/NA
Boron	8.2	J B	9.0	0.88	mg/Kg	1		✱	6010C	Total/NA
Cadmium	0.095	J	0.45	0.037	mg/Kg	1		✱	6010C	Total/NA
Chromium	19		1.3	0.052	mg/Kg	1		✱	6010C	Total/NA
Cobalt	4.5		0.90	0.090	mg/Kg	1		✱	6010C	Total/NA
Copper	10		1.8	0.20	mg/Kg	1		✱	6010C	Total/NA
Lead	7.5		0.81	0.28	mg/Kg	1		✱	6010C	Total/NA
Lithium	16		4.5	0.82	mg/Kg	1		✱	6010C	Total/NA
Molybdenum	0.38	J	1.8	0.23	mg/Kg	1		✱	6010C	Total/NA
Nickel	12	B	3.6	0.12	mg/Kg	1		✱	6010C	Total/NA
Vanadium	34		1.8	0.085	mg/Kg	1		✱	6010C	Total/NA
Zinc	31		2.7	0.36	mg/Kg	1		✱	6010C	Total/NA
Cr (III)	22		2.4	2.4	mg/Kg	1		✱	7196A	Total/NA
Fluoride	7.2	J F1	11	0.93	mg/Kg	1		✱	9056	Soluble

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Method Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN
7196A	Chromium, Hexavalent	SW846	TAL PIT
7196A	Chromium, Trivalent (Colorimetric)	SW846	TAL DEN
9056	Anions, Ion Chromatography	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN

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 DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Sample Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-94224-1	N-01-SURF	Solid	02/23/17 14:30	02/24/17 14:30
280-94224-2	N-01-8	Solid	02/23/17 14:30	02/24/17 14:30
280-94224-3	N-01-24	Solid	02/23/17 14:30	02/24/17 14:30
280-94224-4	S-01-SURF	Solid	02/23/17 14:40	02/24/17 14:30
280-94224-5	S-01-8	Solid	02/23/17 14:40	02/24/17 14:30
280-94224-6	S-01-24	Solid	02/23/17 14:40	02/24/17 14:30

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 6010C - Metals (ICP)

Client Sample ID: N-01-SURF
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-1
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.7	0.81	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Arsenic	7.6		2.2	0.73	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Barium	610	F1 B	1.1	0.11	mg/Kg	✱	02/28/17 07:50	03/01/17 14:50	1
Beryllium	1.6		0.55	0.036	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Boron	140	B F1	11	1.1	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Cadmium	0.30	J	0.55	0.045	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Chromium	29		1.7	0.064	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Cobalt	11		1.1	0.11	mg/Kg	✱	02/28/17 07:50	03/02/17 23:53	1
Copper	68	F1	2.2	0.24	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Lead	17		0.99	0.34	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Lithium	22	F1	5.5	1.0	mg/Kg	✱	02/28/17 07:50	03/02/17 23:53	1
Molybdenum	1.1	J	2.2	0.29	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Nickel	19	B	4.4	0.15	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Selenium	1.4	J	1.7	0.95	mg/Kg	✱	02/28/17 07:50	03/02/17 23:53	1
Silver	ND		1.1	0.18	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Thallium	ND		1.3	0.72	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Vanadium	93		2.2	0.10	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1
Zinc	66		3.3	0.44	mg/Kg	✱	02/28/17 07:50	02/28/17 17:00	1

Client Sample ID: N-01-8
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-2
Matrix: Solid
Percent Solids: 86.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4	0.69	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Arsenic	2.0		1.9	0.62	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Barium	120	B	0.94	0.097	mg/Kg	✱	02/28/17 07:50	03/01/17 15:04	1
Beryllium	0.99		0.47	0.031	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Boron	9.9	B	9.4	0.92	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Cadmium	ND		0.47	0.038	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Chromium	18		1.4	0.054	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Cobalt	12		0.94	0.094	mg/Kg	✱	02/28/17 07:50	03/03/17 00:15	1
Copper	75		1.9	0.20	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Lead	6.8		0.84	0.29	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Lithium	22		4.7	0.85	mg/Kg	✱	02/28/17 07:50	03/03/17 00:15	1
Molybdenum	ND		1.9	0.24	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Nickel	14	B	3.7	0.12	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Selenium	ND		1.4	0.80	mg/Kg	✱	02/28/17 07:50	03/03/17 00:15	1
Silver	ND		0.94	0.15	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Thallium	ND		1.1	0.61	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Vanadium	68		1.9	0.088	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1
Zinc	48		2.8	0.37	mg/Kg	✱	02/28/17 07:50	02/28/17 17:14	1

Client Sample ID: N-01-24
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-3
Matrix: Solid
Percent Solids: 78.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.5	0.73	mg/Kg	✱	02/28/17 07:50	02/28/17 17:17	1
Arsenic	4.0		2.0	0.66	mg/Kg	✱	02/28/17 07:50	02/28/17 17:17	1
Barium	180	B	0.99	0.10	mg/Kg	✱	02/28/17 07:50	03/01/17 15:07	1
Beryllium	0.59		0.50	0.033	mg/Kg	✱	02/28/17 07:50	02/28/17 17:17	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: N-01-24
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-3
Matrix: Solid
Percent Solids: 78.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.9	J B	9.9	0.97	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Cadmium	0.12	J	0.50	0.041	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Chromium	21		1.5	0.058	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Cobalt	5.2		0.99	0.099	mg/Kg	☼	02/28/17 07:50	03/03/17 00:18	1
Copper	14		2.0	0.22	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Lead	8.3		0.89	0.31	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Lithium	16		5.0	0.90	mg/Kg	☼	02/28/17 07:50	03/03/17 00:18	1
Molybdenum	ND		2.0	0.26	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Nickel	15	B	4.0	0.13	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Selenium	ND		1.5	0.85	mg/Kg	☼	02/28/17 07:50	03/03/17 00:18	1
Silver	ND		0.99	0.16	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Thallium	ND		1.2	0.64	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Vanadium	36		2.0	0.093	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1
Zinc	34		3.0	0.39	mg/Kg	☼	02/28/17 07:50	02/28/17 17:17	1

Client Sample ID: S-01-SURF
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-4
Matrix: Solid
Percent Solids: 80.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4	0.70	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Arsenic	6.9		1.9	0.64	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Barium	220	B	0.96	0.10	mg/Kg	☼	02/28/17 07:50	03/01/17 15:10	1
Beryllium	1.0		0.48	0.032	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Boron	24	B	9.6	0.94	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Cadmium	0.18	J	0.48	0.039	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Chromium	25		1.4	0.056	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Cobalt	8.3		0.96	0.096	mg/Kg	☼	02/28/17 07:50	03/03/17 00:20	1
Copper	24		1.9	0.21	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Lead	15		0.86	0.30	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Lithium	20		4.8	0.87	mg/Kg	☼	02/28/17 07:50	03/03/17 00:20	1
Molybdenum	0.56	J	1.9	0.25	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Nickel	18	B	3.8	0.13	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Selenium	ND		1.4	0.82	mg/Kg	☼	02/28/17 07:50	03/03/17 00:20	1
Silver	ND		0.96	0.15	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Thallium	ND		1.1	0.62	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Vanadium	54		1.9	0.090	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1
Zinc	61		2.9	0.38	mg/Kg	☼	02/28/17 07:50	02/28/17 17:20	1

Client Sample ID: S-01-8
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-5
Matrix: Solid
Percent Solids: 78.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.6	0.76	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Arsenic	3.7		2.1	0.69	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Barium	220	B	1.0	0.11	mg/Kg	☼	02/28/17 07:50	03/01/17 15:24	1
Beryllium	0.54		0.52	0.034	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Boron	9.5	J B	10	1.0	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Cadmium	0.088	J	0.52	0.042	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Chromium	18		1.6	0.060	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Cobalt	4.2		1.0	0.10	mg/Kg	☼	02/28/17 07:50	03/03/17 00:23	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: S-01-8
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-5
Matrix: Solid
Percent Solids: 78.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	10		2.1	0.22	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Lead	7.0		0.93	0.32	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Lithium	16	B	10	1.9	mg/Kg	☼	02/28/17 07:50	03/03/17 14:50	2
Molybdenum	0.48	J	2.1	0.27	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Nickel	12	B	4.1	0.14	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Selenium	ND		3.1	1.8	mg/Kg	☼	02/28/17 07:50	03/06/17 11:41	2
Silver	ND		1.0	0.17	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Thallium	ND		1.2	0.67	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Vanadium	35		2.1	0.097	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1
Zinc	28		3.1	0.41	mg/Kg	☼	02/28/17 07:50	02/28/17 17:34	1

Client Sample ID: S-01-24
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-6
Matrix: Solid
Percent Solids: 83.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.3	0.66	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Arsenic	3.8		1.8	0.60	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Barium	190	B	0.90	0.094	mg/Kg	☼	02/28/17 07:50	03/01/17 15:27	1
Beryllium	0.88		0.45	0.030	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Boron	8.2	J B	9.0	0.88	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Cadmium	0.095	J	0.45	0.037	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Chromium	19		1.3	0.052	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Cobalt	4.5		0.90	0.090	mg/Kg	☼	02/28/17 07:50	03/03/17 00:25	1
Copper	10		1.8	0.20	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Lead	7.5		0.81	0.28	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Lithium	16		4.5	0.82	mg/Kg	☼	02/28/17 07:50	03/03/17 00:25	1
Molybdenum	0.38	J	1.8	0.23	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Nickel	12	B	3.6	0.12	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Selenium	ND		1.3	0.77	mg/Kg	☼	02/28/17 07:50	03/03/17 00:25	1
Silver	ND		0.90	0.14	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Thallium	ND		1.1	0.58	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Vanadium	34		1.8	0.085	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1
Zinc	31		2.7	0.36	mg/Kg	☼	02/28/17 07:50	02/28/17 17:37	1

Method: 7471A - Mercury (CVAA)

Client Sample ID: N-01-SURF
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-1
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0068	mg/Kg	☼	03/01/17 10:12	03/01/17 16:48	1

Client Sample ID: N-01-8
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-2
Matrix: Solid
Percent Solids: 86.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0073	mg/Kg	☼	03/01/17 10:12	03/01/17 16:50	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: N-01-24
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-3
Matrix: Solid
Percent Solids: 78.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0079	mg/Kg	☼	03/01/17 10:12	03/01/17 16:53	1

Client Sample ID: S-01-SURF
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-4
Matrix: Solid
Percent Solids: 80.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0075	mg/Kg	☼	03/01/17 10:12	03/01/17 16:59	1

Client Sample ID: S-01-8
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-5
Matrix: Solid
Percent Solids: 78.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0081	J	0.023	0.0074	mg/Kg	☼	03/01/17 10:12	03/01/17 17:02	1

Client Sample ID: S-01-24
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-6
Matrix: Solid
Percent Solids: 83.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0078	mg/Kg	☼	03/01/17 10:12	03/01/17 17:04	1

General Chemistry

Client Sample ID: N-01-SURF
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-1
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	33		2.3	2.3	mg/Kg	☼		03/06/17 14:34	1
Cr (VI)	0.17	J	0.46	0.13	mg/Kg	☼	03/01/17 20:00	03/03/17 13:30	1
Percent Moisture	13.9		0.1	0.1	%			02/27/17 09:00	1
Percent Solids	86.1		0.1	0.1	%			02/27/17 09:00	1

Client Sample ID: N-01-8
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-2
Matrix: Solid
Percent Solids: 86.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	21		2.3	2.3	mg/Kg	☼		03/06/17 14:34	1
Cr (VI)	ND		0.46	0.13	mg/Kg	☼	03/01/17 20:00	03/03/17 13:30	1
Percent Moisture	13.7		0.1	0.1	%			02/27/17 09:00	1
Percent Solids	86.3		0.1	0.1	%			02/27/17 09:00	1

Client Sample ID: N-01-24
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-3
Matrix: Solid
Percent Solids: 78.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	27		2.6	2.6	mg/Kg	☼		03/06/17 14:34	1
Cr (VI)	ND		0.51	0.15	mg/Kg	☼	03/01/17 20:00	03/03/17 13:31	1
Percent Moisture	21.7		0.1	0.1	%			02/27/17 09:00	1
Percent Solids	78.3		0.1	0.1	%			02/27/17 09:00	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

General Chemistry

Client Sample ID: S-01-SURF
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-4
Matrix: Solid
Percent Solids: 80.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	31		2.5	2.5	mg/Kg	☼		03/06/17 14:34	1
Cr (VI)	ND		0.49	0.14	mg/Kg	☼	03/01/17 20:00	03/03/17 13:31	1
Percent Moisture	19.8		0.1	0.1	%			02/27/17 09:00	1
Percent Solids	80.2		0.1	0.1	%			02/27/17 09:00	1

Client Sample ID: S-01-8
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-5
Matrix: Solid
Percent Solids: 78.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	22		2.5	2.5	mg/Kg	☼		03/06/17 14:34	1
Cr (VI)	ND		0.52	0.15	mg/Kg	☼	03/01/17 20:00	03/03/17 13:32	1
Percent Moisture	21.2		0.1	0.1	%			02/27/17 09:00	1
Percent Solids	78.8		0.1	0.1	%			02/27/17 09:00	1

Client Sample ID: S-01-24
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-6
Matrix: Solid
Percent Solids: 83.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	22		2.4	2.4	mg/Kg	☼		03/06/17 14:35	1
Cr (VI)	ND		0.48	0.14	mg/Kg	☼	03/01/17 20:00	03/03/17 13:33	1
Percent Moisture	16.1		0.1	0.1	%			02/27/17 09:00	1
Percent Solids	83.9		0.1	0.1	%			02/27/17 09:00	1

General Chemistry - Soluble

Client Sample ID: N-01-SURF
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-1
Matrix: Solid
Percent Solids: 86.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.0	J	11	0.91	mg/Kg	☼		03/01/17 22:13	1

Client Sample ID: N-01-8
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-2
Matrix: Solid
Percent Solids: 86.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.2	J	11	0.93	mg/Kg	☼		03/01/17 22:31	1

Client Sample ID: N-01-24
Date Collected: 02/23/17 14:30
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-3
Matrix: Solid
Percent Solids: 78.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	9.9	J	12	1.0	mg/Kg	☼		03/01/17 22:49	1

Client Sample ID: S-01-SURF
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-4
Matrix: Solid
Percent Solids: 80.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	4.7	J	12	1.0	mg/Kg	☼		03/01/17 23:07	1

TestAmerica Denver

Client Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

General Chemistry - Soluble

Client Sample ID: S-01-8
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-5
Matrix: Solid
Percent Solids: 78.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	12		12	1.0	mg/Kg	☼		03/01/17 23:24	1

Client Sample ID: S-01-24
Date Collected: 02/23/17 14:40
Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-6
Matrix: Solid
Percent Solids: 83.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	7.2	J F1	11	0.93	mg/Kg	☼		03/01/17 23:42	1

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-363608/1-A
Matrix: Solid
Analysis Batch: 363850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 363608

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.5	0.73	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Arsenic	ND		2.0	0.67	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Beryllium	ND		0.50	0.033	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Boron	1.74	J	10	0.98	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Cadmium	ND		0.50	0.041	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Chromium	ND		1.5	0.058	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Copper	ND		2.0	0.22	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Lead	ND		0.90	0.31	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Molybdenum	ND		2.0	0.26	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Nickel	0.231	J	4.0	0.13	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Silver	ND		1.0	0.16	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Thallium	ND		1.2	0.65	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Vanadium	ND		2.0	0.094	mg/Kg		02/28/17 07:50	02/28/17 16:54	1
Zinc	ND		3.0	0.40	mg/Kg		02/28/17 07:50	02/28/17 16:54	1

Lab Sample ID: MB 280-363608/1-A
Matrix: Solid
Analysis Batch: 364026

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 363608

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.167	J	1.0	0.10	mg/Kg		02/28/17 07:50	03/01/17 14:44	1

Lab Sample ID: MB 280-363608/1-A
Matrix: Solid
Analysis Batch: 364214

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 363608

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		1.0	0.10	mg/Kg		02/28/17 07:50	03/02/17 23:48	1
Lithium	ND		5.0	0.91	mg/Kg		02/28/17 07:50	03/02/17 23:48	1
Selenium	ND		1.5	0.86	mg/Kg		02/28/17 07:50	03/02/17 23:48	1

Lab Sample ID: LCS 280-363608/2-A
Matrix: Solid
Analysis Batch: 363850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 363608

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	49.5		mg/Kg		99	82 - 110
Arsenic	100	95.5		mg/Kg		96	85 - 110
Beryllium	5.00	4.72		mg/Kg		94	84 - 114
Boron	100	93.5		mg/Kg		94	80 - 120
Cadmium	10.0	9.39		mg/Kg		94	87 - 110
Chromium	20.0	19.0		mg/Kg		95	84 - 114
Copper	25.0	23.6		mg/Kg		94	88 - 110
Lead	50.0	47.4		mg/Kg		95	86 - 110
Molybdenum	100	92.3		mg/Kg		92	86 - 110
Nickel	50.0	45.5		mg/Kg		91	87 - 110
Silver	5.00	4.76		mg/Kg		95	87 - 114
Thallium	200	187		mg/Kg		93	84 - 110
Vanadium	50.0	47.2		mg/Kg		94	88 - 110

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-363608/2-A
Matrix: Solid
Analysis Batch: 363850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 363608
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Zinc	50.0	46.0		mg/Kg		92	76 - 114

Lab Sample ID: LCS 280-363608/2-A
Matrix: Solid
Analysis Batch: 364026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 363608
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Barium	200	193		mg/Kg		96	87 - 112

Lab Sample ID: LCS 280-363608/2-A
Matrix: Solid
Analysis Batch: 364214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 363608
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cobalt	50.0	47.1		mg/Kg		94	87 - 110
Lithium	100	95.2		mg/Kg		95	90 - 110
Selenium	200	177		mg/Kg		89	83 - 110

Lab Sample ID: 280-94224-1 MS
Matrix: Solid
Analysis Batch: 363850

Client Sample ID: N-01-SURF
Prep Type: Total/NA
Prep Batch: 363608
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		56.2	23.6		mg/Kg	✱	42	20 - 200
Arsenic	7.6		112	111		mg/Kg	✱	92	76 - 111
Beryllium	1.6		5.62	6.86		mg/Kg	✱	94	72 - 105
Boron	140	B F1	112	178	F1	mg/Kg	✱	35	80 - 120
Cadmium	0.30	J	11.2	10.5		mg/Kg	✱	91	40 - 130
Chromium	29		22.5	50.5		mg/Kg	✱	97	70 - 200
Copper	68	F1	28.1	74.6	F1	mg/Kg	✱	24	37 - 187
Lead	17		56.2	67.4		mg/Kg	✱	90	70 - 200
Molybdenum	1.1	J	112	99.9		mg/Kg	✱	88	75 - 103
Nickel	19	B	56.2	69.6		mg/Kg	✱	90	61 - 126
Silver	ND		5.62	5.71		mg/Kg	✱	102	75 - 141
Thallium	ND		225	203		mg/Kg	✱	90	78 - 101
Vanadium	93		56.2	136		mg/Kg	✱	76	50 - 169
Zinc	66		56.2	122		mg/Kg	✱	101	70 - 200

Lab Sample ID: 280-94224-1 MS
Matrix: Solid
Analysis Batch: 364026

Client Sample ID: N-01-SURF
Prep Type: Total/NA
Prep Batch: 363608
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Barium	610	F1 B	225	572	F1	mg/Kg	✱	-18	52 - 159

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 280-94224-1 MS

Matrix: Solid

Analysis Batch: 364214

Client Sample ID: N-01-SURF

Prep Type: Total/NA

Prep Batch: 363608

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec.
Cobalt	11		56.2	52.5		mg/Kg	☼	73	72 - 106	
Lithium	22	F1	112	119		mg/Kg	☼	86	84 - 109	
Selenium	1.4	J	225	176		mg/Kg	☼	77	76 - 104	

Lab Sample ID: 280-94224-1 MSD

Matrix: Solid

Analysis Batch: 363850

Client Sample ID: N-01-SURF

Prep Type: Total/NA

Prep Batch: 363608

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		52.4	21.9		mg/Kg	☼	42	20 - 200	7	20
Arsenic	7.6		105	106		mg/Kg	☼	94	76 - 111	4	20
Beryllium	1.6		5.24	6.56		mg/Kg	☼	95	72 - 105	4	20
Boron	140	B F1	105	187	F1	mg/Kg	☼	46	80 - 120	5	20
Cadmium	0.30	J	10.5	9.99		mg/Kg	☼	92	40 - 130	5	20
Chromium	29		21.0	44.6		mg/Kg	☼	76	70 - 200	12	20
Copper	68	F1	26.2	91.4		mg/Kg	☼	90	37 - 187	20	20
Lead	17		52.4	62.5		mg/Kg	☼	87	70 - 200	7	20
Molybdenum	1.1	J	105	94.8		mg/Kg	☼	89	75 - 103	5	20
Nickel	19	B	52.4	64.9		mg/Kg	☼	87	61 - 126	7	20
Silver	ND		5.24	5.44		mg/Kg	☼	104	75 - 141	5	20
Thallium	ND		210	192		mg/Kg	☼	92	78 - 101	5	20
Vanadium	93		52.4	134		mg/Kg	☼	78	50 - 169	1	20
Zinc	66		52.4	103		mg/Kg	☼	71	70 - 200	17	20

Lab Sample ID: 280-94224-1 MSD

Matrix: Solid

Analysis Batch: 364026

Client Sample ID: N-01-SURF

Prep Type: Total/NA

Prep Batch: 363608

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Barium	610	F1 B	210	605	F1	mg/Kg	☼	-3	52 - 159	6	20

Lab Sample ID: 280-94224-1 MSD

Matrix: Solid

Analysis Batch: 364214

Client Sample ID: N-01-SURF

Prep Type: Total/NA

Prep Batch: 363608

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cobalt	11		52.4	51.0		mg/Kg	☼	76	72 - 106	3	20
Lithium	22	F1	105	109	F1	mg/Kg	☼	83	84 - 109	9	20
Selenium	1.4	J	210	163		mg/Kg	☼	77	76 - 104	7	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-363467/1-A

Matrix: Solid

Analysis Batch: 364025

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 363467

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0055	mg/Kg		03/01/17 10:12	03/01/17 16:17	1

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 280-363467/2-A
Matrix: Solid
Analysis Batch: 364025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 363467

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.385		mg/Kg		92	87 - 111

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 180-204330/1-A
Matrix: Solid
Analysis Batch: 204536

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.40	0.11	mg/Kg		03/01/17 20:00	03/03/17 13:28	1

Lab Sample ID: LCS 180-204330/3-A
Matrix: Solid
Analysis Batch: 204536

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	708	721		mg/Kg		102	80 - 120

Lab Sample ID: LCSS 180-204330/2-A
Matrix: Solid
Analysis Batch: 204536

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204330

Analyte	Spike Added	LCSS Result	LCSS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	19.0		mg/Kg		95	80 - 120

Method: 7196A - Chromium, Trivalent (Colorimetric)

Lab Sample ID: MB 280-364453/1
Matrix: Solid
Analysis Batch: 364453

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		2.0	2.0	mg/Kg			03/06/17 14:34	1

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MRL 280-363868/3
Matrix: Solid
Analysis Batch: 363868

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.200	0.167	J	mg/L		83	50 - 150

TestAmerica Denver

QC Sample Results

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-363970/3-A

Matrix: Solid

Analysis Batch: 363868

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		10	0.82	mg/Kg			03/01/17 21:56	1

Lab Sample ID: LCS 280-363970/1-A

Matrix: Solid

Analysis Batch: 363868

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	50.0	50.4		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 280-363970/2-A

Matrix: Solid

Analysis Batch: 363868

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	49.9	50.4		mg/Kg		101	90 - 110	0	10

Lab Sample ID: 280-94224-6 MS

Matrix: Solid

Analysis Batch: 363868

Client Sample ID: S-01-24

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	7.2	J F1	58.0	42.0	F1	mg/Kg	☼	60	80 - 120

Lab Sample ID: 280-94224-6 MSD

Matrix: Solid

Analysis Batch: 363868

Client Sample ID: S-01-24

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	7.2	J F1	57.1	46.0	F1	mg/Kg	☼	68	80 - 120	9	20

Lab Sample ID: 280-94224-6 DU

Matrix: Solid

Analysis Batch: 363868

Client Sample ID: S-01-24

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	7.2	J F1	19.1	F3	mg/Kg	☼	91	10

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Metals

Prep Batch: 363467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	7471A	
280-94224-2	N-01-8	Total/NA	Solid	7471A	
280-94224-3	N-01-24	Total/NA	Solid	7471A	
280-94224-4	S-01-SURF	Total/NA	Solid	7471A	
280-94224-5	S-01-8	Total/NA	Solid	7471A	
280-94224-6	S-01-24	Total/NA	Solid	7471A	
MB 280-363467/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 280-363467/2-A	Lab Control Sample	Total/NA	Solid	7471A	

Prep Batch: 363608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	3050B	
280-94224-2	N-01-8	Total/NA	Solid	3050B	
280-94224-3	N-01-24	Total/NA	Solid	3050B	
280-94224-4	S-01-SURF	Total/NA	Solid	3050B	
280-94224-5	S-01-8	Total/NA	Solid	3050B	
280-94224-6	S-01-24	Total/NA	Solid	3050B	
MB 280-363608/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-363608/2-A	Lab Control Sample	Total/NA	Solid	3050B	
280-94224-1 MS	N-01-SURF	Total/NA	Solid	3050B	
280-94224-1 MSD	N-01-SURF	Total/NA	Solid	3050B	

Analysis Batch: 363850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	6010C	363608
280-94224-2	N-01-8	Total/NA	Solid	6010C	363608
280-94224-3	N-01-24	Total/NA	Solid	6010C	363608
280-94224-4	S-01-SURF	Total/NA	Solid	6010C	363608
280-94224-5	S-01-8	Total/NA	Solid	6010C	363608
280-94224-6	S-01-24	Total/NA	Solid	6010C	363608
MB 280-363608/1-A	Method Blank	Total/NA	Solid	6010C	363608
LCS 280-363608/2-A	Lab Control Sample	Total/NA	Solid	6010C	363608
280-94224-1 MS	N-01-SURF	Total/NA	Solid	6010C	363608
280-94224-1 MSD	N-01-SURF	Total/NA	Solid	6010C	363608

Analysis Batch: 364025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	7471A	363467
280-94224-2	N-01-8	Total/NA	Solid	7471A	363467
280-94224-3	N-01-24	Total/NA	Solid	7471A	363467
280-94224-4	S-01-SURF	Total/NA	Solid	7471A	363467
280-94224-5	S-01-8	Total/NA	Solid	7471A	363467
280-94224-6	S-01-24	Total/NA	Solid	7471A	363467
MB 280-363467/1-A	Method Blank	Total/NA	Solid	7471A	363467
LCS 280-363467/2-A	Lab Control Sample	Total/NA	Solid	7471A	363467

Analysis Batch: 364026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	6010C	363608
280-94224-2	N-01-8	Total/NA	Solid	6010C	363608
280-94224-3	N-01-24	Total/NA	Solid	6010C	363608

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Metals (Continued)

Analysis Batch: 364026 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-4	S-01-SURF	Total/NA	Solid	6010C	363608
280-94224-5	S-01-8	Total/NA	Solid	6010C	363608
280-94224-6	S-01-24	Total/NA	Solid	6010C	363608
MB 280-363608/1-A	Method Blank	Total/NA	Solid	6010C	363608
LCS 280-363608/2-A	Lab Control Sample	Total/NA	Solid	6010C	363608
280-94224-1 MS	N-01-SURF	Total/NA	Solid	6010C	363608
280-94224-1 MSD	N-01-SURF	Total/NA	Solid	6010C	363608

Analysis Batch: 364214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	6010C	363608
280-94224-2	N-01-8	Total/NA	Solid	6010C	363608
280-94224-3	N-01-24	Total/NA	Solid	6010C	363608
280-94224-4	S-01-SURF	Total/NA	Solid	6010C	363608
280-94224-5	S-01-8	Total/NA	Solid	6010C	363608
280-94224-6	S-01-24	Total/NA	Solid	6010C	363608
MB 280-363608/1-A	Method Blank	Total/NA	Solid	6010C	363608
LCS 280-363608/2-A	Lab Control Sample	Total/NA	Solid	6010C	363608
280-94224-1 MS	N-01-SURF	Total/NA	Solid	6010C	363608
280-94224-1 MSD	N-01-SURF	Total/NA	Solid	6010C	363608

Analysis Batch: 364331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-5	S-01-8	Total/NA	Solid	6010C	363608

Analysis Batch: 364440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-5	S-01-8	Total/NA	Solid	6010C	363608

General Chemistry

Prep Batch: 204330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	3060A	
280-94224-2	N-01-8	Total/NA	Solid	3060A	
280-94224-3	N-01-24	Total/NA	Solid	3060A	
280-94224-4	S-01-SURF	Total/NA	Solid	3060A	
280-94224-5	S-01-8	Total/NA	Solid	3060A	
280-94224-6	S-01-24	Total/NA	Solid	3060A	
MB 180-204330/1-A	Method Blank	Total/NA	Solid	3060A	
LCSI 180-204330/3-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSS 180-204330/2-A	Lab Control Sample	Total/NA	Solid	3060A	

Analysis Batch: 204536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	7196A	204330
280-94224-2	N-01-8	Total/NA	Solid	7196A	204330
280-94224-3	N-01-24	Total/NA	Solid	7196A	204330
280-94224-4	S-01-SURF	Total/NA	Solid	7196A	204330
280-94224-5	S-01-8	Total/NA	Solid	7196A	204330

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

General Chemistry (Continued)

Analysis Batch: 204536 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-6	S-01-24	Total/NA	Solid	7196A	204330
MB 180-204330/1-A	Method Blank	Total/NA	Solid	7196A	204330
LCSI 180-204330/3-A	Lab Control Sample	Total/NA	Solid	7196A	204330
LCSS 180-204330/2-A	Lab Control Sample	Total/NA	Solid	7196A	204330

Analysis Batch: 363496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	Moisture	
280-94224-2	N-01-8	Total/NA	Solid	Moisture	
280-94224-3	N-01-24	Total/NA	Solid	Moisture	
280-94224-4	S-01-SURF	Total/NA	Solid	Moisture	
280-94224-5	S-01-8	Total/NA	Solid	Moisture	
280-94224-6	S-01-24	Total/NA	Solid	Moisture	

Analysis Batch: 363868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Soluble	Solid	9056	363970
280-94224-2	N-01-8	Soluble	Solid	9056	363970
280-94224-3	N-01-24	Soluble	Solid	9056	363970
280-94224-4	S-01-SURF	Soluble	Solid	9056	363970
280-94224-5	S-01-8	Soluble	Solid	9056	363970
280-94224-6	S-01-24	Soluble	Solid	9056	363970
MB 280-363970/3-A	Method Blank	Soluble	Solid	9056	363970
LCS 280-363970/1-A	Lab Control Sample	Soluble	Solid	9056	363970
LCSD 280-363970/2-A	Lab Control Sample Dup	Soluble	Solid	9056	363970
MRL 280-363868/3	Lab Control Sample	Total/NA	Solid	9056	
280-94224-6 MS	S-01-24	Soluble	Solid	9056	363970
280-94224-6 MSD	S-01-24	Soluble	Solid	9056	363970
280-94224-6 DU	S-01-24	Soluble	Solid	9056	363970

Leach Batch: 363970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Soluble	Solid	DI Leach	
280-94224-2	N-01-8	Soluble	Solid	DI Leach	
280-94224-3	N-01-24	Soluble	Solid	DI Leach	
280-94224-4	S-01-SURF	Soluble	Solid	DI Leach	
280-94224-5	S-01-8	Soluble	Solid	DI Leach	
280-94224-6	S-01-24	Soluble	Solid	DI Leach	
MB 280-363970/3-A	Method Blank	Soluble	Solid	DI Leach	
LCS 280-363970/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 280-363970/2-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
280-94224-6 MS	S-01-24	Soluble	Solid	DI Leach	
280-94224-6 MSD	S-01-24	Soluble	Solid	DI Leach	
280-94224-6 DU	S-01-24	Soluble	Solid	DI Leach	

Analysis Batch: 364453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-1	N-01-SURF	Total/NA	Solid	7196A	
280-94224-2	N-01-8	Total/NA	Solid	7196A	
280-94224-3	N-01-24	Total/NA	Solid	7196A	
280-94224-4	S-01-SURF	Total/NA	Solid	7196A	

TestAmerica Denver

QC Association Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

General Chemistry (Continued)

Analysis Batch: 364453 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-94224-5	S-01-8	Total/NA	Solid	7196A	
280-94224-6	S-01-24	Total/NA	Solid	7196A	
MB 280-364453/1	Method Blank	Total/NA	Solid	7196A	

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Client Sample ID: N-01-SURF

Date Collected: 02/23/17 14:30

Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			363496	02/27/17 09:00	IEU	TAL DEN

Client Sample ID: N-01-SURF

Date Collected: 02/23/17 14:30

Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-1

Matrix: Solid

Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.055 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364214	03/02/17 23:53	CRR	TAL DEN
Total/NA	Prep	3050B			1.055 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			363850	02/28/17 17:00	CML	TAL DEN
Total/NA	Prep	3050B			1.055 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364026	03/01/17 14:50	CML	TAL DEN
Total/NA	Prep	7471A			0.57 g	50 mL	363467	03/01/17 10:12	CDH	TAL DEN
Total/NA	Analysis	7471A		1			364025	03/01/17 16:48	CDH	TAL DEN
Total/NA	Prep	3060A			2.53 g	100.0 mL	204330	03/01/17 20:00	SJM	TAL PIT
Total/NA	Analysis	7196A		1	25.0 mL	25.0 mL	204536	03/03/17 13:30	SJM	TAL PIT
Total/NA	Analysis	7196A		1			364453	03/06/17 14:34	DEG	TAL DEN
Soluble	Leach	DI Leach			10.41 g	100 mL	363970	03/01/17 17:46	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	363868	03/01/17 22:13	AFB	TAL DEN

Client Sample ID: N-01-8

Date Collected: 02/23/17 14:30

Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			363496	02/27/17 09:00	IEU	TAL DEN

Client Sample ID: N-01-8

Date Collected: 02/23/17 14:30

Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-2

Matrix: Solid

Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.238 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364214	03/03/17 00:15	CRR	TAL DEN
Total/NA	Prep	3050B			1.238 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			363850	02/28/17 17:14	CML	TAL DEN
Total/NA	Prep	3050B			1.238 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364026	03/01/17 15:04	CML	TAL DEN
Total/NA	Prep	7471A			0.53 g	50 mL	363467	03/01/17 10:12	CDH	TAL DEN
Total/NA	Analysis	7471A		1			364025	03/01/17 16:50	CDH	TAL DEN
Total/NA	Prep	3060A			2.52 g	100.0 mL	204330	03/01/17 20:00	SJM	TAL PIT
Total/NA	Analysis	7196A		1	25.0 mL	25.0 mL	204536	03/03/17 13:30	SJM	TAL PIT

TestAmerica Denver

Lab Chronicle

Client: HDR Inc

TestAmerica Job ID: 280-94224-1

Project/Site: Valmont Soil Sampling

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			364453	03/06/17 14:34	DEG	TAL DEN
Soluble	Leach	DI Leach			10.27 g	100 mL	363970	03/01/17 17:46	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	363868	03/01/17 22:31	AFB	TAL DEN

Client Sample ID: N-01-24

Lab Sample ID: 280-94224-3

Date Collected: 02/23/17 14:30

Matrix: Solid

Date Received: 02/24/17 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			363496	02/27/17 09:00	IEU	TAL DEN

Client Sample ID: N-01-24

Lab Sample ID: 280-94224-3

Date Collected: 02/23/17 14:30

Matrix: Solid

Date Received: 02/24/17 14:30

Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.288 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364214	03/03/17 00:18	CRR	TAL DEN
Total/NA	Prep	3050B			1.288 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			363850	02/28/17 17:17	CML	TAL DEN
Total/NA	Prep	3050B			1.288 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364026	03/01/17 15:07	CML	TAL DEN
Total/NA	Prep	7471A			0.54 g	50 mL	363467	03/01/17 10:12	CDH	TAL DEN
Total/NA	Analysis	7471A		1			364025	03/01/17 16:53	CDH	TAL DEN
Total/NA	Prep	3060A			2.49 g	100.0 mL	204330	03/01/17 20:00	SJM	TAL PIT
Total/NA	Analysis	7196A		1	25.0 mL	25.0 mL	204536	03/03/17 13:31	SJM	TAL PIT
Total/NA	Analysis	7196A		1			364453	03/06/17 14:34	DEG	TAL DEN
Soluble	Leach	DI Leach			10.42 g	100 mL	363970	03/01/17 17:46	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	363868	03/01/17 22:49	AFB	TAL DEN

Client Sample ID: S-01-SURF

Lab Sample ID: 280-94224-4

Date Collected: 02/23/17 14:40

Matrix: Solid

Date Received: 02/24/17 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			363496	02/27/17 09:00	IEU	TAL DEN

Client Sample ID: S-01-SURF

Lab Sample ID: 280-94224-4

Date Collected: 02/23/17 14:40

Matrix: Solid

Date Received: 02/24/17 14:30

Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.303 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364214	03/03/17 00:20	CRR	TAL DEN
Total/NA	Prep	3050B			1.303 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			363850	02/28/17 17:20	CML	TAL DEN
Total/NA	Prep	3050B			1.303 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Client Sample ID: S-01-SURF

Lab Sample ID: 280-94224-4

Date Collected: 02/23/17 14:40

Matrix: Solid

Date Received: 02/24/17 14:30

Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		1			364026	03/01/17 15:10	CML	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	363467	03/01/17 10:12	CDH	TAL DEN
Total/NA	Analysis	7471A		1			364025	03/01/17 16:59	CDH	TAL DEN
Total/NA	Prep	3060A			2.53 g	100.0 mL	204330	03/01/17 20:00	SJM	TAL PIT
Total/NA	Analysis	7196A		1	25.0 mL	25.0 mL	204536	03/03/17 13:31	SJM	TAL PIT
Total/NA	Analysis	7196A		1			364453	03/06/17 14:34	DEG	TAL DEN
Soluble	Leach	DI Leach			10.26 g	100 mL	363970	03/01/17 17:46	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	363868	03/01/17 23:07	AFB	TAL DEN

Client Sample ID: S-01-8

Lab Sample ID: 280-94224-5

Date Collected: 02/23/17 14:40

Matrix: Solid

Date Received: 02/24/17 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			363496	02/27/17 09:00	IEU	TAL DEN

Client Sample ID: S-01-8

Lab Sample ID: 280-94224-5

Date Collected: 02/23/17 14:40

Matrix: Solid

Date Received: 02/24/17 14:30

Percent Solids: 78.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.227 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364214	03/03/17 00:23	CRR	TAL DEN
Total/NA	Prep	3050B			1.227 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		2			364331	03/03/17 14:50	CRR	TAL DEN
Total/NA	Prep	3050B			1.227 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		2			364440	03/06/17 11:41	CRR	TAL DEN
Total/NA	Prep	3050B			1.227 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			363850	02/28/17 17:34	CML	TAL DEN
Total/NA	Prep	3050B			1.227 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364026	03/01/17 15:24	CML	TAL DEN
Total/NA	Prep	7471A			0.57 g	50 mL	363467	03/01/17 10:12	CDH	TAL DEN
Total/NA	Analysis	7471A		1			364025	03/01/17 17:02	CDH	TAL DEN
Total/NA	Prep	3060A			2.44 g	100.0 mL	204330	03/01/17 20:00	SJM	TAL PIT
Total/NA	Analysis	7196A		1	25.0 mL	25.0 mL	204536	03/03/17 13:32	SJM	TAL PIT
Total/NA	Analysis	7196A		1			364453	03/06/17 14:34	DEG	TAL DEN
Soluble	Leach	DI Leach			10.23 g	100 mL	363970	03/01/17 17:46	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	363868	03/01/17 23:24	AFB	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Client Sample ID: S-01-24

Date Collected: 02/23/17 14:40

Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			363496	02/27/17 09:00	IEU	TAL DEN

Client Sample ID: S-01-24

Date Collected: 02/23/17 14:40

Date Received: 02/24/17 14:30

Lab Sample ID: 280-94224-6

Matrix: Solid

Percent Solids: 83.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.325 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364214	03/03/17 00:25	CRR	TAL DEN
Total/NA	Prep	3050B			1.325 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			363850	02/28/17 17:37	CML	TAL DEN
Total/NA	Prep	3050B			1.325 g	100 mL	363608	02/28/17 07:50	TEB	TAL DEN
Total/NA	Analysis	6010C		1			364026	03/01/17 15:27	CML	TAL DEN
Total/NA	Prep	7471A			0.51 g	50 mL	363467	03/01/17 10:12	CDH	TAL DEN
Total/NA	Analysis	7471A		1			364025	03/01/17 17:04	CDH	TAL DEN
Total/NA	Prep	3060A			2.46 g	100.0 mL	204330	03/01/17 20:00	SJM	TAL PIT
Total/NA	Analysis	7196A		1	25.0 mL	25.0 mL	204536	03/03/17 13:33	SJM	TAL PIT
Total/NA	Analysis	7196A		1			364453	03/06/17 14:35	DEG	TAL DEN
Soluble	Leach	DI Leach			10.55 g	100 mL	363970	03/01/17 17:46	TLP	TAL DEN
Soluble	Analysis	9056		1	5 mL	5 mL	363868	03/01/17 23:42	AFB	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Certification Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-20-17
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-08-18
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	12-01-18 *
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Minnesota	NELAP	5	8-999-405	12-31-17 *
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-17
North Dakota	State Program	8	R-034	01-09-17 *
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-08-18
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17 *
Texas	NELAP	6	T104704183-16-12	09-30-17
USDA	Federal		P330-16-00397	12-15-19
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-17
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

Laboratory: TestAmerica Pittsburgh

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-17
California	State Program	9	2891	03-31-18
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-17
Illinois	NELAP	5	200005	06-30-17
Kansas	NELAP	7	E-10350	01-31-18
Louisiana	NELAP	6	04041	06-30-17
New Hampshire	NELAP	1	2030	04-04-17
New Jersey	NELAP	2	PA005	06-30-17
New York	NELAP	2	11182	03-31-17
North Carolina (WW/SW)	State Program	4	434	12-31-17
Pennsylvania	NELAP	3	02-00416	04-30-17

* Certification renewal pending - certification considered valid.

TestAmerica Denver

Certification Summary

Client: HDR Inc
Project/Site: Valmont Soil Sampling

TestAmerica Job ID: 280-94224-1

Laboratory: TestAmerica Pittsburgh (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
South Carolina	State Program	4	89014	04-30-17
Texas	NELAP	6	T104704528-15-2	03-31-17
US Fish & Wildlife	Federal		LE94312A-1	10-31-17
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-17
Virginia	NELAP	3	460189	09-14-17
West Virginia DEP	State Program	3	142	01-31-18
Wisconsin	State Program	5	998027800	08-31-17

TestAmerica Denver

4955 Yarrow Street
 Arvada, CO 80002
 Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record



estAmerica

LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab) Client Contact: Shipping/Receiving: Company: Address: City: State: Zip: Phone: Email: Project Name: Site:		Sampler: Lab PM: E-Mail: State of Origin: Colorado	
TestAmerica Laboratories, Inc. 301 Alpha Drive, RIDC Park, Pittsburgh PA, 15238 Phone: 412-963-7058(Tel) 412-963-2468(Fax) Email: Project # 28016049 SSOW#		No: J-389194.1 Page: Page 1 of 1 Job # 280-94224-1 Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Due Date Requested: 3/3/2017 TAT Requested (days): PO # WO # Project # 28016049 SSOW#		Analysis Requested Total Number of Containers: 7166A/3060A Chromium, Hexavalent Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) Preservation Code: Matrix (W=water, S=solid, O=water/soil, B=liquid, A=air)	
Sample Identification - Client ID (Lab ID) Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=water/soil, B=liquid, A=air)		Special Instructions/Note:	
N-01-SURF (280-94224-1) N-01-8 (280-94224-2) N-01-24 (280-94224-3) S-01-SURF (280-94224-4) S-01-8 (280-94224-5) S-01-24 (280-94224-6)		1 1 1 1 1 1	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.			
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months			
Special Instructions/QC Requirements:			
Empty Kit Relinquished by: Relinquished by: Relinquished by:		Date: Date/Time: Date/Time: Date/Time:	
Relinquished by: Relinquished by: Relinquished by:		Date: Date/Time: Date/Time: Date/Time:	
Custody Seals Intact: Yes No		Custody Seal No:	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-94224-1

Login Number: 94224

List Number: 1

Creator: White, Denise E

List Source: TestAmerica Denver

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.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-94224-1

Login Number: 94224

List Number: 2

Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

List Creation: 02/28/17 11:35 AM

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

ATTACHMENT 3

As-Built Survey

TOPOGRAPHIC EXHIBIT

A PORTION OF THE VALMONT POWER STATION LOCATED IN THE WEST HALF OF SECTION 26 AND THE EAST HALF OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO

SHEET 1 OF 1

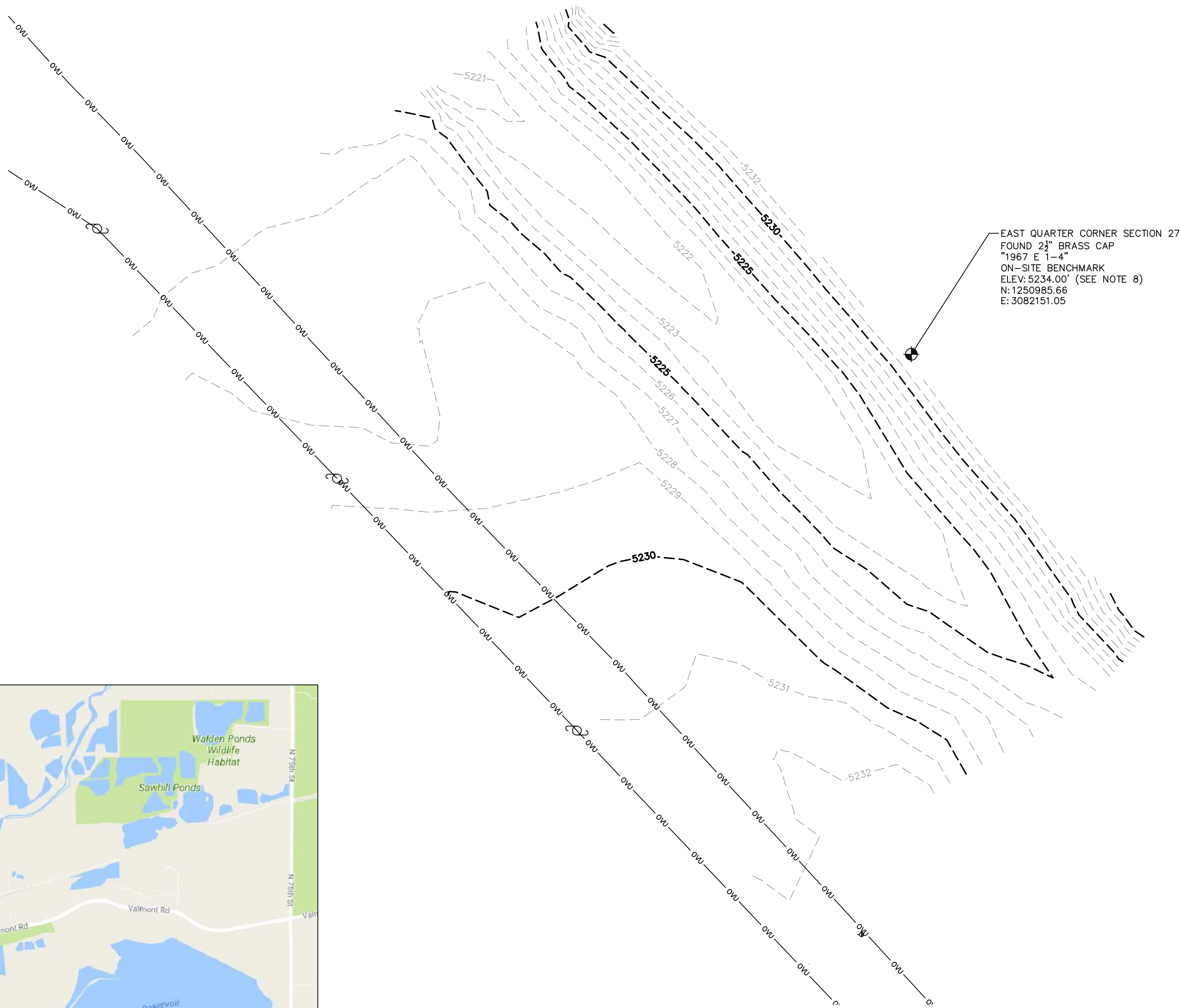
Parcel Description

(PROVIDED BY CLIENT)

A PORTION OF THE VALMONT POWER STATION LOCATED IN THE WEST HALF OF SECTION 26 AND THE EAST HALF OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 70 WEST OF THE 6TH P.M., COUNTY OF BOULDER, STATE OF COLORADO

Legend

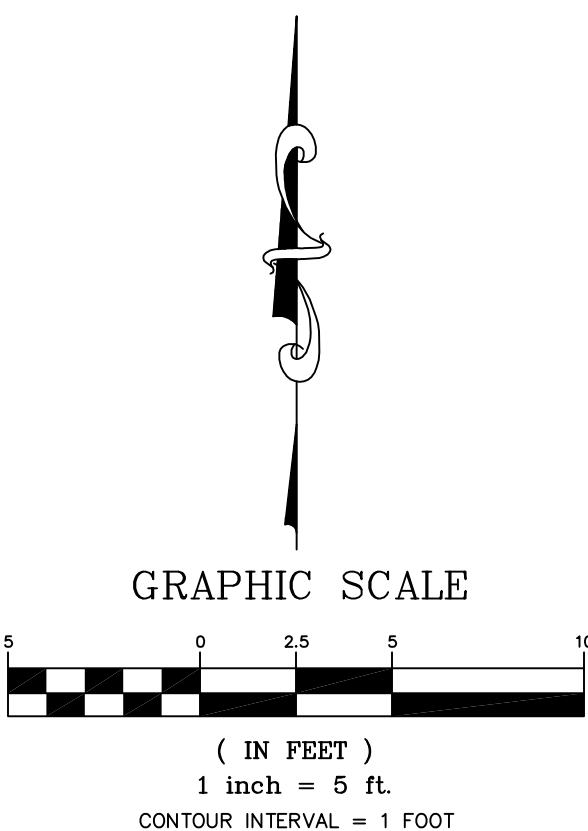
- FOUND ALIQUOT MONUMENT AS DESCRIBED
- OVERHEAD UTILITY LINE
- UTILITY POLE
- GUY WIRE



Vicinity Map
NOT TO SCALE

Notes

- THIS EXHIBIT WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT OR BINDER. EASEMENTS AND RIGHTS-OF-WAY DISCOVERED IN THE COURSE OF OUR INVESTIGATION ARE SHOWN HEREON. EASEMENTS SUCH AS UNRECORDED EASEMENTS MAY NOT HAVE BEEN DISCOVERED IN OUR SEARCH AND MAY AFFECT THE SUBJECT PROPERTY. IT IS RECOMMENDED THAT THE CLIENT OBTAIN A CURRENT TITLE COMMITMENT OR BINDER TO FURTHER AID IN RESEARCHING EASEMENTS, RIGHTS-OF-WAY AND ENCUMBRANCES THAT MAY AFFECT THE SUBJECT PROPERTY.
- ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS EXHIBIT WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS EXHIBIT BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
- THIS EXHIBIT WAS PREPARED FOR THE EXCLUSIVE USE OF HDR ENGINEERING INC., NAMED IN THE STATEMENT HEREON. SAID STATEMENT DOES NOT EXTEND TO ANY UNNAMED PERSON WITHOUT AN EXPRESS STATEMENT BY THE SURVEYOR NAMING SAID PERSON.
- THIS EXHIBIT IS VALID ONLY IF PRINT HAS SEAL AND SIGNATURE OF SURVEYOR.
- ONLY SURFACE EVIDENCE OF UTILITIES VISIBLE AT THE TIME OF THE FIELDWORK IS SHOWN HEREON. ALL UNDERGROUND UTILITIES MUST BE FIELD LOCATED BY THE APPROPRIATE AGENCY OR UTILITY COMPANY PRIOR TO ANY EXCAVATION, PURSUANT TO C.R.S. SEC. 9-1.5-103.
- THE DISTANCE MEASUREMENTS SHOWN HEREON ARE U.S. SURVEY FOOT.
- THE CONTOURS REPRESENTED HEREON WERE INTERPOLATED BY AUTOCAD CIVIL 3D (DIGITAL TERRAIN MODELING) SOFTWARE BETWEEN ACTUAL MEASURED SPOT ELEVATIONS. DEPENDING ON THE DISTANCE FROM A MEASURED SPOT ELEVATION AND LOCAL VARIATIONS IN TOPOGRAPHY, THE CONTOUR SHOWN MAY NOT BE AN EXACT REPRESENTATION OF THE SITE TOPOGRAPHY. THE PURPOSE OF THIS TOPOGRAPHIC MAP IS FOR SITE EVALUATION AND TO SHOW SURFACE DRAINAGE FEATURES. ADDITIONAL TOPOGRAPHIC OBSERVATIONS MAY BE NECESSARY IN SPECIFIC AREAS OF DESIGN. TOPOGRAPHY SHOWN HEREON COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.
- BENCHMARK INFORMATION: A GPS DERIVED ELEVATION WAS ESTABLISHED AT AN ONSITE BENCHMARK AT THE EAST QUARTER CORNER OF SECTION 27, ON THE NORTHEAST BANK OF POND, BEING A 2 1/2\"/>



Surveyor's Statement

I, JOHN B. GUYTON, A LAND SURVEYOR LICENSED IN THE STATE OF COLORADO, HEREBY STATE FOR AND ON BEHALF OF FLATIRON, INC., TO HDR ENGINEERING INC., THAT THIS TOPOGRAPHIC EXHIBIT WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE; THAT SAID EXHIBIT AND THE RELATIVE ELEVATIONS SHOWN HEREON ARE ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

JOHN B. GUYTON COLORADO P.L.S. #16406
CHAIRMAN & CEO, FLATIRON, INC.

REVISION	DATE
1	
2	
3	
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8	
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TOPOGRAPHIC EXHIBIT

PREPARED FOR

HDR Engineering, Inc.

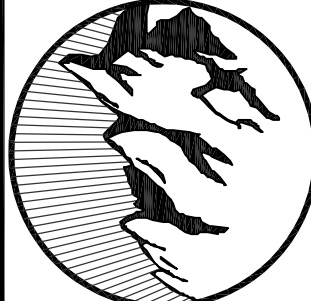
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JOB NUMBER:
17-69,400
DATE:
08-24-2017
DRAWN BY:
B. OELKE
CHECKED BY:
ZG

SHEET 1 OF 1

Attachment 2
April 2021 Laboratory Report

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

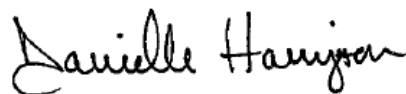
Laboratory Job ID: 280-148140-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Valmont

For:

HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
6/16/2021 11:48:12 AM

Danielle Harrington, Project Manager II
(303)736-0176

Danielle.Harrington@Eurofinset.com

LINKS

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results through

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Have a Question?



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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	11
Sample Summary	12
Client Sample Results	13
QC Sample Results	28
QC Association	38
Chronicle	43
Certification Summary	48
Chain of Custody	50
Receipt Checklists	56
Tracer Carrier Summary	58



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Job ID: 280-148140-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Valmont

Report Number: 280-148140-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 05/03/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.7° C, 2.0° C and 2.0° C.

TOTAL RECOVERABLE METALS- METHOD 6010C/6020A/7470A

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

GENERAL CHEMISTRY- VARIOUS

Several samples required to be prepped and/or analyzed at dilution for various methods. The reporting limits have been adjusted accordingly.

The analysis for Total Dissolved Solids Method 2540C for sample MW-9 was performed outside of hold due to more than half of the hold time expiring during transit. It is Eurofins TestAmerica's policy to analyze all samples within holding time, but when samples are received with less than half the hold time remaining, this cannot be guaranteed. Please note that the sample results should be considered estimated.

The analysis for Total Suspended Solids Method 2540D for all of the samples were performed outside of the prescribed hold time due to client request for analysis after hold time expiration. Please note that the sample results should be considered estimated.

MS/MSD analyses were performed on sample MW-18. The MS/MSD for Chloride and Fluoride method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

MS/MSD analyses were performed on sample MW-14. The MS/MSD for Sulfate and Fluoride method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

RADIUM-226 (GFPC)- METHOD 9315

Insufficient sample volume was available to perform a sample duplicate (DUP). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Job ID: 280-148140-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

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

RADIUM-228- METHOD 9320

Radium-228 was detected in method blank MB 160-509265/23-A at a level that was above the method detection limit but below the reporting limit. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The radium-228 laboratory control sample and laboratory control sample duplicate (LCS/LCSD) associated with the following samples recovered at 74% in batch 160-509265: (LCS 160-509265/1-A) and (LCSD 160-509265/2-A). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138%) per method requirements. The LCS is within criteria and no further action is required.

The laboratory control sample (LCS) associated with the following samples recovered at 133% in batch 160-513943: MW-17, (160-42206-C-1-A) and (160-42206-B-1-B DU). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138%) per method requirements. The LCS is within criteria and no further action is required.

Insufficient sample volume was available to perform a sample duplicate (DUP). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

The Ba carrier recovery (9%) is outside the lower control limit (40%) for the laboratory control sample (LCS) associated with the following samples: MW-17 (280-148140-5), (160-42206-C-1-A) and (160-42206-B-1-B DU). Insufficient sample was available for re-analysis; therefore, the data have been reported.

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-17. This is an indicator of matrix interference.

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

RADIUM-226/RADIUM-228 (GFPC)

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

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-11

Lab Sample ID: 280-148140-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0037	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.084		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	160		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.013		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.014		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.017		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	73		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.7		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	490		25	5.2	mg/L	5		9056A	Total/NA
Total Suspended Solids	17	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	1500		20	9.4	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-18

Lab Sample ID: 280-148140-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.34		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0019	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.029		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	34		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00019	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0011	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.019		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.033		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	8.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	24	F2 F1	3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.9	F2 F1	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	240		25	5.2	mg/L	5		9056A	Total/NA
Total Suspended Solids	15	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	760		10	4.7	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-19B

Lab Sample ID: 280-148140-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.00091	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-19B (Continued)

Lab Sample ID: 280-148140-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.068		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	45		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00039	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0011	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.058		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.017		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.017		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	73		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	250		25	5.2	mg/L	5		9056A	Total/NA
Total Suspended Solids	2.0	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	730		10	4.7	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-21

Lab Sample ID: 280-148140-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.3		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0079		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.013		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	430		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00044	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0048	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.1		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.18		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	420		60	20	mg/L	20		9056A	Total/NA
Fluoride	0.69		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3100		100	21	mg/L	20		9056A	Total/NA
Total Suspended Solids	1.2	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	4900		40	19	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-17

Lab Sample ID: 280-148140-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.39		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.11		0.0050	0.0022	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-17 (Continued)

Lab Sample ID: 280-148140-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	52		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00043	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0066	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.0091		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	61		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.96		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	150		5.0	1.0	mg/L	1		9056A	Total/NA
Total Suspended Solids	2.8	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	530		10	4.7	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-17D

Lab Sample ID: 280-148140-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.44		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.12		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	59		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00049	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0072	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.0091		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	61		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.96		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	150		5.0	1.0	mg/L	1		9056A	Total/NA
Total Suspended Solids	1.6	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	500		10	4.7	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-16

Lab Sample ID: 280-148140-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.57		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0019	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0015	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.041		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	44		1.0	0.58	mg/L	1		6020A	Total Recoverable
Molybdenum	0.031		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.047		0.0080	0.0017	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-16 (Continued)

Lab Sample ID: 280-148140-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	69		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.1		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	190		5.0	1.0	mg/L	1		9056A	Total/NA
Total Suspended Solids	8.0	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	730		10	4.7	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-20

Lab Sample ID: 280-148140-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.39		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.021		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	38		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00028	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.023		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.029		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	68		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	2.8		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	210		25	5.2	mg/L	5		9056A	Total/NA
Total Suspended Solids	29	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	710		10	4.7	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-14

Lab Sample ID: 280-148140-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.6		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.016		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.020		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	430		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00072	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0022		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0020	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.6		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.15		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	210		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.62	F1	0.50	0.17	mg/L	1		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-14 (Continued)

Lab Sample ID: 280-148140-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	3100	F1	100	21	mg/L	20		9056A	Total/NA
Total Suspended Solids	7.6	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	4700		40	19	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-9

Lab Sample ID: 280-148140-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	10		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.035		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	110		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.0052		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.083		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.030		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	76		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	450		25	5.2	mg/L	5		9056A	Total/NA
Total Suspended Solids	2.0	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	1300	H	20	9.4	mg/L	1		SM2540 C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM2540 C	Total Dissolved Solids	SM18	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

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

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc

Job ID: 280-148140-1

Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-148140-1	MW-11	Water	04/27/21 09:30	05/03/21 14:56	
280-148140-2	MW-18	Water	04/30/21 12:20	05/03/21 14:56	
280-148140-3	MW-19B	Water	04/30/21 09:30	05/03/21 14:56	
280-148140-4	MW-21	Water	04/27/21 11:50	05/03/21 14:56	
280-148140-5	MW-17	Water	04/30/21 13:50	05/03/21 14:56	
280-148140-6	MW-17D	Water	04/30/21 13:55	05/03/21 14:56	
280-148140-7	MW-16	Water	04/30/21 15:25	05/03/21 14:56	
280-148140-8	MW-20	Water	04/30/21 11:45	05/03/21 14:56	
280-148140-9	MW-14	Water	04/27/21 10:40	05/03/21 14:56	
280-148140-10	MW-9	Water	04/26/21 16:05	05/03/21 14:56	

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 16:37	1

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.34		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 16:41	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 16:46	1

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 16:50	1

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.39		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 16:54	1

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.44		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 16:59	1

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.57		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 17:03	1

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.39		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 17:07	1

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 17:11	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	10		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 17:24	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 14:55	1
Arsenic	0.0037	J	0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 14:55	1
Barium	0.084		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 14:55	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 14:55	1
Calcium	160		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 14:55	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 14:55	1
Cobalt	0.013		0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 14:55	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 14:55	1
Molybdenum	0.014		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 14:55	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 14:55	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 14:55	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 14:55	1
Lithium	0.017		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 14:55	1

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:03	1
Arsenic	0.0019	J	0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:03	1
Barium	0.029		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:03	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:03	1
Calcium	34		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:03	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:03	1
Cobalt	0.00019	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:03	1
Chromium	0.0011	J	0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:03	1
Molybdenum	0.019		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:03	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:03	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:03	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:03	1
Lithium	0.033		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:03	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:05	1
Arsenic	0.00091	J	0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:05	1
Barium	0.068		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:05	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:05	1
Calcium	45		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:05	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:05	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00039	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:05	1
Chromium	0.0011	J	0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:05	1
Molybdenum	0.058		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:05	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:05	1
Selenium	0.017		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:05	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:05	1
Lithium	0.017		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:05	1

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:08	1
Arsenic	0.0079		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:08	1
Barium	0.013		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:08	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:08	1
Calcium	430		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:08	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:08	1
Cobalt	0.00044	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:08	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:08	1
Molybdenum	0.0048	J	0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:08	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:08	1
Selenium	1.1		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:08	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:08	1
Lithium	0.18		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:08	1

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:10	1
Arsenic	ND		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:10	1
Barium	0.11		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:10	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:10	1
Calcium	52		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:10	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:10	1
Cobalt	0.00043	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:10	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:10	1
Molybdenum	0.0066	J	0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:10	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:10	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:10	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:10	1
Lithium	0.0091		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:10	1

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:13	1
Arsenic	ND		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:13	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.12		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:13	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:13	1
Calcium	59		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:13	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:13	1
Cobalt	0.00049	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:13	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:13	1
Molybdenum	0.0072	J	0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:13	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:13	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:13	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:13	1
Lithium	0.0091		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:13	1

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0019	J	0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:15	1
Arsenic	0.0015	J	0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:15	1
Barium	0.041		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:15	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:15	1
Calcium	44		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:15	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:15	1
Cobalt	ND		0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:15	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:15	1
Molybdenum	0.031		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:15	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:15	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:15	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:15	1
Lithium	0.047		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:15	1

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:18	1
Arsenic	ND		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:18	1
Barium	0.021		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:18	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:18	1
Calcium	38		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:18	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:18	1
Cobalt	0.00028	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:18	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:18	1
Molybdenum	0.023		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:18	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:18	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:18	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:18	1
Lithium	0.029		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:18	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:20	1
Arsenic	0.016		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:20	1
Barium	0.020		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:20	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:20	1
Calcium	430		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:20	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:20	1
Cobalt	0.00072	J	0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:20	1
Chromium	0.0022		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:20	1
Molybdenum	0.0020	J	0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:20	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:20	1
Selenium	1.6		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:20	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:20	1
Lithium	0.15		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:20	1

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 15:23	1
Arsenic	ND		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 15:23	1
Barium	0.035		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 15:23	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 15:23	1
Calcium	110		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 15:23	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:23	1
Cobalt	0.0052		0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 15:23	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 15:23	1
Molybdenum	0.083		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 15:23	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 15:23	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 15:23	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 15:23	1
Lithium	0.030		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 15:23	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 13:55	1

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 13:57	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 13:59	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:01	1

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:03	1

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:05	1

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:11	1

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:13	1

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:15	1

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 14:17	1

General Chemistry

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU			05/04/21 16:29	1
Temperature	21.2	HF	1.0	1.0	Degrees C			05/04/21 16:29	1
Chloride	73		3.0	1.0	mg/L			05/24/21 19:06	1
Fluoride	1.7		0.50	0.17	mg/L			05/24/21 19:06	1
Sulfate	490		25	5.2	mg/L			05/24/21 19:20	5
Total Suspended Solids	17	H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	1500		20	9.4	mg/L			05/04/21 16:38	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

General Chemistry

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.1	HF	0.1	0.1	SU			05/04/21 16:33	1
Temperature	21.5	HF	1.0	1.0	Degrees C			05/04/21 16:33	1
Chloride	24	F2 F1	3.0	1.0	mg/L			05/24/21 19:34	1
Fluoride	1.9	F2 F1	0.50	0.17	mg/L			05/24/21 19:34	1
Sulfate	240		25	5.2	mg/L			05/24/21 20:58	5
Total Suspended Solids	15	H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	760		10	4.7	mg/L			05/07/21 14:03	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU			05/04/21 16:37	1
Temperature	21.1	HF	1.0	1.0	Degrees C			05/04/21 16:37	1
Chloride	73		3.0	1.0	mg/L			05/24/21 21:54	1
Fluoride	1.9		0.50	0.17	mg/L			05/24/21 21:54	1
Sulfate	250		25	5.2	mg/L			05/24/21 22:08	5
Total Suspended Solids	2.0	J H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	730		10	4.7	mg/L			05/07/21 14:03	1

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/04/21 16:41	1
Temperature	20.9	HF	1.0	1.0	Degrees C			05/04/21 16:41	1
Chloride	420		60	20	mg/L			05/24/21 22:36	20
Fluoride	0.69		0.50	0.17	mg/L			05/24/21 22:22	1
Sulfate	3100		100	21	mg/L			05/24/21 22:36	20
Total Suspended Solids	1.2	J H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	4900		40	19	mg/L			05/04/21 16:38	1

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU			05/04/21 16:44	1
Temperature	20.9	HF	1.0	1.0	Degrees C			05/04/21 16:44	1
Chloride	61		3.0	1.0	mg/L			05/24/21 22:50	1
Fluoride	0.96		0.50	0.17	mg/L			05/24/21 22:50	1
Sulfate	150		5.0	1.0	mg/L			05/24/21 22:50	1
Total Suspended Solids	2.8	J H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	530		10	4.7	mg/L			05/07/21 14:03	1

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU			05/04/21 16:48	1
Temperature	21.0	HF	1.0	1.0	Degrees C			05/04/21 16:48	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

General Chemistry (Continued)

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	61		3.0	1.0	mg/L			05/24/21 23:46	1
Fluoride	0.96		0.50	0.17	mg/L			05/24/21 23:46	1
Sulfate	150		5.0	1.0	mg/L			05/24/21 23:46	1
Total Suspended Solids	1.6	J H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	500		10	4.7	mg/L			05/07/21 14:02	1

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU			05/04/21 16:52	1
Temperature	21.1	HF	1.0	1.0	Degrees C			05/04/21 16:52	1
Chloride	69		3.0	1.0	mg/L			05/25/21 00:14	1
Fluoride	1.1		0.50	0.17	mg/L			05/25/21 00:14	1
Sulfate	190		5.0	1.0	mg/L			05/25/21 00:14	1
Total Suspended Solids	8.0	H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	730		10	4.7	mg/L			05/07/21 14:03	1

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU			05/04/21 16:56	1
Temperature	21.3	HF	1.0	1.0	Degrees C			05/04/21 16:56	1
Chloride	68		3.0	1.0	mg/L			05/25/21 00:42	1
Fluoride	2.8		0.50	0.17	mg/L			05/25/21 00:42	1
Sulfate	210		25	5.2	mg/L			05/25/21 00:56	5
Total Suspended Solids	29	H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	710		10	4.7	mg/L			05/07/21 14:03	1

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			05/04/21 16:59	1
Temperature	21.7	HF	1.0	1.0	Degrees C			05/04/21 16:59	1
Chloride	210		30	10	mg/L			05/25/21 02:34	10
Fluoride	0.62	F1	0.50	0.17	mg/L			05/25/21 01:10	1
Sulfate	3100	F1	100	21	mg/L			05/25/21 19:11	20
Total Suspended Solids	7.6	H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	4700		40	19	mg/L			05/04/21 16:38	1

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			05/04/21 17:26	1
Temperature	21.6	HF	1.0	1.0	Degrees C			05/04/21 17:26	1
Chloride	76		3.0	1.0	mg/L			05/24/21 18:38	1
Fluoride	1.9		0.50	0.17	mg/L			05/24/21 18:38	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

General Chemistry (Continued)

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	450		25	5.2	mg/L			05/24/21 18:52	5
Total Suspended Solids	2.0	J H	4.0	1.1	mg/L			05/18/21 09:31	1
Total Dissolved Solids (TDS)	1300	H	20	9.4	mg/L			05/04/21 16:38	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.627		0.184	0.192	1.00	0.153	pCi/L	05/11/21 15:19	06/02/21 20:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.4		40 - 110					05/11/21 15:19	06/02/21 20:18	1

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.124	U	0.112	0.113	1.00	0.171	pCi/L	05/11/21 15:19	06/02/21 20:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.8		40 - 110					05/11/21 15:19	06/02/21 20:20	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0763	U	0.0994	0.0997	1.00	0.166	pCi/L	05/11/21 15:19	06/02/21 20:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.6		40 - 110					05/11/21 15:19	06/02/21 20:20	1

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.289		0.127	0.129	1.00	0.151	pCi/L	05/11/21 15:19	06/02/21 20:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110					05/11/21 15:19	06/02/21 20:21	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.295		0.136	0.139	1.00	0.160	pCi/L	05/11/21 15:19	06/02/21 20:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.8		40 - 110					05/11/21 15:19	06/02/21 20:21	1

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.209		0.111	0.112	1.00	0.136	pCi/L	05/11/21 15:19	06/02/21 20:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.7		40 - 110					05/11/21 15:19	06/02/21 20:21	1

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.213		0.123	0.125	1.00	0.162	pCi/L	05/11/21 15:19	06/02/21 20:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.9		40 - 110					05/11/21 15:19	06/02/21 20:21	1

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.111	U	0.104	0.104	1.00	0.160	pCi/L	05/11/21 15:19	06/02/21 20:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.6		40 - 110					05/11/21 15:19	06/02/21 20:21	1

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.441		0.210	0.213	1.00	0.248	pCi/L	05/12/21 13:58	06/03/21 07:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.2		40 - 110					05/12/21 13:58	06/03/21 07:37	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178		0.105	0.106	1.00	0.136	pCi/L	05/11/21 15:19	06/02/21 20:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					05/11/21 15:19	06/02/21 20:22	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.611	U	0.414	0.418	1.00	0.641	pCi/L	05/11/21 16:11	05/28/21 10:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.4		40 - 110					05/11/21 16:11	05/28/21 10:10	1
Y Carrier	75.1		40 - 110					05/11/21 16:11	05/28/21 10:10	1

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0964	U	0.364	0.364	1.00	0.635	pCi/L	05/11/21 16:11	05/28/21 10:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.8		40 - 110					05/11/21 16:11	05/28/21 10:11	1
Y Carrier	80.4		40 - 110					05/11/21 16:11	05/28/21 10:11	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0272	U	0.287	0.287	1.00	0.523	pCi/L	05/11/21 16:11	05/28/21 10:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.6		40 - 110					05/11/21 16:11	05/28/21 10:11	1
Y Carrier	78.9		40 - 110					05/11/21 16:11	05/28/21 10:11	1

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.456		0.281	0.284	1.00	0.426	pCi/L	05/11/21 16:11	05/28/21 10:11	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9320 - Radium-228 (GFPC)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110	05/11/21 16:11	05/28/21 10:11	1
Y Carrier	80.4		40 - 110	05/11/21 16:11	05/28/21 10:11	1

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.866		0.308	0.318	1.00	0.414	pCi/L	06/02/21 08:56	06/11/21 09:52	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	85.0		40 - 110	06/02/21 08:56	06/11/21 09:52	1				
Y Carrier	87.5		40 - 110	06/02/21 08:56	06/11/21 09:52	1				

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00288	U	0.256	0.256	1.00	0.464	pCi/L	05/11/21 16:11	05/28/21 10:13	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	75.7		40 - 110	05/11/21 16:11	05/28/21 10:13	1				
Y Carrier	80.4		40 - 110	05/11/21 16:11	05/28/21 10:13	1				

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.158	U	0.338	0.339	1.00	0.582	pCi/L	05/11/21 16:11	05/28/21 10:14	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	70.9		40 - 110	05/11/21 16:11	05/28/21 10:14	1				
Y Carrier	69.9		40 - 110	05/11/21 16:11	05/28/21 10:14	1				

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.245	U	0.361	0.361	1.00	0.605	pCi/L	05/11/21 16:11	05/28/21 10:14	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	67.6		40 - 110	05/11/21 16:11	05/28/21 10:14	1				
Y Carrier	74.0		40 - 110	05/11/21 16:11	05/28/21 10:14	1				

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.578		0.325	0.330	1.00	0.485	pCi/L	05/12/21 14:38	06/01/21 13:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.2		40 - 110					05/12/21 14:38	06/01/21 13:21	1
Y Carrier	88.2		40 - 110					05/12/21 14:38	06/01/21 13:21	1

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.469	U	0.342	0.345	1.00	0.537	pCi/L	05/11/21 16:11	05/28/21 10:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.6		40 - 110					05/11/21 16:11	05/28/21 10:15	1
Y Carrier	77.0		40 - 110					05/11/21 16:11	05/28/21 10:15	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: MW-11
Date Collected: 04/27/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.24		0.453	0.460	5.00	0.641	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-18
Date Collected: 04/30/21 12:20
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.220	U	0.381	0.381	5.00	0.635	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-19B
Date Collected: 04/30/21 09:30
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0491	U	0.304	0.304	5.00	0.523	pCi/L		06/03/21 21:18	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: MW-21
Date Collected: 04/27/21 11:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.745		0.308	0.312	5.00	0.426	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-17
Date Collected: 04/30/21 13:50
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.16		0.337	0.347	5.00	0.414	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-17D
Date Collected: 04/30/21 13:55
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.212	U	0.279	0.279	5.00	0.464	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-16
Date Collected: 04/30/21 15:25
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.371	U	0.360	0.361	5.00	0.582	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-20
Date Collected: 04/30/21 11:45
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.356	U	0.376	0.376	5.00	0.605	pCi/L		06/03/21 21:18	1

Client Sample ID: MW-14
Date Collected: 04/27/21 10:40
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.02		0.387	0.393	5.00	0.485	pCi/L		06/03/21 21:24	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: MW-9
Date Collected: 04/26/21 16:05
Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2 σ +/-)	Total Uncert. (2 σ +/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.647		0.358	0.361	5.00	0.537	pCi/L		06/03/21 21:18	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-484895/1-A
Matrix: Water
Analysis Batch: 485293

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484895

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/10/21 14:00	05/11/21 15:52	1

Lab Sample ID: LCS 240-484895/2-A
Matrix: Water
Analysis Batch: 485293

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484895

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-484895/1-A
Matrix: Water
Analysis Batch: 485304

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484895

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/10/21 14:00	05/11/21 14:14	1
Arsenic	ND		0.0050	0.00075	mg/L		05/10/21 14:00	05/11/21 14:14	1
Barium	ND		0.0050	0.0022	mg/L		05/10/21 14:00	05/11/21 14:14	1
Beryllium	ND		0.0010	0.00031	mg/L		05/10/21 14:00	05/11/21 14:14	1
Calcium	ND		1.0	0.58	mg/L		05/10/21 14:00	05/11/21 14:14	1
Cadmium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 14:14	1
Cobalt	ND		0.0010	0.00019	mg/L		05/10/21 14:00	05/11/21 14:14	1
Chromium	ND		0.0020	0.00098	mg/L		05/10/21 14:00	05/11/21 14:14	1
Molybdenum	ND		0.010	0.0011	mg/L		05/10/21 14:00	05/11/21 14:14	1
Lead	ND		0.0010	0.00045	mg/L		05/10/21 14:00	05/11/21 14:14	1
Selenium	ND		0.0050	0.00089	mg/L		05/10/21 14:00	05/11/21 14:14	1
Thallium	ND		0.0010	0.00020	mg/L		05/10/21 14:00	05/11/21 14:14	1
Lithium	ND		0.0080	0.0017	mg/L		05/10/21 14:00	05/11/21 14:14	1

Lab Sample ID: LCS 240-484895/3-A
Matrix: Water
Analysis Batch: 485304

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484895

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0969		mg/L		97	80 - 120
Arsenic	1.00	0.889		mg/L		89	80 - 120
Barium	1.00	0.914		mg/L		91	80 - 120
Beryllium	0.500	0.459		mg/L		92	80 - 120
Calcium	25.0	23.0		mg/L		92	80 - 120
Cadmium	0.500	0.473		mg/L		95	80 - 120
Cobalt	0.500	0.464		mg/L		93	80 - 120
Chromium	0.500	0.484		mg/L		97	80 - 120
Molybdenum	0.500	0.457		mg/L		91	80 - 120
Lead	0.500	0.491		mg/L		98	80 - 120
Selenium	1.00	0.880		mg/L		88	80 - 120
Thallium	1.00	0.954		mg/L		95	80 - 120
Lithium	0.500	0.466		mg/L		93	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-484896/1-A
Matrix: Water
Analysis Batch: 485326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484896

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/10/21 14:00	05/11/21 13:23	1

Lab Sample ID: LCS 240-484896/2-A
Matrix: Water
Analysis Batch: 485326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484896

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.11		ug/L		102	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-534895/30
Matrix: Water
Analysis Batch: 534895

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 280-534895/56
Matrix: Water
Analysis Batch: 534895

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 280-148140-10 DU
Matrix: Water
Analysis Batch: 534895

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.7	HF	7.7		SU		0.4	5
Temperature	21.6	HF	21.7		Degrees C		0.6	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-537278/6
Matrix: Water
Analysis Batch: 537278

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/24/21 17:42	1
Fluoride	ND		0.50	0.17	mg/L			05/24/21 17:42	1
Sulfate	ND		5.0	1.0	mg/L			05/24/21 17:42	1

Lab Sample ID: LCS 280-537278/4
Matrix: Water
Analysis Batch: 537278

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	102		mg/L		102	90 - 110

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-537278/4

Matrix: Water

Analysis Batch: 537278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	5.00	5.01		mg/L		100	90 - 110
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-537278/5

Matrix: Water

Analysis Batch: 537278

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	102		mg/L		102	90 - 110	0	10
Fluoride	5.00	4.99		mg/L		100	90 - 110	0	10
Sulfate	100	100		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-537278/3

Matrix: Water

Analysis Batch: 537278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	5.09		mg/L		102	50 - 150
Fluoride	0.500	0.562		mg/L		112	50 - 150
Sulfate	5.00	5.05		mg/L		101	50 - 150

Lab Sample ID: 280-148140-2 MS

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	24	F2 F1	50.0	85.3	F1	mg/L		123	80 - 120
Fluoride	1.9	F2 F1	5.00	6.59		mg/L		94	80 - 120

Lab Sample ID: 280-148140-2 MS

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	240		250	500		mg/L		105	80 - 120

Lab Sample ID: 280-148140-2 MSD

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	24	F2 F1	50.0	54.0	F2 F1	mg/L		61	80 - 120	45	20
Fluoride	1.9	F2 F1	5.00	4.28	F2 F1	mg/L		47	80 - 120	43	20

Lab Sample ID: 280-148140-2 MSD

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	240		250	495		mg/L		103	80 - 120	1	20

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-148140-9 MS

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.62	F1	5.00	5.18		mg/L		91	80 - 120

Lab Sample ID: 280-148140-9 MS

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	210		500	731		mg/L		104	80 - 120

Lab Sample ID: 280-148140-9 MSD

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.62	F1	5.00	4.33	F1	mg/L		74	80 - 120	18	20

Lab Sample ID: 280-148140-9 MSD

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	210		500	761		mg/L		110	80 - 120	4	20

Lab Sample ID: 280-148140-2 DU

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	24	F2 F1	23.8		mg/L		0.1	15
Fluoride	1.9	F2 F1	1.92		mg/L		0.5	15

Lab Sample ID: 280-148140-2 DU

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	240		233		mg/L		2	15

Lab Sample ID: 280-148140-9 DU

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.62	F1	0.587		mg/L		5	15

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-148140-9 DU

Matrix: Water

Analysis Batch: 537278

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	210		206		mg/L		3	15

Lab Sample ID: MB 280-537407/6

Matrix: Water

Analysis Batch: 537407

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			05/25/21 16:52	1

Lab Sample ID: LCS 280-537407/4

Matrix: Water

Analysis Batch: 537407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	98.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-537407/5

Matrix: Water

Analysis Batch: 537407

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	98.6		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-537407/3

Matrix: Water

Analysis Batch: 537407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.41	J	mg/L		88	50 - 150

Lab Sample ID: 280-148140-9 MS

Matrix: Water

Analysis Batch: 537407

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	3100	F1	1000	3930		mg/L		83	80 - 120

Lab Sample ID: 280-148140-9 MSD

Matrix: Water

Analysis Batch: 537407

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	3100	F1	1000	3850	F1	mg/L		75	80 - 120	2	20

Lab Sample ID: 280-148140-9 DU

Matrix: Water

Analysis Batch: 537407

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	3100	F1	3020		mg/L		3	15

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-536493/1
Matrix: Water
Analysis Batch: 536493

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			05/18/21 09:31	1

Lab Sample ID: LCS 280-536493/2
Matrix: Water
Analysis Batch: 536493

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	85.6		mg/L		86	79 - 114

Lab Sample ID: 280-148140-1 DU
Matrix: Water
Analysis Batch: 536493

Client Sample ID: MW-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	17	H	16.4		mg/L		5	10

Method: SM2540 C - Total Dissolved Solids

Lab Sample ID: MB 280-534888/1
Matrix: Water
Analysis Batch: 534888

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/04/21 16:38	1

Lab Sample ID: LCS 280-534888/2
Matrix: Water
Analysis Batch: 534888

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	528		mg/L		105	88 - 114

Lab Sample ID: MB 280-535365/1
Matrix: Water
Analysis Batch: 535365

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/07/21 14:02	1

Lab Sample ID: LCS 280-535365/2
Matrix: Water
Analysis Batch: 535365

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	529		mg/L		106	88 - 114

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: SM2540 C - Total Dissolved Solids (Continued)

Lab Sample ID: 280-148140-6 DU
Matrix: Water
Analysis Batch: 535365

Client Sample ID: MW-17D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	500		512		mg/L		2	10

Lab Sample ID: MB 280-535366/1
Matrix: Water
Analysis Batch: 535366

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/07/21 14:03	1

Lab Sample ID: LCS 280-535366/2
Matrix: Water
Analysis Batch: 535366

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	521		mg/L		104	88 - 114

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-509259/23-A
Matrix: Water
Analysis Batch: 512429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509259

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03527	U	0.102	0.102	1.00	0.191	pCi/L	05/11/21 15:19	06/02/21 20:22	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	55.0		40 - 110	05/11/21 15:19	06/02/21 20:22	1

Lab Sample ID: LCS 160-509259/1-A
Matrix: Water
Analysis Batch: 512453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509259

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	10.45		1.15	1.00	0.147	pCi/L	92	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	74.5		40 - 110

Lab Sample ID: LCSD 160-509259/2-A
Matrix: Water
Analysis Batch: 512453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 509259

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	11.65		1.25	1.00	0.146	pCi/L	103	75 - 125	0.50	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-509259/2-A
Matrix: Water
Analysis Batch: 512453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 509259

	LCSD	LCSD	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	78.7		40 - 110

Lab Sample ID: MB 160-509356/24-A
Matrix: Water
Analysis Batch: 512601

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509356

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.09182	U	0.126	0.126	1.00	0.213	pCi/L	05/12/21 13:58	06/03/21 07:43	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.9		40 - 110					05/12/21 13:58	06/03/21 07:43	1

Lab Sample ID: LCS 160-509356/1-A
Matrix: Water
Analysis Batch: 512655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509356

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	12.11		1.38	1.00	0.215	pCi/L	107	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	80.5		40 - 110						

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-509265/23-A
Matrix: Water
Analysis Batch: 512212

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509265

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.7171		0.442	0.447	1.00	0.672	pCi/L	05/11/21 16:11	05/28/21 10:16	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	55.0		40 - 110					05/11/21 16:11	05/28/21 10:16	1
Y Carrier	80.0		40 - 110					05/11/21 16:11	05/28/21 10:16	1

Lab Sample ID: LCS 160-509265/1-A
Matrix: Water
Analysis Batch: 512204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509265

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.68	7.124		0.975	1.00	0.524	pCi/L	74	75 - 125

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-509265/1-A
Matrix: Water
Analysis Batch: 512204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509265

LCS LCS			
Carrier	%Yield	Qualifier	Limits
Ba Carrier	74.5		40 - 110
Y Carrier	75.1		40 - 110

Lab Sample ID: LCSD 160-509265/2-A
Matrix: Water
Analysis Batch: 512204

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 509265

Total												
Analyte	Spike Added	LCSD Result	LCSD Qual	Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit	
Radium-228	9.68	7.152		0.955	1.00	0.459	pCi/L	74	75 - 125	0.01	1	

LCSD LCSD			
Carrier	%Yield	Qualifier	Limits
Ba Carrier	78.7		40 - 110
Y Carrier	76.6		40 - 110

Lab Sample ID: MB 160-509365/24-A
Matrix: Water
Analysis Batch: 512418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509365

Count											
Analyte	MB Result	MB Qualifier	Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
Radium-228	-0.1657	U	0.240	0.240	1.00	0.465	pCi/L	05/12/21 14:38	06/01/21 13:19	1	

MB MB						
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	76.9		40 - 110	05/12/21 14:38	06/01/21 13:19	1
Y Carrier	87.1		40 - 110	05/12/21 14:38	06/01/21 13:19	1

Lab Sample ID: LCS 160-509365/1-A
Matrix: Water
Analysis Batch: 512417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509365

Total												
Analyte	Spike Added	LCS Result	LCS Qual	Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits			
Radium-228	9.67	8.961		1.10	1.00	0.434	pCi/L	93	75 - 125			

LCS LCS			
Carrier	%Yield	Qualifier	Limits
Ba Carrier	80.5		40 - 110
Y Carrier	89.0		40 - 110

Lab Sample ID: MB 160-512445/22-A
Matrix: Water
Analysis Batch: 513784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512445

Count											
Analyte	MB Result	MB Qualifier	Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
Radium-228	-0.1047	U	0.267	0.267	1.00	0.498	pCi/L	06/02/21 08:56	06/11/21 09:57	1	

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-512445/22-A

Matrix: Water

Analysis Batch: 513784

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 512445

	MB	MB	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	76.6		40 - 110
Y Carrier	86.7		40 - 110

Prepared	Analyzed	Dil Fac
06/02/21 08:56	06/11/21 09:57	1
06/02/21 08:56	06/11/21 09:57	1

Lab Sample ID: LCS 160-512445/1-A

Matrix: Water

Analysis Batch: 513943

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 512445

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.64	12.82	*	3.52	1.00	4.09	pCi/L	133	75 - 125

	LCS	LCS	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	9.35	X	40 - 110
Y Carrier	86.0		40 - 110

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Metals

Prep Batch: 484895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total Recoverable	Water	3005A	
280-148140-2	MW-18	Total Recoverable	Water	3005A	
280-148140-3	MW-19B	Total Recoverable	Water	3005A	
280-148140-4	MW-21	Total Recoverable	Water	3005A	
280-148140-5	MW-17	Total Recoverable	Water	3005A	
280-148140-6	MW-17D	Total Recoverable	Water	3005A	
280-148140-7	MW-16	Total Recoverable	Water	3005A	
280-148140-8	MW-20	Total Recoverable	Water	3005A	
280-148140-9	MW-14	Total Recoverable	Water	3005A	
280-148140-10	MW-9	Total Recoverable	Water	3005A	
MB 240-484895/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-484895/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-484895/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 484896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	7470A	
280-148140-2	MW-18	Total/NA	Water	7470A	
280-148140-3	MW-19B	Total/NA	Water	7470A	
280-148140-4	MW-21	Total/NA	Water	7470A	
280-148140-5	MW-17	Total/NA	Water	7470A	
280-148140-6	MW-17D	Total/NA	Water	7470A	
280-148140-7	MW-16	Total/NA	Water	7470A	
280-148140-8	MW-20	Total/NA	Water	7470A	
280-148140-9	MW-14	Total/NA	Water	7470A	
280-148140-10	MW-9	Total/NA	Water	7470A	
MB 240-484896/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-484896/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 485293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total Recoverable	Water	6010C	484895
280-148140-2	MW-18	Total Recoverable	Water	6010C	484895
280-148140-3	MW-19B	Total Recoverable	Water	6010C	484895
280-148140-4	MW-21	Total Recoverable	Water	6010C	484895
280-148140-5	MW-17	Total Recoverable	Water	6010C	484895
280-148140-6	MW-17D	Total Recoverable	Water	6010C	484895
280-148140-7	MW-16	Total Recoverable	Water	6010C	484895
280-148140-8	MW-20	Total Recoverable	Water	6010C	484895
280-148140-9	MW-14	Total Recoverable	Water	6010C	484895
280-148140-10	MW-9	Total Recoverable	Water	6010C	484895
MB 240-484895/1-A	Method Blank	Total Recoverable	Water	6010C	484895
LCS 240-484895/2-A	Lab Control Sample	Total Recoverable	Water	6010C	484895

Analysis Batch: 485304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total Recoverable	Water	6020A	484895
280-148140-2	MW-18	Total Recoverable	Water	6020A	484895
280-148140-3	MW-19B	Total Recoverable	Water	6020A	484895
280-148140-4	MW-21	Total Recoverable	Water	6020A	484895
280-148140-5	MW-17	Total Recoverable	Water	6020A	484895

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Metals (Continued)

Analysis Batch: 485304 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-6	MW-17D	Total Recoverable	Water	6020A	484895
280-148140-7	MW-16	Total Recoverable	Water	6020A	484895
280-148140-8	MW-20	Total Recoverable	Water	6020A	484895
280-148140-9	MW-14	Total Recoverable	Water	6020A	484895
280-148140-10	MW-9	Total Recoverable	Water	6020A	484895
MB 240-484895/1-A	Method Blank	Total Recoverable	Water	6020A	484895
LCS 240-484895/3-A	Lab Control Sample	Total Recoverable	Water	6020A	484895

Analysis Batch: 485326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	7470A	484896
280-148140-2	MW-18	Total/NA	Water	7470A	484896
280-148140-3	MW-19B	Total/NA	Water	7470A	484896
280-148140-4	MW-21	Total/NA	Water	7470A	484896
280-148140-5	MW-17	Total/NA	Water	7470A	484896
280-148140-6	MW-17D	Total/NA	Water	7470A	484896
280-148140-7	MW-16	Total/NA	Water	7470A	484896
280-148140-8	MW-20	Total/NA	Water	7470A	484896
280-148140-9	MW-14	Total/NA	Water	7470A	484896
280-148140-10	MW-9	Total/NA	Water	7470A	484896
MB 240-484896/1-A	Method Blank	Total/NA	Water	7470A	484896
LCS 240-484896/2-A	Lab Control Sample	Total/NA	Water	7470A	484896

General Chemistry

Analysis Batch: 534888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	SM2540 C	
280-148140-4	MW-21	Total/NA	Water	SM2540 C	
280-148140-9	MW-14	Total/NA	Water	SM2540 C	
280-148140-10	MW-9	Total/NA	Water	SM2540 C	
MB 280-534888/1	Method Blank	Total/NA	Water	SM2540 C	
LCS 280-534888/2	Lab Control Sample	Total/NA	Water	SM2540 C	

Analysis Batch: 534895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	9040B	
280-148140-2	MW-18	Total/NA	Water	9040B	
280-148140-3	MW-19B	Total/NA	Water	9040B	
280-148140-4	MW-21	Total/NA	Water	9040B	
280-148140-5	MW-17	Total/NA	Water	9040B	
280-148140-6	MW-17D	Total/NA	Water	9040B	
280-148140-7	MW-16	Total/NA	Water	9040B	
280-148140-8	MW-20	Total/NA	Water	9040B	
280-148140-9	MW-14	Total/NA	Water	9040B	
280-148140-10	MW-9	Total/NA	Water	9040B	
LCS 280-534895/30	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-534895/56	Lab Control Sample	Total/NA	Water	9040B	
280-148140-10 DU	MW-9	Total/NA	Water	9040B	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

General Chemistry

Analysis Batch: 535365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-6	MW-17D	Total/NA	Water	SM2540 C	
MB 280-535365/1	Method Blank	Total/NA	Water	SM2540 C	
LCS 280-535365/2	Lab Control Sample	Total/NA	Water	SM2540 C	
280-148140-6 DU	MW-17D	Total/NA	Water	SM2540 C	

Analysis Batch: 535366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-2	MW-18	Total/NA	Water	SM2540 C	
280-148140-3	MW-19B	Total/NA	Water	SM2540 C	
280-148140-5	MW-17	Total/NA	Water	SM2540 C	
280-148140-7	MW-16	Total/NA	Water	SM2540 C	
280-148140-8	MW-20	Total/NA	Water	SM2540 C	
MB 280-535366/1	Method Blank	Total/NA	Water	SM2540 C	
LCS 280-535366/2	Lab Control Sample	Total/NA	Water	SM2540 C	

Analysis Batch: 536493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	SM 2540D	
280-148140-2	MW-18	Total/NA	Water	SM 2540D	
280-148140-3	MW-19B	Total/NA	Water	SM 2540D	
280-148140-4	MW-21	Total/NA	Water	SM 2540D	
280-148140-5	MW-17	Total/NA	Water	SM 2540D	
280-148140-6	MW-17D	Total/NA	Water	SM 2540D	
280-148140-7	MW-16	Total/NA	Water	SM 2540D	
280-148140-8	MW-20	Total/NA	Water	SM 2540D	
280-148140-9	MW-14	Total/NA	Water	SM 2540D	
280-148140-10	MW-9	Total/NA	Water	SM 2540D	
MB 280-536493/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-536493/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-148140-1 DU	MW-11	Total/NA	Water	SM 2540D	

Analysis Batch: 537278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	9056A	
280-148140-1	MW-11	Total/NA	Water	9056A	
280-148140-2	MW-18	Total/NA	Water	9056A	
280-148140-2	MW-18	Total/NA	Water	9056A	
280-148140-3	MW-19B	Total/NA	Water	9056A	
280-148140-3	MW-19B	Total/NA	Water	9056A	
280-148140-4	MW-21	Total/NA	Water	9056A	
280-148140-4	MW-21	Total/NA	Water	9056A	
280-148140-5	MW-17	Total/NA	Water	9056A	
280-148140-6	MW-17D	Total/NA	Water	9056A	
280-148140-7	MW-16	Total/NA	Water	9056A	
280-148140-8	MW-20	Total/NA	Water	9056A	
280-148140-8	MW-20	Total/NA	Water	9056A	
280-148140-9	MW-14	Total/NA	Water	9056A	
280-148140-9	MW-14	Total/NA	Water	9056A	
280-148140-10	MW-9	Total/NA	Water	9056A	
280-148140-10	MW-9	Total/NA	Water	9056A	
MB 280-537278/6	Method Blank	Total/NA	Water	9056A	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

General Chemistry (Continued)

Analysis Batch: 537278 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-537278/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537278/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537278/3	Lab Control Sample	Total/NA	Water	9056A	
280-148140-2 MS	MW-18	Total/NA	Water	9056A	
280-148140-2 MS	MW-18	Total/NA	Water	9056A	
280-148140-2 MSD	MW-18	Total/NA	Water	9056A	
280-148140-2 MSD	MW-18	Total/NA	Water	9056A	
280-148140-9 MS	MW-14	Total/NA	Water	9056A	
280-148140-9 MS	MW-14	Total/NA	Water	9056A	
280-148140-9 MSD	MW-14	Total/NA	Water	9056A	
280-148140-9 MSD	MW-14	Total/NA	Water	9056A	
280-148140-2 DU	MW-18	Total/NA	Water	9056A	
280-148140-2 DU	MW-18	Total/NA	Water	9056A	
280-148140-9 DU	MW-14	Total/NA	Water	9056A	
280-148140-9 DU	MW-14	Total/NA	Water	9056A	

Analysis Batch: 537407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-9	MW-14	Total/NA	Water	9056A	
MB 280-537407/6	Method Blank	Total/NA	Water	9056A	
LCS 280-537407/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537407/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537407/3	Lab Control Sample	Total/NA	Water	9056A	
280-148140-9 MS	MW-14	Total/NA	Water	9056A	
280-148140-9 MSD	MW-14	Total/NA	Water	9056A	
280-148140-9 DU	MW-14	Total/NA	Water	9056A	

Rad

Prep Batch: 509259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	PrecSep-21	
280-148140-2	MW-18	Total/NA	Water	PrecSep-21	
280-148140-3	MW-19B	Total/NA	Water	PrecSep-21	
280-148140-4	MW-21	Total/NA	Water	PrecSep-21	
280-148140-5	MW-17	Total/NA	Water	PrecSep-21	
280-148140-6	MW-17D	Total/NA	Water	PrecSep-21	
280-148140-7	MW-16	Total/NA	Water	PrecSep-21	
280-148140-8	MW-20	Total/NA	Water	PrecSep-21	
280-148140-10	MW-9	Total/NA	Water	PrecSep-21	
MB 160-509259/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-509259/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-509259/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 509265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-1	MW-11	Total/NA	Water	PrecSep_0	
280-148140-2	MW-18	Total/NA	Water	PrecSep_0	
280-148140-3	MW-19B	Total/NA	Water	PrecSep_0	
280-148140-4	MW-21	Total/NA	Water	PrecSep_0	
280-148140-6	MW-17D	Total/NA	Water	PrecSep_0	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Rad (Continued)

Prep Batch: 509265 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-7	MW-16	Total/NA	Water	PrecSep_0	
280-148140-8	MW-20	Total/NA	Water	PrecSep_0	
280-148140-10	MW-9	Total/NA	Water	PrecSep_0	
MB 160-509265/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-509265/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-509265/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 509356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-9	MW-14	Total/NA	Water	PrecSep-21	
MB 160-509356/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-509356/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 509365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-9	MW-14	Total/NA	Water	PrecSep_0	
MB 160-509365/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-509365/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 512445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148140-5	MW-17	Total/NA	Water	PrecSep_0	
MB 160-512445/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512445/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-11

Date Collected: 04/27/21 09:30

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 16:37	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 14:55	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 13:55	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:29	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 19:06	SRH	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	537278	05/24/21 19:20	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	50 mL	100 mL	534888	05/04/21 16:38	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.08 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512453	06/02/21 20:18	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.08 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:10	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Client Sample ID: MW-18

Date Collected: 04/30/21 12:20

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 16:41	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:03	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 13:57	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:33	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 19:34	SRH	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	537278	05/24/21 20:58	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	535366	05/07/21 14:03	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.76 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:20	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.76 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:11	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-19B

Lab Sample ID: 280-148140-3

Date Collected: 04/30/21 09:30

Matrix: Water

Date Received: 05/03/21 14:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 16:46	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:05	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 13:59	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:37	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 21:54	SRH	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	537278	05/24/21 22:08	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	535366	05/07/21 14:03	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.84 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:20	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.84 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:11	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Client Sample ID: MW-21

Lab Sample ID: 280-148140-4

Date Collected: 04/27/21 11:50

Matrix: Water

Date Received: 05/03/21 14:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 16:50	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:08	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:01	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:41	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 22:22	SRH	TAL DEN
Total/NA	Analysis	9056A		20	10 mL	10 mL	537278	05/24/21 22:36	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	25 mL	100 mL	534888	05/04/21 16:38	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.14 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:21	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.14 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:11	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-17

Date Collected: 04/30/21 13:50

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 16:54	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:10	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:03	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:44	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 22:50	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	535366	05/07/21 14:03	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.60 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:21	AK	TAL SL
Total/NA	Prep	PrecSep_0			1001.00 mL	1.0 g	512445	06/02/21 08:56	MJ	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	513943	06/11/21 09:52	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Client Sample ID: MW-17D

Date Collected: 04/30/21 13:55

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 16:59	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:13	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:05	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:48	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 23:46	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	535365	05/07/21 14:02	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.72 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:21	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.72 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:13	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Client Sample ID: MW-16

Date Collected: 04/30/21 15:25

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 17:03	KLC	TAL CAN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-16

Date Collected: 04/30/21 15:25

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:15	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:11	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:52	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/25/21 00:14	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	535366	05/07/21 14:03	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			999.48 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:21	AK	TAL SL
Total/NA	Prep	PrecSep_0			999.48 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:14	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Client Sample ID: MW-20

Date Collected: 04/30/21 11:45

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 17:07	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:18	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:13	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:56	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/25/21 00:42	SRH	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	537278	05/25/21 00:56	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	535366	05/07/21 14:03	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.78 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	512429	06/02/21 20:21	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.78 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512204	05/28/21 10:14	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Client Sample ID: MW-14

Date Collected: 04/27/21 10:40

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 17:11	KLC	TAL CAN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Client Sample ID: MW-14

Date Collected: 04/27/21 10:40

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:20	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:15	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 16:59	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/25/21 01:10	SRH	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	537278	05/25/21 02:34	SRH	TAL DEN
Total/NA	Analysis	9056A		20	10 mL	10 mL	537407	05/25/21 19:11	JMB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	25 mL	100 mL	534888	05/04/21 16:38	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.75 mL	1.0 g	509356	05/12/21 13:58	LAR	TAL SL
Total/NA	Analysis	9315		1			512655	06/03/21 07:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.75 mL	1.0 g	509365	05/12/21 14:38	LAR	TAL SL
Total/NA	Analysis	9320		1			512417	06/01/21 13:21	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512663	06/03/21 21:24	GRW	TAL SL

Client Sample ID: MW-9

Date Collected: 04/26/21 16:05

Date Received: 05/03/21 14:56

Lab Sample ID: 280-148140-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485293	05/11/21 17:24	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	484895	05/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485304	05/11/21 15:23	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	484896	05/10/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485326	05/11/21 14:17	SLD	TAL CAN
Total/NA	Analysis	9040B		1			534895	05/04/21 17:26	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	537278	05/24/21 18:38	SRH	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	537278	05/24/21 18:52	SRH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	536493	05/18/21 09:31	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	50 mL	100 mL	534888	05/04/21 16:38	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.75 mL	1.0 g	509259	05/11/21 15:19	LAR	TAL SL
Total/NA	Analysis	9315		1			512429	06/02/21 20:22	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.75 mL	1.0 g	509265	05/11/21 16:11	LAR	TAL SL
Total/NA	Analysis	9320		1			512212	05/28/21 10:15	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			512661	06/03/21 21:18	GRW	TAL SL

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Eurofins TestAmerica, Denver

Chain of Custody Record

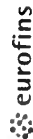
Denver
#280
 Carrier Tracking No. (S)



Environment Testing
 America

Client Information Client Contact: Molly Reeves Company: HDR Inc Address: 9781 S. Meridian Blvd Suite 400 City: Englewood State, Zip: CO, 80112 Phone: 734-263-7138(Tel) Email: Molly.Reeves@hdrinc.com Project Name: Xcel Energy GW CCR Monitoring - Valmont Site: Colorado Landfill Wells		Lab PM: Harrington, Danielle M E-Mail: Danielle.Harrington@Eurofins.com COC No: 280-103098-29694.3 Page: Page 3 of 3 Job #:																																																																																																																																																
Due Date Requested: TAT Requested (days): PO #: DEN-018 WO #: Project #: 28014379 SSOW#:		Analysis Requested 6010C, 6020A Total Metals - ETA Canton 2540C, Calcd TDS/IC Chloride, Fluoride, sulfate/pH 9315 Ra226, 9320 Ra228, Ra228Ra228_GFP-C, ETA St.																																																																																																																																																
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Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=ore, etc.)	Preservation Code:	Field Filtered Sample (Yes or No)	6010C, 6020A Total Metals - ETA Canton	2540C, Calcd TDS/IC Chloride, Fluoride, sulfate/pH	9315 Ra226, 9320 Ra228, Ra228Ra228_GFP-C, ETA St.	6010C, 6020A Total Metals - ETA Canton	2540C, Calcd TDS/IC Chloride, Fluoride, sulfate/pH	9315 Ra226, 9320 Ra228, Ra228Ra228_GFP-C, ETA St.																																																																																																																																						
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MW-170	4/30/21	1355	G	WATER																																																																																																																																														
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Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months																																																																																																																																																
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Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 16/13/16 18/11 C/F 10.4																																																																																																																																																

Chain of Custody Record



Environment Testing
America



Client Information (Sub Contract Lab)		Sampler: Lab PM: Harrington, Danielle M		Carrier Tracking No(s):		COC No: 280-566508.1	
Client Contact: Shipping/Receiving		Phone:		State of Origin: Colorado		Page: Page 1 of 2	
Company: TestAmerica Laboratories, Inc.		E-Mail: Danielle.Harrington@Eurofins.com		Accreditations Required (See note): DoD - A2LA		Job #: 280-148140-1	
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 6/1/2021		Analysis Requested:		Preservation Codes:	
City: Earth City		TAT Requested (days):		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:		Sample Type (C=Comp, G=grab)		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email:		WO #:		Sample Time			
Project Name: Xcel Energy GW CCR Monitoring - Valmont		Project #: 28014379		Sample Date			
Site: Xcel Energy CCR - Valmont Station		SSOW#:		Sample Date			
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Matrix	
MW-11 (280-148140-1)	4/27/21	09:30 Mountain	Water				
MW-18 (280-148140-2)	4/30/21	12:20 Mountain	Water				
MW-19B (280-148140-3)	4/30/21	09:30 Mountain	Water				
MW-21 (280-148140-4)	4/27/21	11:50 Mountain	Water				
MW-17 (280-148140-5)	4/30/21	13:50 Mountain	Water				
MW-17D (280-148140-6)	4/30/21	13:55 Mountain	Water				
MW-16 (280-148140-7)	4/30/21	15:25 Mountain	Water				
MW-20 (280-148140-8)	4/30/21	11:45 Mountain	Water				
MW-14 (280-148140-9)	4/27/21	10:40 Mountain	Water				
Total Number of containers		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		9315, Ra226/PreSep_21 Radium-226 (1/3)	
						9320, Ra226/PreSep_0 Radium-228 (2/3)	
						Ra226Ra228_GFP/ (MOD) Local Method	
						Special Instructions/Note:	
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica							
Possible Hazard Identification							
Unconfirmed							
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 4		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months	
Empty Kit Relinquished by:							
Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <i>[Signature]</i>		5/4/21		1330		PEDEX	
Relinquished by:		Date/Time:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Date/Time:		Company:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Date/Time: 5/5/2021 09:05	

Client Information (Sub Contract Lab)		Lab PM: Harrington, Danielle M		Carrier Tracking No(s): 280-56508.2	
Client Contact: Shipping/Receiving Company		Phone: E-Mail: Danielle.Harrington@Eurofinset.com		State of Origin: Colorado	
TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Page 2 of 2	
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Due Date Requested: 6/1/2021 TAT Requested (days): PO #: WO #: Project #: 28014379 SSOW#:		Job #: 280-148140-1	
Project Name: Xcel Energy GW CCR Monitoring - Valmont Site: Xcel Energy CCR - Valmont Station		Sample Date 4/26/21		Sample Time 16:05 Mountain	
Sample Identification - Client ID (Lab ID)		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=other, BT=Tissue, AA=Air)	
MW-9 (280-148140-10)		Water		Preservation Code:	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		9315_Ra226/PreSep_21 Radium-226 (1/3)	
9320_Ra228/PreSep_0 Radium-228 (2/3)		Ra226Ra228_GFPc/ (MOD) Local Method		Total Number of Containers	
Special Instructions/Note:		2		Special Instructions/Note:	
A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (Specify)		Preservation Codes:	
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 4		Date: 5/4/21		Time: 1330	
Relinquished by: Relinquished by: Relinquished by:		Date/Time: Date/Time: Date/Time:		Company: Company: Company:	
Custody Seal No.: Δ Yes Δ No		Custody Seal Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):		COC No:
Client Contact: Shipping/Receiving		Phone:	Harrington, Danielle M	State of Origin: Colorado		280-566509.1
Company: TestAmerica Laboratories, Inc.		E-Mail: Danielle.Harrington@Eurofinset.com		Page:		Page 1 of 2
Address: 4101 Shuffel Street NW, North Canton State, Zip: OH, 44720 Phone: 330-497-9396(Tel) 330-497-0772(Fax) Email:		Accreditations Required (See note) DoD - A2LA		Job #:		280-148140-1
Due Date Requested: 6/1/2021		TAT Requested (days):		Preservation Codes:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:
Project Name: Xcel Energy GW CCR Monitoring - Valmont		Project #: 28014379		Analysis Requested		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
Site: Xcel Energy CCR - Valmont Station		SSOW#:		Total Number of containers		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (V=water, S=solid, O=unknown)	Field Filtered Sample (Yes or No)	Special Instructions/Note:
MW-11 (280-148140-1)	4/27/21	09:30 Mountain		Water	X	Use Collision Cell
MW-18 (280-148140-2)	4/30/21	12:20 Mountain		Water	X	Use Collision Cell
MW-19B (280-148140-3)	4/30/21	09:30 Mountain		Water	X	Use Collision Cell
MW-21 (280-148140-4)	4/27/21	11:50 Mountain		Water	X	Use Collision Cell
MW-17 (280-148140-5)	4/30/21	13:50 Mountain		Water	X	Use Collision Cell
MW-17D (280-148140-6)	4/30/21	13:55 Mountain		Water	X	Use Collision Cell
MW-16 (280-148140-7)	4/30/21	15:25 Mountain		Water	X	Use Collision Cell
MW-20 (280-148140-8)	4/30/21	11:45 Mountain		Water	X	Use Collision Cell
MW-14 (280-148140-9)	4/27/21	10:40 Mountain		Water	X	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	
Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Deliverable Requested: I, II, III, IV, Other (specify)	☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months
Empty Kit Relinquished by:	Method of Shipment
Relinquished by: <i>Paul</i>	Time:
Relinquished by: <i>5/4/21 1345</i>	Company
Relinquished by:	Date/Time: <i>5-6-21</i>
Relinquished by:	Date/Time:
Custody Seals Intact: <i>Yes</i>	Company
Custody Seal No.:	Company
Cooler Temperature(s) °C and Other Remarks:	

Eurofins TestAmerica Canton Sample Receipt Form/Narrative				Login # : _____	
Canton Facility					
Client <u>ETA</u>		Site Name _____		Cooler unpacked by: <u>Matt</u>	
Cooler Received on <u>5-6-21</u>		Opened on <u>5-7-21</u>			
FedEx: 1 st Grd <u>Exp</u> UPS FAS Clipper		Client Drop Off TestAmerica Courier		Other _____	
Receipt After-hours: Drop-off Date/Time			Storage Location		
TestAmerica Cooler # <u>13A</u>		Foam Box Client Cooler Box Other _____			
Packing material used: <u>Bubble</u> Wrap Foam Plastic Bag None Other _____					
COOLANT: <u>Wet Ice</u> Blue Ice Dry Ice Water <u>None</u>					
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form					
IR GUN# IR-11 (CF +0.1 °C)		Observed Cooler Temp. <u>13.5</u> °C		Corrected Cooler Temp. <u>13-C</u> °C	
IR GUN #IR-12 (CF +0.2 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> ☒ Yes ☐ No					
-Were the seals on the outside of the cooler(s) signed & dated? ☒ Yes ☐ No NA					
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? ☒ Yes ☐ No NA					
-Were tamper/custody seals intact and uncompromised? ☒ Yes ☐ No NA					
3. Shippers' packing slip attached to the cooler(s)? ☒ Yes ☐ No					
4. Did custody papers accompany the sample(s)? ☒ Yes ☐ No					
5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes ☐ No					
6. Was/were the person(s) who collected the samples clearly identified on the COC? ☒ Yes ☐ No					
7. Did all bottles arrive in good condition (Unbroken)? ☒ Yes ☐ No					
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? ☒ Yes ☐ No					
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? ☒ Yes ☐ No					
10. Were correct bottle(s) used for the test(s) indicated? ☒ Yes ☐ No					
11. Sufficient quantity received to perform indicated analyses? ☒ Yes ☐ No					
12. Are these work share samples and all listed on the COC? ☒ Yes ☐ No					
If yes, Questions 13-17 have been checked at the originating laboratory.					
13. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA pH Strip Lot# <u>HC022887</u>					
14. Were VOAs on the COC? ☒ Yes ☐ No					
15. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No NA					
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ ☒ Yes ☐ No					
17. Was a LL Hg or Me Hg trip blank present? _____ ☒ Yes ☐ No					
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____					
Concerning _____					

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page		Samples processed by: _____
_____ _____ _____ _____		
19. SAMPLE CONDITION		
Sample(s) _____ were received after the recommended holding time had expired.		
Sample(s) _____ were received in a broken container.		
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)		
20. SAMPLE PRESERVATION		
Sample(s) _____ were further preserved in the laboratory.		
Time preserved: _____ Preservative(s) added/Lot number(s): _____		
VOA Sample Preservation - Date/Time VOAs Frozen: _____		

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-148140-1

Login Number: 148140

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Rystrom, Joshua R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-148140-1

Login Number: 148140

List Number: 2

Creator: Johns, Mary

List Source: Eurofins TestAmerica, St. Louis

List Creation: 05/05/21 03:19 PM

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

Tracer/Carrier Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Valmont

Job ID: 280-148140-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba (40-110)					
280-148140-1	MW-11	63.4					
280-148140-2	MW-18	62.8					
280-148140-3	MW-19B	73.6					
280-148140-4	MW-21	85.0					
280-148140-5	MW-17	71.8					
280-148140-6	MW-17D	75.7					
280-148140-7	MW-16	70.9					
280-148140-8	MW-20	67.6					
280-148140-9	MW-14	71.2					
280-148140-10	MW-9	79.6					
LCS 160-509259/1-A	Lab Control Sample	74.5					
LCS 160-509356/1-A	Lab Control Sample	80.5					
LCSD 160-509259/2-A	Lab Control Sample Dup	78.7					
MB 160-509259/23-A	Method Blank	55.0					
MB 160-509356/24-A	Method Blank	76.9					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)				
280-148140-1	MW-11	63.4	75.1				
280-148140-2	MW-18	62.8	80.4				
280-148140-3	MW-19B	73.6	78.9				
280-148140-4	MW-21	85.0	80.4				
280-148140-5	MW-17	85.0	87.5				
280-148140-6	MW-17D	75.7	80.4				
280-148140-7	MW-16	70.9	69.9				
280-148140-8	MW-20	67.6	74.0				
280-148140-9	MW-14	71.2	88.2				
280-148140-10	MW-9	79.6	77.0				
LCS 160-509265/1-A	Lab Control Sample	74.5	75.1				
LCS 160-509365/1-A	Lab Control Sample	80.5	89.0				
LCS 160-512445/1-A	Lab Control Sample	9.35 X	86.0				
LCSD 160-509265/2-A	Lab Control Sample Dup	78.7	76.6				
MB 160-509265/23-A	Method Blank	55.0	80.0				
MB 160-509365/24-A	Method Blank	76.9	87.1				
MB 160-512445/22-A	Method Blank	76.6	86.7				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							