

September 6, 2023

Mr. Lucas West
Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
lucas.west@state.co.us

Subject: Stockpile Sampling Report, Butala Sand and Gravel, 9000 CR 152, Salida, Colorado 81201

Dear Mr. West:

In accordance with the Colorado Division of Reclamation, Mining, and Safety (DRMS) request, please accept this document as Butala Sand and Gravel's (Butala's) Stockpile Sampling Report (the Report). The Report documents the sampling program, which evaluated stockpiles for constituents of concern (COCs) originating from the Smeltertown Superfund Site, Operable Unit 2, Former Koppers Wood Treatment Facility, Salida Colorado (OU2). *Revision 1 to Stockpile Sampling Plan*, Butala Sand and Gravel, 9000 CR 152, Salida, Colorado 81201 (the Plan), dated July 28, 2023, was approved by DRMS on August 4, 2023. Throughout the remainder of this document, the Butala Sand and Gravel Mine, located at the address provided above, is referenced as "the Mine."

Introduction

As part of the Superfund action, and in accordance with the Record of Decision (ROD) for OU2, the COCs for soil included the following polycyclic aromatic hydrocarbons (PAHs):

- Benzo(a)anthracene – B(a)a
- Benzo(a)pyrene – B(a)p
- Benzo(b)fluoranthene – B(b)f
- Dibenzo(a,h)anthracene – D(a,h)a
- Indeno(1,2,3-cd)pyrene – I(1,2,3-cd)p
- Pentachlorophenol – PCP

The following dioxin compounds were also included as COCs:

- Dibenzo-p-dioxin (HpCDD)
- Hexachlorodibenzo-p-dioxin (HxCDD)
- Hexachlorodibenzofuran (HxCDF)
- Octachlorodibenzodioxin (OCDD).

The dioxin compounds were evaluated during the OU2 remedial investigation and were analyzed in samples that contained detectable concentrations of PCP. The results were then evaluated as part of the Smeltertown sitewide Human Health Baseline Risk Assessment (RA) prepared by CH2M Hill, dated April 1995. The RA evaluated a long list of potential COCs including 17 PAH compounds, PCP, 7 dioxin compounds, 22 polychlorinated biphenyl (PCB)/pesticide compounds, and 23 different metals. The potential ingestion of the PAH compound B(a)p was shown to contribute to the overall surface soil cancer risk. Arsenic was also a major contributor to the risk and hazard indices in the exposure pathways evaluated; however, studies conducted by

Pinyon since this RA have suggested that the arsenic in soil at and near the Mine is naturally occurring, is within common background levels in Colorado, and is not associated with spills or releases that occurred on OU2.

As part of other ongoing soil sampling programs being conducted by Butala on the adjacent Vista Del Rio Subdivision (VDR), the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) required analysis of the above referenced PAH compounds and PCP but did not require analysis of the dioxin compounds. That study, and a study of drainage ditches on the Butala property found no significant or wide-spread metals concentrations in near surface soil and sediment. For these reasons, the dioxin compounds and metals were not included as part of the DRMS-approved Plan.

Project Objectives and Problem Definition

The data collected was used to evaluate the concentrations of COCs in stockpiles located at the Mine, and only from material that was produced on-Mine and not imported from an outside source. The laboratory measured COC concentrations were compared against residential screening levels (RSLs) that were approved by EPA and CDPHE (the Agencies) as part of the VDR Soil Sampling and Analysis Plan. The COCs and RSLs are listed below in Table I.

Table I. Constituents of Concern and Residential Soil Screening Levels

Chemical of Concern	RSL Residential (mg/kg)	MDL (mg/kg)	RDL (mg/kg)	Lab Method
Pentachlorophenol	1.0	0.0186	0.330	8270D
Benzo(a)anthracene	1.1	0.000493	0.00067	8270D SIM
Benzo(a)pyrene	0.11	0.000468	0.00067	
Benzo(b)fluoranthene	1.1	0.000585	0.00067	
Benzo(k)fluoranthene	11	0.000437	0.00067	
Chrysene	110	0.000624	0.00067	
Dibenzo(a,h)anthracene	0.11	0.000614	0.00067	
Indeno(1,2,3-c,d)pyrene	1.1	0.000627	0.00067	
Naphthalene	2.0	0.000484	0.00067	

Notes: RSL = Environmental Protection Agency Regional Screening Level, based on target hazard quotient (THQ) of 1.0 and a cancer risk of 1×10^{-6} for applicable constituents. If a cancer risk RSL is not provided, the most conservative/lowest non-cancer child index concentration was used.

MDL = Minimum detection limit

RDL = Reliable detection limit

mg/kg = milligrams per kilogram

The overall decision to be made based on the data obtained is to evaluate whether any stockpiled material that was mined, screened and/or crushed, and prepared for sale at the Mine, is impacted by COCs. Impact is defined as:

- Material with particle sizes 1-inch or smaller, where representative sampling and appropriate laboratory analyses indicated one or more COC concentrations exceeded an RSL.
- Material with particle sizes 1-inch or larger, that would not fit in a 4-ounce wide mouth glass sample jar, and was visually inspected and observed to contain black tar like staining and a typical creosote type odor.

A representative sample is defined as a composite, collected using the 5-point sampling method described below, of material with a particle size less than 1-inch. The visual inspection process, for material with a particle size greater than 1-inch, is also described in the next section.

Sampling Program Description

The stockpile locations, identification numbers, and approximate volumes, for material produced at the Mine, are identified on Figure 1. In addition, there are various small piles of materials such as surge piles from the processing plant, materials staged to top off trucks, and materials that have been washed to remove fines. These piles are depicted on Figure 2. The material volumes were estimated using aerial photogrammetry and LiDAR imagery that was collected on May 28, 2023. These piles were managed as follows:

- Surge piles contain materials dropping off of conveyers from the plant. These materials are collected and moved to stockpiles. The materials in the surge piles are typically 1 inch or greater. Therefore, the current surge piles were inspected to evaluate whether creosote is present, but samples were not collected.
- Small piles maintained for topping off trucks were visually inspected if the materials were greater than 1 inch. For materials 1 inch or smaller, one composite sample was collected from each pile or bin.
- The crushed slag piles have been in place for 25 or more years, are consistent in size to historical satellite imagery, and visibly are distinctly different material than the gravels and sands. Therefore, it is clear that Mine Restricted Area materials were not moved to these locations and no samples were collected from these piles.
- There are several material stockpiles that have been imported from outside sources. Those material locations and volumes are depicted on Figure 2. These imported materials are assumed to be free of creosote and were not sampled.
- A small amount of sediment removed from settling ponds is also located at the Mine (Figure 2). This material was not sampled.

Visual Observation

Examples of visually identified impacted materials are provided in the following photographs:



Boulder in photo is greater than 20-inches long



Boulder in the photo is 8 to 20-inch category

The two examples provided above were observed on the west side of the Mine Restricted Area (MRA) and were used as visual and olfactory reference under the “Looks Bad, Smells Bad” (LBSB) protocol. The staining observed on the rocks provides a good example of the color, texture, and odor related to the creosote impacts encountered in the MRA.

Initially at each stockpile, using the LBSB protocol, Pinyon field staff visually observed the material for obvious signs of impact. If no signs of impact were observed, the stockpiles gradation and approximate volume was field checked against the information presented on Figure 1 and Figure 2. After positive identification of each stockpile, and verification of particle size(s), stockpiles containing materials greater than 1-inch were visually inspected and photo documented. This included stockpiles 13, 14, 15, 16, 18, 19, 23, and 24 (Figure 1); and stockpiles 110, 111, 112, and 115 (Figure 2).

Stockpiles 13, 14, 15, and 19 were visually evaluated on June 20, 2023; while stockpiles 6, 18, 23, 24, 109d, 109e, 109f, 110, 111, 112, and 115 were evaluated on August 10, 2023. The June 20, 2023 results were presented in the *Submittal of Observations and Findings, Inspection of Stockpiles with Material Larger than 1-Inch Diameter*, Butala Sand and Gravel, 9000 CR 152, Salida, Colorado 81201, dated June 23, 2023. The June 20, 2023 results are also summarized in Table 1. Photographs and field documentation for the visual inspection of stockpiles 6, 18, 23, 24, 109d, 109e, 109f, 110, 111, 112, and 115 are provided on the photo logs presented in Attachment 1. For convenience, photographs presented in the June 20, 2023 letter report are also presented in Attachment 1.

Stockpile Sampling – 5-Point Composite Samples

The following stockpiles were sampled using the methods outlined below: 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 17, 20, 21, 22 (Figure 1); 113 and smaller gradation materials (less than 1 inch) in 109 (Figure 2). The number of composite samples collected from an individual stockpile was determined based on volume as follows:

- Up to 1,000 cubic yards (yd³) – 1 composite sample. This included stockpiles 2, 20, and 113; and bins 109a, 109b, and 109c.
- 1,000 yd³ to 10,000 yd³ – 2 composite samples. This included stockpiles 3, 4, 6, 7, 8, 9, 10, 11, 12, 16, 17, and 21.
- 10,000 yd³ to 100,000 yd³ – 3 composite samples. This included stockpiles 1 and 22.

Each composite sample included five aliquots. For the small stockpiles (less than 1,000 yd³), four of the aliquots were collected from the top to the bottom of each side of the stockpile. For the larger stockpiles (greater than 1,000 yd³), where more than one composite sample was collected, the stockpile was segregated into equally sized sections. For example, a 20,000 yd³ stockpile (in the 10,000 yd³ to 100,000 yd³ category) was divided into three equally sized sections. The sections began from the base of the stockpile and extend to the top. In each section, four aliquot samples were collected from the bottom to the top of the stockpile. These four aliquot samples were collected from 0 to 12-inches below the stockpile surface.

The fifth aliquot for each composite sample was collected with the assistance of an excavator. The excavator dug into the stockpile/section as far as practical, without creating caving or collapse safety concerns, or without affecting the integrity of other stockpile sections being sampled. The fifth aliquot sample was then collected from the material that was removed from the interior of the pile.

Field judgement was used to select the five aliquot sample locations, due to variations in stockpile sizes and shapes. The intent was to include all portions of the stockpile or stockpile section in the composite sample. Additionally, all sample collection, decontamination, handling, transportation, and documentation procedures described in the Plan were followed.

At each aliquot location, one soil sample was collected. The sample was placed in a 4-ounce wide mouth glass sample jar and sealed. The jars were labeled and temporarily held in cold storage. Once all five aliquots were collected, the jars were dumped into a decontaminated metal mixing bowl and thoroughly mixed/homogenized. From this mixture, the composite sample for that stockpile or stockpile section was collected using new/clean additional sample jars.

Field data collected at the time of sample collection are presented on the individual soil sampling forms presented in Attachment 2.

Sample Labeling

Individual aliquot sample naming protocols were as follows:

- Project Indicator: BSP – Butala Stockpile
- Sample Type: SS = Soil; BD = Blind Duplicate; RB = Rinse Water Blank
- Sample Location/Sequence: Stockpile number (e.g., 1, 2, 3, etc.); ## = Sequential number of specific QA/QC type (e.g., BD01)
- Sample Date: YYYYMMDD
- Aliquot sample in sequence (1 through 5)

For example, an aliquot sample collected on July 1, 2023, from Stockpile 6 for aliquot sample 2 of 5 would be labeled as BSP-SS-06-20230701-2. A blind duplicate sample collected from stockpile 8 for aliquot sample 1 out of 5 would be documented as such in the field logbook, then labeled as BSP-BD01-20230701.

The composite samples were labeled as follows:

- Project Indicator: BSP
- Sample Type: SS = Soil and BD = Blind Duplicate
- Sample Location/Sequence: Stockpile number (e.g., 1,2,3, etc.); ## = sequential number of specific QA/QC sample type (e.g., BD01)
- Sample Date: YYYYMMDD
- Stockpile Section Number: (e.g., 1, 2, or 3) pending the size and overall stockpile volume and the number of sections/samples required.

For example, a composite sample collected on July 1, 2023, stockpile 6 (20,000 yd³, translating into 3 stockpile sections and 3 separate composite samples), section 2, would be labeled as follows: BSP-SS-06-20230701-02. Following collection, the composites were maintained in cold storage and under chain of custody documentation while in transit to the project laboratory.

Laboratory Analysis and Quality Assurance/Quality Control Sampling

The project laboratory is Origins Laboratory, Inc., located in Denver, Colorado. The laboratory analyzed each composite sample for PAH/PCP COCs using the analytical methods summarized in Table I. The samples were submitted and analyzed within allowable holding times. Laboratory reports and chain of custody documentation is presented in Attachment 3.

Quality Assurance/Quality Control (QA/QC) sampling included one blind duplicate sample. Additionally, 1 rinse water blank sample was collected each day of stockpile sampling. The blind duplicate and rinse water samples were analyzed for the same COCs as summarized in Table I.

Data Validation

Pinyon performed Tier II data validation, in accordance with EPA guidance. This process indicates that the data contained in this report is valid and usable. The Data Validation Memo is presented in Attachment 4.

A total of one field duplicate sample (BSP-BD-01-20230809) was collected and analyzed. This is a duplicate of primary sample BSP-SS-11-20230809-1. The approved Sampling and Analysis Plan states one blind duplicate will be collected for every 20 primary samples. The field team collected one duplicate sample for the first 20 samples and then did not collect an additional duplicate sample because less than 40 primary samples were collected. This does not affect the usability or validity of the data.

Disposal Of Residual Materials

Residual stockpile material remaining after all sample containers were filled was placed back onto the sampled stockpile.

Visual Observation and Composite Sample Results

The visual inspection and composite sample laboratory results are summarized in Table 1.

The visual inspections for stockpiles 13, 14, 15, 16, 18, 19, 23, 24, 109d, 109e, 109f, 110, 111, 112, and 115 did not identify impact; therefore, these stockpiles are considered suitable for sale and unrestricted use.

COCs were not detected at concentrations exceeding the applicable screening levels in stockpiles 1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 17, 109a, 109b, 109c, and 113; therefore, these stockpiles are considered suitable for sale and unrestricted use.

The laboratory analysis for stockpiles 9 (composite sample 2), 20, 21 (composites 1 and 2), and 22 (composites 1, 2, and 3) each contained concentrations of at least one PAH compound exceeding an RSL. These data suggest that the stockpiles are considered impacted as defined in the Plan. The following is noted about these specific stockpiles:

- Stockpile 9 is topsoil, removed from the land surface prior to mining. Benzo(a)pyrene was detected at 0.114 milligrams per kilogram (mg/kg), which is 0.004 mg/kg over the RSL. The soil has been stored for reclamation following mining cessation. It is probable that the PAH impact was present prior to the soil's original removal and stockpiling and is the result of on-property historic wood treatment and/or smelter operations.
- Stockpile 20 is contaminated material from the 2022 mining activities in the Mine Restricted Area. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene were detected above the RSLs.
- Stockpiles 21 and 22 are both roadbase. Benzo(a)pyrene was detected above the RSL in all composite samples. Concentrations ranged from 0.185 to 0.765 mg/kg. The RSL is 0.11 mg/kg.

Please contact the undersigned if you have questions or require additional information.

Sincerely,

Pinyon Environmental, Inc.



Darin Worden
Senior Hydrologist

cc: Scott Clark, Burns, Figa & Will, P.C.
Charles Kellerman, Butala

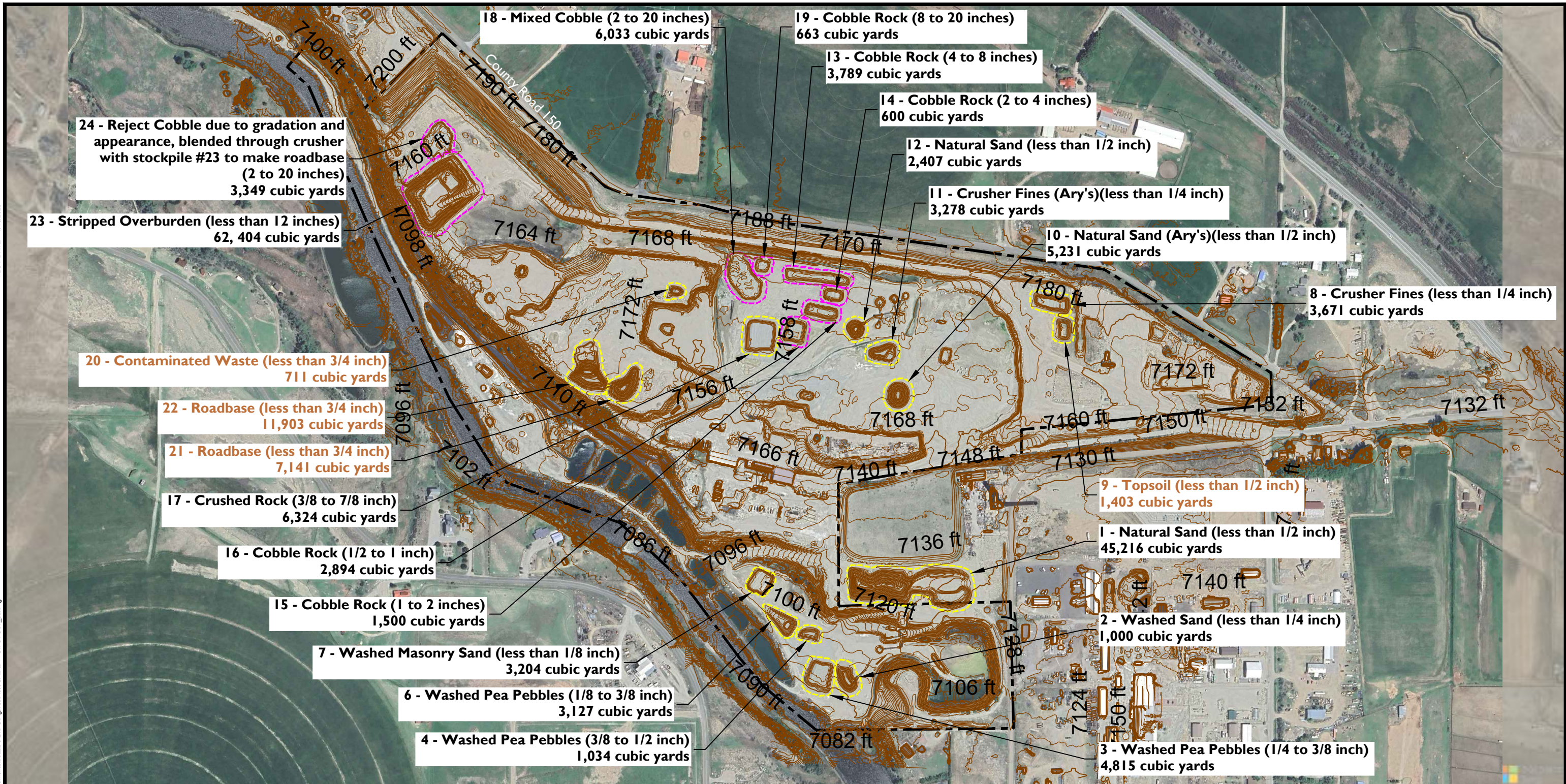
File Location: <https://pinyonenvl.sharepoint.com/sites/VistaDelRioTeam/Shared Documents/Butala S and G/Stockpile Sampling/Stockpile Sampling Report/Butala Stockpile Sampling Report - 20230823.docx>

Figures



PLOT DATE: 7/18/2023

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LEGEND

Approximate Butula Sand and Gravel Property Boundary

Sampled Stockpile Locations

Visually Evaluated Stockpile Locations

2 foot Existing Contours

Colored text indicates "impacted" material

Notes:
Imagery Curtsey of Google Earth Imagery: May, 2023
Stockpile #5 to be determined.

0450'900'

SCALE: 1" = 450'

Pinyon

Environmental, Inc.

BUTALA STOCKPILE LOCATIONS

Butala Sand & Gravel
Salida, Colorado

Drawn By: SJA

Figure: 1

Reviewed By: DW

Date: 7/18/2023

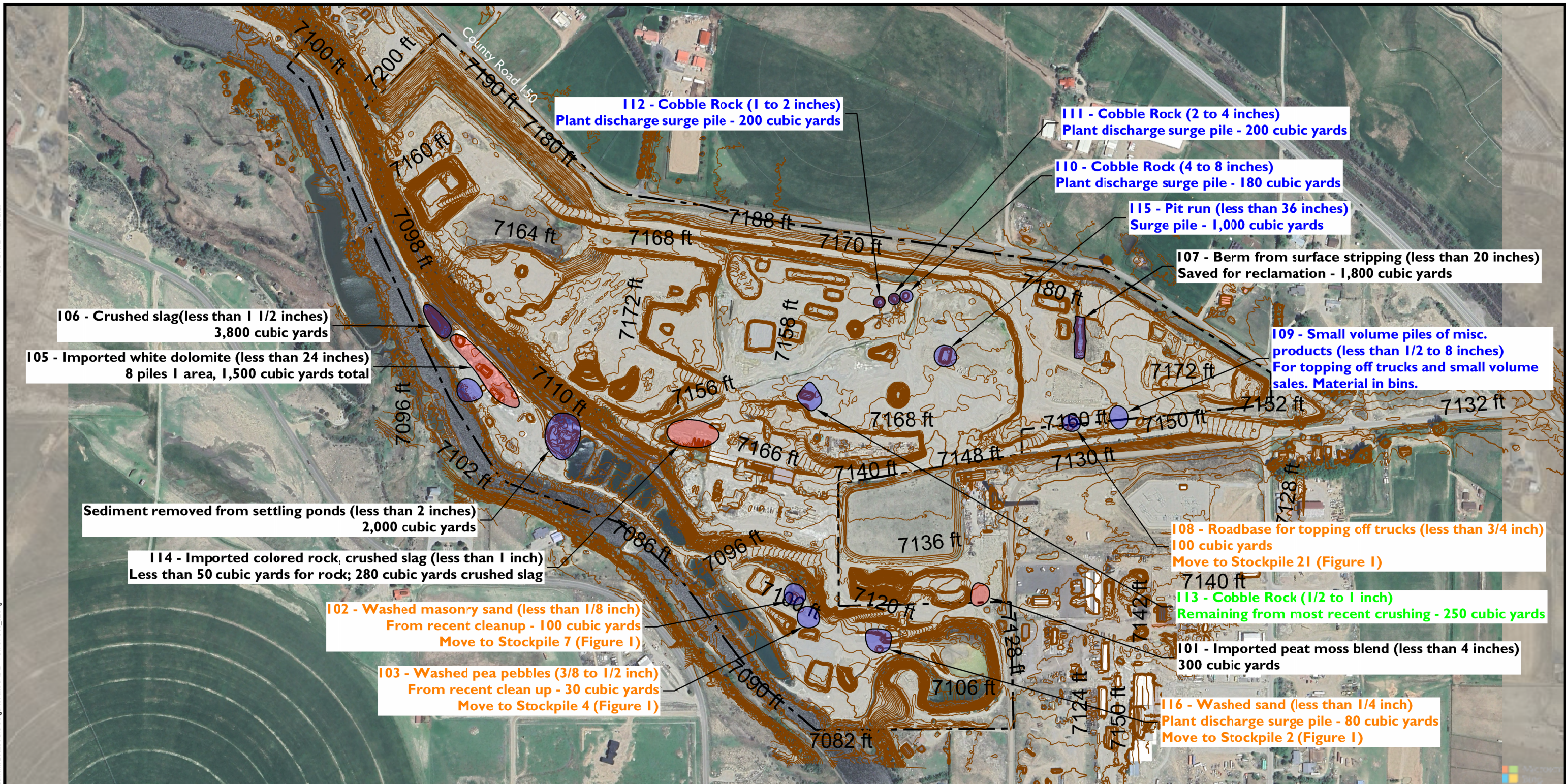
Site Location: Section 25, T 50N, R 8E, New Mexico Meridian

Pinyon Project Number: 1/22-1507-01.001

Coordinate System: NAD83 COLORADO STATE PLANES, SOUTH ZONE, US FOOT - CO83-SF

PLOT DATE: 7/26/2023

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LEGEND	2 foot Existing Contours	xxx Stockpiles that will not be sampled or moved.
Approximate Butula Sand and Gravel Property Boundary	xxx Stockpile will be visually inspected if greater than 1 inch. One composite sample will be collected if the material is less than 1 inch.	Notes: Imagery Curtsey of Google Earth Imagery: May, 2023 In-process materials are either not sold or primary stockpiles will be sampled or visually evaluated.
Stockpile of Imported Material	xxx Temporary Stockpiles that will be moved to Primary Stockpile.	
Small Stockpiles of in-process Materials, or Materials from Operation Activities	xxx Stockpiles that will be sampled.	
<div>Site Location: Section 25, T 50N, R 8E, New Mexico Meridian</div> <div>Pinyon Project Number: 1/22-1507-01.001</div> <div> SCALE: 1" = 450'</div>		
<div> TEMPORARY AND IMPORT MATERIAL STOCKPILES Butala Sand & Gravel Salida, Colorado</div>		
Drawn By: SJA		Figure: 2
Reviewed By: DW		Date: 7/26/2023

Table

TABLE I - Summary of Stockpile Visual Inspection and Sampling
Butala Sand and Gravel, Salida, Colorado

Stockpile Number	Material Description (inches)	Approximate Volume (cubic yards)	Visual Inspection (V), Sampled (S), Imported (I), Not Sampled (NS), or Surge Pile (SP)	Sample Identification	Sample or Visual Inspection Date	Polyaromatic Hydrocarbons (mg/kg)								PCP (mg/kg)
						Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Pentachlorophenol (mg/kg)
Residential Screening Level (mg/kg):						1.1	0.11	1.1	11	110	0.11	1.1	2	1.0
1	Natural Sand (<0.50)	45,216	S	BSP-SS-01-20230809-1	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
				BSP-SS-01-20230809-2	08/09/23	<0.0003	<0.001	0.006 J	0.003 J	0.008 J	0.003 J	0.005 J	<0.0008	<0.018
				BSP-SS-01-20230809-3	08/09/23	<0.0003	0.002 J	<0.0003	<0.0004	0.004 J	<0.0008	0.003 J	<0.0008	<0.018
2	Washed Sand (<0.25)	1,000	S	BSP-SS-02-20230809-1	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
3	Washed Pea Pebbles (0.25 to 0.375)	4,815	S	BSP-SS-03-20230809-1	08/09/23	<0.0007	<0.001	<0.0003	<0.0004	<0.0002	<0.002	<0.002	<0.0008	<0.018
				BSP-SS-03-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
4	Washed Pea Pebbles (0.375 to 0.50)	1,034	S	BSP-SS-04-20230809-1	08/09/23	<0.0003	0.006 J	<0.0003	<0.0004	0.003 J	<0.0008	0.003 J	<0.0008	<0.018
				BSP-SS-04-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
6	Washed Pea Pebbles (0.125 to 0.375)	3,127	S	BSP-SS-06-20230809-1	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
				BSP-SS-06-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
7	Washed Masonry Sand (< 0.125)	3,204	S	BSP-SS-07-20230809-1	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
				BSP-SS-07-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
8	Crusher Fines (<0.25)	3,671	S	BSP-SS-08-20230809-1	08/09/23	0.001 J	<0.001	<0.0003	<0.0004	0.003 J	<0.0008	<0.001	<0.0008	<0.018
				BSP-SS-08-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
9	Top Soil (<0.50)	1,403	S	BSP-SS-09-20230809-1	08/09/23	0.028	0.059	0.082	0.034	0.087	0.014 J	0.057	0.006	<0.018
				BSP-SS-09-20230809-2	08/09/23	0.068	0.114	0.146	0.058	0.168	0.022	0.114	0.011	<0.018
10	Natural Sand (<0.50)	5,231	S	BSP-SS-10-20230809-1	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	0.004 J	<0.0008	0.014 J	<0.0008	<0.018
				BSP-SS-10-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
11	Crusher Fines (<0.25)	3,278	S	BSP-SS-11-20230809-1	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	0.002 J	<0.002	<0.002	<0.0008	<0.018
				BSP-BD-01-20230809	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	0.0002 J	<0.0008	<0.001	<0.0008	<0.018
				BSP-SS-11-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	0.0008 J	<0.0008	<0.001	<0.0008	<0.018
12	Natural Sand (<0.50)	2,407	S	BSP-SS-12-20230809-1	08/09/23	<0.0003	<0.002	<0.0003	<0.0004	<0.0002	<0.002	<0.002	<0.0008	<0.018
				BSP-SS-12-20230809-2	08/09/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
13	Cobble Rock (4 to 8)	3,789	V	Stockpile 13	06/20/23	No visual or olfactory indication of impact was identified								

TABLE I - Summary of Stockpile Visual Inspection and Sampling
Butala Sand and Gravel, Salida, Colorado

Stockpile Number	Material Description (inches)	Approximate Volume (cubic yards)	Visual Inspection (V), Sampled (S), Imported (I), Not Sampled (NS), or Surge Pile (SP)	Sample Identification	Sample or Visual Inspection Date	Polyaromatic Hydrocarbons (mg/kg)								PCP (mg/kg)
						Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Pentachlorophenol (mg/kg)
						Method 8270D SIM								Method 8270D
Residential Screening Level (mg/kg):						1.1	0.11	1.1	11	110	0.11	1.1	2	1.0
14	Cobble Rock (2 to 4)	600	V	Stockpile 14	06/20/23	No visual or olfactory indication of impact was identified								
15	Cobble Rock (1 to 2)	1,500	V	Stockpile 15	06/20/23	No visual or olfactory indication of impact was identified								
16	Cobble Rock (0.50 to 1)	2,894	V	Stockpile 16	08/10/23	No visual or olfactory indication of impact was identified								
17	Crushed Rock (0.375 to 0.875)	6,324	S	BSP-SS-17-20230810-1	08/10/23	<0.0003	<0.001	<0.0003	<0.0004	0.002 J	<0.0008	<0.001	<0.0008	<0.018
				BSP-SS-17-20230810-2	08/10/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
18	Mixed Cobble (2 to 20)	6,033	V	Stockpile 18	08/10/23	No visual or olfactory indication of impact was identified								
19	Cobble Rock (8 to 20)	663	V	Stockpile 19	06/20/23	No visual or olfactory indication of impact was identified								
20	Contaminated Waste (<0.75)	711	S	BSP-SS-20-20230810-1	08/10/23	9.90	10.2	9.65	4.67	16.6	1.26	5.15	0.022	<0.186
21	Roadbase (<0.75)	7,141	S	BSP-SS-21-20230810-1	08/10/23	0.119	0.185	0.159	0.071	0.217	0.027	0.134	0.004	<0.018
				BSP-SS-21-20230810-2	08/10/23	0.636	0.765	0.628	0.323	0.930	0.099	0.407	0.012	<0.018
22	Roadbase (<0.75)	11,903	S	BSP-SS-22-20230810-1	08/10/23	0.545	0.461	0.394	0.203	1.51	0.065	0.277	0.011	<0.018
				BSP-SS-22-20230810-2	08/10/23	0.825	0.683	0.571	0.295	2.90	0.090	0.345	0.016	<0.018
				BSP-SS-22-20230810-3	08/10/23	0.456	0.580	0.399	0.192	1.72	0.058	0.303	0.016	<0.018
23	Stripped Overburden (<12)	62,404	V	Stockpile 23	08/10/23	No visual or olfactory indication of impact was identified								
24	Reject Cobble (2 to 20)	3,349	V	Stockpile 24	08/10/23	No visual or olfactory indication of impact was identified								
101	Peat Moss Blend	300	I - NS	Material imported from off-site and was not subject to inspection or sampling										
102	Washed Masonry Sand (< 0.125)	100	S	Material produced from recent cleanup and was moved to Stockpile 7 prior to its sampling										
103	Washed Pea Pebbles (0.375 to 0.50)	30	S	Material produced from recent cleanup and was moved to Stockpile 4 prior to its sampling										
105	White Dolomite (<24)	1,500	I - NS	Material imported from off-site and was not subject to inspection or sampling										
106	Crushed Slag (<1.50)	3,800	NS	Remnant of former smelting operations and was not subject to inspection or sampling										

TABLE I - Summary of Stockpile Visual Inspection and Sampling
Butala Sand and Gravel, Salida, Colorado

Stockpile Number	Material Description (inches)	Approximate Volume (cubic yards)	Visual Inspection (V), Sampled (S), Imported (I), Not Sampled (NS), or Surge Pile (SP)	Sample Identification	Sample or Visual Inspection Date	Polyaromatic Hydrocarbons (mg/kg)								PCP (mg/kg)
						Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Pentachlorophenol (mg/kg)
						Method 8270D SIM								Method 8270D
Residential Screening Level (mg/kg):						1.1	0.11	1.1	11	110	0.11	1.1	2	1.0
107	Stripped Surface Soil (<20)	1,800	NS	Material not produced from Mine Restricted Area and was not identified for inspection or sampling										
108	Roadbase (<0.75)	100	S	Material staged to top off trucks and was moved to Stockpile 21 prior to its sampling										
109a	Crushed Rock (<1)	100	S	BSP-SS-109a-2023010-I	08/10/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
109b	Natural Sand (<0.50)	100	S	BSP-SS-109b-2023010-I	08/10/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
109c	Crushed Rock (<0.50)	100	S	BSP-SS-109c-2023010-I	08/10/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
109d	Cobble Rock (>1)	100	V	Stockpile 109d	08/10/23	No visual or olfactory indication of impact was identified								
109e	Cobble Rock (>1)	100	V	Stockpile 109e	08/10/23	No visual or olfactory indication of impact was identified								
109f	Cobble Rock (>1)	100	V	Stockpile 109f	08/10/23	No visual or olfactory indication of impact was identified								
110	Cobble Rock (4 to 8)	180	V - SP	Stockpile 110	08/10/23	No visual or olfactory indication of impact was identified								
111	Cobble Rock (2 to 4)	200	V - SP	Stockpile 111	08/10/23	No visual or olfactory indication of impact was identified								
112	Cobble Rock (1 to 2)	200	V - SP	Stockpile 112	08/10/23	No visual or olfactory indication of impact was identified								
113	Cobble Rock (0.50 to 1)	250	S	BSP-SS-113-20230810-I	08/10/23	<0.0003	<0.001	<0.0003	<0.0004	<0.0002	<0.0008	<0.001	<0.0008	<0.018
114	Imported Rock and Crushed Slag	50 - Rock 280 - Slag	NS	Material imported from off-site, or remnants of former smelting operations were not subject to inspection or sampling										
115	Pit Run (<36)	1,000	V	Stockpile 115	08/10/23	No visual or olfactory indication of impact was identified								
116	Washed Sand (<0.25)	80	S - SP	Surge Pile moved to Stockpile 2 prior to its sampling										

TABLE I - Summary of Stockpile Visual Inspection and Sampling
Butala Sand and Gravel, Salida, Colorado

Stockpile Number	Material Description (inches)	Approximate Volume (cubic yards)	Visual Inspection (V), Sampled (S), Imported (I), Not Sampled (NS), or Surge Pile (SP)	Sample Identification	Sample or Visual Inspection Date	Polyaromatic Hydrocarbons (mg/kg)								PCP (mg/kg)
						Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Pentachlorophenol (mg/kg)
Residential Screening Level (mg/kg):						1.1	0.11	1.1	11	110	0.11	1.1	2	1.0
Quality Assurance/Quality Control Samples (ug/l)														
Rinse Water Blank		NA	NA	BSP-RB-01-20230809	08/09/23	<0.0113	<0.0124	<0.0083	<0.0165	<0.0082	<0.0066	<0.0144	<0.0196	<2.45
		NA	NA	BSP-RB-02-20230810	08/10/23	<0.0113	<0.0124	<0.0083	<0.0165	<0.0082	<0.0066	<0.0144	<0.0196	<2.45

Notes:

<	less than	>	greater than	BOLD	concentration exceeds residential screening level
V	visually inspected	SP	surge pile	J	Qualifier - Sample result was found between the MDL and RL
S	sampled	mg/kg	milligrams per kilogram	MDL	- Minimum detection limit
I	import material	ug/l	micrograms per liter	RL	- Reporting limit
NS	not sampled	NA	not applicable		

Attachments



Attachment I – Photologs



Sampled Stockpiles

Photos of Sampled Stockpiles

Photo 1.
Stockpile I
Natural Sand



Photo 2.
Stockpile I
Natural Sand



Photos of Sampled Stockpiles

Photo 3.
Stockpile 2
Washed Sand



Photo 4.
Stockpile 2
Washed Sand



Photos of Sampled Stockpiles

Photo 5.
Stockpile 3
Washed Pea
Pebbles



Photo 6.
Stockpile 3
Washed Pea
Pebbles

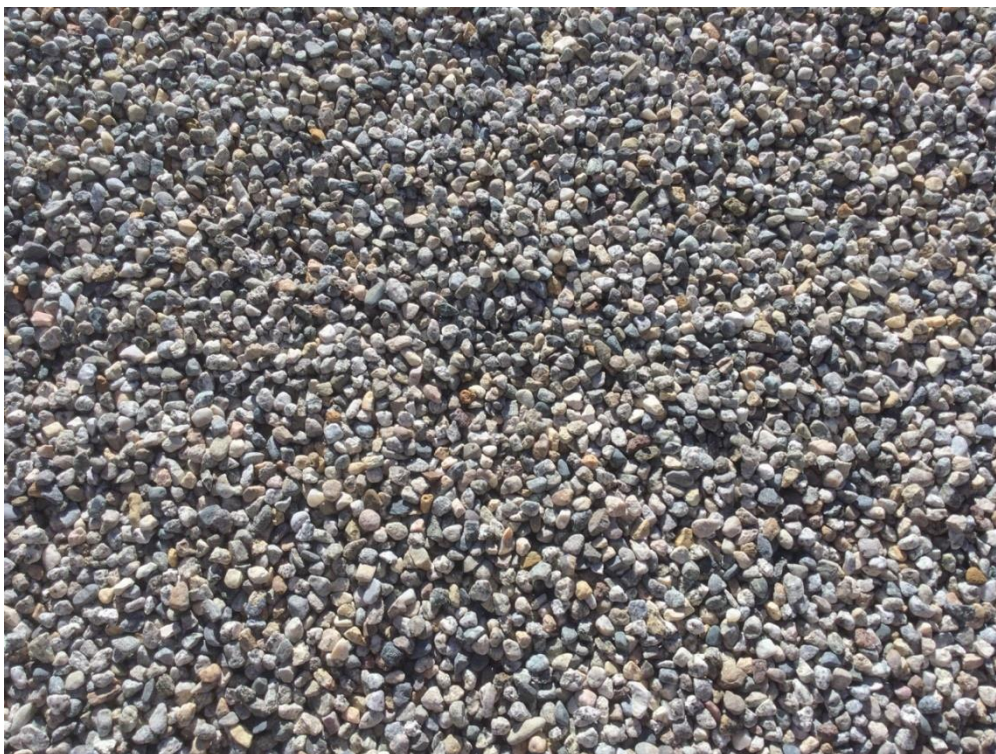


Photos of Sampled Stockpiles

Photo 7.
Stockpile 4
Washed Pea
Pebbles



Photo 8.
Stockpile 4
Washed Pea
Pebbles

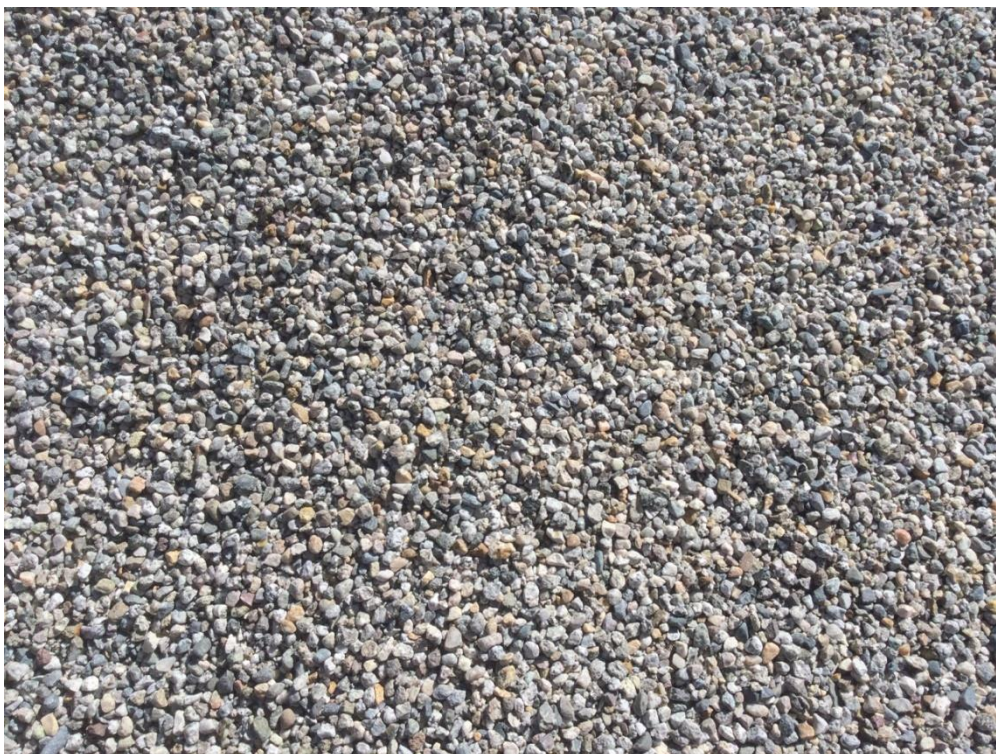


Photos of Sampled Stockpiles

Photo 9.
Stockpile 6
Washed Pea
Pebbles



Photo 10.
Stockpile 6
Washed Pea
Pebbles



Photos of Sampled Stockpiles

Photo 11.
Stockpile 7
Washed
Masonry Sand



Photo 12.
Stockpile 7
Washed
Masonry Sand



Photos of Sampled Stockpiles

Photo 13.
Stockpile 8
Crusher Fines



Photo 14.
Stockpile 8
Crusher Fines



Photos of Sampled Stockpiles

Photo 15.
Stockpile 9
Topsoil



Photo 16.
Stockpile 9
Topsoil



Photos of Sampled Stockpiles

Photo 17.
Stockpile 10
Natural Sand
(Ary's)



Photo 18.
Stockpile 10
Natural Sand
(Ary's)

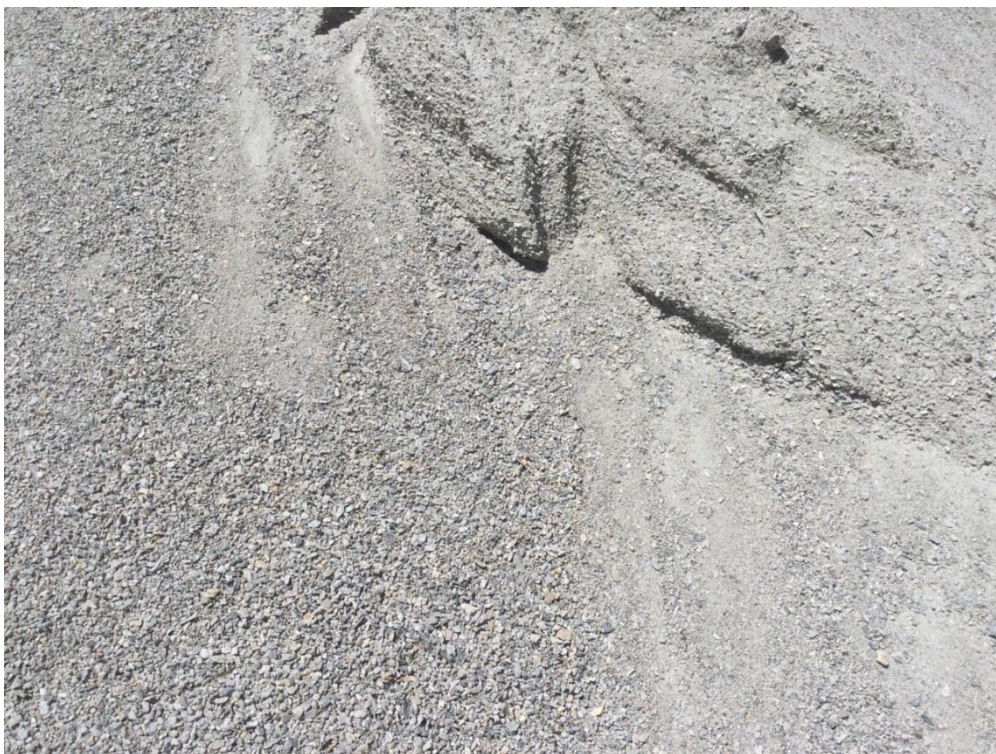


Photos of Sampled Stockpiles

Photo 19.
Stockpile 11
Crusher Fines
(Ary's)



Photo 20.
Stockpile 11
Crusher Fines
(Ary's)



Photos of Sampled Stockpiles

Photo 21.
Stockpile 12
Natural Sand
(less than ½
inch)



Photo 22.
Stockpile 12
Natural Sand
(less than ½
inch)

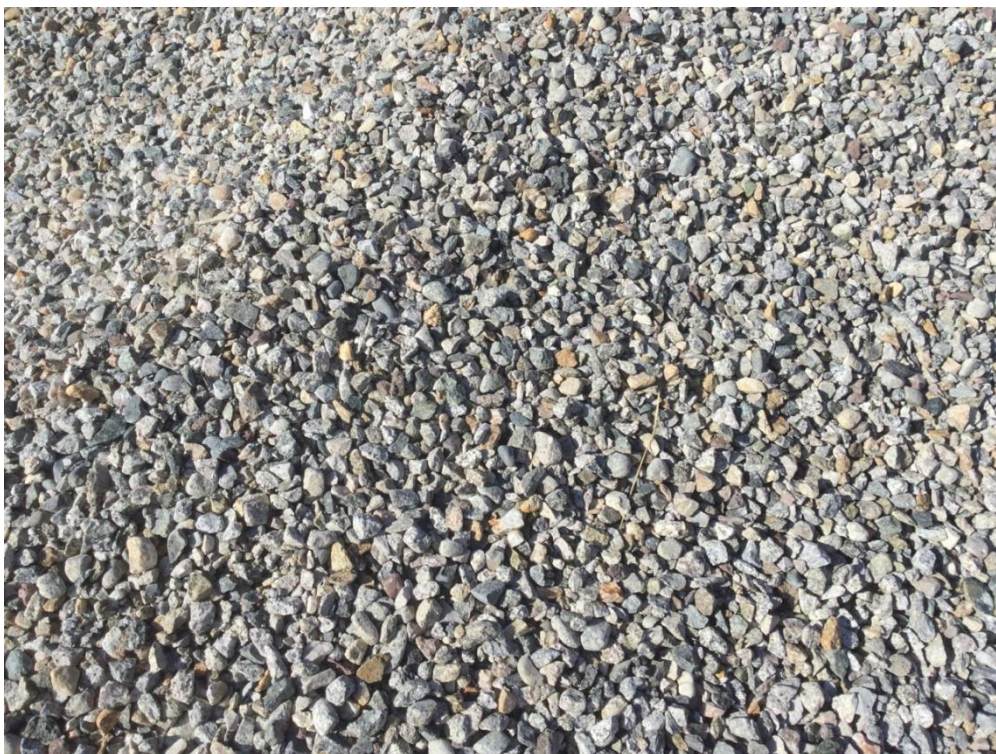


Photos of Sampled Stockpiles

Photo 23.
Stockpile 17
Crushed Rock



Photo 24.
Stockpile 17
Crushed Rock



Photos of Sampled Stockpiles

Photo 25.
Stockpile 20
Contaminated
Waste



Photo 26.
Stockpile 20
Contaminated
Waste

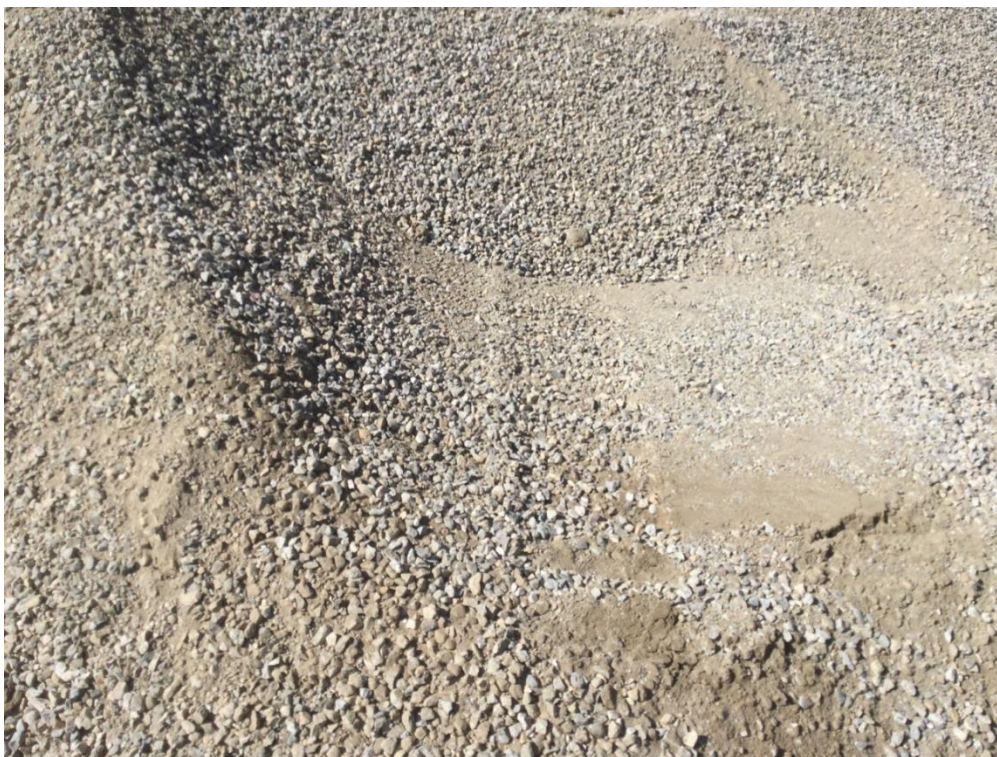


Photos of Sampled Stockpiles

Photo 27.
Stockpile 21
Road base



Photo 28.
Stockpile 21
Road base



Photos of Sampled Stockpiles

Photo 29.
Stockpile 22
Road base



Photo 30.
Stockpile 22
Road base



Photos of Sampled Stockpiles

Photo 31.
Stockpile 109a
Crushed Rock



Photo 32.
Stockpile 109b
Natural Sand



Photos of Sampled Stockpiles

Photo 33.
Stockpile 109c
Crushed Rock



Photos of Sampled Stockpiles

Photo 34.
Stockpile 113
Cobble Rock



Photo 35.
Stockpile 113
Cobble Rock



Visually Inspected Stockpiles from June 20, 2023 Letter Report



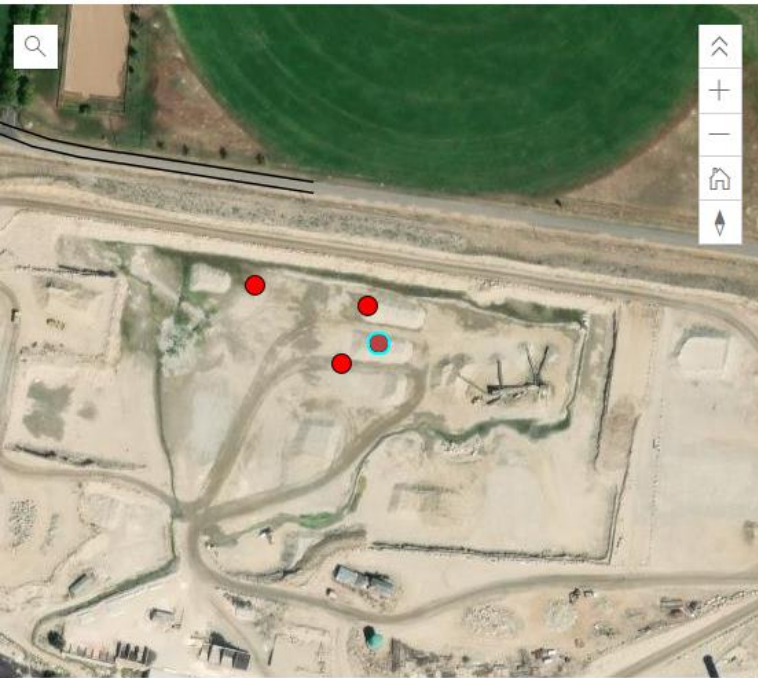


281

Notes

1-2" rock pile. Walk perimeter and observe all sides. Could not access top as slopes are not stable for scrambling. No visual or olfactory indication of contamination. Based on these observations recommended allowing export of media under "LBSB" protocol.





282

Notes

2-4" pile. Walk perimeter of pile. Could not access top of pile due to slope stability. No visual or olfactory indication of impacts to media. Recommend allowing export under "LBSB" protocol.





283

Notes

4-8" pile. Walk perimeter and top of pile. No visual or olfactory indication of impacts to media. Recommend allowing export under "LBSB" protocol.





284

Notes

8-20" pile. Walk perimeter of and top of pile. No visual or olfactory indication of impacts to media. Recommend allowing export under "LBSB" protocol.



August 10, 2023 Visually Inspected Stockpiles



Photos of Visually Inspected Stockpiles

Photo 1.
Stockpile 16
Cobble Rock



Photo 2.
Stockpile 16
Cobble Rock



Photos of Visually Inspected Stockpiles

Photo 3.
Stockpile 18
Mixed Cobble



Photo 4.
Stockpile 18
Mixed Cobble



Photos of Visually Inspected Stockpiles

Photo 5.
Stockpile 23
Stripped
Overburden



Photo 6.
Stockpile 23
Stripped
Overburden



Photos of Visually Inspected Stockpiles

Photo 7.
Stockpile 24
Reject cobble,
due to gradation
and appearance,
blended through
crusher with
Stockpile 23 to
make Road Base



Photo 8.
Stockpile 109d
Cobble Rock



Photos of Visually Inspected Stockpiles

Photo 9.
Stockpile 109e
Cobble Rock



Photo 10.
Stockpile 109f
Cobble Rock



Photos of Visually Inspected Stockpiles

Photo 11.
Stockpile 110
Cobble Rock



Photo 12.
Stockpile 110
Cobble Rock

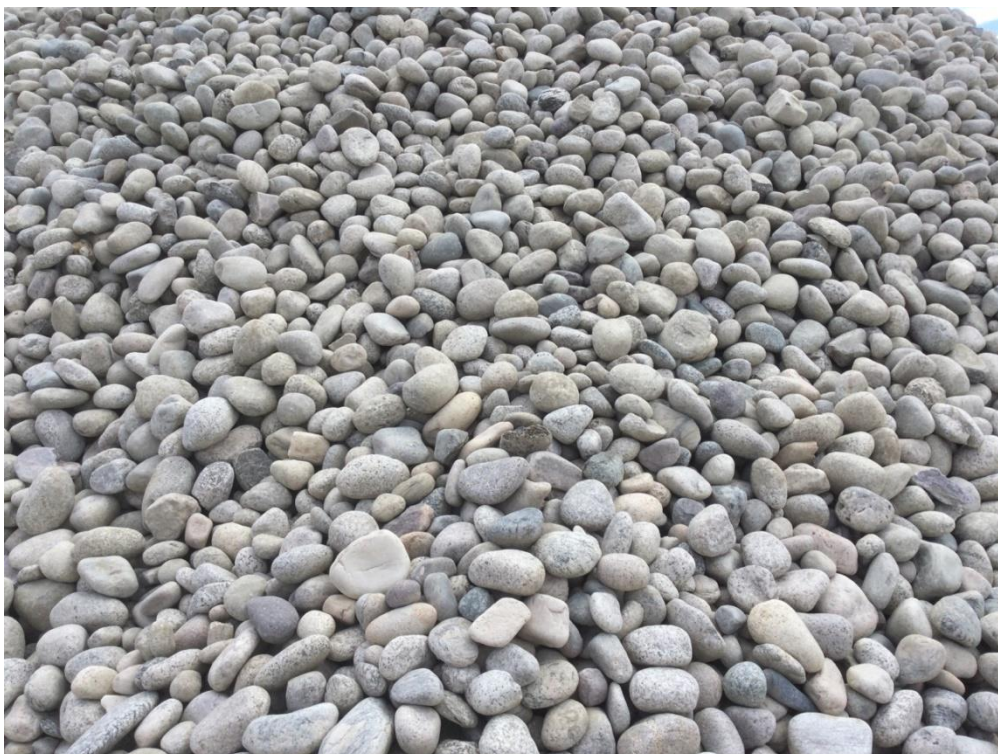


Photos of Visually Inspected Stockpiles

Photo 13.
Stockpile III
Cobble Rock



Photo 14.
Stockpile III
Cobble Rock

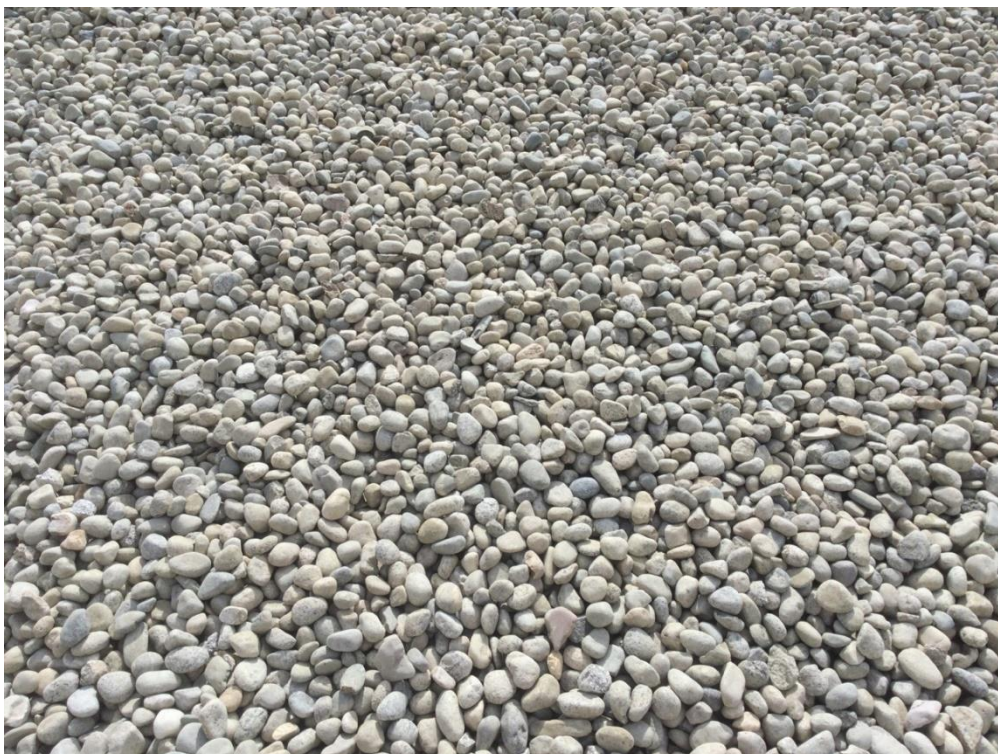


Photos of Visually Inspected Stockpiles

Photo 15.
Stockpile 112
Cobble Rock



Photo 16.
Stockpile 112
Cobble Rock



Photos of Visually Inspected Stockpiles

Photo 17.
Stockpile 115 Pit
Run



Photo 18.
Stockpile 115 Pit
Run



Attachment 2 – Soil Sampling Field Forms



Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: BSP-SS-01-20230809-1, 2 and 3		
Sample Depth:		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: 3		
QA/QC Samples (if yes, for what?): NA		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
<p>Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information:</p> <ul style="list-style-type: none"> - Natural sand, less than 1/2 inch, some occasional gravel - 45,216 yd³ - gray white, tan - no odor or stain <p>BSP-SS-01-1 sampled 1010 BSP-SS-01-2 sampled 1020 BSP-SS-01-3 sampled 1030</p>		



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: SS-02 BSP - SS-02-20230309-1	
Sample Depth: —	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 1	
QA/QC Samples (if yes, for what?): —	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph: <input checked="" type="checkbox"/>	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: LESS THAN 1/4 inch WASHED SAND ~ 1,000 cy. - no odor or stain	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-3-20230801-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?):	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - washed pea pebbles (1/4 to 3/8 in) - 4.815 yd ³ - gray, brown, dry to moist - No stain or odor - BSP-SS-3-1 1050 - BSP-SS-3-2 1055	

Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: BSP-SS-4-20230809-1 and 2		
Sample Depth: —		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: 2		
QA/QC Samples (if yes, for what?):		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - washed pea pebbles (3/8 to 1/2 in) - 1.034 yd ³ - No odor or stain - 1110 Sampled BSP-SS-4-1 - 1120 Sampled BSP-SS-4-2		



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/1/22
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BS-SS-04-20230809-1 L2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?):	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- washed per pebbles (1/8 and 3/8 in)- 3,127 yd³- No odor, no stain	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-07-20220809-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?):	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - wet/masonry sand (less than 1/8 in) - 3204 yd ³ - No odor / No stain	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP SS SS-08-20220809-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?):	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- crusher fines (< 1/4 in)- 3,471 yd³- No odor / No stain	



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Soil Sample Collection Field Form

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Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-09-20230809-1 & 2	
Sample Depth: —	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?):	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: Top soil (less than 1/2 in) - no odor / stain - brown, dry, loose	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP. SS-10-20230809-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?):	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - Natural sand (Avg's) (less than 1/2 in) - dry. tan - no odor/stain	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-11-20230809-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?): Yes, BP-01 from BSP-SS-11-1	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: crusher fines (less than 1/4 in) - grey - no odor, no staining	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-12-20230809-1 8 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?): NA	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - Natural sand (less than 1/2 in) - No odor, no stain	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-13-20230809 (Did not sample)	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: NK	
QA/QC Samples (if yes, for what?): NK	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- Cobble Rock (4-8 inches)- was 3,789 yds- NO stain or odor- did not sample due to size of cobbles	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/9/28
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: stockpile # 19	
Sample Depth:	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: NA	
QA/QC Samples (if yes, for what?): NA	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- rocky rock (8-20 inches)- did not sample- No odor / No staining	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: RSP-SS-16		
Sample Depth: ~		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: N/A		
QA/QC Samples (if yes, for what?): N/A		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- cobble rock (1/2 to 1 in)- Did not sample to follow sampling plan- No odor or staining- some rocks were darker in color, but due to moisture and sand sticking to them		



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-17-20230810-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?): NA	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - crushed rock (3/8 to 7/8 in) - 4,324 yd ³ - no odor/no stain	



Corporate Headquarters
3222 South Vance Street, Suite 200, Lakewood, CO 80227
T: 303.980.5200 F: 303.980.0089
www.pinyon-env.com

Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: stockpile 18		
Sample Depth: -		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: N/A		
QA/QC Samples (if yes, for what?): N/A		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - mixed cobble (2-20 inches) - 6,023 yd ³ - no odor or staining		



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-20-20230810-1	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 1	
QA/QC Samples (if yes, for what?): N/A	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - contaminated waste (less than 3/4 in) - fill yd ³ - dark in color - slight stain, strong hydrocarbon odor	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-21-20230810-1 & 2	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 2	
QA/QC Samples (if yes, for what?): NA	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- Road base (less than 3/4 in)- No odor or staining	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: BSP-SS-22-20230810-1,2 & 3	
Sample Depth: -	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: 3	
QA/QC Samples (if yes, for what?): NA	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - Road base (less than 3/4 in) - no odor, no stain	



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: stockpile 23		
Sample Depth: ✓		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: NK		
QA/QC Samples (if yes, for what?): NK		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: <ul style="list-style-type: none">- ● striped overburden (less than 12 in)- did not sample, but took visual observations- No odor or staining		



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Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP	Sampling Date: 8/0/23
Project Number: 122150701.001 REG003.2	
Soil Sample Identification: 858-55-24	
Sample Depth:	
Sample Collection Method: Stockpile	
Sample Type (grab or composite): Grab for composite	
Number of samples taken from this stockpile: NA	
QA/QC Samples (if yes, for what?): NA	
Sample Containers: 2 x 4oz glass jars	
Preservatives: N/A	
Analyses: PAHs and PCP	
Photograph:	
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - reject cobble - no odor. no stain	

Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: BSP-SS-113-20230810-1		
Sample Depth: ~		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: 1		
QA/QC Samples (if yes, for what?): NA		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information: - (cobble rock (1/2 to 1 in) - 250 yd ³ - No odor, no stain		

Soil Sample Collection Field Form

Pinyon Environmental, Inc.

Project Name: BSP		Sampling Date: 8/10/23
Project Number: 122150701.001 REG003.2		
Soil Sample Identification: BSP-SS-109-20230810-1		
Sample Depth:		
Sample Collection Method: Stockpile		
Sample Type (grab or composite): Grab for composite		
Number of samples taken from this stockpile: 3 (109 a, 109 b, 109 c)		
QA/QC Samples (if yes, for what?):		
Sample Containers: 2 x 4oz glass jars		
Preservatives: N/A		
Analyses: PAHs and PCP		
Photograph:		
Describe soil, identify horizons, approximate grain size, color, odors, staining, or other information:		
<p>109 a - crushed rock (less than ~1 in) - no odor / no stain</p> <p>109 b - natural sand (less than ~1/2 in) - no odor / no stain</p> <p>109 c - crushed rock (less than ~1/2 in) - no odor / no stain</p> <p>109 d - cobble rock (greater than 1 inch)</p> <p>109 e → no odor / no stain</p> <p>109 f →</p>		

Attachment 3 – Laboratory Reports and Chain of Custody Documentation



August 18, 2023

Pinyon

Darin Worden

3222 S. Vance St, Suite 200

Lakewood CO 80227

Project Name - Butala Stockpile (BSP)

Project Number - 121150701.001 REG003

Attached are your analytical results for Butala Stockpile (BSP) received by Origins Laboratory, Inc. August 10, 2023. This project is associated with Origins project number Y308287-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BSP-SS-01-20230809-1	Y308287-01	Soil	August 9, 2023 10:10	08/10/2023 17:45
BSP-SS-01-20230809-2	Y308287-02	Soil	August 9, 2023 10:20	08/10/2023 17:45
BSP-SS-01-20230809-3	Y308287-03	Soil	August 9, 2023 10:30	08/10/2023 17:45
BSP-SS-02-20230809-1	Y308287-04	Soil	August 9, 2023 10:45	08/10/2023 17:45
BSP-SS-03-20230809-1	Y308287-05	Soil	August 9, 2023 10:50	08/10/2023 17:45
BSP-SS-03-20230809-2	Y308287-06	Soil	August 9, 2023 10:55	08/10/2023 17:45
BSP-SS-04-20230809-1	Y308287-07	Soil	August 9, 2023 11:10	08/10/2023 17:45
BSP-SS-04-20230809-2	Y308287-08	Soil	August 9, 2023 11:20	08/10/2023 17:45
BSP-SS-06-20230809-1	Y308287-09	Soil	August 9, 2023 11:30	08/10/2023 17:45
BSP-SS-06-20230809-2	Y308287-10	Soil	August 9, 2023 11:40	08/10/2023 17:45
BSP-SS-07-20230809-1	Y308287-11	Soil	August 9, 2023 11:50	08/10/2023 17:45
BSP-SS-07-20230809-2	Y308287-12	Soil	August 9, 2023 12:00	08/10/2023 17:45
BSP-SS-08-20230809-1	Y308287-13	Soil	August 9, 2023 13:20	08/10/2023 17:45
BSP-SS-08-20230809-2	Y308287-14	Soil	August 9, 2023 13:30	08/10/2023 17:45

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BSP-SS-09-20230809-1	Y308287-15	Soil	August 9, 2023 13:40	08/10/2023 17:45
BSP-SS-09-20230809-2	Y308287-16	Soil	August 9, 2023 13:50	08/10/2023 17:45
BSP-SS-10-20230809-1	Y308287-17	Soil	August 9, 2023 14:30	08/10/2023 17:45
BSP-SS-10-20230809-2	Y308287-18	Soil	August 9, 2023 14:40	08/10/2023 17:45
BSP-SS-11-20230809-1	Y308287-19	Soil	August 9, 2023 15:00	08/10/2023 17:45
BSP-SS-11-20230809-2	Y308287-20	Soil	August 9, 2023 15:10	08/10/2023 17:45
BSP-BD-01-20230809	Y308287-21	Soil	August 9, 2023 0:00	08/10/2023 17:45
BSP-RB-01-20230809	Y308287-22	Water	August 9, 2023 15:45	08/10/2023 17:45
BSP-SS-12-20230809-1	Y308287-23	Soil	August 9, 2023 15:30	08/10/2023 17:45
BSP-SS-12-20230809-2	Y308287-24	Soil	August 9, 2023 15:40	08/10/2023 17:45
BSP-SS-17-20230810-1	Y308287-25	Soil	August 10, 2023 9:10	08/10/2023 17:45
BSP-SS-17-20230810-2	Y308287-26	Soil	August 10, 2023 9:15	08/10/2023 17:45
BSP-SS-20-20230810-1	Y308287-27	Soil	August 10, 2023 9:40	08/10/2023 17:45
BSP-SS-21-20230810-1	Y308287-28	Soil	August 10, 2023 10:00	08/10/2023 17:45

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BSP-SS-21-20230810-2	Y308287-29	Soil	August 10, 2023 10:10	08/10/2023 17:45
BSP-SS-22-20230810-1	Y308287-30	Soil	August 10, 2023 10:30	08/10/2023 17:45
BSP-SS-22-20230810-2	Y308287-31	Soil	August 10, 2023 10:40	08/10/2023 17:45
BSP-SS-22-20230810-3	Y308287-32	Soil	August 10, 2023 10:50	08/10/2023 17:45
BSP-SS-113-20230810-1	Y308287-33	Soil	August 10, 2023 11:10	08/10/2023 17:45
BSP-SS-109a-20230810-1	Y308287-34	Soil	August 10, 2023 11:30	08/10/2023 17:45
BSP-SS-109b-20230810-1	Y308287-35	Soil	August 10, 2023 11:40	08/10/2023 17:45
BSP-SS-109c-20230810-1	Y308287-36	Soil	August 10, 2023 11:50	08/10/2023 17:45
BSP-RB-02-20230810	Y308287-37	Water	August 10, 2023 14:20	08/10/2023 17:45

Sample BSP-SS-12-20230809-1 was run at a dilution for Pentachlorophenol due to a high presence of non-target analytes. The lab is not able to run it at a lower dilution. JEP

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

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page 1 of 4

ORIGINS LABORATORY, INC

Client: Pinyon Environmental
Address: 3222 S Vance St, Lakewood CO
Telephone Number: 303-980-5200
Email Address: worden@pinyon-env.com

Project Manager: Darin Worden
Project Name: Butala Stockpile (BSP)
Project Number: 121150701.001 REG003.2
Samples Collected By: worden@pinyon-env.com

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Groundwater	Soil	Air Summa Canister #	Other		
BSP-SS-01-20230804-1	8/9/23	1010	2					X				Pentachlorophenol 8270D 1
BSP-SS-01-20230804-2		1020										PAH 8270D SIM 2
BSP-SS-01-20230804-3		1030										See attached for PAH compounds 3
BSP-SS-02-20230804-1		1045										4
BSP-SS-03-20230804-1		1050										5
BSP-SS-03-20230804-2		1055										6
BSP-SS-04-20230804-1		1110										7
BSP-SS-04-20230804-2		1120										8
BSP-SS-04-20230804-1		1130										9
BSP-SS-06-20230804-2		1140										10
Relinquished By: <i>[Signature]</i>	Date: 8/10/23	Time: 1745		Received By: EHS	Date: 8/10/23	Time: 1745		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>				
Relinquished By:	Date:	Time:		Received By:	Date:	Time:						

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

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page 2 of 4

Client: Pinyon Environmental
Address: 3222 S Vance St, Lakewood CO
Telephone Number: 303-980-5200
Email Address: worden@pinyon-env.com

Project Manager: Darin Worden
Project Name: Butala Stockpile (BSP)
Project Number: 121150701.001 REG003.2
Samples Collected By: worden@pinyon-env.com

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
BSP-SS-07-20230809-1	8/9/23	1150	2	2				X				Pentachlorophenol 8270D 1
BSP-SS-07-20230809-2		1200										PAH 8270D SIM 2
BSP-SS-08-20230809-1		1320										See attached for PAH compounds 3
BSP-SS-08-20230809-2		1330										
BSP-SS-09-20230809-1		1340										
BSP-SS-09-20230809-2		1350										
BSP-SS-10-20230809-1		1430										
BSP-SS-10-20230809-2		1440										
BSP-SS-11-20230809-1		1500										
BSP-SS-11-20230809-2		1510										

Relinquished By: *the* Date: 8/10/23 Time: 1745
Relinquished By: Date: 8/10/23 Time: 1745

Received By: EHS Date: 8/10/23 Time: 1745
Received By: Date: 8/10/23 Time: 1745

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☒

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon

3222 S. Vance St, Suite 200

Lakewood CO 80227

Darin Worden

Project Number: 121150701.001 REG003.2

Project: Butala Stockpile (BSP)

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Client: Pinyon Environmental

Address: 3222 S Vance St, Lakewood CO

Telephone Number: 303-980-5200

Email Address: worden@pinyon-env.com

Project Manager: Darin Worden

Project Name: Butala Stockpile (BSP)

Project Number: 121150701.001 REG003.2

Samples Collected By: worden@pinyon-env.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air/Summa Canister #	Other			
BSP-BSP-SD-01-20230804	8/9/23	-	2	2					X			X	Pentachlorophenol 8270D 1	
BSP-PB-01-20230804		1545	4	X					X			X	PAH 8270D SIM 2	
BSP-SD-04-20230804		1530	2	2					X			X	See attached for PAH compounds 3	
BSP-SS-13-20230804-2	✓	1510	2	2					X			X	4	
BSP-SS-17-20230810-1	8/10/23	0910	1	1									5	
BSP-SS-17-20230810-2		0915	1	1									6	
BSP-SS-20-20230810-1		0940	1	1									7	
BSP-SS-21-20230810-1		1000	1	1									8	
BSP-SS-21-20230810-2		1010	1	1									9	
BSP-SS-22-20230810-1	✓	1030	1	1					✓			✓	10	
Relinquished By: <i>[Signature]</i>	Date: 8/10/23	Time: 1745		Received By: EHS								Date: 8/10/23	Time: 1745	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>
Relinquished By:	Date:	Time:		Received By:								Date:	Time:	

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Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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Project: Butala Stockpile (BSP)

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Continer #	Other		
BSP-SS-22-20230610-2	8/10/23	1040	2	2				X				X	Pentachlorophenol 8270D 1
BSP-SS-24-2-20230810-3		1050	1	1									PAH 8270D SIM 2
BSP-SS-113-20230810-1		1110	1	1									See attached for PAH compounds 3
BSP-SS-109A-20230810-1		1120											4
BSP-SS-109B-20230810-1		1140											5
BSP-SS-109C-20230810-1	8/10/23	1150	4	4									6
BSP-SS-20230810	8/10/23	1420			X			X				X	7
													8
													9
													10
Relinquished By: <i>dhx</i>	Date: 8/10/23	Time: 1745		Received By: <i>ELHS</i>	Date: 8/10/23	Time: 1745		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>					
Relinquished By:	Date:	Time:		Received By:	Date:	Time:							

Origins Laboratory, Inc.

Jeff Pellgrini

Jen Pellegrini For Noelle Doyle Mathis, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

Table 1. Constituents of Concern and Residential Soil Screening Levels

Chemical of Concern	RSL Residential (mg/kg)	MDL (mg/kg)	RDL (mg/kg)	Lab Method
Pentachlorophenol	1.0	0.0186	0.330	8270D
Benzo(a)anthracene	1.1	0.000493	0.00067	8270D SIM
Benzo(a)pyrene	0.11	0.000468	0.00067	
Benzo(b)fluoranthene	1.1	0.000585	0.00067	
Benzo(k)fluoranthene	1.1	0.000437	0.00067	
Chrysene	1.10	0.000624	0.00067	
Dibenzo(a,h)anthracene	0.11	0.000614	0.00067	
Indeno(1,2,3-c,d)pyrene	1.1	0.000627	0.00067	
Naphthalene	2.0	0.000484	0.00067	

Notes: RSL = Environmental Protection Agency Regional Screening Level, based on target hazard quotient (THQ) of 1.0 and a cancer risk of 1×10^{-6} for applicable constituents. If a cancer risk RSL is not provided, the most conservative/lowest non-cancer child index concentration was used.
MDL = Minimum detection limit
RDL = Reliable detection limit

Table 3. Analytical Method, Containers, Preservation, and Holding Times Requirements

Analytical Parameter and/or Field Measurements	Analytical Method Number	Containers (number, type, size/volume)	Preservation Requirements	Maximum Holding Times
Rinse water for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, naphthalene)	Method 8270E SIM	(2) one-liter amber glass bottles	Unpreserved, Amber colored for light protection, chill to 4°C	7 days
Rinse water for pentachlorophenol	8270 8270	(2) one-liter amber glass bottles	Unpreserved, Amber colored for light protection, chill to 4°C	7 days
Composite soil for PAH compounds listed above for rinse water samples	8270D SIM	(2) four-ounce wide mouth glass jars	Unpreserved, chill to 4°C	7 days
Composite soil for PCP	8270D			7 days

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Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y308287 Client: Pinyon
Client Project ID: Butala Stockpile

Checklist Completed by: JG/CHS Shipped Via: W
Date/time completed: 8/11/23 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☒ Water Other: _____

Cooler Number/Temperature: 1 / 0.0 °C _____ °C _____ °C (Describe) _____ °C

Thermometer ID: 7004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) / (pH < 2 for samples preserved with HNO ₃ , HCl, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: JG (Project Manager) Date/Time Reviewed: 8-11-23

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-01-20230809-1

8/9/2023 10:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-01 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.7 %		60-130			"	"	"
Surrogate: Anthracene-d10	110 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"
Surrogate: Pyrene-d10	103 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	67.4 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	57.4 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-01-20230809-1

8/9/2023 10:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-01 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	49.5 %	10-85	L6987 00	08/15/2023	08/15/2023
Surrogate: 4-Terphenyl-d14	59.8 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	53.8 %	22-120	"	"	"
Surrogate: Phenol-d6	56.2 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-01-20230809-2

8/9/2023 10:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-02 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	0.006	0.0003	0.020	"	"	"	"	"	J
Benzo (k) fluoranthene	0.003	0.0004	0.020	"	"	"	"	"	J
Chrysene	0.008	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	0.003	0.0008	0.020	"	"	"	"	"	J
Indeno (1,2,3-cd) pyrene	0.005	0.001	0.020	"	"	"	"	"	J
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.9 %	60-130	"	"	"
Surrogate: Anthracene-d10	113 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	97.0 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	71.7 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	61.7 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	51.7 %	10-85	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-01-20230809-2

8/9/2023 10:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-02 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	73.3 %		22-120			L6987 00	08/15/2023	08/15/2023	
Surrogate: Nitrobenzene-d5	57.8 %		22-120			"	"	"	
Surrogate: Phenol-d6	58.4 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-01-20230809-3

8/9/2023 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-03 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	0.002	0.001	0.020	"	"	"	"	"	J
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.004	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	0.003	0.001	0.020	"	"	"	"	"	J
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.7 %		60-130			"	"	"
Surrogate: Anthracene-d10	112 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %		60-130			"	"	"
Surrogate: Pyrene-d10	102 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	68.8 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	55.9 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	48 %		10-85			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-01-20230809-3

8/9/2023 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-03 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	62.8 %		22-120			L6987 00	08/15/2023	08/15/2023	
Surrogate: Nitrobenzene-d5	53.5 %		22-120			"	"	"	
Surrogate: Phenol-d6	54.4 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-02-20230809-1

8/9/2023 10:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-04 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.4 %		60-130			"	"	"	
Surrogate: Anthracene-d10	114 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	106 %		60-130			"	"	"	
Surrogate: Pyrene-d10	134 %		60-130			"	"	"	S-04

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023	
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Surrogate: 2,4,6-Tribromophenol	53.8 %		10-112			"	"	"	
Surrogate: 2-Fluorobiphenyl	42.5 %		20-120			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-02-20230809-1

8/9/2023 10:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-04 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	37.6 %	10-85	L6987 00	08/15/2023	08/15/2023
Surrogate: 4-Terphenyl-d14	57.5 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	40.1 %	22-120	"	"	"
Surrogate: Phenol-d6	42.5 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-03-20230809-1

8/9/2023 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-05 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0007	0.010	mg/kg	2	B3H1415	08/14/2023	08/15/2023	R-01, U
Benzo (a) pyrene	ND	0.001	0.020	"	1	"	"	08/14/2023	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.002	0.040	"	2	"	"	08/15/2023	R-01, U
Indeno (1,2,3-cd) pyrene	ND	0.002	0.040	"	"	"	"	"	R-01, U
Naphthalene	ND	0.0008	0.002	"	1	"	"	08/14/2023	U

Surrogate: Fluorene-d10	98.2 %		60-130			"	"	"
Surrogate: Anthracene-d10	110 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	105 %		60-130			"	"	08/15/2023
Surrogate: Pyrene-d10	119 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	74.5 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	60.2 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-03-20230809-1

8/9/2023 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-05 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	50.5 %	10-85	L6987 00	08/15/2023	08/15/2023
Surrogate: 4-Terphenyl-d14	66.9 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	56.8 %	22-120	"	"	"
Surrogate: Phenol-d6	55.9 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-03-20230809-2

8/9/2023 10:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-06 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.1 %		60-130			"	"	"
Surrogate: Anthracene-d10	112 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %		60-130			"	"	"
Surrogate: Pyrene-d10	115 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	76.3 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	67.2 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-03-20230809-2

8/9/2023 10:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-06 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	56.5 %		10-85			L6987 00	08/15/2023	08/15/2023	
Surrogate: 4-Terphenyl-d14	77.5 %		22-120			"	"	"	
Surrogate: Nitrobenzene-d5	61.4 %		22-120			"	"	"	
Surrogate: Phenol-d6	61.4 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-04-20230809-1

8/9/2023 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-07 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	0.006	0.001	0.020	"	"	"	"	"	J
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.003	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	0.003	0.001	0.020	"	"	"	"	"	J
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.5 %		60-130			"	"	"
Surrogate: Anthracene-d10	114 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"
Surrogate: Pyrene-d10	116 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	73.5 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	59.4 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	51.1 %		10-85			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-04-20230809-1

8/9/2023 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-07 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	70.5 %	22-120	L6987 00	08/15/2023	08/15/2023
Surrogate: Nitrobenzene-d5	56.9 %	22-120	"	"	"
Surrogate: Phenol-d6	56.3 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-04-20230809-2

8/9/2023 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-08 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.2 %		60-130			"	"	"
Surrogate: Anthracene-d10	111 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %		60-130			"	"	"
Surrogate: Pyrene-d10	129 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	77.2 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	62.2 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-04-20230809-2

8/9/2023 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-08 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	53.5 %	10-85	L6987 00	08/15/2023	08/15/2023
Surrogate: 4-Terphenyl-d14	69.7 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	59.5 %	22-120	"	"	"
Surrogate: Phenol-d6	59.5 %	10-96	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-06-20230809-1

8/9/2023 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-09 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %	60-130	"	"	"
Surrogate: Anthracene-d10	112 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %	60-130	"	"	"
Surrogate: Pyrene-d10	98.5 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	74.5 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	65.2 %	20-120	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-06-20230809-1

8/9/2023 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-09 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	50.5 %	10-85	L6987 00	08/15/2023	08/15/2023
Surrogate: 4-Terphenyl-d14	66.7 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	58.9 %	22-120	"	"	"
Surrogate: Phenol-d6	58 %	10-96	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-06-20230809-2

8/9/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-10 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.4 %		60-130			"	"	"
Surrogate: Anthracene-d10	112 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"
Surrogate: Pyrene-d10	106 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	76.1 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	60.9 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-06-20230809-2

8/9/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-10 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	52 %		10-85			L6987 00	08/15/2023	08/15/2023	
Surrogate: 4-Terphenyl-d14	73.4 %		22-120			"	"	"	
Surrogate: Nitrobenzene-d5	56.3 %		22-120			"	"	"	
Surrogate: Phenol-d6	58.1 %		10-96			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-07-20230809-1

8/9/2023 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-11 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.5 %		60-130			"	"	"
Surrogate: Anthracene-d10	111 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"
Surrogate: Pyrene-d10	103 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	63.6 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	52.3 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-07-20230809-1

8/9/2023 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-11 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	48 %	10-85	L6987 00	08/15/2023	08/15/2023
Surrogate: 4-Terphenyl-d14	58.4 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	50.8 %	22-120	"	"	"
Surrogate: Phenol-d6	52.6 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-07-20230809-2

8/9/2023 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-12 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %	60-130	"	"	"
Surrogate: Anthracene-d10	112 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	96.2 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	67.1 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	54.1 %	20-120	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-07-20230809-2

8/9/2023 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-12 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	47.4 %		10-85			L6987 00	08/15/2023	08/15/2023	
Surrogate: 4-Terphenyl-d14	53.2 %		22-120			"	"	"	
Surrogate: Nitrobenzene-d5	51.1 %		22-120			"	"	"	
Surrogate: Phenol-d6	52.9 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-08-20230809-1

8/9/2023 1:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-13 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.001	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	J
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.003	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.6 %	60-130	"	"	"
Surrogate: Anthracene-d10	110 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"
Surrogate: Pyrene-d10	118 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	74.6 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	64.2 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	54.7 %	10-85	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-08-20230809-1

8/9/2023 1:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-13 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	64.5 %	22-120	L6987 00	08/15/2023	08/15/2023
Surrogate: Nitrobenzene-d5	60.2 %	22-120	"	"	"
Surrogate: Phenol-d6	60.6 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-08-20230809-2

8/9/2023 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-14 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.7 %		60-130			"	"	"
Surrogate: Anthracene-d10	111 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"
Surrogate: Pyrene-d10	117 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698700	08/15/2023	08/15/2023
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Surrogate: 2,4,6-Tribromophenol	79.8 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	66.2 %		20-120			"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-08-20230809-2

8/9/2023 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-14 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	56.5 %		10-85			L6987 00	08/15/2023	08/15/2023	
Surrogate: 4-Terphenyl-d14	66.2 %		22-120			"	"	"	
Surrogate: Nitrobenzene-d5	61.3 %		22-120			"	"	"	
Surrogate: Phenol-d6	62.8 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-09-20230809-1

8/9/2023 1:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-15 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.028	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	
Benzo (a) pyrene	0.059	0.001	0.020	"	"	"	"	"	
Benzo (b) fluoranthene	0.082	0.0003	0.020	"	"	"	"	"	
Benzo (k) fluoranthene	0.034	0.0004	0.020	"	"	"	"	"	
Chrysene	0.087	0.0002	0.020	"	"	"	"	"	
Dibenz (a,h) anthracene	0.014	0.0008	0.020	"	"	"	"	"	J
Indeno (1,2,3-cd) pyrene	0.057	0.001	0.020	"	"	"	"	"	
Naphthalene	0.006	0.0008	0.002	"	"	"	"	"	

Surrogate: Fluorene-d10	98.5 %		60-130			"	"	"
Surrogate: Anthracene-d10	106 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"
Surrogate: Pyrene-d10	109 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	59.9 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	49.8 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	42.2 %		10-85			"	"	"
Surrogate: 4-Terphenyl-d14	53.8 %		22-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-09-20230809-1

8/9/2023 1:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-15 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	46.8 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	47.7 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-09-20230809-2

8/9/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-16 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.068	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023
Benzo (a) pyrene	0.114	0.001	0.020	"	"	"	"	"
Benzo (b) fluoranthene	0.146	0.0003	0.020	"	"	"	"	"
Benzo (k) fluoranthene	0.058	0.0004	0.020	"	"	"	"	"
Chrysene	0.168	0.0002	0.020	"	"	"	"	"
Dibenz (a,h) anthracene	0.022	0.0008	0.020	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	0.114	0.001	0.020	"	"	"	"	"
Naphthalene	0.011	0.0008	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	99.8 %	60-130	"	"	"
Surrogate: Anthracene-d10	107 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	67.3 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	54.1 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	46.8 %	10-85	"	"	"
Surrogate: 4-Terphenyl-d14	68.2 %	22-120	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-09-20230809-2

8/9/2023 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-16 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	51.1 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	50.5 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-10-20230809-1

8/9/2023 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-17 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.004	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	0.014	0.001	0.020	"	"	"	"	"	J
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.5 %	60-130	"	"	"
Surrogate: Anthracene-d10	110 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"
Surrogate: Pyrene-d10	127 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	77.5 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	62.6 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	53.8 %	10-85	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-10-20230809-1

8/9/2023 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-17 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	59.6 %	22-120	L6988 09	08/16/2023	08/16/2023
Surrogate: Nitrobenzene-d5	57.8 %	22-120	"	"	"
Surrogate: Phenol-d6	57.8 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-10-20230809-2

8/9/2023 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-18 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.1 %		60-130			"	"	"
Surrogate: Anthracene-d10	109 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"
Surrogate: Pyrene-d10	122 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	69.4 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	57.2 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-10-20230809-2

8/9/2023 2:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-18 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	49.5 %	10-85	L6988 09	08/16/2023	08/16/2023
Surrogate: 4-Terphenyl-d14	58.1 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	54.1 %	22-120	"	"	"
Surrogate: Phenol-d6	53.2 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-11-20230809-1

8/9/2023 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-19 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.002	0.040	"	2	"	"	08/15/2023	R-01, U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	1	"	"	08/14/2023	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.002	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.002	0.040	"	2	"	"	08/15/2023	R-01, U
Indeno (1,2,3-cd) pyrene	ND	0.002	0.040	"	"	"	"	"	R-01, U
Naphthalene	ND	0.0008	0.002	"	1	"	"	08/14/2023	U

Surrogate: Fluorene-d10	97.5 %		60-130			"	"	"	
Surrogate: Anthracene-d10	111 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	99.5 %		60-130			"	"	08/15/2023	
Surrogate: Pyrene-d10	112 %		60-130			"	"	"	

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023	
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Surrogate: 2,4,6-Tribromophenol	70.9 %		10-112			"	"	"	
Surrogate: 2-Fluorobiphenyl	59.6 %		20-120			"	"	"	
Surrogate: 2-Fluorophenol	51.1 %		10-85			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-11-20230809-1

8/9/2023 3:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-19 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	63.9 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Nitrobenzene-d5	55.4 %		22-120			"	"	"	
Surrogate: Phenol-d6	54.4 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-11-20230809-2

8/9/2023 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-20 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1415	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.0008	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.0 %		60-130			"	"	"
Surrogate: Anthracene-d10	112 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"
Surrogate: Pyrene-d10	115 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	68.7 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	53.8 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	46.5 %		10-85			"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-11-20230809-2

8/9/2023 3:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-20 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	56.5 %	22-120	L6988 09	08/16/2023	08/16/2023
Surrogate: Nitrobenzene-d5	51.1 %	22-120	"	"	"
Surrogate: Phenol-d6	51.4 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-BD-01-20230809

8/9/2023 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-21 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.0002	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.8 %		60-130			"	"	"
Surrogate: Anthracene-d10	114 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %		60-130			"	"	"
Surrogate: Pyrene-d10	126 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	74.5 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	60.4 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	50.2 %		10-85			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-BD-01-20230809

8/9/2023 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-21 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	69.7 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Nitrobenzene-d5	55.9 %		22-120			"	"	"	
Surrogate: Phenol-d6	54.7 %		10-96			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-RB-01-20230809

8/9/2023 3:45:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-22 (Water)

PAH by 8270D SIM

Benzo(a)anthracene	ND	0.0113	0.02	µg/L	1	L698691	08/15/2023	08/15/2023
Benzo(a)pyrene	ND	0.0124	0.02	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.0083	0.02	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.0165	0.02	"	"	"	"	"
Chrysene	ND	0.0082	0.02	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.0066	0.02	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.0144	0.02	"	"	"	"	"
Naphthalene	ND	0.0196	0.02	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	123 %	70-130	"	"	"
Surrogate: 4-Terphenyl-d14	111 %	70-130	"	"	"

SVOC by 8270 D

Pentachlorophenol	ND	2.45	10	µg/L	1	L698939	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	81 %	39-110	"	"	"
Surrogate: 2-Fluorophenol	30.8 %	10-44	"	"	"
Surrogate: Phenol-d6	19.8 %	7-32	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-12-20230809-1

8/9/2023 3:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-23 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/14/2023	U
Benzo (a) pyrene	ND	0.002	0.040	"	2	"	"	08/15/2023	R-01, U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	1	"	"	08/14/2023	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.002	0.040	"	2	"	"	08/15/2023	R-01, U
Indeno (1,2,3-cd) pyrene	ND	0.002	0.040	"	"	"	"	"	R-01, U
Naphthalene	ND	0.0008	0.002	"	1	"	"	08/14/2023	U

Surrogate: Fluorene-d10	97.1 %		60-130			"	"	"	
Surrogate: Anthracene-d10	113 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	102 %		60-130			"	"	08/15/2023	
Surrogate: Pyrene-d10	128 %		60-130			"	"	08/14/2023	

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023	
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Surrogate: 2,4,6-Tribromophenol	75.7 %		10-112			"	"	"	
Surrogate: 2-Fluorobiphenyl	61.6 %		20-120			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-12-20230809-1

8/9/2023 3:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-23 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	53.2 %	10-85	L6988 09	08/16/2023	08/16/2023
Surrogate: 4-Terphenyl-d14	77.5 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	57.4 %	22-120	"	"	"
Surrogate: Phenol-d6	57.7 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-12-20230809-2

8/9/2023 3:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-24 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.9 %		60-130			"	"	"
Surrogate: Anthracene-d10	110 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"
Surrogate: Pyrene-d10	99.1 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	69.7 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	59.3 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-12-20230809-2

8/9/2023 3:40:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-24 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	49.2 %		10-85			L6988 09	08/16/2023	08/16/2023	
Surrogate: 4-Terphenyl-d14	55.4 %		22-120			"	"	"	
Surrogate: Nitrobenzene-d5	53.8 %		22-120			"	"	"	
Surrogate: Phenol-d6	55 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-17-20230810-1

8/10/2023 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-25 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	0.002	0.0002	0.020	"	"	"	"	"	J
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.8 %		60-130			"	"	"
Surrogate: Anthracene-d10	112 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %		60-130			"	"	"
Surrogate: Pyrene-d10	116 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	66.4 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	56.8 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	47.1 %		10-85			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-17-20230810-1

8/10/2023 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-25 (Soil)

SVOC by 8270D

Surrogate: 4-Terphenyl-d14	52.9 %	22-120	L6988 09	08/16/2023	08/16/2023
Surrogate: Nitrobenzene-d5	52 %	22-120	"	"	"
Surrogate: Phenol-d6	52.9 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-17-20230810-2

8/10/2023 9:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-26 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.4 %		60-130			"	"	"
Surrogate: Anthracene-d10	110 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"
Surrogate: Pyrene-d10	103 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	70.2 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	56.8 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-17-20230810-2

8/10/2023 9:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-26 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	45.9 %		10-85			L6988 09	08/16/2023	08/16/2023	
Surrogate: 4-Terphenyl-d14	60.2 %		22-120			"	"	"	
Surrogate: Nitrobenzene-d5	52.9 %		22-120			"	"	"	
Surrogate: Phenol-d6	54.4 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-20-20230810-1

8/10/2023 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-27 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	9.90	0.007	0.100	mg/kg	20	B3H1416	08/14/2023	08/15/2023	
Benzo (a) pyrene	10.2	0.021	0.400	"	"	"	"	"	
Benzo (b) fluoranthene	9.65	0.006	0.400	"	"	"	"	"	
Benzo (k) fluoranthene	4.67	0.007	0.400	"	"	"	"	"	
Chrysene	16.6	0.005	0.400	"	"	"	"	"	
Dibenz (a,h) anthracene	1.26	0.015	0.400	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	5.15	0.022	0.400	"	"	"	"	"	
Naphthalene	0.022	0.0008	0.002	"	1	"	"	08/15/2023	

Surrogate: Fluorene-d10	99.4 %		60-130			"	"	"	
Surrogate: Anthracene-d10	106 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	97.4 %		60-130			"	"	08/15/2023	
Surrogate: Pyrene-d10	108 %		60-130			"	"	"	

SVOC by 8270D

Pentachlorophenol	ND	0.186	3.3	mg/Kg	10	L698809	08/16/2023	08/16/2023	
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Surrogate: 2,4,6-Tribromophenol	98.5 %		10-112			"	"	"	
Surrogate: 2-Fluorobiphenyl	72.4 %		20-120			"	"	"	
Surrogate: 2-Fluorophenol	55.9 %		10-85			"	"	"	
Surrogate: 4-Terphenyl-d14	97.6 %		22-120			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-20-20230810-1

8/10/2023 9:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-27 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	64.6 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	61.9 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-21-20230810-1

8/10/2023 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-28 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.119	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023
Benzo (a) pyrene	0.185	0.001	0.020	"	"	"	"	"
Benzo (b) fluoranthene	0.159	0.0003	0.020	"	"	"	"	"
Benzo (k) fluoranthene	0.071	0.0004	0.020	"	"	"	"	"
Chrysene	0.217	0.0002	0.020	"	"	"	"	"
Dibenz (a,h) anthracene	0.027	0.0008	0.020	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	0.134	0.001	0.020	"	"	"	"	"
Naphthalene	0.004	0.0008	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	99.2 %	60-130	"	"	"
Surrogate: Anthracene-d10	104 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %	60-130	"	"	"
Surrogate: Pyrene-d10	108 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	74.6 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	57.8 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	50.5 %	10-85	"	"	"
Surrogate: 4-Terphenyl-d14	65.1 %	22-120	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-21-20230810-1

8/10/2023 10:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-28 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	52.3 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	56.3 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-21-20230810-2

8/10/2023 10:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y308287-29 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.636	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023
Benzo (a) pyrene	0.765	0.001	0.020	"	"	"	"	"
Benzo (b) fluoranthene	0.628	0.0003	0.020	"	"	"	"	"
Benzo (k) fluoranthene	0.323	0.0004	0.020	"	"	"	"	"
Chrysene	0.930	0.0002	0.020	"	"	"	"	"
Dibenz (a,h) anthracene	0.099	0.0008	0.020	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	0.407	0.001	0.020	"	"	"	"	"
Naphthalene	0.012	0.0008	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	96.9 %	60-130	"	"	"
Surrogate: Anthracene-d10	106 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	97.3 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	65.1 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	49.2 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	41.6 %	10-85	"	"	"
Surrogate: 4-Terphenyl-d14	53.8 %	22-120	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-21-20230810-2

8/10/2023 10:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-29 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	44.3 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	46.8 %		10-96			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-22-20230810-1

8/10/2023 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-30 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.545	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023
Benzo (a) pyrene	0.461	0.001	0.020	"	"	"	"	"
Benzo (b) fluoranthene	0.394	0.0003	0.020	"	"	"	"	"
Benzo (k) fluoranthene	0.203	0.0004	0.020	"	"	"	"	"
Chrysene	1.51	0.002	0.200	"	10	"	"	08/15/2023
Dibenz (a,h) anthracene	0.065	0.0008	0.020	"	1	"	"	08/15/2023
Indeno (1,2,3-cd) pyrene	0.277	0.001	0.020	"	"	"	"	"
Naphthalene	0.011	0.0008	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	98.4 %		60-130			"	"	"
Surrogate: Anthracene-d10	103 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %		60-130			"	"	"
Surrogate: Pyrene-d10	109 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	72.8 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	51.7 %		20-120			"	"	"
Surrogate: 2-Fluorophenol	44.4 %		10-85			"	"	"
Surrogate: 4-Terphenyl-d14	58.3 %		22-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-22-20230810-1

8/10/2023 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-30 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	47.7 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	48.9 %		10-96			"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-22-20230810-2

8/10/2023 10:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-31 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.825	0.001	0.020	mg/kg	4	B3H1416	08/14/2023	08/15/2023	
Benzo (a) pyrene	0.683	0.004	0.080	"	"	"	"	"	
Benzo (b) fluoranthene	0.571	0.001	0.080	"	"	"	"	"	
Benzo (k) fluoranthene	0.295	0.001	0.080	"	"	"	"	"	
Chrysene	2.90	0.0009	0.080	"	"	"	"	"	
Dibenz (a,h) anthracene	0.090	0.003	0.080	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.345	0.004	0.080	"	"	"	"	"	
Naphthalene	0.016	0.0008	0.002	"	1	"	"	08/15/2023	

Surrogate: Fluorene-d10	94.4 %		60-130			"	"	"	
Surrogate: Anthracene-d10	103 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	08/15/2023	
Surrogate: Pyrene-d10	103 %		60-130			"	"	"	

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023	
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Surrogate: 2,4,6-Tribromophenol	76.1 %		10-112			"	"	"	
Surrogate: 2-Fluorobiphenyl	56.5 %		20-120			"	"	"	
Surrogate: 2-Fluorophenol	48.6 %		10-85			"	"	"	
Surrogate: 4-Terphenyl-d14	56.5 %		22-120			"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-22-20230810-2

8/10/2023 10:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-31 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	52.3 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	52.9 %		10-96			"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-22-20230810-3

8/10/2023 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-32 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	0.456	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023
Benzo (a) pyrene	0.580	0.001	0.020	"	"	"	"	"
Benzo (b) fluoranthene	0.399	0.0003	0.020	"	"	"	"	"
Benzo (k) fluoranthene	0.192	0.0004	0.020	"	"	"	"	"
Chrysene	1.72	0.002	0.200	"	10	"	"	08/15/2023
Dibenz (a,h) anthracene	0.058	0.0008	0.020	"	1	"	"	08/15/2023
Indeno (1,2,3-cd) pyrene	0.303	0.001	0.020	"	"	"	"	"
Naphthalene	0.016	0.0008	0.002	"	"	"	"	"

Surrogate: Fluorene-d10	97.8 %	60-130	"	"	"
Surrogate: Anthracene-d10	104 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	112 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	71.6 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	45.9 %	20-120	"	"	"
Surrogate: 2-Fluorophenol	38.7 %	10-85	"	"	"
Surrogate: 4-Terphenyl-d14	69.8 %	22-120	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-22-20230810-3

8/10/2023 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-32 (Soil)

SVOC by 8270D

Surrogate: Nitrobenzene-d5	42.3 %		22-120			L6988 09	08/16/2023	08/16/2023	
Surrogate: Phenol-d6	43.8 %		10-96			"	"	"	

Origins Laboratory, Inc.



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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-113-20230810-1

8/10/2023 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-33 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.3 %		60-130			"	"	"
Surrogate: Anthracene-d10	109 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	97.5 %		60-130			"	"	"
Surrogate: Pyrene-d10	107 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	79.3 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	62.8 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-113-20230810-1

8/10/2023 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-33 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	54.4 %	10-85	L6988 09	08/16/2023	08/16/2023
Surrogate: 4-Terphenyl-d14	64.3 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	58.9 %	22-120	"	"	"
Surrogate: Phenol-d6	59.5 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-109a-20230810-1

8/10/2023 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-34 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.4 %		60-130			"	"	"
Surrogate: Anthracene-d10	110 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %		60-130			"	"	"
Surrogate: Pyrene-d10	107 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	71.9 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	55 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-109a-20230810-1

8/10/2023 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-34 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	45.6 %	10-85	L6988 09	08/16/2023	08/16/2023
Surrogate: 4-Terphenyl-d14	67 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	48.6 %	22-120	"	"	"
Surrogate: Phenol-d6	51.1 %	10-96	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-109b-20230810-1

8/10/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-35 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	97.7 %	60-130	"	"	"
Surrogate: Anthracene-d10	111 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"
Surrogate: Pyrene-d10	130 %	60-130	"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698809	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	68.1 %	10-112	"	"	"
Surrogate: 2-Fluorobiphenyl	53.8 %	20-120	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-109b-20230810-1

8/10/2023 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-35 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	45.9 %	10-85	L698809	08/16/2023	08/16/2023
Surrogate: 4-Terphenyl-d14	63.2 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	50.2 %	22-120	"	"	"
Surrogate: Phenol-d6	52 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-109c-20230810-1

8/10/2023 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y308287-36 (Soil)

PAH by EPA 8270E

Benzo (a) anthracene	ND	0.0003	0.005	mg/kg	1	B3H1416	08/14/2023	08/15/2023	U
Benzo (a) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.0003	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.0004	0.020	"	"	"	"	"	U
Chrysene	ND	0.0002	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.0008	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.001	0.020	"	"	"	"	"	U
Naphthalene	ND	0.0008	0.002	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.7 %		60-130			"	"	"
Surrogate: Anthracene-d10	108 %		60-130			"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %		60-130			"	"	"
Surrogate: Pyrene-d10	112 %		60-130			"	"	"

SVOC by 8270D

Pentachlorophenol	ND	0.018	0.33	mg/Kg	1	L698904	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	57.1 %		10-112			"	"	"
Surrogate: 2-Fluorobiphenyl	51.4 %		20-120			"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-SS-109c-20230810-1

8/10/2023 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-36 (Soil)

SVOC by 8270D

Surrogate: 2-Fluorophenol	44.4 %	10-85	L6989 04	08/16/2023	08/16/2023
Surrogate: 4-Terphenyl-d14	61.6 %	22-120	"	"	"
Surrogate: Nitrobenzene-d5	49.2 %	22-120	"	"	"
Surrogate: Phenol-d6	49.8 %	10-96	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

BSP-RB-02-20230810

8/10/2023 2:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y308287-37 (Water)

PAH by 8270D SIM

Benzo(a)anthracene	ND	0.0113	0.02	µg/L	1	L698691	08/15/2023	08/15/2023
Benzo(a)pyrene	ND	0.0124	0.02	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.0083	0.02	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.0165	0.02	"	"	"	"	"
Chrysene	ND	0.0082	0.02	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.0066	0.02	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.0144	0.02	"	"	"	"	"
Naphthalene	ND	0.0196	0.02	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	121 %	70-130	"	"	"
Surrogate: 4-Terphenyl-d14	103 %	70-130	"	"	"

SVOC by 8270 D

Pentachlorophenol	ND	2.45	10	µg/L	1	L698939	08/16/2023	08/16/2023
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Surrogate: 2,4,6-Tribromophenol	80.9 %	39-110	"	"	"
Surrogate: 2-Fluorophenol	29.4 %	10-44	"	"	"
Surrogate: Phenol-d6	19.3 %	7-32	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3H1415 - EPA 3580

Blank (B3H1415-BLK1)

Prepared: 08/14/2023 Analyzed: 08/14/2023

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	0.0005	0.020	"							J
Pyrene	ND	0.020	"							U

Surrogate: Fluorene-d10	200		ug/kg	200	99.7	60-130
Surrogate: Anthracene-d10	220		"	200	109	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200	105	60-130
Surrogate: Pyrene-d10	250		"	200	124	60-130

LCS (B3H1415-BS1)

Prepared: 08/14/2023 Analyzed: 08/14/2023

1-Methylnaphthalene	0.194	0.002	mg/kg	0.200	97.0	70-130
2-Methylnaphthalene	0.194	0.002	"	0.200	97.2	70-130
Acenaphthene	0.189	0.020	"	0.200	94.3	70-130
Anthracene	0.236	0.020	"	0.200	118	70-130

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3H1415 - EPA 3580

LCS (B3H1415-BS1)

Prepared: 08/14/2023 Analyzed: 08/14/2023

Benzo (a) anthracene	0.207	0.005	mg/kg	0.200		103	70-130			
Benzo (a) pyrene	0.187	0.020	"	0.200		93.3	70-130			
Benzo (b) fluoranthene	0.181	0.020	"	0.200		90.7	70-130			
Benzo (g,h,i) perylene	0.180	0.020	"	0.200		89.8	70-130			
Benzo (k) fluoranthene	0.193	0.020	"	0.200		96.7	70-130			
Chrysene	0.192	0.020	"	0.200		96.0	70-130			
Dibenz (a,h) anthracene	0.195	0.020	"	0.200		97.4	70-130			
Fluoranthene	0.186	0.020	"	0.200		92.9	70-130			
Fluorene	0.191	0.020	"	0.200		95.4	70-130			
Indeno (1,2,3-cd) pyrene	0.214	0.020	"	0.200		107	70-130			
Naphthalene	0.196	0.002	"	0.200		97.9	70-130			
Phenanthrene	0.190	0.020	"	0.200		95.1	70-130			
Pyrene	0.244	0.020	"	0.200		122	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.3	60-130			
Surrogate: Anthracene-d10	220		"	200		108	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			
Surrogate: Pyrene-d10	250		"	200		125	60-130			

Matrix Spike (B3H1415-MS1)

Source: Y308287-01

Prepared: 08/14/2023 Analyzed: 08/14/2023

1-Methylnaphthalene	0.201	0.002	mg/kg	0.200	ND	101	70-130			
2-Methylnaphthalene	0.199	0.002	"	0.200	ND	99.7	70-130			
Acenaphthene	0.193	0.020	"	0.200	ND	96.3	70-130			
Anthracene	0.218	0.020	"	0.200	ND	109	70-130			
Benzo (a) anthracene	0.225	0.005	"	0.200	ND	112	70-130			
Benzo (a) pyrene	0.205	0.020	"	0.200	ND	103	70-130			
Benzo (b) fluoranthene	0.197	0.020	"	0.200	ND	98.5	70-130			
Benzo (g,h,i) perylene	0.200	0.020	"	0.200	0.003	98.6	70-130			

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3H1415 - EPA 3580

Matrix Spike (B3H1415-MS1)		Source: Y308287-01			Prepared: 08/14/2023 Analyzed: 08/14/2023					
Benzo (k) fluoranthene	0.207	0.020	mg/kg	0.200	ND	103	70-130			
Chrysene	0.214	0.020	"	0.200	ND	107	70-130			
Dibenz (a,h) anthracene	0.207	0.020	"	0.200	ND	104	70-130			
Fluoranthene	0.213	0.020	"	0.200	ND	106	70-130			
Fluorene	0.196	0.020	"	0.200	ND	97.8	70-130			
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200	ND	103	70-130			
Naphthalene	0.201	0.002	"	0.200	ND	100	70-130			
Phenanthrene	0.195	0.020	"	0.200	0.0004	97.2	70-130			
Pyrene	0.196	0.020	"	0.200	ND	98.1	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.8	60-130			
Surrogate: Anthracene-d10	220		"	200		108	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			
Surrogate: Pyrene-d10	190		"	200		97.1	60-130			

Matrix Spike Dup (B3H1415-MSD1)		Source: Y308287-01			Prepared: 08/14/2023 Analyzed: 08/14/2023					
1-Methylnaphthalene	0.201	0.002	mg/kg	0.200	ND	101	70-130	0.0749	20	
2-Methylnaphthalene	0.199	0.002	"	0.200	ND	99.3	70-130	0.392	20	
Acenaphthene	0.194	0.020	"	0.200	ND	97.0	70-130	0.698	20	
Anthracene	0.198	0.020	"	0.200	ND	99.1	70-130	9.63	20	
Benzo (a) anthracene	0.210	0.005	"	0.200	ND	105	70-130	6.79	20	
Benzo (a) pyrene	0.205	0.020	"	0.200	ND	102	70-130	0.277	20	
Benzo (b) fluoranthene	0.195	0.020	"	0.200	ND	97.3	70-130	1.25	20	
Benzo (g,h,i) perylene	0.202	0.020	"	0.200	0.003	99.4	70-130	0.749	20	
Benzo (k) fluoranthene	0.202	0.020	"	0.200	ND	101	70-130	2.53	20	
Chrysene	0.212	0.020	"	0.200	ND	106	70-130	1.15	20	
Dibenz (a,h) anthracene	0.223	0.020	"	0.200	ND	112	70-130	7.54	20	
Fluoranthene	0.209	0.020	"	0.200	ND	105	70-130	1.57	20	

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Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3H1415 - EPA 3580

Matrix Spike Dup (B3H1415-MSD1)		Source: Y308287-01			Prepared: 08/14/2023 Analyzed: 08/14/2023					
Fluorene	0.199	0.020	mg/kg	0.200	ND	99.5	70-130	1.74	20	
Indeno (1,2,3-cd) pyrene	0.209	0.020	"	0.200	ND	104	70-130	1.13	20	
Naphthalene	0.199	0.002	"	0.200	ND	99.7	70-130	0.604	20	
Phenanthrene	0.195	0.020	"	0.200	0.0004	97.3	70-130	0.136	20	
Pyrene	0.192	0.020	"	0.200	ND	95.8	70-130	2.36	20	
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			
Surrogate: Pyrene-d10	190		"	200		95.1	60-130			

Batch B3H1416 - EPA 3580

Blank (B3H1416-BLK1)		Prepared: 08/14/2023 Analyzed: 08/14/2023								
1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U

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Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3H1416 - EPA 3580

Blank (B3H1416-BLK1)

Prepared: 08/14/2023 Analyzed: 08/14/2023

Naphthalene	ND	0.002	mg/kg							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		98.8	60-130			
Surrogate: Anthracene-d10	210		"	200		107	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			
Surrogate: Pyrene-d10	250		"	200		126	60-130			

LCS (B3H1416-BS1)

Prepared: 08/14/2023 Analyzed: 08/14/2023

1-Methylnaphthalene	0.195	0.002	mg/kg	0.200		97.3	70-130			
2-Methylnaphthalene	0.196	0.002	"	0.200		97.8	70-130			
Acenaphthene	0.185	0.020	"	0.200		92.4	70-130			
Anthracene	0.196	0.020	"	0.200		98.0	70-130			
Benzo (a) anthracene	0.207	0.005	"	0.200		104	70-130			
Benzo (a) pyrene	0.194	0.020	"	0.200		97.0	70-130			
Benzo (b) fluoranthene	0.176	0.020	"	0.200		88.0	70-130			
Benzo (g,h,i) perylene	0.176	0.020	"	0.200		87.8	70-130			
Benzo (k) fluoranthene	0.175	0.020	"	0.200		87.3	70-130			
Chrysene	0.198	0.020	"	0.200		99.0	70-130			
Dibenz (a,h) anthracene	0.199	0.020	"	0.200		99.5	70-130			
Fluoranthene	0.197	0.020	"	0.200		98.3	70-130			
Fluorene	0.190	0.020	"	0.200		94.8	70-130			
Indeno (1,2,3-cd) pyrene	0.185	0.020	"	0.200		92.5	70-130			
Naphthalene	0.192	0.002	"	0.200		96.1	70-130			
Phenanthrene	0.185	0.020	"	0.200		92.7	70-130			
Pyrene	0.194	0.020	"	0.200		97.2	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B3H1416 - EPA 3580

LCS (B3H1416-BS1)

Prepared: 08/14/2023 Analyzed: 08/14/2023

Surrogate: Anthracene-d10	210		ug/kg	200		107	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.3	60-130
Surrogate: Pyrene-d10	200		"	200		100	60-130

Matrix Spike (B3H1416-MS1)

Source: Y308287-21

Prepared: 08/14/2023 Analyzed: 08/14/2023

1-Methylnaphthalene	0.195	0.002	mg/kg	0.200	ND	97.4	70-130
2-Methylnaphthalene	0.187	0.002	"	0.200	ND	93.6	70-130
Acenaphthene	0.184	0.020	"	0.200	ND	91.8	70-130
Anthracene	0.187	0.020	"	0.200	ND	93.4	70-130
Benzo (a) anthracene	0.185	0.005	"	0.200	ND	92.7	70-130
Benzo (a) pyrene	0.173	0.020	"	0.200	ND	86.7	70-130
Benzo (b) fluoranthene	0.173	0.020	"	0.200	ND	86.7	70-130
Benzo (g,h,i) perylene	0.166	0.020	"	0.200	ND	83.2	70-130
Benzo (k) fluoranthene	0.176	0.020	"	0.200	ND	87.8	70-130
Chrysene	0.190	0.020	"	0.200	0.0002	94.8	70-130
Dibenz (a,h) anthracene	0.197	0.020	"	0.200	ND	98.5	70-130
Fluoranthene	0.179	0.020	"	0.200	ND	89.4	70-130
Fluorene	0.186	0.020	"	0.200	ND	92.8	70-130
Indeno (1,2,3-cd) pyrene	0.184	0.020	"	0.200	ND	92.0	70-130
Naphthalene	0.191	0.002	"	0.200	ND	95.5	70-130
Phenanthrene	0.183	0.020	"	0.200	ND	91.6	70-130
Pyrene	0.221	0.020	"	0.200	ND	111	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		97.8	60-130
Surrogate: Anthracene-d10	220		"	200		108	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.8	60-130
Surrogate: Pyrene-d10	230		"	200		115	60-130

Matrix Spike Dup (B3H1416-MSD1)

Source: Y308287-21

Prepared: 08/14/2023 Analyzed: 08/14/2023

Origins Laboratory, Inc.



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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3H1416 - EPA 3580										
1-Methylnaphthalene	0.200	0.002	mg/kg	0.200	ND	100	70-130	2.74	20	
2-Methylnaphthalene	0.189	0.002	"	0.200	ND	94.6	70-130	1.03	20	
Acenaphthene	0.182	0.020	"	0.200	ND	91.1	70-130	0.697	20	
Anthracene	0.183	0.020	"	0.200	ND	91.4	70-130	2.10	20	
Benzo (a) anthracene	0.217	0.005	"	0.200	ND	109	70-130	15.8	20	
Benzo (a) pyrene	0.179	0.020	"	0.200	ND	89.4	70-130	3.06	20	
Benzo (b) fluoranthene	0.173	0.020	"	0.200	ND	86.3	70-130	0.555	20	
Benzo (g,h,i) perylene	0.175	0.020	"	0.200	ND	87.7	70-130	5.35	20	
Benzo (k) fluoranthene	0.190	0.020	"	0.200	ND	94.9	70-130	7.81	20	
Chrysene	0.201	0.020	"	0.200	0.0002	100	70-130	5.48	20	
Dibenz (a,h) anthracene	0.197	0.020	"	0.200	ND	98.7	70-130	0.227	20	
Fluoranthene	0.198	0.020	"	0.200	ND	99.1	70-130	10.3	20	
Fluorene	0.186	0.020	"	0.200	ND	93.2	70-130	0.447	20	
Indeno (1,2,3-cd) pyrene	0.177	0.020	"	0.200	ND	88.5	70-130	3.89	20	
Naphthalene	0.191	0.002	"	0.200	ND	95.7	70-130	0.195	20	
Phenanthrene	0.185	0.020	"	0.200	ND	92.6	70-130	1.08	20	
Pyrene	0.195	0.020	"	0.200	ND	97.7	70-130	12.5	20	
Surrogate: Fluorene-d10	200		ug/kg	200		98.2	60-130			
Surrogate: Anthracene-d10	210		"	200		107	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			
Surrogate: Pyrene-d10	200		"	200		101	60-130			

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

SVOC by 8270D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L698904 - 3546										
MSD (L 93985-MSD-L698904)			Source: Y308287-36		Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	1.47	0.33	mg/Kg	1.67	93985	88	10-146	0.6	30	
Surrogate: Phenol-d6	55.2		"	3.33	1660	55.2	10-96			
Surrogate: Nitrobenzene-d5	56.4		"	3.33	1640	56.4	22-120			
Surrogate: 4-Terphenyl-d14	63.9		"	3.33	2050	63.9	22-120			
Surrogate: 2-Fluorophenol	50.7		"	3.33	1480	50.7	10-85			
Surrogate: 2-Fluorobiphenyl	60		"	3.33	1710	60	20-120			
Surrogate: 2,4,6-Tribromophenol	78.9		"	3.33	1900	78.9	10-112			
MS (L 93985-MS-L698904)			Source: Y308287-36		Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	1.48	0.33	mg/Kg	1.67	93985	88.6	10-146			
Surrogate: 2-Fluorobiphenyl	58.8		"	3.33	1710	58.8	20-120			
Surrogate: 2-Fluorophenol	48.6		"	3.33	1480	48.6	10-85			
Surrogate: 2,4,6-Tribromophenol	73.5		"	3.33	1900	73.5	10-112			
Surrogate: Nitrobenzene-d5	53.7		"	3.33	1640	53.7	22-120			
Surrogate: 4-Terphenyl-d14	67.5		"	3.33	2050	67.5	22-120			
Surrogate: Phenol-d6	52.2		"	3.33	1660	52.2	10-96			
LCS (LCS-L698904)			Prepared: 08/16/2023 Analyzed: 08/16/2023							
Pentachlorophenol	1.33	0.33	mg/Kg	1.67		79.6	10-146			
Surrogate: 2,4,6-Tribromophenol	77.1		"	3.33		77.1	10-112			
Surrogate: 2-Fluorobiphenyl	52.8		"	3.33		52.8	20-120			
Surrogate: 4-Terphenyl-d14	64.2		"	3.33		64.2	22-120			
Surrogate: Phenol-d6	48.9		"	3.33		48.9	10-96			
Surrogate: 2-Fluorophenol	45.3		"	3.33		45.3	10-85			
Surrogate: Nitrobenzene-d5	47.4		"	3.33		47.4	22-120			
LRB (LRB-L698904)			Prepared: 08/16/2023 Analyzed: 08/16/2023							
Pentachlorophenol	ND	0.33	mg/Kg				-			
Surrogate: 2,4,6-Tribromophenol	137		"	3.33		137	10-112			*

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Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

SVOC by 8270D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L698904 - 3546

LRB (LRB-L698904)

Prepared: 08/16/2023 Analyzed: 08/16/2023

Surrogate: 2-Fluorobiphenyl	NR		mg/Kg	3.33		0	20-120			*
Surrogate: 2-Fluorophenol	107		"	3.33	107	107	10-85			*
Surrogate: 4-Terphenyl-d14	NR		"	3.33	0	0	22-120			*
Surrogate: Nitrobenzene-d5	NR		"	3.33	0	0	22-120			*
Surrogate: Phenol-d6	117		"	3.33	117	117	10-96			*

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Pinyon
3222 S. Vance St, Suite 200
Lakewood CO 80227

Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

SVOC by 8270D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L698700 - 3546										
MSD (L 92481-MSD-L698700)			Source: 92481		Prepared: 08/15/2023 Analyzed: 08/15/2023					
Pentachlorophenol	4.6	0.33	mg/Kg	1.63	2.26	144	10-146	28	30	
Surrogate: 2,4,6-Tribromophenol	58.1		"	3.27	1520	58.1	10-112			
Surrogate: 2-Fluorobiphenyl	40.9		"	3.27	1160	40.9	20-120			
Surrogate: 2-Fluorophenol	36.3		"	3.27	1040	36.3	10-85			
Surrogate: Nitrobenzene-d5	37.9		"	3.27	1090	37.9	22-120			
Surrogate: Phenol-d6	40.6		"	3.27	1080	40.6	10-96			
Surrogate: 4-Terphenyl-d14	49.8		"	3.27	1280	49.8	22-120			
MS (L 92481-MS-L698700)			Source: 92481		Prepared: 08/15/2023 Analyzed: 08/15/2023					
Pentachlorophenol	3.47	0.33	mg/Kg	1.63	2.26	74.2	10-146			
Surrogate: Nitrobenzene-d5	31.1		"	3.27	1090	31.1	22-120			
Surrogate: 2-Fluorobiphenyl	33.6		"	3.27	1160	33.6	20-120			
Surrogate: Phenol-d6	32.1		"	3.27	1080	32.1	10-96			
Surrogate: 4-Terphenyl-d14	40		"	3.27	1280	40	22-120			
Surrogate: 2-Fluorophenol	28.1		"	3.27	1040	28.1	10-85			
Surrogate: 2,4,6-Tribromophenol	47.4		"	3.27	1520	47.4	10-112			
LCS (LCS-L698700)			Prepared: 08/15/2023 Analyzed: 08/15/2023							
Pentachlorophenol	1.42	0.33	mg/Kg	1.67		85	10-146			
Surrogate: 2-Fluorophenol	50.7		"	3.33		50.7	10-85			
Surrogate: 2-Fluorobiphenyl	55.8		"	3.33		55.8	20-120			
Surrogate: 4-Terphenyl-d14	58.8		"	3.33		58.8	22-120			
Surrogate: Nitrobenzene-d5	53.1		"	3.33		53.1	22-120			
Surrogate: Phenol-d6	58.8		"	3.33		58.8	10-96			
Surrogate: 2,4,6-Tribromophenol	76.5		"	3.33		76.5	10-112			
LRB (LRB-L698700)			Prepared: 08/15/2023 Analyzed: 08/15/2023							
Pentachlorophenol	ND	0.33	mg/Kg				-			
Surrogate: 4-Terphenyl-d14	63.3		"	3.33		63.3	22-120			

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SVOC by 8270D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L698700 - 3546

LRB (LRB-L698700)

Prepared: 08/15/2023 Analyzed: 08/15/2023

Surrogate: Phenol-d6	62.7		mg/Kg	3.33	62.7		10-96			
Surrogate: Nitrobenzene-d5	60		"	3.33	60		22-120			
Surrogate: 2-Fluorobiphenyl	63.3		"	3.33	63.3		20-120			
Surrogate: 2,4,6-Tribromophenol	80.1		"	3.33	80.1		10-112			
Surrogate: 2-Fluorophenol	55.5		"	3.33	55.5		10-85			

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Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

SVOC by 8270D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L698809 - 3546										
MSD (L 93964-MSD-L698809)			Source: Y308287-15		Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	0.904	0.33	mg/Kg	1.64	93964	55.1	10-146	3.7	30	
Surrogate: 2,4,6-Tribromophenol	70.2		"	3.29	1970	70.2	10-112			
Surrogate: 2-Fluorobiphenyl	51.9		"	3.29	1640	51.9	20-120			
Surrogate: 2-Fluorophenol	43.1		"	3.29	1390	43.1	10-85			
Surrogate: 4-Terphenyl-d14	54.4		"	3.29	1770	54.4	22-120			
Surrogate: Nitrobenzene-d5	48.3		"	3.29	1540	48.3	22-120			
Surrogate: Phenol-d6	51.3		"	3.29	1570	51.3	10-96			
MS (L 93964-MS-L698809)			Source: Y308287-15		Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	0.871	0.33	mg/Kg	1.63	93964	53.4	10-146			
Surrogate: Phenol-d6	47.7		"	3.27	1570	47.7	10-96			
Surrogate: Nitrobenzene-d5	43.4		"	3.27	1540	43.4	22-120			
Surrogate: 4-Terphenyl-d14	48		"	3.27	1770	48	22-120			
Surrogate: 2-Fluorophenol	40.9		"	3.27	1390	40.9	10-85			
Surrogate: 2-Fluorobiphenyl	48.3		"	3.27	1640	48.3	20-120			
Surrogate: 2,4,6-Tribromophenol	65.7		"	3.27	1970	65.7	10-112			
LCS (LCS-L698809)			Prepared: 08/16/2023 Analyzed: 08/16/2023							
Pentachlorophenol	1.46	0.33	mg/Kg	1.67		87.4	10-146			
Surrogate: 2-Fluorophenol	45.3		"	3.33		45.3	10-85			
Surrogate: 2-Fluorobiphenyl	50.1		"	3.33		50.1	20-120			
Surrogate: 4-Terphenyl-d14	53.4		"	3.33		53.4	22-120			
Surrogate: Nitrobenzene-d5	47.1		"	3.33		47.1	22-120			
Surrogate: 2,4,6-Tribromophenol	76.8		"	3.33		76.8	10-112			
Surrogate: Phenol-d6	52.5		"	3.33		52.5	10-96			
LRB (LRB-L698809)			Prepared: 08/16/2023 Analyzed: 08/16/2023							
Pentachlorophenol	ND	0.33	mg/Kg				-			
Surrogate: Nitrobenzene-d5	NR		"	3.33		0	22-120			*

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Project: Butala Stockpile (BSP)

SVOC by 8270D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L698809 - 3546

LRB (LRB-L698809)

Prepared: 08/16/2023 Analyzed: 08/16/2023

Surrogate: 2-Fluorobiphenyl	NR		mg/Kg	3.33	0		20-120			*
Surrogate: 2-Fluorophenol	117		"	3.33	117		10-85			*
Surrogate: 4-Terphenyl-d14	NR		"	3.33	0		22-120			*
Surrogate: Phenol-d6	126		"	3.33	126		10-96			*
Surrogate: 2,4,6-Tribromophenol	168		"	3.33	168		10-112			*

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Project: Butala Stockpile (BSP)

SVOC by 8270 D - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L698939 - SVOC by 8270 D										
LCSD (LCSD-L698939)					Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	42.3	10	µg/L	50		84.6	17-142	17.2	20	
Surrogate: Phenol-d6	15.4		"	100		15.4	7-32			
Surrogate: 2-Fluorophenol	22.8		"	100		22.8	10-44			
Surrogate: 2,4,6-Tribromophenol	79.4		"	100		79.4	39-110			
LCS (LCS-L698939)					Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	50.3	10	µg/L	50		101	17-142			
Surrogate: 2,4,6-Tribromophenol	86		"	100		86	39-110			
Surrogate: 2-Fluorophenol	21.5		"	100		21.5	10-44			
Surrogate: Phenol-d6	15.4		"	100		15.4	7-32			
LRB (LRB-L698939)					Prepared: 08/16/2023 Analyzed: 08/16/2023					
Pentachlorophenol	ND	10	µg/L				-			
Surrogate: 2-Fluorophenol	25.7		"	100		25.7	10-44			
Surrogate: Phenol-d6	17.6		"	100		17.6	7-32			
Surrogate: 2,4,6-Tribromophenol	73		"	100		73	39-110			

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Darin Worden
Project Number: 121150701.001 REG003.2
Project: Butala Stockpile (BSP)

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L698691 - 3511										
LCSD (LCSD-L698691)					Prepared: 08/15/2023 Analyzed: 08/15/2023					
Benzo(k)fluoranthene	3.7	0.02	µg/L	3.03		122	60-140	0.2	20	
Benzo(b)fluoranthene	3.74	0.02	"	3.03		123	60-140	3.5	20	
Benzo(a)pyrene	3.77	0.02	"	3.03		124	60-140	1	20	
Benzo(a)anthracene	4.05	0.02	"	3.03		134	60-140	4.8	20	
Chrysene	3.35	0.02	"	3.03		111	60-140	3	20	
Dibenz(a,h)anthracene	3.49	0.02	"	3.03		115	60-140	0.5	20	
Naphthalene	3.28	0.02	"	3.03		108	60-140	0.3	20	
Indeno(1,2,3-cd)pyrene	3.71	0.02	"	3.03		122	60-140	0.2	20	
Surrogate: 4-Terphenyl-d14	100		"	3.03		100	70-130			
Surrogate: 2-Fluorobiphenyl	125		"	3.03		125	70-130			
LCS (LCS-L698691)					Prepared: 08/15/2023 Analyzed: 08/15/2023					
Benzo(a)anthracene	3.86	0.02	µg/L	3.03		127	60-140			
Naphthalene	3.29	0.02	"	3.03		109	60-140			
Indeno(1,2,3-cd)pyrene	3.7	0.02	"	3.03		122	60-140			
Dibenz(a,h)anthracene	3.51	0.02	"	3.03		116	60-140			
Chrysene	3.25	0.02	"	3.03		107	60-140			
Benzo(k)fluoranthene	3.71	0.02	"	3.03		122	60-140			
Benzo(a)pyrene	3.81	0.02	"	3.03		126	60-140			
Benzo(b)fluoranthene	3.61	0.02	"	3.03		119	60-140			
Surrogate: 4-Terphenyl-d14	97		"	3.03		97	70-130			
Surrogate: 2-Fluorobiphenyl	124		"	3.03		124	70-130			
LRB (LRB-L698691)					Prepared: 08/15/2023 Analyzed: 08/15/2023					
Naphthalene	ND	0.02	µg/L				-			
Benzo(a)anthracene	ND	0.02	"				-			
Benzo(a)pyrene	ND	0.02	"				-			

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Project: Butala Stockpile (BSP)

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L698691 - 3511										
LRB (LRB-L698691)					Prepared: 08/15/2023 Analyzed: 08/15/2023					
Benzo(b)fluoranthene	ND	0.02	µg/L				-			
Benzo(k)fluoranthene	ND	0.02	"				-			
Chrysene	ND	0.02	"				-			
Dibenz(a,h)anthracene	ND	0.02	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.02	"				-			
Surrogate: 2-Fluorobiphenyl	127		"	3.03		127	70-130			
Surrogate: 4-Terphenyl-d14	106		"	3.03		106	70-130			

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Notes and Definitions

U Sample is Non-Detect.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.

J Sample result was found between MDL and RL

* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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Attachment 4 – Data Validation Memo



Memorandum

Date: August 24, 2023
From: Lauren King
Subject: Butala Sand and Gravel Stockpile Sampling, August 2023
Data Validation – Origins Laboratory Sample Delivery Groups (SDGs) Y308287

Introduction

Pinyon Environmental, Inc. (Pinyon), completed stockpile sampling activities for the Butala Sand and Gravel (Butala) located in Salida, Colorado in August of 2022. Subsequently, Pinyon performed a Tier II data validation of the soil samples collected during the sampling event.

Analytical data was reviewed by Pinyon based on the following documents:

United States Environmental Protection Agency (EPA) Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

Stockpile Sampling Plan, Butala Sand and Gravel, 9000 CR 152, Salida, Colorado, July 28, 2023

Preliminary Review

Groundwater samples were submitted to Origins Laboratory (Origins), Denver, Colorado under Pinyon chain-of-custody (COC) for the following analyses:

- Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270D Sim for specific constituents of concern (COCs): benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene, and naphthalene by EPA Method 8270D SIM
- Pentachlorophenol by EPA Method 8270D

August 2023

A total of 34 primary samples, 1 duplicate sample, and 2 rinsate blank samples were collected on August 9 and August 10, 2023.

The samples were relinquished to a representative at the laboratory on August 10, 2023. Upon arrival at the laboratory for analysis, the temperatures of the coolers were recorded. Sample temperatures were 0.0°C. The laboratory noted no trip blanks were received.

Rinsate Blanks

The Quality Control Section in the Sampling Plan specifies a rinsate blank should be collected during soil sampling for non-disposable equipment to evaluate field sampling and decontamination procedures. Equipment rinse water blanks were obtained by passing distilled or deionized water through or over the decontaminated sampling devices and then the water was collected. The sampling devices included metal mixing bowls and metal

trowels. One equipment rinse water blank was collected for each day of sampling, thus equating to two equipment rinse water blanks.

Concentrations were not reported above the minimum detection limit (MDL) for either of the equipment rinse blanks.

Field Duplicates

A total of one field duplicate was collected and analyzed (Table 2). The Sampling Plan states one blind duplicate will be collected for every 20 samples. The field team collected one duplicate sample for the first 20 samples and then did not collect an additional duplicate sample because less than 40 samples were collected. This does not affect the usability or validity of the data.

Table 2 lists analytes that were detected above the MDL for the original sample or the duplicate. For sample pairs where one or both result was estimated (J laboratory qualifier [Sample results was found between MDL and reporting limit.]) the difference between the two results was compared to the reporting detection limit (RDL). The relative percent difference (RPD) was calculated, as follows, when both the original sample and duplicate sample had results above the RDL.

$$RPD = \frac{|Result_{Duplicate} - Result_{Original}|}{\frac{Result_{Duplicate} + Result_{Original}}{2}} \times 100$$

PAHs (soil)

Overall Assessment

The samples were analyzed for PAHs by EPA Method 8270D-SIM (Table 1). The data reported for PAHs are considered to be usable with the identified qualifiers. Results for the target analytes for this specific project are usable and valid.

Preservation and Holding Times

Holding times (time between sample collection and analysis) for the samples ranged from 5 to 6 days (Table 1). This is within the acceptable range of 7 days for unpreserved soil samples.

Method Blank

One method blank or Laboratory Reagent Blank (LRB) was analyzed for each batch of analysis completed. This resulted in two method blanks (batches B3H1415 and B3H1416) and one LRB (batch L698691). The COC PAHs were not detected in the method blank or LRB above the laboratory method detection limit.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample sets were analyzed for two of the batches (batches B3H1415 and B3H1416). Batch L698691 did not have an MS/MSD sample set; however, the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was analyzed and fulfills the validation requirement. The percent recovery (%R) and RPD results for the MS/MSD samples sets were within the limits stated in the laboratory report.

Laboratory Control Sample (LCS)

One LCS was analyzed for each batch of analysis completed, resulting in three LCSs. One LCS/LCSD pair was also analyzed for batch L698691. The %R and RPD results were within the limits stated in the laboratory report.

Surrogates

The surrogate recoveries were within the limits stated in the laboratory reports; excluding pyrene-d10 for Y308287-04 (BSP-SS-02-20230809-1). Results were qualified as appropriate.

Field Duplicate

The field duplicate Y308287-21 (BSP-BD-01-20230809) was a duplicate of original sample Y308287-19 (BSP-SS-11-20230809-1).

For the samples and duplicates in the above list, PAHs were not detected above the method detection limit in either the original sample or the duplicate, with the exception of chrysene. Sample Y308287-21 (BSP-BD-01-20230809) had a detection of chrysene at a concentration of 0.002 milligrams per kilogram (mg/kg) with a J qualifier [Sample result was found between MDL and reporting limit.] and sample Y308287-19 (BSP-SS-11-20230809-1) had a detection of chrysene at a concentration of 0.0002 mg/kg with a J qualifier. The difference between the results was less than the RDL. The data is valid and no additional qualification is required.

Established processes for soil mixing were used in the field compositing. To be conservative, evaluation of these data will be completed using the maximum result between the primary sample and duplicate samples. The detected concentrations of chrysene did not approach the residential screening level (RSLs) of 110 mg/kg, which is used to evaluate impacted versus non-impacted soil.

Sensitivity

The sample results were reported to MDLs. The MDLs and reporting detection limits (RDLs) for PAHs met the level stated in Table I of the Sampling Plan, except benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene.

For samples Y308287-05 (BSP-SS-03-20230809-1), Y308287-19 (BSP-SS-11-20230809-1), and Y308287-23 (BSP-SS-12-20230809-1), results for benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene were qualified with R-01 [Reporting Limit for this analyte has been raised to account for matrix interference.]. Benzo(a)pyrene did not meet the RDL or the MDL; the MDL was elevated to 0.002 mg/kg from the requested MDL of 0.000468 mg/kg. Dibenz(a,h)anthracene did not meet the RDL or the MDL; the MDL was elevated to 0.002 mg/kg from the requested MDL of 0.000614 mg/kg. Indeno(1,2,3-c,d)pyrene did not meet the RDL or the MDL; the MDL was elevated to 0.002 mg/kg from the requested MDL of 0.000627 mg/kg. In these instances, the analyte was not detected above the elevated MDL.

Pentachlorophenol (soil)

Overall Assessment

The samples were analyzed for pentachlorophenol by EPA Method 8270D (Table I). Results for the target analytes for this specific project are usable and valid.

Holding Times

The time between sample collection and analysis of the samples ranged from 5 to 7 days (Table 1). This is within the acceptable range of 7 days for unpreserved soil samples.

Method Blank

One LRB served as the method blank for the lab report and was analyzed for each batch of analysis completed. LRB is treated as a field sample, including the addition of preservatives, internal standards, and surrogates to determine if interferences are present in the laboratory, reagents, or other equipment. One LRB was analyzed for each batch of analysis completed. This resulted in four method blanks (batches L698904, L698700, L698809, and L698939). Pentachlorophenol was not detected in the LRB above the laboratory reporting limit.

MS/MSD

One MS/MSD was analyzed for batches L698904, L698700, and L698809, resulting in three MS/MSD. Batch L698939 did not have an MS/MSD sample set; however, the LCS/LCSD was analyzed and fulfills the validation requirement. The %R and RPD results were within the limits stated in the laboratory report.

LCS

One LCS was analyzed for each batch of analysis completed, resulting in four LCS. One LCS/LCSD was analyzed for batch L698939. The %R and RPD results were within the limits stated in the laboratory report.

Surrogates

The surrogate recoveries were within the limits stated in the laboratory reports, with the exception of quality control samples in batches L698904 and L698809 where the surrogates percent recovery were outside the corresponding limits. These surrogates were * qualified, which means there was a QC Failure. Based on communications with the laboratory, this is a standard qualifier that is acceptable per the method. This qualifier is caused by non-homogeneity in the sample or matrix interference from non-target analytes.

Field Duplicate

The field duplicate Y308287-21 (BSP-BD-01-20230809) was a duplicate of original sample Y308287-19 (BSP-SS-11-20230809-1).

For the samples and duplicates in the above list, pentachlorophenol was not detected above the method detection limit in either the original sample or the duplicate. The RPD was not calculated.

Sensitivity

The sample results were reported to MDLs. The MDLs and RDLs for pentachlorophenol met the level stated in Table 1 of the Sampling Plan.

Tables:

Table 1. Analysis Summary

Table 2. Field Duplicates – Detections Only

Attachments:

Attachment A: Data Validation Checklist

Table I
Analysis Summary
Stockpile Sampling Report, August 2023
Butala Sand and Gravel
Salida, Colorado

Laboratory Sample ID	Client Sample ID	Date Collected	Date Prepared	Date Analyzed	Analysis Batch	Holding Time (days)	Notes
PAHs by Method 8270D-SIM							
Y308287-01	BSP-SS-01-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-02	BSP-SS-01-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-03	BSP-SS-01-20230809-3	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-04	BSP-SS-02-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-05	BSP-SS-03-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
			8/14/2023	8/15/2023	B3H1415	6	Select PAH compounds requiring dilution were analyzed on 8/15
Y308287-06	BSP-SS-03-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-07	BSP-SS-04-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-08	BSP-SS-04-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-09	BSP-SS-06-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-10	BSP-SS-06-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-11	BSP-SS-07-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-12	BSP-SS-07-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-13	BSP-SS-08-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-14	BSP-SS-08-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-15	BSP-SS-09-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-16	BSP-SS-09-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-17	BSP-SS-10-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-18	BSP-SS-10-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-19	BSP-SS-11-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
			8/14/2023	8/15/2023	B3H1415	6	Select PAH compounds requiring dilution were analyzed on 8/15
Y308287-20	BSP-SS-11-20230809-2	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-21	BSP-BD-01-20230809	8/9/2023	8/14/2023	8/14/2023	B3H1415	5	
Y308287-22	BSP-RB-01-20230809	8/9/2023	8/15/2023	8/15/2023	L698691	6	
Y308287-23	BSP-SS-12-20230809-1	8/9/2023	8/14/2023	8/14/2023	B3H1416	5	
			8/14/2023	8/15/2023	B3H1416	6	Select PAH compounds requiring dilution were analyzed on 8/15
Y308287-24	BSP-SS-12-20230809-2	8/9/2023	8/14/2023	8/15/2023	B3H1416	6	
Y308287-25	BSP-SS-17-20230810-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-26	BSP-SS-17-20230810-2	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-27	BSP-SS-20-20230810-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-28	BSP-SS-21-20230810-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-29	BSP-SS-21-20230810-2	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-30	BSP-SS-22-20230810-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-31	BSP-SS-22-20230810-2	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-32	BSP-SS-22-20230810-3	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-33	BSP-SS-113-20230810-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-34	BSP-SS-109a-2023010-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-35	BSP-SS-109b-2023010-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-36	BSP-SS-109c-2023010-1	8/10/2023	8/14/2023	8/15/2023	B3H1416	5	
Y308287-37	BSP-RB-02-20230810	8/10/2023	8/15/2023	8/15/2023	L698691	5	

Table I
Analysis Summary
Stockpile Sampling Report, August 2023
Butala Sand and Gravel
Salida, Colorado

Laboratory Sample ID	Client Sample ID	Date Collected	Date Prepared	Date Analyzed	Analysis Batch	Holding Time (days)	Notes
PCP by Method 8270D							
Y308287-01	BSP-SS-01-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-02	BSP-SS-01-20230809-2	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-03	BSP-SS-01-20230809-3	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-04	BSP-SS-02-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-05	BSP-SS-03-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-06	BSP-SS-03-20230809-2	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-07	BSP-SS-04-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-08	BSP-SS-04-20230809-2	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-09	BSP-SS-06-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-10	BSP-SS-06-20230809-2	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-11	BSP-SS-07-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-12	BSP-SS-07-20230809-2	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-13	BSP-SS-08-20230809-1	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-14	BSP-SS-08-20230809-2	8/9/2023	8/15/2023	8/15/2023	L698700	6	
Y308287-15	BSP-SS-09-20230809-1	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-16	BSP-SS-09-20230809-2	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-17	BSP-SS-10-20230809-1	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-18	BSP-SS-10-20230809-2	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-19	BSP-SS-11-20230809-1	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-20	BSP-SS-11-20230809-2	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-21	BSP-BD-01-20230809	8/9/2023	8/14/2023	8/14/2023	L698809	5	
Y308287-22	BSP-RB-01-20230809	8/9/2023	8/16/2023	8/16/2023	L698939	7	
Y308287-23	BSP-SS-12-20230809-1	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-24	BSP-SS-12-20230809-2	8/9/2023	8/16/2023	8/16/2023	L698809	7	
Y308287-25	BSP-SS-17-20230810-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-26	BSP-SS-17-20230810-2	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-27	BSP-SS-20-20230810-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-28	BSP-SS-21-20230810-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-29	BSP-SS-21-20230810-2	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-30	BSP-SS-22-20230810-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-31	BSP-SS-22-20230810-2	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-32	BSP-SS-22-20230810-3	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-33	BSP-SS-113-20230810-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-34	BSP-SS-109a-2023010-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-35	BSP-SS-109b-2023010-1	8/10/2023	8/16/2023	8/16/2023	L698809	6	
Y308287-36	BSP-SS-109c-2023010-1	8/10/2023	8/16/2023	8/16/2023	L698904	6	
Y308287-37	BSP-RB-02-20230810	8/10/2023	8/16/2023	8/16/2023	L698939	6	

Notes:

SVOCs = Semi Volatile Organic Compounds

SIM = Selected Ion Monitoring

NM = Not Measured

Table 2
Field Duplicates - Detections Only
Stockpile Sampling Report, August 2023
Butala Sand and Gravel
Salida, Colorado

Analyte	Original Sample ID	Laboratory Result (mg/kg)	Laboratory Flag	Duplicate Sample ID	Duplicate Laboratory Result (mg/kg)	Duplicate Laboratory Flag	RPD (%)
Chrysene	BSP-SS-11-20230809-1	0.002	J	BSP-BD-01-20230809	0.0002	J	NC

Notes:

RPD = Relative Percent Difference

mg/kg = milligrams per kilogram

NC = Not Calculated

J = Sample result was found between method detection limit (MDL) and reporting limit (RL)

% = Percent

Data Validation Checklist

Project Name: Butala Sand and Gravel Stockpile (BSP) Date Collected: August 9 and 10, 2023

Laboratory Report(s): Y308287

Samples Submitted:

Sample Type	Analysis: PAHs 8270D SIM	Analysis: PCP 8270D	Analysis: PAHs 8270E SIM	Analysis:
Total number of samples	34	34		
Duplicate samples	1	1		
Trip blanks				
Field blanks				
Equipment blanks		2	2	
MS/MSD				
Other:				

Yes ☒ No ☐ Does sample summary match the COC? _____

Yes ☒ No ☐ Were samples preserved appropriately? _____

Yes ☒ No ☐ Were samples analyzed within holding time? _____

Yes ☐ No ☒ Were surrogate recoveries within limits? Pyrene-d10 for Y308287-04 outside of limits

Yes ☒ No ☐ Were samples reported to MDLs? Certain PAH compounds had elevated MDL

Yes ☒ No ☐ Any elevated reporting limits for non-detects? _____

Yes ☐ No ☒ Any analytes detect in the trip blank/field blank/equipment blank? _____

Yes ☒ No ☐ Was anything noted in the case narrative? A report revision of dilution for PCP due to presence of non-target analytes.

Laboratory QC Samples:

Batch Number	Analysis	Method Blank	MS/MSD	Lab Duplicate	LCS/LCSD	Other
<i>Example 1234</i>	<i>8260B</i>	<i>1</i>	<i>2; 1 (MS only)</i>	<i>0</i>	<i>1</i>	<i>0</i>
B3H1415	8270E	1	1	0	1	
B3H1416	8270E	1	1	0	1	
L698904	8270D PCP	1	1	0	1	* Qualifier
L698700	8270D PCP	1	1	0	1	
L698809	8270D PCP	1	1	0	1	* Qualifier
L698939	8270D PCP	1	0	0	1	
L698691	8270D SIM	1	0	0	1	

Yes ☒ No ☐ Are there qualifiers reported for laboratory QC samples? J, * qualifier

Data Validator: Lauren King Date: August 22, 2023