Final Groundwater Monitoring Well Construction Report

Simplot Grower Solutions
J.R. Simplot Company

Warden, Washington
October 2023

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Prepared for:
J.R. Simplot Company

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Warden, WA 98857

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Tables of Contents

List of Figures

List of Tables

Appendices

Acronyms

Acronym	Definition
AO	Agreed Order
bgs	below ground surface
CAP	Cleanup Action Plan
Ecology	Washington Department of Ecology
EDB	ethylene dibromide
HDR	HDR Engineering, Inc.
Holt	Holt Services, Inc
MTCA	Model Toxics Control Act
MW	monitoring well
QA/QC	Quality assurance/quality control
SGS	Simplot Grower Solutions
Simplot	J.R. Simplot Company
SOP	Standard operating procedure
µg/Kg	micrograms per kilogram
µg/L	micrograms per liter
UC	uniformity coefficient
USEPA	U.S. Environmental Protection Agency
WAC	Washington Administrative Code
Work Plan	*Groundwater Monitoring Well Construction and Monitoring Plan*

1 Introduction

This *Groundwater Monitoring Well Construction Report* describes the procedures that the J.R. Simplot Company (Simplot) performed to construct four groundwater monitoring wells for subsequent monitoring to comply with the cleanup action at the Simplot Grower Solutions (SGS) facility in Warden, Washington (**Figure 1**). The cleanup action and subsequent compliance monitoring is being conducted pursuant to Agreed Order (AO) DE 16890 and the Model Toxics Control Act (MTCA) regulations (Chapter 173-340 Washington Administrative Code [WAC]) to implement the remedies specified in the *Cleanup Action Plan* (CAP; Ecology 2019) to remove ethylene dibromide-(EDB) contaminated soil and groundwater.

Simplot entered into AO DE 16890 with Washington State Department of Ecology (Ecology) on May 7, 2020, to implement the CAP in accordance with the scope of work and schedule attached to the AO DE 16890.

The SGS site monitoring network was comprised of nine groundwater monitoring wells (MWs): MW-1, MW-2, MW-3, MW-6S, MW-7S, MW-7D, MW-8S, MW-9S, and MW-10S. Monitoring wells MW-5S and MW-5D were decommissioned in June 2020 (HDR 2020) because they were in the area of corrective action involving soil excavation, completed in spring 2021. The CAP calls for replacing these two wells after excavation and backfilling activities are complete (HDR 2021a). In addition, the CAP requires two additional downgradient wells to aid in compliance monitoring.

Excavation activities took place in March to April 2021, with excavation being completed by GrayMar and HDR conducting sampling, oversight, and reporting activities (HDR 2023b). Two pits (the west pit and a smaller pit to the east) were excavated. In total, approximately 13,000 cubic yards of soil were excavated from both pits, with approximately 6,500 to 7,200 cubic yards determined to be contaminated with EDB (this is based on the number of SVE treatment batches). The excavation depths of the west pit ranged from 25 feet bgs in the southern extent, to 37 feet bgs in the northern half. In the area where replacement wells MW-5DR and MW-5SR were installed, excavation depth appears to be between 28 and 33 feet bgs.

For further details on remediation activities and compliance monitoring, refer to the following documents:

- *Final Engineering Design Report* (HDR 2021a)
- *Cleanup Action Implementation Compliance Monitoring Plan* (HDR 2021b)

A *Groundwater Monitoring Well Construction and Monitoring Plan* (Work Plan; HDR 2023a) was prepared and described the following activities.

- Construct four monitoring wells (**Figure 2**):
    - MW-5SR and MW-5DR – replacement wells in the approximate location as the original wells, within the excavation area footprint.
    - MW-11S and MW-12S – new downgradient wells from the excavation area.

1.1 Site Description

Table 1. Site Description

Site Name	Simplot Growers Solutions, Warden, Washington Site (Agreed Order refers to site as Warden City Wells site)
Ecology Facility/sites ID	2802409
Agreed Order	No. DE 16890
Cleanup Site ID (CSID)	No. 1618 (Warden City Water Supply Wells 4&5)
Address	1800 West 1st Street Warden, WA 98857
Location:	GPS: 46.97025 46° 58' 13" North and -119.060309 -119° 3' 37" West UTM: Zone 11 N; 343279.18, 5203918.33 Legal: SW T17N R30E S9 Parcel: 060697000 County: Grant, WA
Ecology Site Manager	Christer Loftenius, LG, LHG State of Washington Department of Ecology Toxics Cleanup Program, Eastern Region 4601 N Monroe Street Spokane, Washington 99205-1295 clof461@ecywa.gov 509.329.3400
Potentially Liable Person (PLP)	J.R. Simplot Company P.O. Box 27 Boise, Idaho 83707
PLP Contact	Molly Dimick, MBA Environmental Engineer J.R. Simplot Company PO Box 912 1130 W. Hwy 30 Pocatello, ID 83204 208.235.5682 Molly.Dimick@simplot.com
Site Owner	Same as PLP
Well Installation Report Preparer	HDR Engineering, Inc. Tyler Allen 412 East Parkcenter Boulevard, Suite 100 Boise, Idaho 83706 Tyler.Allen@hdrinc.com 208.387.7018

2 Site Description and Background

2.1 Geology and Hydrogeology

A description of site geology and hydrogeology is primarily taken from the *Preliminary Investigation of Ethylene Dibromide Contamination* (PGG 2007), *Phase II Preliminary Investigation Report* (Ecology 2009), and remedial investigation/feasibility study (RI/FS) activities conducted by HDR Engineering, Inc. (HDR 2018).

The City of Warden is located within the Columbia Plateau, which is dominated by the Columbia River Basalt Group (thick sequence of basalt flows). Unconsolidated sediment overlies basalt in the Warden area and is comprised of sand and silt deposited by outburst floods from Glacial Lake Missoula and Palouse Formation loess (windblown silt and fine sand). Lithology at the monitoring wells associated with the site is described as unconsolidated soil of very silty to slightly silty to silty fine sand 17 to 64 feet thick. Layers of caliche (hardened soil caused by calcium carbonate and/or salts) were also observed in the upper 27 feet of soil. During the 2007 investigation the Pacific Groundwater Group (PGG) hydrogeologist described the caliche in borings MW-1 and MW-4 as having reactions to hydrochloric acid, suggesting a significant proportion of the caliche has a carbonate fraction. At the SGS site, caliche is interbedded with sand from 4 to 25 feet below ground surface (bgs). Beneath the unconsolidated soil and caliche is 4.5 to 14 feet of weathered basalt overlying competent basalt. The contact between the overburden and weathered basalt, in the vicinity of the monitoring wells, slopes to the west-northwest. A summary of lithology for monitoring well MW-5, constructed at the SGS site, is as follows (PGG 2007):

Depth below ground surface	Description
0 to 4 feet	Fill material
4 to 18.5 feet	Fine sand with caliche interbeds
18.5 to 43 feet	Fine sand and silty sand
43 to 49 feet	Weathered basalt
49 to >55 feet	Hard basalt
55 feet	Boring bottom

The site and surrounding area lie in the Odessa groundwater management subarea, a segment of the Columbia Basin groundwater system, which is characterized by declining basalt aquifer water levels and high amounts of recharge to the shallow aquifer due to irrigated agricultural activities in the region. The surficial geologic deposits are outwash deposits and wind-blown aeolian deposits (loess). Below these surficial deposits, three aquifers are identified in the City of Warden area:

- Shallow aquifer - comprised of unconsolidated deposits (includes weathered basalt, gravels, sand, silt, and clay); regionally, this aquifer flows toward the west (George, D., 2006). Monitoring wells associated with the RI/FS are constructed in the shallow aquifer.
- Deep Basalt aquifers - comprised of the Wanapum and Grande Ronde deep aquifers. No monitoring wells associated with the RI/FS are constructed in the deep aquifer.
    - Wanapum aquifer – part of the Wanapum Basalt formation of the Columbia River Basalt Group; this formation extends to a depth of approximately 600 feet bgs; regionally, groundwater flows southwest (Hansen et al., 1994).
    - Grande Ronde aquifer – a deeper basalt aquifer found beneath the Wanapum formation; regionally, flows toward the south and southwest (Hansen et al. 1994).

The topography of the area is generally flat with a few gently sloping hills. Elevation of the site is approximately 1,252 feet above sea level. The geomorphologic setting of the area is characterized by outwash deposits and wind-blown aeolian deposits (loess). The nearest major natural surface water body is Warden Lake to the west approximately 4.5 miles. The nearest man-made surface water body is the East Low Canal just north of the site. The nearest undeveloped natural land is

approximately 3 miles west/southwest of the site, part of which is the Columbia National Wildlife Refuge. Other areas around Warden are residential or agriculturally developed land.

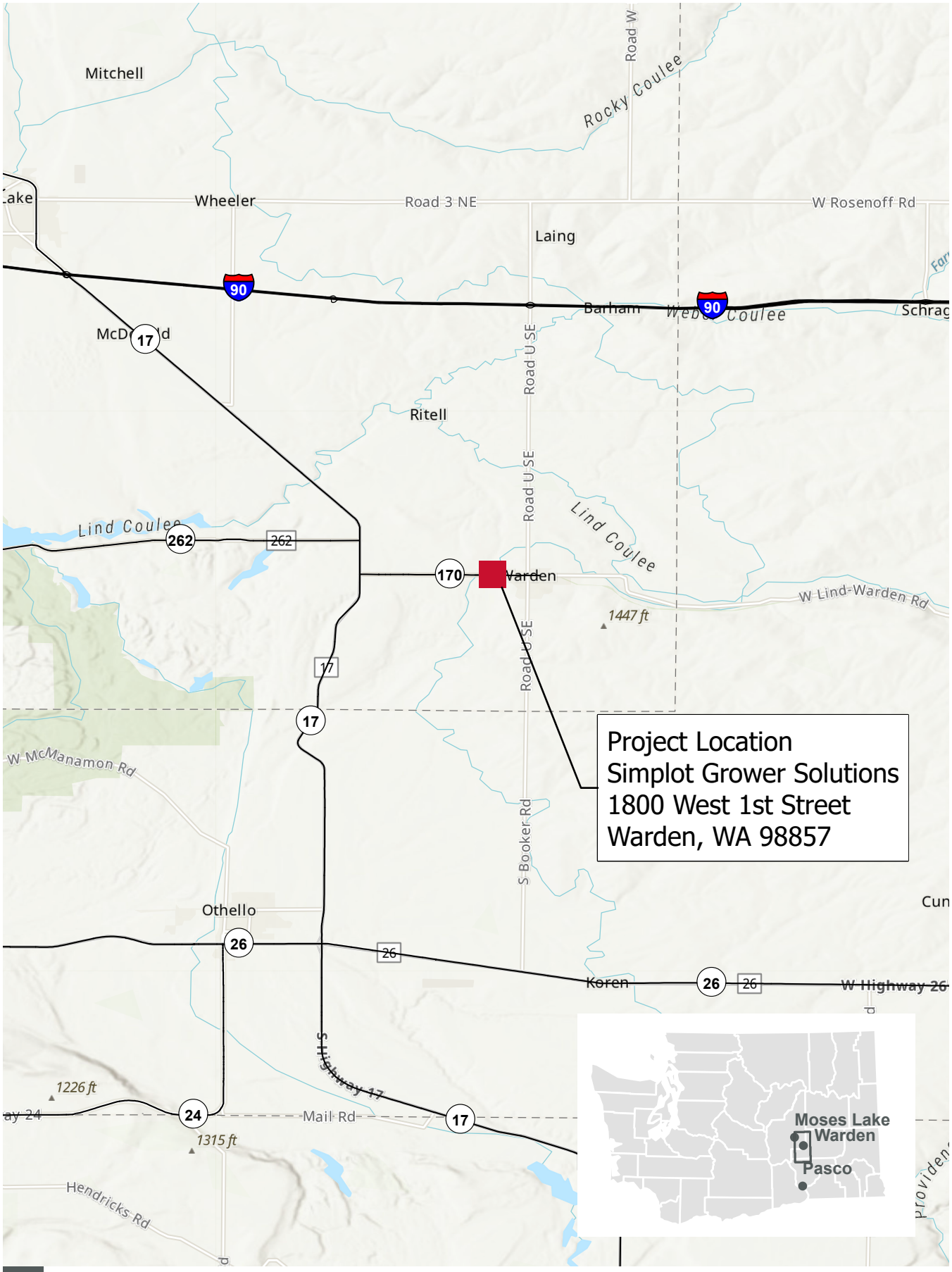
2.2 Groundwater Conditions

Figure 2 illustrates the updated groundwater monitoring well network for the site. The original wells were constructed to provide information on groundwater flow direction, seasonal variations in flow and gradient, and groundwater quality upgradient and downgradient of the SGS site. **Table 2** summarizes monitoring well construction and survey information for the original wells. Shallow wells (MW-5S, MW-6S, MW-7S, MW- 8S, MW-9S, and MW-10S) were screened in the upper portion of the shallow aquifer to monitor water at the groundwater/vadose zone interface. Well MW-7D and Ecology wells MW-1, MW-2, MW-3, MW-4, and MW-5D were screened in the lower portion of the shallow aquifer in unconsolidated to weathered basalt interface (ranging from 55 to 75 feet bgs). The upper and lower wells provide information as to potential groundwater gradient differences between the lower and upper zones within the shallow aquifer, as well as differences in EDB levels. Both upper and lower wells are within the shallow unconfined aquifer. Well MW-6D was planned but not drilled, because basalt was encountered at a depth of approximately 26 feet, so only MW-6S was installed. MW-9S, drilled off site to the south of the facility, encountered basalt at 16 feet bgs. Furthermore, the borehole was dry at the time of drilling in July 2013 and the well was dry in October 2013 and December 2017. MW-9S is screened from 7 to 17 feet bgs. Well MW-4 was decommissioned in April 2015 at the request of the landowner. Wells MW-5S and MW-5D were decommissioned in June 2020 to support remedial excavation in the area.

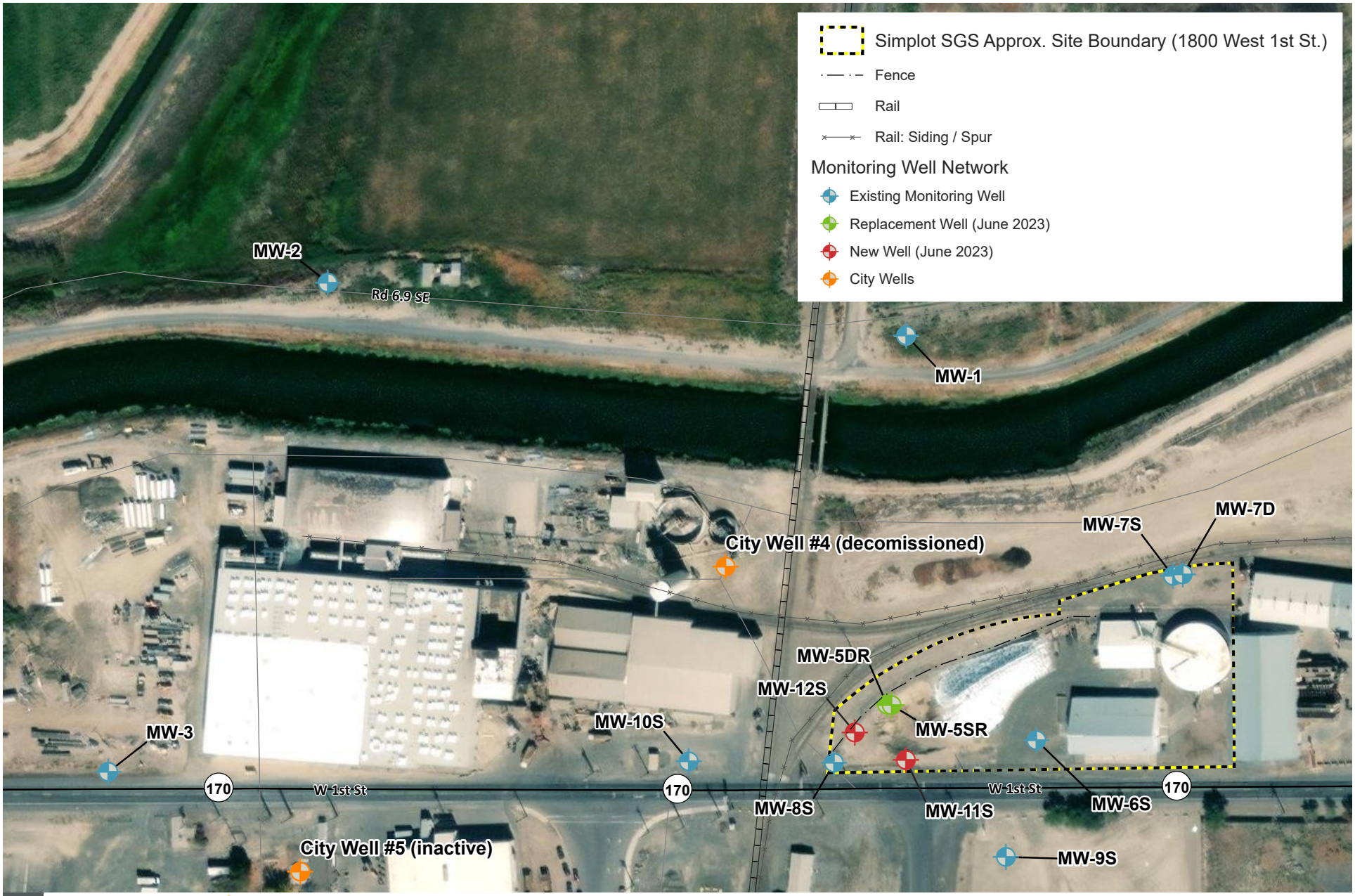
Following is a summary of groundwater monitoring well sampling results. Refer to the RI/FS for more details on groundwater conditions (HDR 2018).

- Groundwater gradient, based on the upper wells, shows a southerly/southwesterly flow direction. Groundwater flow for the deeper wells is split where groundwater north of the canal flows northerly, and groundwater south of the canal flows in a southerly direction. No upper wells in the shallow aquifer have been installed north of the canal to confirm the observations found south of the canal. However, the observations from the shallow wells south of the canal are likely a result of groundwater mounding caused by the canal acting as a losing stream.
- EDB has been found in groundwater beneath the site associated with shallow well MW-5S (decommissioned June 2020), which was screened through the vadose zone/groundwater interface. Shallow well MW-6S was non-detect in October 2013 and measured 0.35 micrograms per liter (µg/L) in December 2017. Monitoring well MW-5D (paired well to MW-5S and also recently decommissioned), which was screened at the unconsolidated groundwater/basalt interface, was non-detect (except for detection of 0.27 µg/Kg in January 2012 and 0.01 µg/kg in April 212 and October 2013) during the RI monitoring period. EDB has not been detected in off-site monitoring wells, including wells that are downgradient (at least part of the year) from the SGS site. Groundwater samples collected and analyzed in December 2017 (3 years from the previous monitoring) were consistent with previous findings. Monitoring well MW-5S was screened in the caliche zone, and based on soil sampling from this well, it is postulated that the detection of EDB in this well is from the slow dissolution of EDB held in this confining layer. That EDB has not been detected in downgradient monitoring wells (e.g., MW-8S, MW-10S, MW-4, MW-3) suggests the

presence is localized and that there may not be an established plume in the shallow groundwater at this time. While EDB has not been detected in off-site monitoring wells, it had been detected in City of Warden water supply wells No. 4 (later decommissioned) and 5, including at levels in excess of the Washington groundwater quality standard (see RI/FS [HDR 2018] for more details). In addition, EDB has been detected in City wells No. 8 and 9, located approximately 0.4 and 0.66 miles south-southwest of the Site, with EDB levels in the wells at times exceeding the MCL. However, based on the existing site conceptual model, it is unclear if EDB is site related. Note that City well No.8 is 509 feet deep with a well screen from 110 to 120 ft bgs, and well No. 9 is 505 feet deep with screens from 120 to 220 and 315 to 355 ft bgs.

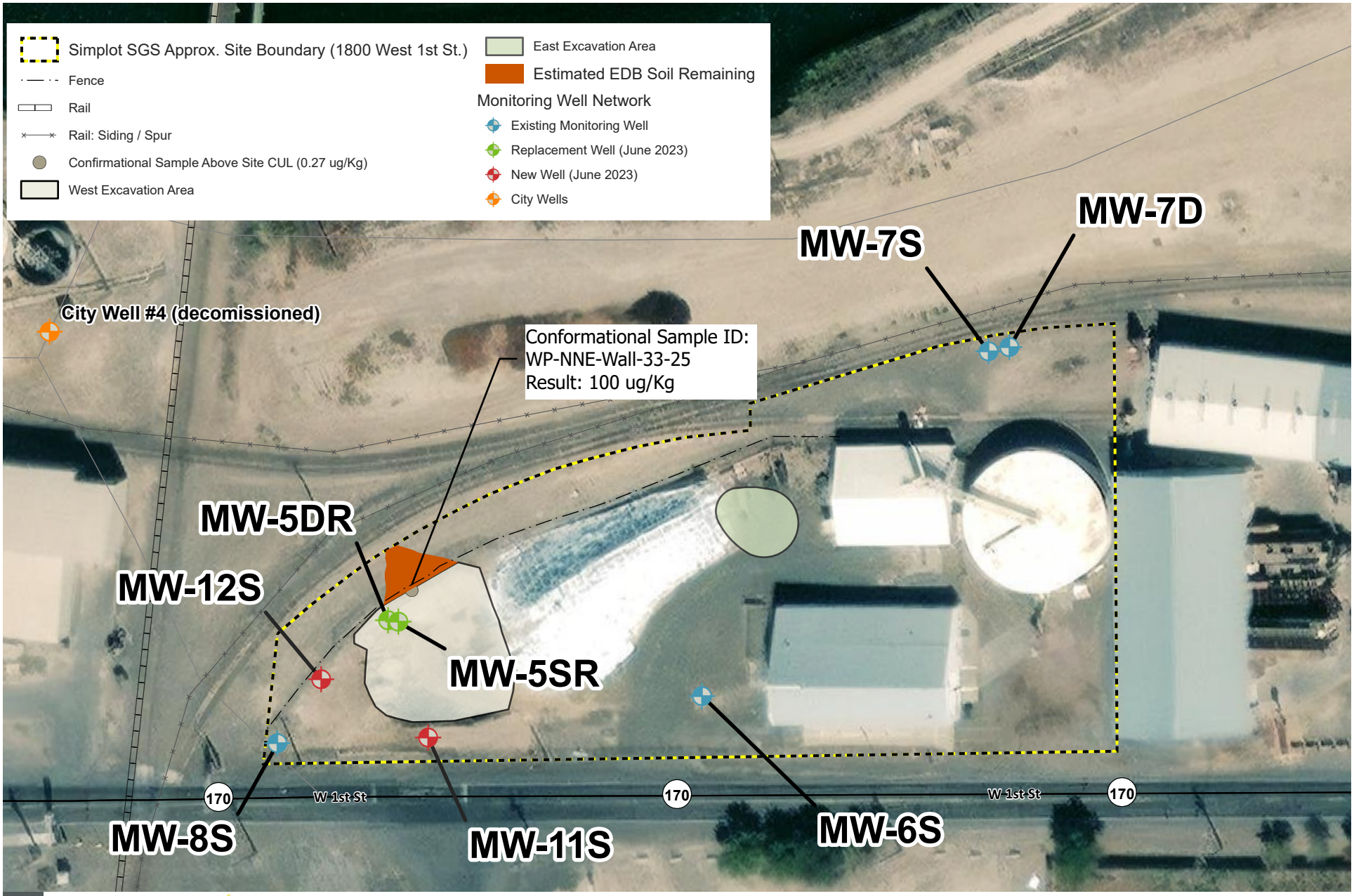


VICINITY MAP
Figure 1



COMPLIANCE MONITORING WELL NETWORK

Figure 2



HDR Simplot 0 100 Feet

2021 EXCAVATION LIMITS AND MONITORING WELLS

Figure 3

Table 2. Existing Monitoring Well Summary

	MW-1	MW-2	MW-3	MW-4[1]	MW-5D[2]	MW-5S[2]	MW-6S	MW-7D	MW-7S	MW-8S	MW-9S	MW-10S
Ecology Unique ID	APK 353	APK 354	APK 355	APK 356	APK 357	BCE 296	BCE 297	BCE 298	BCE 299	BHP-139	BHP-507	BHP-508
Installation Dates	8/14/06	8/15/06	8/15/06	8/16/06	8/16/06	12/5/11	12/5/11	12/7/11	12/6/11	1/16/13	7/8/13	7/8/13
Measuring Point Coordinates[3]												
Northing	600643.42	600712.43	600077.54	599989.55	600190.13	600180.56	600118.69	600334.17	600331.8	600089.61	599967.53	600091.31
Easting	1999635.94	1998885.78	1998600.99	1999197.52	1999618.84	1999634.23	1999804.74	1999994.82	1999981.87	1999542.40	1999765.18	1999354.01
Elevations[3]												
Ground Surface Elevation, feet	1243.22	1244.49	1240.88	1244.72	1245.14	1245.06	1245.36	1248.51	1248.36	1244.52	1244.77	1242.82
Measuring Point (PVC) Elevation, feet	1245.62	1247.09	1240.88	1244.72	1247.54	1247.66	1247.86	1251.01	1250.86	1248.84	1247.27	1245.32
Top of Screen Elevation, feet	1197.22	1179.99	1191.38	1195.22	1201.14	1228.56	1235.36	1206.51	1231.36	1230.52	1237.77	1227.82
Bottom of Screen Elevation, feet	1187.22	1169.99	1181.38	1185.22	1191.14	1208.56	1215.36	1196.51	1211.36	1210.52	1227.77	1207.82
Depths												
Top of Screen, feet bgs	46	64.5	49.5	49.5	44	16.5	10	42	17	16	7	15
Bottom of Screen, feet bgs	56	74.5	59.5	59.5	54	36.5	30	52	37	36	17	35
Bottom of Well Casing, feet bgs	N/A	N/A	N/A	N/A	N/A	37	30.4	52.4	37.4	36.5	17.5	35.5
Depth of Borehole, feet bgs	60	75	60	60	55	39.5	37	52.5	38.5	36.5	17.5	35.5

[1] MW-4 decommissioned in April 2015 at landowner's request
[2] MW-5D and MW-5S decommissioned in June 2020
[3] Survey conducted by Permit Surveying, Inc

3 Groundwater Monitoring Well Construction

Based on requirements of the CAP (Ecology 2019), two replacement and two new monitoring wells were installed per the Work Plan (HDR 2023) in order to monitor groundwater conditions at the Warden site.

3.1.1 Monitoring Well Locations

See **Figure 2** for well locations, both existing, replacement, and new monitoring wells. Note that wells MW-4, MW-5S, and MW-5D are marked as abandoned wells (see abandonment logs in Appendix A). MW-4 was abandoned in April 2015 due to new road construction being conducted by the City of Warden (HDR 2015). MW-5S and MW-5D were abandoned as they were within the planned excavation area for the 2021 excavation of soil for the CAP. MW-5SR and MW-5SD were designed to be installed within the backfilled excavation area as part of the CAP (with construction information described in following sections).

3.1.2 Drilling Conditions

Based on previous well driller reports for the site, HDR anticipated total well depths of the two new wells (MW-11S and MW-12S) of 36.5 feet bgs with unconsolidated material (sand, silt, and clay) and caliche layers from ground surface to depth. Replacement well MW-5SR was anticipated to be drilled to a total depth of 36.5 feet bgs and drilled through fill material, while replacement well MW-5DR was anticipated to be drilled to a total depth of 54 feet bgs and drilled through fill material, and unconsolidated material (sand, silt, and clay) and caliche. Fill material is the same native ground material that was determined to be clean and re-usable following ex-situ SVE treatment of excavated soils or clean imported fill. Groundwater was anticipated to be encountered at 19 to 33 feet bgs. During drilling, conditions generally met expectations.

3.2 Monitoring Well Construction Procedures

3.2.1 Utilities

HDR located and staked the four well locations prior to drilling. Washington Utilities Coordinating Council (Call Before You Dig, 1-800-424-5555) was contacted to locate public utilities in the area of the proposed wells and HDR subcontracted a private utility locator to locate any private utilities at or around the proposed monitoring well installation locations.

3.2.2 Drilling and Well Construction

Monitoring well MW-11S, MW-12S, MW-5SR, and MW-5DR are located in Section 9, Township 17N, Range 30E. Holt Services, Inc. (Holt) drilled and constructed the four wells on June 19 to 22, 2023.

The wells were drilled using a licensed rotosonic drill rig capable of drilling through unconsolidated materials and basalt. HDR's geologist supervised the drilling crew, logged lithology, collected soil samples, and documented well installation. The three shallow wells (MW-11S, MW-12S, and MW-5SR) were constructed to monitor static water levels and water quality within the shallow groundwater zone with 20 feet of well screen. The deep replacement well (MW-5DR) was constructed to monitor water in the intermediate zone (similar to the other "deep" wells shown in **Table 2**) and were constructed with 10 feet of well screen. Soil samples were collected every 10 feet (and from the bottom of the borehole) from the generated soil cuttings as well as at the first caliche

interval in wells MW-11S and MW-12S. **Table 3** shows well construction information for the four new wells.

Table 3. New Well Construction Details

Well		MW-11S	MW-12S	MW-5SR	MW-5DR
Completion Date		6/22/2023	6/22/2023	6/21/2023	6/20/2023
Ecology Well Tag ID		BPD-001	BPD-004	BPD-003	BPD-002
Northing[1]		600107.16	600139.00	600174.05	600174.97
Easting		1999644.64	1999580.17	1999626.08	1999620.12
Reference Point Elevation (Top of PVC) (NAVD88) (ft above mean sea level [amsl])		1250.06	1249.44	1249.41	1249.43
Elevation of Concrete Pad (NAVD88) (ft amsl)		1247.32	1246.75	1246.72	1246.73
Borehole depth (ft bgs)		38	37	37	55
Well depth (ft bgs)		36	36.5	36	54
PVC stickup (ft above concrete pad)		2.74	2.69	2.69	2.7
Height of monument (ft above concrete pad)		3.47	3.47	3.53	3.11
Number of bollards (steel, filled with concrete)		3	3	3	3
Well Screen	**well screen interval (ft bgs)**	16-36	16.5-36.5	16-36	44-54
	screen length (ft)	20	20	20	10
	slot size (inch)	0.010	0.010	0.010	0.020
Filter Pack	**upper depth (ft bgs)**	14	13.5	14	41
	lower depth (ft bgs)	38	37	37	55
	filter pack gradation	20/40	20/40	20/40	12/20
Bentonite Chips – 3/8 inch	**upper depth (ft bgs)**	2	2	2	3
	lower depth (ft bgs)	14	13.5	14	41
Concrete	**upper depth (ft bgs)**	0	0	0	0
	lower depth (ft bgs)	2	2	2	3
SWL (after drilling)	**(ft bgs)**	25.73	24.81	24.29	24.36

[1] Survey completed on July 19, 2023 by AHBL.
ft amsl=feet above mean sea level; NAVD88=North American Vertical Datum of 1988; ft bgs=feet below ground surface; SWL=static water level

For filter pack determination for the shallow monitoring wells (MW-11S, MW-12S, and MW-5SR), HDR determined the optimal filter pack grain size by assuming a shallow aquifer formation consisting of the Palouse Formation, which was determined to consist of sandy loess of the Ritzville Formation (L.D. Beard et al. 1986). Using the associated sandy loess grain distribution, the following steps were taken to determine the filter pack needed using the procedure outlined in the Filter Pack Design Section of Groundwater and Wells (Driscol, Fletcher G., 1986):

1. Select the grading of the filter pack on the basis of the selected sieve analysis (described above).
2. Multiply the 70 percent size of the soil by a factor between 4 and 6 if the soil is uniform, and the 40 percent retained size is 0.010 (0.25 millimeters [mm]) or less; based on the sandy loess curve, the 40 percent retained size is approximately 0.075 mm (0.003 inches). Using 5 as a multiplier, the 70 percent retained size of the filter material is 5 x 0.003 inches = 0.015 inches.

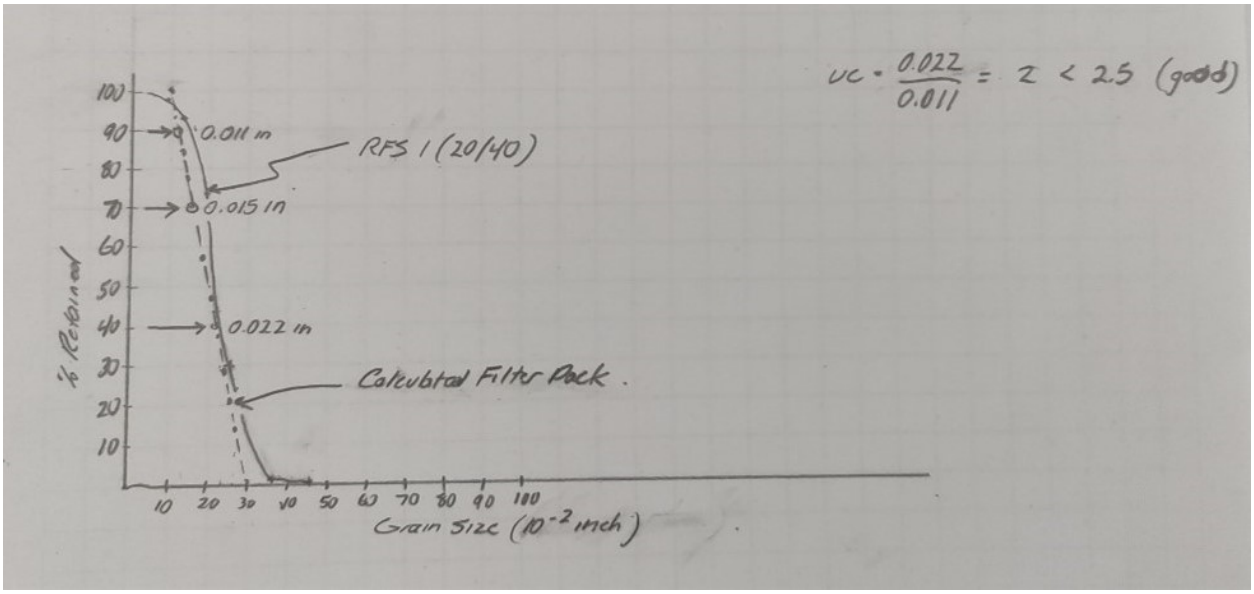
3. Through the initial point on the filter pack curve, draw a smooth curve representing material with a uniformity coefficient of approximately 2.5 or less. The uniformity coefficient is defined as the 40 percent retained size divided by the 90 percent retained size.

The resulting curve (see **Plot 1**) is a theoretical filter pack with a uniformity coefficient of 2 with the following characteristics (**Table 4**):

Table 4. Theoretical Filter Pack Characteristics

Sieve Opening (inches)	% Retained
0.022	40
0.015	70
0.011	90

The uniformity coefficient (UC) for the shallow wells was calculated to be 2, which is within the upper bound of an acceptable filter pack having a UC of 2.5.



Plot 1. Calculated Filter Pack Curve

The closest commercially available filter sand is the P.W. Gillibrand Raptor Filter Sand 20/40 (formerly known as Colorado Silica) or equivalent with an effective size of 0.52 mm and a uniformity coefficient of 1.32. All three shallow wells (MW-11S, MW-12S, and MW-5SR) were constructed with this filter pack size.

Screen slot size for the shallow wells was selected as 0.010-inch slot size due to the size of the sandy loess material that makes up the Palouse Formation (see discussion above on filter pack sand size determination for the shallow wells), while the deep well (MW-5DR) was constructed with 0.020 slot screen for the weathered basalt formation, similar to previously constructed wells at the site. During well construction, well screens and sand sizes were checked for compatibility with the well screen they would be used with.

3.2.3 Monitoring Well MW-11S

Monitoring well MW-11S was drilled and constructed on June 19 through 22, 2023, to a total depth of 38 feet bgs. The driller log is in Appendix A and a well boring log is included in Appendix B. Observations made during drilling indicate a generalized lithologic sequence shown in **Table 5**.

Table 5. MW-11S Generalized Lithology

Lithology	Depth
Silty sand	0 to 4 ft
Sandy gravel	4 to 7 ft
Caliche	7 to 9 ft
Silty sand	9 to 10 ft
Silt	10 to 12.5 ft
Silty sand	12.5 to 15 ft
Sandy gravel	15 to 18 ft
Fine sand	18 to 20 ft
Caliche	20 to 22 ft
Fine sand	22 to 38 ft

As anticipated from nearby monitoring well driller logs, water was encountered at approximately 25 feet bgs (anticipated between 19 and 33 feet). Soil samples were collected every 10 feet for lab analysis and at the first caliche interval (7-8 feet). Soil samples are further described in **Section 4**.

Drilling was originally completed on June 20, 2023, however, during the installation of MW-5DR, it was discovered that the wrong sand size was used (12/20 instead of 20/40) for construction of MW-11S. Well MW-11S was re-drilled and re-constructed on June 22, 2023.

Monitoring well MW-11S was completed as follows:

- 2-inch diameter, flush-threaded, Schedule 40 PVC casing.
- 20 feet of factory-slotted well screen (0.010-inch slot size) from 16 to 36 feet bgs.
- End cap threaded to the base of the well screen.
- CSSI silica sand (Grade 20/40) used as a filter pack surrounding the well screen from total depth (38 feet bgs) to 14 feet bgs.
- Bentonite chip (3/8-inch) seal dry-poured, then hydrated (by remaining water in the annular space) from 14 feet bgs to approximately 2 feet bgs.
- Concrete from 0 to 2 feet bgs.

The wellhead was secured using a lockable well cap. A locking, protective steel monument was placed over the well and secured in a concrete pad. The top 2 feet of annular space surrounding the well was filled with concrete. Three steel bollards were placed into the ground around each well monument and filled with concrete to provide a protective barrier around each well. Both the bollards and the protective steel monument were painted yellow to provide higher visibility. An as-built well construction diagram is shown in Appendix C. Photos taken during drilling are included in Appendix D.

3.2.4 Monitoring Well MW-12S

Monitoring well MW-12S was drilled and constructed on June 21 and 22, 2023, to a total depth of 37 feet bgs. The driller log is in Appendix A and a well boring log is included in Appendix B. Observations made during drilling indicate a generalized lithologic sequence shown in **Table 6**.

Table 6. MW-12S Generalized Lithology

Lithology	Depth
Gravelly sand	0 to 3 ft
Sandy/silty gravel	3 to 7.5 ft
Silt	7.5 to 10 ft
Fine sand	10 to 12.5 ft
Sandy silt	12.5 to 14 ft
Caliche	14 to 17.5 ft
Sandy silt	17.5 to 20 ft
Silty sand	20 to 25 ft
Fine sand	25 to 37 ft

As anticipated from drillers' logs of the wells in the area, water was encountered at approximately 20 feet bgs (anticipated between 19 and 33 feet). Soil samples were collected every 10 feet for lab analysis and at the first caliche interval (7-8 feet). Soil samples are further described in **Section 4**.

Monitoring well MW-12S was completed as follows:

- 2-inch diameter, flush-threaded, Schedule 40 PVC casing.
- 20 feet of factory-slotted well screen (0.010-inch slot size) from 16.5 to 36.5 feet bgs.
- End cap threaded to the base of the well screen.
- CSSI silica sand (Grade 20/40) used as a filter pack surrounding the well screen from total depth (37 feet bgs) to approximately 13.5 feet bgs.
- Bentonite chip (3/8-inch) seal dry-poured, then hydrated (by remaining water in the annular space) from 13.5 ft bgs to approximately 2 feet bgs.
- Concrete from 0 to 2 feet bgs.

The wellhead was secured using a lockable well cap. A locking, protective steel monument was placed over the well and secured in a concrete pad. The top 2 feet of annular space surrounding the well was filled with concrete. Three steel bollards were placed into the ground around each well monument and filled with concrete to provide a protective barrier around each well. Both the bollards and the protective steel monument were painted yellow to provide higher visibility. An as-built well construction diagram is shown in Appendix C. Photos taken during drilling are included in Appendix D.

3.2.5 Monitoring Well MW-5SR

Monitoring well MW-5SR was drilled and constructed on June 21, 2023, to a total depth of 37 feet bgs, which is the same depth the north half of the west pit was excavated to in 2021. This well is a replacement well for MW-5S that was abandoned prior to the site's excavation in 2020. The well was redrilled in the same area within the footprint of the excavation;. The driller log is in Appendix A and

a well boring log is included in Appendix B. Observations made during drilling indicate a generalized lithologic sequence shown in **Table 7**.

Table 7. MW-5SR Generalized Lithology

Lithology	Depth
Fill (previously disturbed during site investigation/remediation actions)	0 to 20 ft
Fill: Gravelly sand	20 to 22 ft
Fill: Caliche	22 to 24.5 ft
Fill: Sandy silt	24.5 to 26 ft
Fill: Gravelly sand	26 to 27.5 ft
Fill: Fine sand	27.5 to 37 ft

As anticipated from drillers' logs of the wells in the area, water was encountered at approximately 24 feet bgs (anticipated between 19 and 33 feet). Soil samples were collected for laboratory analysis every 10 feet and at the bottom of the boring. Soil samples are further described in **Section 4**.

Monitoring well MW-5SR was completed as follows:

- 2-inch diameter, flush-threaded, Schedule 40 PVC casing.
- 20 feet of factory-slotted well screen (0.010-inch slot size) from 16 to 36 feet bgs.
- End cap threaded to the base of the well screen.
- CSSI silica sand (Grade 20/40) used as a filter pack surrounding the well screen from total depth (37 feet bgs) to approximately 14 feet bgs.
- Bentonite chip (3/8-inch) seal dry-poured, then hydrated (by remaining water in the annular space) from 14 feet bgs to approximately 2 feet bgs.
- Concrete from 0 to 2 feet bgs.

The wellhead was secured using a lockable well cap. A locking, protective steel monument was placed over the well and secured in a concrete pad. The top 2 feet of annular space surrounding the well was filled with concrete. Three steel bollards were placed into the ground around each well monument and filled with concrete to provide a protective barrier around each well. Both the bollards and the protective steel monument were painted yellow to provide higher visibility. An as-built well construction diagram is shown in Appendix C. Photos taken during drilling are included in Appendix D.

3.2.6 Monitoring Well MW-5DR

Monitoring well MW-5DR was drilled and constructed on July 20, 2023, to a total depth of 55 feet bgs. This well is a replacement well for MW-5D that was abandoned prior to the site's excavation in 2020. The well was redrilled in the same area within the footprint of the excavation; however the lower portion of the well (40to 55 ft bgs) is deeper than the extent of the excavation (37 ft bgs). The driller log is in Appendix A and a well boring log is included in Appendix B. Observations made during drilling indicate a generalized lithologic sequence shown in **Table 8**.

Table 8. MW-5DR Generalized Lithology

Lithology	Depth	Notes
Fill: Silty sand	0 to 2 ft	Likely fill material to ~12 feet (fill is from native material, so difficult to distinguish in places). Note that this replacement well is close to the northern edge of the excavation.
Fill: Sandy/silty gravel	2 to 9 ft	
Fill: Sandy gravel/caliche rubble	9 to 10 ft	
Fill: Silty gravel	10 to 12 ft	
Fill: Caliche	12 to 12.5 ft	
Fill: Silt	12.5 to 15 ft	
Fill: Sandy gravel	15 to 18 ft	
Fill: Silty sand	18 to 20 ft	
Fill: Fine sand	20 to 30 ft	
Fill: Silty sand	30 to 40 ft	
Fill: Gravel (weathered basalt)	40 to 55 ft	

As anticipated from drillers' logs of the wells in the area, water was encountered at approximately 20 feet bgs (anticipated between 19 and 33 feet). Soil samples were collected for laboratory analysis every 10 feet and at the bottom of the boring. Soil samples are further described in **Section 4**.

Monitoring well MW-5DR was completed as follows:

- 2-inch diameter, flush-threaded, Schedule 40 PVC casing.
- 10 feet of factory-slotted well screen (0.020-inch slot size) from 44 to 54 feet bgs.
- End cap threaded to the base of the well screen.
- CSSI silica sand (Grade 12/20) used as a filter pack surrounding the well screen from total depth (55 feet bgs) to approximately 41 feet bgs.
- Bentonite chip (3/8-inch) seal dry-poured, then hydrated (by remaining water in the annular space) from 41 feet bgs to approximately 3 feet bgs.
- Concrete from 0 to 3 feet bgs.

The wellhead was secured using a lockable well cap. A locking, protective steel monument was placed over the well and secured in a concrete pad. The top 3 feet of annular space surrounding the well was filled with concrete. Three steel bollards were placed into the ground around each well monument and filled with concrete to provide a protective barrier around each well. Both the bollards and the protective steel monument were painted yellow to provide higher visibility. An as-built well construction diagram is shown in Appendix C. Photos taken during drilling are included in Appendix D.

3.2.7 Well Development

Following well installation, the four wells were developed by surging and pumping to set the filter pack and remove fine sediment from the well. Surging the well forced groundwater to flow in and out of the well, breaking any particle bridges and setting the sand filter pack up against the well screen. The wells were then pumped using a 12-volt plastic pump (ProActive Pump or similar) to remove fine sand that was pulled through the screen during surging. Monitoring wells were considered developed when the well was relatively free of sediment and once parameters of temperature, pH, turbidity, and specific conductivity were stabilized; at a minimum 10 well casing volumes were to be

removed, up to a maximum of approximately 15 well casing volumes removed. **Table 9** shows volume removed from each well during development compared to 10 and 15 well casing volumes. Wells MW-11S and MW-12S had slightly more than 15 well casing volumes purged based on timing of turning off the pump after collecting measurements and to let turbidity stabilize.

Table 9. Volumes Removed During Development

Well	10 Well Casing Volumes (gal)	15 Well Casing Volumes (gal)	Total Removed During Development (gal)
MW-11S	17.49	26.23	32
MW-12S	18.46	27.7	32
MW-5SR	19.6	29.35	27.5
MW-5DR	48.22	72.34	55

3.2.8 Well Survey

AHBL out of Pasco, WA, a Washington-licensed surveyor, surveyed the wells to the top of the PVC well casing, rim of the steel casing, and to the surface of the concrete pad on July 19, 2023. Survey measurements for the wells are shown in **Table 3**. These measurements will be used to tie the new wells into the current monitoring well network and to determine the groundwater elevation and flow direction. The well survey is provided in Appendix E.

3.2.9 Well Sampling

Simplot will sample the four new wells and the full monitoring well network as part of the new groundwater monitoring program per the CAP. Groundwater will be sampled in August and January as specified by the CAP and the Work Plan.

4 Soil Sampling

Soil cuttings from the four monitoring wells were collected continuously with the rotosonic drill rig. To collect intact subsurface soil samples, an inner sampling core was advanced through the soil and can be retrieved, while an outer core remain in place to keep the borehole open. A minimum 100-gram sample was taken from the sample core soil and placed into laboratory-supplied glass jars for EDB analysis by U.S. Environmental Protection Agency (USEPA) Method 8011. Sampling personnel wore clean nitrile gloves when transferring soils, and aimed to transfer the soil samples into the sample jars as quickly as possible to prohibit EDB loss by volatilization. Procedures for collecting soil samples are provided in standard operating procedure 2 (SOP-2) in the Work Plan.

Soil samples from MW-5SR, MW-11S, and MW-12S were collected at the following depth intervals: 1 to 3 feet, 10 to 12 feet, 20 to 22 feet, 30 to 32 feet, and the bottom of the boring. The only variance to this was MW-11S where the sample for 20 to 22 feet was collected at 22 to 23 feet as the field geologist believed what was at the top of the soil cuttings was slough material. Soil samples for laboratory analysis from MW-5DR were collected from the following depth intervals: 1 to 3 feet, 10 to 12 feet, 20 to 22 feet, 30 to 32 feet, 40 to 42 feet, and at the bottom of the boring. In addition, MW-11S and MW-12S had a sample collected at the first caliche zone (7 to 8 feet in MW-11S and 15 feet in MW-12S). Soil samples were labeled as follows:

- BH – for borehole soil sample

- 5SR, 5DR, 11S, or 12S – to identify the monitoring well borehole
- S – for soil
- X-X - for feet of depth below surface from which the sample was taken

For example, BH-11S-S-1-3 was a soil sample collected from boring 11S at a depth of 1 to 3 feet.

QC samples collected were as follows:

- Rinsate Blank – equipment rinsate blank. Collected at one per week of field activities.
- Trip Blank – for Trip Blank.
- Matrix spike/matrix spike duplicate (MS/MSD): MS and MSD will be appended to the end of the original sample ID
- Soil Duplicates: duplicate samples will be identified similarly to the original soil sample but will be given a fictitious sample depth (such as "00") and sample time. Collected at a minimum frequency of 10 percent of soil samples collected.

Laboratory reports are included in Appendix F and a data validation report is included in Appendix G.

Following collection, samples were immediately labeled and placed in a cooler with ice and kept under standard chain of custody procedures until delivery to the laboratory. All soil samples were analyzed for EDB by Eurofins in Spokane, WA. **Table 10** shows sample results for each sample.

Table 10. EDB Sampling Results

New Wells						Replacement Wells					
BH-11S (MW-11S)			BH-12S (MW-12S)			BH-5SR (MW-5SR)			BH-5DR (MW-5DR)		
Sample Depth (ft)	Result (µg/Kg)	Qualifier	Sample Depth (ft)	Result (µg/Kg)	Qualifier	Sample Depth (ft)	Result (µg/Kg)	Qualifier	Sample Depth (ft)	Result (µg/Kg)	Qualifier
1 to 3	ND	--	1 to 3	ND	--	1 to 3	ND	--	1 to 3	ND	--
7 to 8	ND	--	10 to 12	ND	--	10 to 12	ND	--	10 to 12	ND	--
10 to 12	ND	--	15	ND	--	20 to 22	ND	--	20 to 22	1.2	F1, F2[1]
22 to 23	0.25	--	20 to 22	ND	--	30 to 32	ND	--	30 to 32	ND	--
30 to 32	1.8	--	30 to 32	ND	--	35 to 37	ND	--	40 to 42	ND	--
36 to 38	2.4	--	35 to 37	ND	--				52 to 54	ND	--

ND=non-detect; ft=feet; µg/Kg=micrograms per kilogram

[1]F1 and F2 are laboratory flags due to MS and/or MSD recovery exceeding control limits and the MS/MSD RPD exceeding control limits

As shown in **Table 10,** EDB was non-detect in wells MW-12S and MW-5SR. MW-11S (samples labeled as BH-11S had detections of EDB below 22 feet, increasing in concentration with depth. This well is located outside of the excavation area as the excavation could not extend further south without crossing the property boundary or fence line. MW-5DR had one detection of EDB at 20 to 22 feet (1.2 µg/Kg) but no other detections. This result was flagged by the lab due to the MSD recovery exceeding control limits and the MSD RPD exceeding control limits (see data validation report in Appendix G). The MS sample (Lab Sample ID 590-20844-9 MS) had no issues with recovery limits or control limits. Therefore, the sample result (BH-5DR-5-20-22) is considered representative and the data should be considered valid.

5 References

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2009. *Phase II Preliminary Investigation*. Warden City Water Supply Wells Site, Warden, WA. April 2009 Washington Department of Ecology, Toxics Cleanup Program, Eastern Region Office, Spokane, Washington.

2019. *Cleanup Action Plan*. Warden City Water Supply Wells 4 & 5. Warden, WA. FSID 2802409, CSID 1618.

George, D. 2006. Memorandum to John Roland. Ethylene Dibromide Groundwater Contamination Site Investigation/Data Collection Summary; Warden, Washington; Grant County. January 24, 2006.

Hansen, A.J., J.J. Vaccaro, H.H Bauer. 1994. *Ground-water Flow Simulation of the Columbia Plateau Aquifer System, Washington, Oregon, and Idaho*. U.S. Geologic Survey Water-Resources Investigations Report, 91-4187.

HDR [HDR Engineering, Inc.]

2018. *Final Remedial Investigation and Feasibility Study Report*. Simplot Grower Solutions, 1800 W. 1st Street, Warden, Washington. 98857. September 2018.

2020. *July 2020 Well Decommissioning Report.* Simplot Grower Solutions, Warden, Washington. August 2020.

2021a. *Final Engineering Design Report*. Simplot Grower Solutions, Warden, Washington. January 2021.

2021b. *Cleanup Action Implementation Compliance Monitoring Plan*. Simplot Grower Solutions, Warden, Washington. February 2021.

2023a. *Groundwater Monitoring Well Construction and Monitoring Plan*. Simplot Grower Solutions, Warden, Washington. March 2023.

2023b. *Final Cleanup Action Report.* Simplot Grower Solutions, Warden, Washington. August 2023.

PGG [Pacific Groundwater Group]. 2007. City of Warden, Preliminary Investigation of Ethylene Dibromide Contamination. April 20, 2007.

A

Well Logs

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

[X] Construction
[ ] Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BPD061

Site Well Name _____

Consulting Firm HDR

Was a variance approved for this well/boring? ☐ Yes ☐ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

[X] Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) McCarley, Mitch

Driller/Engineer/Trainee Signature _____

License No. 3186

Company Name Holt

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. RE24640

Type of Well:

[X] Resource Protection Well [ ] Injection Point
[ ] Remediation Well [ ] Grounding Well
[ ] Geotechnical Soil Boring [ ] Ground Source Heat Pump
[ ] Environmental Boring [ ] Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner J.R. Simplot

Well Street Address 800 W 1st St

City Warden County Grant

Tax Parcel No. 060697000

Location (see instructions): WWM ☐ or EWM ☐

SW ¼-¼ SW ¼, Section 9 Town 17n Range 30e

Latitude (Example: 47.12345) 46.96993

Longitude (Example: -120.12345) 119.06104

(WGS 84 Coordinate System)

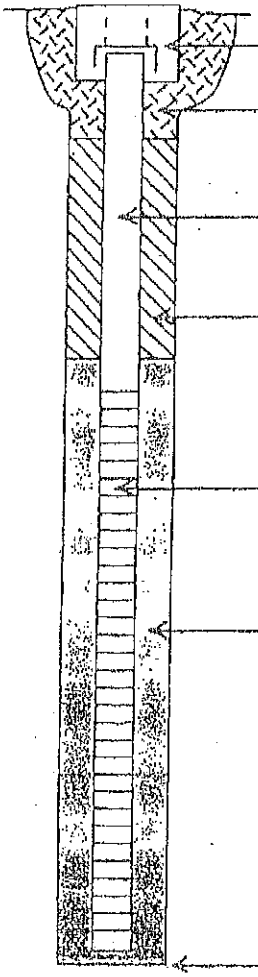
Borehole diameter 6 inches Casing diameter _____ inches

Static water level 24 ft below top of casing Date _____

[X] Above-ground completion with bollards ☐ Flush monument
↳ Stick-up of top of well casing 3 ft above ground surface

Start Date 6/19/23 Completed Date 6/19/23

Construction/Design



Well Data

MONUMENT TYPE: Steel 4"

CONCRETE SURFACE SEAL 2 ft.

PVC BLANK 2 "x 19'

BACKFILL 12 ft.

TYPE: Bent. Chips

PVC SCREEN 2 "x 20'

SLOT SIZE: .010

TYPE: Sch 40 PVC

GRAVEL PACK 22 ft.

MATERIAL: 20/40 silica

WELL DEPTH 36 ft.

Formation Description

0 - 10 ft.
Sandy Gravel

10 - 20 ft.
Dense Sandy Gravel

20 - 36 ft.
Fine Sand

_____ - _____ ft.

_____ - _____ ft.

REMARKS _____

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:
☒ Construction
☐ Decommission ⇒ Original NOI No. _____
Ecology Well ID Tag No. BPD 002
Site Well Name _____
Consulting Firm HDR
Was a variance approved for this well/boring? ☐ Yes ☐ No
If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☑ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) McCarley, Mitch
Driller/Engineer/Trainee Signature _____
License No. 3186
Company Name Holt

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

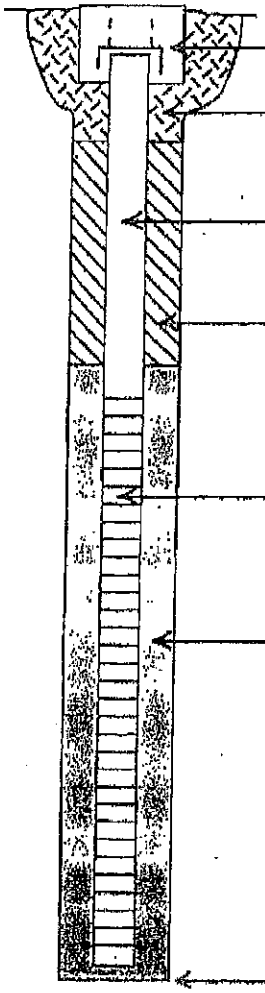
Notice of Intent No. RE24640

Type of Well:
☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner J.R. Simplot
Well Street Address 800 W 1st St
City Warden County Grant
Tax Parcel No. 060697000

Location (see instructions): WWM ☐ or EWM ☐
SW ¼-¼ SW ¼, Section 9 Town 17n Range 30e
Latitude (Example: 47.12345) 46.97013
Longitude (Example: -120.12345) 119.06120
(WGS 84 Coordinate System)

Borehole diameter 6 inches Casing diameter _____ inches
Static water level 24 ft below top of casing Date _____
☒ Above-ground completion with bollards ☐ Flush monument
↳ Stick-up of top of well casing 3 ft above ground surface
Start Date 6/26/23 Completed Date 6/27/23

Construction/Design	Well Data	Formation Description
	MONUMENT TYPE: Steel w/ CONCRETE SURFACE SEAL 2 ft PVC BLANK 2 "x 47' BACKFILL 40 ft. TYPE: Bent. Chips PVC SCREEN 2 "x 10' SLOT SIZE: .020 TYPE: Sch 40 PVC GRAVEL PACK 12 ft. MATERIAL: 12/20 WELL DEPTH 54' "	0 - 20 ft. Dense Sandy Gravel 20 - 40 ft. Sand 40 - 54 ft. Weathered Basalt _ - _ ft. _ - _ ft.

REMARKS _____

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

[X] Construction
[ ] Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BKO 863

Site Well Name _____

Consulting Firm HDR

Was a variance approved for this well/boring? ☐ Yes ☐ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

[X] Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) McCarley Mitch

Driller/Engineer/Trainee Signature _____

License No. 3186

Company Name Holt

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. RE24640

Type of Well:

[X] Resource Protection Well ☐ Injection Point
[ ] Remediation Well ☐ Grounding Well
[ ] Geotechnical Soil Boring ☐ Ground Source Heat Pump
[ ] Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner J.R. Simplot

Well Street Address 800 W 1st St

City Warden County Grant

Tax Parcel No. 060697000

Location (see instructions): WWM ☐ or EWM ☐

SW ¼-¼ SW ¼, Section 9 Town 17n Range 30e

Latitude (Example: 47.12345) 46.97013

Longitude (Example: -120.12345) 119.06120

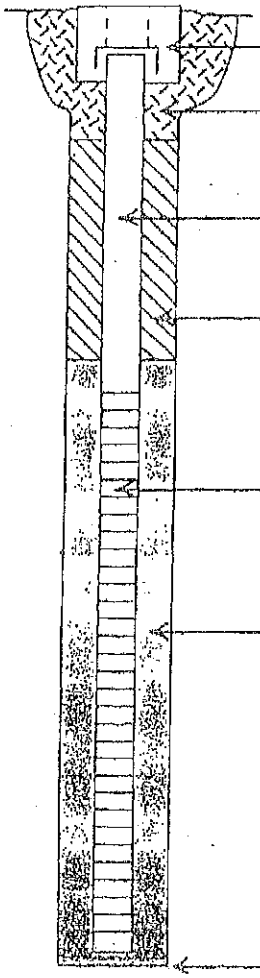
(WGS 84 Coordinate System)

Borehole diameter 6 inches Casing diameter _____ inches

Static water level 24 ft below top of casing Date _____

[X] Above-ground completion with bollards ☐ Flush monument
↳ Stick-up of top of well casing 3 ft above ground surface

Start Date 6/21/23 Completed Date 6/21/23

Construction/Design	Well Data	Formation Description
	MONUMENT TYPE: Steel 4"	0 - 10 ft. Sandy Gravel
	CONCRETE SURFACE SEAL 2 ft.	10 - 20 ft. Dense Sandy Gravel
	PVC BLANK 2 "x 19'	
	BACKFILL 12 ft.	20 - 36 ft. Fine sand
	TYPE: Bent. Chips	
	PVC SCREEN 2 "x 20'	- ft.
	SLOT SIZE: .010	
	TYPE: Sch 40 PVC	
	GRAVEL PACK 22 ft.	- ft.
	MATERIAL: 20/40 Silica	
	WELL DEPTH 36 ft.	REMARKS

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

[X] Construction
[ ] Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BPD 004

Site Well Name _____

Consulting Firm HDR

Was a variance approved for this well/boring? ☐ Yes ☐ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

[X] Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) McCarley Mitch

Driller/Engineer/Trainee Signature _____

License No. 3186

Company Name Holt

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. RE24646

Type of Well:

[X] Resource Protection Well ☐ Injection Point
[ ] Remediation Well ☐ Grounding Well
[ ] Geotechnical Soil Boring ☐ Ground Source Heat Pump
[ ] Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner J.R. Simplot

Well Street Address 800 W 1st St

City Warden County Grant

Tax Parcel No. 060697000

Location (see instructions): WWM ☐ or EWM ☐

SW ¼-¼ SW ¼, Section 9 Town 17n Range 30e

Latitude (Example: 47.12345) 46.96998

Longitude (Example: -120.12345) 119.06135

(WGS 84 Coordinate System)

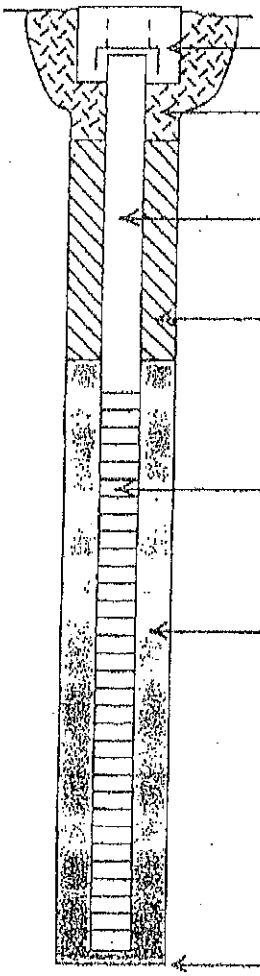
Borehole diameter 6 inches Casing diameter _____ inches

Static water level 24 ft below top of casing Date _____

[X] Above-ground completion with bollards ☐ Flush monument
↳ Stick-up of top of well casing 3 ft above ground surface

Start Date 6/21/23 Completed Date 6/21/23

Construction/Design



MONUMENT TYPE: Stick up

CONCRETE SURFACE SEAL 2 ft.

PVC BLANK 2 "x 19'

BACKFILL 12 ft.

TYPE: Bent. Chips

PVC SCREEN 2 "x 20'

SLOT SIZE: .010

TYPE: sch 40 PVC

GRAVEL PACK 22 ft.

MATERIAL: 20/40 silica

WELL DEPTH 36 ft.

Well Data

Formation Description

0 - 10 ft.
Sandy Gravel

10 - 20 ft.
Dense sandy Gravel

20 - 36 ft.
Fine sand

- ft.

- ft.

REMARKS

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE31681

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☐ Resource Protection

☐ Geotech Soil Boring

Property Owner Simplot Grower Solutions

Site Address 1800 w 1st st

Consulting Firm HDR Engineering

City Warden County Grant

Unique Ecology Well IDTag No. APK356

Location NW 1/4-1/4 NW 1/4 Sec 16 Twn 17N R 30E

EWM ☐ or WWM ☐

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Walston, Greg

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. 3162

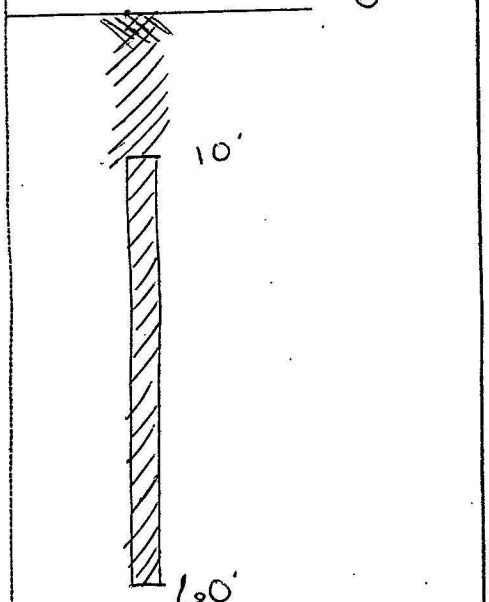
Tax Parcel No. 061713350

Cased or Uncased Diameter 2" Static Level ____

Work/Decommission Start Date 4/28/15

Work/Decommission Completed Date 4/28/15

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	0' - 2' Top soil 2' - 10' bentonite chips untreaded well @ 10' below 10' - 60' bentonite chips in 2" pvc casing	

SCALE: 1"= ____ PAGE ____ OF ____

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Notice of Intent No. AE6135

Type of Work:

☐ Construction
☒ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BCE 296
Site Well Name MW-55
Consulting Firm HDR Engineering
Was a variance approved for this well/boring? ☐ Yes ☐ No
If yes, what was the variance for? _____

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner J R Simplot Company
Well Street Address 1800 W 1st St
City Warden County Grant
Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Johnson Brent
Driller/Engineer/Trainee Signature [signature]
License No. 3225
Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Location (see instructions): WWM ☐ or EWM ☐
SE ¼-¼ SW ¼, Section 09 Town 17N Range 30E
Latitude (Example: 47.12345) _____
Longitude (Example: -120.12345) _____
(WGS 84 Coordinate System)

Borehole diameter 6 inches Casing diameter 2 inches
Static water level 24 ft below top of casing Date 7/1/2020
☒ Above-ground completion with bollards ☐ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 7/1/2020 Completed Date 7/1/2020

Construction Design	Well Data	Driller's Log
		

RECEIVED

JUL 20 2020

Department of Ecology
Eastern Washington Office

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☐ Construction
☒ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. APK 357

Site Well Name MW-5

Consulting Firm HDR Engineering

Was a variance approved for this well/boring? ☐ Yes ☐ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

☒ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Johnson, Brent

Driller/Engineer/Trainee Signature _____

License No. 3225

Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. AE61351

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner J R Simplot Company

Well Street Address 1800 W 1st St

City Warden County Grant

Tax Parcel No. _____

Location (see instructions): WWM ☐ or EWM ☐

SE ¼-¼ SW ¼, Section 09 Town 17N Range 30E

Latitude (Example: 47.12345) _____

Longitude (Example: -120.12345) _____

(WGS 84 Coordinate System)

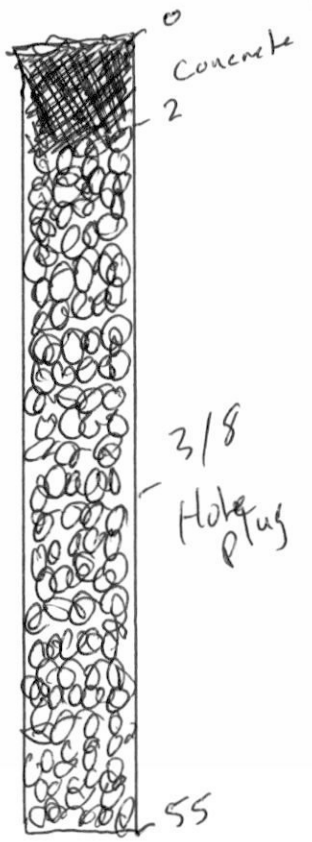
Borehole diameter 6 inches Casing diameter 2 inches

Static water level 24 ft below top of casing Date 7/1/2020

☒ Above-ground completion with bollards ☐ Flush monument

↳ Stick-up of top of well casing _____ ft above ground surface

Start Date 7/1/2020 Completed Date 7/1/2020

Construction Design	Well Data	Driller's Log
		

B

Boring Logs

Boring Log

Page 1 of 1

Ecology Well Tag: BPD-003

Project Name	Project No.	Drilling Company
Simplot-Warden	10331653	Holt

Boring No		Location	Drilling Rig Type and Drilling Method
MW-5SR		North Fence Line	Sonic

Sample No.	PID Reading (ppm)	Depth (feet)	Completion	Description (USCS)	Elevation (feet)	Remarks
BH-5SR-S-1-3 @ 0853		0	Concrete; 0-2 ft; 3/8" bentonite chips; 2-14 ft; 2-in Sch. 40 PVC casing (+2.69-16 ft)	0-10: FILL material (from native material), brown, moist, tr cobbles, sandy GRAVEL to gravelly SAND, f sand, f-c gravel, angular to subrounded (GM/SM)		Location is within the 2020 excavation footprint, should be at least 20 feet of fill (derived from original excavated materials)
		5				
		10		10-20: FILL (from native material) gravelly SAND to sandy GRAVEL like above (layers); 10-14 ft is gravelly sand with some chunks of caliche, 14-15 ft is sandy gravel, 15-16 gravelly sand, 16-18 ft is sandy gravel with some caliche pieces, 18-20 is gravelly sand (reddish browh). All have some silt, dry to moist, same as above, just layers alternating between gravelly sand and a sandy gravel (SM/GM)		
BH-5SR-S-10-12 @ 0958						
		15				
		20	20x40 Sand Filter Pack; 14-37 ft	20-22: gravelly f-m SAND, tr silt, brown, dry, similar to above. (SW)		
BH-5SR-S-20-22 @ 1006; BH-5SR-S-0 (duplicate labeled 0830)				20-24.5: caliche, tan, dry		
		25	2" Sch 40, 0.010 slot screen: 16-36 ft	24.5-26: brown, moist to wet (hot), f. sandy SILT, tr clay (clumps), some f-c gravel, dense (ML)		**SWL (ft bgs); @1043: 25.5ft; @1048: 25.40ft; @1053: 25.32ft**
				26-27.5: orange/brown, gravelly f SAND w/some silt, wet (SP-SM)		
		30		27.5-30: f. SAND w/silt/silty sand, wet, dense, red/brown (SP-SM)		
BH-5SR-S-30-32 @ 1035				30-37: brown, saturated, f SAND with some silt, dense (SP-SM)		
		35				
BH-5SR-S-35-37 @ 1056						
				End of Boring at 37 ft		

Water Level		Logged By:	Drilled/Sampled By:
		Alyssa Veatch	Mitch McCarley
While Drilling:	After Drilling:	Date Started:	Date Completed:
25.32 ft bgs	~24.29 ft bgs	6/21/2023	6/21/2023

Boring Log

Ecology Well Tag: BPD-002

Project Name	Project No.	Drilling Company
Simplot-Warden	10331653	Holt

Boring No	Location	Drilling Rig Type and Drilling Method
MW-5DR	North Fence Line	Rotosonic

Sample No.	PID Reading (ppm)	Depth (feet)	Completion	Description (USCS)	Elevation (feet)	Remarks
BH-5DR-S-1-3 @ 0930			Concrete: 0-3ft	0-2: silty SAND w/some f-c gravel, dry, brown (SP-SM)		
				2-9: brown (more tan at 8.5), sandy/silty GRAVEL, f sand, some c sand, f-c gravel, subangular to subrounded gravel (GW-GM)		
		5				
				9-10: dry, white/tan, caliche material, sandy GRAVEL, angular gravel to subangular (GW)		
		10		10-12: dry, silty GRAVEL, subangular gravel; light brown with some caliche at 11ft (GW-GM)		
BH-5DR-S-10-12 @0953				12-12.5: caliche		
				12.5-15: brown, dry, SILT w/fine sand and some f-c gravel (ML)		
		15		15-18: tan to reddish brown, sandy GRAVEL with some silt, caliche material present, dry (GW-GM)		
				18-20: orange/brown, dry to moist, silty f. SAND, some f-c subrounded gravel (SP-SM)		
		20		20-25: f. SAND w/trace to some silt, orange-brown, wet, tr f-c gravel (SP)		
BH-5DR-S-20-22 @ 1011 (+MS/MSD)						
		25		25-30: same, brown, some gravel (SP)		
				26.5-30: same but no gravel (SP)		
		30		30-40: tan to light brown, wet, fine silty SAND to fine sand with some silt (SP-SM)		
BH-5DR-S-30-32 @ 1036						
		35				

3/8" bentonite chips: 3-41 ft

2" Sch. 40 PVC casing: +3-44 ft

Water Level			Logged By:	Drilled/Sampled By:
			Alyssa Veatch	Mitch McCarley
While Drilling:	After Drilling:	Hours After:	Date Started:	Date Completed:
25.12 ft ft bgs	~24.36 ft bTOC	~48	6/20/2023	6/20/2023

Boring Log

Ecology Well Tag: BPD-002

Project Name	Project No.	Drilling Company
Simplot-Warden	10331653	Holt

Boring No	Location	Drilling Rig Type and Drilling Method
MW-5DR	North Fence Line	Rotosonic

Sample No.	PID Reading (ppm)	Depth (feet)	Completion	Description (USCS)	Elevation (feet)	Remarks
BH-5DR-S-40-42 @ 1220		45	12x20 Sand Filter Pack: 41-55 ft; 2" Sch. 40 well screen, 0.020 slot: 44-54 ft	40-45: wet, trace clay, f-c GRAVEL, trace cobbles (basalt cobbles/pieces), dark brown (GW)		**SWL (ft bgs): @ 1225: 26.85 ft; @1230: 26.75 ft; @1235: 26.70 ft; @1245: 26.60 ft**
				45-50: dry, tan, GRAVEL with sand (weathered basalt, gravel and cobbbles are basalt, angular) (GW)		
BH-5DR-S-52-54 @ 1356		50		*50-55 ft run was slough from above		**SWL (ft bTOC): @1320: 25.68 ft; @1325: 25.25 ft; @1330: 25.12 ft**
		55		**End of Boring at 55**		
		60				
		65				
		70				
		75				

Water Level			Logged By:	Drilled/Sampled By:
			Alyssa Veatch	Mitch McCarley
While Drilling:	After Drilling:	Hours After:	Date Started:	Date Completed:
25.12 ft ft bgs	~24.36 ft bgs	~48	6/20/2023	6/20/2023

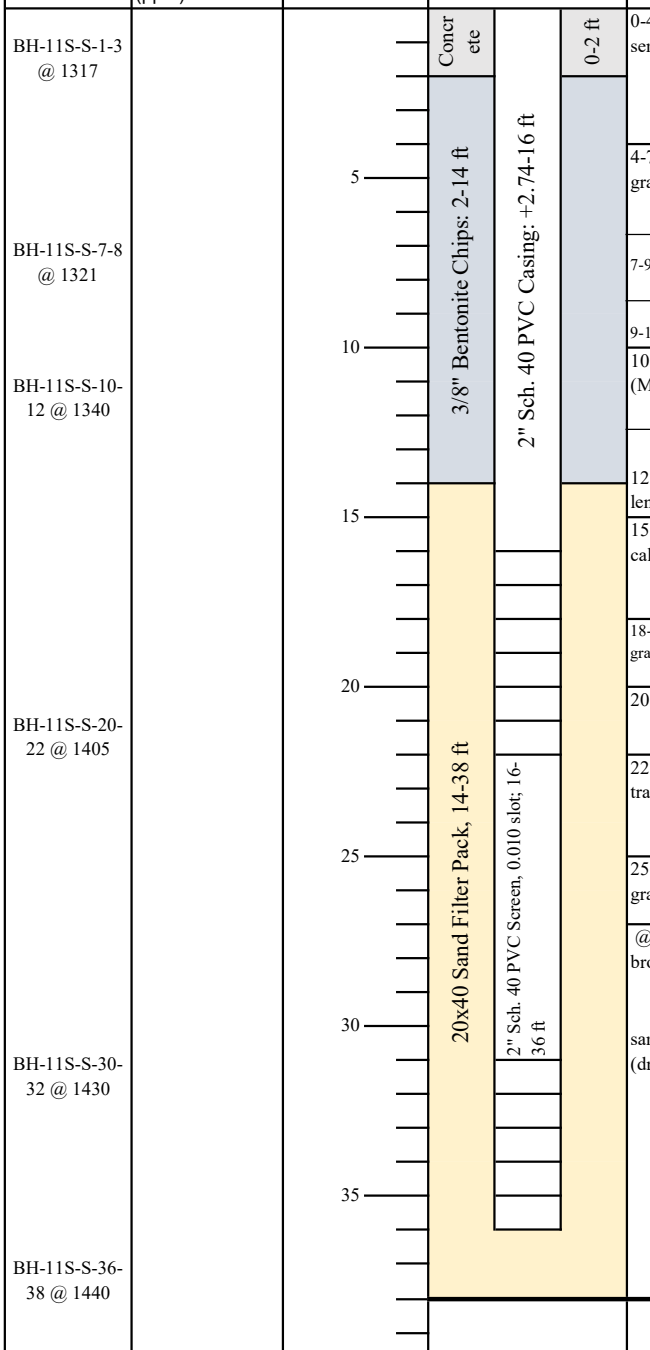
Boring Log

Page 1 of 1

Ecology Well Tag: BPD-001

Project Name	Project No.	Drilling Company
Simplot-Warden	10331653	Holt

Boring No	Location	Drilling Rig Type and Drilling Method
MW-11S	South Fence Line	Rotosonic



Sample No.	PID Reading (ppm)	Depth (feet)	Completion	Description (USCS)	Elevation (feet)	Remarks
BH-11S-S-1-3 @ 1317				0-4: dry, brown, silty fine SAND, some gravel (f-c, semi rounded) (SP-SM)		
				4-7: f. sandy GRAVEL, some silt, brown, moist, gravel f-c, subrounded (GW-GM)		
BH-11S-S-7-8 @ 1321				7-9: caliche, gray/tan, some large chunks, broken up, dry		
				9-10: brown, moist, f. silty SAND, trace f gravel (SP-SM)		
BH-11S-S-10-12 @ 1340				10-12.5: brown, SILT with trace f gravel, moist (ML)		
				12.5-15: back to f silty SAND, bown, 1/2" clay lense (gray, hard), trace f-c gravel (SP-SM)		
				15-18: tan, sandy GRAVEL (sand f-m, gravel f-c), caliche chunks throughout, dry (GW)		
				18-20: red brown, sl damp/moist, f. SAND with silt, trace f gravel, some stringers of c.c. (SP-SM)		
BH-11S-S-20-22 @ 1405				20-22: caliche material		
				22-25: red/brown f. SAND, wet, trace f-c gravel, trace silt (SP)		
				25-38: brown, wet, f. SAND with some silt, trace gravel (SP-SM)		**SWL (ft bgs) @1438: 26 ft; @1443: 25.85 ft**
				@27: no silt, f-m SAND, trace to some gravel, brown, wet (SW)		
BH-11S-S-30-32 @ 1430				same to 38 where caliche was present from 38-40 ft (dry) (38-40 ft on the original hole)		
BH-11S-S-36-38 @ 1440				**End of Boring at 38 feet**		

Water Level			Logged By:	Drilled/Sampled By:
			Alyssa Veatch	Mitch McCarley
While Drilling:	After Drilling:	Hours After:	Date Started:	Date Completed:
25.85 ft bgs	~25.73 ft bgs	7	6/19/2023	6/22/2023

Boring Log

Page 1 of 1

Ecology Well Tag: BPD-004

Project Name	Project No.	Drilling Company
Simplot-Warden	10331653	Holt

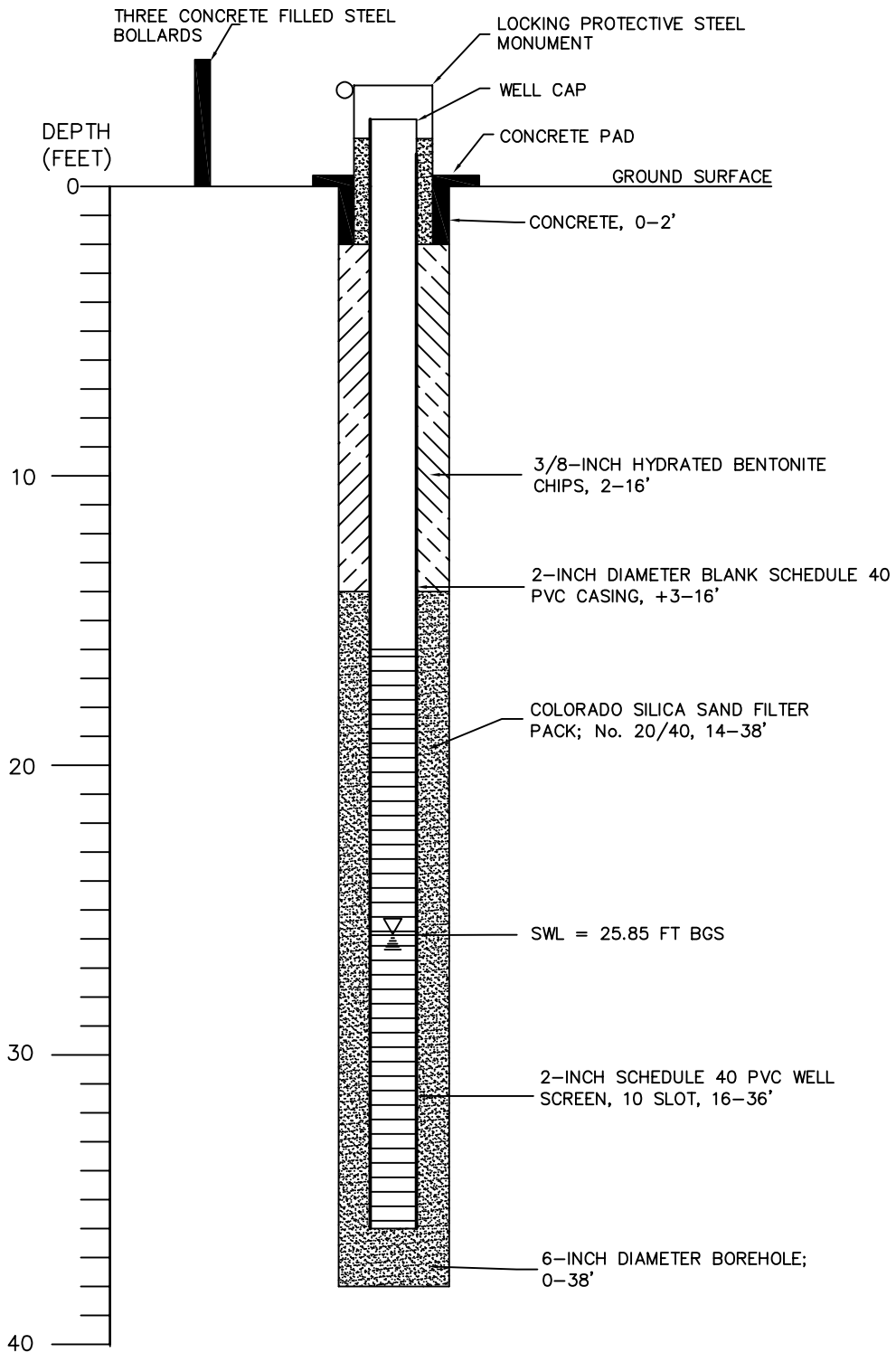
Boring No	Location	Drilling Rig Type and Drilling Method
MW-12S	West Fence Line	Rotosonic

Sample No.	PID Reading (ppm)	Depth (feet)	Completion	Description (USCS)	Elevation (feet)	Remarks
BH-12S-S-1-3 @ 1310		0	Concrete; 0-2 ft	0-3: dry to moist, brown, gravelly f. SAND with some silt, subrounded gravel, loose (SP-SM)		
		5	3/8" Bentonite Chips: 2-13.5 ft; 2" Sch. 40 PVC Casing: +2.69-16.5 ft	3-7.5: brown, dry to moist, loose, sandy/silty GRAVEL with caliche lenses (some chaliche chunks throughout, cobble size) (GW-GM)		
		10		7.5-10: SILT, some f. sand, brown, moist; 9-10 ft is the same material, just more tan and a little denser (ML)		
BH-12S-S-10-12 @ 1328				10-12.5: f SAND w/gravel, some silt, slight compaction (tr clay), brown, moist (SP)		
				12.5-14: f. sandy SILT, tr f gravel and c sand, brown, moist, dense (ML)		
		15		14-17.5: caliche, tan/white, c gravel to cobbles (caliche chunks), some silt		
BH-12S-S-15 @ 1331						
				17.5-20: orange/red brown, vf sandy SILT, silty f sand, very thin lenses of clay and cc, tr f-c gravel (ML)		
		20		20-25: red/brown, f. silty SAND w/some f-c gravel, wet/saturated (SP-SM)		
BH-12S-S-20-22 @ 1354						
		25	20x40 Sand Filter Pack: 13.5-37 ft; 2" Sch. 40 PVC Screen, 0.010 slot; 16.5-36.5 ft	25-30: f. SAND, brown, wet (sat), some f-c gravel, subrounded; trace gravel at 27.5-30 (SP)		
		30		30-37: brown, same but no gravel, wet/saturated		**SWL (ft bgs): @1421: 26.9 ft; @1426: 26.8 ft; @1436: 26.73 ft**
BH-12S-S-30-32 @ 1417; BH-12S-S-0 (DUP)						
		35				
BH-12S-S-35-37 @ 1433						
				End of Boring @ 37		

Water Level			Logged By:	Drilled/Sampled By:
			Alyssa Veatch	Mitch McCarley
While Drilling:	After Drilling:	Hours After:	Date Started:	Date Completed:
26.73 ft bgs	~24.81 ft bgs	~24	6/21/2023	6/22/2023

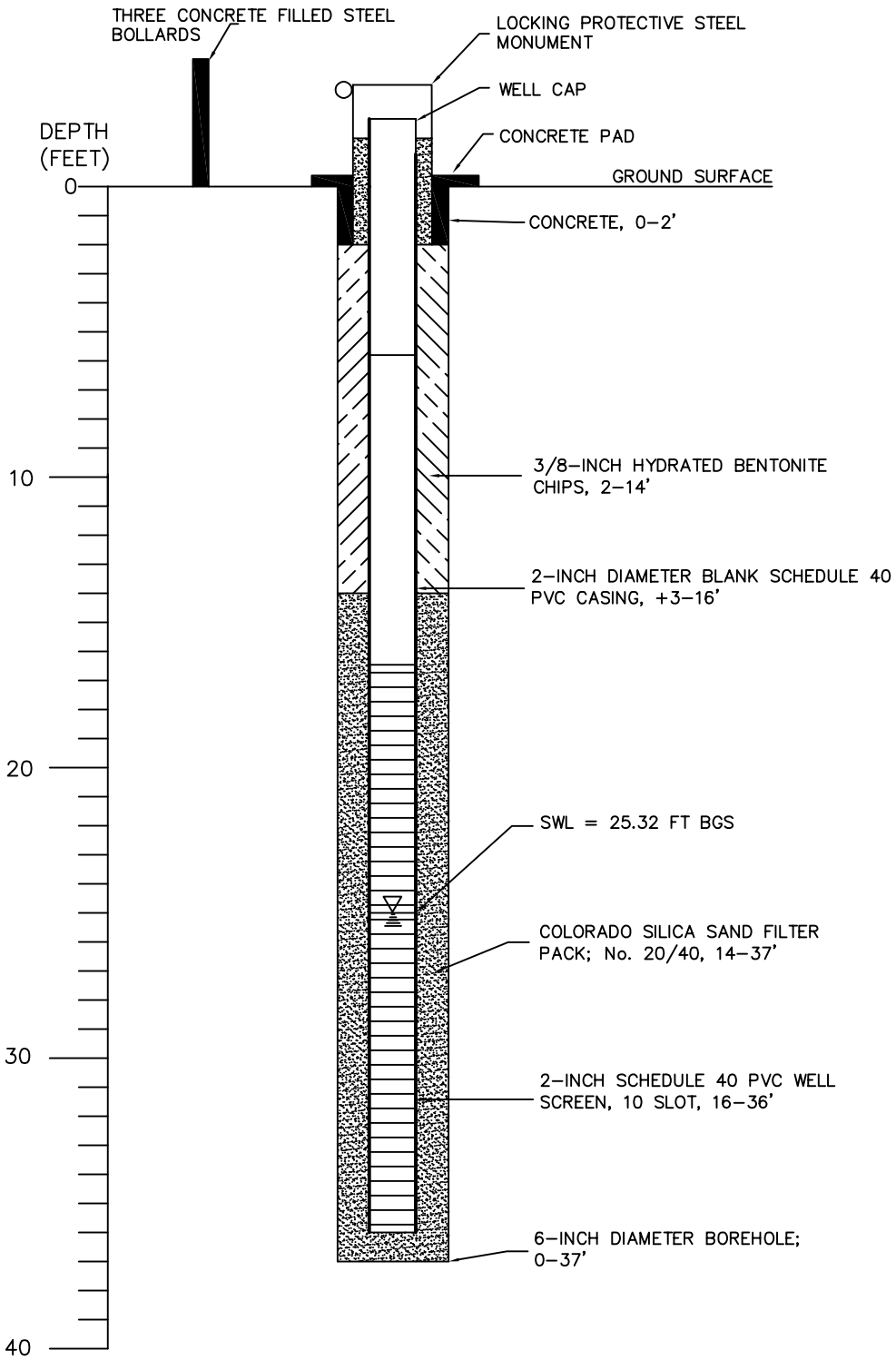
C

As-Builts



NOT TO SCALE

PROJECT TITLE SIMPLOT WARDEN – MONITORING WELL INSTALL	PROJECT NUMBER 10331653	REFERENCE SHEET N.A.
SHEET TITLE MW–11S AS–BUILT WELL TAG: BPD–001	PROJECT MANAGER TYLER ALLEN	REFERENCE DOCUMENT N.A.
	DATE AUGUST 7, 2023	EXHIBIT NUMBER APPENDIX C



NOT TO SCALE

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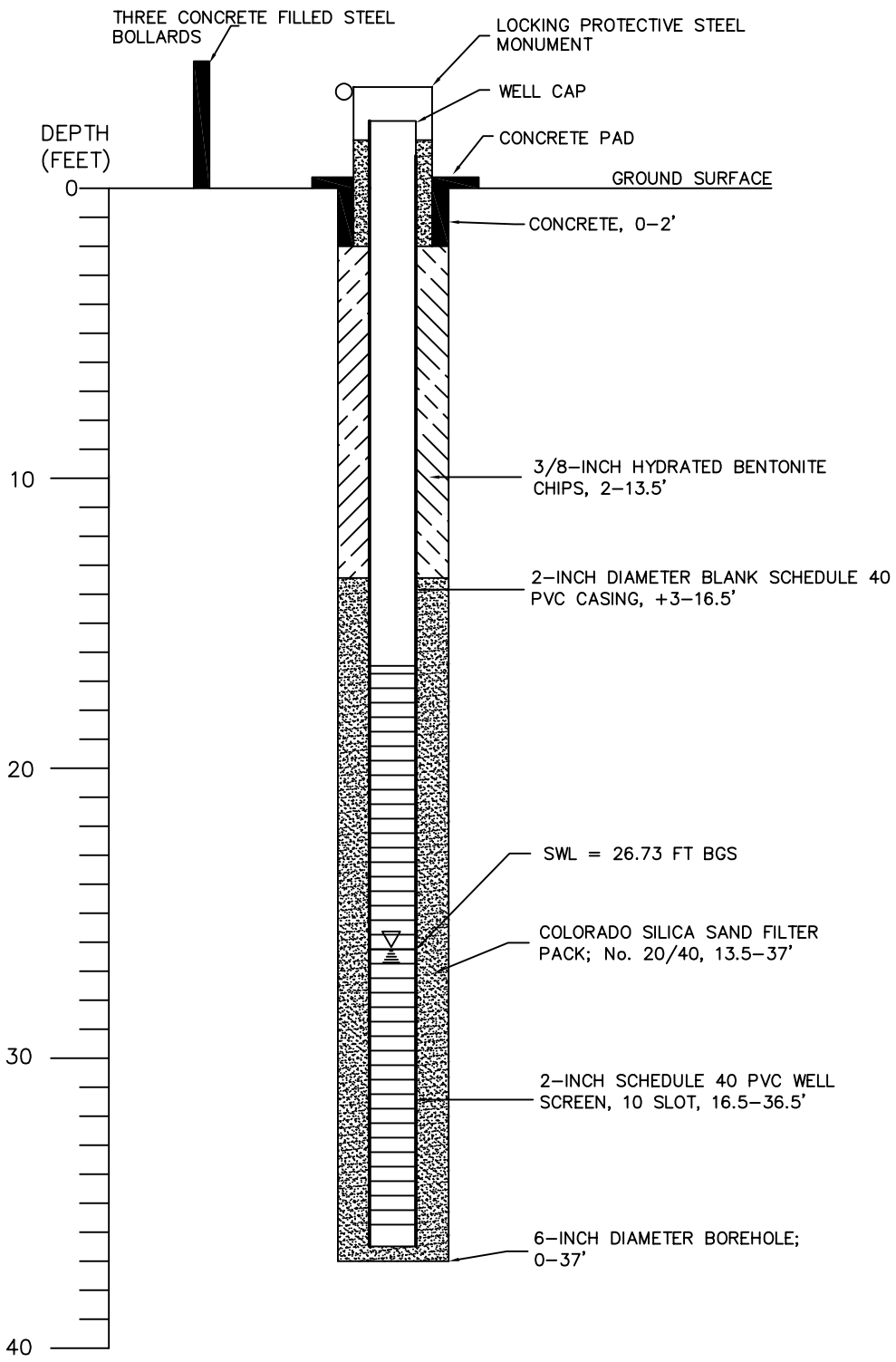
SHEET TITLE MW–5SR AS–BUILT WELL TAG: BPD–003	PROJECT MANAGER TYLER ALLEN	REFERENCE DOCUMENT N.A.
	DATE AUGUST 7, 2023	EXHIBIT NUMBER APPENDIX C



NOT TO SCALE

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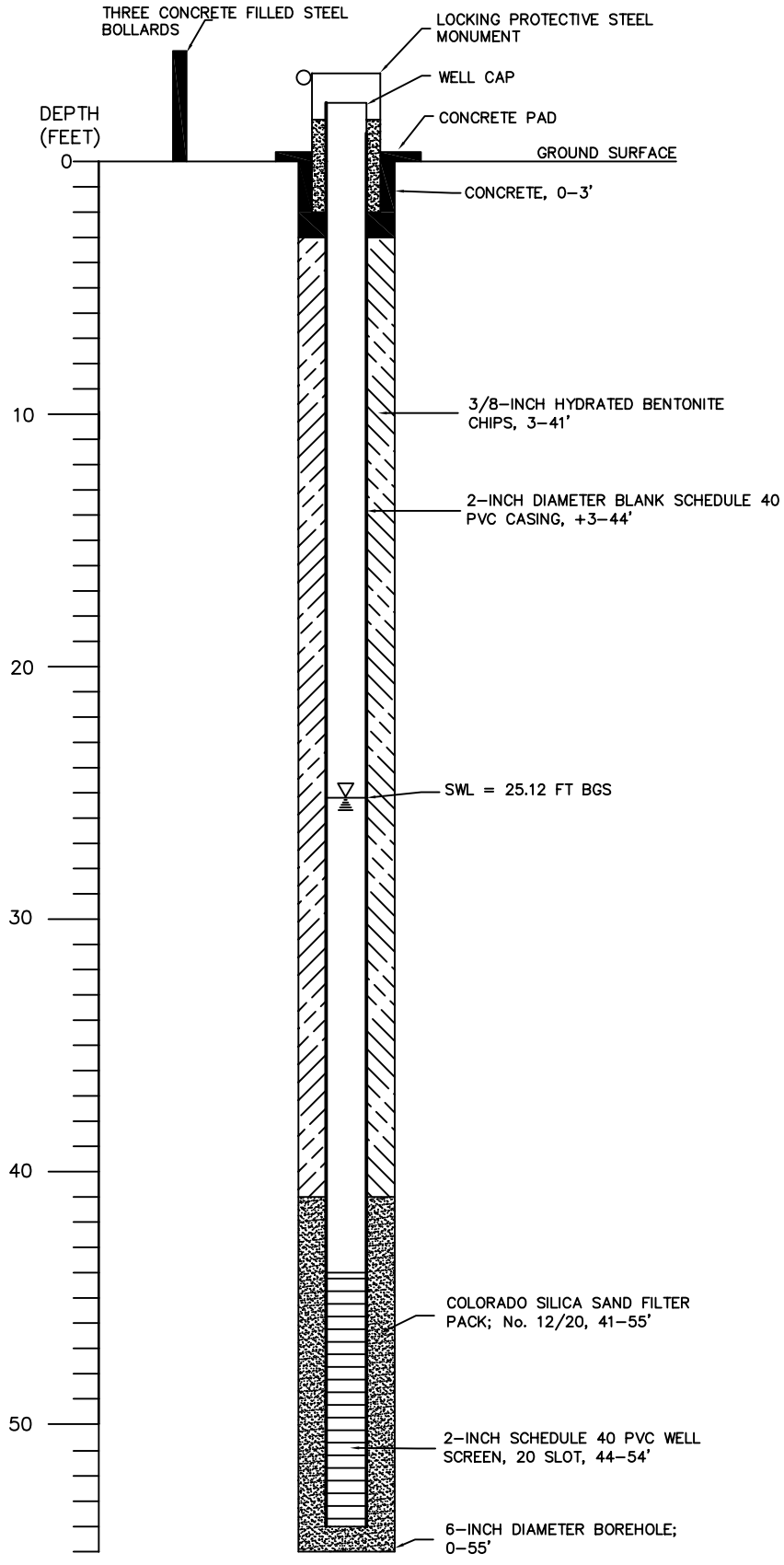
SHEET TITLE MW–12S AS–BUILT WELL TAG: BPD–004	PROJECT MANAGER TYLER ALLEN	REFERENCE DOCUMENT N.A.
	DATE AUGUST 7, 2023	EXHIBIT NUMBER APPENDIX C



NOT TO SCALE

PROJECT TITLE SIMPLOT WARDEN – MONITORING WELL INSTALL	PROJECT NUMBER 10331653	REFERENCE SHEET N.A.
SHEET TITLE MW–5DR AS–BUILT WELL TAG: BPD–002	PROJECT MANAGER TYLER ALLEN	REFERENCE DOCUMENT N.A.
	DATE AUGUST 7, 2023	EXHIBIT NUMBER Appendix C

D

Photos

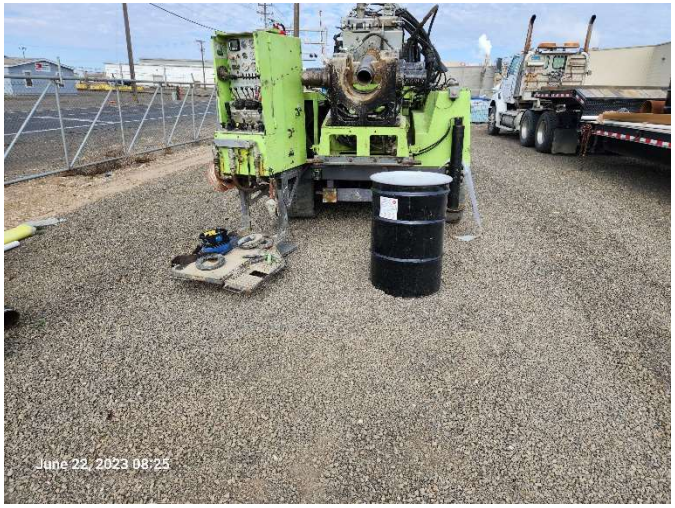


Photo 1. Drill rig setup/location at MW-11S

Photo 2. MW-11S soil cuttings; 0 to 5 feet

Photo 3. MW-11S soil cuttings; 5 to 10 feet

Photo 4. MW-11S soil cuttings; 10 to 15 feet

	
Photo 5. MW-11S soil cuttings; 15 to 20 feet	**Photo 6. MW-11S soil cuttings; 20 to 25 feet**
	
Photo 7. MW-11S soil cuttings; 25 to 30 feet	**Photo 8. MW-11S soil cuttings; 30 to 35 feet**

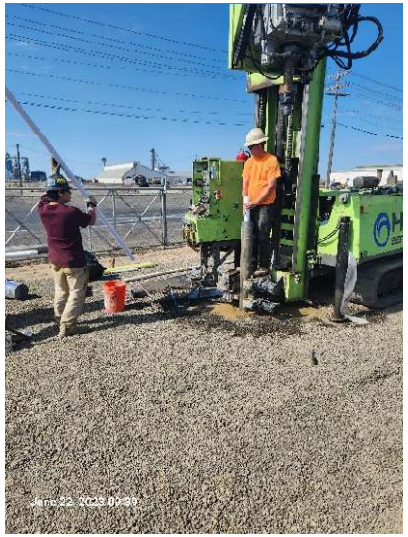
	
Photo 9. MW-11S soil cuttings; 35 to 40 feet	**Photo 10. MW-11S PVC placement**
	
Photo 11. MW-11S well tag	**Photo 12. MW-12S location setup**

	
Photo 13. MW-12S soil cuttings; 0 to 10 feet	**Photo 14. MW-12S soil cuttings; 10 to 15 feet**
	
Photo 15. MW-12S soil cuttings; 15 to 20 feet.	**Photo 16. MW-12S soil cuttings; 20 to 25 feet**

	
Photo 17. MW-12S soil cuttings; 25 to 30 feet	**Photo 18. MW-12S soil cuttings; 30 to 37 feet**

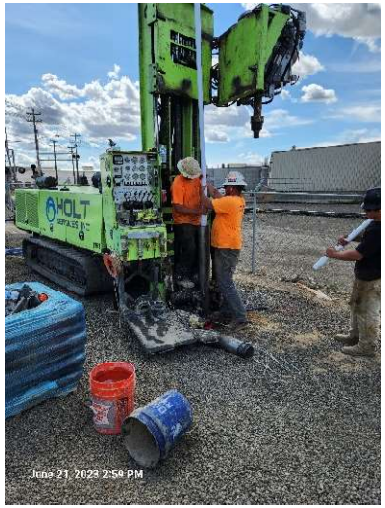



Photo 19. MW-12S PVC placement	**Photo 20. MW-12S well tag**

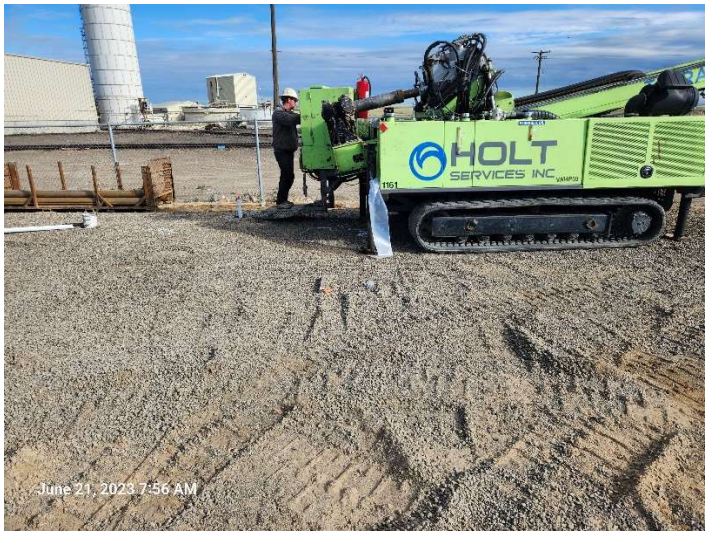


Photo 21. MW-5SR location setup	**Photo 22. MW-5SR soil cuttings; 0 to 5 feet**
	
Photo 23. MW-5SR soil cuttings; 10 to 15 feet	**Photo 24. MW-5SR soil cuttings; 15 to 20 feet**

	
Photo 25. PVC placement at MW-5SR	**Photo 26. MW-5SR well tag**
	
Photo 27. Drilling at MW-5DR	**Photo 28. MW-5DR soil cuttings**

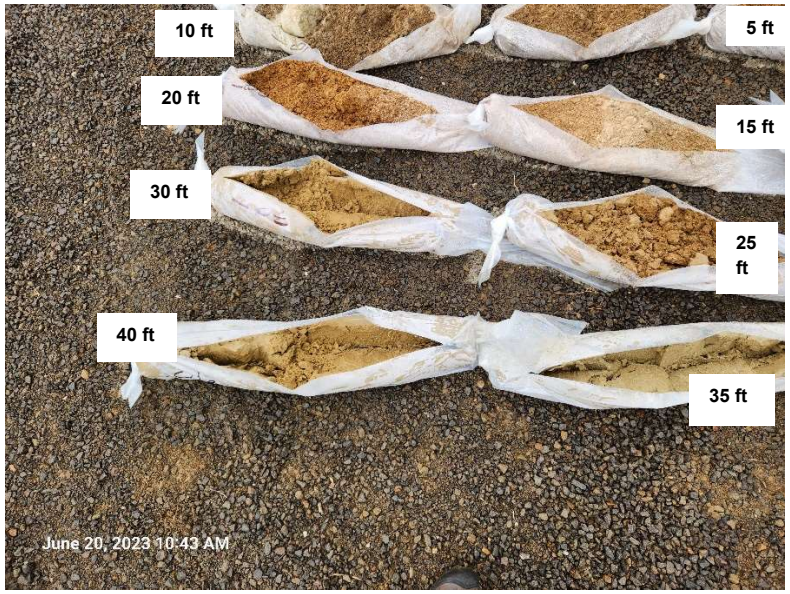


Photo 29. MW-5DR soil cuttings

Photo 30. MW-5DR soil cuttings; 40 to 45 feet

Photo 31. MW-5DR soil cuttings; 45 to 50 feet

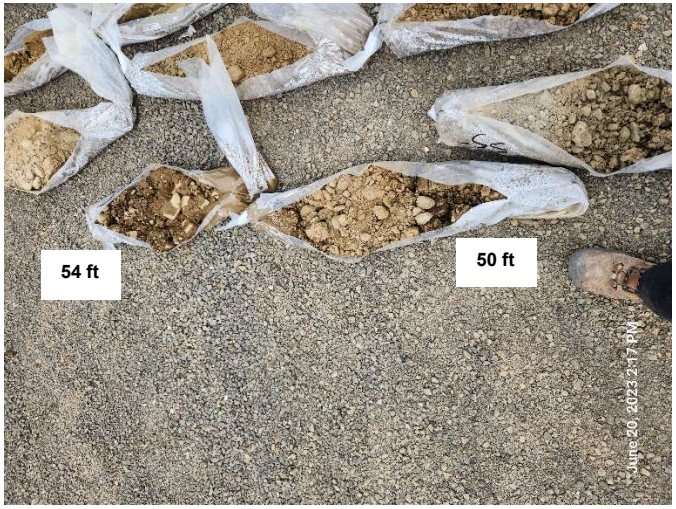


Photo 32. MW-5DR soil cuttings; 50 to 54 feet

	
Photo 33. Piece of basalt from MW-5DR	**Photo 34. MW-5DR well tag**
	
Photo 35. MW-5SR and MW-5DR monuments	**Photo 36. Looking west at all completed new wells**

E

Survey

SIMPLOT WARDEN WELL MONITORING

A PORTION OF THE SE 1/4 OF THE SW 1/4 OF SEC. 09, TWN. 17 N., RGE. 30 E., W.M., CITY OF WARDEN, GRANT COUNTY, WASHINGTON.

LEGAL DESCRIPTION

PER CHICAGO TITLE INSURANCE COMPANY
ORDER NO. 62242004128 DATED NOVEMBER 23, 2020

AN IRREGULAR TRACT OF LAND SITUATED IN THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 17 NORTH, RANGE 30 E.W.M., IN THE TOWN OF WARDEN, GRANT COUNTY, WASHINGTON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT A POINT OF INTERSECTION BETWEEN THE CENTERLINE OF THE BURLINGTON NORTHERN'S MAINLINE TRACK AND THE CENTERLINE OF WASHINGTON STATE HIGHWAY NO. 170, THENCE SOUTH 89°05'20" EAST, ALONG SAID HIGHWAY CENTERLINE, 75.48 FEET; THENCE NORTH 7°20'40" EAST, A DISTANCE OF 40.25 FEET TO A POINT ON THE NORTH BOUNDARY LINE OF SAID STATE HIGHWAY AND TRUE POINT OF BEGINNING FOR THIS DESCRIPTION; THENCE CONTINUING NORTH 7°20'40" EAST, A DISTANCE OF 59.13 FEET TO A POINT WHICH IS 12 FEET SOUTHEASTERLY, WHEN MEASURED RADIALLY FROM THE CENTERLINE OF THE SPUR TRACK AS NOW CONSTRUCTED; THENCE ON A 474.4 FOOT RADIUS CURVE TO THE RIGHT, THROUGH AN ANGLE OF 39°10'52", A DISTANCE OF 325.4 FEET, THE LONG CHORD OF WHICH BEARS NORTH 67°49'44" EAST, 318.12 FEET; THENCE NORTH 0°41'04" EAST, A DISTANCE OF 16.75 FEET; THENCE NORTH 74°13'44" EAST, A DISTANCE OF 121.42 FEET; THENCE ON A 491.25 FOOT RADIUS CURVE TO THE RIGHT, THROUGH AN ANGLE OF 12°50'40", A DISTANCE OF 109.9 FEET, THE LONG CHORD OF WHICH BEARS NORTH 83°46'04" EAST, 109.52 FEET; THENCE SOUTH 0°41'04" WEST, A DISTANCE OF 248.8 FEET TO THE NORTH BOUNDARY LINE OF SAID STATE HIGHWAY; THENCE NORTH 89°05'20" WEST, ALONG SAID NORTH BOUNDARY LINE OF SAID STATE HIGHWAY, A DISTANCE OF 525.00 FEET TO THE TRUE POINT OF BEGINNING.

VERTICAL DATUM

NAVD 1988 VERTICAL DATUM ON ORTHOMETRICALLY CORRECTED GPS OBSERVATIONS USING WSRN AND GEOID 2012A.

BASIS OF BEARING

NAD 1983/11
WASHINGTON STATE PLANE SOUTH PROJECTION, BASED ON GPS OBSERVATIONS USING WSRN AND GEOID 2012A. UNITS OF MEASUREMENT ARE US SURVEY FEET.

UTILITY NOTES

1. SURFACE UTILITY FACILITIES ARE SHOWN HEREON PER FIELD LOCATED VISIBLE EVIDENCE. THERE MAY BE UTILITIES THAT EXIST ON THIS SITE OTHER THAN THOSE GRAPHICALLY DEPICTED HEREON.

2. UNDERGROUND (BURIED) UTILITIES SHOWN HEREON ARE BASED ON COMBINATIONS OF VISIBLE SURFACE EVIDENCE, UTILITY LOCATOR MARKINGS AND RECORD DATA (SUCH AS AS-BUILT OR UTILITY DESIGN DRAWINGS). ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND, IN SOME CASES, ARE SHOWN AS STRAIGHT LINES BETWEEN FIELD LOCATED SURFACE UTILITY FACILITIES. UNDERGROUND UTILITIES MAY HAVE BENDS, CURVES OR CONNECTIONS WHICH ARE NOT SHOWN.

3. ALTHOUGH LOCATIONS OF UNDERGROUND UTILITIES BASED ON UTILITY LOCATOR MARKINGS AND RECORD DATA (SUCH AS AS-BUILT OR UTILITY DESIGN DRAWINGS) ARE DEEMED RELIABLE, AHBL, INC. ASSUMES NO LIABILITY FOR THE ACCURACY OF SAID DATA.

4. CALL 1-800-424-5555 BEFORE ANY CONSTRUCTION.

RELIANCE NOTE

THIS SURVEY WAS PREPARED AT THE REQUEST OF MOLLY DIMICK FOR THE SOLE AND EXCLUSIVE USE OF SIMPLOT. RIGHTS TO RELY UPON AND, OR USE THIS SURVEY DO NOT EXTEND TO ANY OTHER PARTY EXCEPT THROUGH EXPRESS RECERTIFICATION BY THE PROFESSIONAL LAND SURVEYOR WHOSE STAMP AND SIGNATURE APPEAR HEREON.

EQUIPMENT USED

3" TOTAL STATION UTILIZING STANDARD FIELD TRAVERSE METHODS FOR CONTROL AND STAKING.

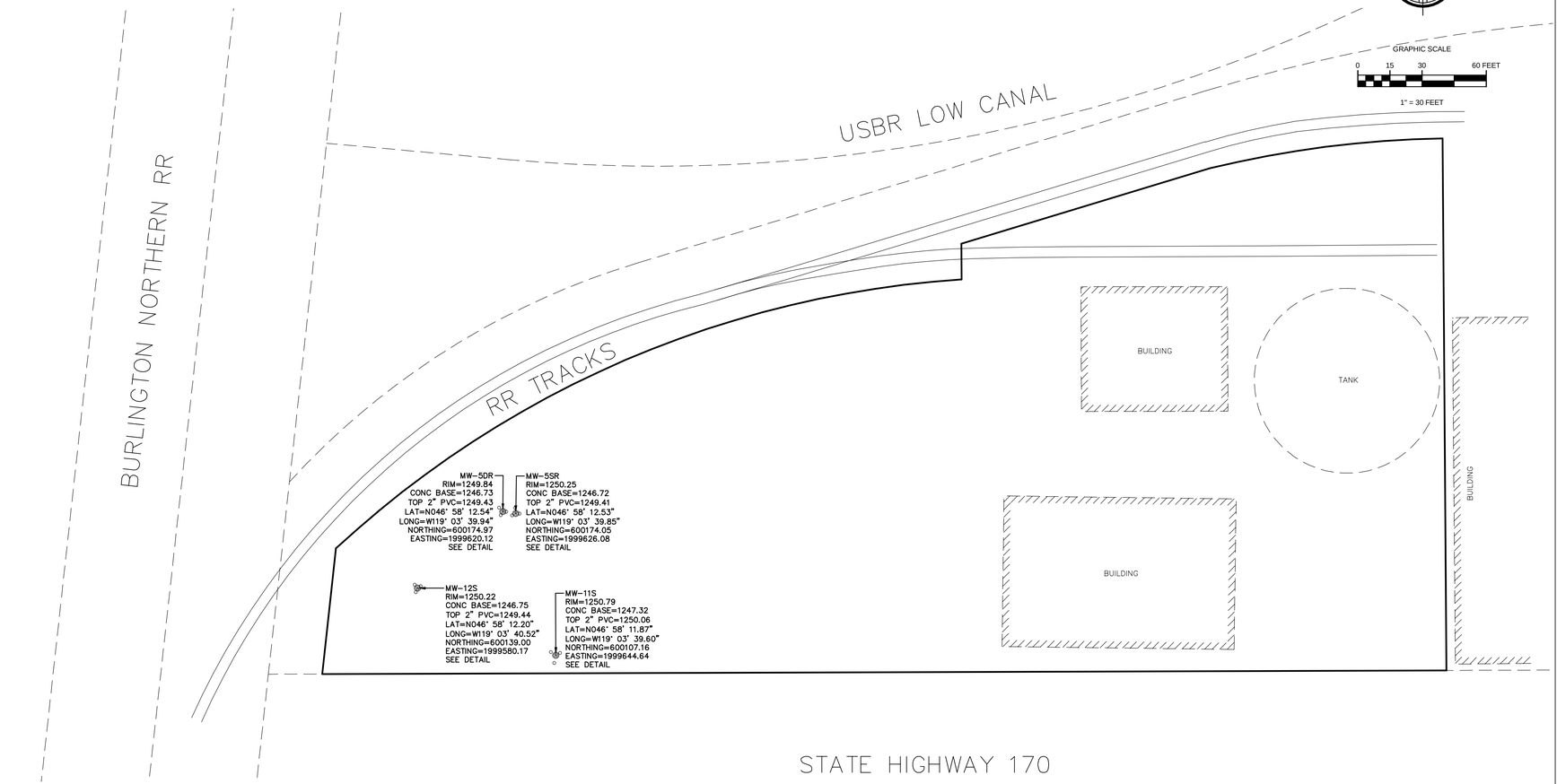
LEGEND

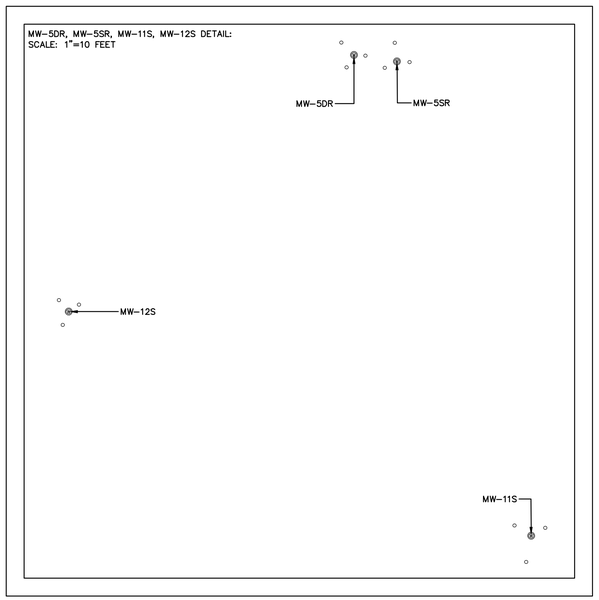
- ⊗ MONITORING WELL
- ○ BOLLARD

SURVEYOR'S CERTIFICATE

I, JOHN W. BECKER, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF WASHINGTON, HEREBY CERTIFY THAT THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION IN OCTOBER 2022.

JOHN W. BECKER, PLS 38480 DATE





MONITORING WELL	RIM ELEVATION	CONC BASE ELEVATION	TOP PVC ELEVATION	LATITUDE	LONGITUDE	NORTHING	EASTING
MW-5DR	1249.84	1246.73	1249.43	N046° 58' 12.54"	W119° 03' 39.94"	600174.97	1999620.12
MW-5SR	1250.25	1246.72	1249.41	N046° 58' 12.53"	W119° 03' 39.85"	600174.05	1999626.08
MW-11S	1250.79	1247.32	1250.06	N046° 58' 11.87"	W119° 03' 39.60	600107.16	1999644.64
MW-12S	1250.22	1246.75	1249.44	N046° 58' 12.20"	W119° 03' 40.52"	600139.00	1999580.17

AHBL
TACOMA · SEATTLE · SPOKANE · TRI-CITIES
5804 Road 90, Suite H Pasco, WA 99301
509.380.5883 TEL 253.383.2572 FAX www.ahbl.com WEB

Project Title:

SIMPLOT WARDEN WELL MONITORING

Client:

SIMPLOT

PO BOX 912 1130 W HIGHWAY 30
POCATELLO, ID 83204

MOLLY DIMICK

Job No.

2230494.50

Issue Set & Date:

07.19.23

JOHN W. BECKER STATE OF WASHINGTON 38480 REGISTERED PROFESSIONAL LAND SURVEYOR

- PRELIMINARY -

Revisions:

Sheet Title:

SIMPLOT WARDEN WELL MONITORING

Designed by:	Drawn by:	Checked by:
	SWM	JWB

Sheet No.

1

1 of 1 Sheets

F

Lab Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Jered Newcomb
HDR Inc
1401 E. Trent Ave
Suite 101
Spokane, Washington 99202

Generated 7/11/2023 9:26:26 AM Revision 1

JOB DESCRIPTION

Simplot Warden

JOB NUMBER

590-20844-1

Eurofins Spokane
11922 East 1st Ave
Spokane WA 99206

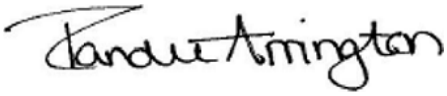
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Randee Arrington, Business Unit Manager
Randee.Arrington@et.eurofinsus.com
(509)924-9200

Table of Contents

Case Narrative

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Job ID: 590-20844-1

Laboratory: Eurofins Spokane

Narrative

Revision
The report being provided is a revision of the original report sent on 6/30/2023. The report (revision 1) is being revised due to: Revised the following client sample IDs: 590-20844-1, 590-20844-2, 590-20844-3, 590-20844-4, 590-20844-5 & 590-20844-6.

Receipt
The samples were received on 6/20/2023 4:31 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.4° C.

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

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

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

Sample Summary

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-20844-1	BH-11S-5-1-3	Solid	06/19/23 13:17	06/20/23 16:31
590-20844-2	BH-11S-5-10-12	Solid	06/19/23 13:40	06/20/23 16:31
590-20844-3	BH-11S-5-7-8	Solid	06/19/23 13:21	06/20/23 16:31
590-20844-4	BH-11S-5-30-32	Solid	06/19/23 14:30	06/20/23 16:31
590-20844-5	BH-11S-5-36-38	Solid	06/19/23 14:40	06/20/23 16:31
590-20844-6	BH-11S-5-22-23	Solid	06/19/23 14:05	06/20/23 16:31
590-20844-7	BH-5DR-5-1-3	Solid	06/20/23 09:30	06/20/23 16:31
590-20844-8	BH-5DR-5-10-12	Solid	06/20/23 09:53	06/20/23 16:31
590-20844-9	BH-5DR-5-20-22	Solid	06/20/23 10:11	06/20/23 16:31
590-20844-10	BH-5DR-5-30-32	Solid	06/20/23 10:36	06/20/23 16:31
590-20844-13	BH-5DR-5-40-42	Solid	06/20/23 12:20	06/20/23 16:31
590-20844-14	BH-5DR-5-52-54	Solid	06/20/23 13:56	06/20/23 16:31
590-20844-15	Trip Blank	Solid	06/20/23 00:00	06/20/23 16:31

Definitions/Glossary

Client: HDR Inc
Job ID: 590-20844-1
Project/Site: Simplot Warden

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

Glossary

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

Client Sample ID: BH-11S-5-1-3
Lab Sample ID: 590-20844-1
Date Collected: 06/19/23 13:17
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	10.9		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	89.1		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-1-3
Lab Sample ID: 590-20844-1
Date Collected: 06/19/23 13:17
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 89.1

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.039	ug/Kg	☼	06/22/23 13:58	06/22/23 16:52	1

Client Sample ID: BH-11S-5-10-12
Lab Sample ID: 590-20844-2
Date Collected: 06/19/23 13:40
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	18.7		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	81.3		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-10-12
Lab Sample ID: 590-20844-2
Date Collected: 06/19/23 13:40
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 81.3

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.061	0.043	ug/Kg	☼	06/22/23 13:58	06/22/23 17:08	1

Client Sample ID: BH-11S-5-7-8
Lab Sample ID: 590-20844-3
Date Collected: 06/19/23 13:21
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	9.7		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	90.3		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-7-8
Lab Sample ID: 590-20844-3
Date Collected: 06/19/23 13:21
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 90.3

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.038	ug/Kg	☼	06/22/23 13:58	06/22/23 17:25	1

Client Sample ID: BH-11S-5-30-32
Lab Sample ID: 590-20844-4
Date Collected: 06/19/23 14:30
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	17.6		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-30-32
Lab Sample ID: 590-20844-4
Date Collected: 06/19/23 14:30
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	82.4		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-30-32
Lab Sample ID: 590-20844-4
Date Collected: 06/19/23 14:30
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 82.4

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	1.8		0.060	0.042	ug/Kg	☼	06/22/23 13:58	06/22/23 17:41	1

Client Sample ID: BH-11S-5-36-38
Lab Sample ID: 590-20844-5
Date Collected: 06/19/23 14:40
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	21.6		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	78.4		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-36-38
Lab Sample ID: 590-20844-5
Date Collected: 06/19/23 14:40
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 78.4

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	2.4		0.064	0.045	ug/Kg	☼	06/22/23 13:58	06/22/23 17:58	1

Client Sample ID: BH-11S-5-22-23
Lab Sample ID: 590-20844-6
Date Collected: 06/19/23 14:05
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	14.3		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	85.7		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-11S-5-22-23
Lab Sample ID: 590-20844-6
Date Collected: 06/19/23 14:05
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 85.7

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	0.25		0.057	0.040	ug/Kg	☼	06/22/23 13:58	06/22/23 18:14	1

Client Sample ID: BH-5DR-5-1-3
Lab Sample ID: 590-20844-7
Date Collected: 06/20/23 09:30
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	10.2		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	89.8		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-5DR-5-1-3
Lab Sample ID: 590-20844-7
Date Collected: 06/20/23 09:30
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 89.8

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.056	0.039	ug/Kg	☼	06/22/23 13:58	06/22/23 18:31	1

Client Sample ID: BH-5DR-5-10-12
Lab Sample ID: 590-20844-8
Date Collected: 06/20/23 09:53
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	13.3		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	86.7		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-5DR-5-10-12
Lab Sample ID: 590-20844-8
Date Collected: 06/20/23 09:53
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 86.7

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.056	0.039	ug/Kg	☼	06/22/23 13:58	06/22/23 18:47	1

Client Sample ID: BH-5DR-5-20-22
Lab Sample ID: 590-20844-9
Date Collected: 06/20/23 10:11
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	18.5		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	81.5		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-5DR-5-20-22
Lab Sample ID: 590-20844-9
Date Collected: 06/20/23 10:11
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 81.5

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	1.2	F1 F2	0.060	0.042	ug/Kg	☼	06/22/23 13:58	06/22/23 19:20	1

Client Sample ID: BH-5DR-5-30-32
Lab Sample ID: 590-20844-10
Date Collected: 06/20/23 10:36
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	20.8		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	79.2		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-5DR-5-30-32
Lab Sample ID: 590-20844-10
Date Collected: 06/20/23 10:36
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 79.2

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.061	0.043	ug/Kg	☼	06/22/23 13:58	06/22/23 20:10	1

Client Sample Results

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Client Sample ID: BH-5DR-5-40-42
Lab Sample ID: 590-20844-13
Date Collected: 06/20/23 12:20
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	11.1		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	88.9		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-5DR-5-40-42
Lab Sample ID: 590-20844-13
Date Collected: 06/20/23 12:20
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 88.9

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.039	ug/Kg	☼	06/22/23 13:58	06/22/23 20:27	1

Client Sample ID: BH-5DR-5-52-54
Lab Sample ID: 590-20844-14
Date Collected: 06/20/23 13:56
Matrix: Solid
Date Received: 06/20/23 16:31

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	8.9		0.01	0.01	%			06/21/23 14:13	1
Percent Solids (EPA Moisture)	91.1		0.01	0.01	%			06/21/23 14:13	1

Client Sample ID: BH-5DR-5-52-54
Lab Sample ID: 590-20844-14
Date Collected: 06/20/23 13:56
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 91.1

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.038	ug/Kg	☼	06/22/23 13:58	06/22/23 20:43	1

Client Sample ID: Trip Blank
Lab Sample ID: 590-20844-15
Date Collected: 06/20/23 00:00
Matrix: Solid
Date Received: 06/20/23 16:31

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.047	0.033	ug/Kg		06/22/23 13:58	06/22/23 21:00	1

Method: 8011 - EDB

Lab Sample ID: MB 590-42136/2-A
Matrix: Solid
Analysis Batch: 42137

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42136

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.050	0.035	ug/Kg		06/22/23 13:58	06/22/23 16:19	1

Lab Sample ID: LCS 590-42136/3-A
Matrix: Solid
Analysis Batch: 42137

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42136

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2-Dibromoethane (EDB)			1.00	1.08		ug/Kg		108	60 - 140		

Lab Sample ID: 590-20844-9 MS
Matrix: Solid
Analysis Batch: 42137

Client Sample ID: BH-5DR-5-20-22
Prep Type: Total/NA
Prep Batch: 42136

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2-Dibromoethane (EDB)	1.2	F1 F2	1.20	2.77		ug/Kg	☼	129	60 - 140		

Lab Sample ID: 590-20844-9 MSD
Matrix: Solid
Analysis Batch: 42137

Client Sample ID: BH-5DR-5-20-22
Prep Type: Total/NA
Prep Batch: 42136

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromoethane (EDB)	1.2	F1 F2	1.16	1.72	F1 F2	ug/Kg	☼	42	60 - 140	47	20

Method: Moisture - Percent Moisture

Lab Sample ID: 590-20844-1 DU
Matrix: Solid
Analysis Batch: 42105

Client Sample ID: BH-11S-5-1-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	10.9			9.9		%				10	20
Percent Solids	89.1			90.1		%				1	20

Client Sample ID: BH-11S-5-1-3
Lab Sample ID: 590-20844-1
Date Collected: 06/19/23 13:17
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-11S-5-1-3
Lab Sample ID: 590-20844-1
Date Collected: 06/19/23 13:17
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.14 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 16:52	NMI	EET SPK

Client Sample ID: BH-11S-5-10-12
Lab Sample ID: 590-20844-2
Date Collected: 06/19/23 13:40
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-11S-5-10-12
Lab Sample ID: 590-20844-2
Date Collected: 06/19/23 13:40
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 81.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.11 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 17:08	NMI	EET SPK

Client Sample ID: BH-11S-5-7-8
Lab Sample ID: 590-20844-3
Date Collected: 06/19/23 13:21
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-11S-5-7-8
Lab Sample ID: 590-20844-3
Date Collected: 06/19/23 13:21
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.13 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 17:25	NMI	EET SPK

Client Sample ID: BH-11S-5-30-32
Lab Sample ID: 590-20844-4
Date Collected: 06/19/23 14:30
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Client Sample ID: BH-11S-5-30-32
Lab Sample ID: 590-20844-4
Date Collected: 06/19/23 14:30
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.03 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 17:41	NMI	EET SPK

Client Sample ID: BH-11S-5-36-38
Lab Sample ID: 590-20844-5
Date Collected: 06/19/23 14:40
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-11S-5-36-38
Lab Sample ID: 590-20844-5
Date Collected: 06/19/23 14:40
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.01 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 17:58	NMI	EET SPK

Client Sample ID: BH-11S-5-22-23
Lab Sample ID: 590-20844-6
Date Collected: 06/19/23 14:05
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-11S-5-22-23
Lab Sample ID: 590-20844-6
Date Collected: 06/19/23 14:05
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.24 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 18:14	NMI	EET SPK

Client Sample ID: BH-5DR-5-1-3
Lab Sample ID: 590-20844-7
Date Collected: 06/20/23 09:30
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Client Sample ID: BH-5DR-5-1-3
Lab Sample ID: 590-20844-7
Date Collected: 06/20/23 09:30
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.00 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 18:31	NMI	EET SPK

Client Sample ID: BH-5DR-5-10-12
Lab Sample ID: 590-20844-8
Date Collected: 06/20/23 09:53
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-5DR-5-10-12
Lab Sample ID: 590-20844-8
Date Collected: 06/20/23 09:53
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.30 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 18:47	NMI	EET SPK

Client Sample ID: BH-5DR-5-20-22
Lab Sample ID: 590-20844-9
Date Collected: 06/20/23 10:11
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-5DR-5-20-22
Lab Sample ID: 590-20844-9
Date Collected: 06/20/23 10:11
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 81.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.28 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 19:20	NMI	EET SPK

Client Sample ID: BH-5DR-5-30-32
Lab Sample ID: 590-20844-10
Date Collected: 06/20/23 10:36
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Client Sample ID: BH-5DR-5-30-32
Lab Sample ID: 590-20844-10
Date Collected: 06/20/23 10:36
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.40 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 20:10	NMI	EET SPK

Client Sample ID: BH-5DR-5-40-42
Lab Sample ID: 590-20844-13
Date Collected: 06/20/23 12:20
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-5DR-5-40-42
Lab Sample ID: 590-20844-13
Date Collected: 06/20/23 12:20
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.18 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 20:27	NMI	EET SPK

Client Sample ID: BH-5DR-5-52-54
Lab Sample ID: 590-20844-14
Date Collected: 06/20/23 13:56
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42105	06/21/23 14:13	M1V	EET SPK

Client Sample ID: BH-5DR-5-52-54
Lab Sample ID: 590-20844-14
Date Collected: 06/20/23 13:56
Matrix: Solid
Date Received: 06/20/23 16:31
Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.04 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 20:43	NMI	EET SPK

Client Sample ID: Trip Blank
Lab Sample ID: 590-20844-15
Date Collected: 06/20/23 00:00
Matrix: Solid
Date Received: 06/20/23 16:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.53 g	2 mL	42136	06/22/23 13:58	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42137	06/22/23 21:00	NMI	EET SPK

Laboratory References:
EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-07-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20844-1

Method	Method Description	Protocol	Laboratory
8011	EDB	EPA	EET SPK
Moisture	Percent Moisture	EPA	EET SPK
8011	Microextraction	SW846	EET SPK

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Eurofins Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Phone (509) 924-9290

Chain of Custody Record

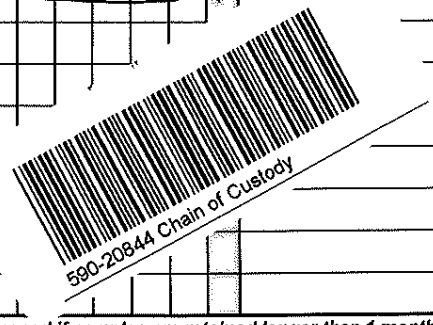
eurofins

Client Information	Sampler: Jered Newcomb	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-8638-2504.1
Client Contact: Jered Newcomb	Phone: 509-899-4371	E-Mail: Randee.Arrington@et.eurofinsus.com	State of Origin: WA	Page: Page 1 of 3
Company: HDR Inc	PWSID:			Job #:
Address: 1401 E. Trent Ave Suite 101	Due Date Requested.			
City: Spokane	TAT Requested (days): Standard			
State, Zip: WA, 99202	Compliance Project: Δ Yes Δ No			
Phone: 509-343-8446(Tel)	PO #: Purchase Order not required			
Email: jered.newcomb@hdrinc.com	WO #:			
Project Name: Simplot Warden	Project #: 59002373			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8011 EDB	6010D, 7470 TCLP RCRA 8 Metals	6010D, 7470A Total RCRA 8 Metals	1010 Ignitability	8270C Routine SVOA	8260D Standard Analyte List	8260D Standard Analyte List	SM4500_H+ pH	9045D pH	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	F	A	N	N		
BH-115-5-1-3	6/19/23	1317	G	Solid	N	N	X										
BH-115-5-10-12		1340		Solid			X										
BH-115-5-7-8		1321		Solid			X										
~~BH-115-5-20-22~~		~~1405~~		Solid													
BH-115-5-30-32		1430		Solid			X										
BH-115-5-36-38		1440		Solid			X										
BH-115-5-22-23		1405		Solid			X										
BH-5DR-5-1-3	6/20/23	930		Solid			X										
BH-5DR-5-10-12		953		Solid			X										
BH-5DR-5-20-22		1011		Solid			X										
BH-5DR-5-30-32		1036		Solid			X										



Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Jered Newcomb	6/20/23 16 30			6/20/23 16:31	GRT SPO
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:
		4.8, 5.4 IR2006

Eurofins Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Phone (509) 924-9290

Chain of Custody Record

eurofins

Client Information	Sampler: Jered Newcomb	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-8638-2504.2
Client Contact: Jered Newcomb	Phone: 509-899-4371	E-Mail: Randee.Arrington@et.eurofinsus.com	State of Origin: WA	Page: Page 2 of 3
Company: HDR Inc	PWSID:			Job #:
Address: 1401 E. Trent Ave Suite 101	Due Date Requested:			
City: Spokane	TAT Requested (days): Standard			
State, Zip: WA, 99202	Compliance Project: Δ Yes Δ No			
Phone: 509-343-8446(Tel)	PO #: Purchase Order not required			
Email: jered.newcomb@hdrinc.com	WO #:			
Project Name: Simplot Warden	Project #: 59002373			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8011 EDB	6010D, 7470 TCLP RCRA 8 Metals	6010D, 7470A Total RCRA 8 Metals	1010 Ignitability	8270C Routine SVOA	8260D Standard Analyte List	8260D Standard Analyte List	SM4500_H+ pH	9045D pH	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	F	A	N	N		
Bit-5DR-5-20-22-MS	6/20/23	1011	G	Solid	N	N	X										
Bit-5DR-5-20-22-MSD		1011		Solid			X										
Bit-5DR-5-40-42		1220		Solid			X										
Bit-5DR-5-52-54		1356		Solid			X										
Trip Blank	—	—	—	Solid	N	N	X										
				Solid													
				Solid													
				Solid													
				Solid													
				Solid													
				Solid													

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

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

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Jered Newcomb	6/20/23 1630	HDR		6/20/23 16:31	CET SPO
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: 4.8, 5.4 IR006

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 590-20844-1

Login Number: 20844
List Number: 1
Creator: Morris, Mackenzie 1

List Source: Eurofins Spokane

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Jered Newcomb
HDR Inc
1401 E. Trent Ave
Suite 101
Spokane, Washington 99202

Generated 7/5/2023 8:14:50 PM

JOB DESCRIPTION

Simplot Warden

JOB NUMBER

590-20878-1

Eurofins Spokane
11922 East 1st Ave
Spokane WA 99206

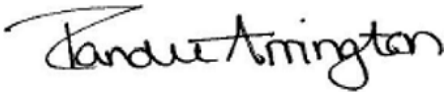
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



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7/5/2023 8:14:50 PM

Authorized for release by
Randee Arrington, Business Unit Manager
Randee.Arrington@et.eurofinsus.com
(509)924-9200

Table of Contents

Case Narrative

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Job ID: 590-20878-1

Laboratory: Eurofins Spokane

Narrative

Receipt
The samples were received on 6/23/2023 11:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.9º C.

GC Semi VOA
Method 8011: The method blank for preparation batch 590-42168 and analytical batch 590-42173 contained 1,2-Dibromoethane (EDB) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

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

Sample Summary

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-20878-1	BH-12S-S-1-3	Solid	06/21/23 13:10	06/23/23 11:50
590-20878-2	BH-5SR-S-35-37	Solid	06/21/23 10:56	06/23/23 11:50
590-20878-3	BH-12S-S-10-12	Solid	06/21/23 13:28	06/23/23 11:50
590-20878-4	BH-5SR-S-1-3	Solid	06/21/23 08:57	06/23/23 11:50
590-20878-5	BH-12S-S-0	Solid	06/21/23 14:00	06/23/23 11:50
590-20878-6	BH-12S-S-20-22	Solid	06/21/23 13:54	06/23/23 11:50
590-20878-7	BH-5SR-S-20-22	Solid	06/21/23 10:06	06/23/23 11:50
590-20878-8	BH-5SR-S-30-32	Solid	06/21/23 10:35	06/23/23 11:50
590-20878-9	BH-12S-S-30-32	Solid	06/21/23 14:17	06/23/23 11:50
590-20878-10	BH-12S-S-35-37	Solid	06/21/23 14:33	06/23/23 11:50
590-20878-11	BH-12S-S-15	Solid	06/21/23 13:31	06/23/23 11:50
590-20878-12	BH-5SR-S-10-12	Solid	06/21/23 09:58	06/23/23 11:50
590-20878-13	BH-5SR-S-0	Solid	06/21/23 08:30	06/23/23 11:50
590-20878-14	EB-01	Water	06/22/23 08:31	06/23/23 11:50

Definitions/Glossary

Client: HDR Inc
Job ID: 590-20878-1
Project/Site: Simplot Warden

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Client Sample ID: BH-12S-S-1-3
Lab Sample ID: 590-20878-1
Date Collected: 06/21/23 13:10
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	11.0		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	89.0		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-1-3
Lab Sample ID: 590-20878-1
Date Collected: 06/21/23 13:10
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 89.0

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.038	ug/Kg	☼	06/30/23 08:34	06/30/23 13:45	1

Client Sample ID: BH-5SR-S-35-37
Lab Sample ID: 590-20878-2
Date Collected: 06/21/23 10:56
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	27.6		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	72.4		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-35-37
Lab Sample ID: 590-20878-2
Date Collected: 06/21/23 10:56
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 72.4

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.068	0.047	ug/Kg	☼	06/30/23 08:34	06/30/23 14:51	1

Client Sample ID: BH-12S-S-10-12
Lab Sample ID: 590-20878-3
Date Collected: 06/21/23 13:28
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	14.9		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	85.1		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-10-12
Lab Sample ID: 590-20878-3
Date Collected: 06/21/23 13:28
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 85.1

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.057	0.040	ug/Kg	☼	06/30/23 08:34	06/30/23 15:07	1

Client Sample ID: BH-5SR-S-1-3
Lab Sample ID: 590-20878-4
Date Collected: 06/21/23 08:57
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	12.4		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-1-3
Lab Sample ID: 590-20878-4
Date Collected: 06/21/23 08:57
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	87.6		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-1-3
Lab Sample ID: 590-20878-4
Date Collected: 06/21/23 08:57
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 87.6

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.039	ug/Kg	☼	06/30/23 08:34	06/30/23 15:23	1

Client Sample ID: BH-12S-S-0
Lab Sample ID: 590-20878-5
Date Collected: 06/21/23 14:00
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	19.3		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	80.7		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-0
Lab Sample ID: 590-20878-5
Date Collected: 06/21/23 14:00
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 80.7

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.060	0.042	ug/Kg	☼	06/30/23 08:34	06/30/23 15:40	1

Client Sample ID: BH-12S-S-20-22
Lab Sample ID: 590-20878-6
Date Collected: 06/21/23 13:54
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	18.2		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	81.8		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-20-22
Lab Sample ID: 590-20878-6
Date Collected: 06/21/23 13:54
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 81.8

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.061	0.043	ug/Kg	☼	06/30/23 08:34	06/30/23 15:56	1

Client Sample ID: BH-5SR-S-20-22
Lab Sample ID: 590-20878-7
Date Collected: 06/21/23 10:06
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	10.6		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	89.4		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-20-22
Lab Sample ID: 590-20878-7
Date Collected: 06/21/23 10:06
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 89.4

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.052	0.036	ug/Kg	☼	06/30/23 08:34	06/30/23 16:13	1

Client Sample ID: BH-5SR-S-30-32
Lab Sample ID: 590-20878-8
Date Collected: 06/21/23 10:35
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	20.1		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	79.9		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-30-32
Lab Sample ID: 590-20878-8
Date Collected: 06/21/23 10:35
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 79.9

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.061	0.043	ug/Kg	☼	06/30/23 08:34	06/30/23 16:29	1

Client Sample ID: BH-12S-S-30-32
Lab Sample ID: 590-20878-9
Date Collected: 06/21/23 14:17
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	19.2		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	80.8		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-30-32
Lab Sample ID: 590-20878-9
Date Collected: 06/21/23 14:17
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 80.8

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.061	0.042	ug/Kg	☼	06/30/23 08:34	06/30/23 16:45	1

Client Sample ID: BH-12S-S-35-37
Lab Sample ID: 590-20878-10
Date Collected: 06/21/23 14:33
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	20.7		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	79.3		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-35-37
Lab Sample ID: 590-20878-10
Date Collected: 06/21/23 14:33
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 79.3

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.059	0.041	ug/Kg	☼	06/30/23 08:34	06/30/23 17:18	1

Client Sample ID: BH-12S-S-15
Lab Sample ID: 590-20878-11
Date Collected: 06/21/23 13:31
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	11.5		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	88.5		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-12S-S-15
Lab Sample ID: 590-20878-11
Date Collected: 06/21/23 13:31
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 88.5

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.056	0.039	ug/Kg	☼	06/30/23 08:34	06/30/23 17:35	1

Client Sample ID: BH-5SR-S-10-12
Lab Sample ID: 590-20878-12
Date Collected: 06/21/23 09:58
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	13.1		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	86.9		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-10-12
Lab Sample ID: 590-20878-12
Date Collected: 06/21/23 09:58
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 86.9

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.052	0.037	ug/Kg	☼	06/30/23 08:34	06/30/23 17:51	1

Client Sample ID: BH-5SR-S-0
Lab Sample ID: 590-20878-13
Date Collected: 06/21/23 08:30
Matrix: Solid
Date Received: 06/23/23 11:50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	10.3		0.01	0.01	%			06/26/23 15:30	1
Percent Solids (EPA Moisture)	89.7		0.01	0.01	%			06/26/23 15:30	1

Client Sample ID: BH-5SR-S-0
Lab Sample ID: 590-20878-13
Date Collected: 06/21/23 08:30
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 89.7

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.055	0.038	ug/Kg	☼	06/30/23 08:34	06/30/23 18:08	1

Client Sample ID: EB-01
Lab Sample ID: 590-20878-14
Date Collected: 06/22/23 08:31
Matrix: Water
Date Received: 06/23/23 11:50

Method: EPA 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.010	0.0025	ug/L		06/26/23 12:46	06/26/23 22:09	1

Method: 8011 - EDB

Lab Sample ID: MB 590-42168/2-A
Matrix: Water
Analysis Batch: 42173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	0.00826	J	0.010	0.0025	ug/L		06/26/23 12:44	06/26/23 16:39	1

Lab Sample ID: LCS 590-42168/3-A
Matrix: Water
Analysis Batch: 42173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane (EDB)	0.125	0.136		ug/L		109	60 - 140

Lab Sample ID: LCSD 590-42168/4-A
Matrix: Water
Analysis Batch: 42173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42168

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromoethane (EDB)	0.125	0.150		ug/L		120	60 - 140	10	20

Lab Sample ID: MB 590-42254/2-A
Matrix: Solid
Analysis Batch: 42256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42254

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.050	0.035	ug/Kg		06/30/23 08:34	06/30/23 12:56	1

Lab Sample ID: LCS 590-42254/3-A
Matrix: Solid
Analysis Batch: 42256

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42254

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane (EDB)	1.00	0.986		ug/Kg		99	60 - 140

Lab Sample ID: 590-20878-1 MS
Matrix: Solid
Analysis Batch: 42256

Client Sample ID: BH-12S-S-1-3
Prep Type: Total/NA
Prep Batch: 42254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane (EDB)	ND		1.09	0.840		ug/Kg	☼	77	60 - 140

Lab Sample ID: 590-20878-1 MSD
Matrix: Solid
Analysis Batch: 42256

Client Sample ID: BH-12S-S-1-3
Prep Type: Total/NA
Prep Batch: 42254

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromoethane (EDB)	ND		1.10	0.899		ug/Kg	☼	82	60 - 140	7	20

QC Sample Results

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Method: Moisture - Percent Moisture

Lab Sample ID: 590-20878-1 DU
Matrix: Solid
Analysis Batch: 42174

Client Sample ID: BH-12S-S-1-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	11.0			10.9		%				0.9	20
Percent Solids	89.0			89.1		%				0.1	20

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Client Sample ID: BH-12S-S-1-3
Lab Sample ID: 590-20878-1
Date Collected: 06/21/23 13:10
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-12S-S-1-3
Lab Sample ID: 590-20878-1
Date Collected: 06/21/23 13:10
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.27 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 13:45	NMI	EET SPK

Client Sample ID: BH-5SR-S-35-37
Lab Sample ID: 590-20878-2
Date Collected: 06/21/23 10:56
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-5SR-S-35-37
Lab Sample ID: 590-20878-2
Date Collected: 06/21/23 10:56
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 72.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.22 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 14:51	NMI	EET SPK

Client Sample ID: BH-12S-S-10-12
Lab Sample ID: 590-20878-3
Date Collected: 06/21/23 13:28
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-12S-S-10-12
Lab Sample ID: 590-20878-3
Date Collected: 06/21/23 13:28
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.33 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 15:07	NMI	EET SPK

Client Sample ID: BH-5SR-S-1-3
Lab Sample ID: 590-20878-4
Date Collected: 06/21/23 08:57
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Client Sample ID: BH-5SR-S-1-3
Lab Sample ID: 590-20878-4
Date Collected: 06/21/23 08:57
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.35 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 15:23	NMI	EET SPK

Client Sample ID: BH-12S-S-0
Lab Sample ID: 590-20878-5
Date Collected: 06/21/23 14:00
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-12S-S-0
Lab Sample ID: 590-20878-5
Date Collected: 06/21/23 14:00
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.36 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 15:40	NMI	EET SPK

Client Sample ID: BH-12S-S-20-22
Lab Sample ID: 590-20878-6
Date Collected: 06/21/23 13:54
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-12S-S-20-22
Lab Sample ID: 590-20878-6
Date Collected: 06/21/23 13:54
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.05 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 15:56	NMI	EET SPK

Client Sample ID: BH-5SR-S-20-22
Lab Sample ID: 590-20878-7
Date Collected: 06/21/23 10:06
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Client Sample ID: BH-5SR-S-20-22
Lab Sample ID: 590-20878-7
Date Collected: 06/21/23 10:06
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.79 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 16:13	NMI	EET SPK

Client Sample ID: BH-5SR-S-30-32
Lab Sample ID: 590-20878-8
Date Collected: 06/21/23 10:35
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-5SR-S-30-32
Lab Sample ID: 590-20878-8
Date Collected: 06/21/23 10:35
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.21 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 16:29	NMI	EET SPK

Client Sample ID: BH-12S-S-30-32
Lab Sample ID: 590-20878-9
Date Collected: 06/21/23 14:17
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-12S-S-30-32
Lab Sample ID: 590-20878-9
Date Collected: 06/21/23 14:17
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.21 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 16:45	NMI	EET SPK

Client Sample ID: BH-12S-S-35-37
Lab Sample ID: 590-20878-10
Date Collected: 06/21/23 14:33
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Client Sample ID: BH-12S-S-35-37
Lab Sample ID: 590-20878-10
Date Collected: 06/21/23 14:33
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 79.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.68 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 17:18	NMI	EET SPK

Client Sample ID: BH-12S-S-15
Lab Sample ID: 590-20878-11
Date Collected: 06/21/23 13:31
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-12S-S-15
Lab Sample ID: 590-20878-11
Date Collected: 06/21/23 13:31
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.02 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 17:35	NMI	EET SPK

Client Sample ID: BH-5SR-S-10-12
Lab Sample ID: 590-20878-12
Date Collected: 06/21/23 09:58
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Client Sample ID: BH-5SR-S-10-12
Lab Sample ID: 590-20878-12
Date Collected: 06/21/23 09:58
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.97 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 17:51	NMI	EET SPK

Client Sample ID: BH-5SR-S-0
Lab Sample ID: 590-20878-13
Date Collected: 06/21/23 08:30
Matrix: Solid
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			42174	06/26/23 15:30	M1V	EET SPK

Lab Chronicle

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Client Sample ID: BH-5SR-S-0

Lab Sample ID: 590-20878-13

Date Collected: 06/21/23 08:30
Matrix: Solid
Date Received: 06/23/23 11:50
Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			10.21 g	2 mL	42254	06/30/23 08:34	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42256	06/30/23 18:08	NMI	EET SPK

Client Sample ID: EB-01

Lab Sample ID: 590-20878-14

Date Collected: 06/22/23 08:31
Matrix: Water
Date Received: 06/23/23 11:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			80 mL	2 mL	42168	06/26/23 12:46	M1V	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	42173	06/26/23 22:09	NMI	EET SPK

Laboratory References:

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-07-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: HDR Inc
Project/Site: Simplot Warden

Job ID: 590-20878-1

Method	Method Description	Protocol	Laboratory
8011	EDB	EPA	EET SPK
Moisture	Percent Moisture	EPA	EET SPK
8011	Microextraction	SW846	EET SPK

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Eurofins Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Phone (509) 924-9290

Chain of Custody Record

eurofins

Client Information	Sampler: Alyssa Veatch	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-8638-2504.3
Client Contact: Jered Newcomb	Phone: 208-387-7168	E-Mail: Randee.Arrington@et.eurofinsus.com	State of Origin:	Page: Page 3 of 3
Company: HDR Inc	PWSID:			Job #:
Address: 1401 E. Trent Ave Suite 101	Due Date Requested:			
City: Spokane	TAT Requested (days):			
State, Zip: WA, 99202	Compliance Project: Δ Yes Δ No			
Phone: 509-343-8446(Tel)	PO #: Purchase Order not required			
Email: jered.newcomb@hdrinc.com	WO #:			
Project Name: Simplot Warden	Project #: 59002373			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other*

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8011 EDB	6010D, 7470 TCLP RCRA 8 Metals	6010D, 7470A Total RCRA 8 Metals	1010 Ignitability	8270C Routine SVOA	8260D Standard Analyte List	8260D Standard Analyte List	SM4500_H+ pH	9045D pH	Total Number of containers	Special Instructions/Note:
*other samples on back of page			Preservation Code:				N	N	N	N	N	F	A	N	N		
BH-12S-S-1-3	6/21/23	1310	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-5SR-S-35-37		1056	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-12S-S-10-12		1328	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-5SR-S-1-3		0857	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-12S-S-0		1400	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-12S-S-20-22		1354	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-5SR-S-20-22		1006	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-5SR-S-30-32		1035	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-12S-S-30-32		1417	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-12S-S-35-37		1433	G	Solid			X	X	X	X	X	X	X	X	X	4	
BH-12S-S-15		1331	G	Solid			X	X	X	X	X	X	X	X	X	4	

590-20878 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

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

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	6/22/23 1100	HDR	[signature]	6/23/23 11:50	EET SPO
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: X Yes Δ No | Custody Seal No. 1202091 | Cooler Temperature(s) °C and Other Remarks: 3.3 3.9 IR006

Sample ID	Date	Time	Sample Type	Matrix	Analysis
BH-55R-S 10-12	6/21/23	0958	Grab	Solid	EDB
BH-55R-S-0	6/21/23	0830	Grab	Solid	EDB
EB-01	6/22/23	0831	Grab	Water	EDB

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 590-20878-1

Login Number: 20878
List Number: 1
Creator: Morris, Mackenzie 1

List Source: Eurofins Spokane

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

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Data Validation Report

SIMPLOT WARDEN

DATA VALIDATION REPORT FOR JULY 2023 WELL INSTALLATION REPORT

Introduction

This report summarizes the data validation performed on the soil analytical results of the samples collected in July 2023 from soil cuttings generated during groundwater monitoring well drilling. These samples were collected and analyzed in general accordance with the procedures and protocols specified in the 2023 *Groundwater Monitoring Well Construction and Monitoring Plan* (Work Plan).

The data validation for groundwater samples considered the following elements:

- Sampling procedures
- Holding times
- Detection limit
- Surrogate spike recoveries
- Laboratory method blank
- Laboratory control sample
- Equipment rinsate blank
- Laboratory spikes and spike duplicates
- Duplicate field sample

Sampling Procedures

Soil samples were collected from soil cuttings generated from the drilling of each of the four monitoring wells being installed as part of the Work Plan. New monitoring wells MW-11S and MW-12S, and replacement monitoring wells MW-5SR and MW-5DR were drilled in July 2023 using a rotosonic drill method which generates continuous soil cuttings during drilling for lithologic logging and sampling. Soils were sampled as outlined in the Work Plan.

Samples were labeled, sealed, placed in a cooler, and hand delivered to Eurofins in Spokane, WA on 6/20/2023 (first set of samples) and shipped to Eurofins in Spokane, WA on 6/22/2023 (second set of samples).

Eurofins analyzed soil samples for EDB by EPA method 8011.

Holding Times

A total of 27 samples were submitted to Eurofins (25 soil, 2 water), including a trip blank, rinsate blank, and two duplicate samples. Holding times were met for all analytes. HDR collected an MS/MSD from BH-5DR-S-20-22 and the lab ran an additional MS/MSD off of BH-12S-S-1-3 (separate lab report).

Detection Limit

Detection limits are specified by the analytical methods and for the samples, ranged from 0.033 to 0.047 µg/Kg.

Laboratory Method Blank

All analytes were below the reporting limit in the method blank except for the following:

- EDB was detected in method blank MB 590-42168/2-A at 0.00526 µg/L and was J qualified as it was between the method detection limit and the reporting limit.

Laboratory Control Sample
Percent recoveries of the laboratory control samples were reported within acceptance limits. The relative percent difference (RPD) for the laboratory control sample duplicate was within limits.

Equipment Rinsate Blank
An equipment rinsate blank (EB-01) was collected with the samples and analyzed for EDB. The equipment rinsate blank was below detection limits for EDB.

Trip Blank
A trip blank (TB-01) was carried with the samples and analyzed for EDB. The trip blank was below detection limits for EDB.

Laboratory Spikes and Spike Duplicates
MS and MSD analyses were performed on MS and MSD samples collected from BH-5DR-S-20-22 as well as analyzed from BH-12S-S-1-3 (lab selected for the second batch of samples).

For matrix spike and matrix spike duplicate 590-20878-1 run from BH-12S-S-1-3, percent recoveries and RPD was within recovery limits.

For matrix spike 590-20844-9 MS (from BH-5DR-S-20-22), the recover was within recovery limits. For matrix spike duplicate 590-20844-9 MSD (from BH-5DR-S-20-22), the percent recover was below recovery limits and the RPD was above the RPD limit (RPD of 47 compared to a limit of 20). Associated sample results were flagged as F1 and F2 accordingly.

Duplicate Field Sample
Two duplicate samples were secured during sampling at a rate of 10% of the total samples. Duplicates were collected from BH-5SR-S-20-22 (duplicated labeled as BH-5SR-S-0) and BH-12S-S-30-32 (duplicate labeled as BH-12SR-0). The results of the duplicates are presented in **Table 1**. The Work Plan/SOPs specify an RPD limit of 20 percent. The duplicate is within the acceptable range for all analytes. Note that EDB was non-detect in all four samples, so only percent moisture and solids are used in **Table 1** for RPD comparison.

Table 1. Relative Percent Difference (RPD) of Detected Compounds for Duplicate Samples from BH-5SR and BH-12S

Detected Compound	BH-5SR-S-20-22 (µg/Kg)	DUPLICATE (BH-5SR-S-0) (µg/Kg)	RPD
Percent Moisture	10.6	10.3	2.87%
Percent Solids	89.4	89.7	-0.34%
Detected Compound	**BH-12S-S-30-32 (µg/Kg)**	**DUPLICATE (BH-12S-S-0) (µg/Kg)**	**RPD**
Dissolved calcium	19.2	19.3	-0.52%
Dissolved chromium	80.8	80.7	0.12%

RPD (relative percent difference) = [Parent – Dup]/ [mean (Parent, Dup)] X 100
mg/L = milligrams per liter