GEOTECHNICAL ENGINEERING REPORT AND TEMPORARY SHORING DESIGN
Stillwater Holdings Chevron UST and Soil Removal Interim Action
7 East Rose Street
Walla Walla, Washington

Prepared for: Stillwater Holdings, LLC

Project No. AS230442A • February 22, 2024 FINAL

Aspect
A Geosyntec Company

earth + water

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Aspect Consulting

2/22/24

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Executive Summary

Aspect Consulting (Aspect) completed a geotechnical engineering study and temporary shoring design for the Stillwater Holdings Chevron UST and Soil Removal Interim Action (Project) at 7 East Rose Street in Walla Walla, Washington (Site; Figure 1). The Project consists of the removal of three underground storage tanks (USTs) and localized contaminated soil around the tanks. Our services consisted of reviewing existing subsurface exploration data at the Site, completing new subsurface explorations, completing engineering analyses to design temporary shoring, and preparing this report that documents subsurface conditions, the basis of design for the temporary shoring, and recommendations for construction. Our pertinent conclusions and recommendations for the Project are summarized below.

- The Site is underlain by a variable thickness of fill followed by alluvium. The alluvium generally consists of medium dense to dense gravel with silt interbeds and extends to the maximum depth explored (approximately 26.5 feet below the ground surface). Nearby well logs indicate the gravel alluvium extends to depths of at least several hundred feet below the Site area.
- Static groundwater levels measured in the monitoring wells at the Site range between elevation (El) 939 and El 944. The excavation is planned to extend to El 943, and therefore groundwater is expected to be near the base of the excavation. If groundwater is encountered, we anticipate the rate of groundwater flow into the excavation will be up to 10 gallons per minute and can be controlled using a system of sumps and pumps within the excavation. Groundwater will be encountered during shaft excavation for the temporary shoring soldier piles.
- Temporary shoring will be necessary to support the excavation. Aspect has completed design of the temporary shoring system, which consists of cantilever drilled soldier piles with timber lagging. The north shoring wall is designed for additional lateral earth pressure from the footings of the adjacent building and to limit deflections to 0.5 inch or less at the elevation of the adjacent footings. The east, west, and south shoring walls are designed for additional lateral earth pressure from construction equipment (tracked excavator) operating behind the walls and to limit deflections to 1 inch or less.

This Executive Summary should only be used in the context of the whole report.

1 Introduction

Aspect Consulting (Aspect) completed a geotechnical engineering study and temporary shoring design for the Stillwater Holdings Chevron UST and Soil Removal Interim Action at 7 East Rose Stret in Walla Walla, Washington. This report presents our geotechnical engineering conclusions, recommendations, and the basis of temporary shoring design for the Project.

1.1 Project Description

The Project consists of the removal of three steel-reinforced fiberglass underground storage tanks (USTs) and localized contaminated soil around the tanks. Each storage tank is approximately 27 to 29 feet in length and 5 to 7 feet in width. An approximately 12-foot-deep excavation extending to elevation (El) 943[1] will be completed to facilitate UST and soil removal. Once excavation is complete and the USTs are removed, the excavation will be backfilled to existing grade.

[1] Elevations in feet and reference the North American Vertical Datum of 1988 (NAVD88).

2 Site Conditions

This section includes a description of the Site's surface conditions and soil stratigraphy based on the results of our subsurface explorations and review of explorations by others.

2.1 Surface Conditions

The Site consists of a rectangular parcel covering approximately 0.233 acres in Walla Walla, Washington. Its current use is a gasoline service station; a convenience store/mini mart is present in northern portion of the Site, and two canopies covering fuel pumps are present in the northwest and southern portions of the Site. The surface surrounding these features is relatively level and covered with asphalt.

The Site is bordered by a two-story office building to the north (106 North 2nd Avenue), a parking lot and one-story building (21 East Rose Street) to the east, East Rose Street right-of-way (ROW) to the south, and North 2nd Avenue ROW to the west.

2.2 Subsurface Conditions

Our characterization of subsurface conditions at the Site is based on our review of geologic maps, our experience in the Site area, our review of logs of subsurface explorations completed at the Site by Aspect and others.

2.2.1 Geology

Geologic maps indicate the Site is underlain by quaternary alluvium (Derkey et al., 2006; DNR, 2024). The quaternary alluvium deposits consist of discontinuous, unconsolidated deposits of clay, silt, fine sand, and gravel typically found in and adjacent to stream channels and on the floodplain adjacent to streams on the valley floor. The deposits are primarily reworked, locally derived loess and flood deposits.

2.2.2 Subsurface Explorations by Others

We reviewed logs of subsurface explorations completed at the Site and vicinity by others. These include five geotechnical borings (B-1 through B-5) and six monitoring wells (MW-1 through MW-6) completed by GeoEngineers. The approximate locations of these explorations are shown on Figure 2 and the exploration logs are provided in Appendix A.

Additionally, nearby well logs available through the Washington State Well Report Reviewer indicate the alluvium extends to a depth of several hundred feet below the ground surface and is underlain by basalt bedrock (Ecology, 2024).

2.2.3 Subsurface Explorations by Aspect

Aspect completed the following subsurface explorations at the Site:

- Seven monitoring wells, designated AMW-01 through AMW-04 and MW-7 through MW-9, between October 18 and 20, 2023.

- Eight test pits, designated ATP-01 through ATP-08, advanced to depths between 4 and 10.5 feet below ground surface (bgs) on January 9 and 10, 2024.

The locations of the Aspect explorations are also shown on Figure 2. Aspect's exploration logs are provided in Appendix B.

2.2.4 Stratigraphy

Based on our explorations and review of the logs of the explorations by others, we identified two soil units at the Site: fill and alluvium. Descriptions of each of these units, as observed in our explorations and described on the logs of the explorations by others, are presented below. For additional details regarding the composition and distribution of these units, please refer to the exploration logs provided in Appendices A and B.

2.2.4.1 Fill

Fill is present directly beneath the asphalt and typically consists of soft to medium stiff, slightly moist to moist, low plasticity silt with varying amounts of sand and gravel (ML); loose to medium dense, slightly moist, gravel (GP-GM); and loose to medium dense, moist, sand with varying amounts of gravel and cobbles (SM). The thickness of the fill ranges between 3.5 and 8 feet bgs. In some locations the fill is pea gravel, such as around utilities and buried structures.

2.2.4.2 Alluvium

Below the fill, alluvium is present and extends to the maximum depth explored (approximately 26.5 feet bgs). The alluvium typically consists of medium dense to dense, moist to wet, gravel with varying amounts of sand and silt (GP-GM, GM); and medium stiff to hard, wet, low plasticity silt with varying amounts of sand and gravel (ML). While not shown on the final boring logs, we reviewed GeoEngineers' draft boring logs, which contain Standard Penetration Test (SPT) blow counts. The blow counts in the alluvium range between 28 and greater than 100 blows per foot (bpf) for the gravel (most are greater than 50 bpf) and 12 and 51 bpf for the silt. While the boring logs describe the gravel alluvium as dense to very dense, we interpret this unit as typically medium dense to dense and assume the blow counts likely overstated to some degree due to the presence of large gravel, cobbles, and potentially boulders.

2.2.5 Groundwater

Static groundwater levels measured in Aspect's monitoring wells between October 2023 and January 2024 range between approximately El 944 and 936. The static groundwater levels measured in the wells that are closest to the planned excavation range between El 944 and 941.

Groundwater levels at the Site will fluctuate seasonally with changes in precipitation.

2.2.5.1 Slug Testing

We estimated hydraulic conductivity of the soil by performing slug tests at monitoring wells AMW-1, AMW-2, and AMW-4. These estimates were used to inform our analysis of the rate of groundwater flow into the excavation (if groundwater is encountered).

Slug tests involve rapidly changing the water level within a well and then measuring the rate of return to the static water level. The rate of water level recovery is used to calculate the hydraulic conductivity of the water-bearing zone in the vicinity of the well screen using standardized analytical procedures. The slug test results represent a bulk hydraulic conductivity of the soil below groundwater within the screen interval of the wells.

A slug rod (a solid cylinder of known volume) was used to perform the slug tests in each well. During the falling head test, the slug rod was rapidly submerged in the water, causing the water level to rise rapidly before falling back to the static water level over time. Upon completion of the falling head test, a rising head test was performed by rapidly removing the slug rod from the water, causing the water level to rapidly fall before rising back to the static water level over time. In wells where groundwater levels intersected the screen interval or filter pack, only the rising head tests were analyzed.

The water levels in the wells during testing were measured using a vented pressure transducer (certified for 10 meters of submergence) and collected electronically on a data logger set to a nearly continuous time interval (1 second or less). Manual water level measurements were collected using an electronic measuring tape.

From the slug test data, we calculated saturated bulk hydraulic conductivities ranging between 0.7 and 1.4 feet per day (ft/day). The slug test results are included in Appendix C.

3 Temporary Shoring Design

The Project excavation is planned to extend to a depth of 12 feet bgs. Due to the proximity of the USTs to the building footings (between about 2 and 3 feet), an unsupported temporary cut on the north side of the excavation would need to be near-vertical to reach the planned bottom of the excavation. Considering the soil conditions (fill and alluvium, which are prone to caving) through which the excavation will be made, this is not considered feasible and poses high risk for loss of soil/bearing support below the footings and adverse building movement. On the south, east, and west sides of the excavation, the adjacent property lines and fuel pumps also limit the space available for sloped excavations.

Considering these factors, the excavation should be supported using an engineered temporary shoring system. Based on the soil conditions and the planned excavation depth, we consider cantilever soldier piles with timber lagging to be feasible. Soldier piles consist of steel beams (W or HP sections) that are either driven into the ground or placed into concrete-filled drilled shafts. For this Site, the soldier piles will need to be placed into drilled holes. The soldier piles are typically installed at a horizontal spacing of about 6 to 8 feet around the perimeter of the excavation and extend below the base of the excavation. As the excavation is advanced, timber lagging is installed spanning horizontally between soldier piles to form a continuous shoring wall.

3.1 Soldier Pile Design

3.1.1 Assumptions and Recommendations

The sections below describe Aspect's assumptions and recommendations for lateral earth pressures and allowable deflections for the design of the cantilever soldier pile temporary shoring system.

3.1.1.1 Lateral Earth Pressures

The soldier piles are designed using the earth pressures presented on Figure 3. Our assumptions and recommendations related to lateral earth pressures include:

- Level ground conditions exist behind the walls and the walls are free draining through gaps in the timber lagging (buildup of unbalanced hydrostatic pressures behind the walls does not occur).
- The active earth pressure acts over the pile center-to-center spacing above the base of the excavation.
- The allowable passive earth pressure is applied over three shaft diameters (3B) or the pile center-to-center spacing, whichever is less. The allowable passive earth pressure includes a factor of safety of 1.5.
- The active and passive earth pressures below the base of the excavation are appropriate for saturated/submerged soil.

- Seismic lateral earth pressures are excluded because the shoring is assumed to be temporary.
- Additional lateral earth pressure from the footing surcharge of the adjacent building is applied to the north shoring wall. To estimate the surcharge lateral earth pressure on the north shoring wall, we utilized limit equilibrium methods. Based on the foundation plans for the building, the footings below the north wall consist of column footings with interconnected strip footings. The footings are designed for an allowable bearing pressure of 1,500 pounds per square foot (psf) and are embedded 2 to 3 feet below finished grade. The footing that will impose the largest lateral earth pressure on the shoring wall is a 4.5 by 4.5 (length by width, in feet) column footing. The edge of this footing protrudes approximately 2 feet from the wall of the building and is approximately 2.5 feet away from the north shoring wall. Our recommended surcharge lateral earth pressures for the entire north shoring wall are based on this worst-case scenario.
    - The surcharge lateral earth pressure is applied uniformly over the height of the wall located below a 1H:1V (horizontal:vertical) line projected outward and downward from the outside edge of the adjacent building footing.
- An additional lateral earth pressure from construction equipment surcharge (mid-sized tracked excavator) is applied to the east, west, and south shoring walls. We estimate a surcharge lateral earth pressure of 125 psf for a mid-sized excavator (160 size) that is distributed uniformly over the full height of the wall. If the contractor proposes to use heavier equipment or to stockpile soil behind the shoring walls, Aspect should be notified to evaluate the adequacy of the shoring system for the proposed loading.

3.1.1.2 Allowable Deflections

The north shoring wall is designed to limit lateral deflections to less than about 0.5 inches at the footing elevation of the adjacent building to protect the building from potentially damaging ground movements. The east, west, and south shoring walls are designed to limit lateral deflections to less than 1 inch in accordance with industry standard practice where structures and utilities sensitive to movement are not present adjacent to the shoring walls.

3.1.2 Results

Based on the planned excavation geometry and using the lateral earth pressures shown on Figure 3, we evaluated a combination of soldier pile spacing and drilled shaft diameters to determine pile shape and pile embedment requirements using the Shoring Suite computer software program (CivilTech, 2020). Table 1 below summarizes the selected pile shapes, shaft diameters, and pile lengths based on our analyses. The Shoring Suite outputs are provided in Appendix D.

Table 1. Selected Soldier Pile Properties

Shoring Wall	Minimum Beam Size	Center-to-Center Spacing (feet-inches)	Concreted Shaft Diameter (inches)	Pile Embedment (feet)	Total Pile Length (feet)
North	W18X130	5’-3.5”	30	22.5	34.5
East	W16X89	6’-3”	30	19.5	31.5
West	W16X89	6’-3”	30	19.5	31.5
South	W16X89	6’-4”	30	19.5	31.5

3.1.2.1 Timber Lagging Design

Based on the lateral earth pressures and guidance presented in the Federal Highway Administration (FHWA) Geotechnical Engineering Circular No. 4, Table 12—*Recommended Thickness of Temporary Timber Lagging* (FHWA, 1999), 4-inch-thick (nominal) Hem-Fir No. 2 timber lagging will be adequate.

4 Construction Considerations and Recommendations

The following sections present our construction recommendations for the Project.

4.1 Temporary Shoring Construction

4.1.1 Soldier Pile Walls

We provide the following considerations recommendations for construction of the soldier pile walls:

- Due to the proximity of the USTs to the building, the shafts for the north wall soldier piles will be excavated through the USTs, as indicated on the Project plans. Therefore, the contractor should be prepared to encounter the USTs during shaft excavation for the north wall soldier piles. We understand the USTs are steel-reinforced fiberglass.
- Shaft excavation will occur in soil that is primarily gravel, cobbles, and potentially boulders above and below groundwater. Accordingly, we anticipate the need for temporary casing or drilling mud/slurry to prevent caving of the shafts and bottom heave during excavation and to maintain an open hole to allow for steel and concrete placement.
- The bottom of the shafts should be relatively undisturbed and clear of loose/slough soils and debris prior to placing the beams and filling the shafts with concrete.
- If standing water or drilling mud/slurry is present in the shaft at the time of concrete placement, the concrete should be placed with a tremie pipe to displace the water or drilling mud/slurry.
- Due to the relatively close spacing of the soldier piles, sequential shafts should not be excavated on the same working day, and the concrete in a shaft should be allowed to cure at least 12 hours before an adjacent shaft is excavated.
- Excavation for the installation of lagging should be accomplished in 4-foot (maximum) vertical lifts. When the first lift of lagging is complete, the contractor can continue with the excavation in 4-foot lifts until all required lagging has been installed. If caving soils are encountered during excavation, the contractor should be prepared to excavate and install the lagging in shorter lifts. All lagging excavations should be supported by lagging the same working day.
- Any voids that form behind the wall due to caving soils during excavation for lagging should be backfilled with controlled density fill (CDF). Voids should be backfilled the same working day.

4.1.2 Shoring and Adjacent Building Monitoring

The temporary shoring walls and the building should be monitored during construction to verify the shoring is performing as intended by the design and to provide early detection and tracking of deflections before they exceed threshold amounts. Similarly, the adjacent building should be monitored to verify that no significant or adverse movement occurs. Recommended monitoring measures are presented below.

4.1.2.1 Photographic Survey

A pre- and post-construction photographic survey should be completed to document construction conditions at the Site and surrounding areas before the start of and immediately at the end of construction. The photographic surveys should consist of video or photographic documentation of the adjacent streets, buildings, and other improvements, with special attention to cracks and other signs of distress that exist before the start of construction.

4.1.2.2 Optical Survey

An optical survey of the north shoring wall and the adjacent building should be completed during construction. The optical survey should include horizontal and vertical measurements accurate to at least 0.01 feet.

Optical survey points should be located on the top of every other soldier pile on the north shoring wall and on the exterior wall of the adjacent building. A baseline reading of the optical survey points should be completed prior to excavation.

If cumulative horizontal movements exceed 0.25 inches at monitoring points, construction activities should be temporarily stopped to determine the cause of the movement and undertake remedial action(s) as necessary to limit total shoring or building wall movement to 0.5 inches.

The optical survey program should be completed twice a week during excavation and until movements have stabilized. If movements have stabilized by the start of excavation backfill, optical survey of the monitoring points shall be completed at least once a week during backfilling until backfill of the excavation is complete.

4.1.2.3 Crack Monitoring

Prior to construction, the walls and footings (if exposed) of the adjacent building should be inspected for cracks. If cracks are observed, crack gauges should be installed on the cracks and readings taken at least once a week during excavation and backfill.

4.2 Earthwork

4.2.1 General

We expect that earthwork activities can be accomplished with standard construction equipment suited to working in very dense granular soil, such as track hoes equipped with toothed buckets. The contractor should be prepared to encounter and deal with rubble and debris in the fill, and oversized particles, such as boulders in native soil, during excavation.

4.2.2 Temporary Excavation Slopes

In addition to temporary shoring, temporary excavation slopes could be necessary elsewhere during construction. Temporary excavation and slopes should not exceed the limits specified in the local, state, and federal regulations. The stability of temporary excavations and slopes shall be the responsibility of the contractor. For planning purposes, both fill and alluvium typically classify as Type C soil in accordance with the Washington Administrative Code (WAC) 296-155 Part N (WAC, 2016). Temporary excavation slopes in Type C soils are anticipated to stand as steep as 1.5H:1V. The presence of seepage may require that temporary excavation slopes be flattened to remain stable.

We also recommend the following for temporary excavations and slopes:

- Surface water should be diverted away from slopes and excavations.
- Slopes should be protected using plastic sheet, flash coating, or tarps to control erosion and maintain stability, as necessary.
- The duration that excavations or slopes are open should be minimized.
- Traffic, equipment, and material stockpiles should not be allowed near the top of excavations or slopes.
- The conditions of the excavations and slopes should be periodically observed by a competent person who is a representative of the contractor to evaluate safety and stability.

4.2.3 Excavation Backfill

Once the bottom of excavation is reached and tank removal and remedial excavation objectives are met, the excavation will be backfilled up to approximately existing grade and capped with a layer of crushed surfacing to establish a surface until new tanks are installed and the site is repaved at a later date by others. Our recommendations for backfill of the excavation are as follows:

- The excavated materials are not suitable for reuse as backfill and should be exported from the Site.
- Backfill for the excavation should consist of pea gravel meeting the requirements set in the Washington State Department of Transportation's (WSDOT) *Standard Specifications for Road, Bridge and Municipal Construction* (Standard Specifications) 9-03.5 (WSDOT, 2024). We understand pea gravel is desired so that it can be reused as tank backfill when new tanks are installed at a later date.
- The crushed surfacing should consist of at least 4 inches of imported crushed rock or gravel meeting the requirements for Crushed Surfacing Top Course (CTSC) per WSDOT Standard Specification 9-03.9(3). The crushed surfacing should be considered temporary and may require maintenance by the Owner depending on desired serviceability/drivability. A single layer of geotextile meeting the requirements for Separation in Table 3 of WSDOT Standard

Specification 9-33.2(1) should be placed between the crushed surfacing and the pea gravel.

- Backfill should only be placed on a relatively firm and unyielding subgrade.
- The pea gravel should be placed in approximately 2-foot-thick lifts that are tamped in-place using an excavator bucket or similar methods. The CSTC material should be compacted to a relatively firm and unyielding condition to a minimum density of 95 percent of the maximum dry density as determined by ASTM International (ASTM) D1557 (ASTM, 2023).
- Moisture content of the CSTC material should be controlled to within 2 to 3 percent of the optimum moisture. Optimum moisture is the moisture content corresponding to the maximum modified proctor dry density.

4.2.4 Construction Dewatering

The excavation is planned to extend approximately 12 feet below the ground surface to El 943 (base of excavation), which is approximately 1 foot below the highest groundwater levels recorded in the monitoring wells at the Site. Based on this data and the results of our slug testing, and considering the excavation geometry, we estimate the rate of groundwater flow into the excavation will be up to 10 gallons per minute. We anticipate these flows can likely be managed using a system of temporary sumps and pumps.

This estimate is for groundwater flow only and does not include potential stormwater (from precipitation or runoff) directly entering the excavation. Due to the uncertainty concerning the variable nature of hydraulic conductivity across the Site and potential seepage flows in excavations, water management methods should be determined by the contractor based on the conditions encountered during excavation.

5 References

ASTM International, 2023, 2023 Annual Book of ASTM Standards, West Conshohocken, Pennsylvania.

CivilTech Software, 2020, Shoring Suite, Version 8.21.

Derkey, R.E., Stradling, D.F., Lindsey, K.A., and Tolan, T.L. (2006), Geologic map of the College Place and Walla Walla 7.5-minute quadrangle, Walla Walla County, Washington, and Umatilla County, Oregon, Geologic Map GM-62, scale 1:24,000.

Federal Highway Administration (FHWA), 1999, Geotechnical Engineering Circular No. 4, Table 12—Recommended Thickness of Temporary Timber Lagging.

Washington State Department of Ecology (Ecology), 2024, https://appswr.ecology.wa.gov/WellConstruction/Map/WCLSWebMap/WellConstructionMapSearch.aspxome.aspx, accessed February 2024.

Washington State Department of Natural Resources (DNR), 2024, Washington Geologic Information Portal, Accessed February 2024 from https://geologyportal.dnr.wa.gov/.

Washington State Department of Transportation (WSDOT), 2024, Standard Specifications for Road, Bridge and Municipal Construction, Document M 41-10.

Washington State Legislature, 2016, Washington Administrative Code (WAC), May 20, 2016.

6 Limitations

Work for this project was performed for Stillwater Holdings, LLC (Client), and this report was prepared consistent with recognized standards of professionals in the same locality and involving similar conditions, at the time the work was performed. No other warranty, expressed or implied, is made by Aspect Consulting (Aspect).

Recommendations presented herein are based on our interpretation of site conditions, geotechnical engineering calculations, and judgment in accordance with our mutually agreed-upon scope of work. Our recommendations are unique and specific to the project, site, and Client. Application of this report for any purpose other than the project should be done only after consultation with Aspect.

Variations may exist between the soil and groundwater conditions reported and those actually underlying the site. The nature and extent of such soil variations may change over time and may not be evident before construction begins. If any soil conditions are encountered at the site that are different from those described in this report, Aspect should be notified immediately to review the applicability of our recommendations.

Risks are inherent with any site involving slopes and no recommendations, geologic analysis, or engineering design can assure slope stability. Our observations, findings, and opinions are a means to identify and reduce the inherent risks to the Client.

It is the Client's responsibility to see that all parties to this project, including the designer, contractor, subcontractors, and agents, are made aware of this report in its entirety. At the time of this report, design plans and construction methods have not been finalized, and the recommendations presented herein are based on preliminary project information. If project developments result in changes from the preliminary project information, Aspect should be contacted to determine if our recommendations contained in this report should be revised and/or expanded upon.

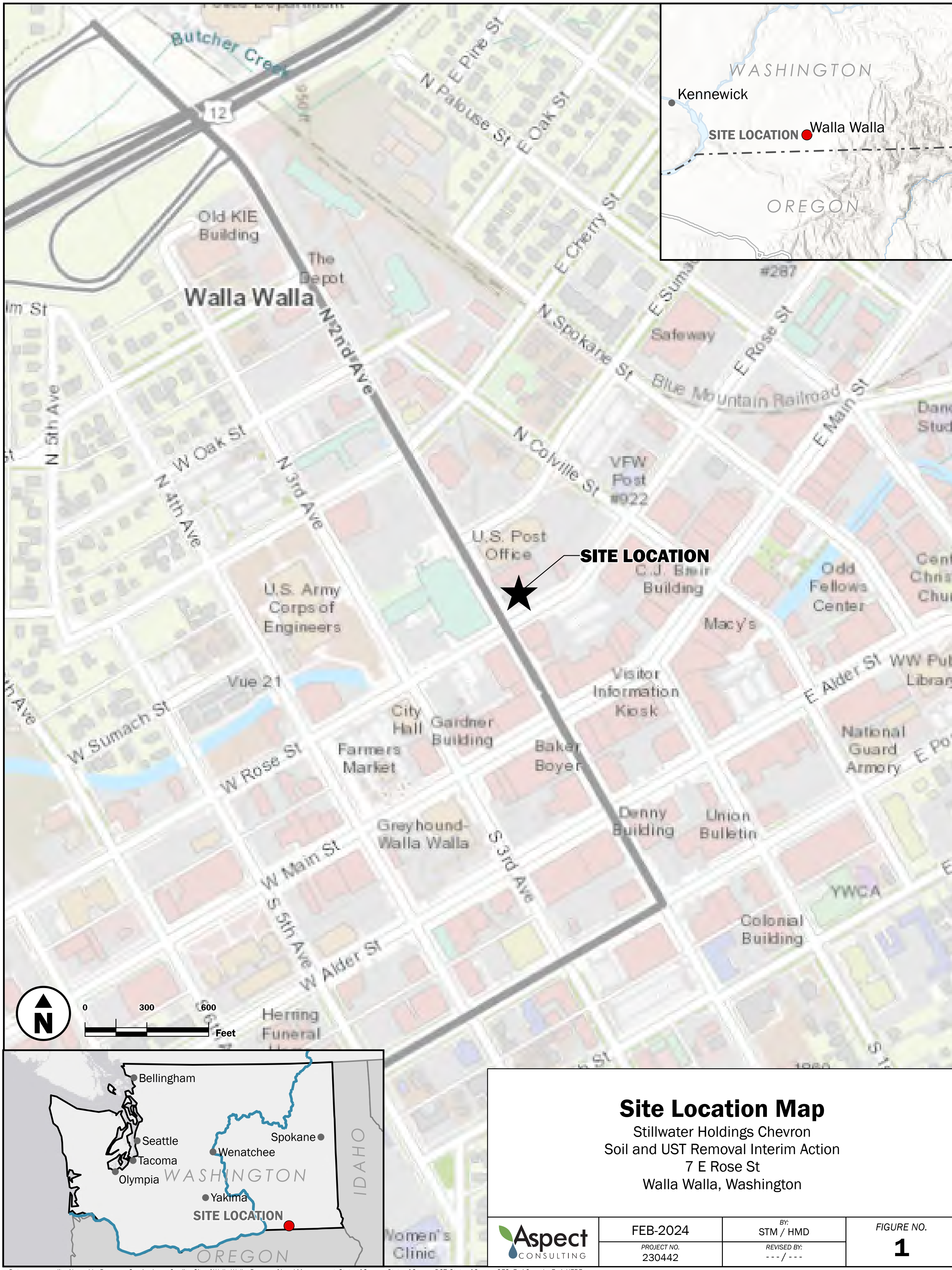
The scope of work does not include services related to construction safety precautions. Site safety is typically the responsibility of the contractor, and our recommendations are not intended to direct the contractor’s site safety methods, techniques, sequences, or procedures. The scope of our work also does not include the assessment of environmental characteristics, particularly those involving potentially hazardous substances in soil or groundwater.

All reports prepared by Aspect for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect. Aspect’s original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix E titled “Report Limitations and Guidelines for Use” for additional information governing the use of this report.

We appreciate the opportunity to perform these services. If you have any questions, please call Eric Schellenger, PE, Geotechnical Engineer, at 206-780-7745.

FIGURES

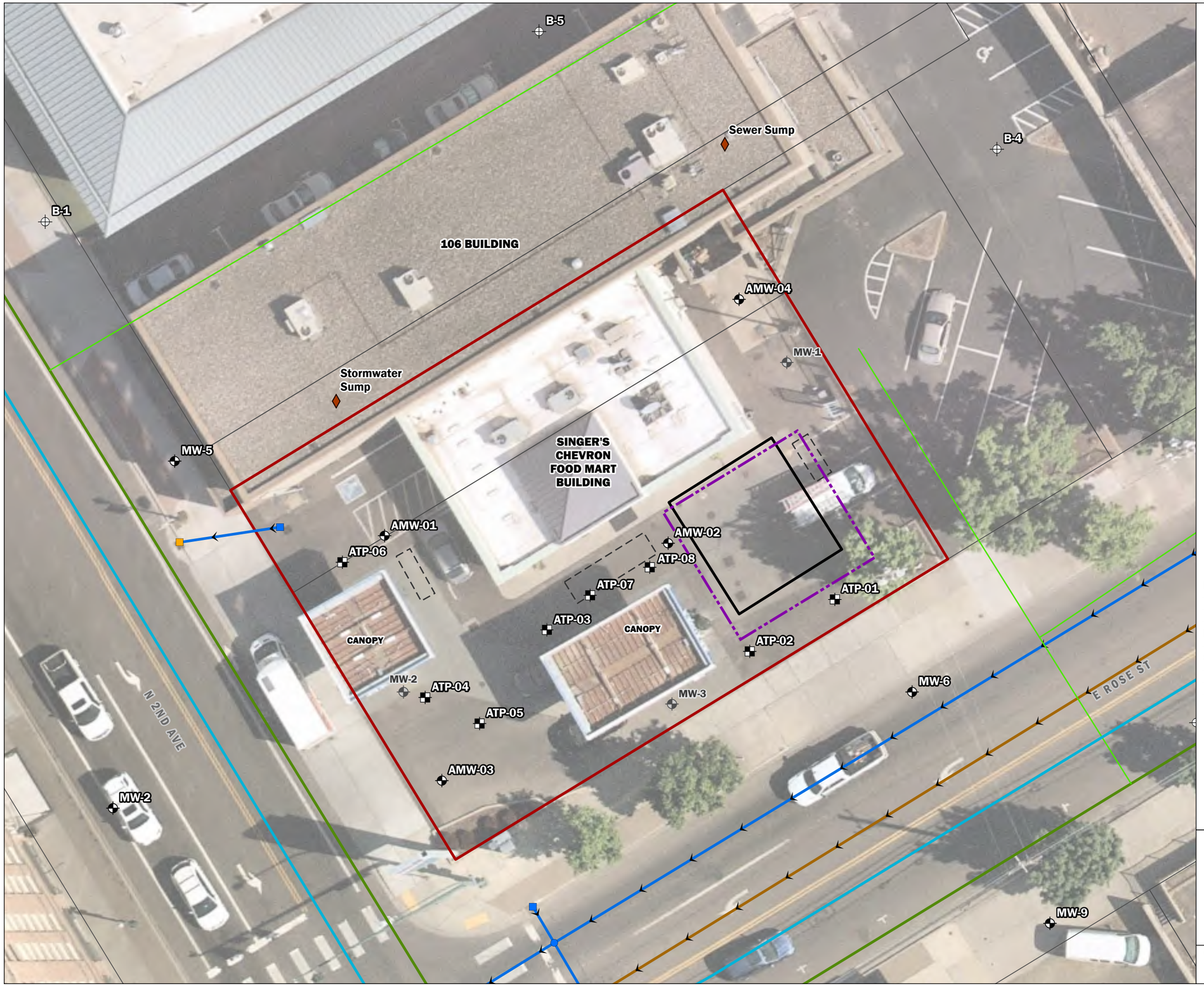


Site Location Map

Stillwater Holdings Chevron
Soil and UST Removal Interim Action
7 E Rose St
Walla Walla, Washington

Aspect CONSULTING	FEB-2024	BY: STM / HMD	FIGURE NO.
	PROJECT NO. 230442	REVISED BY: - - - / - - -	1

Data source credits: None || Basemap Service Layer Credits: City of Walla Walla, Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, City of Walla Walla, Oregon State Parks, WA State Parks GIS, Esri, TomTom, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS, USFWS, Esri, USGS, Esri, HERE, Garmin, USGS, EPA, NPS



- Test Pit
- Boring
- Monitoring Well
- Decommissioned Monitoring Well
- Sump
- Storm Manhole
- Catch Basin
- Bubble Up Catch Basin
- Sewer Main
- Storm Main
- Water Main
- CNGC Gas Main
- CNGC Gas Service Line
- Existing Underground Storage Tanks (UST) and Approximate Limits of Excavation
- Decommissioned UST
- Shoring Limit
- Approximate Property Boundary
- Walla Walla Tax Parcel

Notes:
- UST locations approximate from map provided by the City of Walla Walla.
- Utility locations approximate from map provided by the City of Walla Walla.
- Monitoring Well locations from survey provided by PBS Engineering and Environmental.
- Decommissioned monitoring well locations approximate from Plateau Geoscience Group Quarterly Monitoring Report, Sept 2012.
- Sump locations approximate from map provided by Clean Harbors.
- Parcel boundaries from County of Walla Walla GIS.
- Mill Creek boundary from WADNR GIS.

N

0 20 40 Feet

Site Exploration Map

Stillwater Holdings Chevron
Soil and UST Removal Interim Action
7 E Rose St
Walla Walla, Washington

Aspect Consulting	FEB-2024	BY: DIM / NLK	FIGURE NO. 2
	PROJECT NO. 230442	REVISED BY: CEB / RAP / HMD	

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CANTILEVER SOLDIER PILES

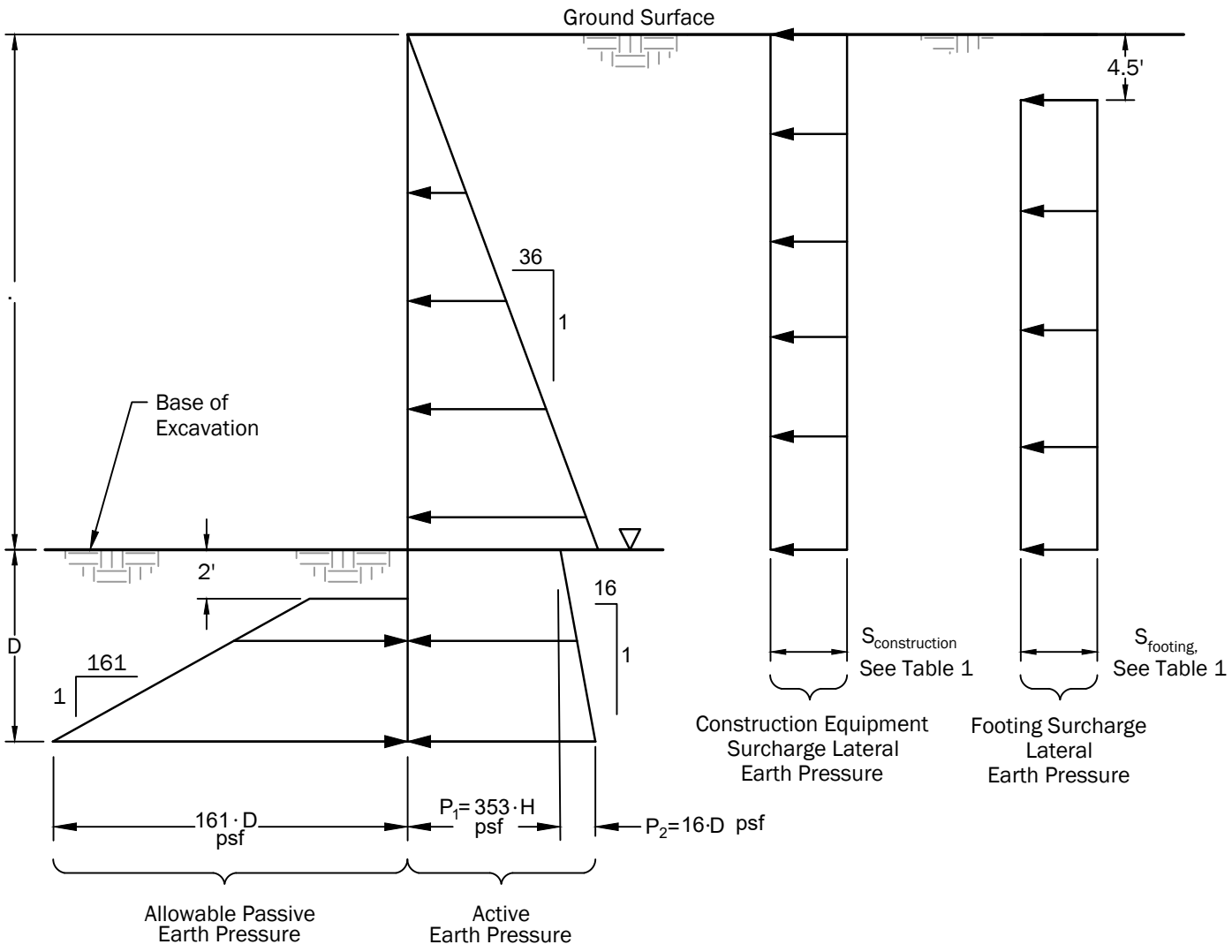


Table 1. Surcharge Lateral Earth Pressures		
Shoring Wall	$S_{construction}$ (psf)	$S_{footing}$ (psf)
North	N/A	350
South	125	N/A
East	125	N/A
West	125	N/A

LEGEND:

H =	Height of Wall, Feet
D =	Soldier Pile Embedment Depth, Feet
P_1, P_2 =	Maximum Active Earth Pressure Pounds per Square Foot
psf =	Pounds per Square Foot
▽	Design Groundwater Table for Drained Walls/Passive Resistance Design

NOTES:

1. Active earth pressure and surcharge act over the pile center-to-center spacing above the base of the excavation.
2. Passive earth pressure acts over 3 times the soldier pile shaft diameter, or the soldier pile center-to-center spacing, whichever is less.
3. Allowable passive earth pressure includes a factor of safety of 1.5.
4. Construction equipment surcharge is appropriate for a 160 size excavator operating directly behind the shoring walls. Aspect should be notified to evaluate additional lateral earth pressures from soil stockpiles, cranes, or other heavy equipment situated behind the shoring.

NOT TO SCALE

Lateral Earth Pressure Diagram
Cantilever Soldier Pile Temporary Shoring

Stillwater Holdings Chevron
7 E Rose Street
Walla Walla, Washington

Aspect Consulting	Feb-2024	BY: STM/CMV	FIGURE NO. 3
	PROJECT NO. 230442	REVISED BY: -	

APPENDIX A

Subsurface Exploration Logs (by Others)

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel / Dames & Moore (D&M)

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point lead test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
UU	Unconsolidated undrained triaxial compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

Key to Exploration Logs

GeoEngineers

Figure A-1

Drilled Start 9/23/2023 End 9/23/2023	Total Depth (ft) 26.5	Logged By BKH Checked By	Driller GeoEngineers, Inc.	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) Vertical Datum Undetermined	Hammer Data 140 (lbs) / 30 (in) Drop	Drilling Equipment CME-75			
Easting (X) Northing (Y)	System Datum	Groundwater not observed at time of exploration			

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0					CC	Approximately 4 inches of concrete (sidewalk)			
						SP-SM	Gray-brown fine to coarse gravel with silt and occasional cobbles (very dense, moist) (fill)			
						ML	Brown silt with sand and occasional gravel (very stiff, moist)			
	5	12		B-1(5-6.5)				NS	22.5	
						GM	Brown silty fine to coarse gravel with sand and occasional cobbles (very dense, moist)			Chatter/grinding from approximately 6½ feet
	10	10		B-1(10-11.5)				NS	19.9	
							Becomes wet			
	15	12		B-1(15-16.5)				NS	0.3	
	20	7		B-1(20-21.5)		GP-GM	Brown fine to coarse gravel with silt, sand and cobbles (very dense, wet)	NS	7.0	
	25	16		B-1(25-26.5)		ML	Brown sandy silt with occasional gravel (stiff, wet)	NS	1.1	

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring B-1

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-2
Sheet 1 of 1

Drilled Start 9/23/2023 End 9/23/2023	Total Depth (ft) 26.5	Logged By BKH Checked By	Driller GeoEngineers, Inc.	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) Vertical Datum Undetermined	Hammer Data 140 (lbs) / 30 (in) Drop	Drilling Equipment CME-75			
Easting (X) Northing (Y)	System Datum	Groundwater not observed at time of exploration			

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0					AC	Approximately 6 inches of asphalt concrete pavement			
						CSBC	Crushed surfacing base course (5/8-inch minus)			
						ML	Brown silt with sand and gravel (stiff, moist)			
	5	10		B-2(5-6.5)		GM	Brown silty fine to coarse gravel with sand and occasional cobbles (very dense, moist)	NS	1.0	Chatter/grinding from 5 feet
	10	12		B-2(10-11.5)				NS	1.0	
	15	10		B-2(15-16.5)			Becomes wet	NS	0.5	
	20	6		B-2(20-21.5)				NS	0.5	
	25	12		B-2(25-26.5)		ML	Brown sandy silt with gravel (hard, wet)	NS	0.3	

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring B-2

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-3
Sheet 1 of 1

Drilled Start 9/24/2023 End 9/24/2023	Total Depth (ft) 26	Logged By BKH Checked By	Driller GeoEngineers, Inc.	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) Vertical Datum Undetermined	Hammer Data 140 (lbs) / 30 (in) Drop	Drilling Equipment CME-75			
Easting (X) Northing (Y)	System Datum	Groundwater not observed at time of exploration			

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0					AC	Approximately 4 inches of asphalt concrete pavement			
						CSBC	Approximately 6 inches of crushed surfacing base course (5/8-inch minus)			
						ML	Brown silt with sand and occasional debris (plastic) (medium stiff, moist) (fill)			
						ML	Light brown silt with sand (soft, moist)			
	5	6		B-3(5-6.5)		GP-GM	Brown fine to coarse gravel with silt, sand and occasional cobbles (very dense, moist)	NS	0.4	Chatter/grinding from 5 feet
	10	12		B-3(10-11.5)				NS	2.7	
						GM	Brown fine to coarse gravel with sand and cobbles (very dense, wet)			
	15	10		B-3(15-16.5)				NS	0.4	
	20	10		B-3(20-21.5)				NS	0.3	
	25	6		B-3(25-26.5)				NS	0.3	

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring B-3

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-4
Sheet 1 of 1

Drilled Start 9/24/2023 End 9/24/2023	Total Depth (ft) 26.5	Logged By BKH Checked By	Driller GeoEngineers, Inc.	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) Vertical Datum Undetermined	Hammer Data 140 (lbs) / 30 (in) Drop	Drilling Equipment CME-75			
Easting (X) Northing (Y)	System Datum	Groundwater not observed at time of exploration			

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0					AC	Approximately 4 inches of asphalt concrete pavement			
						CSBC	Crushed surfacing base course (5/8-inch minus)			
						ML	Brown sandy silt with occasional gravel (stiff, moist)			
	5	3		B-4(5-6.5)				NS	0.1	
						GM	Brown silty fine to coarse gravel with sand and cobbles (very dense, moist)			Chatter/grinding from 6 feet
	10	4		B-4(10-11.5)				NS	0.2	
							Becomes wet			
	15	4		B-4(15-16.5)				NS	0.3	
	20	12		B-4(20-21.5)				NS	0.4	
	25	12		B-4(25-26.5)				NS	0.3	

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring B-4

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-5
Sheet 1 of 1

Drilled Start 9/24/2023 End 9/24/2023	Total Depth (ft) 25.75	Logged By BKH Checked By	Driller GeoEngineers, Inc.	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) Vertical Datum Undetermined	Hammer Data 140 (lbs) / 30 (in) Drop	Drilling Equipment CME-75			
Easting (X) Northing (Y)	System Datum	Groundwater not observed at time of exploration			

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0					AC	Approximately 4 inches of asphalt concrete pavement			
						CSBC	Crushed surfacing base course (5/8-inch minus)			
						ML	Brown silt with sand (medium stiff, moist)			
	5	13		B-5(5-6.5)				NS	0.2	
						GM	Brown silty fine to coarse gravel with sand and cobbles (medium dense, moist)			Chatter/grinding from 6½ feet
	10	3		B-5(10-11.5)				NS	0.5	
							Becomes wet			
	15	7		B-5(15-16.5)				NS	0.1	
	20	3		B-5(20-21.5)				NS	0.4	
	25	10		B-5(25-26.5)				NS	0.3	

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Boring B-5

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-6
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	9/20/2023	9/20/2023	25	BKH		GeoEngineers, Inc.	Hollow-stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	CME-75
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

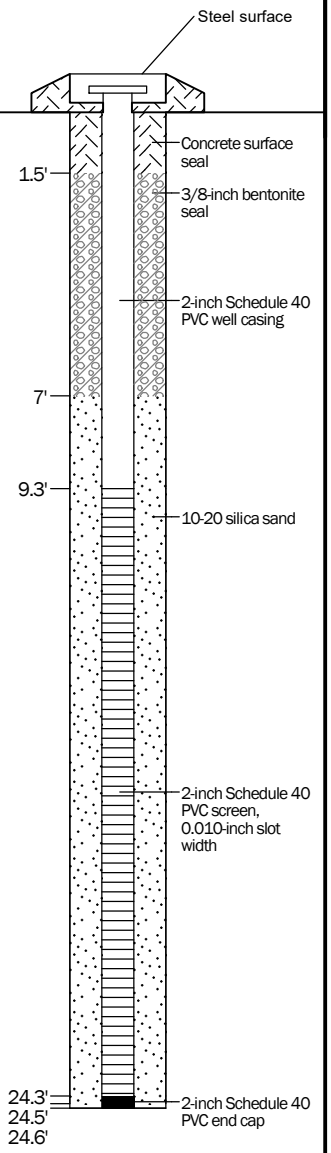
DOE Well I.D.: BMH958
A 2-in well was installed on 9/20/2023 to a depth of 24.6 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
9/21/2023	11.82	

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							AC	Approximately 6 inches of asphalt concrete pavement		
								CSBC	Crushed surfacing base course (5/8-inch minus)		
								ML	Brown silt with trace fine sand (soft, moist)		
		6			MW-1(3-3.5)					NS	0.8
	5							GM	Brown silty fine to coarse gravel with sand and occasional cobbles (very dense, moist) [Chatter/grinding from approximately 4½ feet] [Did not sampe at 5 feet per Ecology request]		
	10	18			MW-1(10-11.5)				Becomes wet	NS	61.3
	15	18			MW-1(15-16.5)					NS	5.7
	20	7			MW-1(20-21.5)					NS	3.5
	25								[Did not sample at 25 feet per Ecology request]		

WELL LOG



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Monitoring Well MW-1

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-7
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/20/2023	9/20/2023	25.75	BKH	GeoEngineers, Inc.	Hollow-stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	CME-75
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

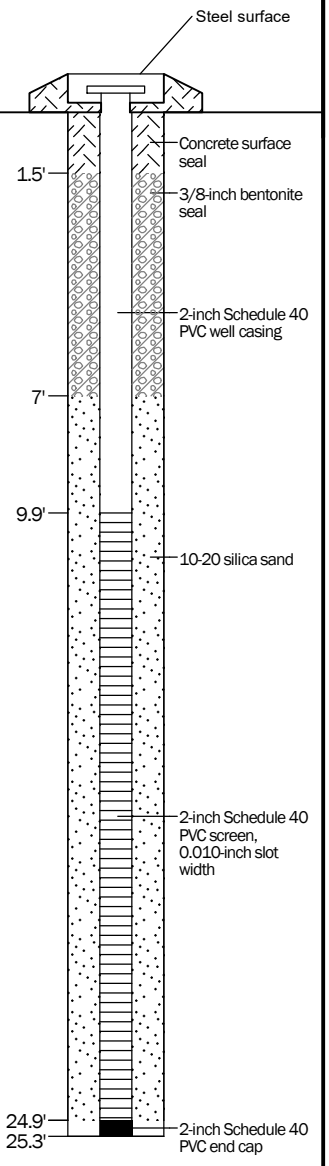
DOE Well I.D.: BMH956
A 2-in well was installed on 9/21/2023 to a depth of 25.3 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
9/21/2023	14.20	

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0						AC	Approximately 6 inches of asphalt concrete pavement		
							CSBC	Crushed surfacing base course (5/8-inch minus)		
							ML	Brown silt with sand and gravel (soft, moist)		
							GP-GM	Brown fine to coarse gravel with silt, sand and occasional cobbles (medium dense, moist) [Rough chatter/grinding from approximately 4 feet]		
	5	10		MW-2(5-6.5)					NS	2.0
	10	13		MW-2(10-11.5)					NS	2.9
							GM	Brown silty fine to coarse gravel with sand and cobbles (very dense, wet)		
	15	12		MW-2(15-16.5)					NS	15.3
	20	10		MW-2(20-21.5)					NS	2.3
	25	8		MW-2(25-26.5)					NS	4.8

WELL LOG



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Monitoring Well MW-2

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-8
Sheet 1 of 1

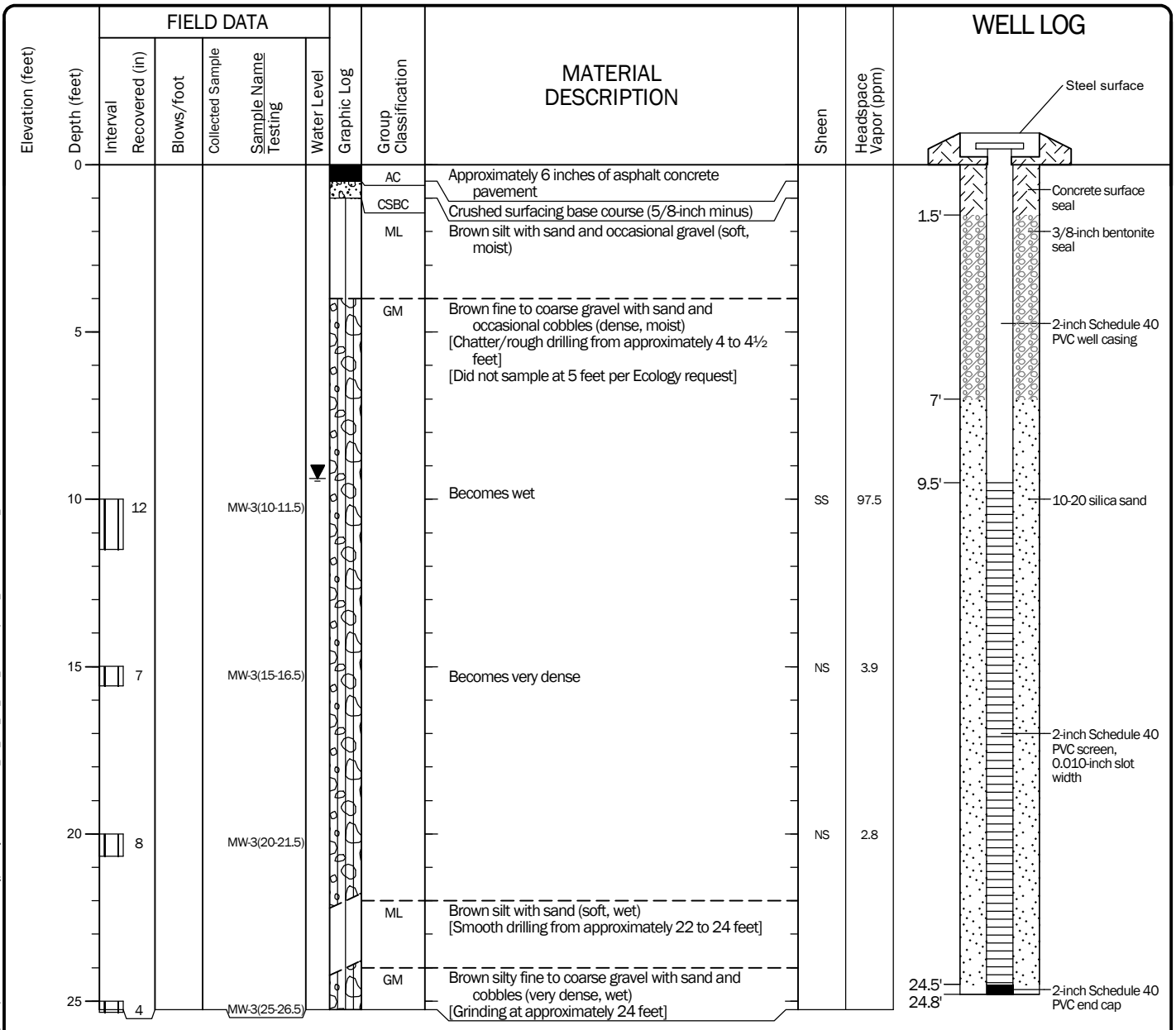
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	9/21/2023	9/21/2023	25.25	BKH		GeoEngineers, Inc.	Hollow-stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	CME-75
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

DOE Well I.D.: BMH957
A 2-in well was installed on 9/21/2023 to a depth of 24.8 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
9/21/2023	9.38	

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Monitoring Well MW-3

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

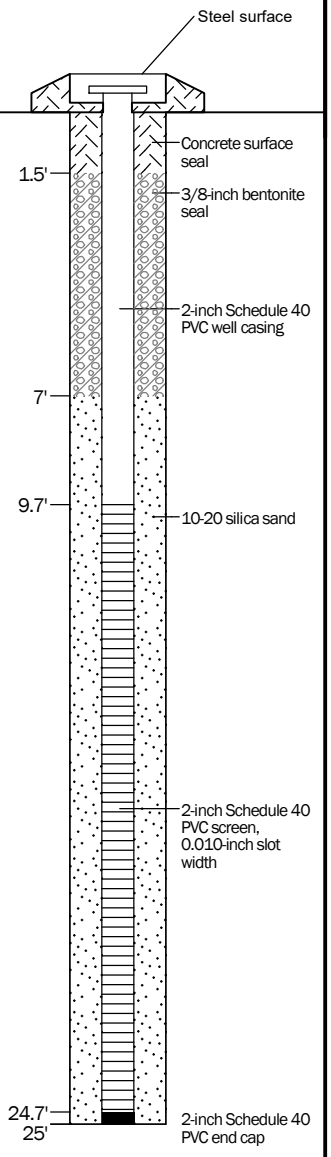
Figure A-9
Sheet 1 of 1

Drilled Start 9/21/2023 End 9/21/2023	Total Depth (ft) 26.5	Logged By BKH Checked By	Driller GeoEngineers, Inc.	Drilling Method Hollow-stem Auger
Hammer Data 140 (lbs) / 30 (in) Drop		Drilling Equipment CME-75	A 2-in well was installed on 9/21/2023 to a depth of 25 ft.	
Surface Elevation (ft) Vertical Datum Undetermined		Top of Casing Elevation (ft)	Groundwater Date Measured 9/24/2023	Depth to Water (ft) 11.85 Elevation (ft)
Easting (X) Northing (Y)		Horizontal Datum		

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							AC	Approximately 6 inches of asphalt concrete pavement		
								CSBC	Crushed surfacing base course (5/8-inch minus)		
								GP-GM	Brown fine to coarse gravel with silt and sand (very dense, moist)		
	5	15			MW-4(5-6.25)					NS	0.4
								GM	Brown silty fine to coarse gravel with sand and occasional cobbles (very dense, wet)		
	10	18			MW-4(10-11.5)					NS	0.2
	15	18			MW-4(15-16.5)					NS	0.2
								GP-GM	Gray-brown fine to coarse sand with silt and gravel (very dense, wet)		
	20	4			MW-4(20-21.5)					NS	1.8
	25	3			MW-4(25-26.5)					NS	0.9

WELL LOG



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Monitoring Well MW-4

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-10
Sheet 1 of 1

Date:10/4/23 Path:\\GEOENGINEERS.COM\WAN\PROJECTS\0\0504202\GINT\050420200.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_LIB_JUNE_2017.GLB/GEIB_ENVIRONMENTAL_WELL

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	9/23/2023	9/23/2023	26.5	BKH		GeoEngineers, Inc.	Hollow-stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	CME-75
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

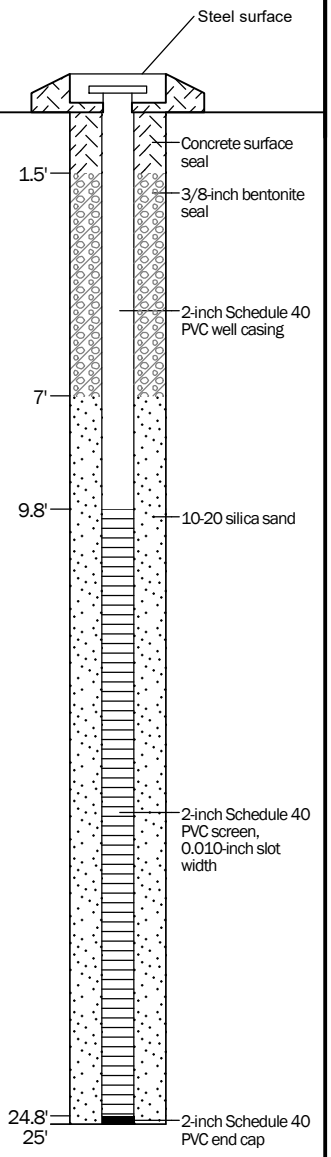
A 2-in well was installed on 9/23/2023 to a depth of 25 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
9/24/2023	12.47	

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							CC	Approximately 6 inches of concrete (sidewalk)		
								CSBC	Crushed surfacing base course (5/8-inch minus)		
								ML	Brown silt with sand and gravel (very stiff, moist)		
	5	12			MW-5(5-6.5)					NS	37.7
									Brown silty fine to coarse gravel with sand (very dense, moist) [Chatter/grinding from approximately 7 feet]		
	10	12			MW-5(10-11.5)					SS	145.3
						▼			Becomes wet		
	15	7			MW-5(15-16.5)					MS	609.8
	20	3			MW-5(20-21.5)					SS	190.2
	25	18			MW-5(25-26.5)			ML	Red-brown sandy silt with occasional gravel (hard, wet)	NS	433.8

WELL LOG



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Monitoring Well MW-5

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-11
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
9/23/2023	9/23/2023	25.75	BKH	GeoEngineers, Inc.	Hollow-stem Auger

Hammer Data	140 (lbs) / 30 (in) Drop	Drilling Equipment	CME-75
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

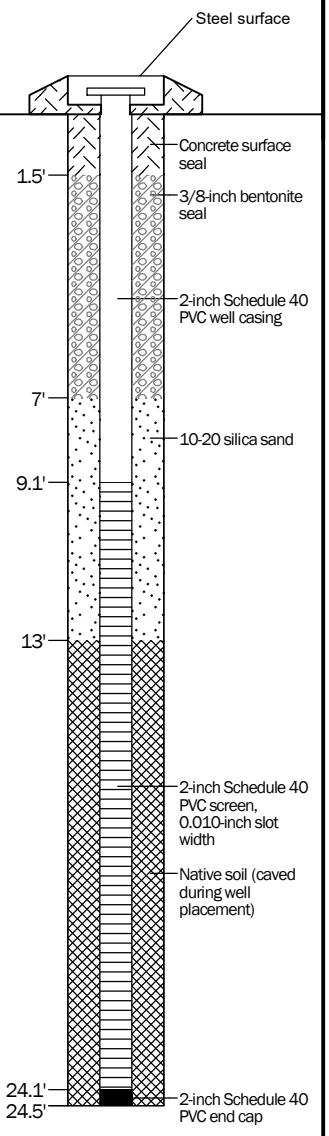
A 2-in well was installed on 9/23/2023 to a depth of 24.5 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)

Notes: GeoEngineers did not collect soil or groundwater samples for chemical analysis. Collected soil samples were provided to Ecology representatives for potential chemical analysis.

Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0							AC	Approximately 4 inches of asphalt concrete pavement		
							CSBC	Crushed surfacing base course (5/8-inch minus)		
							ML	Brown sandy silt with occasional gravel (medium stiff, moist)		
							GP-GM	Gray-brown fine to coarse gravel with silt, sand and occasional cobbles (very dense, moist) [Chatter/grinding from approximately 3½ feet]		
5	6			MW-6(5-6.5)					NS	3.7
							GM	Brown silty fine to coarse gravel with sand and cobbles (very dense, moist)		
10	12			MW-6(10-11.5)					MS	1720.0
15	12			MW-6(15-16.5)				Becomes wet	MS	218.0
20	3			MW-6(20-21.5)					SS	205.0
							ML	Brown sandy silt with gravel (stiff, wet) [Smooth drilling from 24 to 25 feet]		
25	10			MW-6(25-26.5)			GM	Brown silty fine to coarse gravel with sand and cobbles (very dense, wet)	SS	80.7

WELL LOG



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on . Vertical approximated based on .

Log of Monitoring Well MW-6

GeoEngineers

Project: 6 West Rose Street
Project Location: Walla Walla, Washington
Project Number: 0504-202-00

Figure A-12
Sheet 1 of 1

APPENDIX B

Aspect Exploration Logs

B. Subsurface Explorations by Aspect

Aspect's field exploration program consisted of seven machine drilled borings with groundwater monitoring well installations and eight test pits. The logs of Aspect's explorations are presented in this appendix and locations of the explorations are shown on Figure 2.

B.1. Drilled Soil Borings

Aspect completed seven drilled borings that were completed as groundwater monitoring wells, designated AMW-01 through AMW-04, and MW-7 through MW-9, between October 18 and 20, 2023. The borings were drilled to depths of 25 feet bgs using sonic methods by a licensed driller (Western States Soil Conservation, Inc.) under subcontract to Aspect. Western States Soil Conservation, Inc. also installed the monitoring wells in each borehole.

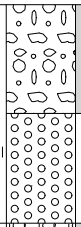
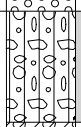
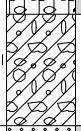
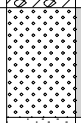
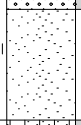
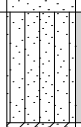
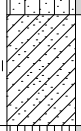
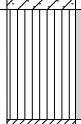
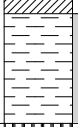
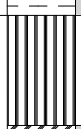
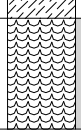
An Aspect field representative was continuously present to observe the drilling procedures, screen and collect soil samples, and prepare descriptive logs of each boring. Soils were classified in general accordance with ASTM D2488, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. The summary exploration log represents our interpretation of the contents of the field logs.

B.2. Test Pits

Aspect completed eight test pits, designated ATP-01 through ATP-08, on January 9 and 10, 2024. The test pits were excavated to depths between 4 and 10 feet bgs using an excavator operated by Able Technologies under subcontract to Aspect.

An Aspect field representative was continuously present to observe the excavation procedures, screen and collect soil samples, and prepare descriptive logs of the explorations. Soils were classified in general accordance with ASTM International (ASTM) D2488, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. The relative density/consistency of the soils was evaluated qualitatively with a 0.5-inch-diameter steel T-probe and observation of digging effort.

The summary exploration logs represent our interpretation of the contents of the field logs. The stratigraphic contacts shown on the individual summary logs represent the approximate boundaries between soil types; actual transitions may be more gradual. The subsurface conditions depicted are only for the specific date and locations reported and are not necessarily representative of other locations and times.

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines		GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
				GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
		≥15% Fines		GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
				GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines		SW	Well-graded SAND Well-graded SAND WITH GRAVEL
				SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
		≥15% Fines		SM	SILTY SAND SILTY SAND WITH GRAVEL
				SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50%			ML	SILT SANDY or GRAVELLY SILT SILT WITH SAND SILT WITH GRAVEL
				CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL
				OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL
	Silts and Clays Liquid Limit 50% or More			MH	ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL
				CH	FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL
				OH	ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL
Highly Organic Soils				PT	PEAT and other mostly organic soils

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

GEOTECHNICAL LAB TESTS

MC	=	Natural Moisture Content
PS	=	Particle Size Distribution
FC	=	Fines Content (% < 0.075 mm)
GH	=	Hydrometer Test
AL	=	Atterberg Limits
C	=	Consolidation Test
Str	=	Strength Test
OC	=	Organic Content (% Loss by Ignition)
Comp	=	Proctor Test
K	=	Hydraulic Conductivity Test
SG	=	Specific Gravity Test

CHEMICAL LAB TESTS

Organic Chemicals

BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons
VOCs	=	Volatile Organic Compounds
SVOCs	=	Semi-Volatile Organic Compounds
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds
PCBs	=	Polychlorinated Biphenyls

Metals

RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)

FIELD TESTS

PID	=	Photoionization Detector
Sheen	=	Oil Sheen Test
SPT[2]	=	Standard Penetration Test
NSPT	=	Non-Standard Penetration Test
DCPT	=	Dynamic Cone Penetration Test

COMPONENT DEFINITIONS

Descriptive Term		*Size Range and Sieve Number*
Boulders	=	Larger than 12 inches
Cobbles	=	3 inches to 12 inches
Coarse Gravel	=	3 inches to 3/4 inches
Fine Gravel	=	3/4 inches to No. 4 (4.75 mm)
Coarse Sand	=	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	=	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	=	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	=	Smaller than No. 200 (0.075 mm)

ESTIMATED[1] PERCENTAGE

% by Weight		*Modifier*	*% by Weight*		*Modifier*
<1	=	Subtrace	15 to 25	=	Little
1 to <5	=	Trace	30 to 45	=	Some
5 to 10	=	Few	>50	=	Mostly

MOISTURE CONTENT

Dry	=	Absence of moisture, dusty, dry to the touch
Slightly Moist	=	Perceptible moisture
Moist	=	Damp but no visible water
Very Moist	=	Water visible but not free draining
Wet	=	Visible free water, usually from below water table

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

Density[3]		*SPT*[2] *Blows/Foot*	*Penetration with 1/2" Diameter Rod*
Very Loose	=	0 to 4	≥ 2'
Loose	=	5 to 10	1' to 2'
Medium Dense	=	11 to 30	3" to 1'
Dense	=	31 to 50	1" to 3"
Very Dense	=	> 50	< 1"

CONSISTENCY

Cohesive or Fine-Grained Soils

Consistency[3]		*SPT*[2] *Blows/Foot*	*Manual Test*
Very Soft	=	0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.
Soft	=	2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.
Medium Stiff	=	5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.
Stiff	=	9 to 15	Indented ~1/4" with effort by thumb.
Very Stiff	=	16 to 30	Indented easily by thumbnail.
Hard	=	> 30	Indented with difficulty by thumbnail.

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Aspect CONSULTING

Exploration Log Key

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Monitoring Well Log	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0679, -118.3401	*Exploration Number* **AMW-01**
Contractor Western States	*Equipment* Sonic Geoprobe 8510 LS	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface Elev. (NAVD88)* 953.65'	Ecology Well Tag No. BPD 822
Operator Alex McCann	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 10/19/2023	*Top of Casing Elev. (NAVD88)* 953.65'	*Depth to Water (Below GS)* 13.36' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		8" Flush mount, traffic-rated monument in concrete					CONCRETE; with base course	
							FILL SILT (ML); soft, slightly moist, brown; low plasticity; trace fine sand; no hydrocarbon-like odor observed.	
5	950	4" schedule 40 PVC in 3/8" bentonite chips			SPT=4,8,11 PID=0.8 Sheen=NS PID=0.5 Sheen=NS			5
	945	12-20 silica sand						
10		11/8/2023 1/11/2024 11/28/2023 10/19/2023			SPT=50/6 PID=26.2 Sheen=NS PID=24.1 Sheen=NS		**ALLUVIUM** GRAVEL WITH SILT (GP-GM); medium dense to dense, moist, brown; fine subrounded gravel; few fine sand; no hydrocarbon-like odor observed.	10
15	940			AMW-01-15 NWTPH-Gx and BTEX	SPT=12,24,29 PID=1461 Sheen=SS		SILTY GRAVEL (GM); medium dense to dense, wet, brown; fine subrounded gravel; few fine sand; no hydrocarbon-like odor observed.	15
		0.020" (20-slot) 4" schedule 40 PVC screen in sand						
20	935				PID=103 Sheen=SS PID=106 Sheen=SS		SILTY GRAVEL (GM); medium dense to dense, wet, dark brown; fine to coarse subrounded gravel; hydrocarbon-like odor observed.	20
		4" schedule 40 PVC Sump in sand						
25	930						Bottom of exploration at 25 ft. bgs. Note: Soil samples were classified and collected from a hollow-stem auger rig operated by Cameron Herber at Holt. Well was re-drilled 2 feet from original location and installed with Sonic Geoprobe 8510 LS operated by Western States.	25
30	925							30
	920							

Legend

Sample Type
- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Grab sample

Water Level
- Static Water Level

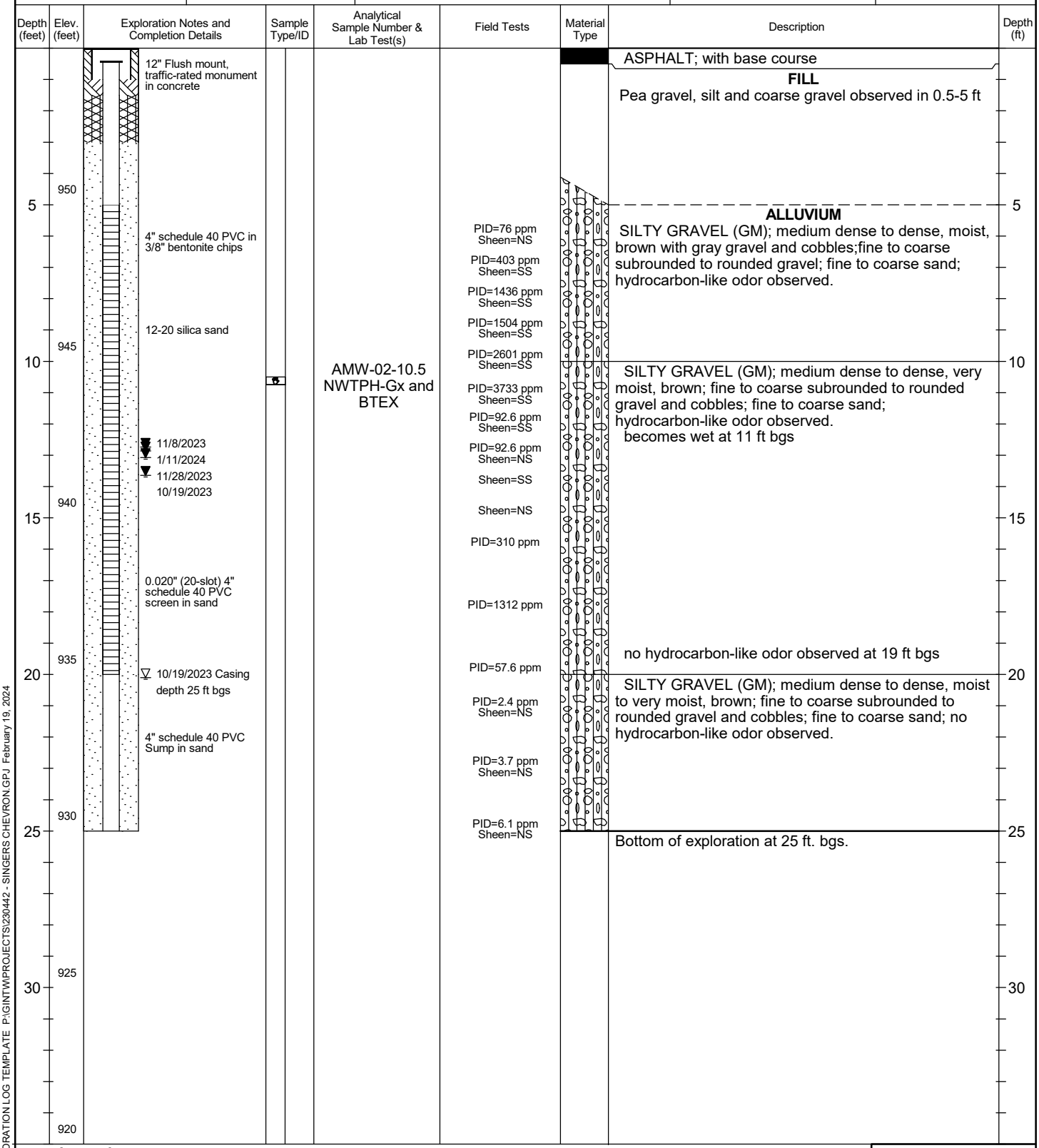
See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log AMW-01
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Monitoring Well Log	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0679, -118.3398	*Exploration Number* **AMW-02**
Contractor Western States	*Equipment* Sonic Geoprobe 8510 LS	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 954.51'	Ecology Well Tag No. BPD 823
Operator Alex McCann	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 10/19/2023	*Top of Casing Elev. (NAVD88)* 954.51'	*Depth to Water (Below GS)* 13.64' (Static)



Legend

Sample Type: Grab sample

Water Level: Static Water Level; Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log AMW-02
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		**Monitoring Well Log**	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0677, -118.3400	*Exploration Number* **AMW-03**
Contractor Western States	*Equipment* Sonic Geoprobe 8510 LS	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 953.74'	Ecology Well Tag No. BPD 820
Operator Alex McCann	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 10/19/2023	*Top of Casing Elev. (NAVD88)* 953.74'	*Depth to Water (Below GS)* 15.3' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		12" Flush mount, traffic-rated monument in concrete			PID=0.4 ppm		ASPHALT; with base course	
							FILL SILT (ML); medium stiff, moist, dark brown; low plasticity; few coarse subangular to subrounded gravel.	
					PID=0.2 ppm			
	950							
					PID=0.3 ppm			
5							**ALLUVIUM** GRAVEL WITH SILT (GW-GM); medium dense to dense, moist, brown; fine to coarse subrounded to rounded gravel and cobbles; coarse sand.	5
		4" schedule 40 PVC in 3/8" bentonite chips			PID=0.4 ppm			
					PID=0.1 ppm			
	945	12-20 silica sand						
					PID=1.3 ppm			
10							SILTY GRAVEL (GM); medium dense to dense, moist, brown with gray gravel and cobbles; fine to coarse subrounded to rounded gravel and cobbles; coarse sand.	10
					PID=0.4 ppm			
	940				PID=0.5 ppm			
		11/8/2023 11/28/2023 10/19/2023		AMW-03-14.5 NWTPH-Gx and BTEX				
15					PID=1.2 ppm		becomes wet at 15 ft bgs	15
		0.020" (20-slot) 4" schedule 40 PVC screen in sand						
					PID=1.3 ppm			
	935	10/19/2023 Casing depth 25 ft bgs						
					PID=7.4 ppm			
20					PID=1.0 ppm		SILTY GRAVEL (GM); medium dense to dense, very moist, brown; fine to coarse subrounded to rounded gravel and cobbles; fine to coarse sand.	20
		4" schedule 40 PVC Sump in sand						
					PID=0.8 ppm			
	930							
25					PID=2.6 ppm		Bottom of exploration at 25 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	25
	925							
30								30
	920							

Legend

Sample Type: Grab sample

Water Level: Static Water Level; Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log AMW-03
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		**Monitoring Well Log**	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0680, -118.3398	*Exploration Number* **AMW-04**
Contractor Western States	*Equipment* Sonic Geoprobe 8510 LS	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 955.18'	Ecology Well Tag No. BPD 824
Operator Alex McCann	*Exploration Method(s)* Sonic	*Work Start/Completion Dates* 10/20/2023	*Top of Casing Elev. (NAVD88)* 955.18'	*Depth to Water (Below GS)* 12.48' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	955	12" Flush mount, traffic-rated monument in concrete					CONCRETE; with base course	
							FILL SILT WITH GRAVEL (ML); medium stiffness, moist, dark brown; low plasticity; fine to coarse subangular to rounded gravel; few fine to coarse sand; no bydrocarbon-like odor observed.	
5	950	4" schedule 40 PVC in 3/8" bentonite chips			PID=0.9 ppm Sheen=NS PID=2.2 ppm Sheen=NS		**ALLUVIUM** GRAVEL WITH SILT AND SAND (GW-GM); medium dense to dense, slightly moist, brown with gray gravel and cobbles; fine to coarse subrounded gravel and cobbles; fine to coarse sand; no hydrocarbon-like odor observed.	5
10	945	12-20 silica sand 1/11/2024 11/8/2023 11/28/2023 10/20/2023		AMW-04-10 NWTPH-Gx and BTEX	PID=1.3 ppm Sheen=NS PID=15000 ppm Sheen=MS PID=15000 ppm Sheen=MS		SILTY GRAVEL (GM); medium dense to dense, wet, brown; fine to coarse subrounded to rounded gravel and cobbles; fine to coarse sand; hydrocarbon-like odor observed.	10
15	940	0.020" (20-slot) 4" schedule 40 PVC screen in sand			PID=84.1 ppm Sheen=SS PID=4.4 ppm Sheen=NS PID=12.3 ppm Sheen=NS		increased silt content and slight hydrocarbon-like odor observed at 14 ft bgs	15
20	935	10/20/2023 Casing depth 25 ft bgs 4" schedule 40 PVC Sump in sand			PID=0.4 ppm Sheen=NS PID=0.3 ppm Sheen=NS		SILTY GRAVEL (GM); medium dense to dense, slightly moist, brown; coarse subrounded to rounded gravel; coarse sand; increased silt content; no hydrocarbon-like odor observed.	20
25	930				PID=0.7 ppm Sheen=NS		Bottom of exploration at 25 ft. bgs.	25
30	925							30

Legend

Sample Type: Grab sample

Water Level: Static Water Level; Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log AMW-04
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING

Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442

Excavation Log

Project Address & Site Specific Location	Coordinates (Lat,Lon WGS84)	Exploration Number
7 E Rose St, Walla Walla, WA, Chevron Property	46.0678, -118.3397	**ATP-01**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Able Technologies	CAT 305E	Bucket	955.15'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Josh Kina	Test pit	1/9/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	955	Topped with top course to 3" BGS					ASPHALT; asphalt and concrete.	0
							FILL	
1	954						GRAVEL WITH SILT AND SAND (GP-GM); gray-brown, slightly moist; fine sand; fine to coarse rounded to subrounded gravel.	1
2	953	Backfilled with excavated material.			PID=0.2 Sheen=None T-probe=2'		SANDY SILT (ML); gray-brown, slightly moist; fine sand.	2
3	952				PID=0.2 Sheen=None		Becomes brown with low plasticity	3
4	951				PID=0.2 Sheen=None T-probe=2'			4
5	950				PID=0.2 Sheen=None			5
6	949				PID=0.2 Sheen=None			6
							ALLUVIUM	
7	948				PID=0.2 Sheen=None		SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, brown, slightly moist; fine to medium sand; fine to coarse rounded gravel; rounded cobbles.	7
8	947			TP-01-08 NWTPH-Gx, BETX	PID=0.2 Sheen=None		Becomes moist.	8
9	946				PID=0.2 Sheen=None		SILTY GRAVEL WITH SAND AND COBBLES (GM); medium dense to dense, brown, moist; fine to coarse sand; fine to coarse rounded gravel; rounded cobbles.	9
10	945			TP-01-10.5 NWTPH-Gx, BETX	PID=0.2 Sheen=None		Becomes very moist.	10
11	944						Bottom of exploration at 10.5 ft. bgs.	11
							Note: No sheen or hydrocarbon-like odor observed throughout.	
12	943							12
13	942							13
14	941							14
15	940							15
16	939							16
17	938							17
18	937							18
19	936							19
20	935							20
21	934							21
22	933							22
23	932							23
24	931							24

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-01

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Excavation Log	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0678, -118.3398	*Exploration Number* **ATP-02**
Contractor Able Technologies	*Equipment* CAT 305E	*Sampling Method* Bucket	*Ground Surface Elev. (NAVD88)* 954.88'	
Operator Josh Kina	*Exploration Method(s)* Test pit	*Work Start/Completion Dates* 1/9/2024	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	954	Topped with top course to 3" BGS			PID=0.2 Sheen=None		CONCRETE; concrete. GRAVEL WITH SILT AND COBBLES (GP-GM); gray-brown, slightly moist; fine to coarse sand; fine to coarse rounded to subrounded gravel.	1
2	953	Backfilled with excavated material.			PID=0.2 Sheen=None T-probe=1'+		**FILL** SANDY SILT (ML); medium stiff, slightly moist, brown; fine sand; cobbles.	2
3	952				PID=0.2 Sheen=None T-probe=1'+		Becomes brown.; brick wall to 6ft.	3
4	951				PID=0.2 Sheen=None T-probe=1'+			4
5	950				PID=0.2 Sheen=None T-probe=1'+		SILT WITH GRAVEL (ML); slightly moist, brown; fine sand; cobbles.	5
6	949				PID=0.2 Sheen=None		**ALLUVIUM**	6
7	948			TP-02-07 NWTPH-Gx, BETX	PID=0.2 Sheen=None		SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, slightly moist, brown; fine to medium sand; cobbles.	7
8	947				PID=0.2 Sheen=None		Becomes moist.	8
9	946				PID=0.2 Sheen=Slight		SILTY GRAVEL WITH SAND AND COBBLES (GM); medium dense to dense, moist, brown; fine to coarse sand; cobbles.	9
10	945			TP-02-10 NWTPH-Gx, BETX	PID=0.2 Sheen=Slight		Bottom of exploration at 10 ft. bgs. Note: No hydrocarbon-like odor observed throughout.	10
11	944							11
12	943							12
13	942							13
14	941							14
15	940							15
16	939							16
17	938							17
18	937							18
19	936							19
20	935							20
21	934							21
22	933							22
23	932							23
24	931							24

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-02
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Excavation Log	
	Project Address & Site Specific Location		*Coordinates (Lat,Lon WGS84)*	*Exploration Number*
	7 E Rose St, Walla Walla, WA, Chevron Property		46.0678, -118.3399	**ATP-03**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
Able Technologies	CAT 305E	Bucket	954.56'	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Josh Kina	Test pit	1/9/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	954	Topped with top course to 3" BGS					ASPHALT; top course.	0
1		Minor caving observed.			PID=0.2 Sheen=None		GRAVEL (GP); very moist; angular to round fine gravel.	1
2	953	Backfilled with excavated material.		TP-03-02 NWTPH-Gx, BETX	PID=57.9 Sheen=Moderate T-probe=3"		**FILL** SILTY SAND (SM); medium dense to dense, slightly moist, dark gray; fine to medium sand; fine angular gravel; hydrocarbon-like odor.	2
3	952				PID=0.2 Sheen=None T-probe=6"		SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, slightly moist, brown; fine to medium sand; fine to coarse subrounded gravel and cobbles.	3
4	951				PID=0.2 Sheen=None T-probe=1'+			4
5	950				PID=0.2 Sheen=None		SANDY SILT WITH GRAVEL (ML); medium dense to dense, slightly moist, brown; low plasticity; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	5
6	949				PID=0.2 Sheen=None		**ALLUVIUM**	6
7	948			TP-03-07 NWTPH-Gx, BETX	PID=0.2 Sheen=None		SILTY GRAVEL WITH SAND AND COBBLES (GM); medium dense to dense, slightly moist, brown; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	7
8	947				PID=0.2 Sheen=None		Becomes very moist.	8
9	946				PID=0.2 Sheen=None			9
10	945						Bottom of exploration at 9 ft. bgs.	10
11	944							11
12	943							12
13	942							13
14	941							14
15	940							15
16	939							16
17	938							17
18	937							18
19	936							19
20	935							20
21	934							21
22	933							22
23	932							23
24	931							24
	930							

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-03
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Excavation Log	
	Project Address & Site Specific Location		Coordinates (Lat,Lon WGS84)	Exploration Number
	7 E Rose St, Walla Walla, WA, Chevron Property		46.0678, -118.3400	**ATP-04**
Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Able Technologies	CAT 305E	Bucket	953.92'	
Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Josh Kina	Test pit	1/9/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
1	953	Topped with top course to 3" BGS Backfilled with excavated material. Moderate caving observed.			PID=0.2 Sheen=None		ASPHALT; base course.	1
2	952				PID=0.2 Sheen=None T-probe=6'		**FILL** SILTY SAND WITH GRAVEL (SM); medium dense to dense, moist, brown; fine to coarse sand; fine to coarse subrounded gravel and cobbles. Pea gravel from 1'-2' along North wall of test pit.	2
3	951				PID=0.2 Sheen=None T-probe=6'			3
4	950				PID=0.2 Sheen=None T-probe=1'+			4
5	949			TP-04-05 NWTPH-Gx, BETX	PID=0.2 Sheen=None		SANDY SILT WITH GRAVEL (ML); medium dense to dense, moist, brown; low plasticity; fine to medium sand; fine to coarse subrounded gravel.	5
6	948				PID=0.2 Sheen=None			6
7	947				PID=0.2 Sheen=None		**ALLUVIUM** SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, moist, brown; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	7
8	946				PID=0.2 Sheen=None			8
9	945				PID=0.2 Sheen=None		SILTY GRAVEL WITH SAND AND COBBLES (GM); medium dense to dense, moist, brown; fine to coarse sand; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	9
10	944				PID=0.2 Sheen=None		Becomes very moist.	10
11	943			TP-04-10.5 NWTPH-Gx, BETX			Bottom of exploration at 10.5 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	11
12	942							12
13	941							13
14	940							14
15	939							15
16	938							16
17	937							17
18	936							18
19	935							19
20	934							20
21	933							21
22	932							22
23	931							23
24	930							24

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-04
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Excavation Log	
	Project Address & Site Specific Location		Coordinates (Lat,Lon WGS84)	Exploration Number
	7 E Rose St, Walla Walla, WA, Chevron Property		46.0678, -118.3400	**ATP-05**
Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Able Technologies	CAT 305E	Bucket	954.02'	
Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Josh Kina	Test pit	1/9/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	954	Topped with top course to 3" BGS					ASPHALT; base course.	0
1	953						**FILL** SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, moist, brown; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	1
2	952	Backfilled with excavated material.		TP-05-2.5 NWTPH-Gx, BETX	PID=0.2 Sheen=None T-probe=6"			2
3	951				PID=0.2 Sheen=None T-probe=6"		SANDY SILT WITH GRAVEL (ML); medium dense to dense, moist, brown; low plasticity; fine sand; fine to coarse subrounded gravel.	3
4	950				PID=0.2 Sheen=None T-probe=1'+			4
5	949				PID=0.2 Sheen=None		Becomes fine to medium sand.	5
6	948				PID=0.2 Sheen=None			6
7	947				PID=0.2 Sheen=None		**ALLUVIUM** SILTY GRAVEL WITH SAND AND COBBLES (GM); medium dense to dense, moist, brown; fine to coarse sand; fine to coarse subrounded gravels and cobbles.	7
8	946				PID=0.2 Sheen=None			8
9	945				PID=0.2 Sheen=None			9
10	944			TP-05-10 NWTPH-Gx, BETX	PID=0.2 Sheen=None		Bottom of exploration at 10 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	10
11	943							11
12	942							12
13	941							13
14	940							14
15	939							15
16	938							16
17	937							17
18	936							18
19	935							19
20	934							20
21	933							21
22	932							22
23	931							23
24	930							24

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-05
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Excavation Log	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0679, -118.3401	*Exploration Number* **ATP-06**
Contractor Able Technologies	*Equipment* CAT 305E	*Sampling Method* Bucket	*Ground Surface Elev. (NAVD88)* 953.62'	
Operator Josh Kina	*Exploration Method(s)* Test pit	*Work Start/Completion Dates* 1/9/2024 to 1/10/2024	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	953	Topped with top course to 3" BGS						
1					PID=0.2 Sheen=None		ASPHALT; base course, moist; fine to coarse sand; fine to coarse subrounded to subangular gravel and cobbles.	1
2	952	Backfilled with excavated material.			PID=0.2 Sheen=None T-probe=1'		**FILL** SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, moist, brown; fine to medium sand; fine to coarse subrounded gravel and cobbles.	2
3	951				PID=0.2 Sheen=None T-probe=1'+			3
4	950			TP-06-04 NWTPH-Gx, BETX	PID=0.2 Sheen=None T-probe=1'+		SANDY SILT WITH GRAVEL (ML); medium dense to dense, moist, brown; low plasticity; fine sand; fine to coarse subrounded gravel.	4
5	949				PID=0.2 Sheen=None			5
6	948				PID=0.2 Sheen=None			6
7	947				PID=0.2 Sheen=None		**ALLUVIUM** SILTY GRAVEL WITH COBBLES (GM); medium dense to dense, moist, brown; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	7
8	946				PID=0.2 Sheen=None			8
9	945				PID=0.2 Sheen=None			9
10	944			TP-06-10 NWTPH-Gx, BETX	PID=0.2 Sheen=None		Bottom of exploration at 10 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	10
11	943							11
12	942							12
13	941							13
14	940							14
15	939							15
16	938							16
17	937							17
18	936							18
19	935							19
20	934							20
21	933							21
22	932							22
23	931							23
24	930							24
	929							

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-06
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING

Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442

Excavation Log

Project Address & Site Specific Location	Coordinates (Lat,Lon WGS84)	Exploration Number
7 E Rose St, Walla Walla, WA, Chevron Property	46.0679, -118.3399	**ATP-07**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Able Technologies	CAT 305E	Bucket	954.64'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Josh Kina	Test pit	1/9/2024 to 1/10/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	954	Topped with top course to 3" BGS					ASPHALT; base coarse.	0
1	953	Moderate caving observed. Backfilled with excavated material.			PID=0.8 Sheen=Slight		**FILL** GRAVEL (GP); pea gravel, gray, moist; fine rounded gravel.	1
2	952				PID=9.1 Sheen=Slight		SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, moist, gray; fine to coarse sand; fine to coarse subrounded gravel and cobbles; hydrocarbon-like odor.	2
3	951				PID=298 Sheen=Moderate			3
4	950			TP-07-04 NWTPH-Gx, BETX	PID=182 Sheen=Moderate			4
5	949				PID=106 Sheen=Moderate		SANDY SILT WITH GRAVEL (ML); medium stiff, moist, gray; low plasticity; fine to coarse sand; fine to coarse subrounded gravel and cobbles; hydrocarbon-like odor.	5
6	948			TP-07-06 NWTPH-Gx, BETX	PID=212 Sheen=Moderate		Bottom of exploration at 6.5 ft. bgs.	6
7	947						Note: Highest PID readings along building side of test pit. Old fuel pipe along pump side of test pit from 2' to 5'.	7
8	946							8
9	945							9
10	944							10
11	943							11
12	942							12
13	941							13
14	940							14
15	939							15
16	938							16
17	937							17
18	936							18
19	935							19
20	934							20
21	933							21
22	932							22
23	931							23
24	930							24

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-07

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Excavation Log	
	Project Address & Site Specific Location 7 E Rose St, Walla Walla, WA, Chevron Property		*Coordinates (Lat,Lon WGS84)* 46.0679, -118.3398	*Exploration Number* **ATP-08**
Contractor Able Technologies	*Equipment* CAT 305E	*Sampling Method* Bucket	*Ground Surface Elev. (NAVD88)* 954.69'	
Operator Josh Kina	*Exploration Method(s)* Test pit	*Work Start/Completion Dates* 1/9/2024 to 1/10/2024	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	954	Topped with top course to 3" BGS					ASPHALT; base coarse.	0
1	953	Moderate caving observed. Backfilled with excavated material.			PID=0.2 Sheen=None		**FILL** GRAVEL (GP); pea gravel.	1
2	952				PID=0.2 Sheen=None		SILTY SAND WITH GRAVEL AND COBBLES (SM); medium dense to dense, brown, moist; fine to coarse sand; fine to coarse subrounded gravel and cobbles.	2
3	951				PID=0.2 Sheen=None T-probe=1'			3
4	950			TP-08-4 NWTPH-Gx, BETX	PID=0.2 Sheen=None T-probe=1'		Bottom of exploration at 4 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	4
5	949							5
6	948							6
7	947							7
8	946							8
9	945							9
10	944							10
11	943							11
12	942							12
13	941							13
14	940							14
15	939							15
16	938							16
17	937							17
18	936							18
19	935							19
20	934							20
21	933							21
22	932							22
23	931							23
24	930							24

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: DJM
Approved by: Carla Brock

Exploration Log ATP-08
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Monitoring Well Log	
	Project Address & Site Specific Location		*Coordinates (Lat,Lon WGS84)*	*Exploration Number*
	7 E Rose St, Walla Walla, WA, Northeast corner of Rose and 3rd St		46.0672, -118.3413	**MW-7**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	Ecology Well Tag No. BPQ 389
Western States	Sonic Geoprobe 8510 LS	Grab	951.82'	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex McCann	Sonic	10/18/2023	951.82'	15.82' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	950	8" Flush mount, traffic-rated monument in concrete			PID=1.0 ppm Sheen=NS		CONCRETE; with 5/8 base course	0
							ALLUVIUM GRAVEL WITH SILT (GW-GM); medium dense to dense, moist, dark brown; fine to coarse angular to subangular gravel; fine to coarse sand; brick debris observed down to 10 ft bgs.	
					PID=1.9 ppm Sheen=NS			
5					PID=1.2 ppm Sheen=NS			5
	945	4" schedule 40 PVC in 3/8" bentonite chips			PID=1.9 ppm Sheen=NS			
		#12 (10-20) silica sand			PID=2.3 ppm Sheen=NS			
10					PID=2.9 ppm Sheen=NS		GRAVEL WITH SILT AND SAND (GW-GM); medium dense to dense, moist, brown; fine to coarse subangular to subrounded gravel.	10
	940				PID=2.1 ppm Sheen=NS		SILTY GRAVEL (GM); medium dense to dense, very moist, dark brown; fine to coarse subrounded to rounded gravel and cobbles; fine to coarse sand.	
		▼ 11/8/2023 ▼ 11/28/2023 ▼ 10/18/2023			PID=5.3 ppm Sheen=NS			
15								15
	935	0.010" (10-slot) 4" schedule 40 PVC screen in sand			PID=8.8 ppm Sheen=NS			
					PID=10.1 ppm Sheen=NS			
20					PID=1.8 ppm Sheen=NS		SILTY GRAVEL (GM); medium dense to dense, wet, dark brown; fine to coarse subrounded to rounded gravel; fine to coarse sand.	20
	930				PID=2.8 ppm Sheen=NS			
25		5" Well cap in sand			PID=1.4 ppm Sheen=NS		Bottom of exploration at 25 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	25
	925							
30								30
	920							

Legend

Sample Type

Water Level ▼ Static Water Level

See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log MW-7

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Monitoring Well Log	
	Project Address & Site Specific Location: 7 E Rose St, Walla Walla, WA, 27 N 2nd St		Coordinates (Lat,Lon WGS84): 46.0674, -118.3400	Exploration Number: **MW-8**
Contractor: Western States	Equipment: Sonic Geoprobe 8510 LS	Sampling Method: Grab	Ground Surface Elev. (NAVD88): 954.95'	Ecology Well Tag No. BPQ 389
Operator: Alex McCann	Exploration Method(s): Sonic	Work Start/Completion Dates: 10/18/2023	Top of Casing Elev. (NAVD88): 954.95'	Depth to Water (Below GS): 16.75' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete			PID=2.2 ppm Sheen=NS		Brick sidewalk	
							ALLUVIUM GRAVEL WITH SILT AND SAND (GW-GM); medium dense to dense, moist, dark brown; fine to coarse subrounded to rounded gravel; rounded cobbles; fine to coarse sand.	
					PID=3.5 ppm Sheen=NS			
							SILT WITH GRAVEL (ML); medium dense to dense, slightly moist, brown; low plasticity; fine to coarse subrounded gravel; broken PVC pieces observed.	
5	950				PID=3.8 ppm Sheen=NS			5
		4" schedule 40 PVC in 3/8" bentonite chips						
					PID=1.3 ppm Sheen=NS		GRAVEL WITH SILT AND SAND (GW-GM); medium dense to dense, slightly moist, brown; fine to coarse subangular to rounded gravel; fine to coarse sand.	
		#12 (10-20) silica sand					becomes gray at 7.5 ft bgs	
					PID=1.8 ppm Sheen=NS			
10	945				PID=5.3 ppm Sheen=NS			10
					PID=2.8 ppm Sheen=NS			
		▼ 11/8/2023						
		▼ 11/28/2023						
					PID=2.9 ppm Sheen=NS		SILTY GRAVEL (GM); medium dense to dense, very moist, dark brown with gray gravel; fine to coarse subrounded to rounded gravel; fine to coarse sand.	
15	940							15
		▼ 10/18/2023			PID=2.3 ppm Sheen=NS		becomes wet and dark brown with yellow cobbles at 17 ft bgs	
		0.010" (10-slot) 4" schedule 40 PVC screen in sand						
		▽ 10/18/2023			PID=1.4 ppm Sheen=NS			
20	935				PID=3.3 ppm Sheen=NS		SILTY GRAVEL (GM); medium dense to dense, very moist, dark brown; fine to coarse rounded gravel; fine to coarse sand.	20
					PID=3.5 ppm Sheen=NS			
25	930	5" Well cap in sand			PID=3.0 ppm Sheen=NS		Bottom of exploration at 25 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	25
30	925							30

Legend

Sample Type

Water Level
- ▼ Static Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log MW-8
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

Aspect CONSULTING	Stillwater Holdings Chevron UST and Soil Removal Interim Action - 230442		Monitoring Well Log	
	Project Address & Site Specific Location: 7 E Rose St, Walla Walla, WA, Near 2nd and Rose St		Coordinates (Lat,Lon WGS84): 46.0677, -118.3395	Exploration Number: **MW-9**
Contractor: Western States	Equipment: Sonic Geoprobe 8510 LS	Sampling Method: Grab	Ground Surface Elev. (NAVD88): 954.87'	Ecology Well Tag No. BPQ 388
Operator: Alex McCann	Exploration Method(s): Sonic	Work Start/Completion Dates: 10/17/2023	Top of Casing Elev. (NAVD88): 954.87'	Depth to Water (Below GS): 13.57' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		8" Flush mount, traffic-rated monument in concrete			PID=0.9 ppm Sheen=NS		CONCRETE; with base course	
					PID=1.0 ppm Sheen=NS		**FILL** SILT WITH GRAVEL (ML); medium stiffness, moist, dark brown; low plasticity; fine to coarse subrounded gravel; plastic debris observed at 1 foot bgs.	
					PID=1.6 ppm Sheen=NS			
					PID=1.1 ppm Sheen=NS			
5	950				PID=1.1 ppm Sheen=NS		**ALLUVIUM** GRAVEL WITH SILT (GW-GM); medium dense to dense, slightly moist, brown with gray gravel; fine to coarse subangular to rounded gravel; fine to coarse sand.	5
		4" schedule 40 PVC in 3/8" bentonite chips			PID=1.2 ppm Sheen=NS			
					PID=2.2 ppm Sheen=NS			
					PID=1.2 ppm Sheen=NS		SILTY GRAVEL (GM); medium dense to dense, slightly moist, brown with gray gravel and cobbles; fine to coarse subangular to rounded gravel and cobbles; fine to coarse sand.	
		#12 (10-20) silica sand			PID=1.5 ppm Sheen=NS			
10	945				PID=1.4 ppm Sheen=NS			10
					PID=1.9 ppm Sheen=NS			
		11/8/2023			PID=2.4 ppm Sheen=NS		becomes dark brown with yellow brown gravel and cobbles at 11 ft bgs	
		11/28/2023			PID=8.9 ppm Sheen=NS			
		10/17/2023			PID=12.4 ppm Sheen=NS			
15	940				PID=23.0 ppm Sheen=NS			15
					PID=2.1 ppm Sheen=NS		becomes wet at 16 ft bgs	
		0.010" (10-slot) 4" schedule 40 PVC screen in sand			PID=1.7 ppm Sheen=NS			
					PID=2.5 ppm Sheen=NS			
					PID=1.2 ppm Sheen=NS			
20	935				PID=2.6 ppm Sheen=NS			20
					PID=1.8 ppm Sheen=NS			
					PID=1.9 ppm Sheen=NS			
					PID=1.9 ppm Sheen=NS			
					PID=1.6 ppm Sheen=NS			
25	930	5" Well cap in sand			PID=1.6 ppm Sheen=NS		Bottom of exploration at 25 ft. bgs. Note: No sheen or hydrocarbon-like odor observed throughout.	25
30	925							30

Legend

Sample Type

Water Level: ▼ Static Water Level

See Exploration Log Key for explanation of symbols

Logged by: DRB
Approved by: Carla Brock

Exploration Log MW-9
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINT\WPROJECTS\230442 - SINGERS CHEVRON.GPJ February 19, 2024

APPENDIX C

Slug Test Results

Table C-1 - Hydraulic Conductivity Estimates from Slug Tests

230442 Singers Chevron, Walla Walla, Washington

Monitoring Well	AMW-01			AMW-02			AMW-04		
Well Depth in Feet	25.0			25.0			25.0		
Screen Length in Feet	15.0			15.0			15.0		
Depth to Screen in Feet	5.0			5.0			5.0		
Depth to Aquitard in Feet	30			30			30		
Depth to Water in Feet	12.03			12.42			11.15		
Depth to Sandpack in Feet	3.0			3.0			3.0		
Slug Displacement (Ho) in Feet	0.35	0.67	0.35	0.31	0.37	0.35	0.18	0.34	0.41
Porosity (n)	0.30			0.30			0.30		
Radius of Casing (rc) in Feet	0.17			0.17			0.17		
Radius of Borehole (rw) in Feet	0.25			0.25			0.25		
Saturated Aquifer Thickness (H) in Feet	18.0			17.6			18.9		
Saturated Well Thickness (Lw) in Feet	8.0			7.6			8.9		
Effective Radius (reff) in Feet	0.195			0.195			0.195		
Effective Screen Length (Le) in Feet	8.0			7.6			8.9		
Slug Size	3' x1"	3' x1"	3' x1"	3' x1"	3' x1"	3' x1"	1.5' x1"	3' x1"	3' x1"
Rising/Falling Head Test	Rising	Rising	Rising	Rising	Rising	Rising	Rising	Rising	Rising
Fully Submerged Sandpack	No	No	No	No	No	No	No	No	No
Transiently Exposed Sandpack	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Transiently Exposed Screen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Partially Submerged Screen	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bouwer and Rice Analysis Parameters									
Normalized Head at t1 (y1) in Feet	0.29	0.26	0.38	0.55	0.45	0.49	0.39	0.42	0.35
Time - t1 in Seconds	256	180	155	120	181	190	480	180	118
Normalized Head at t2 (y2) in Feet	0.20	0.16	0.20	0.21	0.23	0.21	0.20	0.23	0.16
Time - t2 in Seconds	391	339	361	606	596	598	917	555	540
Calculated K in cm/sec	4.8E-04	5.2E-04	5.2E-04	3.4E-04	2.9E-04	3.7E-04	2.4E-04	2.5E-04	3.0E-04
Calculated K in ft/day	**1.36**	**1.48**	**1.46**	**0.96**	**0.82**	**1.05**	**0.67**	**0.71**	**0.86**
Geometric Mean K in ft/day	**1.4**			**0.9**			**0.7**		
Geometric Mean K in ft/s	1.66E-05			1.08E-05			8.60E-06		
Screened Interval Soil Type									

Notes:

Data analysis by method of Bouwer and Rice (1976; 1989).

Bold values are entered from field data and other values are calculated.

All depths are below ground surface

[a] The Bouwer and Rice A, B, and C coefficients are calculated using regression equations of Van Rooy (1988).

[b] Analyzed using methods for oscilatory water level repsonse in Butler, et al (2000).

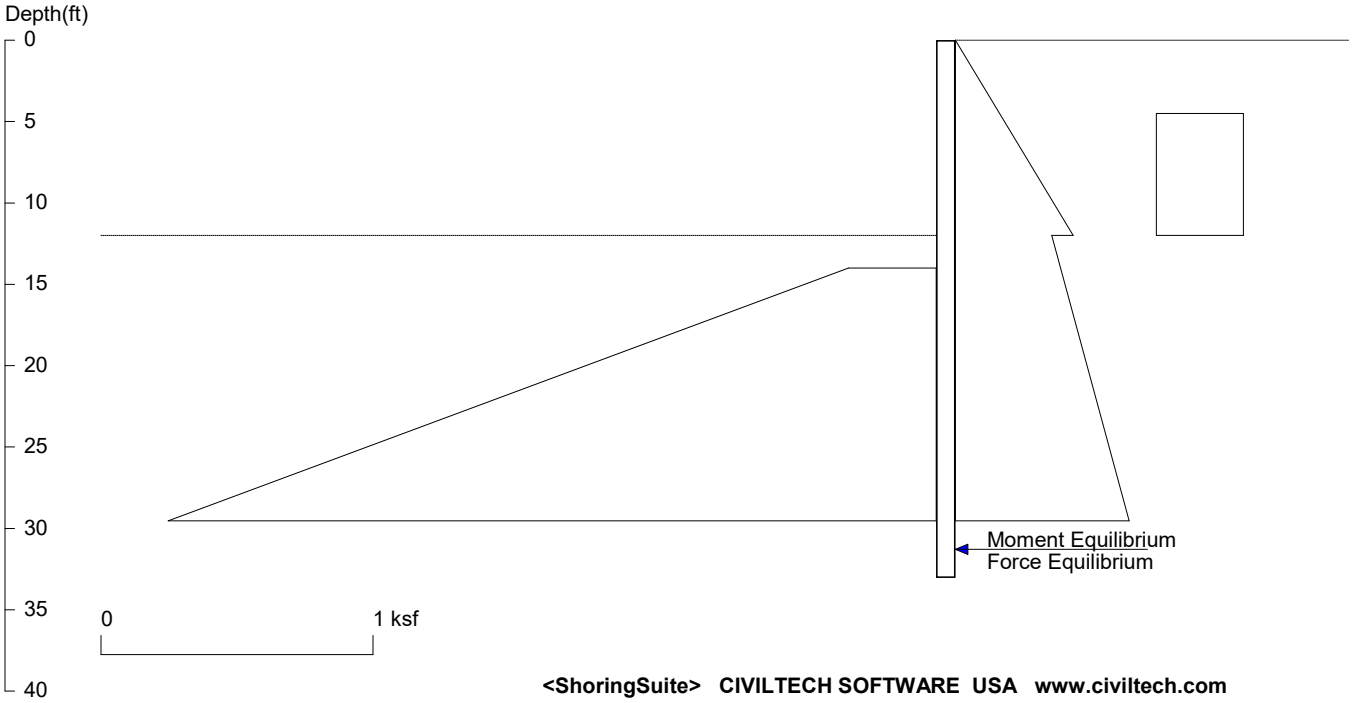
[c] R_e/r_w is the effective radial distance over which y is dissipated, divided by the radial distance of well development.

APPENDIX D

Shoring Suite Outputs

North Wall - Embedded footing

North Wall Embedment



Licensed to 4324324234 3424343 Date: 2/13/2024

File: S:\Stillwater Holdings Chevron_230442\Geotech\Analysis\Shoring Suite\North Wall_V2.sh8

Wall Height=12.0 Pile Diameter=2.5 Pile Spacing=5.3 Wall Type: 2. Soldier Pile, Drilled

PILE LENGTH: Min. Embedment=21.04 Min. Pile Length=33.04
MOMENT IN PILE: Max. Moment=291.63 per Pile Spacing=5.3 at Depth=21.49

PILE SELECTION:
Request Min. Section Modulus = 106.0 in3/pile=1737.80 cm3/pile, Fy= 50 ksi = 345 MPa, Fb/Fy=0.66
W18X130 has Section Modulus = 256.0 in3/pile=4195.07 cm3/pile. It is greater than Min. Requirements!
Top Deflection = 0.51(in) based on E (ksi)=29000.00 and I (in4)/pile=2460.0

DRIVING PRESSURES (ACTIVE, WATER, & SURCHARGE):

Z1	P1	Z2	P2	Slope
0	0	12	0.432	0.036000
12	0.353	100	1.783	0.016250
**				
4.5	0.32	12	0.320	0.000000

PASSIVE PRESSURES:

Z1	P1	Z2	P2	Slope
14	0.322	100	14.16	0.161

ACTIVE SPACING:

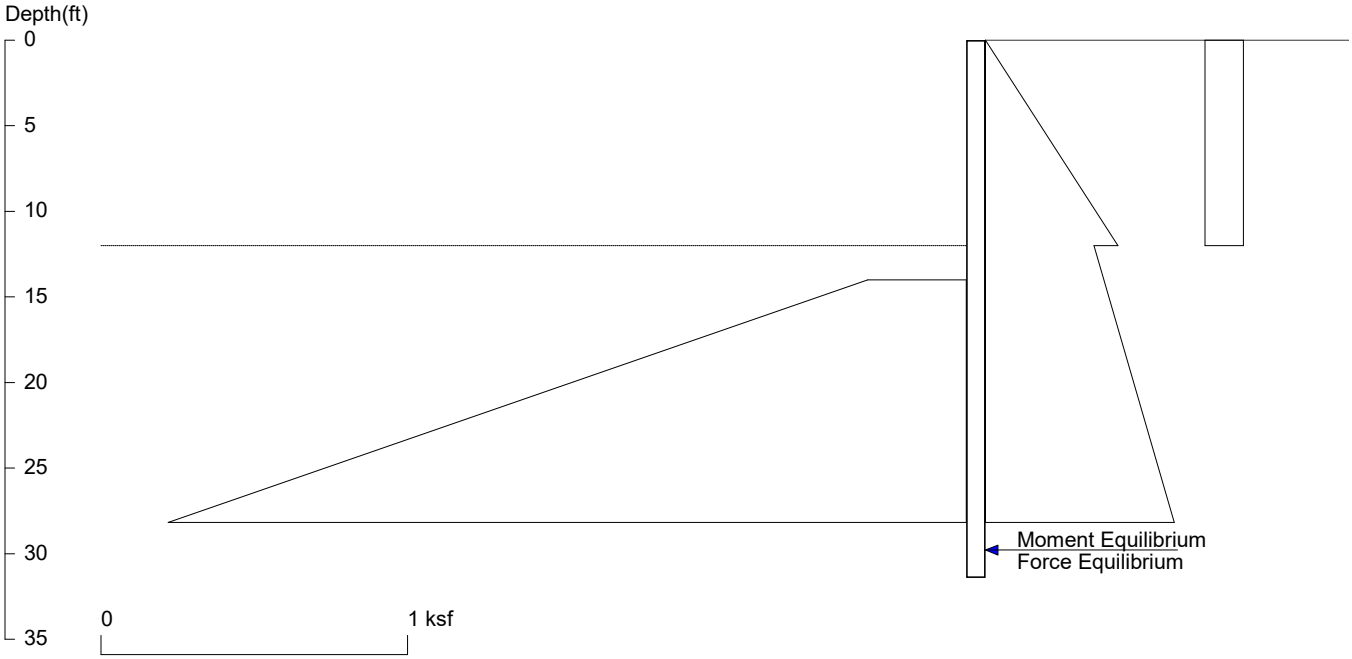
No.	Z depth	Spacing
1	0.00	5.30
2	12.00	2.50

PASSIVE SPACING:

No.	Z depth	Spacing
1	12.00	5.30

UNITS: Width,Spacing,Diameter,Length,and Depth - ft; Force - kip; Moment - kip-ft
Friction,Bearing,and Pressure - ksf; Pres. Slope - kip/ft3; Deflection - in

East & West Shoring Wall
East & West Wall Embedment



Licensed to 4324324234 3424343 Date: 2/13/2024
File: S:\Stillwater Holdings Chevron_230442\Geotech\Analysis\Shoring Suite\East-South Wall.sh8

Wall Height=12.0 Pile Diameter=2.5 Pile Spacing=6.2 Wall Type: 2. Soldier Pile, Drilled

PILE LENGTH: Min. Embedment=19.41 Min. Pile Length=31.41
MOMENT IN PILE: Max. Moment=284.71 per Pile Spacing=6.2 at Depth=20.53

PILE SELECTION:
Request Min. Section Modulus = 103.5 in3/pile=1696.56 cm3/pile, Fy= 50 ksi = 345 MPa, Fb/Fy=0.66
W16X89 has Section Modulus = 155.0 in3/pile=2539.99 cm3/pile. It is greater than Min. Requirements!
Top Deflection = 0.97(in) based on E (ksi)=29000.00 and I (in4)/pile=1300.0

DRIVING PRESSURES (ACTIVE, WATER, & SURCHARGE):

Z1	P1	Z2	P2	Slope
0	0	12	0.432	0.036000
12	0.353	100	1.783	0.01625
**Tra				
0	0.125	12	0.125	0.000000

PASSIVE PRESSURES:

Z1	P1	Z2	P2	Slope
14	0.322	100	14.16	0.1610

ACTIVE SPACING:

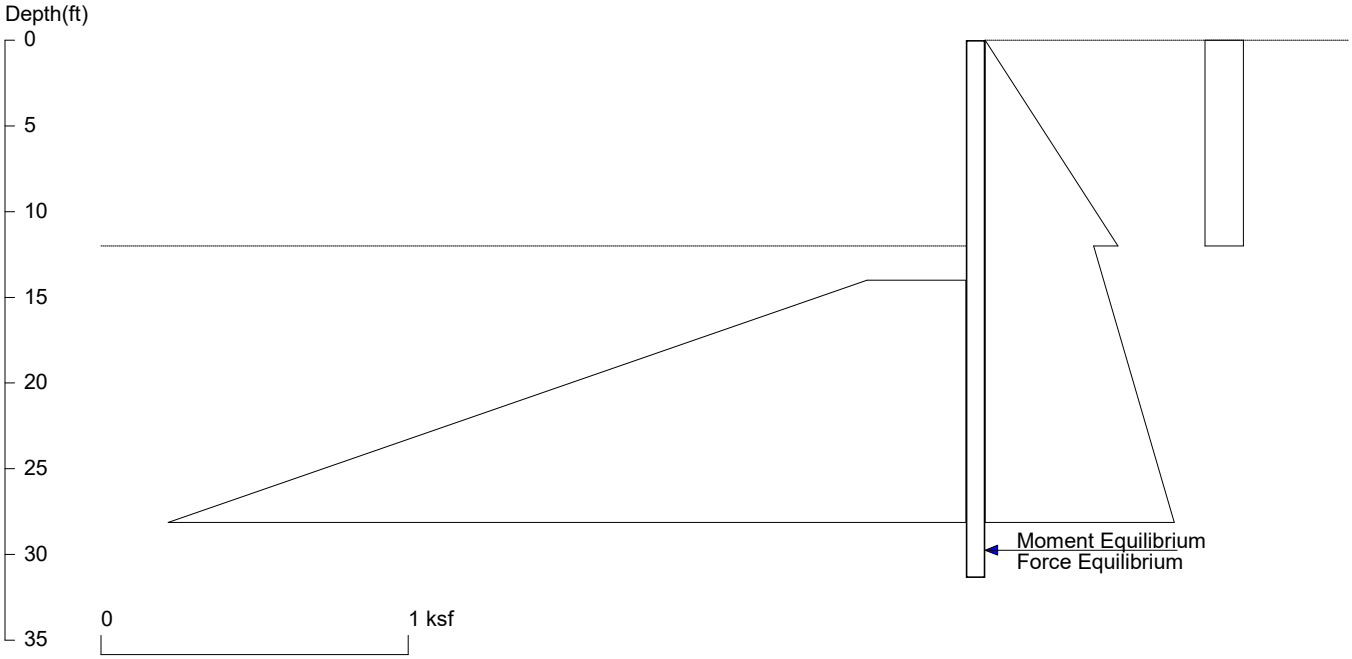
No.	Z depth	Spacing
1	0.00	6.22
2	12.00	2.50

PASSIVE SPACING:

No.	Z depth	Spacing
1	12.00	6.22

UNITS: Width,Spacing,Diameter,Length,and Depth - ft; Force - kip; Moment - kip-ft
Friction,Bearing,and Pressure - ksf; Pres. Slope - kip/ft3; Deflection - in

South Wall
South Wall Embedment



Licensed to 4324324234 3424343 Date: 2/13/2024
File: S:\Stillwater Holdings Chevron_230442\Geotech\Analysis\Shoring Suite\East-South Wall.sh8

Wall Height=12.0 Pile Diameter=2.5 Pile Spacing=6.4 Wall Type: 2. Soldier Pile, Drilled

PILE LENGTH: Min. Embedment=19.36 Min. Pile Length=31.36
MOMENT IN PILE: Max. Moment=290.30 per Pile Spacing=6.4 at Depth=20.50

PILE SELECTION:
Request Min. Section Modulus = 105.6 in3/pile=1729.89 cm3/pile, Fy= 50 ksi = 345 MPa, Fb/Fy=0.66
W16X89 has Section Modulus = 155.0 in3/pile=2539.99 cm3/pile. It is greater than Min. Requirements!
Top Deflection = 0.99(in) based on E (ksi)=29000.00 and I (in4)/pile=1300.0

DRIVING PRESSURES (ACTIVE, WATER, & SURCHARGE):

Z1	P1	Z2	P2	Slope
0	0	12	0.432	0.036000
12	0.353	100	1.783	0.01625
**Tra				
0	0.125	12	0.125	0.000000

PASSIVE PRESSURES:

Z1	P1	Z2	P2	Slope
14	0.322	100	14.16	0.1610

ACTIVE SPACING:

No.	Z depth	Spacing
1	0.00	6.36
2	12.00	2.50

PASSIVE SPACING:

No.	Z depth	Spacing
1	12.00	6.36

UNITS: Width,Spacing,Diameter,Length,and Depth - ft; Force - kip; Moment - kip-ft
Friction,Bearing,and Pressure - ksf; Pres. Slope - kip/ft3; Deflection - in

APPENDIX E

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND GUIDELINES FOR USE

This Report and Project-Specific Factors

Aspect Consulting (Aspect) considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual limitations. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with our Agreement with the Client and recognized geoscience practices in the same locality and involving similar conditions at the time this report was prepared.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope instability, or groundwater fluctuations. If any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques, and personnel used to perform a geotechnical or geologic study differ significantly from those used to perform an environmental study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions, or recommendations (e.g., about the likelihood of encountering underground storage tanks or regulated contaminants). Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

We appreciate the opportunity to perform these services. If you have any questions please contact the Aspect Project Manager for this project.