GeoEngineers

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June 14, 2024

Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Attention: Jing Song

Subject: Monitoring Well and Vapor Pin Installation
Seventh Avenue Service Site
701/709 South Jackson Street
Seattle, Washington
GeoEngineers File No. 24504-001-04

On behalf of 701 S Jackson QOZB, LLC (701 South Jackson QOZB [formerly South Jackson Partners, LLC]), GeoEngineers Inc. (GeoEngineers) is providing this letter to document the installation of a new groundwater monitoring well (GEI-13) and two new permanent vapor pins (VP-1 and VP-2) at the Seventh Avenue Service Site (Site) located in Seattle, Washington (Figure 1). In accordance with the Washington State Department of Ecology (Ecology) Cleanup Action Plan (CAP) dated September 20, 2022, Ecology-approved Contaminated Media Management Plan (CMMP) dated May 16, 2023 prepared by GeoEngineers, and Chapter 173-340 of the Washington Administrative Code (WAC), cleanup actions were completed by 701 South Jackson QOZB to address petroleum-related contamination resulting from historical land use at the 701/709 South Jackson Street property (2023 Cleanup Action). Currently, residual petroleum-related contamination remains in-place in soil beneath portions of the 7th Avenue South and South Jackson Street rights-of-way (ROWs) at concentrations greater than the Model Toxics Control Act (MTCA) cleanup levels (Figure 2). Consistent with the CAP, engineering and institutional controls (once formalized) will be utilized to prevent direct-contact, limit stormwater infiltration that could lead to the migration of this contamination through the soil column toward the deep regional groundwater unit beneath the Site, and mitigate the potential for vapor intrusion.

To evaluate post-construction Site conditions, monitoring well GEI-13 and vapor pins VP-1 and VP-2 were installed in coordination with Ecology. As required by Ecology, a Post-Construction Groundwater Compliance Monitoring Plan specifying the details of the post-construction soil vapor and groundwater monitoring

program[1] will be submitted to Ecology for review and approval prior to collecting and analyzing samples from GEI-13, VP-1, and VP-2. Installation activities for GEI-13, VP-1, and VP-2 are summarized below.

Monitoring Well Installation and Development

Performance and confirmational groundwater monitoring is required by Ecology to document groundwater conditions following completion of the 2023 Cleanup Action in conjunction with redevelopment of the 701/709 South Jackson Street property. As required by Ecology, existing groundwater monitoring wells GEI-11 and GEI-12 will be used to evaluate groundwater conditions within and/or downgradient of the areas of residual soil contamination at the Site. Additionally, a new monitoring well (GEI-13) was installed north of the 701/709 South Jackson Street property boundary and up-gradient of the cleanup action area and will be used to evaluate groundwater coming onto the Site.

The locations of monitoring wells GEI-11 through GEI-13 are shown in Figure 2. Installation and development of monitoring well GEI-13 is summarized in the following sections.

UNDERGROUND UTILITY LOCATE

Prior to drilling, a public "One Call" and private underground utility locate was conducted in the area of the proposed location for GEI-13 to identify any subsurface utilities and/or potential underground physical hazards. Due to the proximity of the South Jackson Street utility corridor, an air knife operated by Cascade Drilling LP (Cascade) was used excavate soil to a depth of approximately 7.5 feet below ground surface (bgs) at the location for GEI-13 in advance of the well drilling activities to confirm the absence of underground hazards. Potential underground physical hazards were not identified as a result of the air knife utility clearance prior to drilling.

DRILLING AND MONITORING WELL CONSTRUCTION

Drilling and construction of monitoring well GEI-13 was conducted by Cascade (a Washington State licensed driller) in general accordance with the Minimum Standards for Construction and Maintenance of Wells (WAC 173-160). The monitoring well boring was drilled using a truck mounted hollow-stem auger rig. Drilling and monitoring well installation activities were observed by a GeoEngineers field technician who maintained a detailed log documenting the soil conditions, field screening results, and well construction. The boring and well construction log for GEI-13 is attached.

Following installation, monitoring well GEI-13 was developed by GeoEngineers to stabilize the filter pack and formation materials surrounding the well screen, and to restore the hydraulic connection between the well screen and the surrounding soil. Well development included gently surging water through the well screen several times using a decontaminated polyvinyl chloride (PVC) slug rod followed by extraction of the development water. Development activities were completed until a minimum of five casing volumes of water were removed and/or turbidity of the development water was recorded to be relatively low. The goal of well development was to reduce the turbidity content of the water to approximately 25 nephelometric

[1] Although post-construction monitoring includes soil vapor and groundwater sampling and analysis as required by Ecology, the document specifying the details of the monitoring program is referred to as the "Post-Construction Groundwater Monitoring Plan" for consistency with the terminology used in the Prospective Purchaser Consent Decree (PPCD).

turbidity units (NTUs). No more than 10 well volumes of water were removed from the wells in an effort to attain the 25 NTU goal.

Soil cuttings and water generated during well installation and development activities were stored on site in a secured and labeled 55-gallon drum. Disposal of this investigation derived waste is further discussed below.

SOIL SAMPLING AND FIELD SCREENING RESULTS

Soil samples were obtained for field screening and possible chemical analysis during the drilling activities using either a hand auger within the interval cleared by air knife or 2.5-inch split-barrel sampler from the hollow stem auger boring at 2.5-foot intervals to a depth of 20 feet bgs and 5-foot intervals thereafter. A portion of the sample from each interval was used to visually classify the material encountered in general accordance with ASTM International (ASTM) D 2488-00 and for field screening purposes. Field screening utilized a visual examination of the material for stains indicative of petroleum-related contamination, water sheen screening, and headspace vapors using a photoionization detector (PID). Field screening results and material descriptions are included in the attached boring log. The sampling equipment used was decontaminated with a Liquinox® solution wash and a distilled water rinse before each sampling attempt.

Evidence of petroleum-related contamination based on the field screening results was not observed in soil samples obtained during the drilling activities.

SURVEYING

GeoEngineers field personnel surveyed the casing rim and ground surface elevation at GEI-13 relative to City of Seattle Brass Dome 3895 0701 (Elevation 98.52 feet[2]) using a laser level, which has an accuracy of ±0.01 feet. The location of the monitoring well was measured using a handheld global positioning system (GPS) unit and reference to existing permanent features for accuracy of the new well location. Casing rim and ground surface elevations and monitoring well coordinates are summarized in the attached GEI-13 boring log.

MANAGEMENT OF INVESTIGATION-DERIVED MATERIALS

Soil cuttings, well development water, and decontamination water generated during monitoring well installation activities were placed in secured and labeled 55-gallon drums pending transport from the Site to a permitted disposal facility.

Incidental waste generated during sampling activities included items such as gloves, plastic sheeting, sample tubing, paper towels, and similar expended and discarded field supplies. These materials were considered *de minimis* and were transferred from the Site for landfill disposal via dumpster or trash receptacle at GeoEngineers' Seattle or Redmond offices.

[2] Elevation referenced to North American Vertical Datum 1988 (NAVD88).

Vapor Pin Installation

Soil vapor monitoring in accordance with the *Guidance for Evaluating Vapor Intrusion in Washington State* (Ecology 2022b) is required by Ecology to document soil vapor conditions following completion of the 2023 Cleanup Action. As required by Ecology, two new vapor pins (VP-1 and VP-2) were installed within the 7th Avenue ROW to evaluate the potential vapor intrusion risk from residual soil contamination remaining in this portion of the Site following cleanup. Each vapor pin was installed through a 5/8-inch diameter hole advanced through the concrete sidewalk extending at least 1-inch into the underlying soil using a hand-held rotary hammer drill. In order to utilize these vapor pins for future monitoring events, the top of each vapor pin was set within an approximate 1-inch diameter hole and secured with a tamper-proof stainless-steel flush-mounted cover.

The location of VP-1 and VP-2 are shown in Figure 2. Concrete debris and/or soil cuttings generated during the installation of these vapor pins were collected and placed in a labeled and sealed 55-gallon steel drum utilized for temporary storage of the soil cutting generated by the drilling and installation of GEI-13 described above.

Summary

A new monitoring well and two new vapor pins were installed at the Site as required by Ecology to document post-construction Site conditions associated with residual soil contamination remaining in-place beneath portions of the 7th Avenue and South Jackson ROWs following completion of the 2023 Cleanup Action. The *Cleanup Action Report* dated February 20, 2024, documents cleanup action completed by 701 South Jackson QOZB in conjunction with Property redevelopment, nature and extent of residual soil contamination and requirements for post-construction monitoring. Specific details of the post-construction monitoring program will be presented in a Post-Construction Groundwater Compliance Monitoring Plan for Ecology review and approval prior to collection and analysis of samples from the new well and vapor pins.

Please contact us with any questions or concerns.

Sincerely,

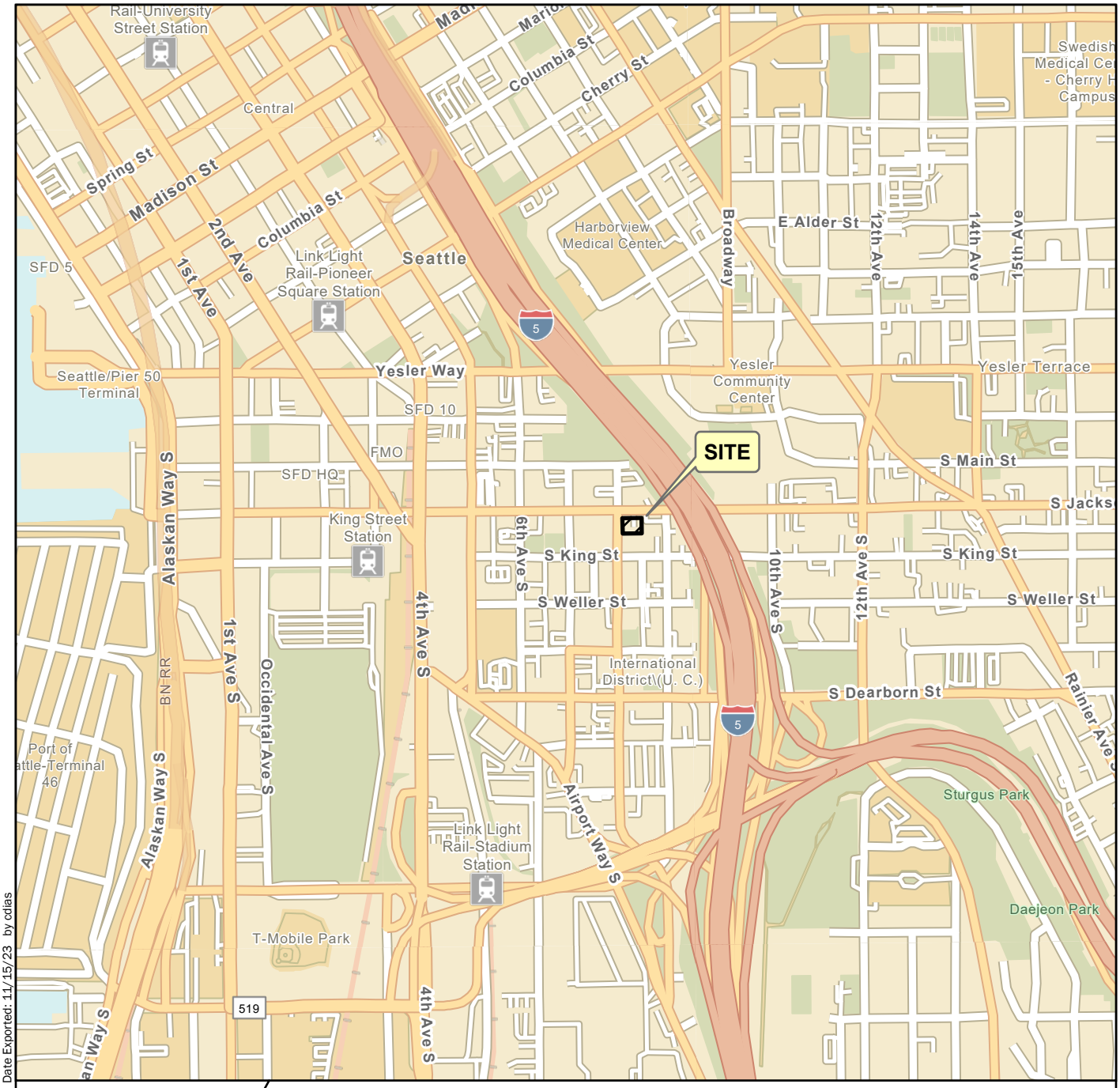
Robert S. Trahan, LG
Senior Environmental Scientist

Mark Havighorst, PE
Associate Environmental Engineer

RST:MH:ch

Attachments:
Figure 1. Vicinity Map
Figure 2. Site Plan
Figure 3. Site Photographs – Well Installation
Figure 4. Site Photographs – Vapor Pin Installation
Well Completion Log

Figures



Source(s):
- ESRI

Coordinate System: NAD 1983 UTM Zone 10N

Disclaimer: This figure was created for a specific purpose and project. Any use of this figure for any other project or purpose shall be at the user's sole risk and without liability to GeoEngineers. The locations of features shown may be approximate. GeoEngineers makes no warranty or representation as to the accuracy, completeness, or suitability of the figure, or data contained therein. The file containing this figure is a copy of a master document, the original of which is retained by GeoEngineers and is the official document of record.

Vicinity Map

701 South Jackson Street
Seattle, Washington

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Figure 1

P:\24\24504001\GIS\24504001_Project\24504001_Project.aprx\VicinityMap Date Exported: 11/15/23 by cdias

Legend

- Property Boundary
- Parcel Boundary
- Topographic Contour (Feet, NAVD88)
- Property Redevelopment Area
- Extent of Residual Soil Contamination
- Vapor Barrier (Planned Extent)
- Monitoring Well (Existing)
- Monitoring Well (New)
- Soil Vapor Pin (New)
- Inferred Groundwater Flow Direction

Note(s):

1. Elevations on this plan reference the North American Vertical Datum of 1988 (NAVD88).

Source(s):

- Aerial from Google Earth Pro dated 5/26/2018.
- LiDAR from Puget Sound Lidar Consortium dated 2016

Projection: WA State Plane, North Zone, NAD83, US Foot

N

0 20

Feet

Site Plan

701 South Jackson Street
Seattle, Washington

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Figure 2

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Photograph 1. Sidewalk Area North of 701/709 South Jackson Street Property (South Jackson Street Right-of-Way Area).

Photograph 2. GEI-13 (Looking West).

Photograph 3. GEI-13 (Looking East).

Site Photographs
Monitoring Well Installation

701/709 South Jackson Street
Seattle, Washington

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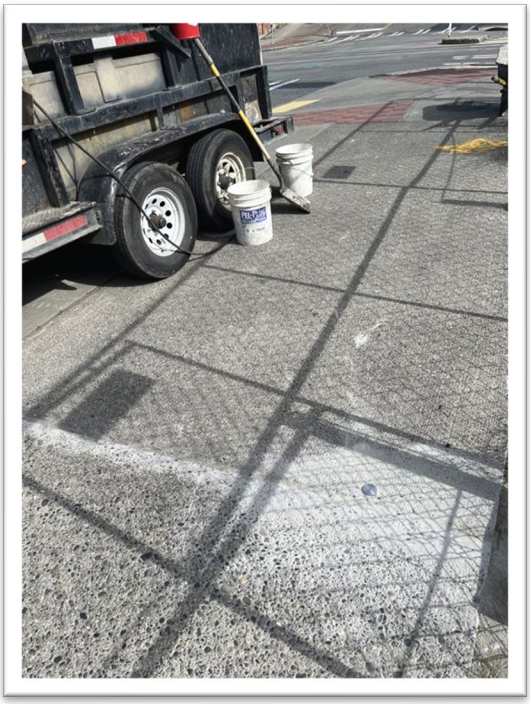
Figure 3

Photograph 4. Sidewalk Area West of 701/709 South Jackson Street Property (7th Avenue South Right-of-Way Area).



Photograph 5. Vapor Pin VP-1.

Photograph 6. Vapor Pin VP-2.

Site Photographs
Vapor Pin Installation

701/709 South Jackson Street
Seattle, Washington

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Figure 4

Well Completion Log

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

Sampler Symbol Descriptions

- Modified California Sampler (6-inch sleeve) or Dames & Moore
- 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.

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

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 load 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

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Figure A-1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	6/5/2024	6/6/2024	75	NRS	RST	Cascade Drilling, LP	Hollow-stem Auger

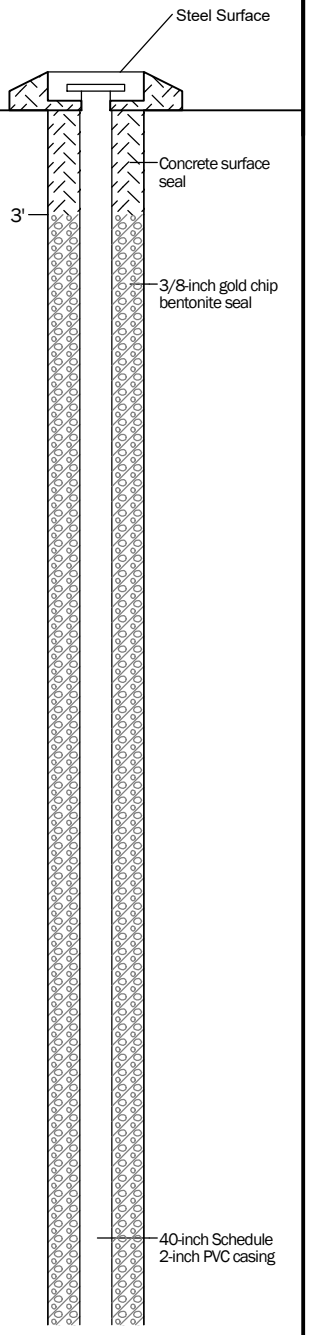
Hammer Data	Autohammer 140 (lbs) / 30 (in) Drop	Drilling Equipment	Truck mounted auger rig
Surface Elevation (ft) Vertical Datum	102.54 NAVD88	Top of Casing Elevation (ft)	102.02
Latitude Longitude	47.599083 122.323348	Horizontal Datum	Decimal Degrees WGS84 (feet)

DOE Well I.D.: BPW 535
A 2-in well was installed on 6/6/2024 to a depth of 75 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
6/6/2024	65.79	36.75

Notes: Air knife utilized to clear boring for potential burried utilities to a depth of approximately 7½ feet below ground surface (bgs)

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)
100	0								CC	Approximately 8 inches of cement concrete pavement		
									SM	Brown silty fine to coarse sand with gravel		
	5		6			S-1					NS	<1
			6			S-2					NS	<1
95	10		18	27		S-3			SM	Brown fine to coarse sand with silt (medium dense, moist)	NS	<1
			18	37		S-4					NS	<1
90	15		16	46		S-5			SM	Gray fine to coarse sand with silt (very dense, moist)	NS	<1
			18	41		S-6			SM	Gray fine to medium sand with silt and a 1-inch silt lens (very dense, moist)	NS	<1
85			18	44		S-7						
80	20		18	55		S-8			SM	Gray fine to medium silty sand (very dense, moist)	NS	<1
	25		18	44		S-9			SP-SM	Gray fine sand with silt (very dense, moist)	NS	<1
75												
	30		18	44		S-10			ML	Gray silt with sand (hard, moist)	NS	<1
70	35											



Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on hand held global positioning system (GPS) field referenced to permanent features. Vertical approximated based on referenced to 2-inch brass dome "City of Seattle 3895 0701" Elevation 98.52 feet (NAVD88).

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Log of Monitoring Well GEI-13

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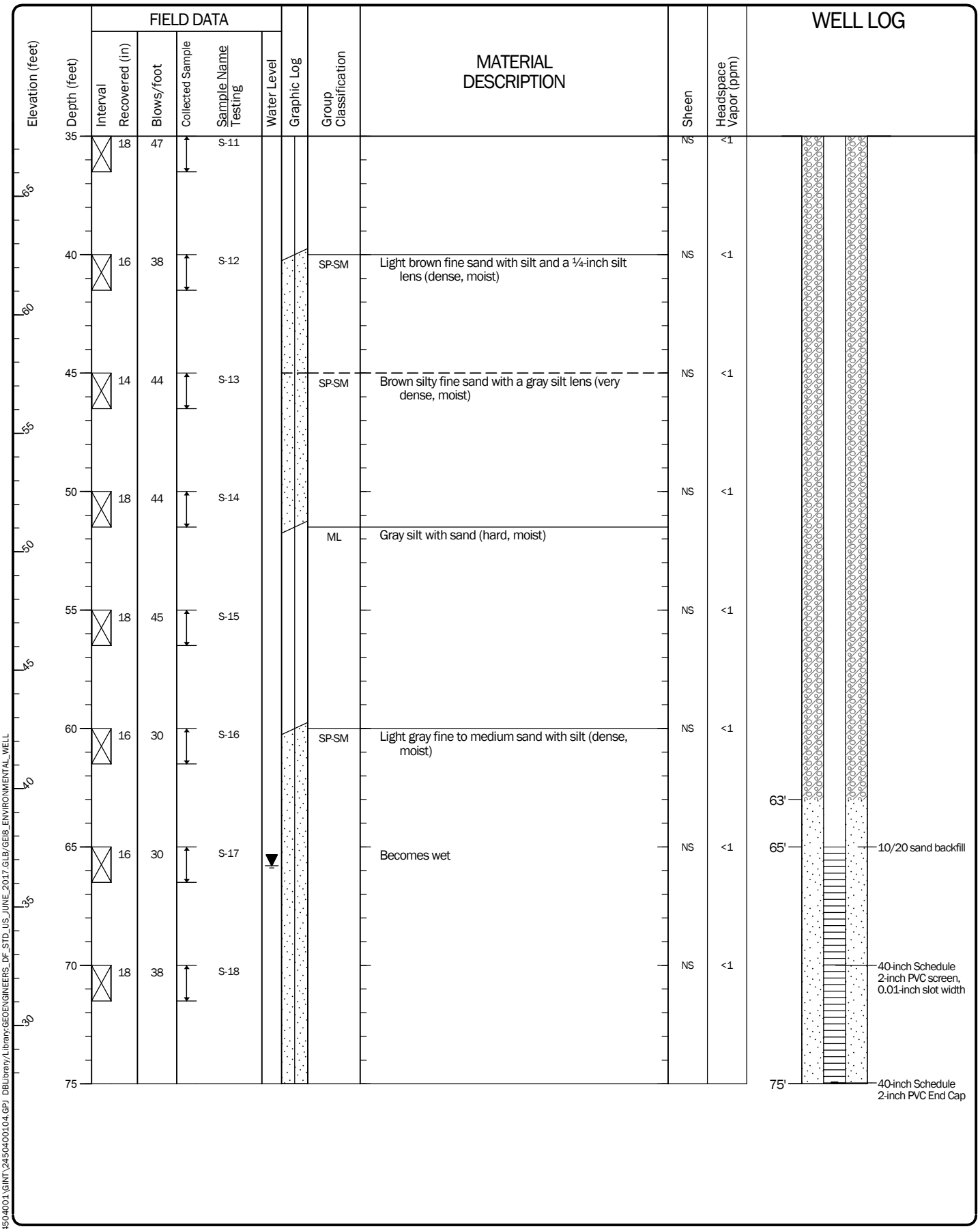
Project: 701/709 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-04

Figure A-2
Sheet 1 of 2



Date:6/11/24 Path:P:\24\24504001\GINT\24504001O4.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_ENVIRONMENTAL_WELL

Log of Monitoring Well GEI-13 (continued)

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Project: 701/709 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-04

Figure A-2
Sheet 2 of 2