



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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April 4, 2025

Jacob Letts
GeoEngineers
1101 Fawcett Ave, Ste 200
Tacoma, Washington 98402
(jletts@geoengineers.com)

RE: Sound Transit NE 45th Street, Sampling of Existing Off-Property Well

Site name: Sound Transit NE 45th St
Property address: 1000 NE 45th St, Seattle, WA 98105
Facility/Site ID: 8342
Cleanup Site ID: 1209

Dear Jacob:

The Department of Ecology (Ecology) understands that GeoEngineers is currently conducting remedial investigation work on behalf of Sound Transit at the Sound Transit NE 45th St Site (Site). This work is being performed under Affordable Housing Planning Grant agreement TCPAHP-2325-SndTrs-00005 and in accordance with an Ecology-approved workplan, dated October 28th, 2024.

Based on our recent conversations, Ecology recognizes that assessment of the downgradient extent of Site groundwater contamination may be impeded within the NE 45th Street right of way due to several site-specific conditions, including subsurface and overhead utility conflicts, an active Seattle trolley line, and significant right-of-way access limitations in the planned exploration area.

As a solution to this issue, Ecology understands that you are proposing to sample an existing off-property well (MW-24) associated with a nearby cleanup site (Shell 120411, CSID 6211). Based on our review of available documents, monitoring well MW-24 is installed within the NE 45th Street pedestrian right-of-way, downgradient of the Sound Transit Site. The sampling history and lithologic log (attached) for well MW-24 indicate that it is screened between approximately 30 and 45 feet below the ground surface and has been sampled for petroleum-related contaminants as recently as 2021.

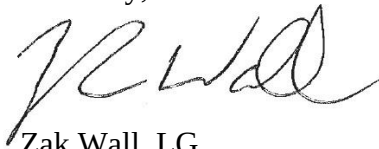
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Ecology agrees that the addition of existing well MW-24 to the Sound Transit NE 45th Site monitoring well network would be beneficial for Site characterization. Specifically, groundwater gauging and analytical data from this well would significantly improve the remedial investigation dataset.

Ecology recommends obtaining access permissions from appropriate parties and providing notification before conducting sampling at well MW-24. Ecology also recommends that you obtain a copy of the driller's log and that you confirm the condition and construction of the well in the field before sampling.

Should you have any questions, please contact me at 425-758-5231 or zak.wall@ecy.wa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Zak Wall', written in a cursive style.

Zak Wall, LG
Cleanup Site Manager
Toxics Cleanup Program, NWRO

Attachments: Lithologic Log for well MW-24
Excerpt from Table 5 of *Feasibility Study & Cleanup Action Plan, University
Shell Station (Shell 120441)*, prepared by ZipperGeo, dated February 11, 2022.

cc: Tyler Benson, Sound Transit (tyler.benson@soundtransit.org)
Ecology Site File

LOG OF EXPLORATORY BORING

PROJECT NAME Shell/University
 LOCATION 1013 Northeast 45th Street, Seattle, WA
 DRILLED BY Holt Testing, Inc.
 DRILL METHOD H.S. Auger
 LOGGED BY Jeff Kirtland

BORING NO. MW-24
 PAGE 1 OF 3
 REFERENCE ELEV. 95.93'
 TOTAL DEPTH 46.00'
 DATE COMPLETED 08/06/91

SAMPLING METHOD AND NUMBER	PID READING (ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
G-1							0 to 0.4 foot: CONCRETE.
SB-2	< 1	33-38-35		5			0.4 to 5.0 feet: SILTY SAND (SM), brown, fine to coarse, little fines, little organic debris, few fine gravel, trace cobbles, damp, loose to medium dense. (FILL)
SB-3	< 1	28-35-20		10			5.0 to 6.2 feet: SAND (SW-SM), brown, fine to coarse, few fine gravel, few fines, trace organics, damp, dense to very dense.
SB-4	2	28-35-20		15			6.2 to 16.5 feet: SILTY SAND (SM), brown to gray, fine to medium, few fines, few fine to coarse rounded gravel, damp, dense to very dense. Interbedded with sandy silt.
				20			16.5 to 25.0 feet: SILT (ML), gray, few very fine sand, damp, very stiff. Interbedded with silty fine sand.



REMARKS

(1) Blow counts do not represent Standard Penetration Test results. (2) SB = 2.5-inch O.D. split barrel sampler with brass rings, driven by 300 lb jars. (3) PID = Photoionization detector results, in ppm. (4) G = Grab sample. (5) REFERENCE ELEVATION represents to of casing relative to a site datum. (6) ATD = At time of drilling.

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SAMPLING METHOD AND NUMBER	PID READING (ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
SB-5	2	22-24-28						
SB-6	2	17-19-30		25				25.0 to 35.0 feet: SILTY SAND (SM), olive-gray, fine to coarse, little fines, few to trace fine to coarse gravel, moist, dense to very dense.
SB-7	14	40-50/3"		30				
SB-8	23	40-50/3"		35				35.0 to 46.5 feet: SAND (SP), gray, fine to medium, few to trace fines, moist to wet, very dense.
			ATD					
				40				



REMARKS

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SAMPLING METHOD AND NUMBER	PID READING (ppm)	BLOWS PER 6-INCHES	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-LOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
SB-9	4.5	25-50/3"						
SB-10	6	10-50/2"		45				
				50				
				55				
				60				

Total depth drilled = 45.0 feet.
 Total depth sampled = 46.0 feet.

WELL COMPLETION DETAILS

0.3 to 29.5 feet: 2-inch-diameter flush-threaded schedule 40 PVC blank riser pipe.
 29.5 to 44.5 feet: 2-inch-diameter flush-threaded schedule 40 PVC well screen with 0.010-inch machined slots.
 44.5 to 44.8 feet: 2-inch-diameter schedule 40 PVC threaded end-cap.
 0 to 2.1 feet: concrete.
 2.1 to 26.3 feet: cement bentonite grout.
 26.3 to 28.1 feet: bentonite chips, hydrated with potable water.
 28.1 to 46.5 feet: 10 - 20 Colorado silica sand.

REMARKS

(1) Blow counts do not represent Standard Penetration Test results. (2) SB = 2.5-inch O.D. split barrel sampler with brass rings, driven by 300 lb jars. (3) PID = Photoionization detector results, in ppm. (4) G = Grab sample. (5) REFERENCE ELEVATION represents to of casing relative to a site datum. (6) ATD = At time of drilling.



SWEET-EDWARDS/EMCON

W56-13.10.UNIVS.L32/cr:4.02/06/92

Table 5. Groundwater Analytical Results Summary



Well ID	Date Sampled	Screen Interval (ft bgs)	Total Petroleum Hydrocarbons (µg/L)			Volatile Petroleum Compounds (µg/L)					Fuel Additives, Blending Compounds, and Other Petroleum Components (µg/L)									
			Gasoline-Range Petroleum Hydrocarbons	Diesel-Range Petroleum Hydrocarbons	Oil-Range Petroleum Hydrocarbons	Benzene	Toluene	Ethylbenzene	Total Xylenes	n-Hexane	1,2 Dibromoethane (EDB)	1,2 Dichloroethane (EDC)	Methyl tertiary butyl ether (MTBE)	Tertiary-butyl alcohol (TBA)	Diisopropyl ether (DIPE)	ethyl tertiary-butyl ether (ETBE)	tertiary-amyl methyl ether (TAME)	Naphthalene	Dissolved Lead	Total Lead
MTCA Method A Cleanup Level ⁽¹⁾			800/ 1,000 ⁽²⁾	500 Total		5	1,000	700	1,000	480 ⁽³⁾	0.01	5	20	NE	NE	NE	NE	160	15	15
MW-23	1/14/2013	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	5/28/2013	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	7/30/2013	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	11/14/2013	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	2/26/2014	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	7/22/2014	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	1/20/2015	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	8/6/2015	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	2/4/2016	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	8/3/2016	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	2/24/2017	35.24-50.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-23	8/10/2017	35.24-50.24	Unable to access																	
MW-24	8/21/1991	29.5-44.5	2,000	---	---	750	300	67	227	---	---	200	---	---	---	---	---	---	---	12.0
MW-24	3/30/1992	29.5-44.5	1,700	---	---	260	38	19	37	---	---	< 20	---	---	---	---	---	---	---	6.70
MW-24	9/15/1992	29.5-44.5	450	---	---	43	2.6	3.0	6.2	---	---	---	---	---	---	---	---	---	---	---
MW-24	4/20/1993	29.5-44.5	190	---	---	240	7.4	1.8	5.2	---	---	---	---	---	---	---	---	---	---	---
MW-24	9/27/1993	29.5-44.5	420	---	---	29	3.4	1.5	7.6	---	---	---	---	---	---	---	---	---	---	---
MW-24	4/28/1994	29.5-44.5	82	---	---	110	4.1	1.0	3.5	---	---	---	---	---	---	---	---	---	---	---
MW-24	10/18/1994	29.5-44.5	150	---	---	45	0.90	ND	2.9	---	---	---	---	---	---	---	---	---	---	---
MW-24	1/25/1995	29.5-44.5	90	---	---	74	1.6	2.9	4.6	---	---	---	---	---	---	---	---	---	---	---
MW-24	4/18/1995	29.5-44.5	95	---	---	30	ND	ND	2.1	---	---	---	---	---	---	---	---	---	---	8.40
MW-24	7/17/1995	29.5-44.5	ND	---	---	18	ND	0.60	1.2	---	---	---	---	---	---	---	---	---	---	---
MW-24	1/21/1996	29.5-44.5	370	---	---	30	ND	1.6	0.30	---	---	---	---	---	---	---	---	---	---	---
MW-24	1/21/1997	29.5-44.5	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---
MW-24	1/26/1998	29.5-44.5	ND	---	---	ND	ND	ND	ND	---	---	---	< 5.0	---	---	---	---	---	---	---
MW-24	3/16/1999	29.5-44.5	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---
MW-24	6/30/2000	29.5-44.5	< 50	---	---	< 0.5	< 0.5	< 0.5	< 1.0	---	---	---	---	---	---	---	---	---	---	---
MW-24	10/30/2000	29.5-44.5	< 50.0	---	---	< 0.500	< 0.500	< 0.500	< 1.00	---	---	---	---	---	---	---	---	---	---	---
MW-24	4/4/2001	29.5-44.5	< 50.0	---	---	< 0.500	< 0.500	< 0.500	< 1.00	---	---	---	---	---	---	---	---	---	---	---
MW-24	10/8/2001	29.5-44.5	< 50.0	---	---	< 0.500	< 0.500	< 0.500	< 1.00	---	---	---	---	---	---	---	---	---	---	---
MW-24	4/24/2002	29.5-44.5	< 50.0	---	---	< 0.500	< 0.500	< 0.500	< 1.00	---	---	---	---	---	---	---	---	---	---	---

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MTCA Method A Cleanup Level ⁽¹⁾			800/ 1,000 ⁽²⁾	500 Total		5	1,000	700	1,000	480 ⁽³⁾	0.01	5	20	NE	NE	NE	NE	160	15	15
MW-24	6/19/2007	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	12/7/2007	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	6/18/2008	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	12/3/2008	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	6/29/2009	29.5-44.5	< 100	< 100	870	< 0.50	< 1.0	< 1.0	< 1.0	---	< 0.010	< 0.50	---	---	---	---	---	---	---	6.24
MW-24	12/15/2009	29.5-44.5	< 100	< 100	160	< 0.50	< 1.0	< 1.0	< 1.0	---	---	---	< 1.0	< 10	< 2.0	< 2.0	< 2.0	---	---	---
MW-24	6/4/2010	29.5-44.5	< 100	< 100	< 100	< 0.50	< 1.0	< 1.0	< 1.0	---	---	< 0.50	< 1.0	< 10	< 2.0	< 2.0	< 2.0	---	---	---
MW-24	12/1/2010	29.5-44.5	< 100	< 100	< 100	< 0.50	< 1.0	< 1.0	< 1.0	---	---	< 0.50	---	---	---	---	---	---	---	---
MW-24	6/16/2011	29.5-44.5	< 100	< 94.3	< 236	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	< 1.00	< 20.0	< 1.00	< 1.00	< 1.00	---	---	---
MW-24	8/12/2011	29.5-44.5	< 100	< 95.2	< 238	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	3/15/2012	29.5-44.5	< 100	< 94.3	< 94.3	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	5/3/2012	29.5-44.5	< 100	< 94.3	< 94.3	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	< 1.00	< 10.0	< 1.00	< 1.00	< 1.00	---	---	---
MW-24	7/25/2012	29.5-44.5	< 25	< 240	< 470	< 1.0	< 1.0	< 1.0	< 2.0	---	---	< 1.0	---	---	---	---	---	---	---	---
MW-24	10/24/2012	29.5-44.5	< 100	95.8	706	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	1/14/2013	29.5-44.5	< 100	< 95.2	< 95.2	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	5/28/2013	29.5-44.5	< 100	< 94.3	130	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	< 1.00	< 10.0	< 2.00	< 1.00	< 1.00	---	---	---
MW-24	7/30/2013	29.5-44.5	< 100	< 105	195	< 1.00	< 1.00	< 1.00	< 2.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	11/14/2013	29.5-44.5	< 100	< 100	< 100	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	2/26/2014	29.5-44.5	< 100	< 94.3	< 94.3	< 1.00	< 1.00	< 1.00	< 3.00	---	---	< 1.00	---	---	---	---	---	---	---	---
MW-24	7/22/2014	29.5-44.5	< 100	< 93.9	< 93.9	< 1.00	< 1.00	< 1.00	< 2.00	---	---	< 1.00	< 1.00	< 10.0	< 2.00	< 1.00	< 1.00	---	---	---
MW-24	1/20/2015	29.5-44.5	< 100	< 94.3	< 94.3	< 1.00	< 1.00	< 1.00	< 2.00	---	---	2.02	---	---	---	---	---	---	---	---
MW-24	8/6/2015	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	2/4/2016	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	8/3/2016	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	2/24/2017	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	8/10/2017	29.5-44.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-24	9/30/2021	29.5-44.5	<100	<60	<300	<0.35	<1	<1	<2	<5	<0.01	2.2	<1	---	---	---	---	<1	<1	---