

SCS ENGINEERS

October 31, 2012
File No. 04209040.00

Ms. Maura O'Brien
Washington State Department of Ecology
3910 160th Avenue Southeast
Bellevue, Washington 98008

Subject: Dry-Season Monitoring 2012, Kenmore Industrial Park

Dear Maura:

This letter report documents 2012 dry-season groundwater monitoring at the Kenmore Industrial Park, Ecology site No. 2348. This monitoring event was conducted at the request of the Washington Department of Ecology (Ecology) to evaluate groundwater conditions related to deferred industrial maintenance work at the site.

Groundwater monitoring was conducted on October 3 and 19, 2012. Samples were collected from four monitoring wells on October 3 (AW-6, AW-9, AW-11R, and AW-12) and from one well on October 19 (AW-10R(2)). A duplicate sample was collected at well AW-6. The groundwater samples were collected by SCS Engineers and analyzed by OnSite Environmental, Inc., of Redmond, Washington. Split samples were collected by Ecology. Field procedures consisted of using low-flow sampling techniques following the guidelines outlined in the *Groundwater Monitoring Work Plan, Kenmore Industrial Park*, July 21, 2009. Field parameters measured at the time of sampling included temperature, pH, conductivity, dissolved oxygen, and turbidity. Laboratory analyses included dissolved arsenic, dissolved barium, dissolved lead, and total petroleum hydrocarbon (TPH) products in the diesel and oil ranges. In addition, monitoring wells AW-6, and AW-11R were analyzed for semi-volatile organic compounds (SVOCs), dissolved copper, dissolved cadmium, and dissolved zinc.

During the original monitoring event, well AW-10R was found to be damaged and required replacement. The replacement well, AW-10R(2), was drilled and installed to a depth of 20 feet below ground surface on October 12 by Cascade Drilling. A copy of the well log for AW-10R(2) is attached.

Depth to groundwater level measurements were collected on October 3. On October 3, a water level measurement was not obtained in damaged well AW-10R. Depth to groundwater was measured on October 19, in new well AW-10R(2). Groundwater level measurements were compared to Lake Washington surface water elevations recorded by the U.S. Army Corps of Engineers at a gage located in Kenmore. Surface water level measurements collected by the Corps of Engineers are relative to the mean lower low water (MLLW) datum. The monitoring well elevations at the site are relative to the King County Aerial Survey Datum, which uses the

North American Vertical Datum of 1988 (NAVD 88). The vertical difference in the datums is 2.44 feet. Therefore, Lake Washington surface water elevations reported by the Corps of Engineers need to be corrected by -2.44 feet to be on the same datum as the Kenmore Industrial Park monitoring wells (see attached information published by the Corps of Engineers).

On October 3, 2012 the corrected lake level was reported at 18.13 feet (see attached Lake Washington gage data). The lake elevation was 3.51 feet lower than the groundwater elevation measured at well AW-9, and 0.61 to 0.82 feet higher than the groundwater elevations measured at wells AW-12 and AW-6, respectively. Therefore, the groundwater gradient beneath the site was from the upland to the lake, with a slightly inward gradient at AW-6, AW-11 (assumed), and AW-12 (see Figure 3).

The laboratory results are considered acceptable without qualifiers. Samples were preserved on ice until delivered to the laboratory the same day as collected. Samples were analyzed at the laboratory within USEPA recommended holding times. Diethylphthalate was detected in the method blank for semivolatiles by method 8270D. Diethylphthalate was not detected above the method detection limit in any of the samples. No flags or qualifiers are required for the analyzed samples. No further detections were found in the method blanks, which were analyzed for each method. Results for laboratory duplicate analyses, surrogate recovery analyses, and spike analyses met USEPA recommendations. Laboratory results for the duplicate samples collected from AW-6 were acceptable, as test results were within 20% relative percent difference or five times the method reporting limit (see Tables 2 and 3).

The analytical results for this sampling event are presented on Tables 1 through 3. Analytical results are consistent with previous results and none of the analytical results exceeded the cleanup standards listed in the Cleanup Action Plan. These results indicate that deferred maintenance work at the facility has not adversely impacted groundwater quality.

Test results were input into the Ecology Environmental Information Management (EIM) database. Copies of the field sampling data sheets and laboratory reports are attached.

Ms. Maura O'Brien
October 31, 2012
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If you have any questions regarding the sampling program or test results please do not hesitate to call me at (425) 746-4600.

Sincerely,



Kevin Lakey, LHG, PE
Project Director
SCS ENGINEERS



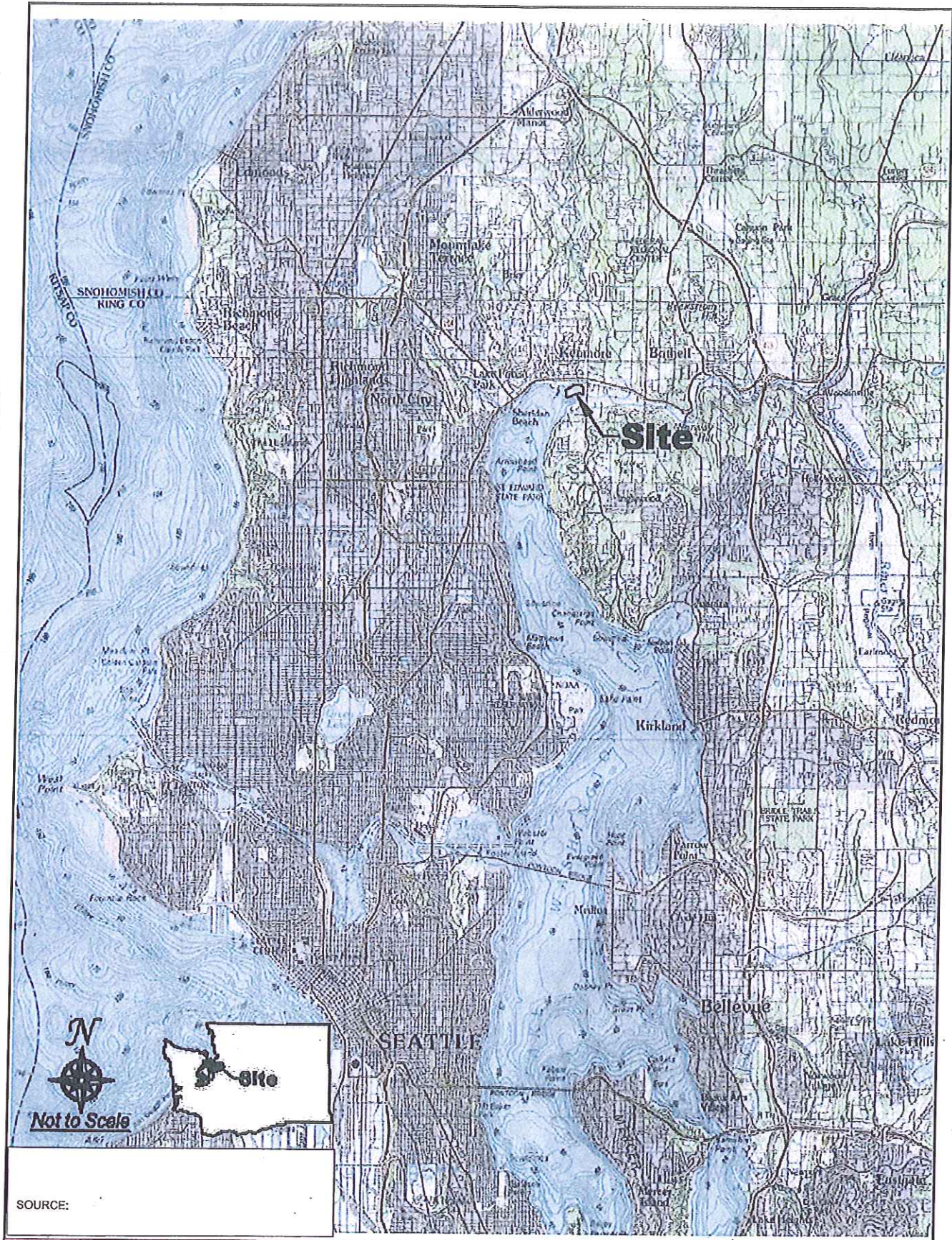
Sam Adlington
Associate Staff Engineer
SCS ENGINEERS

Attachments: Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Water Level Map
Table 1: Field Parameters
Table 2: Groundwater Monitoring Results
Table 3: Groundwater Monitoring Results
Laboratory Reports
Field Sampling Data Sheets
AW-10R(2) Boring Log
Lake Washington Surface Elevations for October 3, 2012

cc: Gary Sergeant, Pioneer Towing
Paul Beveridge, Beveridge Law
Kate Snider, Floyd & Snider

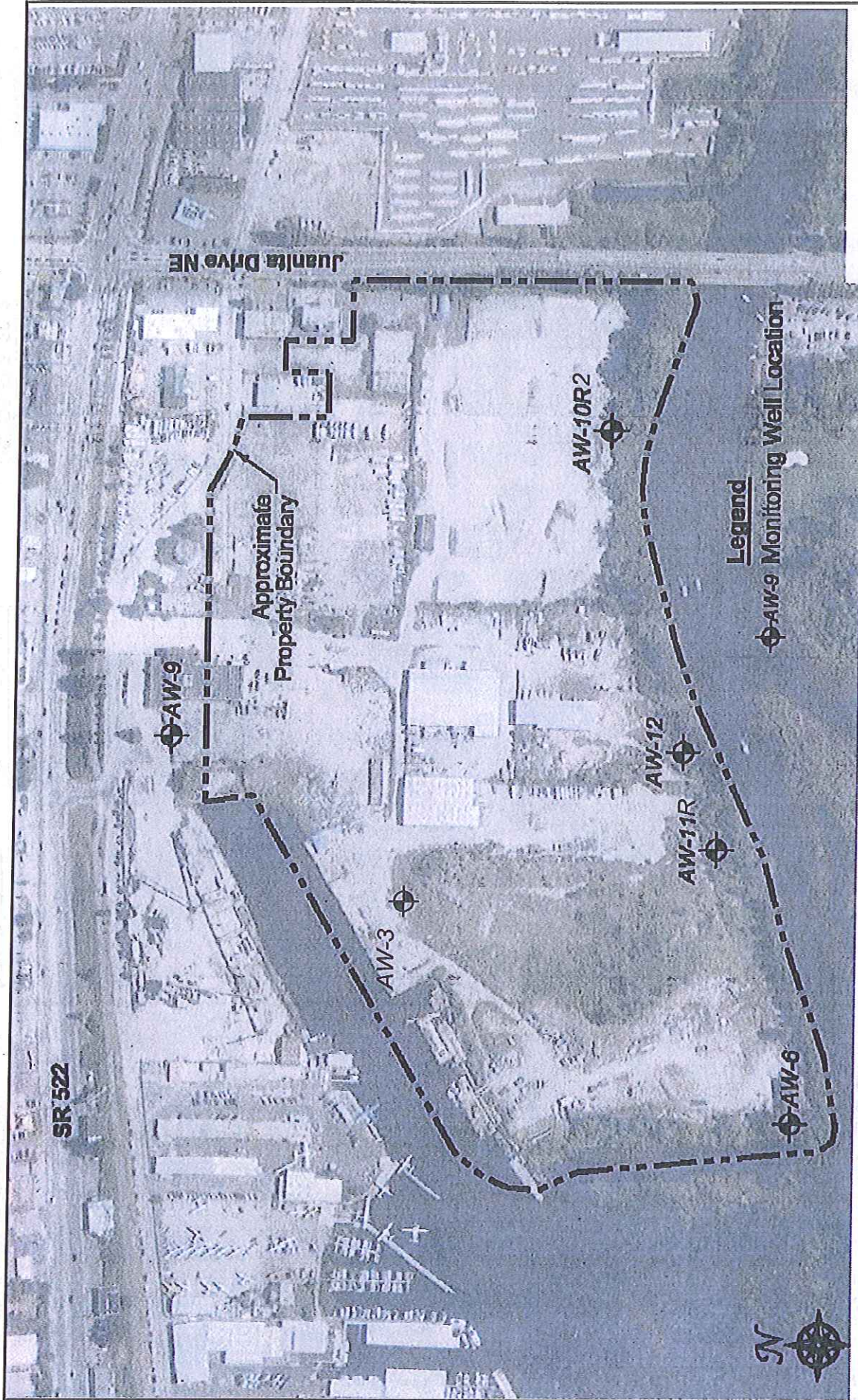


KEVIN G. LAKEY



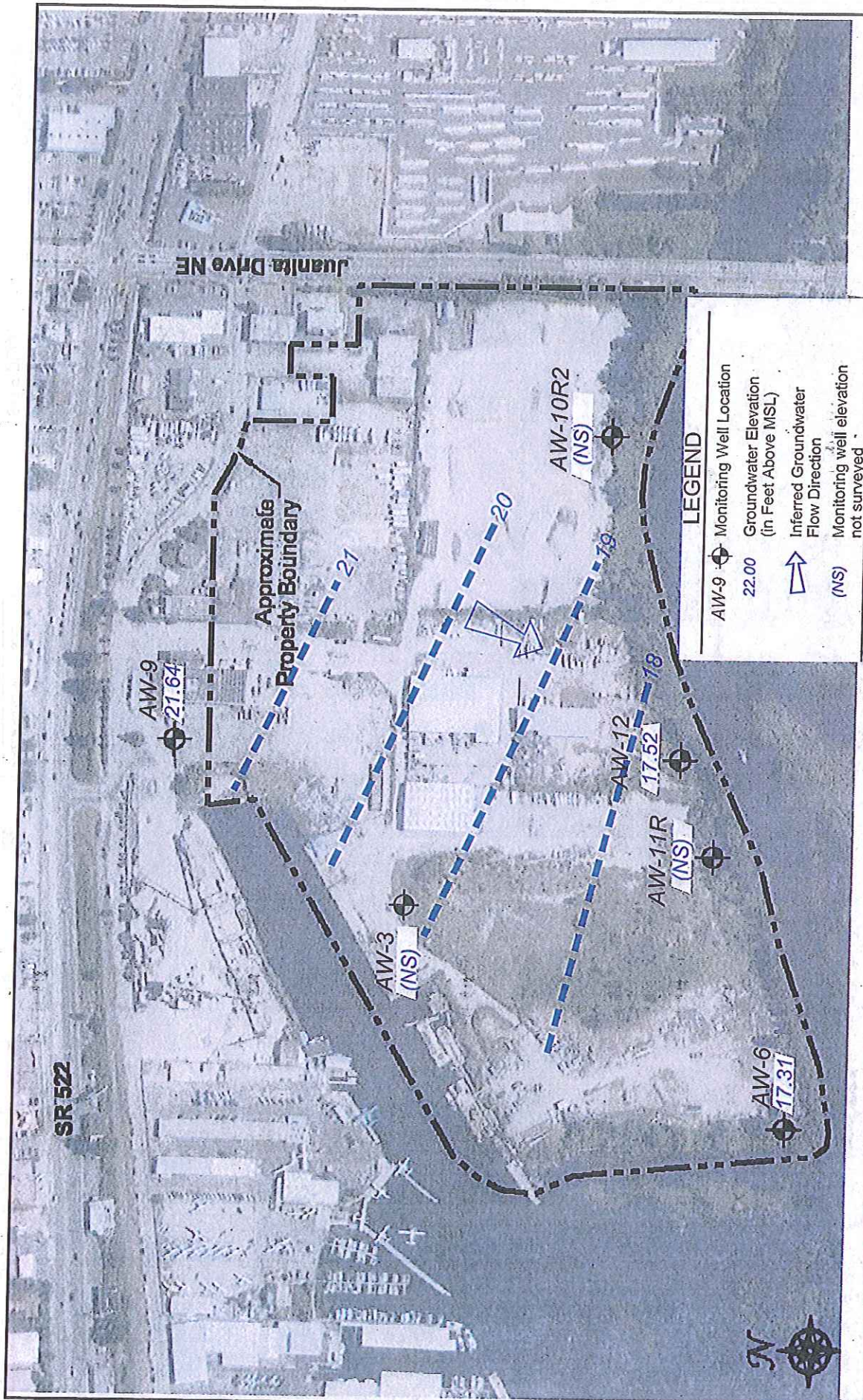
SOURCE:

SCS ENGINEERS Environmental Consultants and Contractors 2405 140th Avenue NE, Suite 107 Bellevue, Washington 98005 (425) 746-4600 FAX: (425) 746-6747	PROJECT NO. 04209040.00	DES BY S.A.	SITE VICINITY KENMORE INDUSTRIAL PARK KENMORE, WASHINGTON	DATE OCTOBER 2012
	SCALE AS SHOWN	CHK BY E.S.		FIGURE 1
	CAD FILE FIGURE 1	APP BY K.L.		



SOURCE:

SCS ENGINEERS		PROJECT NO. 04209040.00	DES BY S.A.	DATE OCTOBER 2012
Environmental Consultants and Contractors 2405 140th Avenue NE, Suite 107 Bellevue, Washington 98005 (425) 746-4600 FAX: (425) 746-6747		SCALE AS SHOWN	CHK BY E.S.	FIGURE 2
		CAD FILE FIGURE 2	APP BY K.L.	
		SIT PLAN		
		KENMORE INDUSTRIAL PARK		
		KENMORE, WASHINGTON		



LEGEND

- AW-9 Monitoring Well Location
- 22.00 Groundwater Elevation (in Feet Above MSL)
- Inferred Groundwater Flow Direction
- (NS) Monitoring well elevation not surveyed

SCS ENGINEERS Environmental Consultants and Contractors 2405 140th Avenue NE, Suite 107 Bellevue, Washington 98005 (425) 746-4600 FAX: (425) 746-6747		PROJECT NO. 04209040.00	DES. BY S.A.	WATER LEVEL MAP OCTOBER 3, 2012		DATE OCTOBER 2012
		SCALE AS SHOWN	CHK. BY E.S.	KENMORE INDUSTRIAL PARK KENMORE, WASHINGTON		FIGURE 3
		CAD FILE FIGURE 3	APP. BY K.L.			

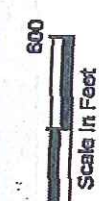


Table 1
Kenmore Industrial Park, Groundwater Monitoring Results
Field Parameters

Well	Sample No.	Sample Date	Depth to Water	Water Level Elevation	pH	Conductivity (µS)	Dissolved Oxygen (mg/L)	Temperature (°C)
Background AW-9	KIP-0909-01	9/9/2009	8.56	21.66	5.99	165	1.31	19.6
Background AW-9	KIP-0110-01	1/18/2010	7.01	23.21	5.26	224	0.26	13.1
Background AW-9	KIP-0412-01	4/3/2012	7.22	23.00	6.06	190	0.27	12.2
Background AW-9	KIP-0412-01	4/27/2012	7.46	22.76	—	—	—	—
Background AW-9	KIP-1012-01	10/3/2012	8.58	21.64	6.07	187	0.26	16.5
AW-6	KIP-0909-05R	9/9/2009	10.96	17.50	6.53	1252	1.52	15.6
AW-6	KIP-0110-05	1/19/2010	11.08	17.38	6.29	1429	0.25	11.9
AW-6	KIP-0412-01	4/3/2012	10.12	18.34	6.52	1127	0.18	11.0
AW-6	KIP-0412-01	4/27/2012	9.67	18.79	—	—	—	—
AW-6	KIP-1012-02	10/3/2012	11.15	17.31	6.56	1267	0.19	14.9
AW-10R	KIP-0909-02	9/9/2009	10.75	19.25	6.73	1059	1.05	12.6
AW-10R	KIP-0110-02	1/18/2010	10.15	19.85	6.17	525	0.20	9.6
AW-10R	KIP-0412-01	4/3/2012	9.86	20.14	6.19	306	0.10	7.7
AW-10R(2)	KIP-1012-06	10/19/2012	9.84	20.16	—	—	—	—
AW-11	KIP-0909-04	9/9/2009	10.21	—	6.43	562	0.18	11.7
AW-11	KIP-0110-04	1/18/2010	11.76	17.83	6.54	1314	1.17	14.8
AW-11R	KIP-0412-05	4/3/2027	11.75	17.84	6.39	908	0.14	9.5
AW-11R	KIP-0412-05	4/27/2012	—	—	—	—	—	—
AW-11R	KIP-1012-04	10/3/2012	15.51	—	6.37	1140	0.14	11.2
AW-12	KIP-0909-03	9/9/2009	16.73	—	6.52	1327	0.24	13.4
AW-12	KIP-0110-03	1/18/2010	12.11	17.71	6.51	1042	0.51	14.0
AW-12	KIP-0412-01	4/3/2012	12.07	17.75	6.38	1081	0.19	12.6
AW-12	KIP-0412-01	4/27/2012	11.41	18.41	6.49	942	0.19	11.2
AW-12	KIP-1012-05	10/3/2012	12.30	17.52	6.42	789	0.21	12.7

Notes: (-) indicates not measured.

Water level elevations for AW-10R are approximate, based on an assumed elevation from abandoned well AW-10.

Table 2
 Kenmore Industrial Park, Groundwater Monitoring Results
 Dissolved Metals and Total Petroleum Products (TPH)
 All concentrations are presented in milligrams per liter (mg/l)

Well	Sample No.	Sample Date	TPH		Dissolved Metals							
			Diesel Range	Oil Range	As	Ba	Pb	Cd	Cu	Zn		
Background	KIP-0909-01	9/9/2009	<0.25	<0.40	<0.003	<0.025	<0.001	—	—	—	—	—
Background	KIP-0110-01	1/18/2010	<0.27	<0.43	<0.003	<0.025	<0.001	—	—	—	—	—
Background	KIP-0412-01	4/3/2012	<0.27	<0.43	<0.003	<0.025	<0.001	—	—	—	—	—
Background	KIP-1012-01	10/3/2012	<0.27	<0.43	<0.003	<0.025	<0.001	—	—	—	—	—
AW-6		1/18/2001	<0.25	<0.75	—	—	—	—	—	—	—	—
AW-6		3/26/2001	—	—	0.001	0.54	0.002	—	—	—	—	—
AW-6	KIP-0909-5R	9/10/2009	<0.27	<0.43	<0.003	0.86	<0.001	—	—	—	—	—
AW-6 DUPL	KIP-0909-06	9/10/2009	<0.25	<0.40	<0.003	0.89	<0.001	—	—	—	—	—
AW-6	KIP-0110-05	1/19/2010	<0.26	<0.41	<0.003	0.54	<0.001	—	—	—	—	—
AW-6 DUPL	KIP-0110-06	1/19/2010	<0.26	<0.42	<0.003	0.55	<0.001	—	—	—	—	—
AW-6	KIP-0412-04	4/3/2012	<0.28	<0.44	<0.003	0.41	0.002	<0.004	<0.010	<0.025	<0.025	<0.025
AW-6 DUPL	KIP-0412-05	4/3/2012	<0.26	<0.42	<0.003	0.40	0.002	<0.004	<0.010	<0.025	<0.025	<0.025
AW-6	KIP-1012-02	10/3/2012	<0.27	<0.43	<0.003	0.84	<0.001	<0.004	<0.010	<0.025	<0.025	<0.025
AW-6 DUPL	KIP-1012-03	10/3/2012	<0.27	<0.43	<0.003	0.83	<0.001	<0.004	<0.010	<0.025	<0.025	<0.025
AW-10R	KIP-0909-02	9/9/2009	<0.25	<0.40	<0.003	0.25	<0.001	—	—	—	—	—
AW-10R	KIP-0110-02	1/18/2010	<0.26	<0.41	<0.003	0.11	0.003	—	—	—	—	—
AW-10R	KIP-0412-02	4/3/2012	<0.26	<0.42	<0.003	0.12	0.001	—	—	—	—	—
AW-10R(2)	KIP-1012-06	10/19/2012	<0.27	<0.44	<0.003	<0.025	<0.001	—	—	—	—	—
AW-11		3/26/2001	<0.25	<0.75	0.001	0.86	<0.001	—	—	—	—	—
AW-11	KIP-0909-04	9/9/2009	<0.25	<0.40	<0.003	0.87	<0.001	—	—	—	—	—
AW-11	KIP-0110-04	1/18/2010	<0.28	<0.45	<0.003	0.49	<0.001	—	—	—	—	—
AW-11R	KIP-0412-05	4/27/2012	<0.28	<0.45	<0.003	0.55	0.002	<0.004	<0.010	<0.025	<0.025	<0.025
AW-11R	KIP-1012-04	10/3/2012	<0.27	<0.43	<0.003	0.91	0.001	<0.004	<0.010	<0.025	<0.025	<0.025
AW-12		3/26/2001	<0.25	<0.75	0.002	0.19	<0.001	—	—	—	—	—
AW-12	KIP-0909-03	9/9/2009	<0.25	<0.40	<0.003	0.24	<0.001	—	—	—	—	—
AW-12	KIP-0110-03	1/18/2010	<0.27	<0.43	<0.003	0.12	<0.001	—	—	—	—	—
AW-12	KIP-0412-03	4/3/2012	<0.27	<0.42	<0.003	0.12	<0.001	—	—	—	—	—
AW-12	KIP-1012-05	10/3/2012	<0.26	<0.42	<0.003	0.18	<0.001	—	—	—	—	—
		Site Cleanup Levels	0.50	0.50	0.005	1.0	0.014	—	—	—	—	—

Notes:
 DUPL = duplicate sample

Table 3
 Kenmore Industrial Park, Groundwater Monitoring Results
 Polynuclear Aromatic Hydrocarbons
 All concentrations are presented in micrograms per liter (µg/l)

Well	Sample No.	Sample Date	Polynuclear Aromatic Hydrocarbons										Total PAH	Total cPAH	TEF-Corrected Total cPAH										
			NAPH	2-MN	1-MN	ACEN	ACE	FLUOR	PHEN	ANTH	FLUORA	PYR				B(a)A	CHRY	B(b)F	B(k)F	B(a)P	I(1,2,3-c)P	DB(a,h)A	B(ghi)P		
AW-6	KIP-0909-5R	9/10/2009	0.20	0.10	0.19	<0.10	2.10	0.73	<0.10	0.13	0.13	<0.10	<0.10	<0.10	0.053	0.054	0.060	0.019	0.033	0.018	<0.01	0.020	3.84	0.262	0.054
AW-6 DUPL	KIP-0909-5	9/10/2009	0.19	0.11	0.20	<0.10	2.20	1.00	<0.10	<0.10	<0.10	<0.10	<0.10	0.023	0.019	0.023	<0.01	0.021	0.013	<0.01	0.015	3.82	0.116	0.027	
AW-6	KIP-0110-05	1/19/2010	<0.10	<0.10	<0.10	<0.10	1.20	0.59	<0.10	<0.10	<0.10	<0.10	<0.10	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.90	0.011	0.001	
AW-6 DUPL	KIP-0110-06	1/19/2010	<0.10	<0.10	<0.10	<0.10	1.30	0.68	<0.10	<0.10	<0.10	<0.10	<0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.98	0.000	0.000	
AW-6	KIP-0412-04	4/3/2012	0.10	<0.10	<0.10	<0.10	0.74	0.34	<0.10	<0.10	<0.10	<0.10	<0.10	0.025	0.059	0.052	0.012	0.044	0.019	<0.01	0.017	1.36	0.184	0.011	
AW-6 DUPL	KIP-0412-05	4/3/2012	<0.10	<0.10	<0.10	<0.10	0.64	0.29	<0.10	<0.10	<0.10	<0.10	<0.10	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.94	0.014	0.001	
AW-6	KIP-1012-02	10/3/2012	0.51	<0.48	<0.48	0.48	1.70	0.60	<0.48	<0.48	<0.48	<0.48	<0.48	0.055	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	3.35	0.055	0.006	
AW-6 DUPL	KIP-1012-03	10/3/2012	0.49	<0.49	<0.49	<0.49	1.70	0.65	<0.49	<0.49	<0.49	<0.49	<0.49	0.058	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	2.90	0.058	0.006	
AW-11	KIP-0909-4	9/9/2009	<0.10	<0.10	<0.10	<0.10	1.30	0.64	<0.10	<0.10	<0.10	<0.10	<0.10	0.033	0.031	0.036	0.012	0.028	0.016	<0.01	0.018	2.37	0.174	0.003	
AW-11R	KIP-0110-04	1/18/2010	<0.10	<0.10	<0.10	<0.10	0.99	0.78	<0.10	0.100	0.100	0.100	0.100	0.040	0.039	0.044	0.030	0.044	0.026	<0.01	0.032	2.48	0.255	0.004	
AW-11R	KIP-0412-05	4/27/2012	0.23	0.11	0.16	<0.099	1.00	0.51	<0.099	<0.099	<0.099	<0.099	<0.099	0.030	0.022	0.077	0.057	0.057	0.055	<0.050	0.071	2.38	0.369	0.003	
AW-11R	KIP-1012-04	10/3/2012	<0.48	<0.48	<0.48	<0.48	1.20	0.66	<0.48	<0.48	<0.48	<0.48	<0.48	0.054	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	1.91	0.054	0.005	
MTC Method A Unrestricted Use Groundwater Cleanup Levels			160																						

Notes:
 DUPL = duplicate sample
 PAH = polynuclear aromatic hydrocarbons
 PAHs analyzed by EPA Method 8270
 ACE = acenaphthene
 ACEN = acenaphthylene
 ANTH = Anthracene
 B(a)A = Benz(a)anthracene
 B(a)P = Benz(a)pyrene
 B(b)F = Benz(b)fluoranthene
 B(k)F = Benz(k)fluoranthene
 TEF = toxicity equivalency factor for Benz(a)P-yrene
 *Level presented is for the sum of the carcinogenic PAHs listed in WAC 173-340-708(6)(e)(ii) adjusted based on TEFs relative to benz(a)pyrene

I(1,2,3-c)P = Indeno(1,2,3-cd)pyrene
 NAPH = Naphthalene
 1-MN = 1-Methylnaphthalene
 2-MN = 2-Methylnaphthalene
 PHEN = Phenanthrene
 PYR = Pyrene

B(ghi)P = Benz(ghi)perylene
 B(k)F = Benz(k)fluoranthene
 CHRY = Chrysene
 DB(a,h)A = Dibenz(a,h)anthracene
 FLUOR = Fluorene
 FLUORA = Fluoranthene

SCS ENGINEERS

BORING LOG

2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005-1877

BORING NUMBER: AW-10R(2) Page 1 of 1

**Kenmore Industrial Park
AW-10R Replacement Well
Kenmore, Washington**

JOB NUMBER: 04209040.00

REMARKS:
Ecology Card BHS 497

Depth		Sample Information					Graphic Log	Description	Completion Detail
meters	feet	Sample Location	Sample Number	Blow Counts	OVM (ppm)	USCS Soil Class.			
0	0							8-inch diameter locking monument	
1	1					SW	Brown-grey sand, Very fine grained to medium grained, moist	Concrete Seal	
2	2					SP	Same as above mixed with black to brown silty wooded debris. Moist to wet.	Bentonite Chip Back Fill	
3	3					FILL	Same as above with increasing wooded debris with depth.	Solid PVC Pipe	
4	4					FILL	Wood debris. Black-brown, some silt content, approximately 15% by volume. Wet, no odor or sheen.	#10 Slotted Screen in 20/40 Sand	
5	5					FILL	Same as above, wet.	4-inch Threaded Cap	
6	6						End of drilling.		
7	7								
8	8								
9	9								
10	10								
11	11								
12	12								
13	13								
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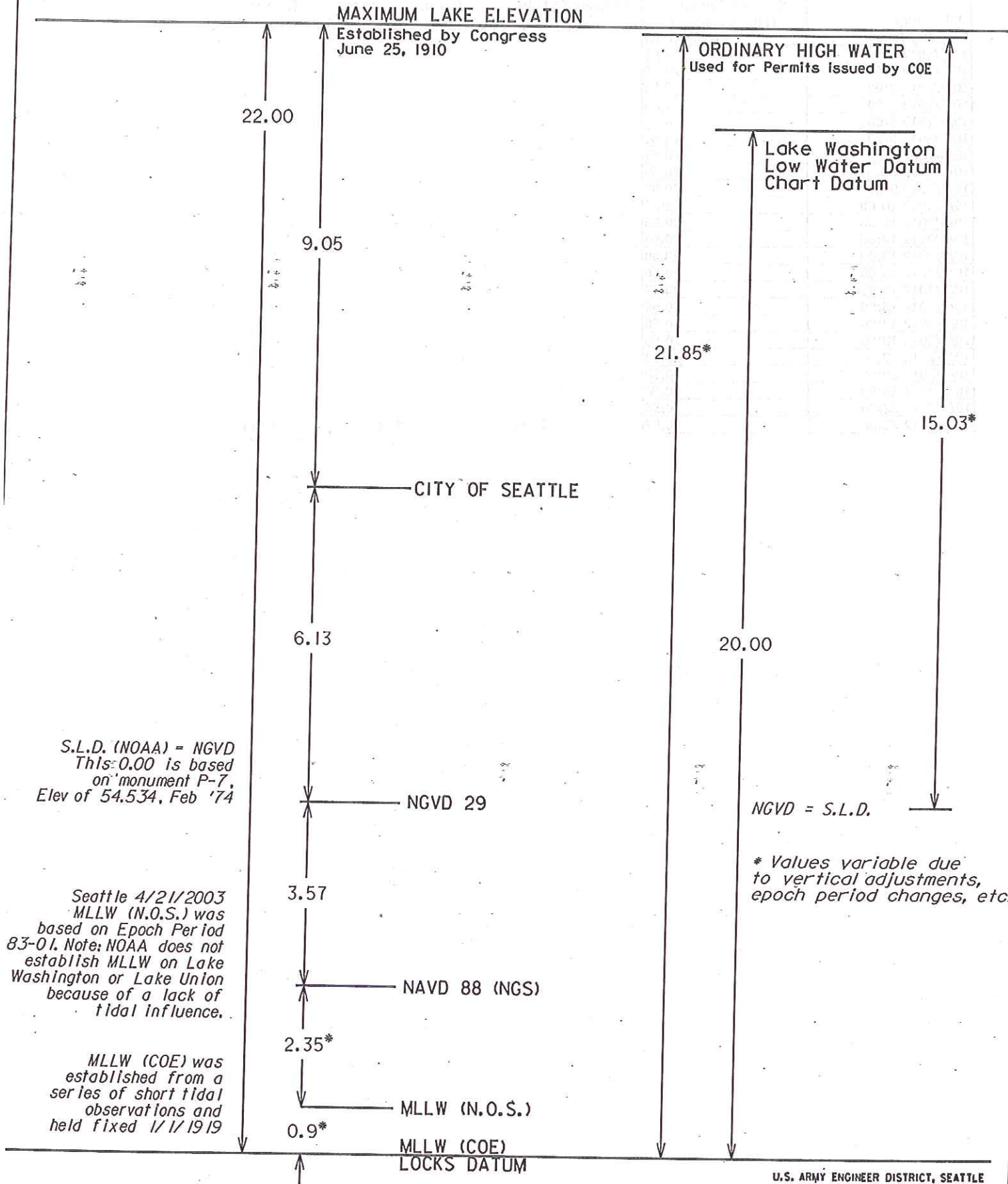
STANDARD LOG: KENMORE INDUSTRIAL PARK 04209040.00.GPJ STD_LOG.GDT: 10/31/12

Drilling Company: Cascade	Date Started: 10/12/12	Depth to Water: 11.5 ft.
Drilling Method: Hollow Stem Auger	Date Ended: 10/12/12	Total Depth: 20.0 ft.
Logged By: Sam Adlington	Boring Diameter: 8-inch	

Lake Washington Elevation; October 3, 2012
 Kenmore Station

Date-Time	Surface Elevation (MLLW datum) Elevation (ft)	Average (MLLW datum)	Datum Adjustment	Average (NAVD 88 datum)
10/3/2012 1:00	20.6			
10/3/2012 2:00	20.59			
10/3/2012 3:00	20.58			
10/3/2012 4:00	20.6			
10/3/2012 5:00	20.59			
10/3/2012 6:00	20.56			
10/3/2012 7:00	20.56			
10/3/2012 8:00	20.56			
10/3/2012 9:00	20.59			
10/3/2012 10:00	20.6			
10/3/2012 11:00	20.56			
10/3/2012 12:00	20.56			
10/3/2012 13:00	20.58			
10/3/2012 14:00	20.56			
10/3/2012 15:00	20.57			
10/3/2012 16:00	20.58			
10/3/2012 17:00	20.56			
10/3/2012 18:00	20.56			
10/3/2012 19:00	20.58			
10/3/2012 20:00	20.58			
10/3/2012 21:00	20.56			
10/3/2012 22:00	20.56			
10/3/2012 23:00	20.57	20.57	-2.44	18.13

DATUM PLANES VICINITY OF LAKE WASHINGTON



S.L.D. (NOAA) = NGVD
This 0.00 is based
on monument P-7,
Elev of 54.534, Feb '74

Seattle 4/21/2003
MLLW (N.O.S.) was
based on Epoch Period
83-01. Note: NOAA does not
establish MLLW on Lake
Washington or Lake Union
because of a lack of
tidal influence.

MLLW (COE) was
established from a
series of short tidal
observations and
held fixed 1/1/1919

NGVD = S.L.D.

* Values variable due
to vertical adjustments,
epoch period changes, etc.