

TECHNICAL MEMORANDUM

TO: Joan Davenport and Jeff Cutter, City of Yakima
Kurt Peterson, Cascadia Law Group PLLC

FROM: Jeffrey Fellows, P.E. and Tim Syverson, L.G.

DATE: November 26, 2014

RE: **CLOSED CITY OF YAKIMA LANDFILL SITE
SEPTEMBER 2014 SOIL AND GROUNDWATER INVESTIGATION
SUMMARY AND RESULTS**

INTRODUCTION

This technical memorandum summarizes the results of the September 2014 soil and groundwater investigation conducted at the Closed City of Yakima Landfill Site (Site) located in Yakima, Washington. The investigation was implemented based on the approach outlined in the draft Remedial Investigation (RI) Work Plan, dated August 11, 2014 (Landau Associates 2014). The location of the Site is shown on Figure 1.

The investigation was implemented between August 26 and September 17, 2014; key activities associated with the investigation are presented in Table 1. Samples were collected and the subsequent analytical results managed using the procedures and methodologies outlined in the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP), included as part of the draft Work Plan (Landau Associates 2014).

SOIL BORINGS AND MONITORING WELLS

Soil borings (i.e., SB-100 through SB-109) were advanced using a truck-mounted, hollow-stem augur drill rig and were subsequently completed as groundwater monitoring wells (i.e., MW-100 through MW-109); see Figure 2 for the boring/well locations. Seven of the borings were advanced through the known extent of municipal solid waste (MSW; i.e., SB-102 through SB-108) using a step-down methodology to limit the potential for drawdown of MSW into the underlying soil and groundwater. Screens for the groundwater monitoring wells installed within the known extent of MSW were placed between 2 and 3 feet (ft) beneath the MSW, as identified at the time of drilling. The groundwater wells were developed a minimum of 24 hours after installation. Logs for the 10 new borings/monitoring wells are provided in Appendix A.

SOIL SAMPLING AND ANALYTICAL PROGRAM

Soil samples were collected for chemical analysis from each soil boring based on the approach outlined in the draft Work Plan. Table 2 presents the soil sampling and analytical program for the September 2014 investigation. As indicated in Table 2, insufficient soil volume was available at locations SB-100, SB-101, and SB-103 for collection of a near surface soil sample for chemical analysis, predominately because of the presence of wood debris at those locations.

As outlined in the draft Work Plan, soil samples were initially screened by the laboratory using hydrocarbon identification (HCID) methodology prior to subsequent follow-up analysis for total petroleum hydrocarbons (TPH) in the gasoline (TPH-G) or diesel (TPH-Dx) ranges depending on the HCID result. If subsequent TPH-Dx analysis was required, the sample was analyzed with and without silica gel cleanup (SGC). The soil samples were analyzed for hexavalent chromium only if total chromium was detected in the sample at a concentration above the laboratory reporting limit (RL). As indicated in Table 2, analysis for conventional parameters (specifically nitrate as N) for several samples was not completed within the method-recommended holding time either because of a laboratory issue or the additional analysis was requested after the holding time had elapsed.

GROUNDWATER SAMPLING AND WATER LEVEL MEASUREMENTS

Groundwater samples were collected for chemical analysis from 24 groundwater wells in September 2014, including the 10 newly-installed wells and 14 existing wells¹. Table 3 presents the groundwater sampling and analytical program for the September 2014 investigation.

Prior to the collection of groundwater samples for chemical analysis, water levels were measured at the 24 wells identified for sampling along with 4 additional existing wells². Wells MW-2, MW-3, and MW-4 could not be located at the time of water level measurement or groundwater sampling; MW-1 was identified, but was locked and could not be accessed for groundwater level measurement. Water levels across the well network were measured within the shortest practical time period to provide representative and comparable groundwater elevations for the purpose of evaluating groundwater flow direction.

Water levels were also measured at the previously identified river gauges (i.e., RG-1 through RG-4); however, the river gauge data were not included in the groundwater elevation evaluation since the reported gauge locations and elevation data are suspect and not considered sufficiently accurate relative to the groundwater well data. The groundwater well and several potential river gauge locations were surveyed as part the September investigation. Table 4 presents the survey data and the corresponding

¹ MWs-6, -7, -8, -9A, -11, -12, -14, -15, -16, -17, -18, TP-1, TP-2, and FPP-3

² MWs-5, -10, FPP-1, and FPP-2

groundwater elevations, and Figure 3 shows the groundwater elevation contours based on the September 2014 investigation information.

As previously mentioned for the soil analytical approach, the groundwater samples were also screened by the laboratory using HCID methodology to determine whether follow-on analysis (i.e., for TPH-G and/or TPH-Dx) was warranted. If follow-on analysis for TPH-Dx was conducted, the sample was analyzed with and without SGC. As indicated in Table 3, extraction/analysis of conventional parameters (specifically nitrate as N) and hexavalent chromium for several samples was not completed within the method-recommended holding time either because of laboratory issues, sample delivery issues in the case of very short holding times (e.g., 24 hours for hexavalent chromium), or because the additional analysis was requested after the holding time had elapsed.

ANALYTICAL RESULTS – SEPTEMBER 2014

The analytical results for the September 2014 soil and groundwater investigation are presented in Tables 5 and 6, respectively. The results are compared to the preliminary screening levels (PSLs) established in the draft Work Plan for the media evaluated. Field parameters (i.e., temperature, specific conductivity, dissolved oxygen, pH, oxidation reduction potential, and turbidity) measured at the time of groundwater sample collection are also presented in Table 6.

Based on the PSLs established for soil in the draft Work Plan, none of the soil samples analyzed had exceedances of a corresponding PSL for the analyses conducted. However, the results of the groundwater sample analyses identified exceedances (based on the corresponding groundwater PSLs) of the following:

- diesel-range organics (with and without SGC) – MW-12, MW-101
- oil-range organics (without SGC) – MW-12, MW-101
- total metals (iron, manganese, and sodium) – various locations
- dissolved metals (iron, manganese, and sodium) – various locations
- conventionals (fluoride) – MW-101
- field parameters (pH) – various locations
- volatile organic compounds (chloroform) – MW-9A
- semivolatile organic compound (3,3-dichlorobenzidine) – MW-15
- semivolatile organic compound [bis(2-ethylhexyl)phthalate] – MW-8

Groundwater PSL exceedance information, including percent exceedances by chemical and corresponding concentration ranges, are summarized in Table 7.

NEXT STEPS

Based on the approach outlined in the draft Work Plan, the following is a summary of the primary investigation components to be implemented as part of ongoing Site RI activities:

- October 2014 – Additional MSW investigation and gas probe installation (completed)
- December 2014 – Groundwater (2nd quarter)³ and Site-wide gas probe network sampling
- March 2015 – Groundwater sampling (3rd quarter)
- June 2015 – Groundwater (4th quarter) and Site-wide gas probe network sampling
- Summer 2015 – Supplemental RI report preparation.

Based on the results of the additional MSW investigation, installation of the additional new gas probes along the eastern MSW boundary will be scheduled once the access agreement for gas probe placement is finalized with the Washington State Department of Transportation (currently in negotiation). Additional exploration of the extent of MSW may still be required in limited locations. Additional gas probe installation and MSW exploration will be scheduled to coincide with the planned Site activities noted above, to the extent practicable and as needed.

³ Based on the results of the September 2014 groundwater investigation and the dynamics associated with the extremely short holding time (24 hours), hexavalent chromium is not scheduled to be included with subsequent groundwater analytical evaluation.

LIMITATIONS

This investigation data summary has been prepared for the exclusive use of the City of Yakima, Cascadia Law Group PLLC, and respective agencies for specific application to the closed City of Yakima Landfill Site. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

This document has been prepared under the supervision and direction of the following key staff.

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REFERENCES

Landau Associates. 2014. *DRAFT Work Plan, Remedial Investigation, Closed City of Yakima Landfill Site, Yakima, Washington*. Prepared for the City of Yakima. August 11.

ATTACHMENTS

Figure 1 – Vicinity Map

Figure 2 – Soil and Groundwater Investigation Locations September 2014

Figure 3 – Groundwater Elevation Contours September 2014

Table 1 – September 2014 Investigation Activities

Table 2 – Soil Analytical Program – September 2014

Table 3 – Groundwater Analytical Program – September 2014

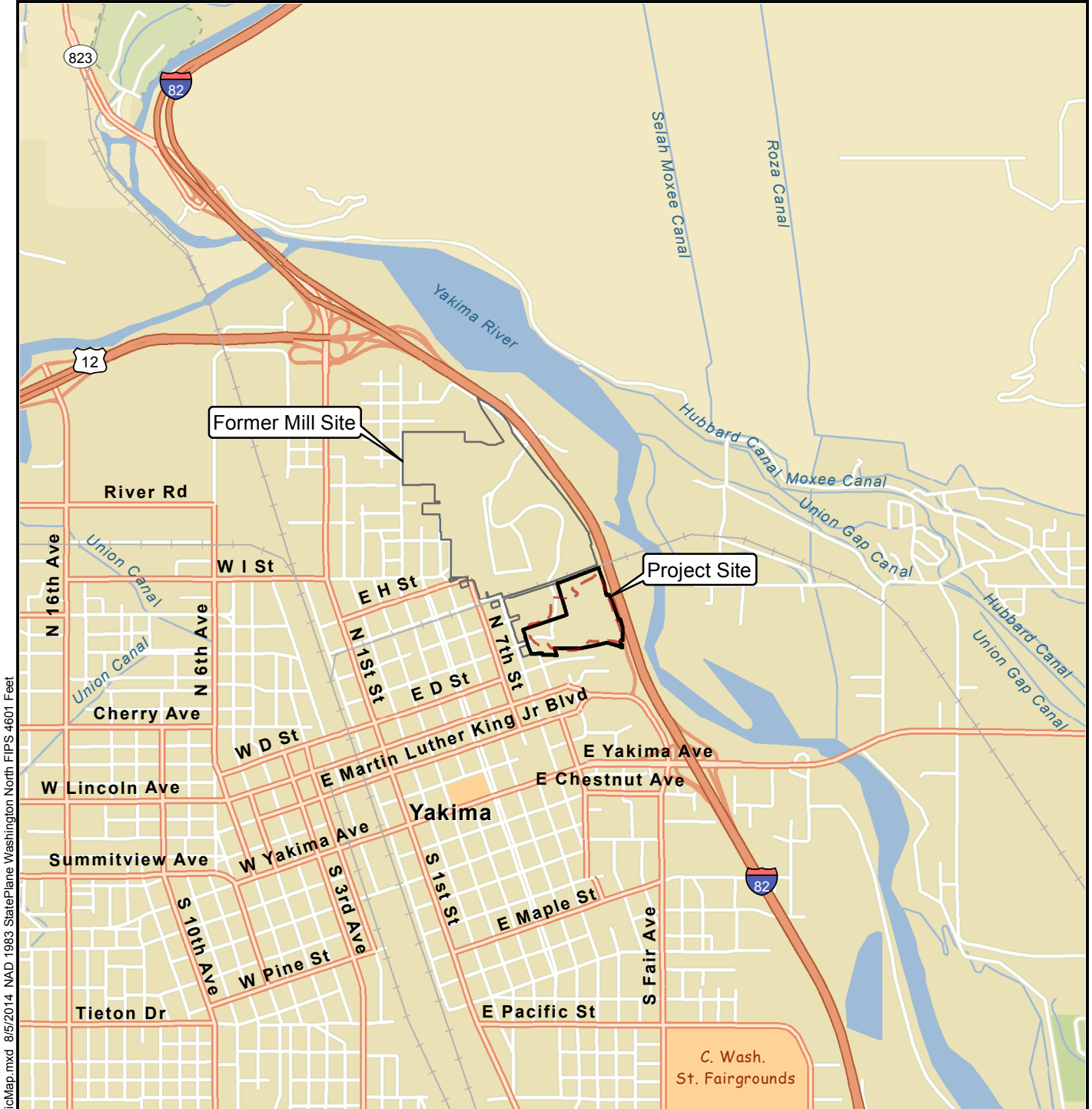
Table 4 – Groundwater Elevation Data – September 2014

Table 5 – Soil Analytical Results

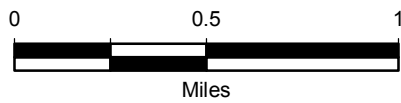
Table 6 – Groundwater Analytical Results

Table 7 – Groundwater Preliminary Screening Level Exceedances

Appendix A – Investigation Boring/Monitoring Well Logs



G:\Projects\1148\008\010\Remedial Investigation\F01\VicMap.mxd 8/5/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet



Data Source: Esri 2012

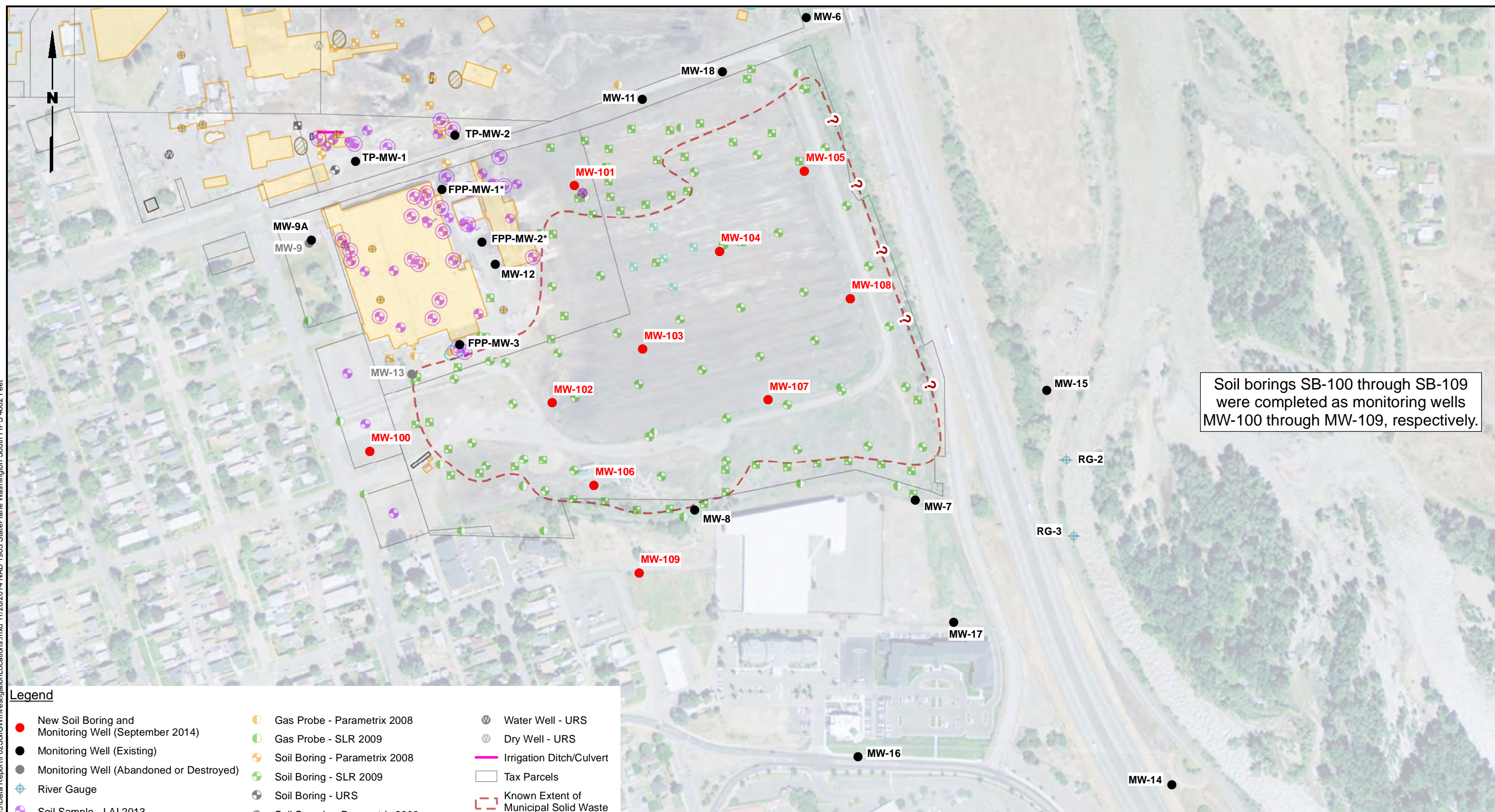


Closed City of Yakima
Landfill Site
Yakima, Washington

Vicinity Map

Figure
1

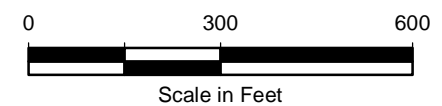
G:\Projects\1148\008\010\015\Data Report\F02Soil\GWInvestigationLocations.mxd 11/26/2014 NAD 1983 StatePlane Washington South FIPS 4602 Feet



Soil borings SB-100 through SB-109 were completed as monitoring wells MW-100 through MW-109, respectively.

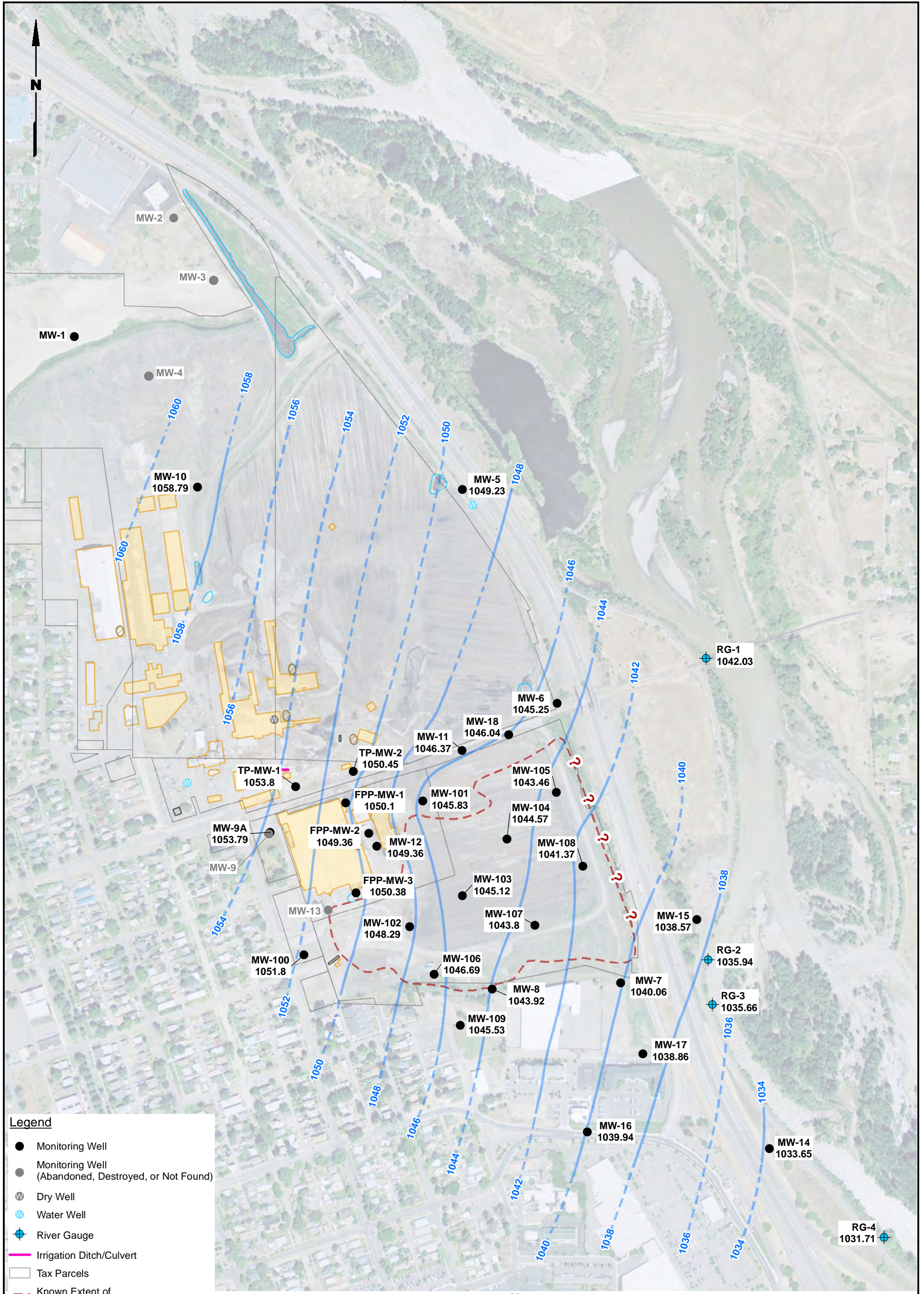
Legend			
● (Red)	New Soil Boring and Monitoring Well (September 2014)	● (Black)	Monitoring Well (Existing)
● (Grey)	Monitoring Well (Abandoned or Destroyed)	● (Black)	Monitoring Well (Abandoned or Destroyed)
⊕ (Blue)	River Gauge	⊕ (Black)	Water Well - URS
⊕ (Purple)	Soil Sample - LAI 2013	⊕ (Grey)	Dry Well - URS
⊕ (Purple)	Soil and Groundwater Sample - LAI 2013	— (Pink)	Irrigation Ditch/Culvert
⊕ (Purple)	Surface Water Sample - LAI 2013	□ (White)	Tax Parcels
⊕ (Purple)	Vapor Sample - LAI 2013	— (Red Dashed)	Known Extent of Municipal Solid Waste
⊕ (Purple)	Wood Debris Sample - LAI 2013	□ (Yellow)	Building
⊕ (Orange)	Gas Probe - Parametrix 2008	□ (Light Yellow)	Former Building
⊕ (Green)	Gas Probe - SLR 2009	□ (Light Blue)	Existing or Former Pond
⊕ (Green)	Soil Boring - Parametrix 2008	□ (Light Blue)	Septic Tank
⊕ (Green)	Soil Boring - SLR 2009	□ (Grey)	Other Features
⊕ (Green)	Soil Boring - URS		
⊕ (Green)	Soil Sample - Parametrix 2008		
⊕ (Green)	Surface Water Sample - Parametrix 2008		
⊕ (Green)	Test Pit - Parametrix 2008		
⊕ (Green)	Test Pit - SLR 2009		
⊕ (Green)	Test Pit - URS		
⊕ (Green)	Test Pit - Boise Cascade 1985		

Notes
 1. Locations of site features and sample locations are approximate.
 2. * Monitoring wells FPP-MW-1 and FPP-MW-2 were not included in the September sampling program.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

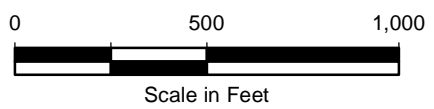


Data Sources: Yakima County GIS; Esri World Imagery; SLR; URS; Parametrix 2008; Boise 1985.

Closed City of Yakima Landfill Site Yakima, Washington	Soil and Groundwater Investigation Locations September 2014	Figure 2
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- Legend**
- Monitoring Well
 - Monitoring Well (Abandoned, Destroyed, or Not Found)
 - ⊙ Dry Well
 - ⊕ Water Well
 - ⊕ River Gauge
 - Irrigation Ditch/Culvert
 - ▭ Tax Parcels
 - - - Known Extent of Municipal Solid Waste
 - ▭ Building
 - ▭ Former Building
 - ▭ Existing or Former Pond
 - ▭ Septic Tank
 - ▭ Other Features



Notes

1. River Gauges 1 through 4 (RG-1 through RG-4) were not used in generation of groundwater contours.
2. Locations of site features and sample locations are approximate.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: Yakima County GIS; Esri World Imagery; SLR; URS; Parametrix 2008; Boise 1985.

Closed City of Yakima Landfill Site Yakima, Washington	Groundwater Elevation Contours September 2014	Figure 3
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TABLE 1
SEPTEMBER 2014 INVESTIGATION ACTIVITIES
CLOSED CITY OF YAKIMA LANDFILL SITE

Date	Activity
8/26/2014	Boring locations marked for the public one call utility locate service
8/27/2014	Open site-specific ticket for the public one call utility locate service
9/2/2014	Cleared planned boring locations with a private utility locate service
9/2/2014-9/11/2014	Sampled soil from soil borings: SB-100 through SB-109
9/2/2014-9/12/2014	Installed Monitoring Wells: MW-100 through MW-109
9/4/2014-9/12/2014	Developed Monitoring Wells: MW-100 through MW-109
9/15/2014	Collected groundwater elevation data from site-wide monitoring well network
9/15/2014-9/17/2014	Sampled groundwater from 24 monitoring wells consisting of 10 new and 14 pre-existing wells
9/16/2014-9/17/2014	Coordinated survey of monitoring wells (new and pre-existing), river gauges, and property line (eastern and southern extent of landfill parcel)

**TABLE 2
SOIL ANALYTICAL PROGRAM - SEPTEMBER 2014
CLOSED CITY OF YAKIMA LANDFILL SITE**

Analytical Test	Method	Notes	Soil Boring (September 2014) (a)																					
			U		U		MSW		MSW		MSW		MSW		MSW		MSW		D					
			SB-100	SB-101	SB-102	SB-103	SB-104	SB-105	SB-106	SB-107	SB-108	SB-109												
Actual Sample Depth (ft BGS)	13.5-14	17.5-18.5	4-5	15-15.5	20.5-21.5	2.5-3	19-20	2.5-3.5	17.5-19	2.5-3.5	13.5-14.5	2.5-3.5	16-17	2.5-3.5	21.5-22.5	5-5.5	12.5-13							
Metals	EPA 6020	As, Ba, Cd, Cr, Pb, Fe, Mn, Se, Ag, Na	No shallow sample collected (insufficient soil volume recovered)	No shallow sample collected (predominately wood debris)	No shallow sample collected (insufficient soil volume above MSW)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Mercury	EPA 7471					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hexavalent Chromium	EPA 7196					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Chlorinated Pesticides	EPA 8081 (LL)					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PCBs	EPA 8082 (LL)					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VOCs	EPA 8260					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOCs	EPA 8270					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PAHs	EPA 8720-SIM					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TPH-HCID	NWTPH-HCID					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TPH-Dx	NWTPH-Dx w/SGC								X			X		X		X		X		X				
TPH-Dx	NWTPH-Dx w/o SGC								X			X		X		X		X		X				
TPH-G	NWTPH-G													X										
Conventionals	EPA 300.0M	Fluoride, Nitrate, and Nitrite				X	X (b)	X	X	X	X (b)	X (b)	X (b)	X (b)	X (b)	X	X	X	X	X	X (b)	X (b)	X	X
pH	EPA 9045					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ft BGS = feet below ground surface
EPA = US Environmental Protection Agency
HCID = Hydrocarbon Identification
LL = lower limit
PAHs = Polycyclic Aromatic Hydrocarbons
PCBs = Polychlorinated Biphenyls

SGC = silica gel cleanup
SVOCs = Semivolatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
TPH-Dx = Diesel-range extended petroleum hydrocarbons
TPH-G = Gasoline-range petroleum hydrocarbons
VOCs = Volatile Organic Compounds

Ag = Silver
As = Arsenic
Ba = Barium
Cd = Cadmium
Cr = Chromium

Fe = Iron
Mn = Manganese
Na = Sodium
Pb = Lead
Se = Selenium

U = upgradient boring
D = downgradient boring
MSW = Municipal Solid Waste boring

(a) Soil borings SB-100 through SB-109 were completed as groundwater monitoring wells MW-100 through MW-109, respectively.
(b) Analyses completed outside the method-recommended hold time.

**TABLE 3
GROUNDWATER ANALYTICAL PROGRAM - SEPTEMBER 2014
CLOSED CITY OF YAKIMA LANDFILL SITE**

Analytical Test	Method	Notes	Existing Monitoring Wells													New Monitoring Wells (September 2014)										
			U	D	D	U	U	U	D	D	D	D	U	U	U	U	U	U	MSW	MSW	MSW	MSW	MSW	MSW	MSW	D
			6	7	8	9A	11	12	14	15	16	17	18	TP-1	TP-2	FPP-3	100	101	102	103	104	105	106	107	108	109
Metals (Total)	EPA 200.8	As, Ba, Ca, Cd, Cr, Fe, Pb, Mg, Mn, Na, Se, Ag	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Metals (Dissolved)	EPA 200.8	As, Ba, Ca, Cd, Cr, Fe, Pb, Mg, Mn, Na, Se, Ag	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mercury (Total)	EPA 7471		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mercury (Dissolved)	EPA 7470		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hexavalent Chromium (Total)	EPA 7196			X	X (a)	X	X	X		X		X	X			X (a)		X	X	X	X	X	X	X	X	X
Hexavalent Chromium (Dissolved)	EPA 7196			X	X (a)	X	X	X		X		X	X			X (a)		X	X	X	X	X	X	X	X	X
Chlorinated Pesticides	EPA 8081 (LL)			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
PCBs	EPA 8082 (LL)			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
VOCs	EPA 8260 SIM/8260C			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
SVOCs	EPA 8270D			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
PAHs	EPA 8720 SIM		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TPH-HCID	NWTPH-HCID		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TPH-Dx	NWTPH-Dx w/SGC							X																		
TPH-Dx	NWTPH-Dx w/o SGC							X																		
TPH-G	NWTPH-G																									
Conventionals	EPA 300.0	Fluoride, Nitrate, Nitrite, Chloride, Sulfate	X (a)	X	X	X	X	X	X (a)	X	X (a)	X	X	X (a)	X (a)	X	X	X	X	X	X	X	X	X	X	X
Alkalinity (as Ca CO3)	SM2320B			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
Bicarbonate (HCO3)	SM2320B			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
Ammonia (NH3-N)	EPA 350.1			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
TOC	SM5310C			X	X	X	X	X		X		X	X			X		X	X	X	X	X	X	X	X	X
TDS	SM2540C			X	X	X (a)	X (a)	X (a)		X		X	X (a)			X		X	X	X	X	X	X	X	X	X

EPA = U.S. Environmental Protection Agency
 HCID = Hydrocarbon Identification
 LL = lower limit
 PAHs = Polycyclic Aromatic Hydrocarbons
 PCBs = Polychlorinated Biphenyls
 SGC = Silica Gel Cleanup
 SVOCs = Semivolatile Organic Compounds

SIM = Select Ion Monitoring
 TDS = Total Dissolved Solids
 TOC = Total Organic Carbon
 TPH = Total Petroleum Hydrocarbons
 TPH-Dx = Diesel-range extended petroleum hydrocarbons
 TPH-G = Gasoline-range petroleum hydrocarbons
 VOCs = Volatile Organic Compounds

Ag = Silver
 As = Arsenic
 Ba = Barium
 Ca = Calcium
 Cd = Cadmium
 Cr = Chromium
 Fe = Iron
 Mg = Magnesium
 Mn = Manganese
 Na = Sodium
 Pb = Lead
 Se = Selenium

U = Upgradient well location
 D = Downgradient well location
 MSW = Municipal solid waste well location

(a) Analyses completed outside the method-recommended hold time.

**TABLE 4
GROUNDWATER ELEVATION DATA - SEPTEMBER 2014
CLOSED CITY OF YAKIMA LANDFILL SITE**

Monitoring Well Identification	Northing	Easting	Elevation					Notes
			Top of Casing Lid	Top of PVC	Ground Surface	Depth to Water	Groundwater	
MW-1	469401.5462	1639637.5680	1070.66		1067.11	--	--	Well locked. Could not access.
MW-3	--	--	--	--	--	--	--	Well not found.
MW-4	--	--	--	--	--	--	--	Well not found.
MW-5	468565.1717	1641759.8447	1059.14	1057.66	1056.04	8.43	1049.23	
MW-6	467396.8652	1642277.6850	1060.29	1059.62	1057.09	14.37	1045.25	
MW-7	465865.5855	1642624.4579	1049.79	1049.13	1046.19	9.07	1040.06	
MW-8	465832.9292	1641923.6098	1052.27	1051.72	1048.87	7.80	1043.92	
MW-9	466681.1104	1640700.6626	1067.97	1067.51	1065.22	--	--	
MW-9A	466689.2948	1640707.7116	1065.08	1064.41	1065.02	10.62	1053.79	
MW-10	468578.2813	1640311.1814	1071.23	1070.17	1068.53	11.38	1058.79	
MW-11	467137.9887	1641758.2096	1066.37	1065.95	1063.32	19.58	1046.37	
MW-12	466613.9506	1641291.2846	1068.91	1068.65	1065.89	19.29	1049.36	
MW-14	464961.4013	1643438.2272	1041.77	1041.31	1041.57	7.66	1033.65	
MW-15	466213.1371	1643041.3941	1050.68	1050.46	1049.68	11.89	1038.57	
MW-16	465050.5963	1642442.4933	1047.18	1046.86	1047.18	6.92	1039.94	
MW-17	465477.0519	1642746.0725	1044.52	1044.32	1044.52	5.46	1038.86	
MW-18	467224.4867	1642012.2967	1064.45	1063.78	1061.10	17.74	1046.04	
TP-MW-1	466941.0338	1640847.8987	1069.05	1068.70	1066.07	14.9	1053.80	
TP-MW-2	467023.8198	1641162.8497	1067.10	1066.54	1063.84	16.09	1050.45	
FPP-MW-1	466851.1582	1641121.3267	1069.55	1069.03	1066.40	18.93	1050.10	
FPP-MW-2	466684.0694	1641248.3903	1069.53	1068.77	1066.20	19.41	1049.36	
FPP-MW-3	466359.2722	1641177.5411	1066.79	1066.29	1063.21	15.91	1050.38	
MW-100	466019.6516	1640892.8071	1066.46	1065.72	1064.91	13.92	1051.80	
MW-101	466863.2039	1641542.3080	1067.02	1066.75	1064.32	20.92	1045.83	
MW-102	466174.3934	1641471.5126	1064.86	1064.37	1062.21	16.08	1048.29	
MW-103	466344.2824	1641759.2190	1065.60	1065.11	1063.35	19.99	1045.12	
MW-104	466654.7950	1642002.6422	1061.66	1061.51	1059.66	16.94	1044.57	
MW-105	466908.7123	1642272.3829	1060.41	1059.60	1058.24	16.14	1043.46	
MW-106	465912.5112	1641603.6856	1060.26	1059.86	1058.36	13.17	1046.69	
MW-107	466183.4339	1642156.8883	1061.68	1061.38	1059.93	17.58	1043.80	
MW-108	466503.9634	1642418.1085	1059.99	1059.58	1057.99	18.21	1041.37	
MW-109	465633.4457	1641747.8304	1062.15	1061.50	1059.30	15.97	1045.53	

TABLE 4
GROUNDWATER ELEVATION DATA - SEPTEMBER 2014
CLOSED CITY OF YAKIMA LANDFILL SITE

Monitoring Well Identification	Northing	Easting	Elevation					Notes
			Top of Casing Lid	Top of PVC	Ground Surface	Depth to Water	Groundwater	
RG-3	465743.6805	1643122.5822	1042.73	--	--	--	--	Marked at top of headwall
RG-3	465749.3794	1643126.3722	1037.28	--	--	1.62	1035.66	Marked at bottom of concrete
RG-2	465995.5427	1643101.8587	1041.86	--	--	--	--	Marked at top of concrete
RG-2	465992.8070	1643103.3163	1039.27	--	--	3.33	1035.94	Marked on top of rock
RG-1	467634.1637	1643083.6968	1053.44	--	--	--	--	Marked at top of rock
RG-1	467641.7786	1643091.1464	1047.79	--	--	5.76	1042.03	Marked at top of rock
RG-4	464472.3786	1644060.9160	1037.27	--	--	--	--	Marked at top of rock
RG-4	464474.3282	1644064.8369	1033.79	--	--	2.08	1031.71	Marked at top of hinge

Northings and Eastings are U.S. State Plane 1983, NAD 1983, GEOID 12A, Zone Washington South (4609) and are provided in U.S. survey feet.

Elevations are NAVD88 datum and provided in U.S. survey feet.

MW = Monitoring Well

RG = River Gauge

**TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-100 (13.5-14) EV14090067-02 9/11/2014	MW-101 (17.5-18.5) EV14090040-04 9/5/2014	MW-102 (4-5) EV14090051-01 9/8/2014	MW-102 (15-15.5) EV14090051-02 9/8/2014	MW-103 (20.5-21.5) EV14090040-03 9/5/2014	MW-104 (2.5-3) EV14090022-03 9/3/2014	MW-104 (19-20) EV14090022-04 9/3/2014	MW-105 (2.5-3.5) EV14090022-01 9/2/2014	MW-105 (17.5-19) EV14090022-02 9/2/2014	MW-106 (2.5-3.5) EV14090051-05 9/9/2014	MW-106 (13.5-14.5) EV14090067-01 9/10/2014	MW-107 (2.5-3.5) EV14090051-03 9/9/2014	MW-107 (16-17) EV14090051-04 9/9/2014
TOTAL PETROLEUM HYDROCARBONS (mg/kg)														
HCID														
Gas Range	--	20 U	20 U	20 U	25 U	20 U	20 U	20 U	20 U	20 U	>20	20 U	20 U	20 U
Diesel Range	--	50 U	50 U	50 U	61 U	50 U	50 U	50 U	50 U	50 U	>50	50 U	50 U	50 U
Oil Range	--	100 U	100 U	>100	120 U	100 U	>100	100 U	>100	100 U	>100	100 U	>100	100 U
NWTPH-Dx														
Diesel Range (w/SGC)	2,000			25 U			25 U		25 U		87 J		250	
Diesel Range (wo/SGC)	2,000			25 U			46 U		25 U		150 J		300	
Oil Range (w/SGC)	2,000			260			300		380		380		820	
Oil Range (wo/SGC)	2,000			330			450		510		560		990	
NWTPH-Gx														
Gasoline Range	30/100 (b)										35			
TOTAL METALS (mg/kg)														
Methods EPA-6020/EPA-7471														
Arsenic	20	1.4	1.4	1.9	2.2	1.8	2.2	1.5	3.6	2.7	2.6	2.1	1.7	2.6
Barium	1,648	58	70	82	84	56	91	76	140	79	100	94	88	190
Cadmium	2.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.25 U	0.26 U	1.3	0.27 U	0.50 U	1.1	0.50 U	0.50 U
Chromium	2,000	23	14	7.9	15	14	12	19	24	18	13	16	8.9	21
Chromium (VI), (EPA-7196)	19	5.0 U	5.0 U		5.0 U	5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
Iron	43,100	25,000	22,000	17,000	24,000	23,000	20,000	22,000	35,000	21,000	25,000	24,000	27,000	40,000
Lead	250	2.9	3.7	39	6.0	3.1	56	3.3	190	4.7	51	11	68	9.6
Manganese	11,200	380	240	200	250	250	330	240	330	350	520	210	470	320
Selenium	5.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Silver	14	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5	0.26 U	0.28 U	0.27 U	0.50 U	0.50 U	0.50 U	0.50 U
Sodium	--	750	380	340	440	530	540	540	490	1200	560	490	520	1200
Mercury	2	0.020 U	0.036	0.060	0.049	0.028	0.090	0.23	0.18	0.023	0.11	0.035	0.038	0.073
CONVENTIONALS (mg/kg)														
Fluoride (EPA-300.0M)	3,200	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.7	1.6 U	3.3	1.6 U	2.0	1.6 U
Nitrate as N (EPA-300.0M)	128,000	0.87	0.50 UJ	0.50 UJ	0.50 UJ	0.5 UJ	0.50 UJ	0.91 J	63 J	0.50 UJ	15 J	26	0.50 UJ	0.50 UJ
Nitrite as N (EPA-300.0M)		0.50 U	0.50 UJ	0.50 UJ	0.50 UJ	0.5 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	1.7 J	0.50 U	0.50 UJ	0.50 UJ
pH (lab)	--	8.62	6.71		7.43	7.53		7.51		7.87		7.17		7.23
PESTICIDES (mg/kg)														
Method EPA-8081														
A-BHC	0.001	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
G-BHC	0.010	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
B-BHC	0.002	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Heptachlor	0.004	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
D-BHC	--	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Aldrin	0.003	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Heptachlor Epoxide	0.008	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Chlordane	0.26	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Endosulfan I		0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
4,4'-DDE	0.45	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Dieldrin	0.003	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Endrin	0.44	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
4,4'-DDD	0.28	0.0026 U	0.0029 U		0.0031 U	0.012		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Endosulfan II		0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
4,4'-DDT	3	0.0026 U	0.0029 U		0.0031 U	0.0069		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Endrin Aldehyde	--	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Endosulfan Sulfate		0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Methoxychlor	64	0.0026 U	0.0029 U		0.0031 U	0.0028 U		0.0031 U		0.0029 U		0.0032 U		0.0036 U
Toxaphene	0.15	0.13 U	0.15 U		0.16 U	0.14 U		0.16 U		0.15 U		0.16 U		0.18 U

TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-100 (13.5-14) EV14090067-02 9/11/2014	MW-101 (17.5-18.5) EV14090040-04 9/5/2014	MW-102 (4-5) EV14090051-01 9/8/2014	MW-102 (15-15.5) EV14090051-02 9/8/2014	MW-103 (20.5-21.5) EV14090040-03 9/5/2014	MW-104 (2.5-3) EV14090022-03 9/3/2014	MW-104 (19-20) EV14090022-04 9/3/2014	MW-105 (2.5-3.5) EV14090022-01 9/2/2014	MW-105 (17.5-19) EV14090022-02 9/2/2014	MW-106 (2.5-3.5) EV14090051-05 9/9/2014	MW-106 (13.5-14.5) EV14090067-01 9/10/2014	MW-107 (2.5-3.5) EV14090051-03 9/9/2014	MW-107 (16-17) EV14090051-04 9/9/2014
1,3,5-Trimethylbenzene	800,000	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
4-Chlorotoluene	--	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
T-Butyl Benzene	8,000,000	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
1,2,4-Trimethylbenzene	--	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
S-Butyl Benzene	8,000,000	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
P-Isopropyltoluene	--	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
1,3 Dichlorobenzene	--	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
1,4-Dichlorobenzene	134	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
N-Butylbenzene	--	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
1,2-Dichlorobenzene	7030	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
1,2-Dibromo 3-Chloropropane	--	50 U	50 U		50 U	50 U		50 U		50 U		50 U		50 U
1,2,4-Trichlorobenzene	56	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
Hexachlorobutadiene	600	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
Naphthalene	5,000	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
1,2,3-Trichlorobenzene	--	10 U	10 U		10 U	10 U		10 U		10 U		10 U		10 U
SVOCs (µg/kg) Method EPA-8270														
Pyridine	--	200 U	200 U		200 U	200 U		200 U		200 U		200 U		200 U
N-Nitrosodimethylamine	20	26 U	25 U		29 U	23 U		29 U		31 U		29 U		35 U
Phenol	10,982	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Aniline	32	45 U	42 U		51 U	40 U		50 U		53 U		50 U		61 U
Bis(2-Chloroethyl)Ether	0.22	93 U	89 U		110 U	83 U		100 U		110 U		100 U		130 U
2-Chlorophenol	472	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
1,3-Dichlorobenzene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
1,4-Dichlorobenzene	134	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Benzyl Alcohol	3,363	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
1,2-Dichlorobenzene	7,029	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2-Methylphenol	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Bis(2-Chloroisopropyl)Ether	--	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
3&4-Methylphenol	--	100 U	400		100 U	100 U		100 U		100 U		100 U		100 U
N-Nitroso-Di-N-Propylamine	0.058	90 U	86 U		100 U	80 U		100 U		110 U		100 U		120 U
Hexachloroethane	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Nitrobenzene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Isophorone	227	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2-Nitrophenol	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2,4-Dimethylphenol	1,600,000	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Benzoic Acid	256,775	1000 U	1000 U		1000 U	1000 U		1000 U		1000 U		1000 U		1000 U
Bis(2-Chloroethoxy)Methane	--	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
2,4-Dichlorophenol	167	240 U	230 U		270 U	210 U		270 U		280 U		260 U		320 U
1,2,4-Trichlorobenzene	56	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Naphthalene	5,000	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
4-Chloroaniline	--	1000 U	1000 U		1000 U	1000 U		1000 U		1000 U		1000 U		1000 U
2,6-Dichlorophenol	--	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
Hexachlorobutadiene	600	500 U	500 U		500 U	500 U		500 U		500 U		500 U		500 U
4-Chloro-3-Methylphenol	--	500 U	500 U		500 U	500 U		500 U		500 U		500 U		500 U
2-Methylnaphthalene	320,000	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
Hexachlorocyclopentadiene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2,4,6-Trichlorophenol	46	38 U	36 U		43 U	34 U		43 U		46 U		43 U		52 U
2,4,5-Trichlorophenol	28,752	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2-Chloronaphthalene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2-Nitroaniline	766	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Acenaphthylene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Dimethylphthalate	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2,6-Dinitrotoluene	0.32	36 U	34 U		41 U	32 U		40 U		43 U		40 U		49 U
Acenaphthene	97,892	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
3-Nitroaniline	--	1000 U	1000 U		1000 U	1000 U		1000 U		1000 U		1000 U		1000 U
2,4-Dinitrophenol	128	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
4-Nitrophenol	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Dibenzofuran	80,000	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
2,4-Dinitrotoluene	1.7	21 U	20 U		24 U	19 U		23 U		25 U		23 U		28 U
2,3,4,6-Tetrachlorophenol	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Diethylphthalate	72,192	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Fluorene	101,212	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U

TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-100 (13.5-14) EV14090067-02 9/11/2014	MW-101 (17.5-18.5) EV14090040-04 9/5/2014	MW-102 (4-5) EV14090051-01 9/8/2014	MW-102 (15-15.5) EV14090051-02 9/8/2014	MW-103 (20.5-21.5) EV14090040-03 9/5/2014	MW-104 (2.5-3) EV14090022-03 9/3/2014	MW-104 (19-20) EV14090022-04 9/3/2014	MW-105 (2.5-3.5) EV14090022-01 9/2/2014	MW-105 (17.5-19) EV14090022-02 9/2/2014	MW-106 (2.5-3.5) EV14090051-05 9/9/2014	MW-106 (13.5-14.5) EV14090067-01 9/10/2014	MW-107 (2.5-3.5) EV14090051-03 9/9/2014	MW-107 (16-17) EV14090051-04 9/9/2014
4-Chlorophenyl-Phenylether	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
4-Nitroaniline	--	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
4,6-Dinitro-2-Methylphenol	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
N-Nitrosodiphenylamine	533	100 U	100 U		100 U	100 U		100 U		100 U		110		100 U
Azobenzene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
4-Bromophenyl-Phenylether	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Hexachlorobenzene	88	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Phenanthrene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Anthracene	2,274,550	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Carbazole	--	250 U	250 U		250 U	250 U		250 U		250 U		250 U		250 U
Di-N-Butylphthalate	56,544	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Fluoranthene	630,990	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Pyrene	654,644	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Butylbenzylphthalate	12,844	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
3,3-Dichlorobenzidine	3.6	170 U	160 U		190 U	150 U		180 U		200 U		180 U		230 U
Chrysene	95,568	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Bis(2-Ethylhexyl)Phthalate	13,359	110	140		110	100 U		120		100 U		820		540
Di-N-Octylphthalate	800,000	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
Benzo[G,H,I]Perylene	--	100 U	100 U		100 U	100 U		100 U		100 U		100 U		100 U
SVOCs (µg/kg)														
Method EPA-8270 SIM														
1-Methylnaphthalene	34,500	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	61	20 U	20 U
2-Methylnaphthalene	320,000	20 U	20 U	26	20 U	20 U	20 U	20 U	20 U	20 U	20 U	95	20 U	20 U
Acenaphthene	97,892	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acenaphthylene	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Anthracene	2,274,550	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzo[a]Anthracene	859	20 U	20 U	20 U	20 U	20 U	21	20 U	99	20 U	20 U	20 U	20 U	20 U
Benzo[a]Pyrene	100	20 U	20 U	20 U	20 U	20 U	22	20 U	71	20 U	20 U	20 U	20 U	20 U
Benzo[b]Fluoranthene	1,370	20 U	20 U	20 U	20 U	20 U	30	20 U	110	20 U	21	20 U	20 U	20 U
Benzo[g,h,i]Perylene	--	20 U	20 U	20 U	20 U	20 U	25	20 U	64	20 U	20 U	20 U	20 U	20 U
Benzo[k]Fluoranthene	13,700	20 U	20 U	20 U	20 U	20 U	20 U	20 U	31	20 U	20 U	20 U	20 U	20 U
Chrysene	95,568	20 U	20 U	20 U	20 U	20 U	20 U	20 U	63	20 U	20 U	20 U	20 U	20 U
Dibenz[a,h]Anthracene	140	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Fluoranthene	630,990	20 U	20 U	31	20 U	20 U	170	20 U	240	20 U	20 U	28	20 U	20 U
Fluorene	101,212	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Indeno[1,2,3-cd]Pyrene	1,370	20 U	20 U	20 U	20 U	20 U	20 U	20 U	38	20 U	20 U	20 U	20 U	20 U
Naphthalene	5,000	20 U	20 U	36	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Pentachlorophenol	3.5	48 U	58 U	54 U	61 U	61 U	63 U	62 U	69 U	59 U	53 U	55 U	57 U	76 U
Phenanthrene	--	20 U	20 U	23	20 U	20 U	28	20 U	78	20 U	21	29	20 U	20 U
Pyrene	654,644	20 U	20 U	33	20 U	20 U	45	20 U	120	20 U	20 U	24	20 U	20 U

**TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-108 (2.5-3.5) EV14090040-01 9/4/2014	MW-108 (21.5-22.5) EV14090040-02 9/4/2014	MW-109 (5-5.5) EV14090067-03 9/11/2014	MW-109 (12.5-13) EV14090067-04 9/11/2014
TOTAL PETROLEUM HYDROCARBONS (mg/kg)					
HCID					
Gas Range	--	20 U	20 U	20 U	20 U
Diesel Range	--	50 U	50 U	50 U	50 U
Oil Range	--	>100	100 U	100 U	100 U
NWTPH-Dx					
Diesel Range (w/SGC)	2,000	25 U			
Diesel Range (wo/SGC)	2,000	25 U			
Oil Range (w/SGC)	2,000	130			
Oil Range (wo/SGC)	2,000	160			
NWTPH-Gx					
Gasoline Range	30/100 (b)				
TOTAL METALS (mg/kg) Methods EPA-6020/EPA-7471					
Arsenic	20	3.5	4.1	5.4	1.7
Barium	1,648	140	73	150	63
Cadmium	2.0	0.50 U	0.50 U	0.50 U	0.50 U
Chromium	2,000	17	41	16	14
Chromium (VI), (EPA-7196)	19		5.0 U	5.0 U	5.0 U
Iron	43,100	28,000	23,000	31,000	23,000
Lead	250	26	3.5	39	3.4
Manganese	11,200	570	240	680	360
Selenium	5.2	5.0 U	5.0 U	5.0 U	5.0 U
Silver	14	0.50 U	0.50 U	0.50 U	0.50 U
Sodium	--	650	990	670	680
Mercury	2	0.12	0.020 U	0.061	0.020 U
CONVENTIONALS (mg/kg)					
Fluoride (EPA-300.0M)	3,200	1.6 U	1.6 U	1.6 U	1.6 U
Nitrate as N (EPA-300.0M)	128,000	0.50 UJ	0.50 UJ	21	1.2
Nitrite as N (EPA-300.0M)		0.50 UJ	0.50 UJ	0.50 U	0.50 U
pH (lab)	--		7.98	7.64	8.42
PESTICIDES (mg/kg) Method EPA-8081					
A-BHC	0.001		0.0031 U	0.0026 U	0.0026 U
G-BHC	0.010		0.0031 U	0.0026 U	0.0026 U
B-BHC	0.002		0.0031 U	0.0026 U	0.0026 U
Heptachlor	0.004		0.0031 U	0.0026 U	0.0026 U
D-BHC	--		0.0031 U	0.0026 U	0.0026 U
Aldrin	0.003		0.0031 U	0.0026 U	0.0026 U
Heptachlor Epoxide	0.008		0.0031 U	0.0026 U	0.0026 U
Chlordane	0.26		0.0031 U	0.0026 U	0.0026 U
Endosulfan I			0.0031 U	0.0026 U	0.0026 U
4,4'-DDE	0.45		0.0031 U	0.022	0.0026 U
Dieldrin	0.003		0.0031 U	0.0026 U	0.0026 U
Endrin	0.44		0.0031 U	0.0026 U	0.0026 U
4,4'-DDD	0.28		0.0031 U	0.0026 U	0.0026 U
Endosulfan II			0.0031 U	0.0026 U	0.0026 U
4,4'-DDT	3		0.0031 U	0.032	0.0026 U
Endrin Aldehyde	--		0.0031 U	0.0026 U	0.0026 U
Endosulfan Sulfate			0.0031 U	0.0026 U	0.0026 U
Methoxychlor	64		0.0031 U	0.0026 U	0.0026 U
Toxaphene	0.15		0.16 U	0.13 U	0.13 U

**TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-108 (2.5-3.5) EV14090040-01 9/4/2014	MW-108 (21.5-22.5) EV14090040-02 9/4/2014	MW-109 (5-5.5) EV14090067-03 9/11/2014	MW-109 (12.5-13) EV14090067-04 9/11/2014
PCBs (mg/kg)					
Method EPA-8082					
PCB-1016	2.4		0.0062 U	0.0052 U	0.0052 U
PCB-1221	--		0.013 U	0.011 U	0.011 U
PCB-1232	--		0.0062 U	0.0052 U	0.0052 U
PCB-1242	--		0.0062 U	0.0052 U	0.0052 U
PCB-1248	--		0.0062 U	0.0052 U	0.0052 U
PCB-1254	0.087		0.0062 U	0.0052 U	0.0052 U
PCB-1260	0.50		0.0062 U	0.0052 U	0.0052 U
VOCs (µg/kg)					
Method EPA-8260					
Dichlorodifluoromethane	19,627		10 U	10 U	10 U
Chloromethane	--		10 U	10 U	10 U
Vinyl Chloride	1.3		0.032 U	0.041 U	0.033 U
Bromomethane	52		10 U	10 U	10 U
Chloroethane	--		10 U	10 U	10 U
Carbon Tetrachloride	5.8		10 U	10 U	10 U
Trichlorofluoromethane	33,920		10 U	10 U	10 U
Carbon Disulfide	--		10 U	10 U	10 U
Acetone	28,903		50 U	50 U	50 U
1,1-Dichloroethene	50		10 U	10 U	10 U
Methylene Chloride	20		20 U	20 U	20 U
Acrylonitrile	--		50 U	50 U	50 U
Methyl T-Butyl Ether	--		10 U	10 U	10 U
Trans-1,2-Dichloroethene	543		10 U	10 U	10 U
1,1-Dichloroethane	42		10 U	10 U	10 U
2-Butanone	4,800,000		50 U	50 U	50 U
Cis-1,2-Dichloroethene	80		10 U	10 U	10 U
2,2-Dichloropropane	--		10 U	10 U	10 U
Bromochloromethane	--		10 U	10 U	10 U
Chloroform	7.5		10 U	10 U	10 U
1,1,1-Trichloroethane	2,000		10 U	10 U	10 U
1,1-Dichloropropene	--		10 U	10 U	10 U
1,2-Dichloroethane	24		10 U	10 U	10 U
Benzene	30		5.0 U	5.0 U	5.0 U
Trichloroethene	30		10 U	10 U	10 U
1,2-Dichloropropane	6.3		10 U	10 U	10 U
Dibromomethane	--		10 U	10 U	10 U
Bromodichloromethane	0.42		0.78 U	0.99 U	0.80 U
Trans-1,3-Dichloropropene	--		10 U	10 U	10 U
4-Methyl-2-Pentanone	--		50 U	50 U	50 U
Toluene	7,000		10 U	10 U	10 U
Cis-1,3-Dichloropropene	--		10 U	10 U	10 U
1,1,2-Trichloroethane	4.3		0.83 U	1.0 U	0.85 U
2-Hexanone	--		50 U	50 U	50 U
1,3-Dichloropropane	--		10 U	10 U	10 U
Tetrachloroethylene	50		10 U	10 U	10 U
Dibromochloromethane	7.0		10 U	10 U	10 U
1,2-Dibromoethane	5.0		5.0 U	5.0 U	5.0 U
Chlorobenzene	874		10 U	10 U	10 U
1,1,1,2-Tetrachloroethane	9.9		10 U	10 U	10 U
Ethylbenzene	6,000		10 U	10 U	10 U
m,p-Xylene			20 U	20 U	20 U
Styrene	2,244		10 U	10 U	10 U
o-Xylene	14,703		10 U	10 U	10 U
Bromoform	36		10 U	10 U	10 U
Isopropylbenzene	--		10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	1.2		0.86 U	1.1 U	0.88 U
1,2,3-Trichloropropane	0.007		0.90 U	1.1 U	0.92 U
Bromobenzene	--		10 U	10 U	10 U
N-Propyl Benzene	8,000,000		10 U	10 U	10 U
2-Chlorotoluene	--		10 U	10 U	10 U

**TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-108 (2.5-3.5) EV14090040-01 9/4/2014	MW-108 (21.5-22.5) EV14090040-02 9/4/2014	MW-109 (5-5.5) EV14090067-03 9/11/2014	MW-109 (12.5-13) EV14090067-04 9/11/2014
1,3,5-Trimethylbenzene	800,000		10 U	10 U	10 U
4-Chlorotoluene	--		10 U	10 U	10 U
T-Butyl Benzene	8,000,000		10 U	10 U	10 U
1,2,4-Trimethylbenzene	--		10 U	10 U	10 U
S-Butyl Benzene	8,000,000		10 U	10 U	10 U
P-Isopropyltoluene	--		10 U	10 U	10 U
1,3-Dichlorobenzene	--		10 U	10 U	10 U
1,4-Dichlorobenzene	134		10 U	10 U	10 U
N-Butylbenzene	--		10 U	10 U	10 U
1,2-Dichlorobenzene	7030		10 U	10 U	10 U
1,2-Dibromo 3-Chloropropane	--		50 U	50 U	50 U
1,2,4-Trichlorobenzene	56		10 U	10 U	10 U
Hexachlorobutadiene	600		10 U	10 U	10 U
Naphthalene	5,000		10 U	10 U	10 U
1,2,3-Trichlorobenzene	--		10 U	10 U	10 U
SVOCs (µg/kg)					
Method EPA-8270					
Pyridine	--		200 U	200 U	200 U
N-Nitrosodimethylamine	20		27 U	26 U	24 U
Phenol	10,982		100 U	100 U	100 U
Aniline	32		47 U	45 U	42 U
Bis(2-Chloroethyl)Ether	0.22		98 U	93 U	87 U
2-Chlorophenol	472		250 U	250 U	250 U
1,3-Dichlorobenzene	--		100 U	100 U	100 U
1,4-Dichlorobenzene	134		100 U	100 U	100 U
Benzyl Alcohol	3,363		100 U	100 U	100 U
1,2-Dichlorobenzene	7,029		100 U	100 U	100 U
2-Methylphenol	--		100 U	100 U	100 U
Bis(2-Chloroisopropyl)Ether	--		250 U	250 U	250 U
3&4-Methylphenol	--		100 U	100 U	100 U
N-Nitroso-Di-N-Propylamine	0.058		95 U	90 U	84 U
Hexachloroethane	--		100 U	100 U	100 U
Nitrobenzene	--		100 U	100 U	100 U
Isophorone	227		100 U	100 U	100 U
2-Nitrophenol	--		100 U	100 U	100 U
2,4-Dimethylphenol	1,600,000		100 U	100 U	100 U
Benzoic Acid	256,775		1000 U	1000 U	1000 U
Bis(2-Chloroethoxy)Methane	--		250 U	250 U	250 U
2,4-Dichlorophenol	167		250 U	240 U	220 U
1,2,4-Trichlorobenzene	56		100 U	100 U	100 U
Naphthalene	5,000		100 U	100 U	100 U
4-Chloroaniline	--		1000 U	1000 U	1000 U
2,6-Dichlorophenol	--		250 U	250 U	250 U
Hexachlorobutadiene	600		500 U	500 U	500 U
4-Chloro-3-Methylphenol	--		500 U	500 U	500 U
2-Methylnaphthalene	320,000		250 U	250 U	250 U
Hexachlorocyclopentadiene	--		100 U	100 U	100 U
2,4,6-Trichlorophenol	46		40 U	38 U	36 U
2,4,5-Trichlorophenol	28,752		100 U	100 U	100 U
2-Chloronaphthalene	--		100 U	100 U	100 U
2-Nitroaniline	766		100 U	100 U	100 U
Acenaphthylene	--		100 U	100 U	100 U
Dimethylphthalate	--		100 U	100 U	100 U
2,6-Dinitrotoluene	0.32		38 U	36 U	33 U
Acenaphthene	97,892		100 U	100 U	100 U
3-Nitroaniline	--		1000 U	1000 U	1000 U
2,4-Dinitrophenol	128		100 U	100 U	100 U
4-Nitrophenol	--		100 U	100 U	100 U
Dibenzofuran	80,000		100 U	100 U	100 U
2,4-Dinitrotoluene	1.7		22 U	21 U	19 U
2,3,4,6-Tetrachlorophenol	--		100 U	100 U	100 U
Diethylphthalate	72,192		100 U	100 U	100 U
Fluorene	101,212		100 U	100 U	100 U

**TABLE 5
SOIL ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Depth: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-108 (2.5-3.5) EV14090040-01 9/4/2014	MW-108 (21.5-22.5) EV14090040-02 9/4/2014	MW-109 (5-5.5) EV14090067-03 9/11/2014	MW-109 (12.5-13) EV14090067-04 9/11/2014
4-Chlorophenyl-Phenylether	--		100 U	100 U	100 U
4-Nitroaniline	--		250 U	250 U	250 U
4,6-Dinitro-2-Methylphenol	--		100 U	100 U	100 U
N-Nitrosodiphenylamine	533		100 U	100 U	100 U
Azobenzene	--		100 U	100 U	100 U
4-Bromophenyl-Phenylether	--		100 U	100 U	100 U
Hexachlorobenzene	88		100 U	100 U	100 U
Phenanthrene	--		100 U	100 U	100 U
Anthracene	2,274,550		100 U	100 U	100 U
Carbazole	--		250 U	250 U	250 U
Di-N-Butylphthalate	56,544		100 U	100 U	100 U
Fluoranthene	630,990		100 U	100 U	100 U
Pyrene	654,644		100 U	100 U	100 U
Butylbenzylphthalate	12,844		100 U	100 U	100 U
3,3-Dichlorobenzidine	3.6		170 U	170 U	150 U
Chrysene	95,568		100 U	100 U	100 U
Bis(2-Ethylhexyl)Phthalate	13,359		100 U	100	190
Di-N-Octylphthalate	800,000		100 U	100 U	100 U
Benzo[G,H,I]Perylene	--		100 U	100 U	100 U
SVOCs (µg/kg)					
Method EPA-8270 SIM					
1-Methylnaphthalene	34,500	20 U	20 U	20 U	20 U
2-Methylnaphthalene	320,000	20 U	20 U	20 U	20 U
Acenaphthene	97,892	20 U	20 U	20 U	20 U
Acenaphthylene	--	20 U	20 U	20 U	20 U
Anthracene	2,274,550	20 U	20 U	20 U	20 U
Benzo[a]Anthracene	859	52	20 U	20 U	20 U
Benzo[a]Pyrene	100	20 U	20 U	20 U	20 U
Benzo[b]Fluoranthene	1,370	20 U	20 U	20 U	20 U
Benzo[g,h,i]Perylene	--	20 U	20 U	20 U	20 U
Benzo[k]Fluoranthene	13,700	20 U	20 U	21	20 U
Chrysene	95,568	20 U	20 U	24	20 U
Dibenz[a,h]Anthracene	140	20 U	20 U	20 U	20 U
Fluoranthene	630,990	23	20 U	61	20 U
Fluorene	101,212	20 U	20 U	20 U	20 U
Indeno[1,2,3-cd]Pyrene	1,370	20 U	20 U	20 U	20 U
Naphthalene	5,000	20 U	20 U	28	20 U
Pentachlorophenol	3.5	65 U	55 U	48 U	51 U
Phenanthrene	--	20 U	20 U	35	20 U
Pyrene	654,644	20 U	20 U	47	20 U

(a) Preliminary screening levels developed using methodology presented in the draft Site work plan (Landau Associates 2014).

(b) Preliminary screening level is 30 mg/kg when benzene is present, 100 when benzene is not detectable.

U = Indicates the compound was not detected at the reported concentration.

J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UU = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.

Bold = Detected compound.

Box = Exceedance of cleanup level.

EPA = U.S. Environmental Protection Agency

mg/kg = milligram per kilogram

PCBs = polychlorinated biphenyls

SGC = silica gel cleanup.

SVOCs = semivolatile organic compounds

VOCs = volatile organic compounds

µg/kg = micrograms per kilogram

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	TP-MW-1 EV14090107-22 09/17/2014	TP-MW-2 EV14090107-23 09/17/2014	FFP-MW-3 EV14090091-01 EV14090107-24 9/16/2014	FFP-MW-3-Dup EV14090091-10 EV14090107-25 9/16/2014	MW-6 EV14090107-01 09/17/2014	MW-7 EV14090091-06 EV14090107-02 9/16/2014	MW-8 EV14090091-05 EV14090107-03 9/16/2014	MW-9A EV14090080-01 EV14090107-04 9/15/2014	MW-11 EV14090080-03 EV14090107-05 9/15/2014	MW-12 EV14090080-05 EV14090107-06 9/15/2014	MW-14 EV14090107-07 09/17/2014	MW-15 EV14090107-08 09/17/2014	MW-16 EV14090107-09 09/17/2014
TOTAL PETROLEUM HYDROCARBONS (µg/L)														
HCID														
Gas Range	--	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Diesel Range	--	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
Oil Range	--	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
NWTPH-Dx														
Diesel Range (w/SGC)	500										1200			
Diesel Range (wo/SGC)	500										3700			
Oil Range (w/SGC)	500										370			
Oil Range (wo/SGC)	500										1400			
DISSOLVED METALS (µg/L)														
Methods EPA-200.8/EPA-7470/EPA-7196														
Arsenic	10	1.0 U	3.9	1.4	1.4	1.3	1.3	3.7	1.1	3.6	1.2	1.0 U	1.1	1.0 U
Barium	2,000	8.3	17	15	15	44	28	77	8.5	46	59	6.0	23	45
Cadmium	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	--	19,000	30,000	22,000	22,000	32,000	23,000	31,000	21,000	34,000	40,000	13,000	20,000	87,000
Chromium	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chromium (VI)	48			10 UJ	10 UJ		10 U	10 UJ	10 U	10 U	10 U		10 U	
Iron	300	50 U	12,000	7600	7500	3100	6800	14,000	50 U	29,000	13,000	50 U	6300	50 U
Lead	15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	--	6600	10,000	8500	8500	12,000	7900	13,000	6600	11,000	13,000	4500	7900	12,000
Manganese	50	2.0 U	1300	440	440	1300	1600	1900	2.0 U	2000	1800	2.0 U	890	110
Selenium	50	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Silver	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Sodium	20,000	11,000	21,000	16,000	16,000	15,000	13,000	25,000	11,000	16,000	69,000	5700	8900	36,000
Mercury	2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
TOTAL METALS (µg/L)														
Methods EPA-200.8/EPA-7470/EPA-7196														
Arsenic	10	1.0 U	3.8	1.2	1.7	1.3	1.7	4.8	1.0 U	3.7	1.3	1.0 U	1.3	1.0 U
Barium	2,000	9.2	18	15	15	44	30	98	8.5	52	70	5.7	25	47
Cadmium	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	--	20,000	30,000	22,000	22,000	33,000	23,000	32,000	20,000	36,000	45,000	13,000	21,000	89,000
Chromium	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chromium (VI)	48			10 UJ	10 UJ		10 U	10 UJ	10 U	10 U	10 U		10 U	
Iron	300	50 U	12,000	7700	7500	2800	7100	17,000	50 U	30,000	14,000	50 U	7900	320
Lead	15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	--	6700	10,000	8700	8600	12,000	8000	14,000	6600	12,000	15,000	4500	8500	13,000
Manganese	50	5.8	1300	450	440	1300	1700	2000	2.0 U	2100	2100	5.6	910	120
Selenium	50	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Silver	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Sodium	20,000	11,000	21,000	16,000	16,000	14,000	13,000	26,000	11,000	16,000	80,000	5800	9500	38,000
Mercury	2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
CONVENTIONALS (mg/L)														
Total Dissolved Solids (SM2540C)	--			170	180		130	230	170 J	210 J	370 J		180	
Chloride (EPA-300.0)		7.2	14	9.7	9.2	20	12	18	8.8	16	18	4.5	12	22
Fluoride (EPA-300.0)	0.64	0.16 U	0.20	0.33 J	0.16 UJ	0.17	0.25	0.23	0.41	0.16 U	0.44	0.16 U	0.16 U	0.16 U
Nitrate as N (EPA-300.0)	10	1.9 J	0.034 UJ	0.034 U	0.034 U	0.36 J	0.39	0.034 U	3.3	0.045	0.034 U	0.20 J	0.034 U	2.8 J
Nitrite as N (EPA-300.0)		0.043 UJ	0.043 UJ	0.043 U	0.043 U	0.043 UJ	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 UJ	0.043 U	0.043 UJ
Sulfate (EPA-300.0)	--	9.0	6.8	9.7	9.5	2.0	1.8	0.41	10	0.26 U	18	3.0	1.2	170
Ammonia (EPA-350.1)	--			0.43	0.52		2.8	8.4	0.060	1.3	1.5		3.0	
Alkalinity as CaCO3, Total (SM2320B)	--			120	120		140	250	88	190	350		110	
Bicarbonate as CaCO3 (SM2320B)	--			120	120		140	250	88	190	350		110	
Total Organic Carbon (TOC) (SM5310C)	--			1.8	1.8		3.2	8.0	1.6	5.0	16		2.7	

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	TP-MW-1 EV14090107-22 09/17/2014	TP-MW-2 EV14090107-23 09/17/2014	FFP-MW-3 EV14090091-01 EV14090107-24 9/16/2014	FFP-MW-3-Dup EV14090091-10 EV14090107-25 9/16/2014	MW-6 EV14090107-01 09/17/2014	MW-7 EV14090091-06 EV14090107-02 9/16/2014	MW-8 EV14090091-05 EV14090107-03 9/16/2014	MW-9A EV14090080-01 EV14090107-04 9/15/2014	MW-11 EV14090080-03 EV14090107-05 9/15/2014	MW-12 EV14090080-05 EV14090107-06 9/15/2014	MW-14 EV14090107-07 09/17/2014	MW-15 EV14090107-08 09/17/2014	MW-16 EV14090107-09 09/17/2014
FIELD PARAMETERS														
Temperature (°C)	--	16.93	16.47	16.49	16.52	20.15	18.02	17.93	16.96	16.50	19.81	17.46	17.34	21.10
Specific Conductivity (uS/cm)	--	443	832	367	385	762	224	495	248	384	1251	305	209	745
Dissolved Oxygen (mg/L)	--	8.96	2.50	1.66	1.69	1.07	1.40	0.50	6.20	0.68	1.09	1.10	0.31	0.43
pH (S.U.)	6.5 to 8.5	6.28	6.54	6.48	6.50	6.65	5.84	5.95	9.76	5.46	7.23	6.59	5.44	5.58
Oxidation Reduction Potential (mV)	--	48.8	-78.5	-133.5	-134.5	-43.75	29.2	-64.6	-259.3	53.8	-353.33	-84.2	39.6	97.4
Turbidity (NTU)	--	8.56	6.84	2.84	2.77	17.75	13.3	45.6	7.15	6.51	4.20	7.06	23.7	11.6
PESTICIDES (µg/L)														
Method EPA-8081														
A-BHC	0.014			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
G-BHC	0.080			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
B-BHC	0.049			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
Heptachlor	0.019			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
D-BHC	--			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
Aldrin	0.003			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
Heptachlor Epoxide	0.005			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.018 U		0.01 U	
Chlordane	0.25			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.047 U		0.01 U	
Endosulfan I				0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
4,4'-DDE	0.26			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
Dieldrin	0.005			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
Endrin	2			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
4,4'-DDD	0.30			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.011 U		0.01 U	
Endosulfan II				0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.012 U	0.056 U		0.012 U	
4,4'-DDT	0.30			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.13 U		0.01 U	
Endrin Aldehyde				0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.071 U		0.01 U	
Endosulfan Sulfate				0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.023 U		0.01 U	
Methoxychlor	40			0.011 U	0.011 U		0.011 U	0.011 U	0.01 U	0.011 U	0.040 U		0.01 U	
Toxaphene	0.080			0.53 U	0.52 U		0.52 U	0.51 U	0.50 U	0.51 U	2.5 U		0.50 U	
PCBs (µg/L)														
Method EPA-8082														
PCB-1016	1.1			0.0053 U	0.0052 U		0.0052 U	0.022 U	0.0050 U	0.0051 U	0.0064 U		0.0050 U	
PCB-1221	--			0.011 U	0.011 U		0.011 U	0.017 U	0.01 U	0.011 U	0.011 U		0.01 U	
PCB-1232	--			0.0053 U	0.0052 U		0.0052 U	0.047 U	0.0050 U	0.0051 U	0.0056 U		0.0050 U	
PCB-1242	--			0.0053 U	0.0052 U		0.0052 U	0.028 U	0.0050 U	0.0051 U	0.0051 U		0.0050 U	
PCB-1248	--			0.0053 U	0.0052 U		0.0052 U	0.012 U	0.0050 U	0.0051 U	0.0051 U		0.0050 U	
PCB-1254	0.044			0.0053 U	0.0052 U		0.0052 U	0.017 U	0.0050 U	0.0051 U	0.0051 U		0.0050 U	
PCB-1260	0.044			0.0053 U	0.0052 U		0.0052 U	0.0051 U	0.0050 U	0.0051 U	0.0051 U		0.0050 U	
Total PCBs	0.1			ND	ND		ND	ND	ND	ND	ND		ND	
VOCs (µg/L)														
Method EPA-8260														
Dichlorodifluoromethane	1,600			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Chloromethane	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Vinyl Chloride	0.20			0.20 U	0.20 U		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U		0.20 U	
Bromomethane	11			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Chloroethane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Carbon Tetrachloride	0.63			0.10 U	0.10 U		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
Trichlorofluoromethane	2,400			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Carbon Disulfide				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Acetone	7,200			25 U	25 U		25 U	25 U	25 U	25 U	25 U		25 U	
1,1-Dichloroethene	7			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Methylene Chloride	5			5.0 U	5.0 U		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		5.0 U	
Acrylonitrile				10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	
Methyl T-Butyl Ether				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Trans-1,2-Dichloroethene	100			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,1-Dichloroethane	7.7			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Butanone	4,800			10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	TP-MW-1 EV14090107-22 09/17/2014	TP-MW-2 EV14090107-23 09/17/2014	FFP-MW-3 EV14090091-01 EV14090107-24 9/16/2014	FFP-MW-3-Dup EV14090091-10 EV14090107-25 9/16/2014	MW-6 EV14090107-01 09/17/2014	MW-7 EV14090091-06 EV14090107-02 9/16/2014	MW-8 EV14090091-05 EV14090107-03 9/16/2014	MW-9A EV14090080-01 EV14090107-04 9/15/2014	MW-11 EV14090080-03 EV14090107-05 9/15/2014	MW-12 EV14090080-05 EV14090107-06 9/15/2014	MW-14 EV14090107-07 09/17/2014	MW-15 EV14090107-08 09/17/2014	MW-16 EV14090107-09 09/17/2014
Cis-1,2-Dichloroethene	16			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,2-Dichloropropane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Bromochloromethane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Chloroform	1.4			0.10 U	0.10 U		0.10 U	0.10 U	1.7	0.10 U	0.10 U		0.10 U	
1,1,1-Trichloroethane	200			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,1-Dichloropropene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2-Dichloroethane	5			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Benzene	5			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Trichloroethene	0.54			0.020 U	0.020 U		0.020 U	0.020 U	0.020 U	0.020 U	0.020 U		0.020 U	
1,2-Dichloropropane	1.2			0.10 U	0.10 U		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
Dibromomethane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Bromodichloromethane	0.080			0.059 U	0.059 U		0.059 U	0.059 U	0.059 U	0.059 U	0.059 U		0.059 U	
Trans-1,3-Dichloropropene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Methyl-2-Pentanone				10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	
Toluene	640			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Cis-1,3-Dichloropropene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,1,2-Trichloroethane	0.77			0.10 U	0.10 U		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
2-Hexanone				10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	
1,3-Dichloropropane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Tetrachloroethylene	5			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Dibromochloromethane	0.52			0.10 U	0.10 U		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
1,2-Dibromoethane	0.022			0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		0.01 U	
Chlorobenzene	100			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,1,1,2-Tetrachloroethane	1.7			0.10 U	0.10 U		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
Ethylbenzene	70			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
m,p-Xylene	1600			4.0 U	4.0 U		4.0 U	4.0 U	4.0 U	4.0 U	4.0 U		4.0 U	
Styrene	100			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
o-Xylene	1600			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Bromoform	5.5			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Isopropylbenzene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,1,2,2-Tetrachloroethane	0.22			0.10 U	0.10 U		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
1,2,3-Trichloropropane	0.001			0.023 U	0.023 U		0.023 U	0.023 U	0.023 U	0.023 U	0.023 U		0.023 U	
Bromobenzene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
N-Propyl Benzene	800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Chlorotoluene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,3,5-Trimethylbenzene	80			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Chlorotoluene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
T-Butyl Benzene	800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2,4-Trimethylbenzene	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
S-Butyl Benzene	800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
P-Isopropyltoluene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,3 Dichlorobenzene	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,4-Dichlorobenzene	8.1			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
N-Butylbenzene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2-Dichlorobenzene	600			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2-Dibromo 3-Chloropropane				10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	
1,2,4-Trichlorobenzene	1.5			0.10 U	0.10 U		0.17	0.10 U	0.10 U	0.10 U	0.10 U		0.10 U	
Hexachlorobutadiene	0.56			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Naphthalene	160			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2,3-Trichlorobenzene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
SVOCs (µg/L)														
Method EPA-8270														
Pyridine				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
N-Nitrosodimethylamine	0.0009			1.5 U	1.5 U		1.5 U	1.5 U	1.5 U	1.5 U	1.5 U		1.5 U	
Phenol	2,400			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Aniline	7.7			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Bis(2-Chloroethyl)Ether	0.040			0.94 U	0.94 U		0.94 U	0.94 U	0.94 U	0.94 U	0.94 U		0.94 U	
2-Chlorophenol	40			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	TP-MW-1 EV14090107-22 09/17/2014	TP-MW-2 EV14090107-23 09/17/2014	FFP-MW-3 EV14090091-01 EV14090107-24 9/16/2014	FFP-MW-3-Dup EV14090091-10 EV14090107-25 9/16/2014	MW-6 EV14090107-01 09/17/2014	MW-7 EV14090091-06 EV14090107-02 9/16/2014	MW-8 EV14090091-05 EV14090107-03 9/16/2014	MW-9A EV14090080-01 EV14090107-04 9/15/2014	MW-11 EV14090080-03 EV14090107-05 9/15/2014	MW-12 EV14090080-05 EV14090107-06 9/15/2014	MW-14 EV14090107-07 09/17/2014	MW-15 EV14090107-08 09/17/2014	MW-16 EV14090107-09 09/17/2014
1,3-Dichlorobenzene	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,4-Dichlorobenzene	8.1			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Benzyl Alcohol	800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2-Dichlorobenzene	600			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Methylphenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Bis(2-Chloroisopropyl)Ether	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
3&4-Methylphenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
N-Nitroso-Di-N-Propylamine	0.013			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Hexachloroethane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Nitrobenzene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Isophorone	46			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Nitrophenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,4-Dimethylphenol	160			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Benzoic Acid	64,000			10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	
Bis(2-Chloroethoxy)Methane				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,4-Dichlorophenol	24			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
1,2,4-Trichlorobenzene	1.5			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Naphthalene	160			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Chloroaniline				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,6-Dichlorophenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Hexachlorobutadiene	0.56			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Chloro-3-Methylphenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Methylnaphthalene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Hexachlorocyclopentadiene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,4,6-Trichlorophenol	4			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,4,5-Trichlorophenol	800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Chloronaphthalene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2-Nitroaniline	160			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Acenaphthylene	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Dimethylphthalate				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,6-Dinitrotoluene	0.060			1.8 U	1.8 U		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U		1.8 U	
Acenaphthene	960			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
3-Nitroaniline				5.0 U	5.0 U		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		5.0 U	
2,4-Dinitrophenol	32			10 U	10 U		10 U	10 U	10 U	10 U	10 U		10 U	
4-Nitrophenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Dibenzofuran	16			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
2,4-Dinitrotoluene	0.28			0.78 U	0.78 U		0.78 U	0.78 U	0.78 U	0.78 U	0.78 U		0.78 U	
2,3,4,6-Tetrachlorophenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Diethylphthalate	12,800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Fluorene	640			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Chlorophenyl-Phenylether				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Nitroaniline				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4,6-Dinitro-2-Methylphenol				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
N-Nitrosodiphenylamine	18			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Azobenzene				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
4-Bromophenyl-Phenylether				2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Hexachlorobenzene	0.055			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Phenanthrene	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Anthracene	4,800			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Carbazole	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Di-N-Butylphthalate	1,600			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Fluoranthene	640			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Pyrene	480			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Butylbenzylphthalate	46			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
3,3-Dichlorobenzidine	0.20			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Chrysene	12			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Bis(2-Ethylhexyl)Phthalate	6			2.1	2.0 U		2.0 U	10	2.0 U	2.0 U	2.0 U		2.0 U	
Di-N-Octylphthalate	160			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	
Benzo[G,H,I]Perylene	--			2.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U		2.0 U	

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	TP-MW-1 EV14090107-22 09/17/2014	TP-MW-2 EV14090107-23 09/17/2014	FFP-MW-3 EV14090091-01 EV14090107-24 9/16/2014	FFP-MW-3-Dup EV14090091-10 EV14090107-25 9/16/2014	MW-6 EV14090107-01 09/17/2014	MW-7 EV14090091-06 EV14090107-02 9/16/2014	MW-8 EV14090091-05 EV14090107-03 9/16/2014	MW-9A EV14090080-01 EV14090107-04 9/15/2014	MW-11 EV14090080-03 EV14090107-05 9/15/2014	MW-12 EV14090080-05 EV14090107-06 9/15/2014	MW-14 EV14090107-07 09/17/2014	MW-15 EV14090107-08 09/17/2014	MW-16 EV14090107-09 09/17/2014
SVOCs (µg/L)														
Method EPA-8270 SIM														
Naphthalene	160	0.029	0.020 U	0.020 U	0.031	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.034	0.024	0.020 U	0.051
2-Methylnaphthalene	32	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
1-Methylnaphthalene	1.5	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Acenaphthylene	--	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Acenaphthene	960	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Fluorene	640	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Pentachlorophenol	0.22	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Phenanthrene	--	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Anthracene	4,800	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Fluoranthene	640	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Pyrene	480	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[A]Anthracene	0.12	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Chrysene	12	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[B]Fluoranthene	0.10	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[K]Fluoranthene	1.2	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[A]Pyrene	0.10	0.029 U	0.027 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U
Indeno[1,2,3-Cd]Pyrene	0.12	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Dibenz[A,H]Anthracene	0.012	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Benzo[G,H,I]Perylene	--	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-17 EV14090107-10 09/17/2014	MW-18 EV14090080-02 EV14090107-11 9/15/2014	MW-100 EV14090091-09 EV14090107-12 9/16/2014	MW-101 EV14090107-13 09/17/2014	MW-102 EV14090091-02 EV14090107-14 9/16/2014	MW-103 EV14090091-03 EV14090107-15 9/16/2014	MW-104 EV14090091-04 EV14090107-16 9/16/2014	MW-105 EV14090080-04 EV14090107-17 9/15/2014	MW-106 EV14090091-07 EV14090107-18 9/16/2014	MW-106-Dup EV14090091-11 EV14090107-26 9/16/2014	MW-107 EV14090107-19 09/17/2014	MW-108 EV14090107-20 09/17/2014	MW-109 EV14090091-08 EV14090107-21 9/16/2014
TOTAL PETROLEUM HYDROCARBONS (µg/L)														
HCID														
Gas Range	--	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Diesel Range	--	310 U	310 U	310 U	>310	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
Oil Range	--	310 U	310 U	310 U	>310	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
NWTPH-Dx														
Diesel Range (w/SGC)	500				520									
Diesel Range (wo/SGC)	500				1800									
Oil Range (w/SGC)	500				360									
Oil Range (wo/SGC)	500				1500									
DISSOLVED METALS (µg/L) Methods EPA-200.8/EPA-7470/EPA-7196														
Arsenic	10	2.6	8.0	1.0	2.9	1.3	3.8	5.7	3.7	5.7	5.3	3.6	4.8	1.0 U
Barium	2,000	55	36	8.2	74	21	50	49	54	45	45	62	53	11
Cadmium	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	--	34,000	47,000	22,000	65,000	22,000	35,000	36,000	29,000	28,000	29,000	38,000	36,000	26,000
Chromium	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chromium (VI)	48	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Iron	300	16,000	41,000	50 U	19,000	4200	22,000	26,000	20,000	7000	6900	24,000	29,000	50 U
Lead	15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	--	11,000	19,000	9400	20,000	8300	12,000	12,000	9100	11,000	11,000	13,000	12,000	9900
Manganese	50	2000	4400	190	3000	710	2500	2300	2700	2000	1900	2400	2300	860
Selenium	50	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Silver	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Sodium	20,000	22,000	14,000	20,000	29,000	14,000	22,000	18,000	28,000	57,000	62,000	21,000	16,000	14,000
Mercury	2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
TOTAL METALS (µg/L) Methods EPA-200.8/EPA-7470/EPA-7196														
Arsenic	10	2.4	8.0	1.0 U	3.1	1.0 U	3.5	5.8	3.7	5.2	5.1	3.5	4.5	1.0 U
Barium	2,000	57	39	11	93	22	53	51	60	46	45	63	53	13
Cadmium	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Calcium	--	34,000	50,000	22,000	71,000	22,000	36,000	36,000	29,000	27,000	28,000	39,000	37,000	27,000
Chromium	100	2.0 U	2.0 U	2.0 U	2.6	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chromium (VI)	48	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Iron	300	17,000	44,000	400	23,000	4700	22,000	27,000	20,000	7300	6800	24,000	29,000	280
Lead	15	1.0 U	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	--	12,000	20,000	9900	22,000	8900	13,000	13,000	9600	10,000	11,000	14,000	13,000	10,000
Manganese	50	2000	4700	200	3200	740	2500	2400	2700	1800	1800	2400	2400	890
Selenium	50	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Silver	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Sodium	20,000	23,000	15,000	21,000	31,000	15,000	23,000	18,000	35,000	64,000	65,000	22,000	17,000	15,000
Mercury	2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
CONVENTIONALS (mg/L)														
Total Dissolved Solids (SM2540C)	--	280	310 J	230	430	190	230	220	900	320	320	180	260	200
Chloride (EPA-300.0)	--	10	19	12	20	11	19	18	18	18	18	32	19	10
Fluoride (EPA-300.0)	0.64	0.21	0.19	0.37	0.71	0.26	0.24	0.19	0.22	0.51	0.37	0.16 U	0.23	0.28
Nitrate as N (EPA-300.0)	10	0.054	0.034 U	1.1	3.5	0.034 U	0.034 U	0.036	0.081	0.043 J	0.12 J	0.034 U	0.059	0.94
Nitrite as N (EPA-300.0)	--	0.043 U	0.043 U	0.60	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.14
Sulfate (EPA-300.0)	--	3.5	0.36	14	0.26 U	13	0.30	0.26 U	2.5	20	20	0.26 U	0.26 U	13
Ammonia (EPA-350.1)	--	3.1	1.2	0.21	1.8	2.5	3.1	2.0	0.13	5.3	5.6	4.0	3.0	0.18
Alkalinity as CaCO3, Total (SM2320B)	--	210	260	130	360	130	220	200	220	280	280	220	210	130
Bicarbonate as CaCO3 (SM2320B)	--	210	260	130	360	130	220	200	220	280	280	220	210	130
Total Organic Carbon (TOC) (SM5310C)	--	4.3	8.2	1.6	33	1.9	4.0	4.9	6.2	5.8	5.8	4.6	5.2	1.1

**TABLE 6
GROUNDWATER ANALYTICAL RESULTS
CLOSED CITY OF YAKIMA LANDFILL SITE**

Location: Laboratory ID: Sample Date:	Preliminary Screening Levels (a)	MW-17 EV14090107-10 09/17/2014	MW-18 EV14090080-02 EV14090107-11 9/15/2014	MW-100 EV14090091-09 EV14090107-12 9/16/2014	MW-101 EV14090107-13 09/17/2014	MW-102 EV14090091-02 EV14090107-14 9/16/2014	MW-103 EV14090091-03 EV14090107-15 9/16/2014	MW-104 EV14090091-04 EV14090107-16 9/16/2014	MW-105 EV14090080-04 EV14090107-17 9/15/2014	MW-106 EV14090091-07 EV14090107-18 9/16/2014	MW-106-Dup EV14090091-11 EV14090107-26 9/16/2014	MW-107 EV14090107-19 09/17/2014	MW-108 EV14090107-20 09/17/2014	MW-109 EV14090091-08 EV14090107-21 9/16/2014
SVOCs (µg/L) Method EPA-8270 SIM														
Naphthalene	160	0.025	0.020 U	0.020 U	0.060	0.020 U	0.042	0.039	0.034	0.064	0.074	0.020 U	0.020 U	0.020 U
2-Methylnaphthalene	32	0.020 U	0.020 U	0.020 U	0.020 U	0.029	0.020 U	0.020 U	0.020 U	0.055 J	0.079 J	0.020 U	0.020 U	0.020 U
1-Methylnaphthalene	1.5	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.080 J	0.12 J	0.020 U	0.020 U	0.020 U
Acenaphthylene	--	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Acenaphthene	960	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.097	0.042	0.056	0.020 U	0.020 U	0.020 U
Fluorene	640	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Pentachlorophenol	0.22	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Phenanthrene	--	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.030	0.031	0.020 U	0.020 U	0.020 U
Anthracene	4,800	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.036	0.020 U	0.020 U	0.020 U
Fluoranthene	640	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Pyrene	480	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[A]Anthracene	0.12	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Chrysene	12	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[B]Fluoranthene	0.10	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[K]Fluoranthene	1.2	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Benzo[A]Pyrene	0.10	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U
Indeno[1,2,3-Cd]Pyrene	0.12	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Dibenz[A,H]Anthracene	0.012	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Benzo[G,H,I]Perylene	--	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

°C = degrees Celsius
 EPA = U.S. Environmental Protection Agency
 mg/L = milligrams per liter
 mV = millivolts
 NTU = nephelometric turbidity units
 PCBs = polychlorinated biphenyls
 SGC = silica gel cleanup.
 S.U. = standard units
 SVOCs = semivolatile organic compounds
 VOCs = volatile organic compounds
 µg/L = micrograms per liter
 uS/cm = microsiemens per centimeter

(a) Preliminary screening levels developed using methodology presented in the draft Site work plan (Landau Associates 2014).
 U = Indicates the compound was not detected at the reported concentration.
 J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
 Bold = Detected compound.
 Box = Exceedance of cleanup level.

TABLE 7
GROUNDWATER PRELIMINARY SCREENING LEVEL EXCEEDANCES
CLOSED CITY OF YAKIMA LANDFILL SITE

	Preliminary Screening Levels (a)	Total No. Samples Analyzed	Total No. Exceedances	Exceedances % of Total	Exceedance Concentration(s)
TOTAL PETROLEUM HYDROCARBONS (µg/L)					
NWTPH-Dx					
Diesel Range (w/SGC)	500	2	2	100%	520-1200
Diesel Range (wo/SGC)	500	2	2	100%	1800-3700
Oil Range (wo/SGC)	500	2	2	100%	1400-1500
DISSOLVED METALS (µg/L)					
Methods EPA-200.8/EPA-7470/EPA-7196					
Iron	300	26	20	77%	3100-41,000
Manganese	50	26	23	88%	110-4400
Sodium	20,000	26	11	42%	21,000-69,000
TOTAL METALS (µg/L)					
Methods EPA-200.8/EPA-7470/EPA-7196					
Iron	300	26	22	85%	320-44,000
Manganese	50	26	23	88%	120-4700
Sodium	20,000	26	12	46%	21,000-80,000
CONVENTIONALS (mg/L)					
Fluoride (EPA-300.0)	0.64	26	1	4%	0.71
FIELD PARAMETERS					
pH (S.U.)	6.5 to 8.5	26	18	69%	5.34-6.48; 9.76
VOCs (µg/L)					
Method EPA-8260					
Chloroform	1.4	21	1	5%	1.7
SVOCs (µg/L)					
Method EPA-8270					
3,3-Dichlorobenzidine	0.20	21	1	5%	13
Bis(2-Ethylhexyl)Phthalate	6	21	1	5%	10

(a) Preliminary screening levels developed using methodology presented in the draft work plan (Landau Associates 2014).

EPA = U.S. Environmental Protection Agency

SGC = silica gel cleanup

mg/L = milligrams per liter

µg/L = micrograms per liter

S.U. = Standard Units

Investigation Boring/Monitoring Well Logs

Soil Classification System

	MAJOR DIVISIONS	CLEAN GRAVEL (Little or no fines)	GRAPHIC SYMBOL	LETTER SYMBOL ⁽¹⁾	TYPICAL DESCRIPTIONS ⁽²⁾⁽³⁾
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
		CLEAN SAND (Little or no fines)		SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)	SILT AND CLAY (Liquid limit less than 50)		SC	Clayey sand; sand/clay mixture(s)
		SILT AND CLAY (Liquid limit less than 50)		ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
		SILT AND CLAY (Liquid limit less than 50)		CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
	SILT AND CLAY (Liquid limit greater than 50)	SILT AND CLAY (Liquid limit greater than 50)		OL	Organic silt; organic, silty clay of low plasticity
		SILT AND CLAY (Liquid limit greater than 50)		MH	Inorganic silt; micaceous or diatomaceous fine sand
		SILT AND CLAY (Liquid limit greater than 50)		CH	Inorganic clay of high plasticity; fat clay
	HIGHLY ORGANIC SOIL		OH	Organic clay of medium to high plasticity; organic silt	
			PT	Peat; humus; swamp soil with high organic content	

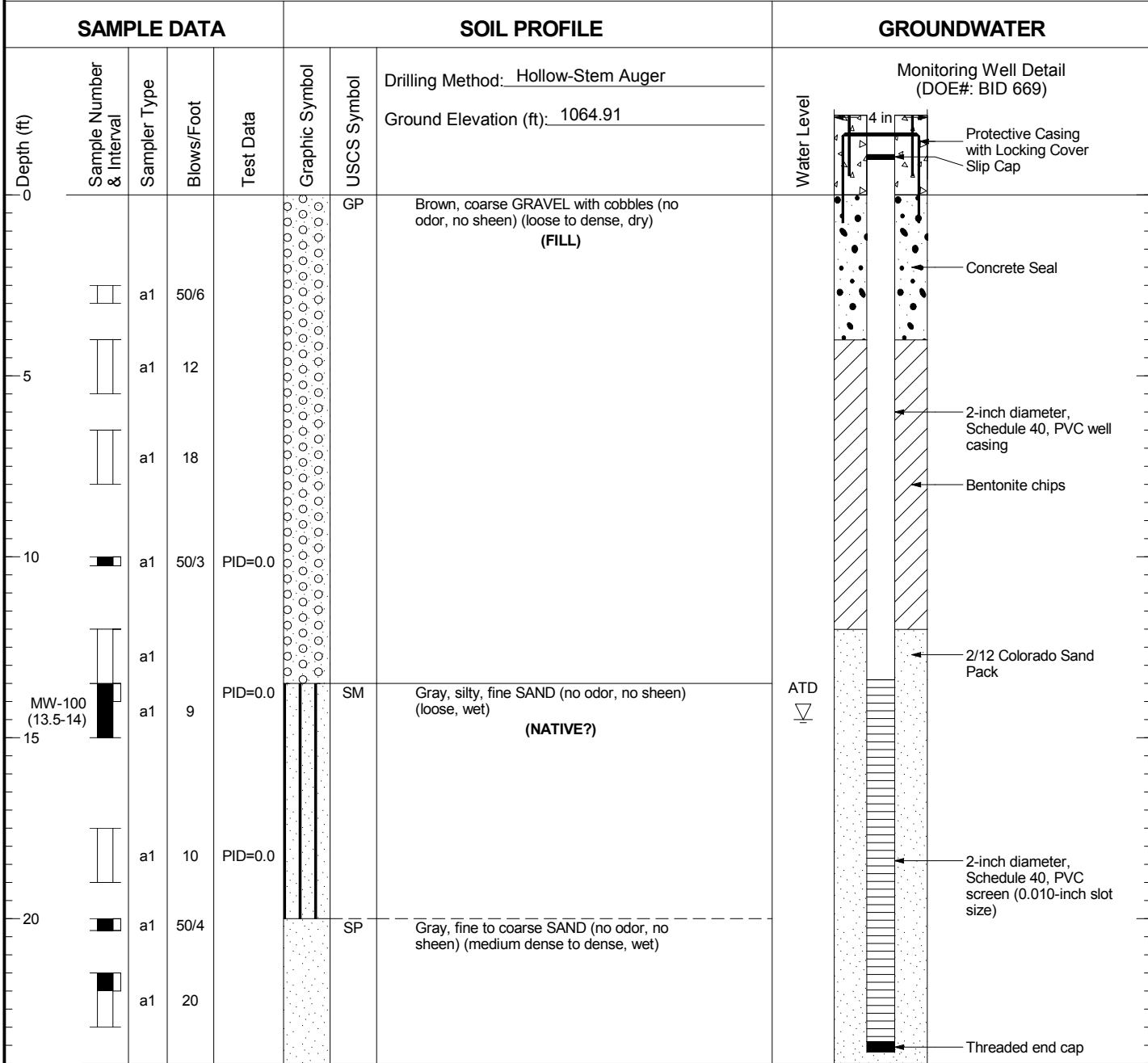
OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

- Notes:
- USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
 - Soil descriptions are based on the general approach presented in the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the Standard Test Method for Classification of Soils for Engineering Purposes, as outlined in ASTM D 2487.
 - Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:
 - Primary Constituent: > 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
 - Secondary Constituents: > 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
 - > 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
 - Additional Constituents: > 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
 - ≤ 5% - "with trace gravel," "with trace sand," "with trace silt," etc., or not noted.
 - Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

Drilling and Sampling Key		Field and Lab Test Data
SAMPLER TYPE	SAMPLE NUMBER & INTERVAL	
Code	Description	Code
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon	PP = 1.0
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon	TV = 0.5
c	Shelby Tube	PID = 100
d	Grab Sample	W = 10
e	Single-Tube Core Barrel	D = 120
f	Double-Tube Core Barrel	-200 = 60
g	2.50-inch O.D., 2.00-inch I.D. WSDOT	GS
h	3.00-inch O.D., 2.375-inch I.D. Mod. California	AL
i	Other - See text if applicable	GT
1	300-lb Hammer, 30-inch Drop	CA
2	140-lb Hammer, 30-inch Drop	
3	Pushed	
4	Vibrocore (Rotasonic/Geoprobe)	
5	Other - See text if applicable	

Groundwater	
	Approximate water level at time of drilling (ATD)
	Approximate water level at time other than ATD

MW-100



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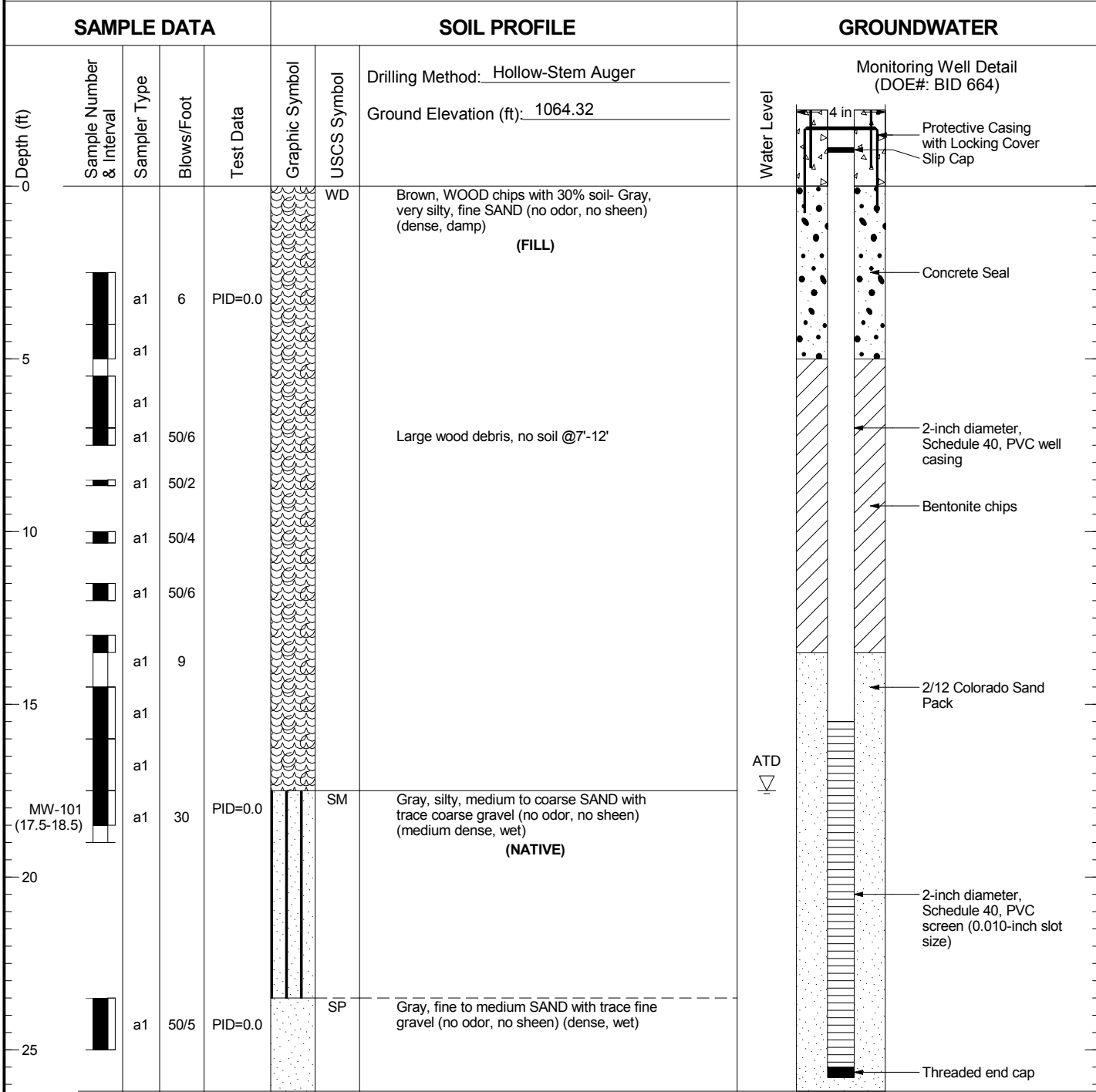


Closed City of Yakima Landfill Site
Yakima, Washington

Log of Monitoring Well MW-100

Figure
A-2

MW-101



Boring Completed 09/05/14
Total Depth of Boring = 26.2 ft.

Monitoring Well Completed 09/05/14
Elevation at Top of Protective Casing = 1067.02 ft.
Elevation at Top of Monitoring Well Casing = 1066.75 ft.
Total Depth of Monitoring Well = 25.8 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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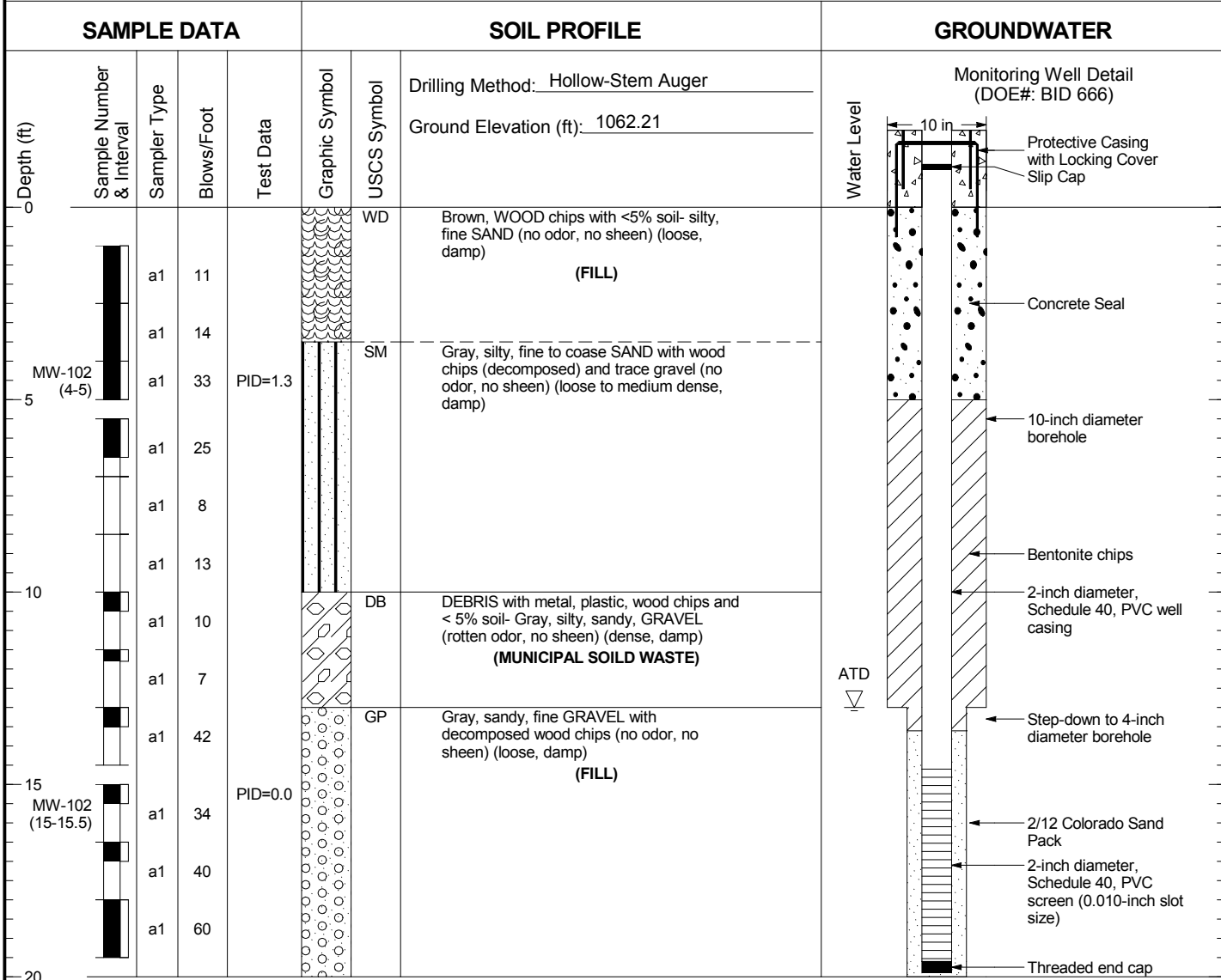


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-101

Figure
A-3

MW-102



Boring Completed 09/08/14
Total Depth of Boring = 20.0 ft.

Monitoring Well Completed 09/08/14
Elevation at Top of Protective Casing = 1064.86 ft.
Elevation at Top of Monitoring Well Casing = 1064.37 ft.
Total Depth of Monitoring Well = 19.9 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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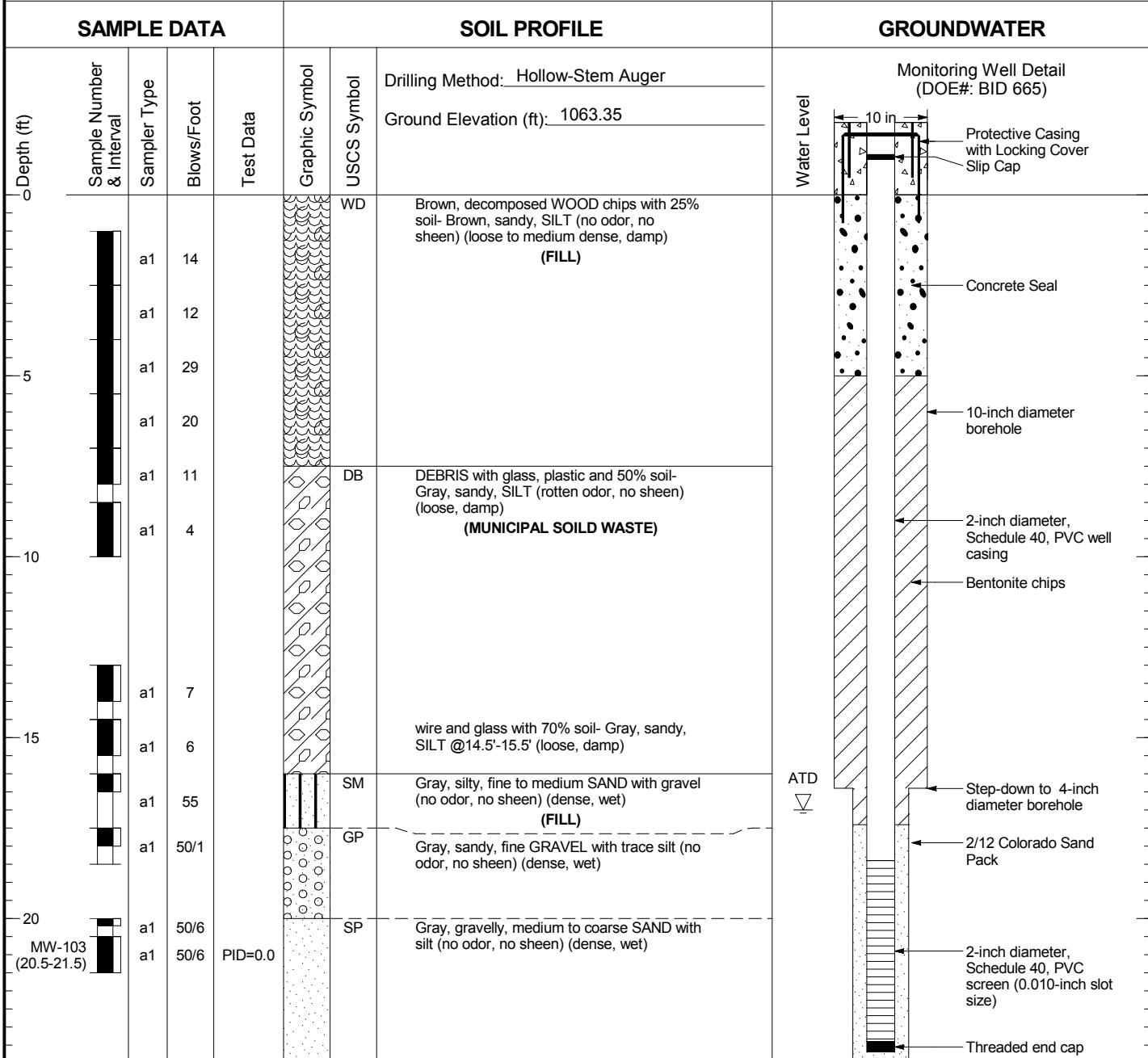


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-102

Figure
A-4

MW-103



Boring Completed 09/04/14
Total Depth of Boring = 24.0 ft.

Monitoring Well Completed 09/05/14
Elevation at Top of Protective Casing = 1065.60 ft.
Elevation at Top of Monitoring Well Casing = 1065.11 ft.
Total Depth of Monitoring Well = 23.7 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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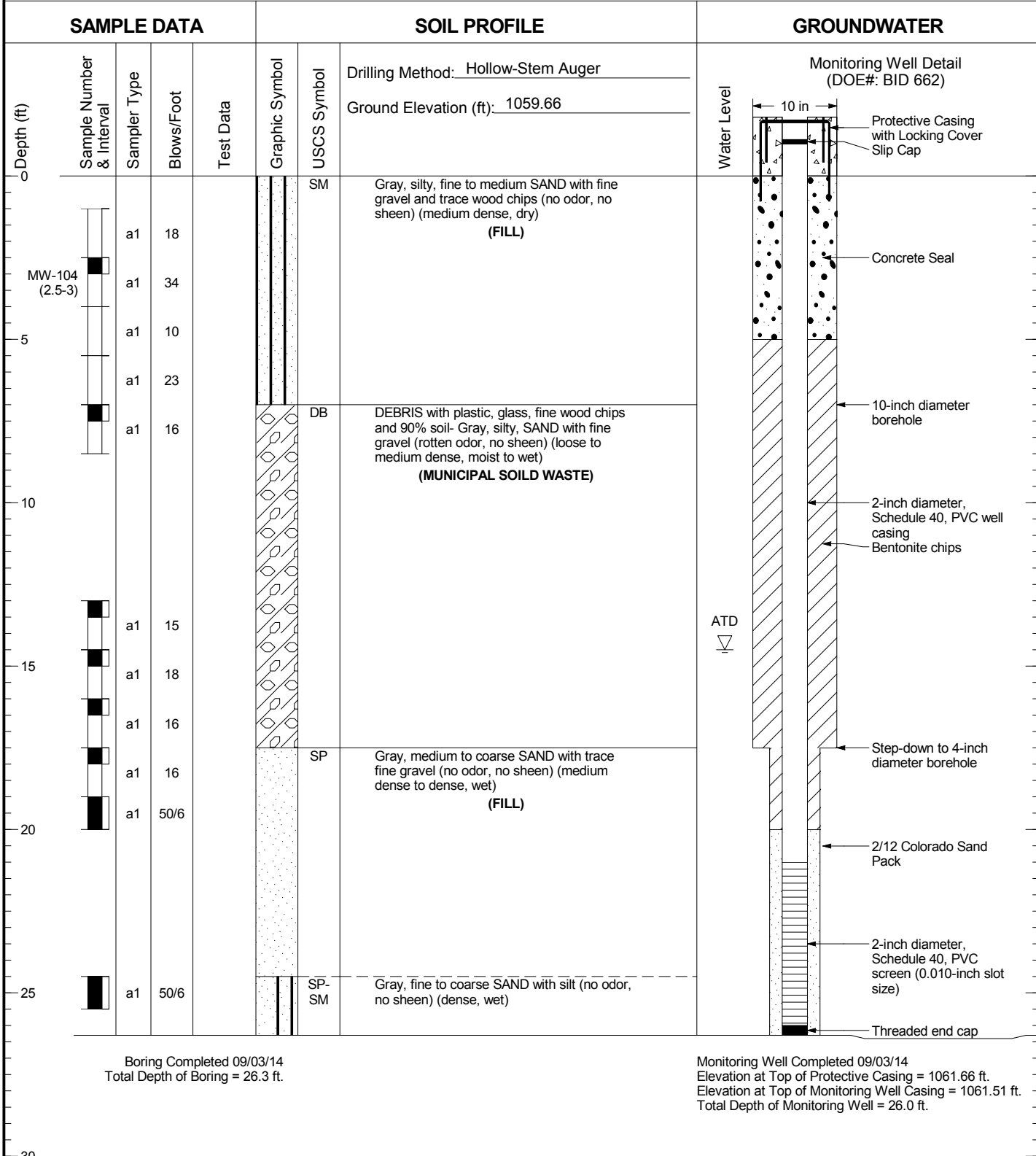


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-103

Figure
A-5

MW-104



Boring Completed 09/03/14
Total Depth of Boring = 26.3 ft.

Monitoring Well Completed 09/03/14
Elevation at Top of Protective Casing = 1061.66 ft.
Elevation at Top of Monitoring Well Casing = 1061.51 ft.
Total Depth of Monitoring Well = 26.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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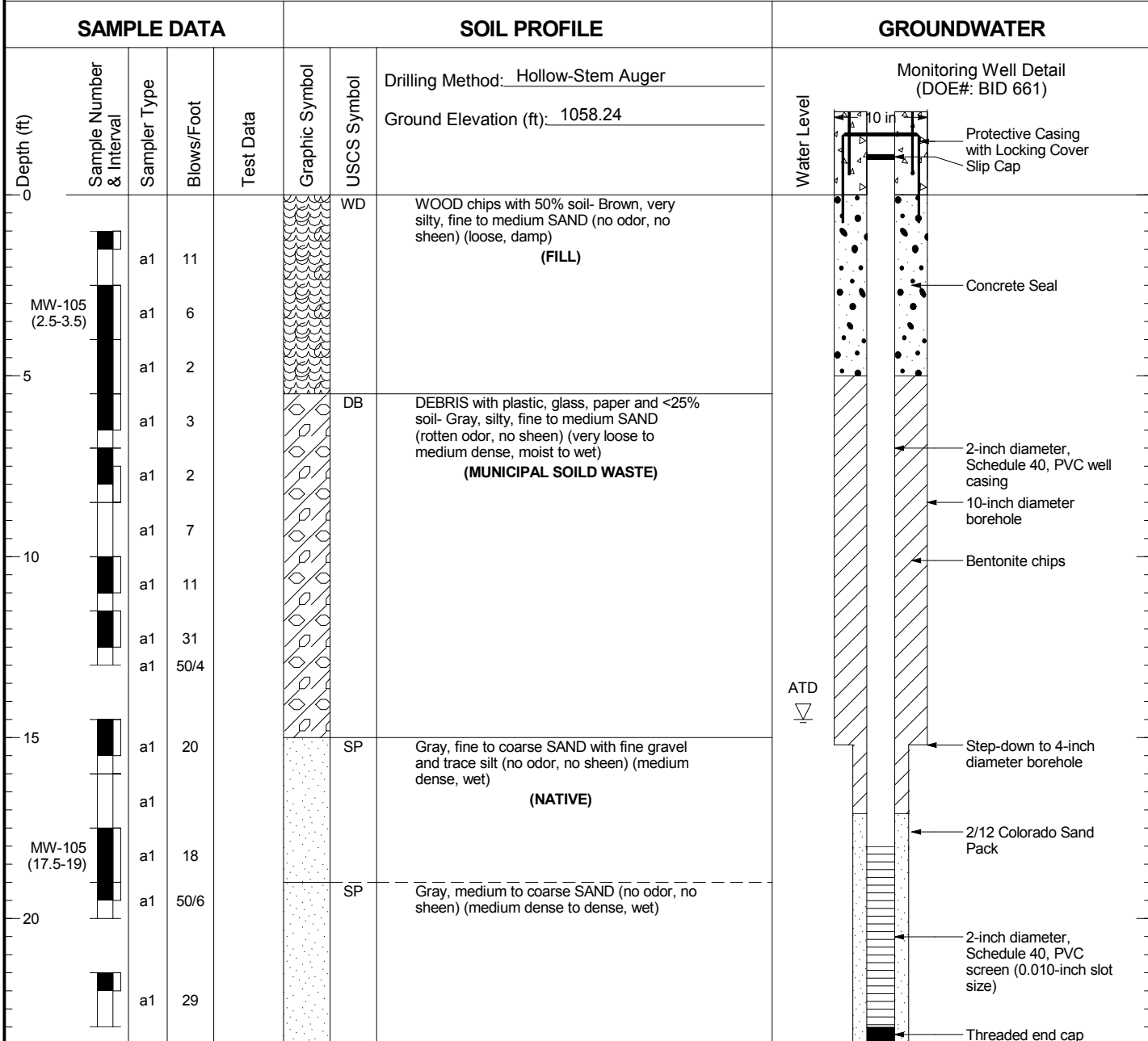


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-104

Figure
A-6

MW-105



Boring Completed 09/02/14
Total Depth of Boring = 23.5 ft.

Monitoring Well Completed 09/02/14
Elevation at Top of Protective Casing = 1060.41 ft.
Elevation at Top of Monitoring Well Casing = 1059.60 ft.
Total Depth of Monitoring Well = 23.4 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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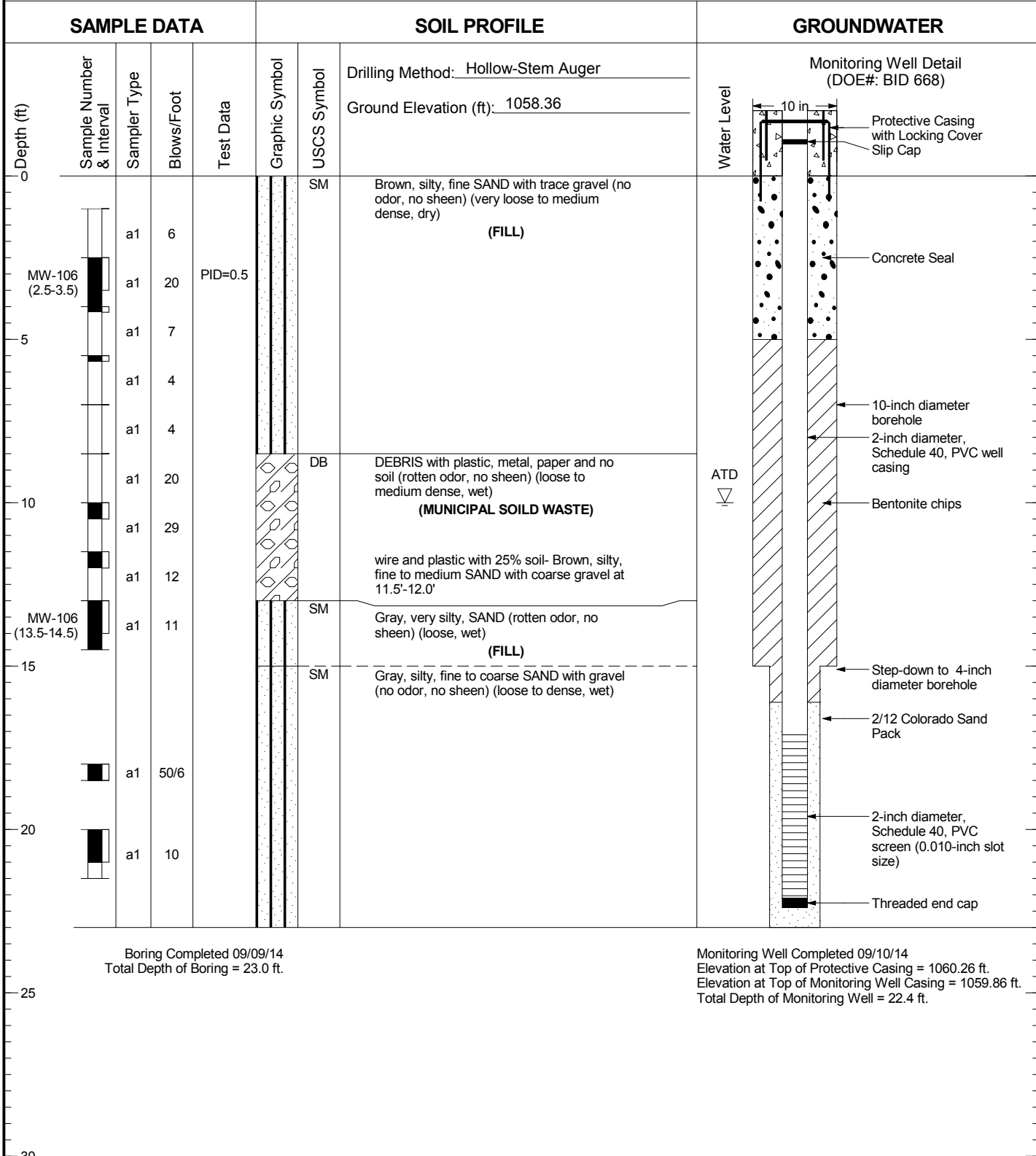


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-105

Figure
A-7

MW-106



Boring Completed 09/09/14
Total Depth of Boring = 23.0 ft.

Monitoring Well Completed 09/10/14
Elevation at Top of Protective Casing = 1060.26 ft.
Elevation at Top of Monitoring Well Casing = 1059.86 ft.
Total Depth of Monitoring Well = 22.4 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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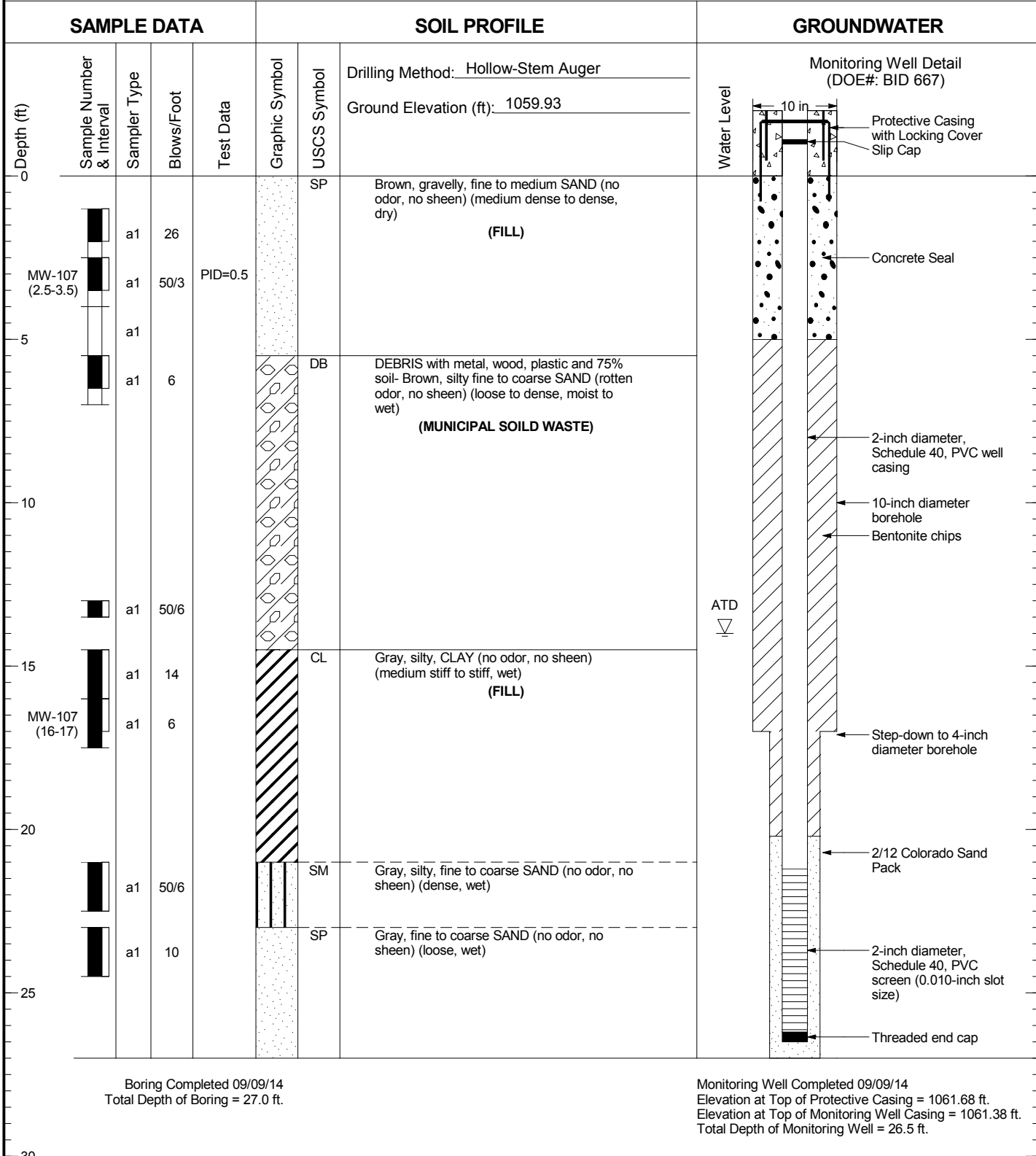


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-106

Figure
A-8

MW-107



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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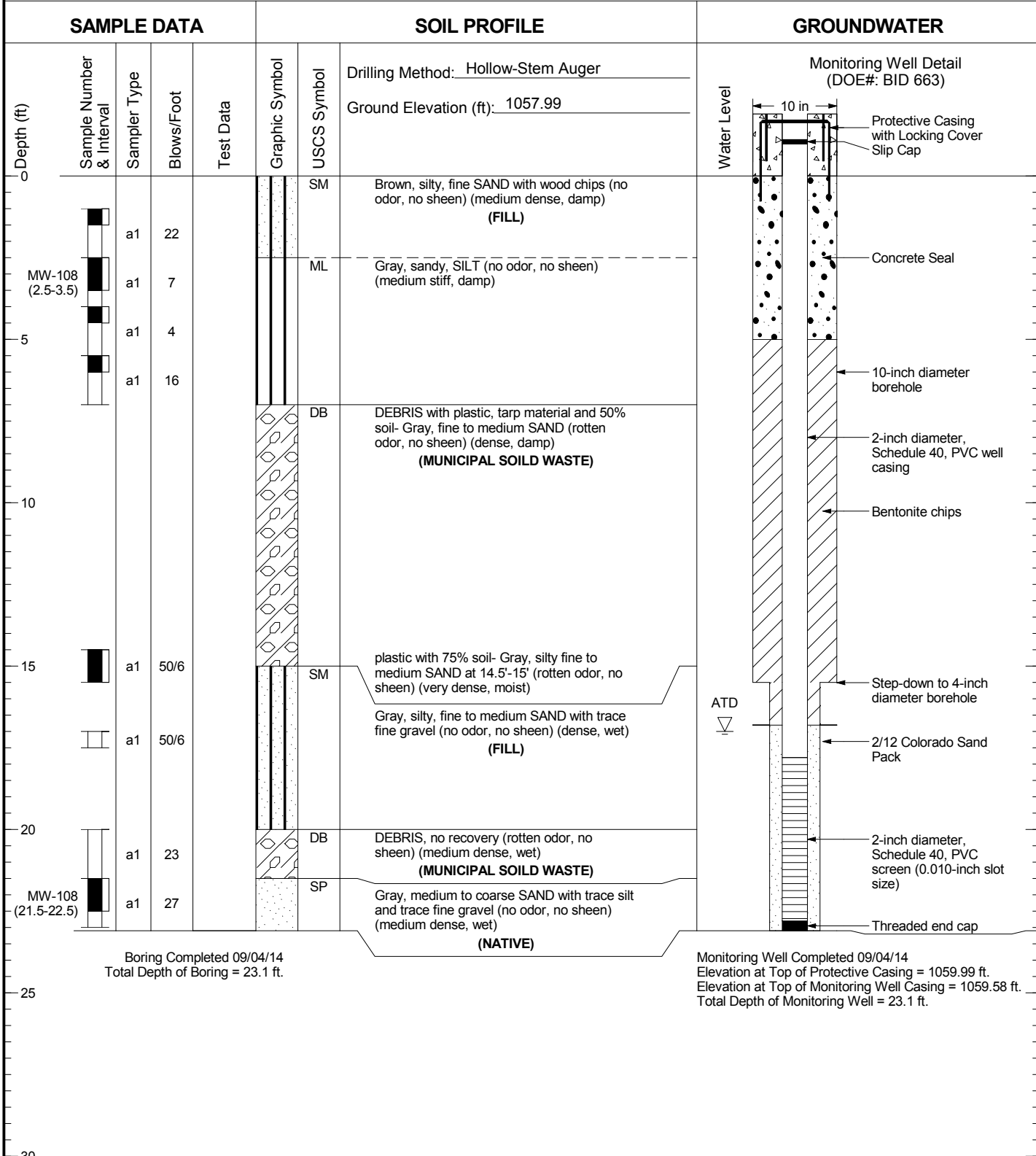


Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-107

Figure
A-9

MW-108



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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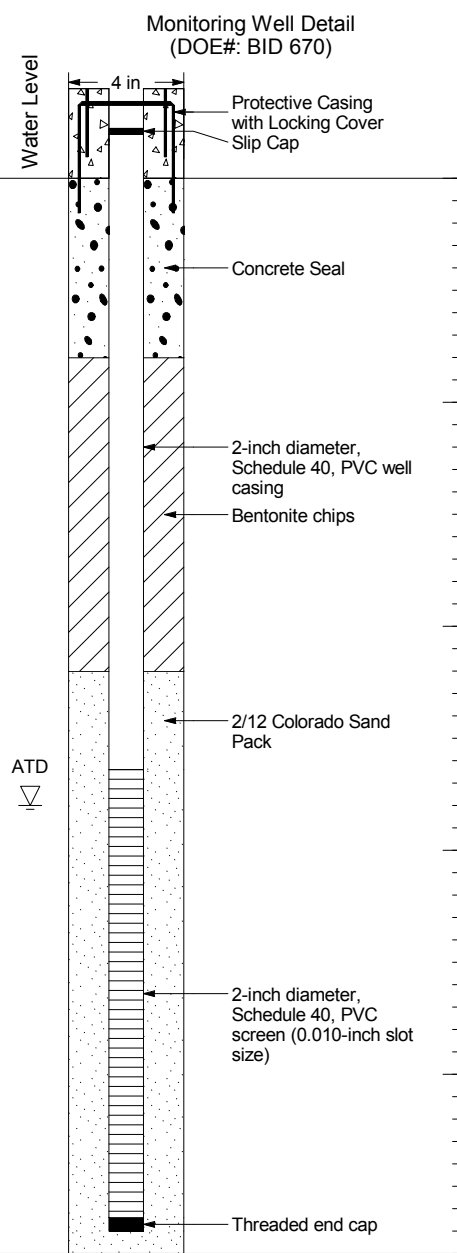
Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-108

Figure
A-10

MW-109

SAMPLE DATA				SOIL PROFILE		GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol
					Drilling Method: <u>Hollow-Stem Auger</u> Ground Elevation (ft): <u>1059.30</u>	
0					SM	Brown, silty, fine SAND (no odor, no sheen) (dense, damp to wet) (FILL)
5	a1	50/3				
	a1	50/2				
10	a1	50/2				
	a1	50/6				
15	a1	50/6			SP-SM	Brown, fine to coarse SAND with silt and fine gravel (no odor, no sheen) (dense, wet) (NATIVE?)
20	a1	50/6				
	a1	18				



Boring Completed 09/11/14
Total Depth of Boring = 24.0 ft.

Monitoring Well Completed 09/11/14
Elevation at Top of Protective Casing = 1062.15 ft.
Elevation at Top of Monitoring Well Casing = 1061.50 ft.
Total Depth of Monitoring Well = 23.5 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Closed City of Yakima Landfill
Site
Yakima, Washington

Log of Monitoring Well MW-109

Figure
A-11