

Appendix B

Hazardous Materials Assessment Summary Tables

Table 1
Inventory of Soil Boring Laboratory Data
Weston Aqueduct Supply Main 3

Laboratory ID	Sample ID	Boring ID	Sample Interval (feet below grade)	Results	Comments
L1745745-03	B 20/S2 (2-4)	B20 / MW	S2 (2-4)	All Analytes <RCS-1	
L1745745-04	B 20/S2 (2-4) DUP	B20 / MW	S2 (2-4) DUP	All Analytes <RCS-1	
L1746434-02	B 21/S2 (2-4)	B21	S2 (2-4)	Some exceedences	Some Metals >RCS-1
L1747637-01	B 21/S2 (2-4)	B21	S2 (2-4)	TCLP analysis	Lead passed
L1746023-01	B 22/S2 (2-4)	B22	S2 (2-4)	Some exceedences	Some PAHs >RCS-1
L1736679-03	B 24/V1 (2-2.5)	B24	V1 (2-2.5)	All Analytes <RCS-1	
L1736679-04	B 24/V2 (4.5-5)	B24	V2 (4.5-5)	All Analytes <RCS-1	
L1736679-01	B 25/V1 (2-2.5)	B25 / MW	V1 (2-2.5)	All Analytes <RCS-1	Near RTN 3-10991, Industrial, Circuit Boards<cVOCs, Phase V
L1736679-02	B 25/V2 (4.5-5)	B25 / MW	V2 (4.5-5)	All Analytes <RCS-1	
L1736486-04	B 26/V1 (2-2.5)	B26	V1 (2-2.5)	All Analytes <RCS-1	
L1736486-05	B 26/V2 (5.5-6)	B26	V2 (5.5-6)	All Analytes <RCS-1	
L1737334-03	B 27/S2 (2-4)	B27	S2 (2-4)	All Analytes <RCS-1	
L1737334-01	B 28/S2 (2-4)	B28	S2 (2-4)	All Analytes <RCS-1	
L1737334-02	B 28/S3 (4-6)	B28	S3 (4-6)	All Analytes <RCS-1	
L1737144-01	B 29/S2 (2-4)	B29	S2 (2-4)	All Analytes <RCS-1	
L1737144-02	B 29/S3 (4-6)	B29	S3 (4-6)	All Analytes <RCS-1	
L1736486-02	B 30/V1 (3-3.5)	B30	V1 (3-3.5)	All Analytes <RCS-1	
L1736486-03	B 30/V2 (5-5.5)	B30	V2 (5-5.5)	All Analytes <RCS-1	
L1736486-01	B 31/V1 (2-2.5)	B31	V1 (2-2.5)	All Analytes <RCS-1	
L1743700-05	B 32/V1 (2-2.5)	B32	V1 (2-2.5)	Some exceedences	Some Metals and PAHs >RCS-1
L1744599-01	B 32/V1 (2-2.5)	B32	V1 (2-2.5)	TCLP analysis	Lead passed
L1737513-01	B 33/S2 (2-4)	B33	S2 (2-4)	All Analytes <RCS-1	
L1736152-01	B 34/V1 (2-2.5)	B34	V1 (2-2.5)	All Analytes <RCS-1	
L1737246-01	B 34/V1 (2-2.5)	B34	V1 (2-2.5)	TCLP analysis	Lead passed
L1737973-01	B 35/S2 (2-4)	B35	S2 (2-4)	All Analytes <RCS-1	
L1737973-02	B 36/S2 (2-4)	B36	S2 (2-4)	All Analytes <RCS-1	
L1736679-05	B 37/V1 (2-2.5)	B37	V1 (2-2.5)	All Analytes <RCS-1	
L1736679-06	B 37/V1 (2-2.5) DUP	B37	V1 (2-2.5) DUP	All Analytes <RCS-1	
L1736152-02	B 38/V1 (3-3.5)	B38	V1 (3-3.5)	Some exceedences	Some Metals >RCS-1
L1737246-02	B 38/V1 (3-3.5)	B38	V1 (3-3.5)	TCLP analysis	Lead failed
L1738395-01	B 39/S2 (2-4)	B39	S2 (2-4)	All Analytes <RCS-1	
L1801072-01	B 40 S-5 (8-10')	B40	S-5 (8-10')	All Analytes <RCS-1	
L1739921-03	B 41/V1 (2-2.5)	B41	V1 (2-2.5)	All Analytes <RCS-1	
L1739921-04	B 41/V2 (5.5-6)	B41	V2 (5.5-6)	All Analytes <RCS-1	
L1739921-01	B 42/V1 (3-3.5)	B42	V1 (3-3.5)	All Analytes <RCS-1	
L1739921-02	B 42/V1 (3-3.5) DUP	B42	V1 (3-3.5) DUP	All Analytes <RCS-1	
L1739003-04	B 43/S2 (2-4)	B43	S2 (2-4)	All Analytes <RCS-1	
L1739441-02	B 44/V1 (2-2.5)	B44	V1 (2-2.5)	All Analytes <RCS-1	
L1739441-01	B 45/V1 (2-2.5)	B45	V1 (2-2.5)	All Analytes <RCS-1	
L1742055-01	B 46/V1 (2.5-3)	B46	V1 (2.5-3)	All Analytes <RCS-1	
L1742055-02	B 46/V1 (2.5-3)DUP	B46	V1 (2.5-3)DUP	All Analytes <RCS-1	
L1739921-05	B 47/V1 (2-2.5)	B47	V1 (2-2.5)	All Analytes <RCS-1	
L1738607-02	B 48/S2 (2-4)	B48	S2 (2-4)	All Analytes <RCS-1	
L1738607-03	B 48/S3 (4-6)	B48	S3 (4-6)	All Analytes <RCS-1	
L1738607-04	B 48/S3 (4-6) DUP	B48	S3 (4-6) DUP	All Analytes <RCS-1	
L1802996-01	B 49/S1 (6-8)	B49	S1 (6-8)	All Analytes <RCS-1	
L1802542-01	B 49/V1 (1.5-2)	B49	V1 (1.5-2)	All Analytes <RCS-1	
L1802542-02	B 49/V1 (1.5-2) DUP	B49	V1 (1.5-2) DUP	All Analytes <RCS-1	
L1738819-01	B 50/S2 (2-4)	B50	S2 (2-4)	All Analytes <RCS-1	
L1738819-02	B 50/S3 (4-6)	B50	S3 (4-6)	All Analytes <RCS-1	
L1738819-03	B 51/S1 (1-2)	B51	S1 (1-2)	All Analytes <RCS-1	
L1738819-04	B 51/S3 (4-6)	B51	S3 (4-6)	All Analytes <RCS-1	
L1739003-02	B 52/S2 (2-4)	B52	S2 (2-4)	All Analytes <RCS-1	
L1739003-03	B 52/S3 (4-6)	B52	S3 (4-6)	All Analytes <RCS-1	
L1739003-01	B 53/S2 (2-4)	B53 / MW	S2 (2-4)	All Analytes <RCS-1	
L1738607-01	B 54/S2 (2-4)	B54	S2 (2-4)	All Analytes <RCS-1	
L1739589-01	B 54/S2 (2-4)	B54	S2 (2-4)	TCLP Analysis	Lead passed
L1739299-02	B 55/S1 (2-4)	B55	S1 (2-4)	All Analytes <RCS-1	

Table 2
Summary of Environmental Concerns Along CP-2

Boring ID	Concentrations exceeding RCS-1 in Soil	Concentrations exceeding RCGW-1 in GW	General Area Description	Oil or Hazardous Materials Reported Releases	Excavation / Dewatering Limitations	Closest Stations (between or at)	Proposed Work	Soil Management Disposal Options (for budgeting purposes)	Group
CDMS-B 20MW		None	Commercial/Wooded		Do not dewater within 500' either side, if possible	96 and 97		Unlined or lined landfill	IA, IB
CDMS-B 21	Arsenic and lead (passed TCLP)		Commercial/Wooded		Do not excavate within 100' either side, if possible	100 and 101		Unlined or lined landfill	IA, IB
CDMS-B 22	Benzo(a)pyrene		Commercial		None	103 and 104		Unlined or lined landfill	IA, IB
CDMS-B 23			Residential-Multi-Unit		None			Unlined or lined landfill	IA, IB
CDMS-B 24			Commercial/Residential	Abutting gas station-A2 RAO 2003 (petroleum) Multiple release sites adjacent north (petroleum, waste oil, cVOCs, historic fill, SVOCs)	Do not excavated 100' west of B-24 to B-26, if possible Do not dewater within 500' either side of B25MW, if possible	114 and 115		Out-of-State facility or Haz Waste facility	II, III
CDMS-B 25MW		PCE	Commercial	Multiple surrounding release sites (petroleum, waste oil, cVOCs, historic fill, SVOCs)		120 and 121			
CDMS-B 26			Commercial/Residential	Multiple release sites adjacent south (petroleum, waste oil, cVOCs, historic fill, SVOCs)		124 and 125			
CDMS-B 27			Commercial/Residential		None	130 and 131		Unlined or lined landfill	IA, IB
CDMS-B 28			Commercial	Multiple surrounding release sites (petroleum, waste oil, metals, cVOCs, historic fill, SVOCs)	Do not excavate between 200' east and 300' west, if possible	at 135		Out-of-State facility or Haz Waste facility	II, III
CDMS-B 29			Commercial	Multiple release sites adjacent north (petroleum)	Do not excavate between B-29 and B-31, if possible	139 and 140		Unlined or lined landfill	IA, IB
CDMS-B 30			Commercial	Multiple release sites adjacent and to the south (petroleum)		143 and 144			
CDMS-B 31			Commercial	Multiple release sites adjacent south (petroleum)		147 and 148			
CDMS-B 32	Lead (passed TCLP) and benzo(a)pyrene		Commercial		Do not excavate within 100' either side, if possible	158 and 159		Unlined or lined landfill	IA, IB
CDMS-B 33			Commercial/Residential		None	at 162+50		Unlined or lined landfill	IA, IB
CDMS-B 34	None		Commercial/Residential		None	165 and 166		Unlined or lined landfill	IA, IB
CDMS-B 35MW			Commercial/Residential		None	169 and 170		Unlined or lined landfill	IA, IB
CDMS-B 36			Commercial/Residential		None	175 and 176		Unlined or lined landfill	IA, IB
CDMS-B 37			Commercial/Residential			179 and 180		Unlined or lined landfill	IA, IB
CDMS-B 38	Lead (failed TCLP)		Commercial/Residential		Do not excavate within 100' either side, if possible	at 185		Out-of-State facility or Haz Waste facility	II, III
CDMS-B 39			Commercial/Residential		None	191 and 192		Unlined or lined landfill	IA, IB
CDMS-B 40			Commercial	Multiple release sites adjacent east (petroleum)	Do not excavate from 100' west of B-40 through 100' east of B-41, if possible	194 and 195		Unlined or lined landfill	IA, IB
CDMS-B 41			Commercial			200 and 201			
CDMS-B 42			Commercial/Residential			204 and 205			
CDMS-B 43			Commercial/Residential		None	211 and 212		Unlined or lined landfill	IA, IB
CDMS-B 44			Commercial/Residential		None	215 and 216		Unlined or lined landfill	IA, IB
CDMS-B 45			Wooded		None	at 222		Unlined or lined landfill	IA, IB
CDMS-B 46	None		Wooded		None	225 and 226		Unlined or lined landfill	IA, IB
CDMS-B 47			Commercial		None	231 and 232		Unlined or lined landfill	IA, IB
CDMS-B 48			Commercial	Release sites adjacent east (petroleum, metals)	Do not excavate within 100' west of B-48 through 200 feet east of B-49, if possible	235 and 236		Unlined or lined landfill	IA, IB
CDMS-B 49			Commercial			239 and 240			
CDMS-B 50			Commercial			248 and 249			
CDMS-B 51			Commercial		None	249 and 250		Unlined or lined landfill	IA, IB
CDMS-B 52			Commercial/Residential	Release sites adjacent (petroleum, waste oil, cVOCs)	Do not excavate from 100' west of B-52 through 100' east of B-53, if possible	255 and 256		Out-of-State facility or Haz Waste facility	II, III
CDMS-B 53		None	Commercial/Residential			263 and 264			
CDMS-B 54			Residential			268 and 269		Unlined or lined landfill	IA, IB
CDMS-B 55			Commercial/Wooded		None	272 and 273		Unlined or lined landfill	IA, IB

Notes

RCS-1 - reportable concentrations

MW indicates boring completed with a monitoring well

TPH - total petroleum hydrocarbons

PAHs - polynuclear aromatic hydrocarbons

Blank cells indicate no reportable soil impacts or release sites near boring

Group IA - Soils acceptable at a Massachusetts unlined (or lined) landfill as cover material and meet Massachusetts unlined landfill reuse criteria as outlined in the COMM-97-01 policy.

Group IB - Soils acceptable at a Massachusetts lined landfill as cover material and meet Massachusetts lined landfill reuse criteria as specified in COMM-97-01.

Group II - Soils required to be disposed of at an out of state disposal facility, which cannot be disposed of as Group IA or IB, and meet out of state facility requirements.

Group III - Hazardous Waste. Soil determined to contain "listed" hazardous waste constituents: soil, through VOC analysis, that indicates the presence of any of F-code wastes set forth in 40 CFR 261.31 or U-code wastes set forth in 40 CFR 261.33;

or soil determined to exhibit a "characteristic" of hazardous waste such as ignitability, corrosivity, reactivity or toxicity (soil, through TCLP analysis, that exceeds the regulatory limit established for any one or more RCRA metals set forth in Table 1 of 40 CFR 261.24).

Table 3
Soil Analytical Results
Weston Aqueduct Supply Main 3

	CAS Number	MADEP RCS-1 2014	MADEP RCS-2 2014	Similar Soils Limiting Soil Concentration RCS-1 2014	Similar Soils Limiting Soil Concentration RCS-2 2014	MADEP Table 1 Unlined LF Comm97	MADEP Table 1 Lined LF Comm97	Units	Boring / Sample ID (depth interval in parentheses, feet below grade) Sample Date and Laboratory Sample ID													
									B21/S2		B22/S2		B22/V1		B34/V1		B38/V1		B46/V1			
									(2-4) 15-DEC-17 L1746434-02	Qual	(2-4) 13-DEC-17 L1746023-01	Qual	(2-2.5) 29-NOV-17 L1743700-05	Qual	(2-2.5) 06-OCT-17 L1736152-01	Qual	(3-3.5) 06-OCT-17 L1736152-02	Qual	(2.5-3) 15-NOV-17 L1742055-01	Qual	(2.5-3) 15-NOV-17 L1742055-02	Qual
Green = Group 1A (Unlined or Lined LF) Blue = Group IB (Lined LF) Purple = Group II (Out-of-State) Red = Group III (Haz Waste)																						
General Chemistry																						
Solids, Total	---							%	81.4		92		81.8		88.9		92.5		92.7		93.3	
pH (H)	12408-02-5							SU	7		7.8		5.8		6.7		8.6		7.3		7.3	
MCP General Chemistry																						
Chromium, Hexavalent	18540-29-9	100	200	100	200			mg/kg	0.98	U	0.87	U	0.98	U	0.9	U	0.86	U	0.86	U	0.86	
General Chemistry																						
Oxidation/Reduction Potential	---							mv	240		200		280		200		180		230		230	
MCP Total Metals																						
Antimony, Total	7440-36-0	20	30	10	10			mg/kg	2.44	U		U		U		U		U		U	U	
Arsenic, Total	7440-38-2	20	20	20	20	40	40	mg/kg	21.3		4.06		13.1		6.01		2.81		4.34		5.5	
Barium, Total	7440-39-3	1000	3000	375	375			mg/kg	55.5		29.4		120		20.9		36.2		22.6		26.3	
Beryllium, Total	7440-41-7	90	200	4	4			mg/kg	0.307		0.298		0.426		0.303				U		U	
Cadmium, Total	7440-43-9	70	100	20	20	30	80	mg/kg	0.765			U		U	0.531		U		0.45		0.505	
Chromium, Total	7440-47-3	100	200	100	200	1000	1000	mg/kg	10.9		13		14		14.3		6.54		8.32		10.2	
Copper, Total	7440-50-8	1000	10000	300	300			mg/kg	24.5		18.6		45.2		17		8.94		22.7		24.8	
Lead, Total	7439-92-1	200	600	200	500	1000	2000	mg/kg	281		18.3		837		118		891		20		18.8	
Mercury, Total	7439-97-6	20	30	3	3	10	10	mg/kg	0.191			U		0.774		0.084		U		U	U	
Nickel, Total	7440-02-0	600	1000	150	150			mg/kg	7.28		8.22		7.87		10.4		5.03		7.52		8.65	
Selenium, Total	7782-49-2	400	700	5	5			mg/kg	2.44	U		U		U		U		U		U	U	
Silver, Total	7440-22-4	100	200	6	6			mg/kg	0.487	U		U		U		U		U		U	U	
Thallium, Total	7440-28-0	8	60	6	6			mg/kg	2.44	U		U		U		U		U		U	U	
Vanadium, Total	7440-62-2	400	700	225	225			mg/kg	24.8		20.1		22.8		22.2		9.69		24.9		27.4	
Zinc, Total	7440-66-6	1000	3000	500	500			mg/kg	112		28.4		92.6		47.8		120		36.2		37	
MCP Volatile Organics by 8260/5035																						
1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02					mg/kg	0.0026	U		U		U		U		U		U	U	
1,1,2-Trichloroethane	79-00-5	0.1	2					mg/kg	0.0038	U		U		U		U		U		U	U	
1,2,4-Trimethylbenzene	95-63-6	1000	10000					mg/kg	0.01	U		U		U		U		U		U	U	
1,2-Dibromoethane	106-93-4	0.1	0.1					mg/kg	0.01	U		U		U		U		U		U	U	
1,2-Dichloropropane	78-87-5	0.1	0.1					mg/kg	0.009	U		U		U		U		U		U	U	
1,3,5-Trimethylbenzene	108-67-8	10	100					mg/kg	0.01	U		U		U		U		U		U	U	
1,3-Dichloropropene, Total	542-75-6	0.01	0.4					mg/kg	0.0026	U		U		U		U		U		U	U	
1,4-Dioxane	123-91-1	0.2	6					mg/kg	0.1	U		U		U		U		U		U	U	
Acetone	67-64-1	6	50					mg/kg	0.092	U		U		U		U		U		U	U	
Bromoform	75-25-2	0.1	1					mg/kg	0.01	U		U		U		U		U		U	U	
cis-1,3-Dichloropropene	10061-01-5	0.01	0.1					mg/kg	0.0026	U		U		U		U		U		U	U	
Dibromochloromethane	124-48-1	0.005	0.03					mg/kg	0.0026	U		U		U		U		U		U	U	
Methyl ethyl ketone	78-93-3	4	50					mg/kg	0.026	U		U		U		U		U		U	U	
Methyl isobutyl ketone	108-10-1	0.4	50					mg/kg	0.026	U		U		U		U		U		U	U	
Methyl tert butyl ether	1634-04-4	0.1	100					mg/kg	0.0051	U		U		U		U		U		U	U	
Methylene chloride	75-09-2	0.1	4					mg/kg	0.026	U		U		U		U		U		U	U	
Naphthalene	91-20-3	4	20					mg/kg	0.01	U		U		U		U		U		U	U	
o-Xylene	95-47-6							mg/kg	0.0051	U		U		U		U		U		U	U	
p/m-Xylene	179601-23-1							mg/kg	0.0051	U		U		U		U		U		U	U	
Toluene	108-88-3	30	1000					mg/kg	0.0038	U		U		U		U		U		U	U	
trans-1,3-Dichloropropene	10061-02-6	0.01	0.1					mg/kg	0.0026	U		U		U		U		U		U	U	
Trichloroethene	79-01-6	0.3	0.3					mg/kg	0.0026	U		U		U		U		U		U	U	
Xylenes, Total	1330-20-7	100	100					mg/kg	0.0051	U		U		U		U		U		U	U	
Total VOCs						4	10		0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 3
Soil Analytical Results
Weston Aqueduct Supply Main 3

Green = Group 1A (Unlined or Lined LF) Blue = Group 1B (Lined LF) Purple = Group II (Out-of-State) Red = Group III (Haz Waste)	CAS Number	MADEP RCS-1 2014	MADEP RCS-2 2014	Similar Soils Limiting Soil Concentration RCS-1 2014	Similar Soils Limiting Soil Concentration RCS-2 2014	MADEP Table 1 Unlined LF Comm97	MADEP Table 1 Lined LF Comm97	Units	Boring / Sample ID (depth interval in parentheses, feet below grade) Sample Date and Laboratory Sample ID													
									B21/S2		B22/S2		B32/V1		B34/V1		B38/V1		B46/V1		B46/V1	
									(2-4) 15-DEC-17 L1746434-02	Qual	(2-4) 13-DEC-17 L1746023-01	Qual	(2-2.5) 29-NOV-17 L1743700-05	Qual	(2-2.5) 06-OCT-17 L1736152-01	Qual	(3-3.5) 06-OCT-17 L1736152-02	Qual	(2.5-3) 15-NOV-17 L1742055-01	Qual	(2.5-3) 15-NOV-17 L1742055-02	Qual
MCP Semivolatile Organics																						
1,4-Dichlorobenzene	106-46-7	0.7	1					mg/kg	0.2	U		U		U		U		U		U		
2,4-Dichlorophenol	120-83-2	0.7	40					mg/kg	0.18	U		U		U		U		U		U		
2,4-Dimethylphenol	105-67-9	0.7	100					mg/kg	0.2	U		U		U		U		U		U		
2,4-Dinitrophenol	51-28-5	3	50					mg/kg	0.98	U		U		U		U		U		U		
2,4-Dinitrotoluene	121-14-2	0.7	10					mg/kg	0.2	U		U		U		U		U		U		
2-Chlorophenol	95-57-8	0.7	100					mg/kg	0.2	U		U		U		U		U		U		
2-Methylnaphthalene	91-57-6	0.7	80	0.7		5		mg/kg	0.24	U		U		U		U		U		U		
3-Methylphenol/4-Methylphenol	108-39-4	500	5000					mg/kg	0.29	U		U		U		U		U		U		
Acenaphthene	83-32-9	4	3000	4		5		mg/kg	0.16	U	0.15		U		U		U		U	U		
Acenaphthylene	208-96-8	1	10	1		5		mg/kg	0.16	U	0.28		0.4		U		U		U	U		
Anthracene	120-12-7	1000	3000	10		10		mg/kg	0.12	U	0.73		0.44		U		U		U	U		
Benzo(a)anthracene	56-55-3	7	40	7		20		mg/kg	0.13	U	2.4		2.2		U		U	0.19		U		
Benzo(a)pyrene	50-32-8	2	7	2		7		mg/kg	0.16	U	2.5		2.1		U		U	0.23		U		
Benzo(b)fluoranthene	205-99-2	7	40	7		20		mg/kg	0.22	U	3.2		2.9		0.14		U	0.29		0.16		
Benzo(ghi)perylene	191-24-2	1000	3000	10		10		mg/kg	0.16	U	1.6		1.4		U		U	0.15		U		
Benzo(k)fluoranthene	207-08-9	70	400	10		10		mg/kg	0.12	U	1		0.92		U		U			U		
Bis(2-chloroethoxy)methane	111-91-1	500	5000					mg/kg	0.22	U			U		U		U			U		
Bis(2-chloroethyl)ether	111-44-4	0.7	0.7					mg/kg	0.18	U			U		U		U			U		
Bis(2-chloroisopropyl)ether	108-60-1	0.7	0.7					mg/kg	0.24	U			U		U		U			U		
Bis(2-ethylhexyl)phthalate	117-81-7	90	600					mg/kg	0.2	U			U		U		U			U		
Butyl benzyl phthalate	85-68-7	100	1000					mg/kg	0.2	U			U		U		U			U		
Chrysene	218-01-9	70	400	20		20		mg/kg	0.16	U	2.2		2.3		U		U	0.17		U		
Di-n-octylphthalate	117-84-0	1000	10000					mg/kg	0.2	U			U		U		U			U		
Dibenzo(a,h)anthracene	53-70-3	0.7	4	0.7		4		mg/kg	0.12	U	0.4		0.33		U		U			U		
Dibenzofuran	132-64-9	100	1000					mg/kg	0.2	U	0.18				U		U			U		
Diethyl phthalate	84-66-2	10	200					mg/kg	0.2	U			U		U		U			U		
Dimethyl phthalate	131-11-3	0.7	50					mg/kg	0.2	U			U		U		U			U		
Fluoranthene	206-44-0	1000	3000	40		40		mg/kg	0.26	U	4.4		4.5		0.12		U			U		
Fluoranthene	206-44-0	1000	3000	40		40		mg/kg	0.2	U	0.23				U		U	0.29		0.14		
Fluorene	86-73-7	1000	3000	10		10		mg/kg	0.12	U			U		U		U			U		
Hexachlorobenzene	118-74-1	0.7	0.8					mg/kg	0.2	U			U		U		U			U		
Hexachlorobutadiene	87-68-3	30	100					mg/kg	0.16	U			U		U		U			U		
Hexachloroethane	67-72-1	0.7	3					mg/kg	0.16	U			1.5		U		U			U		
Indeno(1,2,3-cd)pyrene	193-39-5	7	40	7		10		mg/kg	0.18	U	1.8				U		U	0.16		U		
Isophorone	78-59-1	100	1000					mg/kg	0.2	U			U		U		U			U		
Naphthalene	91-20-3	4	20	44		5		mg/kg	0.18	U			U		U		U			U		
Nitrobenzene	98-95-3	500	5000					mg/kg	0.41	U			U		U		U			U		
Pentachlorophenol	87-86-5	3	10					mg/kg	0.14	U			2.2		U		U			U		
Phenanthrene	85-01-8	10	1000	10		30		mg/kg	0.2	U	2			U		U				U		
Phenanthrene	85-01-8	10	1000	10		30		mg/kg	0.24	U			3.7		0.11		U			U		
Phenol	108-95-2	1	20					mg/kg					U					U		U		
Pyrene	129-00-0	1000	3000	40		40		mg/kg			3.8											
Pyrene	129-00-0	1000	3000	40		40		mg/kg										0.28		0.14		
Total Semi-VOCs									1.15		27.45		25.53		0.37		0		1.76	0		
MCP Polychlorinated Biphenyls																						
Aroclor 1260	11096-82-5	1	4					mg/kg	0.26				U		U		U		U	U		
Aroclor 1268	11100-14-4	1	4					mg/kg	0.0399	U			U		U		U		U	U		
Totak PCBs	1336-36-3	1	4					mg/kg	0.26				U		U		U		U	U		
Petroleum Hydrocarbon Quantitation																						
TPH	---	1000	3000					mg/kg	63.2		177		136		40.5		U		U	U		
Volatile Petroleum Hydrocarbons																						
C5-C8 Aliphatics	C5-C8-ALPHA-UJ							mg/kg	8.5	U			U		U		U		U	U		
C5-C8 Aliphatics, Adjusted	C5-C8-ALPHA-J	100	500					mg/kg	8.5	U			U		U		U		U	U		
C9-C10 Aromatics	C9-C10-ALPHA-UJ	100	500					mg/kg	8.5	U			U		U		U		U	U		
C9-C12 Aliphatics	C9-C12-ALPHA-UJ							mg/kg	8.5	U			U		U		U		U	U		
C9-C12 Aliphatics, Adjusted	C9-C12-ALPHA-J	1000	3000					mg/kg	8.5	U			U		U		U		U	U		
Extractable Petroleum Hydrocarbons																						
C11-C22 Aromatics	C11-C22-ALPHA-UJ							mg/kg	18.9			U	67.5		17.6		U		U	U		
C11-C22 Aromatics, Adjusted	C11-C22-ALPHA-J	1000	3000					mg/kg	18.9		91.1		47.2		17.6		U		U	U		
C19-C36 Aliphatics	C19-C36-ALPHA-UJ	3000	5000					mg/kg	9.49		47.9		12.4				U		U	U		
C9-C18 Aliphatics	C9-C18-ALPHA-UJ	1000	3000					mg/kg	8.05	U	6.95				U		U		U	U		

Table 4
TCLP Results
Weston Aqueduct Supply Main 3
(mg/L)

Boring	Sample ID	Sample Depth (ft)	Lead	Chromium	Mercury
B-7	S1	(0-2)	<0.5		
B-7	S1	(0-2)	1.15		
B-21	S2	(2-4)	<0.5		
B-32	V1	(2-2.5)	2.05		
B-34	V1	(2-2.5)	<0.5		
B-38	V1	(3-3.5)	7.02		
B-54	S2	(2-4)	<0.5		
B-63	S2	(2-4)	0.511		
B-64	V1	(2-2.5)	<0.5		
B-102	S3	(4-6)	<0.5		
B-109	S5	(8-10)	2.45	<0.2	<0.001
B-115	VE-2	(2-5)	<0.5		
B-114	VE-1	(2-4)	<0.05		
EPA Limit			5	5	0.2
Notes:					
Red indicates concentration exceeds RCS-1 reportable concentration					
Blank cell indicates analyte not tested for TCLP					

Table 5
Analytes Detected in Groundwater
Weston Aqueduct Supply Main 3
Sampled on April 8, 2018

	MADEP RCGW-1 2014	MADEP RCGW-2 2014	RGP WQBEL	Units	Monitoring Well Locations		
					B-20	B-25	B-53
Metals							
Antimony	0.006	8	0.64	mg/L			
Arsenic	0.01	0.9	0.104	mg/L			
Cadmium	0.004	0.004	0.0102	mg/L			
Chromium	0.1	0.3	0.074	mg/L			
Copper	10	100	0.009	mg/L		0.0027	0.0085
Iron	NS	NS	1	mg/L	1.81		
Lead	0.01	0.01	0.0025	mg/L			
Nickel	0.1	0.2	0.052	mg/L	0.0048		
Zinc	0.9	0.9	0.12	mg/L			
Selenium	0.05	0.1	0.005	mg/L			
Silver	0.007	0.007	0.0032	mg/L			
Mercury	0.002	0.02	0.00077	mg/L			
Volatile Organic Compounds							
	Varies	Varies		mg/L	All ND		All ND
Tetrachloroethene	0.005	0.05	0.0033	mg/L		0.0052	
Trichloroethene	0.005	0.005	0.005	mg/L		0.0024	
cis-1,2-Dichloroethene	0.02	0.1	0.07	mg/L		0.0031	
Semi-Volatile Organic Compounds							
	Varies	Varies		mg/L	All ND	All ND	All ND
Polychlorinated Biphenyls							
	0.0005	0.005		mg/L	All ND	All ND	All ND
Total Petroleum Hydrocarbons							
	0.2	5		mg/L	All ND	All ND	All ND
Other							
Total Suspended Solids	NS	NS	30	mg/L			
Cyanide	0.03	0.03	0.0052	mg/L	0.007		
Chlorine	NS	NS	0.0011	mg/L			
Nitrogen, Ammonia	NS	NS	Report only	mg/L			
Phenolics	NS	NS	0.3	mg/L			
Chloride	NS	NS	Report only	mg/L	96.7	901	171
Notes							
Red indicates concentration exceeds RCGW-1 reportable concentration							
Blank cells indicates analyte not detected based upon laboratory method detection limits							
ND: Not detected							
RGP WQBEL: Remedial General Permit Water Quality-Based Effluent Limits							

Table 6
Monitoring Well Gauging Data
Weston Aqueduct Supply Main 3

Boring ID	Well Depth (ft)	Depth to Water (ft)
B-9	19	7.88
B-17	19	Dry
B-20	13.4	3.3
B-25	15	7.88
B-53	9.4	6.4
B-75A	12	5.5
B-93		Dry
B-100	14.5	12.72
B-104	13.3	8.37
B-107	12.8	6.96
B-110	16	5.68
B-113	16	3.68