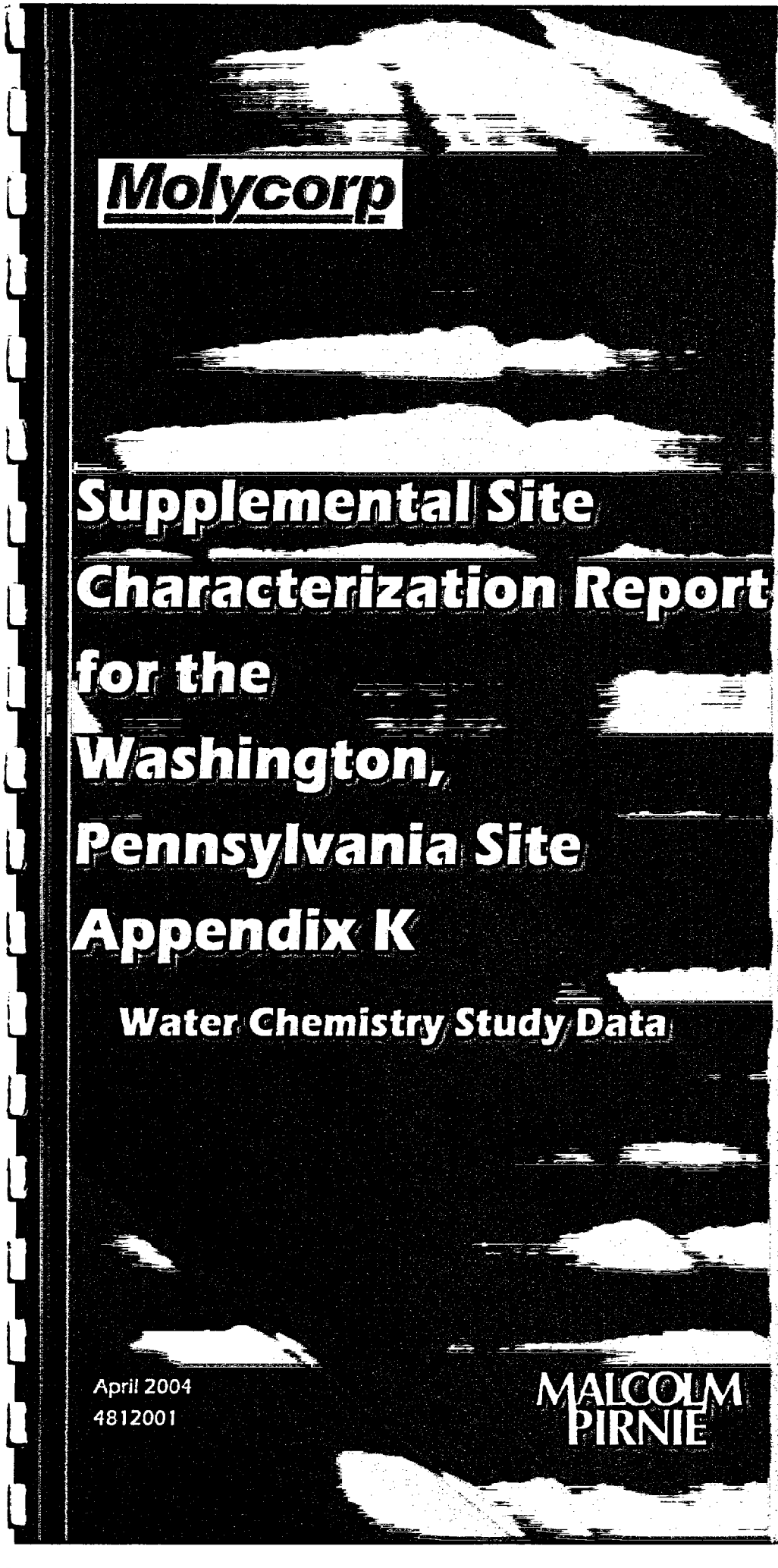




Molycorp

**Supplemental Site
Characterization Report
for the
Washington,
Pennsylvania Site
Appendix K**

Water Chemistry Study Data

April 2004
4812001

**MALCOLM
PIRNIE**

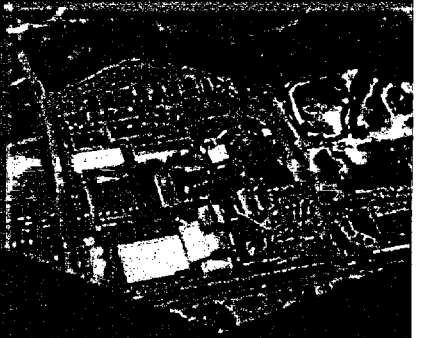
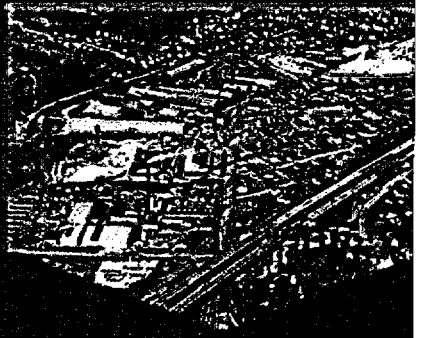
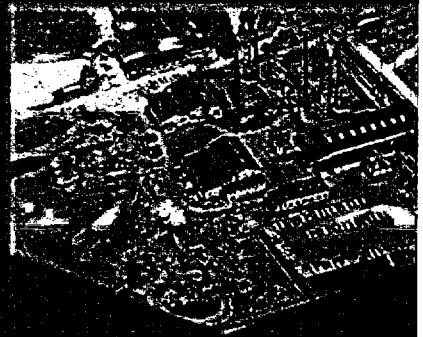
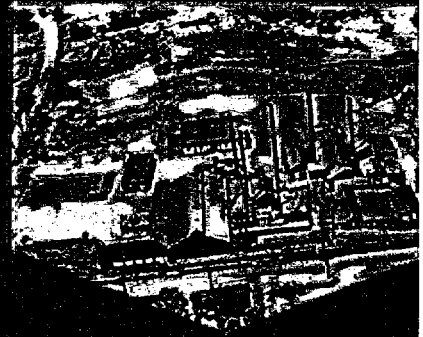


Table K-1
Supplemental pH Investigation Groundwater Samples

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	BR-2	BR-3	BR-4	BR-7	BR-8	MW-1	MW-6	MW-18	MW-19	MW-24	MW-27	MW-41
	Residential	Residential	Sample Date	2/2/2004	2/4/2004	2/4/2004	2/2/2004	2/2/2004	2/4/2004	2/5/2004	2/5/2004	2/4/2004	2/4/2004	2/5/2004	2/4/2004
	Used Aquifers	Non-Use Aquifers	Units												
Dissolved Metals⁽²⁾															
Aluminum	200 ⁽³⁾	200 ⁽³⁾	µg/L ⁽⁴⁾	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Calcium	-- ⁽⁵⁾	--	µg/L	6,900	7,000	230,000	1,000	4,700	310,000	240,000	130,000	170,000	260,000	490,000	280,000
Copper	730	730,000	µg/L	<5	<5	<5	<5	<5	17	5.4	5.5	<5	8.6	19	<5
Iron	300 ⁽³⁾	300 ⁽³⁾	µg/L	<50	<50	18,000	<50	52	120	29,000	<50	610	<50	55	4,200
Magnesium	--	--	µg/L	3,100	2,100	44,000	300	1,500	27,000	22,000	540	34,000	<200	5,600	88,000
Manganese	50 ⁽³⁾	50 ⁽³⁾	µg/L	6.8	49	2,300	<5	7	<5	5,300	<5	1,200	<5	56	1,800
Molybdenum	--	--	µg/L	43	15	<10	<10	140	45,000	13,000	15,000	110	23,000	28,000	<10
Potassium	--	--	µg/L	4,500	4,700	2,400	1,500	3,200	46,000	6,700	8,300	1,800	8,300	28,000	1,900
Silicon	--	--	µg/L	3,300	3,000	7,700	2,900	3,400	4,200	7,800	4,200	6,300	14,000	10,000	8,400
Sodium	--	--	µg/L	490,000	460,000	57,000	190,000	400	220,000	140,000	16,000	42,000	46,000	60,000	190,000
Zinc	200	12,000	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	23	<10	<10	<10
General Chemistry⁽⁶⁾															
Alkalinity (Total)	--	--	µg/L	470,000	480,000	260,000	510,000	490,000	210,000	150,000	120,000	180,000	190,000	100,000	74,000
Alkalinity Bicarbonate	--	--	µg/L	450,000	460,000	260,000	450,000	470,000	<2,000	150,000	<2,000	180,000	<2,000	<2,000	74,000
Ammonia	--	--	µg/L	1,300	800	130	570	1,100	33,000	17,000	7,400	<100	14,000	14,000	<100
Carbonate	--	--	µg/L	17,000	15,000	<2,000	62,000	18,000	100,000	<2,000	100,000	<2,000	83,000	100,000	<2,000
Chloride	250,000 ⁽³⁾	250,000 ⁽³⁾	µg/L	610,000	570,000	320,000	20,000	420,000	160,000	67,000	25,000	180,000	32,000	130,000	730,000
Fluoride	2,000 ⁽³⁾	2,000 ⁽³⁾	µg/L	1,600	1,800	<100	3,400	2,500	4,300	510	2,800	<100	2,800	1,500	<100
Nitrate	10,000	10,000,000	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	2,800	<100
Nitrite	1,000	1,000,000	µg/L	<10	<10	<10	<10	<10	60	<10	<10	<10	<10	3,700	<10
Phosphate (Total)	--	--	µg/L	37	16	85	11	16	250	96	130	11	37	210	11
Sulfate	500,000	500,000,000	µg/L	<10,000	<10,000	170,000	<10,000	<10,000	930,000	850,000	190,000	150,000	560,000	1,000,000	400,000

Footnotes:

(1) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Groundwater, Appendix A, Tables 1 and 2, 25 PA Code Chapter 250.

(2) Dissolved Metals were analyzed by US Environmental Protection Agency Method 6010B.

(3) Secondary Maximum Contaminant Level

(4) µg/L - micrograms/liters

(5) -- Medium specific concentration not yet established by Pennsylvania Department of Environmental Protection.

(6) General Chemistry Parameters were analyzed by US Environmental Protection Agency Methods 310.1, 325.2, 340.2, 350.1, 353.2, 354.1, 365.2, 375.4, and American Public Health Association Standard Method 2320.

220

= Reported concentration exceeds MSC for Residential Use Aquifer.

220

= Reported concentration exceeds MSC for Residential Non-Use Aquifer.

220

= Reported concentration exceeds MSC for Residential Used and Non-Use Aquifer.

Table K-1
Supplemental pH Investigation Groundwater Samples

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	MW-42	MW-47	MW-48	MW-54	MW-55	Seep
	Residential	Residential	Sample Date	2/4/2004	2/4/2004	2/5/2004	2/2/2004	2/2/2004	2/4/2004
	Used Aquifers	Non-Use Aquifers	Units						
Dissolved Metals⁽²⁾									
Aluminum	200 ⁽³⁾	200 ⁽³⁾	µg/L ⁽⁴⁾	<50	220	<50	<50	<50	<50
Calcium	-- ⁽⁵⁾	--	µg/L	240,000	280,000	310,000	130,000	140,000	140,000
Copper	730	730,000	µg/L	<5	15	13	<5	6.9	<5
Iron	300 ⁽³⁾	300 ⁽³⁾	µg/L	<50	84	52	100	<50	<50
Magnesium	--	--	µg/L	52,000	<200	<200	21,000	1,100	7,300
Manganese	50 ⁽³⁾	50 ⁽³⁾	µg/L	170	<5	<5	760	<5	16
Molybdenum	--	--	µg/L	41	25,000	37,000	1,300	16,000	1,400
Potassium	--	--	µg/L	4,300	25,000	13,000	1,100	5,600	30,000
Silicon	--	--	µg/L	6,900	7,300	9,800	4,400	3,400	4,000
Sodium	--	--	µg/L	150,000	110,000	63,000	91,000	13,000	75,000
Zinc	200	12,000	µg/L	<10	<10	<10	<10	<10	<10
General Chemistry⁽⁶⁾									
Alkalinity (Total)	--	--	µg/L	220,000	210,000	200,000	410,000	130,000	22,000
Alkalinity Bicarbonate	--	--	µg/L	220,000	<2,000	<2,000	410,000	<2,000	<2,000
Ammonia	--	--	µg/L	<100	17,000	7,400	200	530	580
Carbonate	--	--	µg/L	<2,000	89,000	83,000	<2,000	40,000	20,000
Chloride	250,000 ⁽³⁾	250,000 ⁽³⁾	µg/L	460,000	86,000	50,000	45,000	5,500	180,000
Fluoride	2,000 ⁽³⁾	2,000 ⁽³⁾	µg/L	<100	1,900	3,700	230	1,100	980
Nitrate	10,000	10,000,000	µg/L	880	32,000	280	<100	<100	<100
Nitrite	1,000	1,000,000	µg/L	<10	14	<10	<10	<10	22
Phosphate (Total)	--	--	µg/L	<10	43	280	11	<10	<10
Sulfate	500,000	500,000,000	µg/L	330,000	580,000	670,000	170,000	240,000	300,000

Footnotes:

(1) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Groundwater, Appendix A, Tables 1 and 2, 25 PA Code Chapter 250.

(2) Dissolved Metals were analyzed by US Environmental Protection Agency Method 6010B.

(3) Secondary Maximum Contaminant Level

(4) µg/L - micrograms/liters

(5) -- Medium specific concentration not yet established by Pennsylvania Department of Environmental Protection.

(6) General Chemistry Parameters were analyzed by US Environmental Protection Agency Methods 310.1, 325.2, 340.2, 350.1, 353.2, 354.1, 365.2, 375.4, and American Public Health Association Standard Method 2320.

220 = Reported concentration exceeds MSC for Residential Use Aquifer.
220 = Reported concentration exceeds MSC for Residential Non-Use Aquifer.
220 = Reported concentration exceeds MSC for Residential Used and Non-Use Aquifer.

Table K-2
Field Parameters at Time of Groundwater Sample Collection

Monitoring Well ID:	Groundwater Level (ft toC) ⁽¹⁾			Temperature (°C) ⁽²⁾			pH (su) ⁽³⁾			Specific Conductance (µS/cm) ⁽⁴⁾			Turbidity (NTU) ⁽⁵⁾			ORP (mV) ⁽⁶⁾			Dissolved Oxygen (mg/L) ⁽⁷⁾			Alkalinity (mg/L)		
	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04
BR-1	21.85	9.75	NM ⁽⁸⁾	12.9	13.76	NM	7.01	6.74	NM	3183	2433	NM	59.9	0.65	NM	-123	-117.6	NM	NM	0.10	NM	NM	NM	NM
BR-2	5.65	1.91	2.03	11.4	10.12	10.56	8.82	8.66	8.51	2846	2113	2822	4.3	2.51	8.4	207	-17	-10.5	NM	0.14	0.22	NM	NM	470
BR-3	14.46	10.63	11.61	11.2	12.01	11.62	6.64	6.34	6.27	1912	1753	1823	8.1	2.73	0.7	204	-23.9	20.8	NM	0.12	0.26	NM	NM	260
BR-4	40.31	16.97	21.58	10.4	11.92	10.1	7.39	8.34	8.36	2668	2643	2621	169	10	5.7	226	-62.8	5.7	NM	0.20	0.29	NM	NM	480
BR-5	10.11	10.22	NM	13.4	12.50	NM	7.30	7.87	NM	1379	1277	NM	8.69	3.41	NM	180	-78	NM	NM	0.15	NM	NM	NM	NM
BR-6	4.11	3.68	NM	12.5	9.92	NM	7.08	6.74	NM	1938	1173	NM	6.66	NM	NM	183	-77.5	NM	NM	0.21	NM	NM	NM	NM
BR-7	17.87	4.83	7.33	11.5	8.62	10.17	8.67	9.05	9.10	953.7	807	958	95.9	240	91	196	-11	-53.8	NM	0.19	0.21	NM	NM	510
BR-8	26.97	6.28	5.40	11.2	9.74	9.34	9.08	8.31	8.55	2135	1732	2279	90	10.99	450	239	-3.2	-16.1	NM	0.16	0.25	NM	NM	490
GW-3	7.88	3.75	NM	12.1	10.13	NM	6.93	5.75	NM	1037	608	NM	55	8.98	NM	211	-36.8	NM	NM	0.16	NM	NM	NM	NM
MW-1	ND ⁽⁹⁾	12.83	12.31	ND	14.53	13.54	ND	10.78	10.54	ND	2609	2619	ND	2.1	4.6	ND	-26.4	-253.4	NM	1.29	0.64	NM	NM	210
MW-2	ND	8.89	NM	ND	12.47	NM	ND	7.12	NM	ND	981	NM	ND	10.33	NM	ND	-17.4	NM	NM	1.59	NM	NM	NM	NM
MW-3	ND	12.71	NM	ND	12.70	NM	ND	7.05	NM	ND	1364	NM	ND	5.92	NM	ND	-89.2	NM	NM	0.57	NM	NM	NM	NM
MW-4	ND	10.64	NM	ND	13.32	NM	ND	6.59	NM	ND	861	NM	ND	19.2	NM	ND	-73.9	NM	ND	0.14	NM	ND	ND	NM
MW-5	ND	11.98	NM	ND	12.70	NM	ND	5.73	NM	ND	2982	NM	ND	3.86	NM	ND	-93.5	NM	ND	0.11	NM	ND	ND	NM
MW-6	18.50	12.58	11.81	13.5	13.81	11.2	6.98	6.80	6.85	2241	1921	2087	927	7.62	7.9	-99	-111.7	-91.3	NM	0.26	0.18	NM	NM	150
MW-7	17.81	12.41	NM	13.2	13.17	NM	6.94	6.67	NM	1791	1822	NM	8.92	6.27	NM	228	-10.9	NM	NM	0.15	NM	NM	NM	NM
MW-9	18.02	7.88	NM	14.0	14.34	NM	6.90	6.54	NM	2268	1897	NM	52.4	2.82	NM	224	4.1	NM	NM	0.22	NM	NM	NM	NM
MW-10	10.05	8.97	NM	13.5	12.71	NM	7.40	7.30	NM	811.6	672	NM	15.4	3.97	NM	227	-95.3	NM	NM	0.12	NM	NM	NM	NM
MW-16	9.11	7.87	NM	16.1	15.11	NM	6.64	6.47	NM	2819	2567	NM	106.3	2.29	NM	176	-25	NM	NM	0.14	NM	NM	NM	NM
MW-18	10.35	7.33	7.48	14.9	13.23	9.91	10.07	6.76	9.72	2851	2324	2441	2.45	1.64	0.35	-189	-23.7	-43.6	NM	0.15	0.15	NM	NM	120
MW-19	9.40	17.91	8.34	17.1	15.98	14.82	6.67	6.55	6.63	1066	1203	1298	911	2.3	3.5	194	22.6	-72.9	NM	0.31	0.16	NM	NM	180
MW-21	10.81	10.81	NM	13.9	13.62	NM	6.15	6.03	NM	5235	2738	NM	248	19.09	NM	NM	-129.6	NM	NM	0.08	NM	NM	NM	NM
MW-24	13.20	9.42	9.71	13.2	13.93	12.12	9.78	10.36	10.61	1439	1393	1313	<1100	1.94	0.9	-247	-151.9	-279.4	NM	0.08	0.11	NM	NM	190
MW-25	14.70	11.00	NM	13.5	12.94	NM	7.21	7.07	NM	971.5	843	NM	<1100	4.82	NM	-71	-7	NM	NM	2.86	NM	NM	NM	NM
MW-26	10.47	6.17	NM	16.2	11.97	NM	7.11	6.69	NM	644.3	741	NM	17	1.52	NM	202	-78.8	NM	NM	0.12	NM	NM	NM	NM
MW-27	7.14	7.11	7.59	15.8	13.63	10.79	10.21	9.78	9.73	760.8	781	697	36	1.58	1.8	198	-77.4	-129.3	NM	0.12	0.13	NM	NM	100
MW-28	13.65	10.50	NM	13.9	11.95	NM	6.99	7.34	NM	1474	1395	NM	25	3.04	NM	198	-27.6	NM	NM	0.13	NM	NM	NM	NM
MW-29	16.08	15.72	NM	12.8	12.62	NM	7.42	7.14	NM	944.2	892	NM	400	19.8	NM	227	-11.8	NM	NM	0.14	NM	NM	NM	NM
MW-40	24.15	19.44	NM	12.7	11.23	NM	6.82	6.80	NM	1863	2005	NM	<1100	7.43	NM	204	23.3	NM	NM	0.28	NM	NM	NM	NM
MW-41	18.54	13.04	14.88	11.3	12.21	10.93	6.08	5.60	5.69	3018	2804	3060	310	11.4	280	207	35.5	129.3	NM	0.15	0.16	NM	NM	74
MW-42	20.49	17.91	17.72	16.2	15.04	13.06	6.89	6.68	6.72	2539	2141	2304	280	NM	45	78	54.7	102.1	NM	1.29	1.67	NM	NM	220
MW-43	NM	17.96	NM	15.9	14.74	NM	6.94	6.39	NM	1182	1153	NM	210	5.95	NM	99	54.6	NM	NM	0.34	NM	NM	NM	NM
MW-44	15.56	9.77	NM	16.2	15.15	NM	7.10	7.07	NM	1728	1659	NM	200	12.6	NM	49	-22.8	NM	NM	0.32	NM	NM	NM	NM
MW-45	NM	11.06	NM	15.0	13.46	NM	6.58	6.34	NM	1090	1116	NM	<1100	140	NM	215	26.3	NM	NM	0.15	NM	NM	NM	NM
MW-46	19.82	15.39	NM	17.0	16.26	NM	7.07	6.51	NM	2833	2477	NM	34	41.5	NM	14	18.6	NM	NM	0.10	NM	NM	NM	NM
MW-47	12.74	8.49	8.94	16.4	15.41	12.72	8.78	11.56	11.42	2152	2246	1965	50	23	7.6	NM	-50.7	-242.2	NM	0.12	0.43	NM	NM	210
MW-48	11.17	10.96	10.97	15.8	15.37	12.34	10.38	11.05	11.00	1739	1818	1704	6.9	4.86	3.5	-282	-104	-174.5	NM	0.10	0.12	NM	NM	200
MW-49	18.49	16.49	NM	12.9	14.03	NM	6.70	NM	NM	1514	1483	NM	15.5	5.02	NM	214	21.6	NM	NM	0.14	NM	NM	NM	NM
MW-50	13.65	8.38	NM	13.4	12.95	NM	7.47	7.85	NM	838.6	754	NM	65.2	2.89	NM	229	-131.7	NM	NM	0.12	NM	NM	NM	NM
MW-51	7.11	4.97	NM	15.1	10.39	NM	7.24	7.98	NM	2016	987	NM	125	16.3	NM	181	-248.9	NM	NM	0.11	NM	NM	NM	NM
MW-52	7.85	7.01	NM	13.2	11.07	NM	6.71	5.67	NM	1241	621	NM	6.68	17.3	NM	175	-72.6	NM	NM	0.11	NM	NM	NM	NM
MW-53	8.88	7.11	NM	12.5	11.05	NM	6.93	6.99	NM	826	623	NM	19	6.78	NM	211	-18.9	NM	NM	0.48	NM	NM	NM	NM
MW-54	7.07	4.20	5.95	11.8	8.70	8.12	6.96	6.86	7.08	987	746	1204	27	13.5	21	212	10.9	61.1	NM	0.45	0.31	NM	NM	410
MW-55	7.81	4.90	5.74	12.2	7.76	4.61	10.10	11.36	11.48	799.4	771	886	4	4.59	6.2	242	-21.3	-71.2	NM	0.19	0.61	NM	NM	130
Seep	NM	NM	NM	NM	NM	9.57	NM	NM	9.82	NM	NM	1252	NM	NM	4.2	NM	NM	-111.5	NM	NM	4.45	NM	NM	22

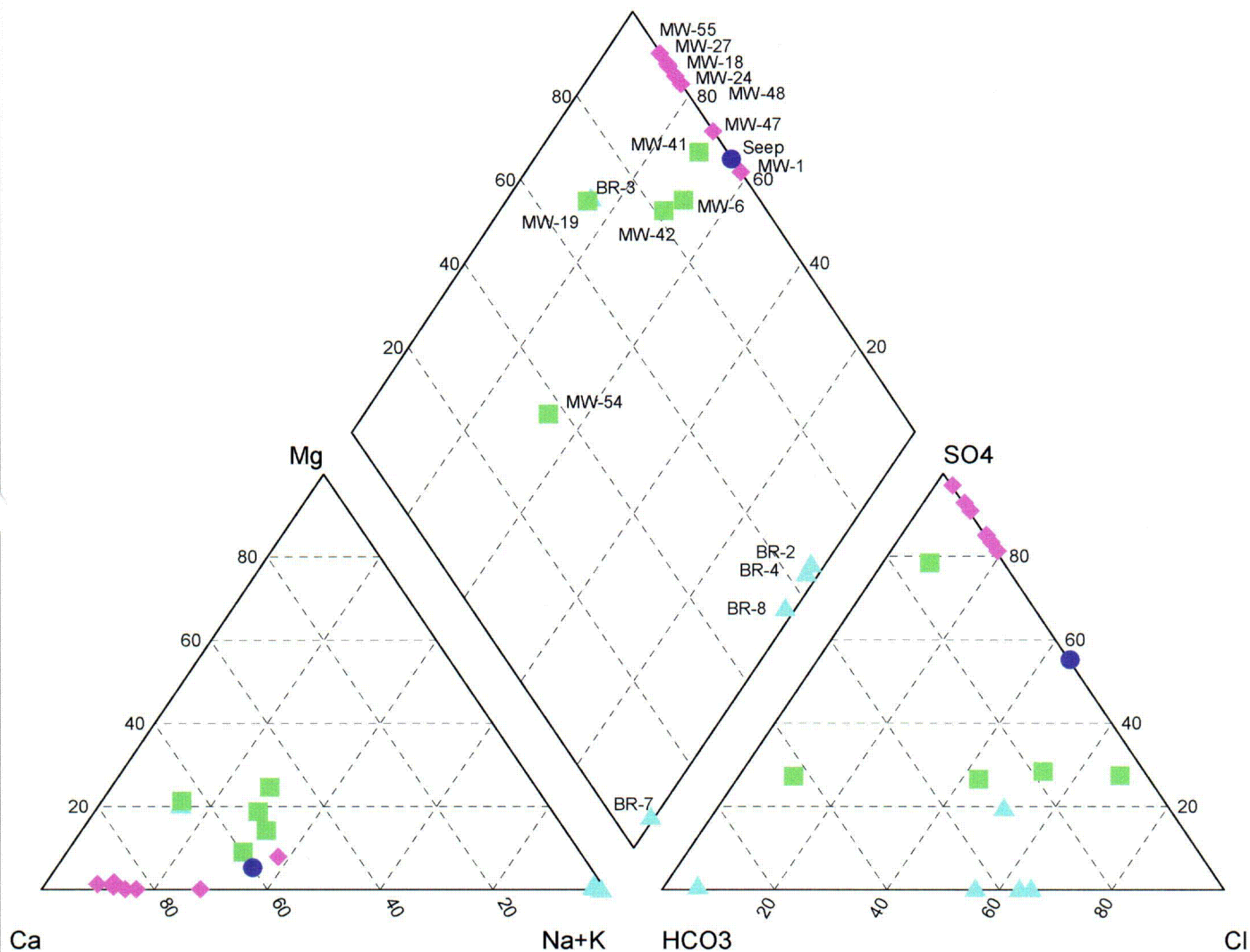
Table K-2
Field Parameters at Time of Groundwater Sample Collection

Monitoring Well ID:	Groundwater Level (ft toc) ⁽¹⁾			Temperature (°C) ⁽²⁾			pH (su) ⁽³⁾			Specific Conductance (µS/cm) ⁽⁴⁾			Turbidity (NTU) ⁽⁵⁾			ORP (mV) ⁽⁶⁾			Dissolved Oxygen (mg/L) ⁽⁷⁾			Alkalinity (mg/L)		
	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04	Nov-03	Dec-03	Feb-04
TB-01-1	40.41	40.18	NM	10.9	9.87	NM	6.38	6.39	NM	1401	717	NM	41	32.7	NM	201	16.4	NM	NM	1.02	NM	NM	NM	NM
TB-02	23.40	18.30	NM	12.3	10.73	NM	7.01	7.11	NM	725.5	608	NM	55	2.7	NM	200	8.9	NM	NM	0.40	NM	NM	NM	NM
TB-03	42.13	14.12	NM	10.6	10.69	NM	6.88	6.73	NM	679.2	474	NM	27	20.6	NM	200	13	NM	NM	2.04	NM	NM	NM	NM
TB-04	6.17	6.45	NM	11.4	10.05	NM	6.74	7.45	NM	619.2	491	NM	8.2	1.1	NM	200	-0.6	NM	NM	1.05	NM	NM	NM	NM
TB-05	9.32	6.45	NM	12.0	10.97	NM	6.74	7.39	NM	592.7	433	NM	NM	1.33	NM	197	3.4	NM	NM	1.91	NM	NM	NM	NM
UG-3	7.06	4.85	NM	12.5	10.53	NM	6.87	6.74	NM	869.3	895	NM	120	25	NM	201	-33.4	NM	NM	0.15	NM	NM	NM	NM
UG-4	9.87	7.43	NM	14.9	12.91	NM	6.95	7.30	NM	1681	1391	NM	190	4.34	NM	200	-8.7	NM	NM	0.46	NM	NM	NM	NM

Footnotes:

- (1) ft toc - feet top of casing
- (2) °C - degrees Celsius
- (3) su - standard units
- (4) mS/cm - millisiemens per centimeter
- (5) NTU -
- (6) mV- millivolts
- (7) mg/L - milligrams per liter
- (8) NM - not monitored
- (9) ND - not developed

- Legend
- Bedrock Groundwater
 - Alkaline pH
 - Neutral pH
 - Seep



C60

DESCRIPTION: Piper Plot, February 2004 Groundwater samples

FIGURE K-1

**MALCOLM
PIRNIE**

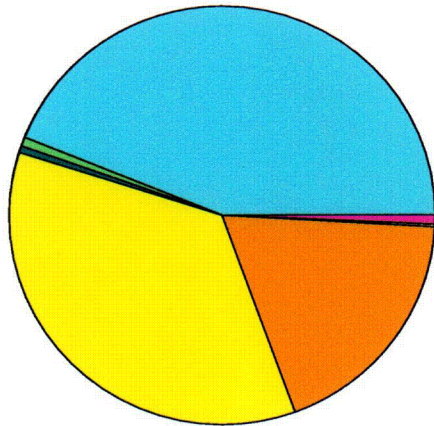
PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

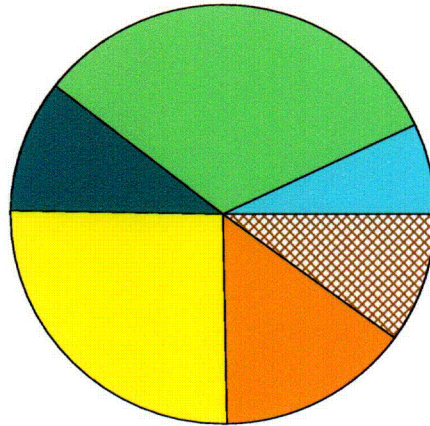
CLIENT: Molycorp, Inc.

DATE: 4/26/04

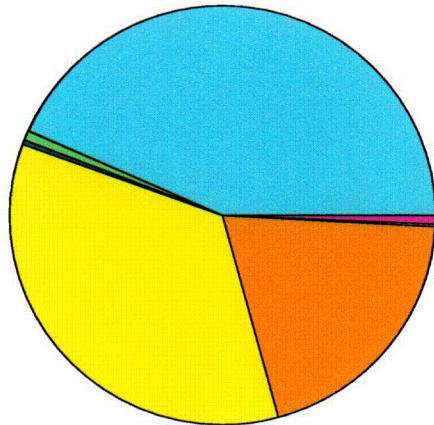
BR-2, 2/2/2004



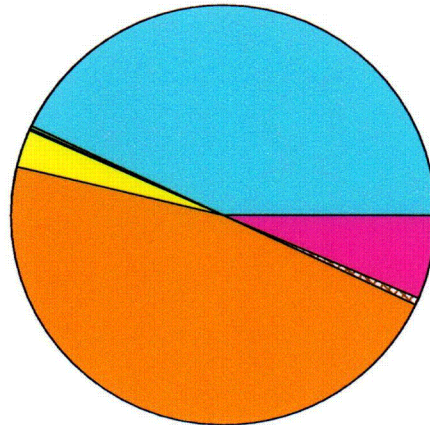
BR-3, 2/4/2004



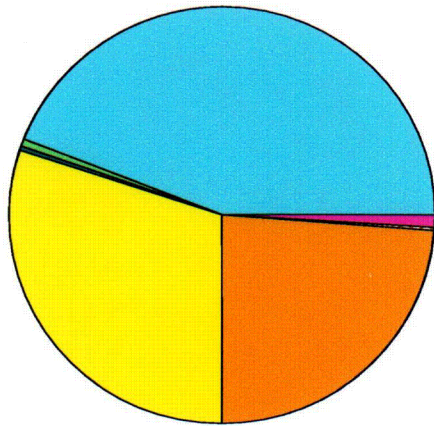
BR-4, 2/4/2004



BR-7, 2/2/2004



BR-8, 2/2/2004



Legend

- Na
- Ca
- Mg
- Cl
- HCO₃
- SO₄
- CO₃
- OH-

as meq/l

C61

DESCRIPTION: Pie Diagrams - Bedrock groundwater wells

FIGURE K-2

**MALCOLM
PIRNIE**

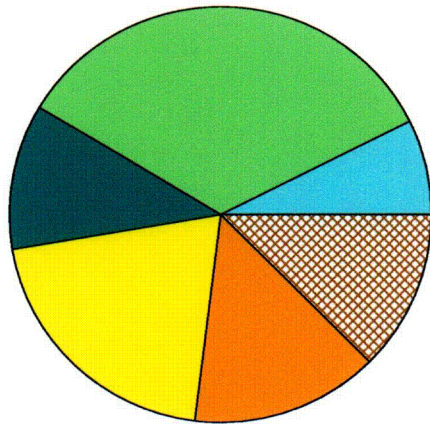
PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

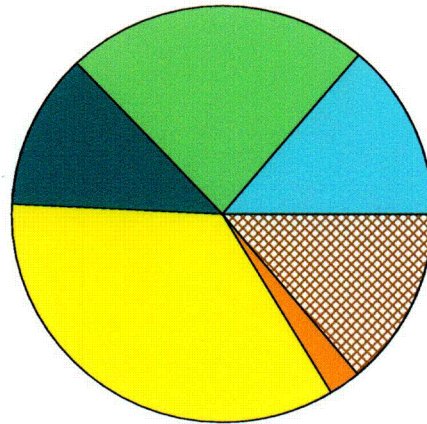
CLIENT: Molycorp, Inc.

DATE: 3/11/04

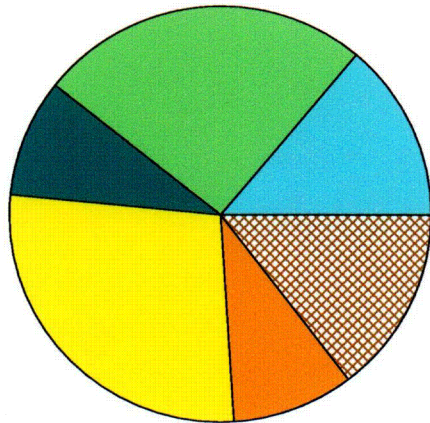
MW-19, 2/4/2004



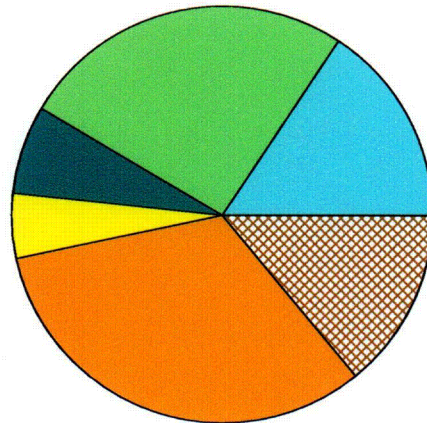
MW-41, 2/4/2004



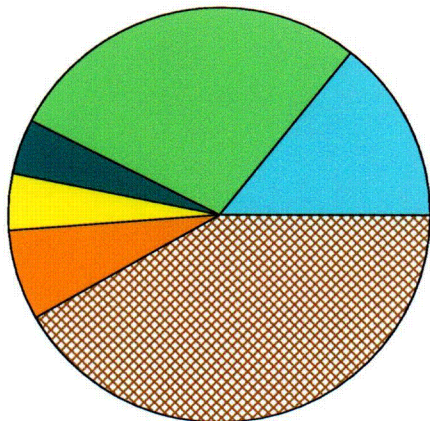
MW-42, 2/4/2004



MW-54, 2/2/2004



MW-6, 2/5/2004



Legend
 Na
 Ca
 Mg
 Cl
 HCO₃
 SO₄
 CO₃
 OH⁻
 as meq/l

C62

DESCRIPTION: Pie Diagrams - Neutral pH groundwater wells

FIGURE K-3

**MALCOLM
PIRNIE**

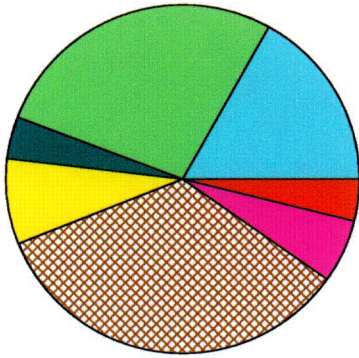
PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

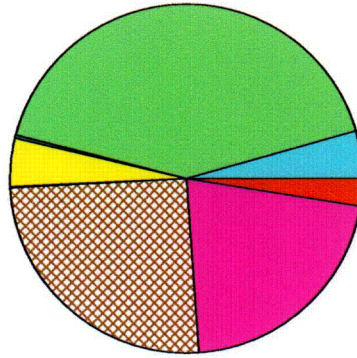
CLIENT: Molycorp, Inc.

DATE: 3/11/04

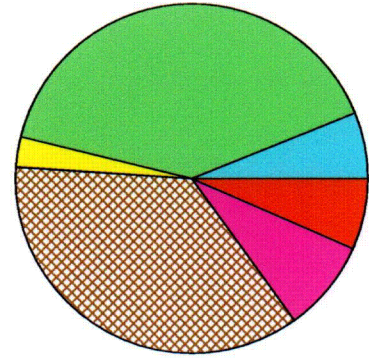
MW-1, 2/4/2004



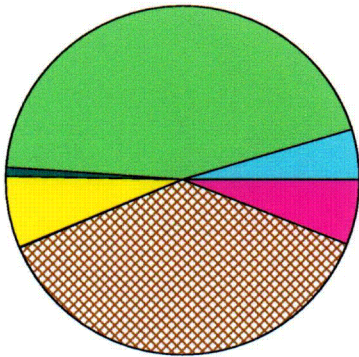
MW-18, 2/5/2004



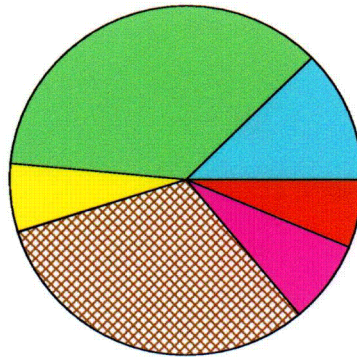
MW-24, 2/4/2004



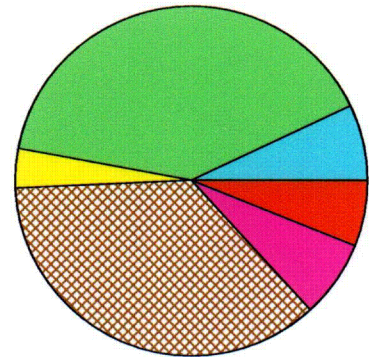
MW-27, 2/5/2004



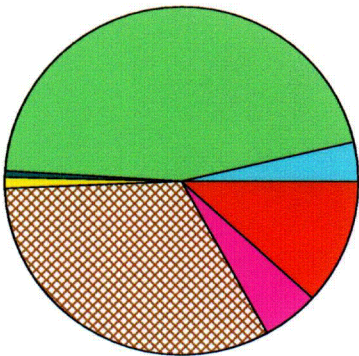
MW-47, 2/4/2004



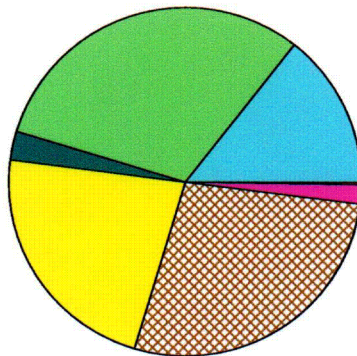
MW-48, 2/5/2004



MW-55, 2/2/2004



Seep, 2/4/2004



Legend
 Na
 Ca
 Mg
 Cl
 HCO3
 SO4
 CO3
 OH-
 as meq/l

C63

DESCRIPTION: Pie Diagrams - Alkaline pH groundwater wells

FIGURE K-4

**MALCOLM
PIRNIE**

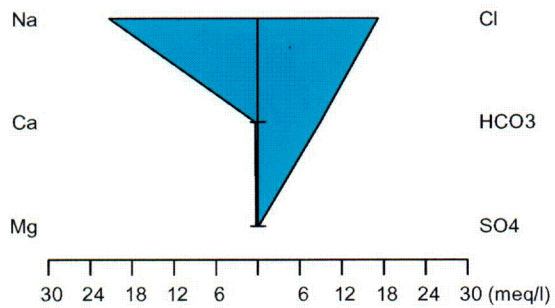
PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

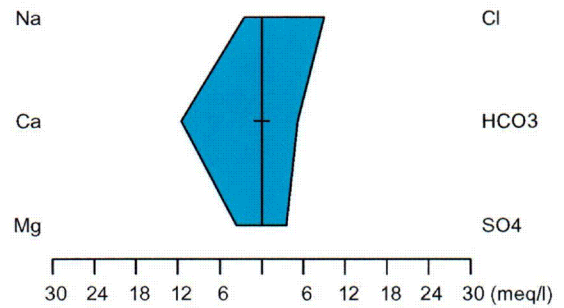
CLIENT: Molycorp, Inc.

DATE: 3/11/04

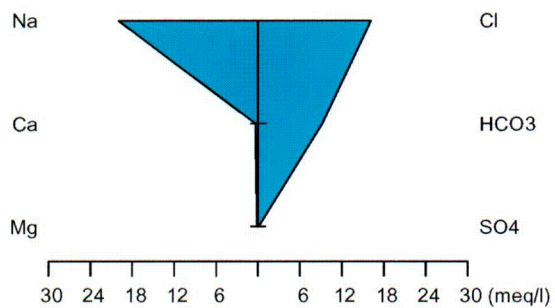
BR-2, 2/2/2004



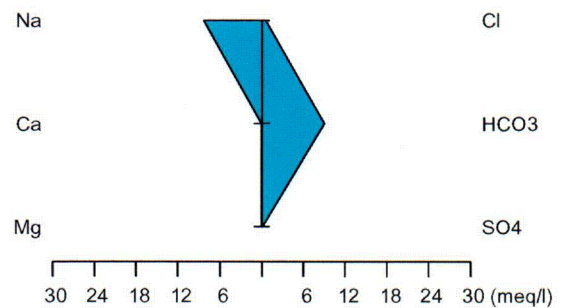
BR-3, 2/4/2004



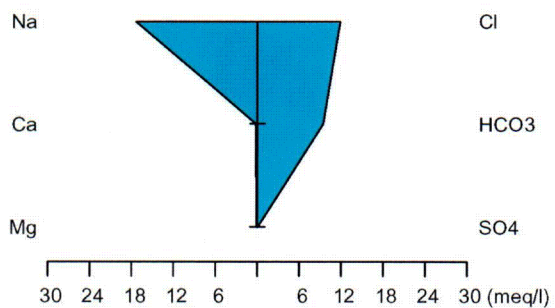
BR-4, 2/4/2004



BR-7, 2/2/2004



BR-8, 2/2/2004



C64

DESCRIPTION: Stiff Diagrams - Bedrock groundwater wells

FIGURE K-5

**MALCOLM
PIRNIE**

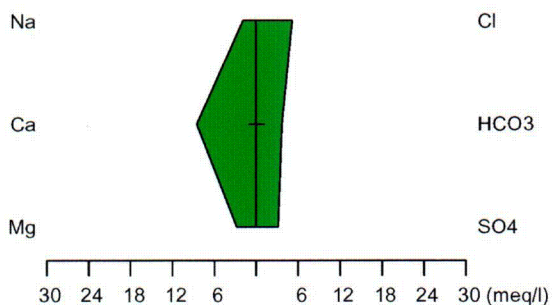
PROJECT: MolyCorp, Washington PA site

PROJECT NO: 4812003

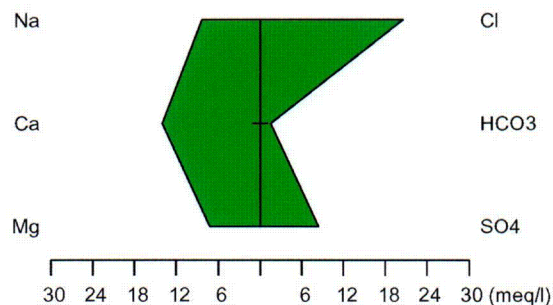
CLIENT: MolyCorp, Inc.

DATE: 3/11/04

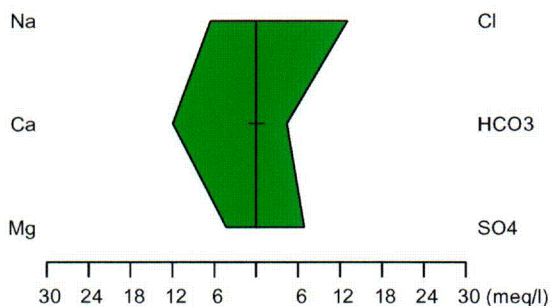
MW-19, 2/4/2004



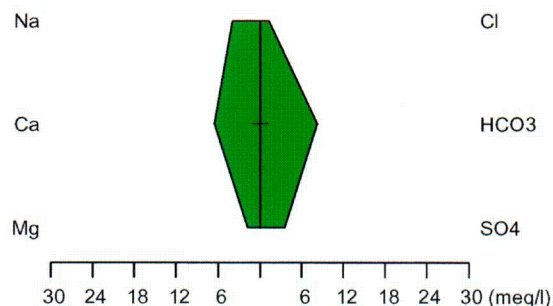
MW-41, 2/4/2004



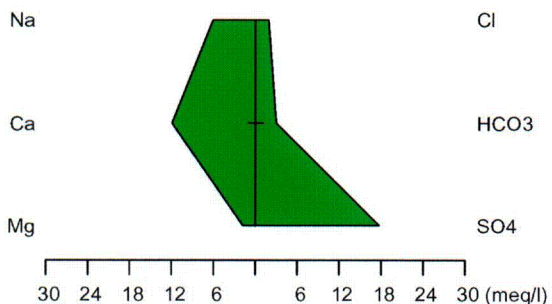
MW-42, 2/4/2004



MW-54, 2/2/2004



MW-6, 2/5/2004



C 65

DESCRIPTION: Stiff Diagrams - Neutral pH groundwater wells

FIGURE K-6

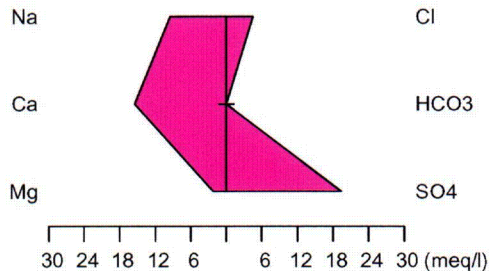
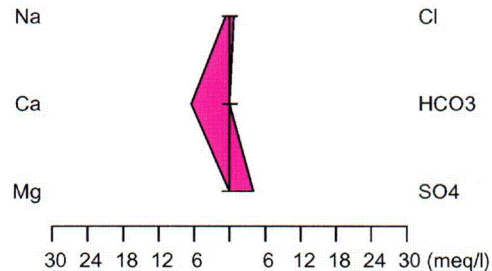
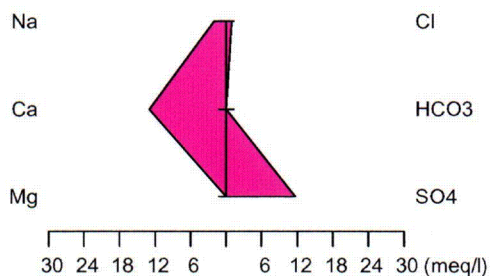
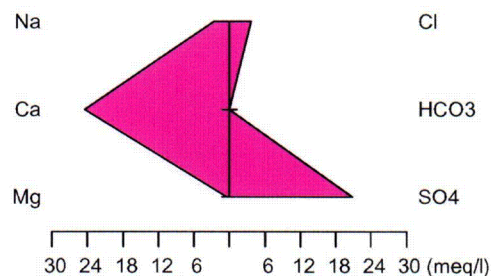
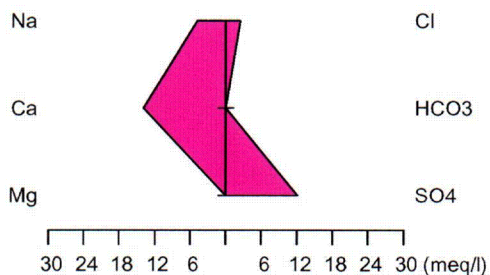
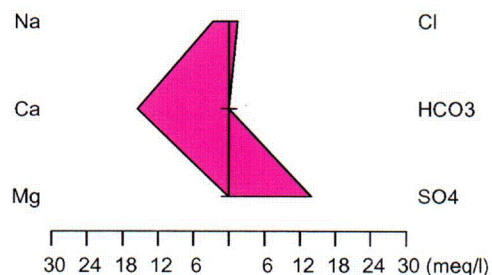
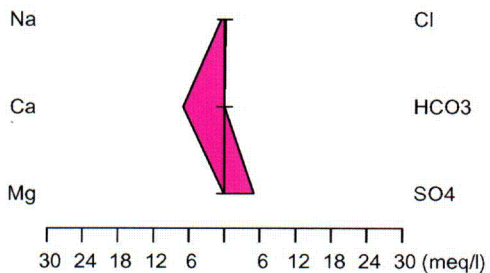
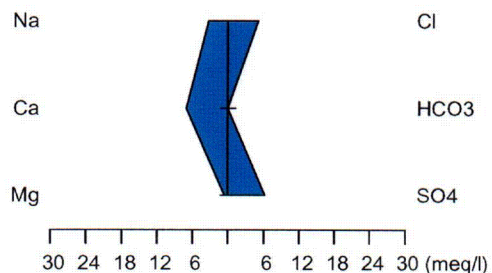
**MALCOLM
PIRNIE**

PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

CLIENT: Molycorp, Inc.

DATE: 3/11/04

MW-1, 2/4/2004**MW-18, 2/5/2004****MW-24, 2/4/2004****MW-27, 2/5/2004****MW-47, 2/4/2004****MW-48, 2/5/2004****MW-55, 2/2/2004****Seep, 2/4/2004**

C66

DESCRIPTION: Stiff Diagrams - Alkaline pH groundwater wells

FIGURE K-7

**MALCOLM
PIRNIE**

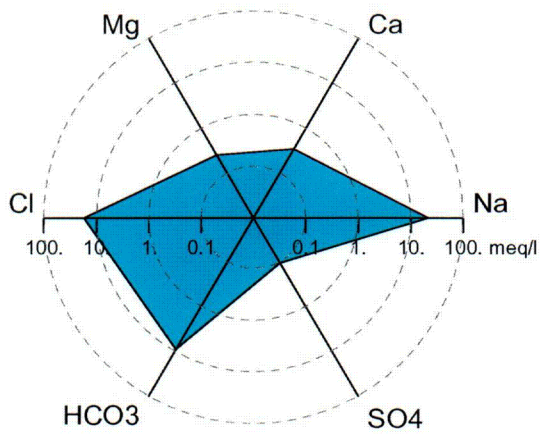
PROJECT: Molycorp, Washington PA site

PROJECT NO 4812003

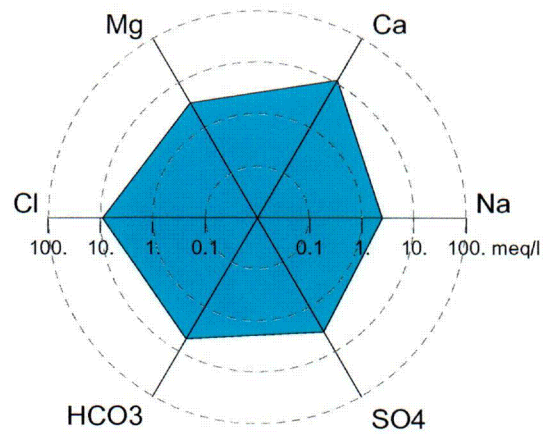
CLIENT: Molycorp, Inc.

DATE: 3/11/04

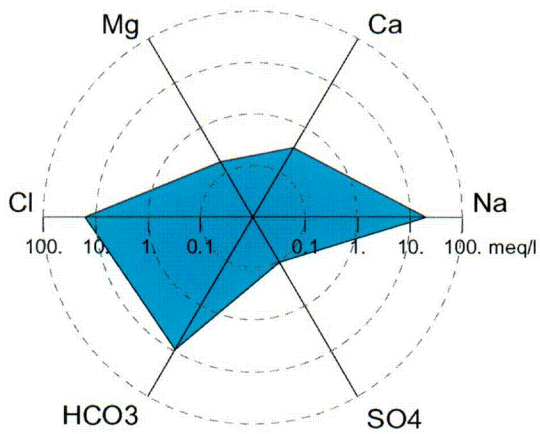
BR-2, 2/2/2004



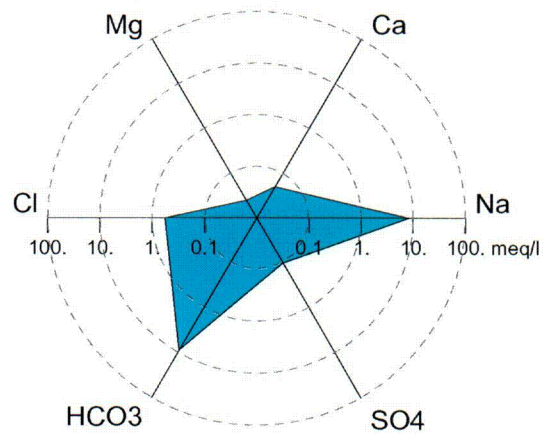
BR-3, 2/4/2004



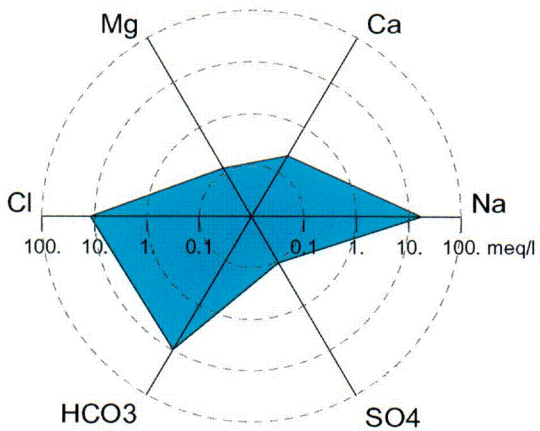
BR-4, 2/4/2004



BR-7, 2/2/2004



BR-8, 2/2/2004



067

DESCRIPTION: Radial diagrams - Bedrock groundwater wells

FIGURE K-8

**MALCOLM
PIRNIE**

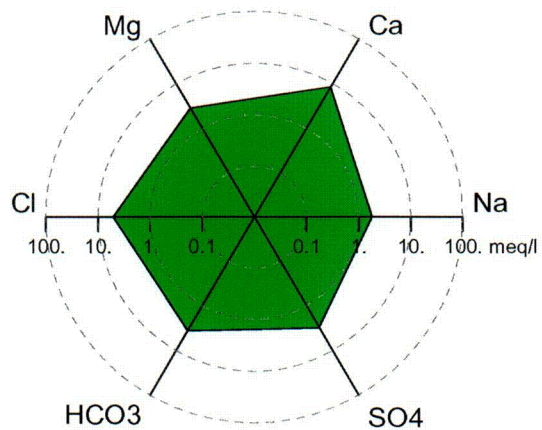
PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

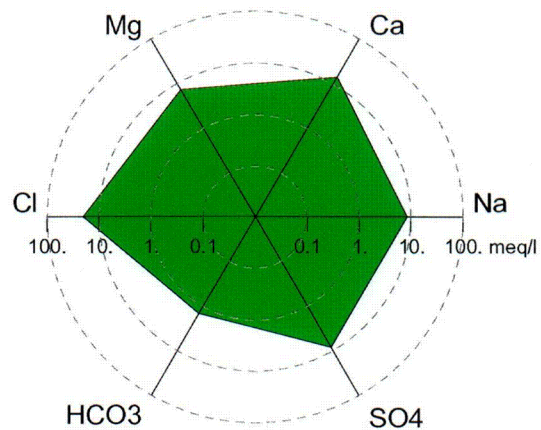
CLIENT: Molycorp, Inc.

DATE: 3/11/04

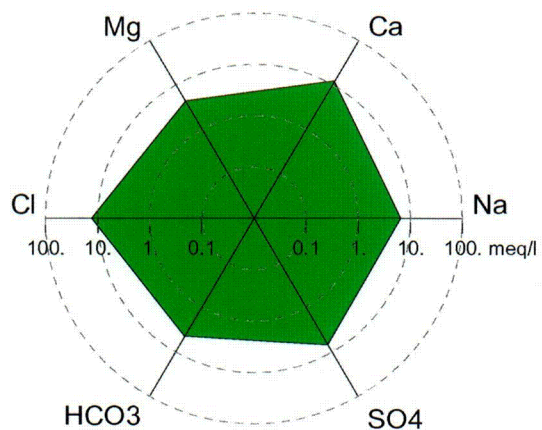
MW-19, 2/4/2004



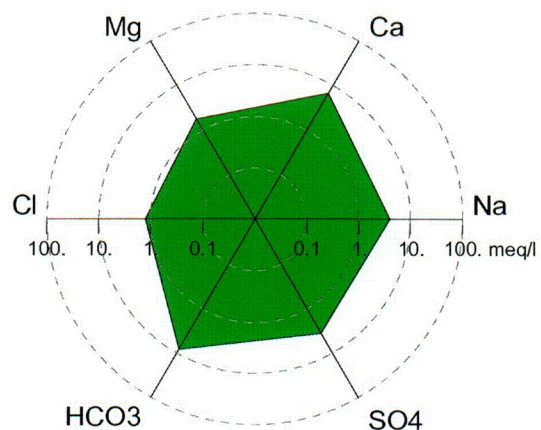
MW-41, 2/4/2004



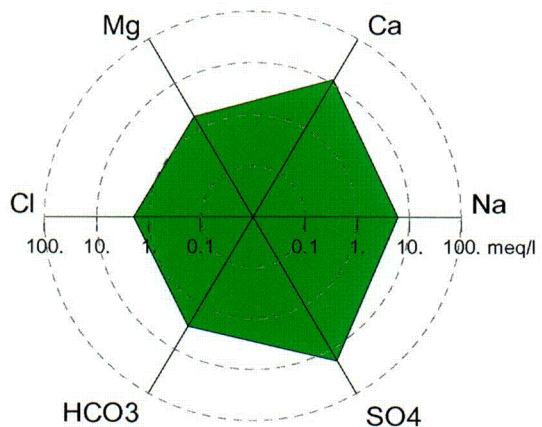
MW-42, 2/4/2004



MW-54, 2/2/2004



MW-6, 2/5/2004



C68

DESCRIPTION: Radial diagrams - Neutral pH groundwater wells

FIGURE K-9

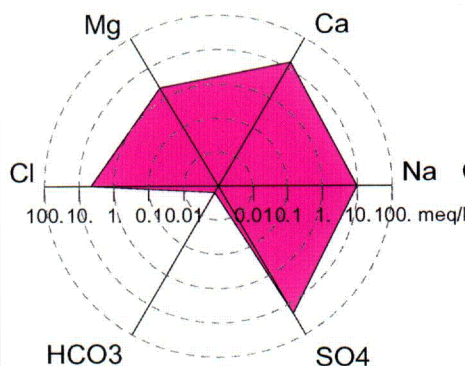
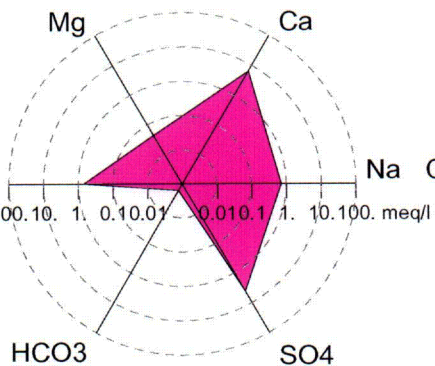
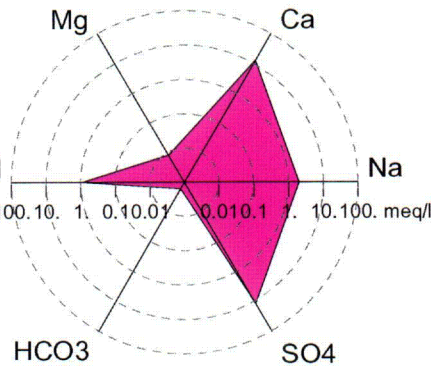
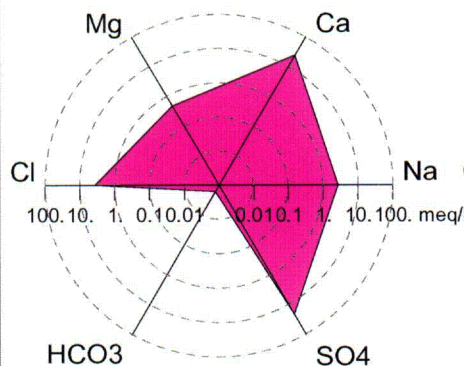
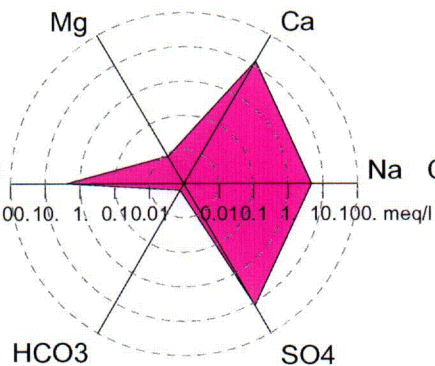
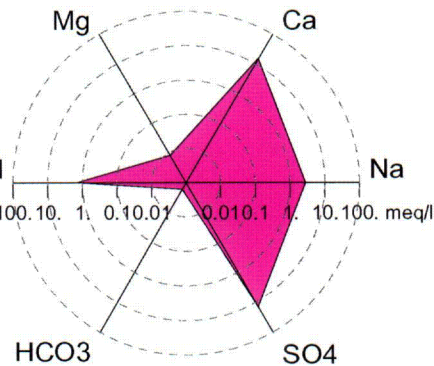
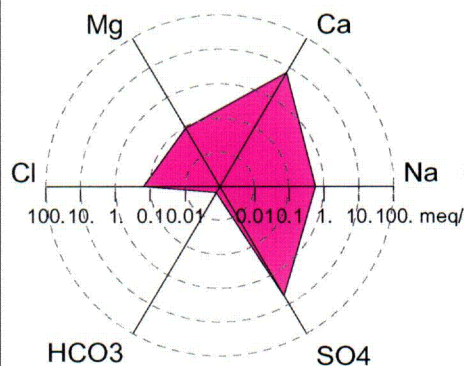
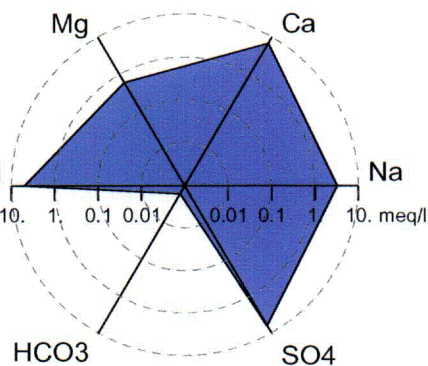
**MALCOLM
PIRNIE**

PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

CLIENT: Molycorp, Inc.

DATE: 3/11/04

MW-1, 2/4/2004**MW-18, 2/5/2004****MW-24, 2/4/2004****MW-27, 2/5/2004****MW-47, 2/4/2004****MW-48, 2/5/2004****MW-55, 2/2/2004****Seep, 2/4/2004**

C69

DESCRIPTION: Radial diagrams - Alkaline pH groundwater wells

FIGURE K-10

**MALCOLM
PIRNIE**

PROJECT: Molycorp, Washington PA site

PROJECT NO: 4812003

CLIENT: Molycorp, Inc.

DATE: 3/11/04

Molycorp

**Supplemental Site
Characterization Report
for the
Washington,
Pennsylvania Site
Appendix L**

Stream Data

April 2004
4812001

**MALCOLM
PIRNIE**

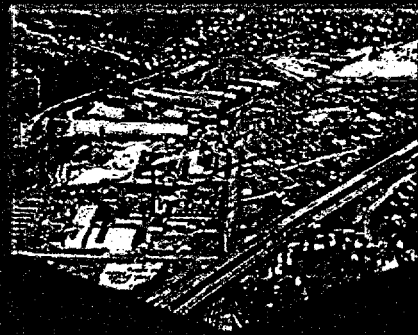
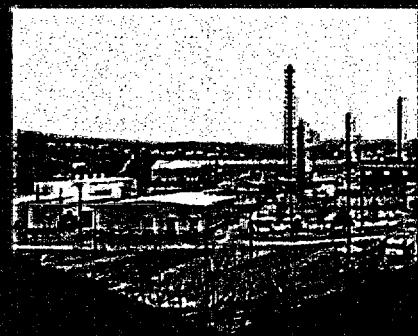
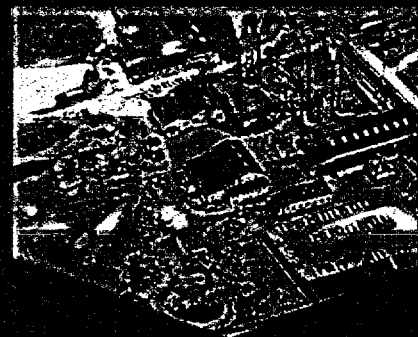
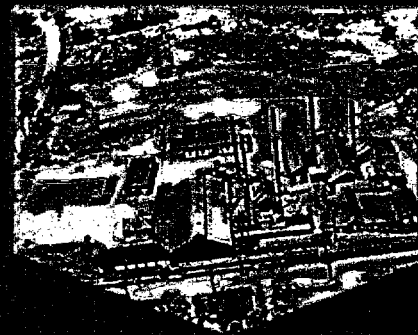


Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾	MSC ⁽²⁾ Soil-to-Groundwater		Sample Identification	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10
	Residential	Residential Used Aquifers		Sample Date	12/23/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003	10/19/2003
	0-15 Feet	100 X GW MSC	Generic Value	Units										
Volatile Organic Compounds ⁽⁴⁾														
Acetone	10,000,000	370,000	41,000	µg/kg ⁽⁵⁾	180	75	85	72	33	95	56	74	30	56
Benzene	41,000	500	130	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	4.7 ⁽⁶⁾	<5
Bromodichloromethane	8,600	10,000	3,400	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Bromoform	290,000	10,000	4,400	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Bromomethane	95,000	1,000	540	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
2-Butanone	-- ⁽⁸⁾	--	--	µg/kg	14	5.8	10	7.6 ⁽⁶⁾	3.4 ⁽⁶⁾	9.2 ⁽⁶⁾	7.8 ⁽⁶⁾	8.2 ⁽⁶⁾	2.6 ⁽⁶⁾	8.1 ⁽⁶⁾
Carbon disulfide	10,000,000	190,000	160,000	µg/kg	9.1	3.9 ⁽⁶⁾	9.6	<5.9	4.7 ⁽⁶⁾	10	6.3	9.7	38	3.1 ⁽⁶⁾
Carbon tetrachloride	21,000	500	260	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Chlorobenzene	4,400,000	10,000	6,100	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Chloroethane	6,200,000	23,000	5,000	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Chloroform	6,000	10,000	2,500	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Chloromethane	180,000	300	38	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
1,1-Dichloroethane	200,000	2,700	650	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
1,2-Dichloroethane	12,000	500	100	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
1,1-Dichloroethene	6,400	700	190	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
cis-1,2-Dichloroethene	670,000	7,000	1,600	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	15
trans-1,2-Dichloroethene	1,300,000	10,000	2,300	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
1,2-Dichloropropane	31,000	500	110	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
cis-1,3-Dichloropropene	--	--	--	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
trans-1,3-Dichloropropene	--	--	--	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Dibromochloromethane	12,000	10,000	3,200	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Ethyl benzene	10,000,000	70,000	46,000	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
2-Hexanone	--	--	--	µg/kg	<15	<11	<10	<12	<10	<12	<10	<12	<10	<10
Methylene chloride	680,000	500	76	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
4-Methyl-2-pentanone	1,500,000	19,000	2,900	µg/kg	<15	<11	7.9 ⁽⁶⁾	<12	<10	<12	<10	<12	<10	<10
Styrene	10,000,000	10000	24,000	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
1,1,2,2-Tetrachloroethane	5,500	300	9.3	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Tetrachloroethene	340,000	500	430	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Toluene	7,600,000	100,000	44,000	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	3.4 ⁽⁶⁾	<5	<5.8	7	<5
1,1,1-Trichloroethane	10,000,000	20,000	7,200	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
1,1,2-Trichloroethane	20,000	500	150	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Trichloroethene	190,000	500	170	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Vinyl chloride	12,000	200	27	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Xylene, m & p-	--	--	--	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Xylene, o-	--	--	--	µg/kg	<7.7	<5.3	<5.1	<5.9	<5	<6.1	<5	<5.8	<5	<5
Xylenes, Total	8,000,000	1,000,000	990,000	µg/kg	<15	<11	<10	<12	<10	<12	<10	<12	<10	<10
Semi-Volatile Organic Compounds ⁽⁹⁾														
Acenaphthene	13,000,000	220,000	2,700,000	µg/kg	<100	100	<80	<46	92	150	180	200	<390	670
Acenaphthylene	13,000,000	220,000	2,500,000	µg/kg	160	420	150	25 ⁽⁶⁾	300	920	1,900	1,100	<390	930
Anthracene	66,000,000	6,600	350,000	µg/kg	280	590	200	<46	540	1,100	2,800	1,500	190 ⁽⁶⁾	1,200
Benzo(a)anthracene	25,000	90	79,000	µg/kg	660	1,200	630	52	1,200	2,000	3,000	2,100	730	1,800
Benzo(a)pyrene	2,500	20	46,000	µg/kg	450	1,100	620	52	1,000	1,600	1,900	1,700	670	1,300
Benzo(b)fluoranthene	25,000	90	120,000	µg/kg	690	1,100	620	49	970	1,500	1,800	1,500	880	1,200

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾	MSC ⁽²⁾ Soil-to-Groundwater		Sample Identification	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10
	Residential	Residential Used Aquifers		Sample Date	12/23/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003	10/19/2003
	0-15 Feet	100 X GW MSC	Generic Value	Units										
Benzo(k)fluoranthene	250,000	26	180,000	µg/kg	240	1,200	660	53	1,100	1,700	2,300	1,900	320 ⁽⁶⁾	1,500
Benzo(g,h,i)perylene	13,000,000	55	610,000	µg/kg	290	680	440	37 ⁽⁶⁾	630	860	1,100	1,500	420	580
Bis(2-chloroethoxy)methane	--	--	--	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Bis(2-chloroethyl)ether	960	13	3.9	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Bis(2-chloroisopropyl)ether	32,000	30,000	8,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Bis(2-ethylhexyl)phthalate	1,300,000	600	130,000	µg/kg	<100	210	200	42 ⁽⁶⁾	84 ⁽⁶⁾	140	51 ⁽⁶⁾	230	<390	<220
4-Bromophenyl-phenylether	--	--	--	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Butylbenzylphthalate	10,000,000	270,000	10,000,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Carbazole	900,000	3,300	21,000	µg/kg	72 ⁽⁶⁾	180	95	<46	200	290	430	300	<390	260
4-Chloroaniline	880,000	15,000	19,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
4-Chloro-3-methylphenol	1,100,000	18,000	37,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2-Chloronaphthalene	18,000,000	290,000	6,200,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2-Chlorophenol	330,000	4,000	4,400	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
4-Chlorophenyl-phenylether	--	--	--	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Chrysene	2,500,000	190	230,000	µg/kg	560	1,300	760	63	1,200	1,900	2,700	2,000	620	1,500
o-Cresol (2-Methylphenol)	10,000,000	180,000	64,000	µg/kg	<100	<95	<80	<46	<87	<98	45 ⁽⁶⁾	<92	<390	<220
p-Cresol (4-Methylphenol)	1,100,000	18,000	4,200	µg/kg	<100	<95	<80	<46	<87	<98	160	<92	<390	<220
Dibenz(a,h)anthracene	2,500	9	41,000	µg/kg	89 ⁽⁶⁾	300	170	<46	300	430	630	580	<390	240
Dibenzofuran	--	--	--	µg/kg	61 ⁽⁶⁾	160	51 ⁽⁶⁾	<46	170	340	1,000	430	<390	410
1,2-Dichlorobenzene	3,800,000	60,000	59,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
1,3-Dichlorobenzene	6,600,000	60,000	61,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
1,4-Dichlorobenzene	750,000	7,500	10,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
3,3'-Dichlorobenzidine	40,000	150	8,300	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2,4-Dichlorophenol	660,000	2,000	1,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Diethylphthalate	10,000,000	500,000	160,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2,4-Dimethylphenol	4,400,000	73,000	32,000	µg/kg	<100	<95	<80	<46	<87	<98	55 ⁽⁶⁾	<92	<390	<220
Dimethylphthalate	--	--	--	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Di-n-butylphthalate	--	--	--	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
4,6-Dinitro-2-methylphenol	--	--	--	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
2,4-Dinitrophenol	440,000	1,900	210	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
2,4-Dinitrotoluene	58,000	210	50	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2,6-Dinitrotoluene	220,000	3,700	1,100	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Di-n-octylphthalate	--	--	--	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Fluoranthene	8,800,000	26,000	3,200,000	µg/kg	1,400	2,500	1,300	100	2,000	3,000	7,000	4,400	1,400	3,100
Fluorene	8,800,000	150,000	3,000,000	µg/kg	170	350	110	<46	310	660	1700	890	<390	860
Hexachlorobenzene	11,000	100	960	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Hexachlorobutadiene	44,000	100	1,200	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Hexachlorocyclopentadiene	1,300,000	5,000	91,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Hexachloroethane	220,000	100	560	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Indeno(1,2,3-cd)pyrene	25,000	90	7,000,000	µg/kg	280	680	410	36	630	910	1,400	1,200	400	720
Isophorone	10,000,000	10,000	1,900	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2-Methylnaphthalene	4,400,000	73,000	2,900,000	µg/kg	<100	63 ⁽⁶⁾	<80	<46	72 ⁽⁶⁾	69 ⁽⁶⁾	240	170	<390	180
Naphthalene	4,400,000	10,000	25,000	µg/kg	<100	<95	<80	<46	50 ⁽⁶⁾	88 ⁽⁶⁾	160	110	<390	220
Nitrobenzene	110,000	1,800	790	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾	MSC ⁽²⁾ Soil-to-Groundwater		Sample Identification	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10
	Residential	Residential Used Aquifers		Sample Date	12/23/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003	10/19/2003
	0-15 Feet	100 X GW MSC	Generic Value	Units										
2-Nitroaniline	13,000	210	38	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
3-Nitroaniline	13,000	210	33	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
4-Nitroaniline	13,000	210	31	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
2-Nitrophenol	1,800,000	29,000	5,900	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
4-Nitrophenol	1,800,000	6,000	4,100	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
N-nitrosodi-n-propylamine	2,600	9.4	1.3	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
N-nitrosodiphenylamine	3,700,000	13,000	20,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Pentachlorophenol	150,000	100	5,000	µg/kg	<100	<95	<83	<83	<87	<98	<83	<92	<390	<220
Phenanthrene	66,000,000	110,000	10,000,000	µg/kg	980	1,500	790	43 ⁽⁶⁾	1,700	2,200	6,900	3,100	560	3,200
Phenol	130,000,000	400,000	66,000	µg/kg	<100	<95	<80	<46	<87	<98	94	<92	<390	<220
Pyrene	6,600,000	13,000	2,200,000	µg/kg	980	1,700	1,200	80	1,700	2,600	5,200	3,700	1,300	2,400
1,2,4-Trichlorobenzene	2,200,000	7,000	27,000	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
2,4,5-Trichlorophenol	22,000,000	370,000	2,300,000	µg/kg	<200	<190	<160	<92	<170	<200	<150	<180	<780	<430
2,4,6-Trichlorophenol	66,000	1,100	3,100	µg/kg	<100	<95	<80	<46	<87	<98	<73	<92	<390	<220
Polychlorinated Biphenyls ⁽⁹⁾														
PCB 1016	15,000	260	72,000	µg/kg	<1	<1	<1	<1	NS ⁽¹⁰⁾	NS	<1	NS	NS	<1
PCB 1221	36,000	130	630	µg/kg	<1	<1	<1	<1	NS	NS	<1	NS	NS	<1
PCB 1232	36,000	130	500	µg/kg	<1	<1	<1	<1	NS	NS	<1	NS	NS	<1
PCB 1242	36,000	130	16,000	µg/kg	<1	<1	<1	<1	NS	NS	<1	NS	NS	<1
PCB 1248	9,900	37	18,000	µg/kg	<1	<1	<1	<1	NS	NS	<1	NS	NS	<1
PCB 1254	4,400	37	75,000	µg/kg	<1	<1	<1	<1	NS	NS	<1	NS	NS	<1
PCB 1260	30,000	110	500,000	µg/kg	<1	<1	<1	<1	NS	NS	<1	NS	NS	<1
Total Metals ⁽¹¹⁾														
Aluminum	190,000	NA ⁽¹²⁾	NA	mg/kg ⁽¹³⁾	8,200	7,400	6,700	11,000	6,400	6,500	12,000	6,500	11,000	11,000
Antimony	88	0.6	27	mg/kg	0.46 ⁽⁶⁾	1.5	1.3	1.6	1.8	1.9	4.4	1.2	0.072 ⁽⁶⁾	1.3
Arsenic	12	5	150	mg/kg	12	11	12	10	10	17	46	13	9.5	330
Barium	15,000	200	8,200	mg/kg	160	130	110	190	100	150	220	130	150	460
Beryllium	440	0.4	320	mg/kg	0.75	0.75	0.68	0.92	0.8	0.81	3.2	0.72	1.3	0.93
Boron	20,000	60	6.7	mg/kg	9.8	5.8	4.1 ⁽⁶⁾	12	6.2	9	32	10	13	5.8
Cadmium	47	0.5	38	mg/kg	0.26	<0.23	<0.2	<0.24	<0.23	<0.21	0.24	<0.22	0.12 ⁽⁶⁾	<0.2
Chromium	190,000	10	190,000	mg/kg	38	19	17	16	18	17	25	44	23	29
Cobalt	4,400	73	8.1	mg/kg	11	11	10	11	11	11	8	9.4	8.2	12
Copper	8,200	100	36,000	mg/kg	27	22	21	21	16	20	1,500	40	13	27
Iron	66,000	NA	NA	mg/kg	21,000	23,000	22,000	26,000	27,000	28,000	34,000	24,000	35,000	24,000
Lead	500	0.5	450	mg/kg	60	60	59	31	83	73	48	50	14	52
Manganese	31,000	NA	NA	mg/kg	380	880	830	600	690	670	410	1,000	2,100	600
Mercury	66	0.2	10	mg/kg	0.043 ⁽⁶⁾	0.045 ⁽⁶⁾	0.04 ⁽⁶⁾	0.031 ⁽⁶⁾	0.04 ⁽⁶⁾	0.032 ⁽⁷⁾	0.06 ⁽⁶⁾	0.035 ⁽⁶⁾	0.015 ⁽⁶⁾	0.071 ⁽⁶⁾
Molybdenum	--	--	--	mg/kg	310	77	21	280	11	33	830	53	1.5	30
Nickel	4,400	10	650	mg/kg	39	21	19	21	20	19	23	28	18	37
Selenium	1,100	5	26	mg/kg	3.3	2.1	1.9	2.4	1.8	1.8	5.7	1.6	0.68	2.9
Silver	1,100	10	84	mg/kg	0.31	0.068 ⁽⁶⁾	<0.2	<0.24	<0.23	<0.21	0.091 ⁽⁶⁾	0.11 ⁽⁶⁾	0.31	<0.2
Thallium	15	0.2	14	mg/kg	<2.2	<2.3	<2	<2.4	<2.3	<2.1	<2	<2.2	0.069 ⁽⁶⁾	<2
Tin	130,000	2,200	240	mg/kg	5.1 ⁽⁶⁾	4 ⁽⁶⁾	3.6 ⁽⁶⁾	3.8 ⁽⁶⁾	4.9 ⁽⁶⁾	7.2 ⁽⁶⁾	3.9 ⁽⁶⁾	5.5 ⁽⁶⁾	2.6 ⁽⁶⁾	4.5 ⁽⁶⁾
Tungsten	--	--	--	mg/kg	18	10 ⁽⁶⁾	4.3 ⁽⁶⁾	5 ⁽⁶⁾	3.7 ⁽⁶⁾	3.4 ⁽⁶⁾	75	5.3 ⁽⁶⁾	1.7 ⁽⁶⁾	4.7 ⁽⁶⁾
Vanadium	1,500	26	26,000	mg/kg	24	19	17	21	18	17	18	16	16	24

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾ Residential 0-15 Feet	MSC ⁽²⁾ Soil-to-Groundwater Residential Used Aquifers		Sample Identification	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10
		100 X GW MSC	Generic Value	Sample Date	12/23/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003	10/19/2003
				Units										
Zinc	66,000	200	12,000	mg/kg	110	120	100	78	92	100	220	95	55	99
Additional Parameters														
Total Organic Carbon ⁽¹⁴⁾	--	--	--	mg/kg	NS	NS	NS	12,800	NS	NS	35,700	NS	NS	30,700

Footnotes:

- (1) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Soil, Appendix A, Tables 3 and 4 - Direct Contact Numeric Values, 25 PA Code Chapter 250.
- (2) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Soil, Appendix A, Tables 3 and 4 - Soil to Groundwater Numeric Values, 25 PA Code Chapter 250.
- (3) ft bgs - feet below ground surface
- (4) Volatile Organic Compunds were analyzed by US Environmental Protection Agency Method SW 846 8260B.
- (5) µg/kg - micrograms/kilograms
- (6) Identified concentration is an estimated value below the laboratory reporting limit but above the method detection limit.
- (7) -- Medium specific concentration not yet established by Pennsylvania Department of Environmental Protection.
- (8) Semi-Volatile Organic Compound were analyzed by US Environmental Protection Agency Method SW 846 8270C.
- (9) Polychlorinated Biphenyls were analyzed by US Environmental Protection Agency Method SW 846 8082.
- (10) NS - Not Sampled
- (11) Total Metals were analyzed by US Environmental Protection Agency Method SW 846 6010B and 7471B.
- (12) NA - Not Applicable
- (13) mg/kg - milligrams/kilogram
- (14) Total Organic Carbon was analyzed by US Environmental Protection Agency Method 9060M.
- 1.5

= Reported concentration exceeds MSC for Direct Contact.
- 1.5

= Reported concentration exceeds MSC for Soil-to-Groundwater Residential Use Aquifer.
- 1.5

= Reported concentration exceeds MSC for both Soil-toGroundwater Residential Used Aquifer and Direct Contact.

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾	MSC ⁽²⁾ Soil-to-Groundwater		Sample Identification	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16
	Residential	Residential Used Aquifers		Sample Date	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003
	0-15 Feet	100 X GW MSC	Generic Value	Units						
Volatile Organic Compounds ⁽⁴⁾										
Acetone	10,000,000	370,000	41,000	µg/kg ⁽⁵⁾	70	29	97	120	49	31
Benzene	41,000	500	130	µg/kg	<5	39	<5.5	<5.6	<5.2	<5
Bromodichloromethane	8,600	10,000	3,400	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Bromoform	290,000	10,000	4,400	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Bromomethane	95,000	1,000	540	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
2-Butanone	-- ⁽⁸⁾	--	--	µg/kg	17	6.5 ⁽⁶⁾	7.8 ⁽⁶⁾	11	4.1 ⁽⁶⁾	0
Carbon disulfide	10,000,000	190,000	160,000	µg/kg	3.3 ⁽⁶⁾	10	27	5.7	<5.2	<5
Carbon tetrachloride	21,000	500	260	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Chlorobenzene	4,400,000	10,000	6,100	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Chloroethane	6,200,000	23,000	5,000	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Chloroform	6,000	10,000	2,500	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Chloromethane	180,000	300	38	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
1,1-Dichloroethane	200,000	2,700	650	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
1,2-Dichloroethane	12,000	500	100	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
1,1-Dichloroethene	6,400	700	190	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
cis-1,2-Dichloroethene	670,000	7,000	1,600	µg/kg	8.1	19	<5.5	<5.6	<5.2	<5
trans-1,2-Dichloroethene	1,300,000	10,000	2,300	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
1,2-Dichloropropane	31,000	500	110	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
cis-1,3-Dichloropropene	--	--	--	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
trans-1,3-Dichloropropene	--	--	--	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Dibromochloromethane	12,000	10,000	3,200	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Ethyl benzene	10,000,000	70,000	46,000	µg/kg	<5	4.8 ⁽⁶⁾	<5.5	<5.6	<5.2	<5
2-Hexanone	--	--	--	µg/kg	<10	<10	<11	<11	<10	<10
Methylene chloride	680,000	500	76	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
4-Methyl-2-pentanone	1,500,000	19,000	2,900	µg/kg	<10	<10	<11	<11	<10	<10
Styrene	10,000,000	10000	24,000	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
1,1,2,2-Tetrachloroethane	5,500	300	9.3	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Tetrachloroethene	340,000	500	430	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Toluene	7,600,000	100,000	44,000	µg/kg	<5	12	3.4 ⁽⁶⁾	<5.6	<5.2	<5
1,1,1-Trichloroethane	10,000,000	20,000	7,200	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
1,1,2-Trichloroethane	20,000	500	150	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Trichloroethene	190,000	500	170	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Vinyl chloride	12,000	200	27	µg/kg	<5	<5	<5.5	<5.6	<5.2	<5
Xylene, m & p-	--	--	--	µg/kg	<5	4 ⁽⁶⁾	<5.5	<5.6	<5.2	<5
Xylene, o-	--	--	--	µg/kg	<5	2.6 ⁽⁶⁾	<5.5	<5.6	<5.2	<5
Xylenes, Total	8,000,000	1,000,000	990,000	µg/kg	<10	6.6	<11	<11	<10	<10
Semi-Volatile Organic Compounds ⁽⁹⁾										
Acenaphthene	13,000,000	220,000	2,700,000	µg/kg	2,100	1,300	<92	<100	<48	<43
Acenaphthylene	13,000,000	220,000	2,500,000	µg/kg	770 ⁽⁶⁾	2,500	<92	<100	<48	<43
Anthracene	66,000,000	6,600	350,000	µg/kg	1,000	3,700	<92	<100	<48	<43
Benzo(a)anthracene	25,000	90	79,000	µg/kg	3,000	4,400	68 ⁽⁶⁾	<100	42 ⁽⁶⁾	<43
Benzo(a)pyrene	2,500	20	46,000	µg/kg	3,100	3,000	72 ⁽⁶⁾	51 ⁽⁶⁾	40 ⁽⁶⁾	<43
Benzo(b)fluoranthene	25,000	90	120,000	µg/kg	2,300	2,600	50 ⁽⁶⁾	<100	34 ⁽⁶⁾	<43

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾ Residential 0-15 Feet	MSC ⁽²⁾ Soil-to-Groundwater Residential Used Aquifers		Sample Identification	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16
		100 X GW MSC	Generic Value	Sample Date	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003
				Units						
Benzo(k)fluoranthene	250,000	26	180,000	µg/kg	2,200	3,700	53 ⁽⁶⁾	<100	42 ⁽⁶⁾	<43
Benzo(g,h,i)perylene	13,000,000	55	610,000	µg/kg	1,700	1,100	51 ⁽⁶⁾	<100	26 ⁽⁶⁾	<43
Bis(2-chloroethoxy)methane	--	--	--	µg/kg	<1,400	<230	<92	<100	<48	<43
Bis(2-chloroethyl)ether	960	13	3.9	µg/kg	<1,400	<230	<92	<100	<48	<43
Bis(2-chloroisopropyl)ether	32,000	30,000	8,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Bis(2-ethylhexyl)phthalate	1,300,000	600	130,000	µg/kg	<1,400	<230	<92	<100	25 ⁽⁶⁾	<43
4-Bromophenyl-phenylether	--	--	--	µg/kg	<1,400	<230	<92	<100	<48	<43
Butylbenzylphthalate	10,000,000	270,000	10,000,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Carbazole	900,000	3,300	21,000	µg/kg	<1,400	630	<92	<100	<48	<43
4-Chloroaniline	880,000	15,000	19,000	µg/kg	<1,400	<230	<92	<100	<48	<43
4-Chloro-3-methylphenol	1,100,000	18,000	37,000	µg/kg	<1,400	<230	<92	<100	<48	<43
2-Chloronaphthalene	18,000,000	290,000	6,200,000	µg/kg	<1,400	<230	<92	<100	<48	<43
2-Chlorophenol	330,000	4,000	4,400	µg/kg	<1,400	<230	<92	<100	<48	<43
4-Chlorophenyl-phenylether	--	--	--	µg/kg	<1,400	<230	<92	<100	<48	<43
Chrysene	2,500,000	190	230,000	µg/kg	4,800	3,500	65 ⁽⁶⁾	54 ⁽⁶⁾	47 ⁽⁶⁾	<43
o-Cresol (2-Methylphenol)	10,000,000	180,000	64,000	µg/kg	<1,400	<230	<92	<100	<48	<43
p-Cresol (4-Methylphenol)	1,100,000	18,000	4,200	µg/kg	<1,400	170 ⁽⁶⁾	<92	<100	<48	<43
Dibenz(a,h)anthracene	2,500	9	41,000	µg/kg	960 ⁽⁶⁾	770	<92	<100	<48	<43
Dibenzofuran	--	--	--	µg/kg	<1,400	1,300	<92	<100	<48	<43
1,2-Dichlorobenzene	3,800,000	60,000	59,000	µg/kg	<1,400	<230	<92	<100	<48	<43
1,3-Dichlorobenzene	6,600,000	60,000	61,000	µg/kg	<1,400	<230	<92	<100	<48	<43
1,4-Dichlorobenzene	750,000	7,500	10,000	µg/kg	<1,400	<230	<92	<100	<48	<43
3,3'-Dichlorobenzidine	40,000	150	8,300	µg/kg	<1,400	<230	<92	<100	<48	<43
2,4-Dichlorophenol	660,000	2,000	1,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Diethylphthalate	10,000,000	500,000	160,000	µg/kg	<1,400	<230	<92	<100	<48	<43
2,4-Dimethylphenol	4,400,000	73,000	32,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Dimethylphthalate	--	--	--	µg/kg	<1,400	<230	<92	<100	<48	<43
Di-n-butylphthalate	--	--	--	µg/kg	<1,400	<230	<92	<100	<48	<43
4,6-Dinitro-2-methylphenol	--	--	--	µg/kg	<2,700	<470	<180	<200	<95	<43
2,4-Dinitrophenol	440,000	1,900	210	µg/kg	<2,700	<470	<180	<200	<95	<43
2,4-Dinitrotoluene	58,000	210	50	µg/kg	<1,400	<230	<92	<100	<48	<43
2,6-Dinitrotoluene	220,000	3,700	1,100	µg/kg	<1,400	<230	<92	<100	<48	<43
Di-n-octylphthalate	--	--	--	µg/kg	<1,400	<230	<92	<100	<48	<43
Fluoranthene	8,800,000	26,000	3,200,000	µg/kg	5,900	6,600	73 ⁽⁶⁾	86 ⁽⁶⁾	76	<43
Fluorene	8,800,000	150,000	3,000,000	µg/kg	<1,400	2,500	<92	<100	<48	<43
Hexachlorobenzene	11,000	100	960	µg/kg	<1,400	<230	<92	<100	<48	<43
Hexachlorobutadiene	44,000	100	1,200	µg/kg	<1,400	<230	<92	<100	<48	<43
Hexachlorocyclopentadiene	1,300,000	5,000	91,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Hexachloroethane	220,000	100	560	µg/kg	<1,400	<230	<92	<100	<48	<43
Indeno(1,2,3-cd)pyrene	25,000	90	7,000,000	µg/kg	1,500	1,500	49 ⁽⁶⁾	<100	26 ⁽⁶⁾	<43
Isophorone	10,000,000	10,000	1,900	µg/kg	<1,400	<230	<92	<100	<48	<43
2-Methylnaphthalene	4,400,000	73,000	2,900,000	µg/kg	<1,400	560	<92	<100	39 ⁽⁶⁾	<43
Naphthalene	4,400,000	10,000	25,000	µg/kg	<1,400	640	<92	<100	26 ⁽⁶⁾	<43
Nitrobenzene	110,000	1,800	790	µg/kg	<1,400	<230	<92	<100	<48	<43

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾ Residential 0-15 Feet	MSC ⁽²⁾ Soil-to-Groundwater Residential Used Aquifers		Sample Identification	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16
		100 X GW MSC	Generic Value	Sample Date	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003
				Units						
2-Nitroaniline	13,000	210	38	µg/kg	<2,700	<470	<180	<200	<95	<86
3-Nitroaniline	13,000	210	33	µg/kg	<2,700	<470	<180	<200	<95	<86
4-Nitroaniline	13,000	210	31	µg/kg	<2,700	<470	<180	<200	<95	<86
2-Nitrophenol	1,800,000	29,000	5,900	µg/kg	<1,400	<230	<92	<100	<48	<43
4-Nitrophenol	1,800,000	6,000	4,100	µg/kg	<2,700	<470	<180	<200	<95	<86
N-nitrosodi-n-propylamine	2,600	9.4	1.3	µg/kg	<1,400	<230	<92	<100	<48	<43
N-nitrosodiphenylamine	3,700,000	13,000	20,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Pentachlorophenol	150,000	100	5,000	µg/kg	<1,400	<230	<92	<100	83	<83
Phenanthrene	66,000,000	110,000	10,000,000	µg/kg	2,900	8,400	65 ⁽⁶⁾	<100	52	<43
Phenol	130,000,000	400,000	66,000	µg/kg	<1,400	<230	<92	<100	<48	<43
Pyrene	6,600,000	13,000	2,200,000	µg/kg	5,900	5,700	140	140	64	<43
1,2,4-Trichlorobenzene	2,200,000	7,000	27,000	µg/kg	<1,400	<230	<92	<100	<48	<43
2,4,5-Trichlorophenol	22,000,000	370,000	2,300,000	µg/kg	<2,700	<470	<180	<200	<95	<86
2,4,6-Trichlorophenol	66,000	1,100	3,100	µg/kg	<1,400	<230	<92	<100	<48	<43
Polychlorinated Biphenyls⁽⁹⁾										
PCB 1016	15,000	260	72,000	µg/kg	NS	NS	NS	<1	NS	<1
PCB 1221	36,000	130	630	µg/kg	NS	NS	NS	<1	NS	<1
PCB 1232	36,000	130	500	µg/kg	NS	NS	NS	<1	NS	<1
PCB 1242	36,000	130	16,000	µg/kg	NS	NS	NS	<1	NS	<1
PCB 1248	9,900	37	18,000	µg/kg	NS	NS	NS	<1	NS	<1
PCB 1254	4,400	37	75,000	µg/kg	NS	NS	NS	<1	NS	<1
PCB 1260	30,000	110	500,000	µg/kg	NS	NS	NS	<1	NS	<1
Total Metals⁽¹¹⁾										
Aluminum	190,000	NA ⁽¹²⁾	NA	mg/kg ⁽¹³⁾	6,700	14,000	9,400	7,200	12,000	16,000
Antimony	88	0.6	27	mg/kg	1.2	1.7	5	3	1.7	0.4 ⁽⁶⁾
Arsenic	12	5	150	mg/kg	52	690	27	17	8.3	8.2
Barium	15,000	200	8,200	mg/kg	2,000	650	160	110	160	140
Beryllium	440	0.4	320	mg/kg	0.78	0.96	1.7	1.2	1.1	1.3
Boron	20,000	60	6.7	mg/kg	5	6.7	5.6	3.3 ⁽⁶⁾	5.9 ⁽⁶⁾	4.3 ⁽⁶⁾
Cadmium	47	0.5	38	mg/kg	<0.2	<0.27	<0.23	<0.25	<0.27	<0.22
Chromium	190,000	10	190,000	mg/kg	15	37	22	17	17	23
Cobalt	4,400	73	8.1	mg/kg	12	13	22	16	15	21
Copper	8,200	100	36,000	mg/kg	36	34	23	17	27	37
Iron	66,000	NA	NA	mg/kg	18,000	27,000	65,000	45,000	24,000	42,000
Lead	500	0.5	450	mg/kg	64	65	110	95	48	19
Manganese	31,000	NA	NA	mg/kg	560	1,500	1,400	1,100	260	1,000
Mercury	66	0.2	10	mg/kg	0.079 ⁽⁶⁾	0.095 ⁽⁶⁾	0.023 ⁽⁶⁾	0.033 ⁽⁶⁾	0.068 ⁽⁶⁾	0.035 ⁽⁶⁾
Molybdenum	--	--	--	mg/kg	27	34	14	6.4	21	2.1
Nickel	4,400	10	650	mg/kg	22	50	35	26	33	33
Selenium	1,100	5	26	mg/kg	2.3	3.6	3.3	2.5	2.5	1.2
Silver	1,100	10	84	mg/kg	0.42	<0.27	<0.23	<0.25	<0.27	0.27
Thallium	15	0.2	14	mg/kg	<2	<2.7	<2.2	<2.5	<2.7	<2.2
Tin	130,000	2,200	240	mg/kg	5.6 ⁽⁶⁾	6.1 ⁽⁶⁾	3.8 ⁽⁶⁾	5.2 ⁽⁶⁾	5 ⁽⁶⁾	2.9 ⁽⁶⁾
Tungsten	--	--	--	mg/kg	15	7.8 ⁽⁶⁾	4.3 ⁽⁶⁾	3.6 ⁽⁶⁾	8.1 ⁽⁶⁾	3.9 ⁽⁶⁾
Vanadium	1,500	26	26,000	mg/kg	15	28	33	22	24	29

Table L-1
Area 6 Sediment Sample Analytical Results

Constituent	MSC ⁽¹⁾ Residential 0-15 Feet	MSC ⁽²⁾ Soil-to-Groundwater Residential Used Aquifers		Sample Identification	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16
		100 X GW MSC	Generic Value	Sample Date	10/19/2003	10/19/2003	10/19/2003	10/19/2003	10/19/2003	12/23/2003
				Units						
Zinc	66,000	200	12,000	mg/kg	130	130	110	91	95	390
Additional Parameters										
Total Organic Carbon ⁽¹⁴⁾	--	--	--	mg/kg	NS	NS	14,000	NS	NS	NS

Footnotes:

(1) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Soil, Appendix A, Tables 3 and 4 - Direct Contact Numeric Values , 25 PA Code Chapter 250.

(2) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Soil, Appendix A, Tables 3 and 4 - Soil to Groundwater Numeric Values, 25 PA Code Chapter 250.

(3) ft bgs - feet below ground surface

(4) Volatile Organic Compunds were analyzed by US Environmental Protection Agency Method SW 846 8260B.

(5) µg/kg - micrograms/kilograms

(6) Identified concentration is an estimated value below the laboratory reporting limit but above the method detection limit.

(7) -- Medium specific concentration not yet established by Pennsylvania Department of Environmental Protection.

(8) Semi-Volatile Organic Compound were analyzed by US Environmental Protection Agency Method SW 846 8270C.

(9) Polychlorinated Biphenyls were analyzed by US Environmental Protection Agency Method SW 846 8082.

(10) NS - Not Sampled

(11) Total Metals were analyzed by US Environmental Protection Agency Method SW 846 6010B and 7471B.

(12) NA - Not Applicable

(13) mg/kg - milligrams/kilogram

(14) Total Organic Carbon was analyzed by US Environmental Protection Agency Method 9060M.

1.5	= Reported concentration exceeds MSC for Direct Contact.
1.5	= Reported concentration exceeds MSC for Soil-to-Groundwater Residential Use Aquifer.
1.5	= Reported concentration exceeds MSC for both Soil-toGroundwater Residential Used Aquifer and Direct Contact.

Table L-2
Area 6 Surface Water Analytical Results

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-10	SW-11	SW-12	SW-13	SW-14
	Residential Used Aquifers	Residential Non-Use Aquifers	Sample Date	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003
			Units														
Volatile Organic Compounds ⁽²⁾																	
Acetone	3,700	37,000	µg/L ⁽³⁾	3.6 ⁽⁴⁾	3.5 ⁽⁴⁾	3.6 ⁽⁴⁾	3.5 ⁽⁴⁾	4.1 ⁽⁴⁾	4.6 ⁽⁴⁾	<10	<10	<10	<10	4.1 ⁽⁴⁾	3.5 ⁽⁴⁾	4.3 ⁽⁴⁾	3 ⁽⁴⁾
Benzene	5	500	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	100	100	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	100	10,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	10	1,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	-- ⁽⁵⁾	--	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	1,900	1,900	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	5	50	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	100	10,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	230	23,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	100	1,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	3	300	µg/L	<1	0.85 ⁽⁴⁾	<1	1.4	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	27	270	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	5	50	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	7	70	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	700	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	100	1,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	50	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	100	10,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	700	70,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	--	--	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methylene chloride	5	500	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-pentanone	190	19,000	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Styrene	100	10,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	0.3	30	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	50	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	1,000	100,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	2,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	50	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	50	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	2	20	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene, m & p-	--	--	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene, o-	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, Total	10,000	180,000	µg/L	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Semi-Volatile Organic Compounds ⁽⁶⁾																	
Acenaphthene	2,200	3,800	µg/L	<1	<2.5	<2.6	<2.5	<2.5	<2.5	<2.5	<2.5	<2.6	<2.6	<2.6	<2.5	<2.6	<2.5
Acenaphthylene	2,200	16,000	µg/L	<1	<2.5	<2.6	<2.5	<2.5	<2.5	<2.5	<2.5	<2.6	<2.6	<2.6	<2.5	<2.6	<2.5
Anthracene	66	66	µg/L	<1	<0.2	<0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.21	<0.21	<0.21	<0.2	<0.21	<0.2
Benzo(a)anthracene	0.9	11	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	0.2	3.8	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(b)fluoranthene	0.9	1.2	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(k)fluoranthene	0.55	0.55	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(g,h,i)perylene	0.26	0.26	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bis(2-chloroethoxy)methane	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Bis(2-chloroethyl)ether	0.13	13	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Bis(2-chloroisopropyl)ether	300	30,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Bis(2-ethylhexyl)phthalate	6	290	µg/L	<1	<1	<1	<1	<1	<1	<1	0.69 ⁽⁴⁾	<1	<1	<1	<1	<1.1	<1

Table L-2
Area 6 Surface Water Analytical Results

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-10	SW-11	SW-12	SW-13	SW-14
	Residential	Residential															
	Used Aquifers	Non-Use Aquifers	Sample Date	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003
			Units														
4-Bromophenyl-phenylether	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Butylbenzylphthalate	2,700	2,700	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Carbazole	33	1,200	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
4-Chloroaniline	150	150	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
4-Chloro-3-methylphenol	180	180	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2-Chloronaphthalene	2,900	2,900	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2-Chlorophenol	40	40	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
4-Chlorophenyl-phenylether	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Chrysene	1.9	1.9	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-Cresol (2-Methylphenol)	1,800	180,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
p-Cresol (4-Methylphenol)	180	180,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Dibenz(a,h)anthracene	0.09	0.6	µg/L	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibenzofuran	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
1,2-Dichlorobenzene	600	60,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
1,3-Dichlorobenzene	600	60,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
1,4-Dichlorobenzene	75	7,500	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
3,3'-Dichlorobenzidine	1.5	1,500	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2,4-Dichlorophenol	20	20,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Diethylphthalate	5,000	1,100,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2,4-Dimethylphenol	730	730,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Dimethylphthalate	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Di-n-butylphthalate	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
4,6-Dinitro-2-methylphenol	--	--	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
2,4-Dinitrophenol	19	190	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
2,4-Dinitrotoluene	2.1	2,100	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2,6-Dinitrotoluene	37	37,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Di-n-octylphthalate	--	--	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Fluoranthene	260	260	µg/L	<1	<0.2	<0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.21	<0.21	<0.21	<0.2	<0.21	<0.2
Fluorene	1,500	1,900	µg/L	<1	<0.2	<0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.21	<0.21	<0.21	<0.2	<0.21	<0.2
Hexachlorobenzene	1	6	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Hexachlorobutadiene	1	1,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Hexachlorocyclopentadiene	50	1,800	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Hexachloroethane	1	100	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Indeno(1,2,3-cd)pyrene	0.9	62	µg/L	<1	<0.2	<0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.21	<0.21	<0.21	<0.2	<0.21	<0.2
Isophorone	100	100,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2-Methylnaphthalene	730	730	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Naphthalene	100	30,000	µg/L	<1	<2.5	<2.6	<2.5	<2.5	<2.5	<2.5	<2.5	<2.6	<2.6	<2.6	<2.5	<2.6	<2.5
Nitrobenzene	18	18,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2-Nitroaniline	2.1	2.1	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
3-Nitroaniline	2.1	2.1	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
4-Nitroaniline	2.1	2.1	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
2-Nitrophenol	290	290,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
4-Nitrophenol	60	60,000	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
N-nitrosodi-n-propylamine	0.094	94	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
N-nitrosodiphenylamine	130	35,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Pentachlorophenol	1	1,000	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Phenanthrene	1,100	1,100	µg/L	<1	<0.2	<0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.21	<0.21	<0.21	<0.2	<0.21	<0.2
Phenol	4,000	400,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1

Table L-2
Area 6 Surface Water Analytical Results

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-10	SW-11	SW-12	SW-13	SW-14
	Residential	Residential	Sample Date	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003	12/26/2003
	Used Aquifers	Non-Use Aquifers	Units														
Pyrene	130	130	µg/L	<1	<0.2	<0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.21	<0.21	<0.21	<0.2	<0.21	<0.2
1,2,4-Trichlorobenzene	70	44,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
2,4,5-Trichlorophenol	3,700	1,000,000	µg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
2,4,6-Trichlorophenol	11	11,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.1	<1
Total Metals ⁽⁷⁾																	
Aluminum	200 ⁽⁸⁾	200 ⁽⁸⁾	µg/L	180	180	190	190	120	140	130	110	110	120	120	110	200	230
Antimony	6	6,000	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	0.44 ⁽⁴⁾	<5	<5	<5	<5	<5
Arsenic	50	50,000	µg/L	<5	1.7 ⁽⁴⁾	<5	<5	2.5 ⁽⁴⁾	1 ⁽⁴⁾	1.1 ⁽⁴⁾	<5	5.9	1.7 ⁽⁴⁾	0.45 ⁽⁴⁾	<5	<5	3.9 ⁽⁴⁾
Barium	2,000	2,000,000	µg/L	82	83	82	82	83	83	81	82	75	73	75	78	89	86
Beryllium	4	4,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	0.32 ⁽⁴⁾	<1	<1	<1	<1	<1
Boron	600	600,000	µg/L	45 ⁽⁴⁾	46 ⁽⁴⁾	30 ⁽⁴⁾	26 ⁽⁴⁾	26 ⁽⁴⁾	25 ⁽⁴⁾	38 ⁽⁴⁾	24 ⁽⁴⁾	26 ⁽⁴⁾	25 ⁽⁴⁾	25 ⁽⁴⁾	27 ⁽⁴⁾	33	31
Cadmium	5	5,000	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	0.24 ⁽⁴⁾	<1	<1	<1	<1	<1
Chromium	100	100,000	µg/L	1.2 ⁽⁴⁾	0.18 ⁽⁴⁾	0.67 ⁽⁴⁾	0.67 ⁽⁴⁾	0.27 ⁽⁴⁾	1.5 ⁽⁴⁾	0.53 ⁽⁴⁾	<5	1 ⁽⁴⁾	1.3 ⁽⁴⁾	1.2 ⁽⁴⁾	0.54 ⁽⁴⁾	1.2 ⁽⁴⁾	2.7 ⁽⁴⁾
Cobalt	2,000	2,000,000	µg/L	0.17 ⁽⁴⁾	<5	0.21 ⁽⁴⁾	<5	<5	<5	0.08 ⁽⁴⁾	0.17 ⁽⁴⁾	1.2 ⁽⁴⁾	0.91 ⁽⁴⁾	0.15 ⁽⁴⁾	0.28 ⁽⁴⁾	0.15 ⁽⁴⁾	0.97 ⁽⁴⁾
Copper	730	730,000	µg/L	2.4 ⁽⁴⁾	1.5 ⁽⁴⁾	1.9 ⁽⁴⁾	2.5 ⁽⁴⁾	2 ⁽⁴⁾	1.5 ⁽⁴⁾	2.2 ⁽⁴⁾	1.4 ⁽⁴⁾	2.4 ⁽⁴⁾	1.4 ⁽⁴⁾	1.2 ⁽⁴⁾	2.2 ⁽⁴⁾	1.2 ⁽⁴⁾	1.3 ⁽⁴⁾
Iron	300 ⁽⁸⁾	300 ⁽⁸⁾	µg/L	350	330	350	350	270	290	300	250	240	240	260	250	320	380
Lead	5	5,000	µg/L	<2	2	<2	<2	<2	<2	<2	<2	1.7 ⁽⁴⁾	1.9 ⁽⁴⁾	1.6 ⁽⁴⁾	<2	1.1 ⁽⁴⁾	0.25 ⁽⁴⁾
Manganese	50 ⁽⁸⁾	50 ⁽⁸⁾	µg/L	110	110	110	120	110	110	110	110	120	120	120	120	70	69
Mercury	2	2,000	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	--	--	µg/L	47	45	21	16	15	7.4 ⁽⁴⁾	90	4.2 ⁽⁴⁾	8.8 ⁽⁴⁾	8.9 ⁽⁴⁾	6.8 ⁽⁴⁾	5.4 ⁽⁴⁾	7.5 ⁽⁴⁾	4.8 ⁽⁴⁾
Nickel	100	100,000	µg/L	0.81 ⁽⁴⁾	<10	<10	1.1 ⁽⁴⁾	0.07 ⁽⁴⁾	1.4 ⁽⁴⁾	1.1 ⁽⁴⁾	0.51 ⁽⁴⁾	2.9 ⁽⁴⁾	1.6 ⁽⁴⁾	0.85 ⁽⁴⁾	1.4 ⁽⁴⁾	2.1 ⁽⁴⁾	1.7 ⁽⁴⁾
Selenium	50	50,000	µg/L	5.7	3.2 ⁽⁴⁾	4.4 ⁽⁴⁾	5	3.7 ⁽⁴⁾	4.7 ⁽⁴⁾	3.4 ⁽⁴⁾	3.2 ⁽⁴⁾	2.5 ⁽⁴⁾	<5	<5	<5	<5	<5
Silver	100	100,000	µg/L	0.79 ⁽⁴⁾	<1	0.29 ⁽⁴⁾	0.23 ⁽⁴⁾	<1	<1	2.1	2 ⁽⁴⁾	0.67 ⁽⁴⁾	1.1	1.2	<1	0.38 ⁽⁴⁾	0.92 ⁽⁴⁾
Thallium	2	2,000	µg/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	1.9 ⁽⁴⁾	1.6 ⁽⁴⁾	1.8 ⁽⁴⁾	1.2 ⁽⁴⁾
Tin	22,000	22,000,000	µg/L	5.3 ⁽⁴⁾	2.4 ⁽⁴⁾	2.7 ⁽⁴⁾	2.1 ⁽⁴⁾	4.5 ⁽⁴⁾	3 ⁽⁴⁾	0.2 ⁽⁴⁾	2.7 ⁽⁴⁾	<50	<50	0.03 ⁽⁴⁾	<50	<50	2.1 ⁽⁴⁾
Tungsten	--	--	µg/L	4.9 ⁽⁴⁾	5.4 ⁽⁴⁾	1.5 ⁽⁴⁾	3.8 ⁽⁴⁾	2 ⁽⁴⁾	<50	1.1 ⁽⁴⁾	2.8 ⁽⁴⁾	5.9 ⁽⁴⁾	7.6 ⁽⁴⁾	7 ⁽⁴⁾	<50	3.8 ⁽⁴⁾	2.6 ⁽⁴⁾
Vanadium	260	260,000	µg/L	0.82 ⁽⁴⁾	<5	0.33 ⁽⁴⁾	0.38 ⁽⁴⁾	<5	0.48 ⁽⁴⁾	0.12 ⁽⁴⁾	0.48 ⁽⁴⁾	1.2 ⁽⁴⁾	1.1 ⁽⁴⁾	0.82 ⁽⁴⁾	0.99 ⁽⁴⁾	0.09 ⁽⁴⁾	1 ⁽⁴⁾
Zinc	2,000	2,000,000	µg/L	2.7 ⁽⁴⁾	2.3 ⁽⁴⁾	2.8 ⁽⁴⁾	3.1 ⁽⁴⁾	2 ⁽⁴⁾	3.3 ⁽⁴⁾	3.4 ⁽⁴⁾	2.3 ⁽⁴⁾	3.8 ⁽⁴⁾	3.6 ⁽⁴⁾	3.5 ⁽⁴⁾	2.9 ⁽⁴⁾	1.8 ⁽⁴⁾	2.4 ⁽⁴⁾

Footnotes:

(1) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Groundwater, Appendix A, Tables 1 and 2, 25 PA Code Chapter 250.

(2) Volatile Organic Compounds were analyzed by US Environmental Protection Agency Method SW 846 8260B.

(3) µg/L - micrograms/liters

(4) Identified concentration is an estimated value below the laboratory reporting limit but above the method detection limit.

(5) -- Medium Specific Concentration not yet established by Pennsylvania Department of Environmental Protection.

(6) Semi-Volatile Organic Compounds were analyzed by US Environmental Protection Agency Method SW 846 8270C and 8310.

(7) Total Metals were analyzed by US Environmental Protection Agency Methods 6010B and 7470.

(8) Secondary Maximum Contaminant Level

1.5 = Reported concentration exceeds MSC for Residential Use Aquifer.

1.5 = Reported concentration exceeds MSC for Residential Non-Use Aquifer.

1.5 = Reported concentration exceeds MSC for Residential Used and Non-Use Aquifer.

Table L-2
Area 6 Surface Water Analytical Results

Constituent	MSC ⁽¹⁾ Residential Used Aquifers	MSC Residential Non-Use Aquifers	Sample Identification Sample Date	SW-15 12/26/2003	SW-16 12/26/2003
			Units		
Volatile Organic Compounds⁽²⁾					
Acetone	3,700	37,000	µg/L ⁽³⁾	<10	<10
Benzene	5	500	µg/L	<1	<1
Bromodichloromethane	100	100	µg/L	<1	<1
Bromoform	100	10,000	µg/L	<1	<1
Bromomethane	10	1,000	µg/L	<1	<1
2-Butanone	-- ⁽⁵⁾	--	µg/L	<10	<10
Carbon disulfide	1,900	1,900	µg/L	<1	<1
Carbon tetrachloride	5	50	µg/L	<1	<1
Chlorobenzene	100	10,000	µg/L	<1	<1
Chloroethane	230	23,000	µg/L	<1	<1
Chloroform	100	1,000	µg/L	<1	<1
Chloromethane	3	300	µg/L	<1	<1
1,1-Dichloroethane	27	270	µg/L	<1	<1
1,2-Dichloroethane	5	50	µg/L	<1	<1
1,1-Dichloroethene	7	70	µg/L	<1	<1
cis-1,2-Dichloroethene	70	700	µg/L	<1	<1
trans-1,2-Dichloroethene	100	1,000	µg/L	<1	<1
1,2-Dichloropropane	5	50	µg/L	<1	<1
cis-1,3-Dichloropropene	--	--	µg/L	<1	<1
trans-1,3-Dichloropropene	--	--	µg/L	<1	<1
Dibromochloromethane	100	10,000	µg/L	<1	<1
Ethyl benzene	700	70,000	µg/L	<1	<1
2-Hexanone	--	--	µg/L	<10	<10
Methylene chloride	5	500	µg/L	<1	<1
4-Methyl-2-pentanone	190	19,000	µg/L	<10	<10
Styrene	100	10,000	µg/L	<1	<1
1,1,2,2-Tetrachloroethane	0.3	30	µg/L	<1	<1
Tetrachloroethene	5	50	µg/L	<1	<1
Toluene	1,000	100,000	µg/L	<1	<1
1,1,1-Trichloroethane	200	2,000	µg/L	<1	<1
1,1,2-Trichloroethane	5	50	µg/L	<1	<1
Trichloroethene	5	50	µg/L	<1	<1
Vinyl chloride	2	20	µg/L	<2	<2
Xylene, m & p-	--	--	µg/L	<2	<2
Xylene, o-	--	--	µg/L	<1	<1
Xylenes, Total	10,000	180,000	µg/L	<3	<3
Semi-Volatile Organic Compounds⁽⁶⁾					
Acenaphthene	2,200	3,800	µg/L	<2.5	<2.5
Acenaphthylene	2,200	16,000	µg/L	<2.5	<2.5
Anthracene	66	66	µg/L	<0.2	<0.2
Benzo(a)anthracene	0.9	11	µg/L	<0.2	<0.2
Benzo(a)pyrene	0.2	3.8	µg/L	<0.2	<0.2
Benzo(b)fluoranthene	0.9	1.2	µg/L	<0.2	<0.2
Benzo(k)fluoranthene	0.55	0.55	µg/L	<0.2	<0.2
Benzo(g,h,i)perylene	0.26	0.26	µg/L	<0.2	<0.2
Bis(2-chloroethoxy)methane	--	--	µg/L	<1	<1
Bis(2-chloroethyl)ether	0.13	13	µg/L	<1	<1
Bis(2-chloroisopropyl)ether	300	30,000	µg/L	<1	<1
Bis(2-ethylhexyl)phthalate	6	290	µg/L	<1	<1

Table L-2
Area 6 Surface Water Analytical Results

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	SW-15	SW-16
	Residential	Residential	Sample Date	12/26/2003	12/26/2003
	Used Aquifers	Non-Use Aquifers	Units		
4-Bromophenyl-phenylether	--	--	µg/L	<1	<1
Butylbenzylphthalate	2,700	2,700	µg/L	<1	<1
Carbazole	33	1,200	µg/L	<1	<1
4-Chloroaniline	150	150	µg/L	<1	<1
4-Chloro-3-methylphenol	180	180	µg/L	<1	<1
2-Chloronaphthalene	2,900	2,900	µg/L	<1	<1
2-Chlorophenol	40	40	µg/L	<1	<1
4-Chlorophenyl-phenylether	--	--	µg/L	<1	<1
Chrysene	1.9	1.9	µg/L	<0.2	<0.2
o-Cresol (2-Methylphenol)	1,800	180,000	µg/L	<1	<1
p-Cresol (4-Methylphenol)	180	180,000	µg/L	<1	<1
Dibenz(a,h)anthracene	0.09	0.6	µg/L	<0.2	<0.2
Dibenzofuran	--	--	µg/L	<1	<1
1,2-Dichlorobenzene	600	60,000	µg/L	<1	<1
1,3-Dichlorobenzene	600	60,000	µg/L	<1	<1
1,4-Dichlorobenzene	75	7,500	µg/L	<1	<1
3,3'-Dichlorobenzidine	1.5	1,500	µg/L	<1	<1
2,4-Dichlorophenol	20	20,000	µg/L	<1	<1
Diethylphthalate	5,000	1,100,000	µg/L	<1	<1
2,4-Dimethylphenol	730	730,000	µg/L	<1	<1
Dimethylphthalate	--	--	µg/L	<1	<1
Di-n-butylphthalate	--	--	µg/L	<1	<1
4,6-Dinitro-2-methylphenol	--	--	µg/L	<2.5	<2.5
2,4-Dinitrophenol	19	190	µg/L	<2.5	<2.5
2,4-Dinitrotoluene	2.1	2,100	µg/L	<1	<1
2,6-Dinitrotoluene	37	37,000	µg/L	<1	<1
Di-n-octylphthalate	--	--	µg/L	<1	<1
Fluoranthene	260	260	µg/L	<0.2	<0.2
Fluorene	1,500	1,900	µg/L	<0.2	<0.2
Hexachlorobenzene	1	6	µg/L	<1	<1
Hexachlorobutadiene	1	1,000	µg/L	<1	<1
Hexachlorocyclopentadiene	50	1,800	µg/L	<1	<1
Hexachloroethane	1	100	µg/L	<1	<1
Indeno(1,2,3-cd)pyrene	0.9	62	µg/L	<0.2	<0.2
Isophorone	100	100,000	µg/L	<1	<1
2-Methylnaphthalene	730	730	µg/L	<1	<1
Naphthalene	100	30,000	µg/L	<2.5	<2.5
Nitrobenzene	18	18,000	µg/L	<1	<1
2-Nitroaniline	2.1	2.1	µg/L	<2.5	<2.5
3-Nitroaniline	2.1	2.1	µg/L	<2.5	<2.5
4-Nitroaniline	2.1	2.1	µg/L	<2.5	<2.5
2-Nitrophenol	290	290,000	µg/L	<1	<1
4-Nitrophenol	60	60,000	µg/L	<2.5	<2.5
N-nitrosodi-n-propylamine	0.094	94	µg/L	<1	<1
N-nitrosodiphenylamine	130	35,000	µg/L	<1	<1
Pentachlorophenol	1	1,000	µg/L	<2.5	<2.5
Phenanthrene	1,100	1,100	µg/L	<0.2	<0.2
Phenol	4,000	400,000	µg/L	<1	<1

Table L-2
Area 6 Surface Water Analytical Results

Constituent	MSC ⁽¹⁾	MSC	Sample Identification	SW-15	SW-16
	Residential	Residential	Sample Date	12/26/2003	12/26/2003
	Used Aquifers	Non-Use Aquifers	Units		
Pyrene	130	130	µg/L	<0.2	<0.2
1,2,4-Trichlorobenzene	70	44,000	µg/L	<1	<1
2,4,5-Trichlorophenol	3,700	1,000,000	µg/L	<2.5	<2.5
2,4,6-Trichlorophenol	11	11,000	µg/L	<1	<1
Total Metals ⁽⁷⁾					
Aluminum	200 ⁽⁸⁾	200 ⁽⁸⁾	µg/L	310	250
Antimony	6	6,000	µg/L	<5	0.29 ⁽⁴⁾
Arsenic	50	50,000	µg/L	<5	2.7 ⁽⁴⁾
Barium	2,000	2,000,000	µg/L	86	85
Beryllium	4	4,000	µg/L	<1	<1
Boron	600	600,000	µg/L	30	30
Cadmium	5	5,000	µg/L	<1	<1
Chromium	100	100,000	µg/L	0.59 ⁽⁴⁾	1.5 ⁽⁴⁾
Cobalt	2,000	2,000,000	µg/L	0.33 ⁽⁴⁾	0.74 ⁽⁴⁾
Copper	730	730,000	µg/L	1.3 ⁽⁴⁾	1.5 ⁽⁴⁾
Iron	300 ⁽⁸⁾	300 ⁽⁸⁾	µg/L	470	420
Lead	5	5,000	µg/L	1.3 ⁽⁴⁾	0.11 ⁽⁴⁾
Manganese	50 ⁽⁸⁾	50 ⁽⁸⁾	µg/L	74	70
Mercury	2	2,000	µg/L	<0.2	<0.2
Molybdenum	--	--	µg/L	4.6 ⁽⁴⁾	4 ⁽⁴⁾
Nickel	100	100,000	µg/L	1.7 ⁽⁴⁾	2.9 ⁽⁴⁾
Selenium	50	50,000	µg/L	<5	<5
Silver	100	100,000	µg/L	0.21 ⁽⁴⁾	0.69 ⁽⁴⁾
Thallium	2	2,000	µg/L	<4	<4
Tin	22,000	22,000,000	µg/L	<50	0.85 ⁽⁴⁾
Tungsten	--	--	µg/L	<50	2.4 ⁽⁴⁾
Vanadium	260	260,000	µg/L	1 ⁽⁴⁾	0.65 ⁽⁴⁾
Zinc	2,000	2,000,000	µg/L	3.3 ⁽⁴⁾	3 ⁽⁴⁾

Footnotes:

(1) MSC - Medium Specific Concentrations (MSCs) for Organic and Inorganic Regulated Substances in Groundwater, Appendix A, Tables 1 and 2, 25 PA Code Chapter 250.

(2) Volatile Organic Compounds were analyzed by US Environmental Protection Agency Method SW 846 8260B.

(3) µg/L - micrograms/liters

(4) Identified concentration is an estimated value below the laboratory reporting limit but above the method detection limit.

(5) -- Medium Specific Concentration not yet established by Pennsylvania Department of Environmental Protection.

(6) Semi-Volatile Organic Compounds were analyzed by US Environmental Protection Agency Method SW 846 8270C and 8310.

(7) Total Metals were analyzed by US Environmental Protection Agency Methods 6010B and 7470.

(8) Secondary Maximum Contaminant Level

1.5 = Reported concentration exceeds MSC for Residential Use Aquifer.

1.5 = Reported concentration exceeds MSC for Residential Non-Use Aquifer.

1.5 = Reported concentration exceeds MSC for Residential Used and Non-Use Aquifer.