

Table 1-4. Quality-control analysis of trip blanks

Field identification number	1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter	4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter	Acetone, water, unfiltered, recoverable, micrograms per liter	Benzene, water, unfiltered, recoverable, micrograms per liter
PCE-TB1	<0.08	<0.10	<0.080	<0.060	<0.032	<0.032	<0.032	<0.06	<3.4	<0.026
PCE-TB2	<0.08	<0.10	<0.080	<0.060	<0.032	<0.032	<0.032	<0.06	<3.4	<0.026

Field identification number	Methyl ethyl ketone, water, unfiltered, recoverable, micrograms per liter	Ethylbenzene, water, unfiltered, recoverable, micrograms per liter	Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter	Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter	m-Xylene plus p-xylene, water, unfiltered, recoverable, micrograms per liter	Naphthalene, water, unfiltered, recoverable, micrograms per liter	n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter	n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter	o-Xylene, water, unfiltered, recoverable, micrograms per liter	sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
PCE-TB1	<1.6	<0.036	<0.042	<0.10	<0.08	<0.18	<0.08	<0.036	<0.032	<0.034
PCE-TB2	<1.6	<0.036	<0.042	<0.10	<0.08	<0.18	<0.08	<0.036	<0.032	<0.034

Field identification number	Styrene, water, unfiltered, recoverable, micrograms per liter	tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter	Toluene, water, unfiltered, recoverable, micrograms per liter	1,2-Dichloroethane-d4, surrogate, water, unfiltered, percent recovery	1-Bromo-4-fluorobenzene, surrogate, NWQL VOC schedules, water, unfiltered, percent recovery	Toluene-d8, surrogate, water, unfiltered, percent recovery	Number of tentatively identified compounds (TICS) from VOC analysis by GCMS, number	Field identification number	Ethane, water, unfiltered, recoverable, micrograms per liter	Ethene, water, unfiltered, recoverable, micrograms per liter	Methane, water, unfiltered, recoverable, micrograms per liter
								PCEI-TB1RSK	<0.1	<0.4	<0.1
PCE-TB1	<0.042	<0.060	<0.02	137	86.2	98.5	0	PCE-TB2	<0.1	<0.4	0.5 E
PCE-TB2	<0.042	<0.060	<0.02	133	85.8	99.8	0	PCE-TB3	<0.1	<0.4	0.2 E

Table 1-5. Quality-control analysis of field blanks

Field identification number	Dissolved solids and major ions									
	Dissolved solids, water, filtered, milligrams per liter	Calcium, water, filtered, milligrams per liter	Magnesium, water, filtered, milligrams per liter	Potassium, water, filtered, milligrams per liter	Sodium, water, filtered, milligrams per liter	Bromide, water, filtered, milligrams per liter	Chloride, water, filtered, milligrams per liter	Fluoride, water, filtered, milligrams per liter	Silica, water, filtered, milligrams per liter as SiO ₂	Sulfate, water, filtered, milligrams per liter
PCEI-EB1	<20	<0.022	<0.011	<0.03	<0.06	<0.010	<0.06	<0.04	<0.018	<0.09
PCEI-FB1	<20	<0.022	<0.011	<0.03	<0.06	<0.010	<0.06	<0.04	<0.018	<0.09

Field identification number	Trace elements									
	Aluminum, water, filtered, micrograms per liter	Barium, water, filtered, micrograms per liter	Beryllium, water, filtered, micrograms per liter	Cadmium, water, filtered, micrograms per liter	Chromium, water, filtered, micrograms per liter	Cobalt, water, filtered, micrograms per liter	Copper, water, filtered, micrograms per liter	Iron, water, filtered, micrograms per liter	Lead, water, filtered, micrograms per liter	Lithium, water, filtered, micrograms per liter
PCEI-EB1	<2.2	<0.07	<0.006	<0.016	<0.07	0.16	<0.80	<3.2	<0.025	<0.22
PCEI-FB1	<2.2	<0.07	<0.006	<0.016	<0.07	0.04	<0.80	<3.2	<0.025	<0.22

Field identification number	Trace elements							
	Manganese, water, filtered, micrograms per liter	Molybdenum, water, filtered, micrograms per liter	Nickel, water, filtered, micrograms per liter	Silver, water, filtered, micrograms per liter	Strontium, water, filtered, micrograms per liter	Thallium, water, filtered, micrograms per liter	Vanadium, water, filtered, micrograms per liter	Zinc, water, filtered, micrograms per liter
PCEI-EB1	0.25	<0.014	<0.09	<0.005	<0.20	<0.010	<0.08	<1.4
PCEI-FB1	<0.13	<0.014	<0.09	0.011	<0.20	<0.010	<0.08	<1.4

Field identification number	Trace elements				
	Antimony, water, filtered, micrograms per liter	Arsenic, water, filtered, micrograms per liter	Boron, water, filtered, micrograms per liter	Selenium, water, filtered, micrograms per liter	Uranium (natural), water, filtered, micrograms per liter
PCEI-EB1	0.10	<0.03	<3	<0.03	<0.004
PCEI-FB1	<0.03	<0.03	<3	<0.03	<0.004

Field identification number	Volatile organic compounds									
	1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter	4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter	Acetone, water, unfiltered, recoverable, micrograms per liter	Benzene, water, unfiltered, recoverable, micrograms per liter
PCEI-EB1	<0.08	<0.10	<0.080	<0.060	0.031	<0.032	<0.032	<0.06	8.7	<0.026
PCEI-FB1	<0.08	<0.10	<0.080	<0.060	<0.032	<0.032	<0.032	<0.06	<3.4	<0.026

Field identification number	Volatile organic compounds								
	Methyl ethyl ketone, water, unfiltered, recoverable, micrograms per liter	Ethyl-benzene, water, unfiltered, recoverable, micrograms per liter	Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter	m-Xylene plus p-xylene, water, unfiltered, recoverable, micrograms per liter	Naphthalene, water, unfiltered, recoverable, micrograms per liter	n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter	n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter	o-Xylene, water, unfiltered, recoverable, micrograms per liter	sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
PCEI-EB1	26.7	<0.036	<0.10	0.04	<0.18	<0.08	<0.036	<0.032	<0.034
PCEI-FB1	<1.6	<0.036	<0.10	<0.08	<0.18	<0.08	<0.036	<0.032	<0.034

Field identification number	Volatile organic compounds					
	Styrene, water, unfiltered, recoverable, micrograms per liter	tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter	Toluene, water, unfiltered, recoverable, micrograms per liter	1,2-Dichloroethane-d4, surrogate, water, unfiltered, percent recovery	1-Bromo-4-fluorobenzene, surrogate, NWQL VOC schedules, water, unfiltered, percent recovery	Toluene-d8, surrogate, water, unfiltered, percent recovery
PCEI-EB1	<0.042	<0.060	<0.02	99.9	87.8	94.8
PCEI-FB1	<0.042	<0.060	<0.02	133	85.8	98.8

Table 1-5. Quality-control analysis of field blanks, continued

Polycyclic aromatic hydrocarbons										
Field identification number	1-Methylnaphthalene, water, unfiltered, recoverable, micrograms per liter	2-Methylnaphthalene, water, unfiltered, recoverable, micrograms per liter	9H-Fluorene, water, unfiltered, recoverable, micrograms per liter	Acenaphthene, water, unfiltered, recoverable, micrograms per liter	Acenaphthylene, water, unfiltered, recoverable, micrograms per liter	Anthracene, water, unfiltered, recoverable, micrograms per liter	Benzo[a]anthracene, water, unfiltered, recoverable, micrograms per liter	Benzo[a]pyrene, water, unfiltered, recoverable, micrograms per liter	Benzo[b]fluoranthene, water, unfiltered, recoverable, micrograms per liter	Benzo[ghi]perylene, water, unfiltered, recoverable, micrograms per liter
PCEI-EB1	<0.054	<0.075	<0.100	<0.044	<0.044	<0.062	<0.032	<0.054	<0.054	<0.020
PCEI-FB1	<0.051	<0.072	<0.097	<0.042	<0.043	<0.060	<0.031	<0.052	<0.052	<0.020

Polycyclic aromatic hydrocarbons								
Field identification number	Benzo[k]fluoranthene, water, unfiltered, recoverable, micrograms per liter	Chrysene, water, unfiltered, recoverable, micrograms per liter	Dibenzo[a,h]anthracene, water, unfiltered, recoverable, micrograms per liter	Fluoranthene, water, unfiltered, recoverable, micrograms per liter	Indeno [1,2,3-cd]pyrene, water, unfiltered, recoverable, micrograms per liter	Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter	Phenanthrene, water, unfiltered, recoverable, micrograms per liter	Pyrene, water, unfiltered, recoverable, micrograms per liter
PCEI-EB1	<0.023	<0.029	<0.056	<0.083	<0.048	<0.042	<0.097	<0.044
PCEI-FB1	<0.022	<0.028	<0.054	<0.080	<0.046	<0.042	<0.093	<0.042

Petroleum			
Field identification number	Diesel oil range organic compounds, water, unfiltered, recoverable, milligrams per liter	Oil and grease, water, unfiltered, hexane extraction, recoverable, milligrams per liter	Petroleum hydrocarbons, water, unfiltered, silica gel treated-hexane extractable, recoverable, milligrams per liter
PCEI-EB1	<0.03	2.2 E	<0.790
PCEI-FB1	<0.03	2.5 E	<0.770

Table 1-6. Quality-control analysis of matrix spikes

[Spike conc., spike concentration, the theoretical concentration increase due to fortification of the matrix spike environmental sample with 20 microliters of the spike solution lot number 01017 into 42.5 milliliters of the sample; Pct recovery, percent recovery, the amount of the spike concentration in the environmental matrix sample, a measure of potential matrix interference, computed as the environmental matrix sample concentration divided by matrix spike concentration; matrix spike samples prepared at US Geological Survey National Water Quality Laboratory]

Field identification number	1,2-Dichloroethane, water, unfiltered, recoverable, micrograms per liter	1,2,3,4-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,3,5-Tetramethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,3-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,2,4-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	1,3,5-Trimethylbenzene, water, unfiltered, recoverable, micrograms per liter	2-Ethyltoluene, water, unfiltered, recoverable, micrograms per liter	4-Isopropyltoluene, water, unfiltered, recoverable, micrograms per liter	Acetone, water, unfiltered, recoverable, micrograms per liter	Benzene, water, unfiltered, recoverable, micrograms per liter
PCEI-03MS	0.74	0.83	0.868	0.595	0.36	0.343	0.340	0.56	35.1	0.273
Spike conc.	0.66	0.6593	0.6598	0.47	0.283	0.283	0.3	0.47	28	0.236
Pct recovery	112	126	132	127	127	121	113	119	125	116
PCEI-10MS	0.67	0.51	0.580	0.381	0.23	0.214	0.227	0.34	31.8	0.220
spike conc.	0.66	0.6593	0.6598	0.47	0.283	0.283	0.3	0.47	28	0.236
Pct recovery	102	77	88	81	83	76	76	72	114	93
PCEI-13MS	0.72	0.55	0.615	0.403	0.26	0.235	0.244	0.37	34.5	0.221
spike conc.	0.66	0.6593	0.6598	0.47	0.283	0.283	0.3	0.47	28	0.236
Pct recovery	109	83	93	86	92	83	81	79	123	94

Table 1-6. Quality-control analysis of matrix spikes, continued

Field identification number	Methyl ethyl ketone, water, unfiltered, recoverable, micrograms per liter	Ethylbenzene, water, unfiltered, recoverable, micrograms per liter	Isopropylbenzene, water, unfiltered, recoverable, micrograms per liter	Methyl tert-butyl ether, water, unfiltered, recoverable, micrograms per liter	m-Xylene plus p-xylene, water, unfiltered, recoverable, micrograms per liter	Naphthalene, water, unfiltered, recoverable, micrograms per liter	n-Butylbenzene, water, unfiltered, recoverable, micrograms per liter	n-Propylbenzene, water, unfiltered, recoverable, micrograms per liter	o-Xylene, water, unfiltered, recoverable, micrograms per liter	sec-Butylbenzene, water, unfiltered, recoverable, micrograms per liter
PCEI-03MS	11.4	0.324	0.327	0.78	0.80	1.88	0.78	0.326	0.332	0.339
Spike conc.	9.4	0.283	0.283	0.6598	0.66	1.413	0.6593	0.3	0.283	0.3
Pct recovery	121	114	116	118	121	133	118	109	117	113
PCEI-10MS	7.9	0.229 E	0.230	0.63	0.51	1.32	0.42	0.218	0.235	0.218
spike conc.	9.4	0.283	0.283	0.6598	0.66	1.413	0.6593	0.3	0.283	0.3
Pct recovery	84	81	81	95	77	93	64	73	83	73
PCEI-13MS	8.7	0.243 E	0.234	0.64	0.54	1.34	0.46	0.251	0.238	0.235
spike conc.	9.4	0.283	0.283	0.6598	0.66	1.413	0.6593	0.3	0.283	0.3
Pct recovery	93	86	83	97	82	95	70	84	84	78

Field identification number	Styrene, water, unfiltered, recoverable, micrograms per liter	tert-Butylbenzene, water, unfiltered, recoverable, micrograms per liter	Toluene, water, unfiltered, recoverable, micrograms per liter
PCEI-03MS	0.341	0.585	0.28
Spike conc.	0.282	0.47	0.2
Pct recovery	121	124	140
PCEI-10MS	0.244	0.361	0.23
spike conc.	0.282	0.47	0.2
Pct recovery	87	77	115
PCEI-13MS	0.252	0.39	0.24
spike conc.	0.282	0.47	0.2
Pct recovery	89	83	120

Table 1-7. Quality-control analysis of sequential duplicates

[RPD, relative percent difference, the difference of the two concentrations divided by the average of the two concentrations, as a percentage; Avg RPD, average relative percent difference, the average of the three duplicate samples; E, estimated; R, radioactivity non detect]

Dissolved solids and major ions										
Field identification number	Dissolved solids, water, filtered, milligrams per liter	Calcium, water, filtered, milligrams per liter	Magnesium, water, filtered, milligrams per liter	Potassium, water, filtered, milligrams per liter	Sodium, water, filtered, milligrams per liter	Bromide, water, filtered, milligrams per liter	Chloride, water, filtered, milligrams per liter	Fluoride, water, filtered, milligrams per liter	Silica, water, filtered, milligrams per liter as SiO ₂	Sulfate, water, filtered, milligrams per liter
PCEI-05R	700	3.21	0.679	1.36	255	<0.010	96.2	1.65	7.98	<0.09
PCEI-05	682	3.20	0.675	1.34	258	<.010	88.4	1.68	7.94	<.09
RPD	3	0	1	1	1	0	8	2	1	0
PCEI-07R	1,720	184	87.6	0.70	236	0.082	682	0.34	26.2	59.2
PCEI-07	1,750	183	89.6	0.69	257	0.085	705	no data	26.6	65.4
RPD	2	1	2	1	9	4	3	no data	2	10
PCEI-24R	1,370	131	78.4	3.24	230	1.32	506	0.19	21.2	9.67
PCEI-24	1,290	128	78.1	2.78	227	1.33	503	0.16	20.7	18.3
RPD	6	2	0	15	1	1	1	17	2	62
Avg RPD	3	1	1	6	4	1	4	9	1	24

Trace elements										
Field identification number	Aluminum, water, filtered, micrograms per liter	Barium, water, filtered, micrograms per liter	Beryllium, water, filtered, micrograms per liter	Cadmium, water, filtered, micrograms per liter	Chromium, water, filtered, micrograms per liter	Cobalt, water, filtered, micrograms per liter	Copper, water, filtered, micrograms per liter	Iron, water, filtered, micrograms per liter	Lead, water, filtered, micrograms per liter	Lithium, water, filtered, micrograms per liter
PCEI-05R	4.0	107	0.026	<0.016	<0.07	0.023	<0.80	14.7	0.067	12.5
PCEI-05	2.3	108	0.027	<.016	<.07	0.029	<.80	16	0.079	12.0
RPD	54	1	4	0	0	23	0	7	16	4
PCEI-07R	<6.6	517	<0.018	<0.048	<0.21	0.367	3.8	17.9	0.108	12.3
PCEI-07	<6.6	517	<.018	<.048	0.240	0.371	4.2	24.6	0.117	12.6
RPD	0	0	0	0	13	1	10	32	8	2
PCEI-24R	<2.2	608	0.014	<0.016	<0.07	0.076	<0.80	1,260	0.134	50.9
PCEI-24	<2.2	624	0.013	<.016	<.07	0.049	<.80	1,400	0.055	56.3
RPD	0	3	7	0	0	43	0	11	84	10

Field identification number	Trace elements							
	Manganese, water, filtered, micrograms per liter	Molybdenum, water, filtered, micrograms per liter	Nickel, water, filtered, micrograms per liter	Silver, water, filtered, micrograms per liter	Strontium, water, filtered, micrograms per liter	Thallium, water, filtered, micrograms per liter	Vanadium, water, filtered, micrograms per liter	Zinc, water, filtered, micrograms per liter
PCEI-05R	3.09	0.134	<0.09	<0.005	39.2	<0.010	0.09	<1.4
PCEI-05	3.04	0.124	<.09	<.005	39.1	<.010	0.09	<1.4
RPD	2	8	0	0	0	0	0	0
PCEI-07R	0.56	0.553	1.4	<0.015	246	<0.030	0.49	<4.2
PCEI-07	0.58	0.590	1.4	<.015	250	<.030	0.49	<4.2
RPD	4	6	0	0	2	0	0	0
PCEI-24R	94	0.373	0.69	<0.005	1,220	<0.010	0.25	<1.4
PCEI-24	101	0.382	0.59	<.005	1,290	<.010	0.15	<1.4
RPD	7	2	16	0	6	0	50	0

Field identification number	Trace elements					Radioactivity			
	Antimony, water, filtered, micrograms per liter	Arsenic, water, filtered, micrograms per liter	Boron, water, filtered, micrograms per liter	Selenium, water, filtered, micrograms per liter	Uranium (natural), water, filtered, micrograms per liter	Gross alpha radioactivity, 30 day recount, water, unfiltered, Th-230 curve, picocuries per liter	Gross alpha radioactivity, 72 hour count, water, unfiltered, Th-230 curve, picocuries per liter	Gross beta radioactivity, 30 day recount, water, unfiltered, Cs-137 curve, picocuries per liter	Gross beta radioactivity, 72 hour count, water, unfiltered, Cs-137 curve, picocuries per liter
PCEI-05R	<0.027	<0.03	856	<0.03	<0.004	3.6	5.2	1.5	2.2
PCEI-05	<.027	0.03	856	<.03	<.004	3.6	3.3	1.4	2.7
RPD	0	0		0	0	0	45	7	20
PCEI-07R	<0.081	0.72	<9	0.96	7.94	<3.0R	12	3.7	1.7
PCEI-07	<.081	0.63	10	0.95	7.89	no data	no data	no data	no data
RPD	0	13	11	1	1	no data	no data	no data	no data
PCEI-24R	<0.027	0.13	454	0.04	0.043	9.0	32.0	4.7	4.8
PCEI-24	<.027	0.12	484	<.03	0.045	12.9	30.9	3.8	4.8
RPD	0	8	6	29	5	36	3	21	0

Table 1-7. Quality-control analysis of sequential duplicates, continued

Field identification number	Polycyclic aromatic hydrocarbons									
	1-Methyl naphthalene, water, unfiltered, recoverable, micrograms per liter	2-Methyl naphthalene, water, unfiltered, recoverable, micrograms per liter	9H-Fluorene, water, unfiltered, recoverable, micrograms per liter	Acenaphthene, water, unfiltered, recoverable, micrograms per liter	Acenaphthylene, water, unfiltered, recoverable, micrograms per liter	Anthracene, water, unfiltered, recoverable, micrograms per liter	Benzo[a]anthracene, water, unfiltered, recoverable, micrograms per liter	Benzo[a]pyrene, water, unfiltered, recoverable, micrograms per liter	Benzo[b]fluoranthene, water, unfiltered, recoverable, micrograms per liter	Benzo[ghi]perylene, water, unfiltered, recoverable, micrograms per liter
PCEI-05R	<0.051	<0.071	<0.096	<0.042	<0.042	<0.059	<0.031	<0.051	<0.051	<0.019
PCEI-05	<0.051	<0.071	<0.096	<0.042	<0.042	<0.059	<0.031	<0.051	<0.051	<0.019
RPD	0	0	0	0	0	0	0	0	0	0

Field identification number	Polycyclic aromatic hydrocarbons						
	Benzo[k]fluoranthene, water, unfiltered, recoverable, micrograms per liter	Chrysene, water, unfiltered, recoverable, micrograms per liter	Dibenzo[a,h]anthracene, water, unfiltered, recoverable, micrograms per liter	Fluoranthene, water, unfiltered, recoverable, micrograms per liter	Indeno [1,2,3-cd]pyrene, water, unfiltered, recoverable, micrograms per liter	Phenanthrene, water, unfiltered, recoverable, micrograms per liter	Pyrene, water, unfiltered, recoverable, micrograms per liter
PCEI-05R	<0.022	<0.027	<0.053	<0.079	<0.046	<0.092	<0.042
PCEI-05	<0.022	<0.027	<0.053	<0.079	<0.046	<0.092	<0.042
RPD	0	0	0	0	0	0	0

Field identification number	Description	Date	Time
PCE-TB1	Trip blank	6/8/2012	900
PCEI-TB1RSK	Trip blank-dissolved gas	6/4/2012	1135
PCE-TB2	Trip blank	6/8/2012	915
PCE-TB3	Trip blank-dissolved gas	6/8/2012	930
PCEI-EB1	Field blank	6/4/2012	1130
PCEI-FB1	Field blank	6/7/2012	1945
PCEI-03MS	Matrix spike	6/4/2012	1250
PCEI-10MS	Matrix spike	6/6/2012	1850
PCEI-13MS	Matrix spike	6/6/2012	1145
PCEI-05R	Sequential duplicate	6/7/2012	1635
PCEI-07R	Sequential duplicate	6/7/2012	1350
PCEI-24R	Sequential duplicate	6/6/2012	1350