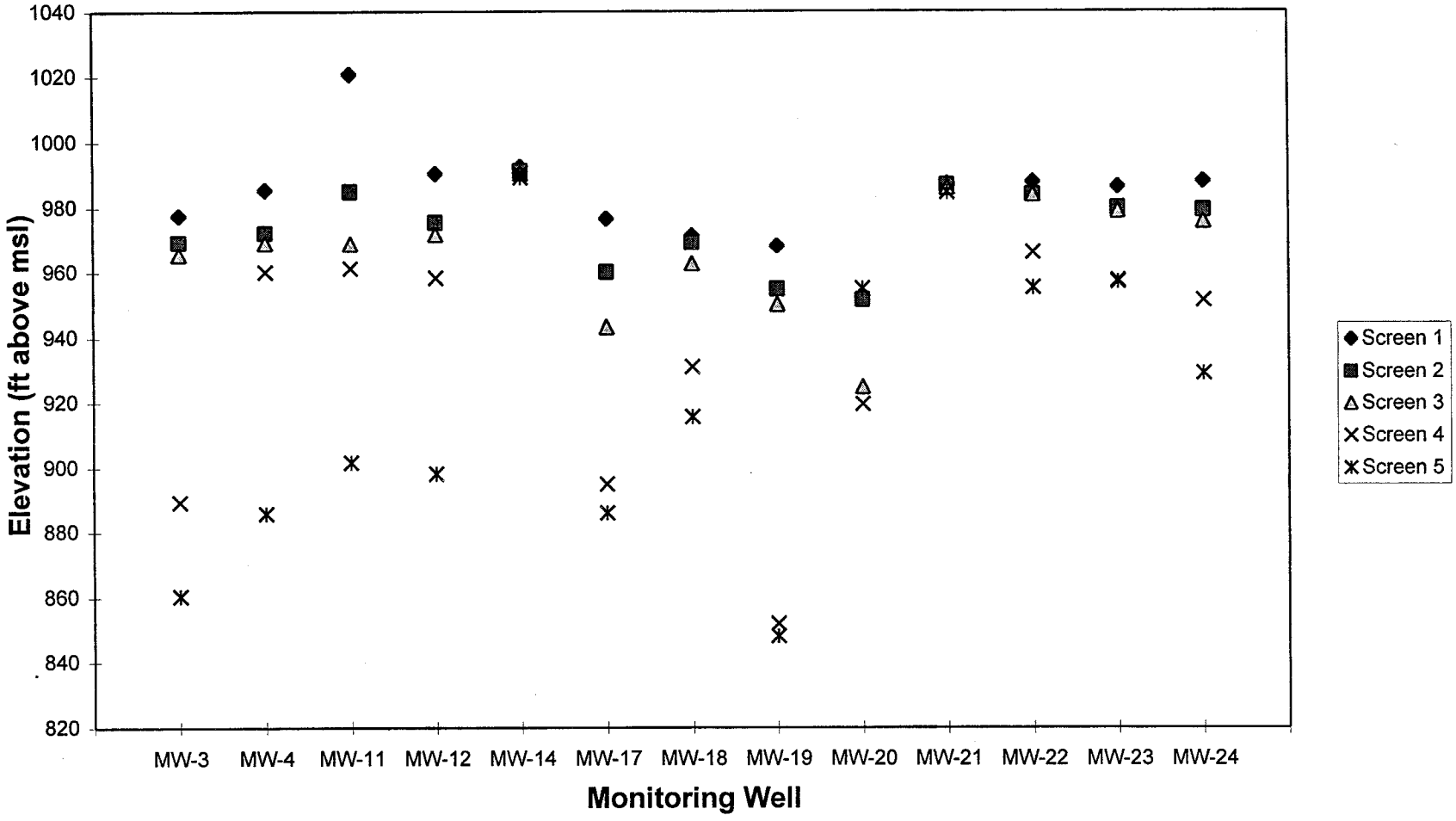

Figure 5-3

HYDRAULIC HEAD ELEVATIONS FROM DEEP (MP) WELLS

July 11, 2000

Jet Propulsion Laboratory
Pasadena, California

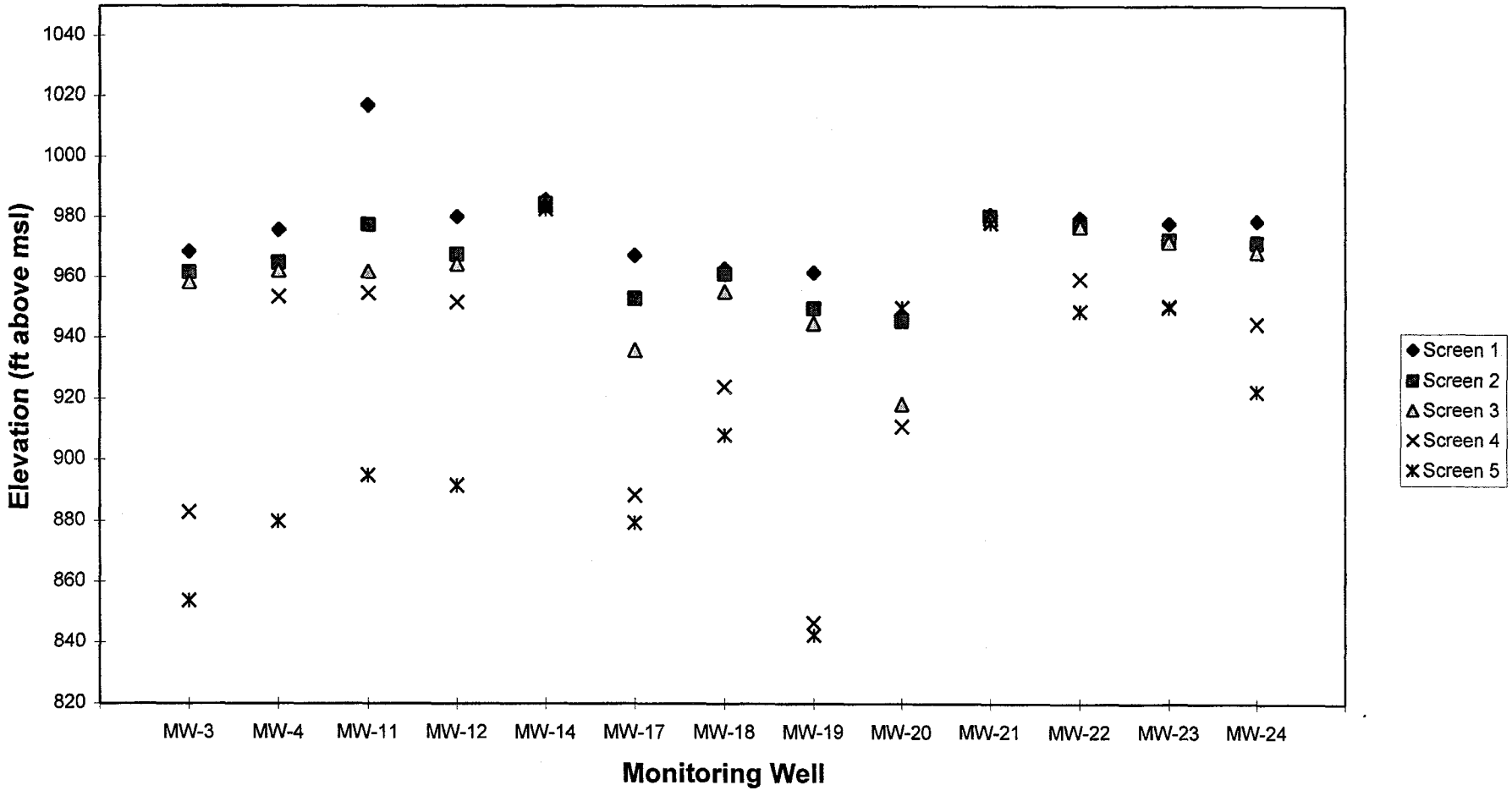

Figure 5-4

HYDRAULIC HEAD ELEVATIONS

FROM DEEP (MP) WELLS

August 8, 2000

Jet Propulsion Laboratory
Pasadena, California

APPENDIX A

WELL DEVELOPMENT/WELL SAMPLING LOG FORMS FOR SHALLOW WELLS

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-3-99
Site Engineer: M. Hunt
Well Number: MW-1
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	33.58	Top of 4" Casing	33.58
Depth to Sediment (ft)	~~0.80~~ 119.20	Top of 4" Casing	119.20 ~~0.80~~
Thickness of Sediment (ft)	0.80		0.80

Depth of Well (ft) 120.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 85.62

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 55.74

Casing Volumes Purged 1.59

Total Volume Purged (gals) 88.62

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
1045	—	—	—	—	—	Pump on @181 Hz; water is
1050	7.38	0.20	21.0	.538	1.5	Water is clear
1055	7.47	0.13	20.3	.517	1.5	Water is clear
1100	7.54	0.12	20.6	.516	1.5	Water is clear
1100	7.53	0.10	20.2	.513	1.5	Water is clear
1105	7.51	0.14	20.3	.514	1.5	Water is clear
1110	7.50	0.15	20.1	.511	1.5	Water is clear
1115	7.53	0.10	20.3	.513	1.5	Water is clear
1120	7.53	0.15	20.8	.516	1.5	Water is clear
1125	7.49	0.08	20.7	.520	1.5	Water is clear
1130	7.51	0.10	20.7	.518	1.5	Water is clear
1135	7.49	0.12	20.9	.523	1.5	Water is clear
1140	7.51	0.09	20.7	.516	1.5	Water is clear; ready to sample
1144	—	—	—	—	0.02	Reduce flow to 0.02 gpm
1145	—	—	—	—	0.02	Collect MW-002-001, -001MS, -001MSD
1150	—	—	—	—	—	Pump off...

Notes on Sampling Procedures: Pump set @ 70' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-2-00
Site Engineer: M. Hunt
Well Number: MW-5
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	94.90	Top of 4" Casing	94.90
Depth to Sediment (ft)	139.86	Top of 4" Casing	139.86
Thickness of Sediment (ft)	0.14		0.14

Depth of Well (ft) 140.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 44.96

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 29.27

Casing Volumes Purged 2.67

Total Volume Purged (gals) 78.12

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
1045	—	—	—	—	—	Pump on @ 236 Hz; Water is clear
1050	6.42	3.25	19.2	357	2.0	Water is clear
1055	6.83	2.40	18.9	342	2.0	Water is clear
1100	6.87	2.25	19.1	340	2.0	Water is clear
1105	6.91	1.90	18.8	341	2.0	Water is clear
1110	6.91	1.10	19.0	341	2.0	Water is clear
1115	6.92	1.20	19.2	342	2.0	Water is clear
1120	6.94	1.30	19.0	343	2.0	Water is clear; Ready to sample
1124	—	—	—	—	—	Reduce flow to 0.02 gpm
1125	—	—	—	—	—	Collect MW-002-013, -013MS, + -013MSD
1130	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 105' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-2-00
Site Engineer: M. Hunt

Well Number: MW-6
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	203.16	Top of 4" Casing	203.16
Depth to Sediment (ft)	244.00	Top of 4" Casing	244.00
Thickness of Sediment (ft)	1.00		1.00

Depth of Well (ft) 245.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) (m+M) ~~26.59~~ 40.84

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 26.59

Casing Volumes Purged 10.1

Total Volume Purged (gals) 268.12

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
1225	—	—	—	—	—	Pump on @ 324 Hz; Water is clear
1230	6.72	43.5	23.4	841	2.0	Water is clear
1235	6.93	77.2	24.5	843	2.0	Water is slightly cloudy
1240	6.90	53.7	26.2	873	2.0	Water is slightly cloudy
1245	6.87	49.6	26.3	886	2.0	Water is slightly cloudy
1250	6.93	37.8	27.3	895	2.0	Water is clear
1255	6.97	31.5	27.0	898	2.0	Water is clear
1300	6.86	20.8	26.2	920	2.0	Water is clear
1305	6.92	28.0	26.1	847	2.0	Water is clear
1310	6.88	17.5	27.8	921	2.0	Water is clear
1315	6.89	27.9	25.9	843	2.0	Water is clear
1325	6.91	26.6	25.9	948	2.0	Water is clear
1335	6.97	15.5	27.6	875	2.0	Water is clear
1350	6.92	15.9	28.1	921	2.0	Water is clear
1425	6.94	28.2	27.3	950	2.0	Water is clear
1435	6.95	10.5	26.7	932	2.0	Water is clear; Ready to sample
1439	—	—	—	—	—	Reduce flow to 0.02 gpm
1440	—	—	—	—	—	Collect MW-002-014
1445	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 220' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-1-00
Site Engineer: M. Hunt
Well Number: MW-7
Equipment: 2" Grundfos pump; YSI 3500, HF Scientific DRT-15CE; Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	233.13	Top of 4" Casing	233.13
Depth to Sediment (ft)	273.61	Top of 4" Casing	273.61
Thickness of Sediment (ft)	1.39		1.39

Depth of Well (ft) 275.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 40.48

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 26.35

Casing Volumes Purged 5.71

Total Volume Purged (gals) 150.52

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
1330	—	—	—	—	—	Pump on @ 360 Hz; Water is cloudy
1335	6.54	297	27.4	502	1.7	Water is cloudy
1340	6.96	269	32.0	527	1.7	Water is cloudy
1345	7.28	257	30.1	511	1.5	Water is cloudy; Pump @ 350 Hz
1350	7.41	249	33.6	549	1.5	Water is cloudy
1355	7.44	255	36.9	586	1.5	Water is cloudy
1400	7.46	305	36.2	582	1.5	Water is cloudy
1405	7.48	325	36.3	592	1.5	Water is cloudy
1420	7.55	225	37.3	590	1.2	Water is cloudy
1440	7.58	99.0	27.9	506	1.7	Water is slightly cloudy; Pump @ 360 Hz
1450	7.55	53.5	26.4	485	1.7	Water is clear
1500	7.55	46.5	25.6	478	1.7	Water is clear
1515	7.54	30.0	26.3	488	1.7	Water is clear; Ready to Sample
1519	—	—	—	—	—	Reduce Flow to 0.02 gpm
1520	—	—	—	—	—	Collect MW-002-015, -015MS, + -015MSD
1525	—	—	—	—	—	Collect MW-002-200
1530	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 260' BTOC

→ MW-7 was bailed in Spring of this year; well was extremely difficult to clean up; water was clear, and had dramatically improved in turbidity from the time the pump was turned on until the sample was taken

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-4-00
Site Engineer: M. Hunt

Well Number: MW-8
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	159.75	Top of 4" Casing	159.75
Depth to Sediment (ft)	202.18	Top of 4" Casing	202.18
Thickness of Sediment (ft)	2.82		2.82

Depth of Well (ft) 205.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 42.43

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 27.62

Casing Volumes Purged 3.21

Total Volume Purged (gals) 88.62

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0715	—	—	—	—	—	Pump on @ 293 Hz; Water is clear
0720	7.47	4.10	18.4	374	1.5	Water is clear
0725	7.21	6.85	19.3	386	1.5	Water is clear
0730	7.20	5.35	19.8	392	1.5	Water is clear
0735	7.16	4.75	21.2	402	1.5	Water is clear
0740	7.16	4.45	22.4	416	1.5	Water is clear
0745	7.17	4.95	23.7	428	1.5	Water is clear
0750	7.15	4.92	24.3	437	1.5	Water is clear
0755	7.14	5.76	24.8	439	1.5	Water is clear
0800	7.14	5.65	24.7	439	1.5	Water is clear
0805	7.19	7.75	24.5	438	1.5	Water is clear
0810	7.12	5.25	23.1	428	1.5	Water is clear; Ready to sample
0814	—	—	—	—	0.02	Reduce flow to 0.02 gpm
0815	—	—	—	—	0.02	Collect MW-002-016, -016MS, +-016MSD
0820	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump is set @ 170' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1512.0313
Date: 8-3-99
Site Engineer: M. Hunt

Well Number: MW-9
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	26.07	Top of 4" Casing	26.07
Depth to Sediment (ft)	64.89	Top of 4" Casing	64.89
Thickness of Sediment (ft)	3.11		3.11

Depth of Well (ft) 68.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 38.82

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 25.27

Casing Volumes Purged 5.04

Total Volume Purged (gals) 127.32

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0845	–	–	–	–	3.0	Pump on @250 Hz Water is muddy
0850	7.68	8.2	19.2	477	3.0	Water is clearer
0855	7.36	14.25	19.2	445	2.5	Water is clear
0900	7.36	22.4	19.0	448	2.5	Water is clear turb. @100
0905	7.30	6.7	19.1	446	2.0	Water is clear
0910	7.32	2.4	19.5	448	2.0	Water is clear
0915	7.29	1.8	19.9	~~240~~ 451	1.8	Water is clear
0920	7.27	1.9	20.3	455	1.8	Water is clear
0925	7.23	3.6	20.2	457	1.8	Water is clear
0930	7.21	1.3	20.2	456	1.8	Water is clear
0935	7.23	2.4	20.4	456	1.8	Water is clear
0940	7.26	2.3	20.4	457	1.8	Water is clear; ready to sample
0944	–	–	–	–	0.02	Reduce flow to 0.02 gpm
0945	–	–	–	–	0.02	Collect MW002-017
0950	–	–	–	–	–	Pump off

Notes on Sampling Procedures: Pump set @ 63' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-4-00
Site Engineer: M. Hunt

Well Number: MW-10
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	110.52	Top of 4" Casing	110.52
Depth to Sediment (ft)	154.40	Top of 4" Casing	154.40
Thickness of Sediment (ft)	0.60		0.60

Depth of Well (ft) 155.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 43.88

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = 28.57

Casing Volumes Purged 2.90

Total Volume Purged (gals) 82.82

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0905	—	—	—	—	—	Pump on @ 241 Hz; Water is clear
0910	7.00	4.10	22.7	537	1.4	Water is clear
0915	6.94	3.30	24.7	557	1.4	Water is clear
0920	6.93	2.25	26.5	580	1.4	Water is clear
0925	6.93	1.85	27.6	596	1.4	Water is clear
0930	6.93	1.90	27.9	602	1.4	Water is clear
0935	6.87	1.78	29.1	616	1.4	Water is clear
0940	6.93	1.77	29.2	620	1.4	Water is clear
0945	6.87	1.68	30.1	632	1.4	Water is clear
0950	6.93	1.96	30.7	641	1.4	Water is clear
0955	6.95	1.65	31.5	649	1.4	Water is clear
1000	6.93	1.75	32.4	660	1.4	Water is clear; Ready to sample
1004	—	—	—	—	0.02	Reduce flow to 0.02 gpm
1005	—	—	—	—	0.02	Collect MW-002-018
1010	—	—	—	—	0.02	Collect MW-002-019
1015	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 125' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-2-00
Site Engineer: M. Hunt
Well Number: MW-13
Equipment: 2" Grundfos pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	203.21 ft	Top of 4" Casing	203.21 ft
Depth to Sediment (ft)	234.92	Top of 4" Casing	234.92
Thickness of Sediment (ft)	0.08		0.08

Depth of Well (ft) 235.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 31.71

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 20.64

Casing Volumes Purged 2.84

Total Volume Purged (gals) 58.72

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0815	—	—	—	—	1.5	Pump on @ 3.30 Hz; Water is clear
0820	7.68	2.25	21.7	582	1.5	Water is clear
0825	7.58	1.70	22.4	576	1.5	Water is clear
0830	7.48	1.57	23.0	581	1.5	Water is clear
0835	7.36	1.20	23.4	586	1.5	Water is clear
0840	7.41	1.40	23.7	590	1.5	Water is clear
0845	7.31	1.32	24.1	595	1.5	Water is clear
0850	7.30	1.38	24.7	604	1.5	Water is clear; Ready to sample
0854	—	—	—	—	—	Reduce flow to 0.02 gpm
0855	—	—	—	—	0.02	Collect MW-002-031
0900	—	—	—	—	0.02	Collect MW-002-032
0905	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 215' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-3-00
Site Engineer: M. Hunt

Well Number: MW-15
Equipment: 2" Grundfos pump, KSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	38.71	Top of 4" Casing	38.71
Depth to Sediment (ft)	~~74.96~~ 73.87	Top of 4" Casing	~~74.96~~ 73.87
Thickness of Sediment (ft)	~~0.04~~ 0.13		~~0.04~~ 0.13

Depth of Well (ft) 74.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 35.16

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 22.89

Casing Volumes Purged 3.22

Total Volume Purged (gals) 73.62

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
1245	—	—	—	—	—	Pump on @ 171 Hz; Water is clear
1250	7.25	0.54	22.8	535	1.5	Water is clear
1255	7.36	0.24	22.6	495	1.5	Water is clear
1300	7.39	0.45	21.5	488	1.5	Water is clear
1305	7.41	1.10	21.3	484	1.5	Water is clear
1310	7.47	0.35	22.0	490	1.5	Water is clear
1315	7.42	1.05	21.5	489	1.5	Water is clear
1320	7.48	0.28	21.5	489	1.5	Water is clear
1325	7.49	0.33	21.5	488	1.5	Water is clear
1330	7.52	0.38	21.6	489	1.5	Water is clear; Ready to sample
~~1335~~	~~MZM~~	—	—	—	—	~~Collect MW-002~~ ~~MZM~~
1334	—	—	—	—	0.02	Reduce flow to 0.02 gpm
1335	—	—	—	—	0.02	Collect MW-002-0038
1340	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 69' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-1-00
Site Engineer: M. Hunt

Well Number: MW-16
Equipment: 2" Grundfos Pump, YSI 3500, HF Scientific DRT-15CE, Solinst
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	256.01	BTOC	256.01
Depth to Sediment (ft)	285.00	BTOC	285.00
Thickness of Sediment (ft)	0		0

Depth of Well (ft) 285.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 28.99

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 18.87

Casing Volumes Purged 3.11

Total Volume Purged (gals) 58.62

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
1135	—	—	—	—	1.5	Pump on @ 38 Hz; Water Clear
1140	6.64	0.90	25.6	603	1.5	Water is clear
1145	7.00	0.70	26.2	582	1.5	Water is clear
1150	7.16	0.40	26.2	579	1.5	Water is clear
1155	7.21	0.33	26.0	584	1.5	Water is clear
1200	7.25	0.30	26.2	583	1.5	Water is clear
1205	7.28	0.29	26.5	582	1.5	Water is clear
1210	7.27	0.23	26.6	585	1.5	Water is clear; Ready to sample
1214	—	—	—	—	0.02	Reduce flow to 0.02 gpm
1215	—	—	—	—	—	Collect MW-002-039, -039MS, + -039MSD
1220	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set at 265' BTOC

APPENDIX B

WELL DEVELOPMENT/WELL SAMPLING LOG FORMS, PIEZOMETRIC PRESSURE PROFILE RECORDS, AND GROUNDWATER SAMPLING FIELD DATA SHEETS FOR DEEP MULTI-PORT WELLS

APPENDIX B

WELL DEVELOPMENT/WELL SAMPLING LOG FORMS, PIEZOMETRIC PRESSURE PROFILE RECORDS, AND GROUNDWATER SAMPLING FIELD DATA SHEETS FOR DEEP MULTI-PORT WELLS

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/25/00
Site Engineer: M. Hunt
Well Number: MW-3
Equipment: Westbay, YSI3500, DRT-15CE
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ *See pressure profile sheet*
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0810	9.26	11.60	20.7	310	—	1st run to screen 5: initial parameters
0840	—	—	—	—	—	2nd run to screen 5: collect MW-002-006
0905	9.42	11.49	20.9	313	—	3rd run to screen 5: final parameters
0930	8.55	1.58	20.6	321	—	1st run to screen 4: initial parameters
0955	—	—	—	—	—	2nd run to screen 4: collect MW-002-005, -005MS, -005MSD
1025	8.41	0.95	21.5	329	—	3rd run to screen 4: final parameters
1045	8.33	1.13	20.7	411	—	1st run to screen 3: initial parameters
1110	—	—	—	—	—	2nd run to screen 3: collect MW-002-004
1130	8.35	1.41	21.6	428	—	3rd run to screen 3: final parameters
1150	8.17	1.24	21.0	377	—	1st run to screen 2: initial parameters
1210	—	—	—	—	—	2nd run to screen 2: collect MW-002-003
1225	8.04	1.83	21.0	378	—	3rd run to screen 2: final parameters
1240	8.10	7.60	22.1	386	—	1st run to screen 1: initial parameters
1300	—	—	—	—	—	2nd run to screen 1: collect MW-002-002
1320	8.11	11.58	21.1	384		3rd run to screen 1: final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/26/00
Site Engineer: M. Hunt

Well Number: MW-21
Equipment: Westbay, YSI 3500, Turbidimeter DRT-15CE
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ * See pressure profile sheet 3 *
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0805	7.39	0.40	21.2	358	—	1st run to screen 5: initial parameters
0830	—	—	—	—	—	2nd run to screen 5: collect MW-002-012
0855	8.12	1.70	21.1	359	—	3rd run to screen 5: final parameters
0915	7.98	5.29	21.1	388	—	1st run to screen 4: initial parameters
0940	—	—	—	—	—	2nd run to screen 4: collect MW-002-011, -011MS, -011MSD
1000	7.79	4.66	21.6	397	—	3rd run to screen 4: final parameters
1015	8.01	9.64	21.3	357	—	1st run to screen 3: initial parameters
1035	~~1015~~ 8.26	9.64	21.6	360 —	—	2nd run to screen 3: ~~collect MW-003-010~~ check parameters
1055	—	—	—	—	—	3rd run to screen 3: collect MW-003-010
1110	8.28	9.81	22.0	368	—	4th run to screen 3: final parameters
1130	7.70	6.99	22.0	722	—	1st run to screen 2: initial parameters
1150	—	—	—	—	—	2nd run to screen 2: collect MW-002-008, -009
1205	7.15	8.68	23.4	757	—	3rd run to screen 2: final parameters
1220	7.20	8.40	21.5	432	—	1st run to screen 1: initial parameters
1235	—	—	—	—	—	2nd run to screen 1: collect MW-002-007
1250	7.48	2.85	20.0	413	—	3rd run to screen 1: final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/19/00
Site Engineer: M. Hunt; E. Schneyer
Well Number: MW-11
Equipment: Westbay; YSI 3500; HF Scientific DRT-15CE
Contractor: None

	Before *	Reference Point*	After *
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

* see pressure profile sheets *

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0805	8.18	0.29	19.9	322	—	1st run to screen 5: initial parameters
0835	—	—	—	—	—	2nd run to screen 5: collect MW-002-024
0910	7.43	0.30	21.5	322	—	3rd run to screen 5: final parameters
0935	8.11	1.94	21.1	329	—	1st run to screen 4: initial parameters
1005	—	—	—	—		2nd run to screen 4: collect MW-002-023
1030	8.28	1.93	23.0	342	—	3rd run to screen 4: ~~coll~~ final parameters
1050	8.19	1.57	21.3	398	—	1st run to screen 3: initial parameters
1115	—	—	—	—	—	2nd run to screen 3: collect MW-002-022 & Grab QC
1135	8.01	1.40	21.8	414	—	3rd run to screen 3: final parameters
1150	8.09	0.99	22.9	440	—	1st run to screen 2: initial parameters
1225	—	—	—	—	—	2nd run to screen 2: collect MW-002-021
1250	7.94	1.20	25.1	473	—	3rd run to screen 2: final parameters
1305	7.88	0.77	24.5	544	—	1st run to screen 1: initial parameters
1330	—	—	—	—	—	2nd run to screen 1: collect MW-002-020
1350	7.88	0.47	23.3	539	—	3rd run to screen 1: final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/28/00
Site Engineer: M. Hunt
Well Number: MW-12
Equipment: Westbay YSI 3600 Turbidimeter (DRT-15CE)
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ *see pressure profile sheets*
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0835	7.95	1.71	20.9	401	—	1st run to screen 5: initial parameters
0905	—	—	—	—	—	2nd run to screen 5: collect MW-002-030
0930	8.11	0.97	21.4	417	—	3rd run to screen 5: final parameters
1000	8.05	0.57	21.1	447	—	1st run to screen 4: initial parameters
1025	—	—	—	—	—	2nd run to screen 4: collect MW-002-029-029MS, 029MSD
1105	8.07	0.50	22.3	456	—	3rd run to screen 4: final parameters
1140	8.02	0.35	21.2	486	—	1st run to screen 3: initial parameters
1210	—	—	—	—	—	2nd run to screen 3: Collect MW-002-028
1235	8.01	0.45	22.1	497	—	3rd run to screen 3: final parameters
1255	7.84	1.70	23.1	480	—	1st run to screen 2: initial parameters
1320	—	—	—	—	—	2nd run to screen 2: collect MW-00-027 -026
1340	7.68	1.74	25.4	501	—	3rd run to screen 2: ~~collect~~ final parameters
1400	7.96	33.6	23.7	477	—	1st run to screen 1: initial parameters
1420	—	—	—	—	—	2nd run to screen 1: Collect MW-002-025
1440	7.96	32.9	22.7	473	—	3rd run to screen 1: final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.~~0312~~ 0313
Date: 7/20/00
Site Engineer: M. Hunt / J. Oluck
Well Number: MW-14
Equipment: WESTBAY, YSI 3500, HF Scientific DRT-15CE
Contractor: ~~Foster~~ MJH None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile	Sheets *	
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0815	7.46	2.85	21.1	295	—	1ST RUN TO SCREEN #5; INITIAL PARAMETER
0840	—	—	—	—	—	2ND RUN TO SCREEN #5; COLLECT MW-002-037
0910	8.53	1.20	21.9	307	—	3RD RUN TO SCREEN; FINAL PARAMETERS
0935	8.15	0.23	21.5	535	—	1ST RUN TO SCREEN #4; INITIAL PARAMETERS
1020	—	—	—	—	—	2ND RUN TO SCREEN #4; COLLECT MW-002-036
1050	7.87	1.01	22.3	569	—	3RD RUN TO SCREEN #4; FINAL PARAMETERS.
		~~0.150~~	~~21.8~~			
1120	7.76	0.15	21.8	964	—	1ST RUN TO SCREEN #3; INITIAL PARAMETERS
1135	—	—	—	—	—	2ND RUN TO SCREEN #3; COLLECT MW-002-035
1155	7.79	0.52	22.7	1002	—	3RD RUN TO SCREEN #3; FINAL PARAMETERS.
1215	7.16	3.42	22.0	1132	—	1ST RUN TO SCREEN #2; INITIAL PARAMETERS.
1235	—	—	—	—	—	2ND RUN TO SCREEN #2; COLLECT MW-002-034
1250	7.01	3.01	22.2	1155	—	3RD RUN TO SCREEN #2; FINAL PARAMETERS
1310	6.89	2.15	22.5	1203	—	1ST RUN TO SCREEN #1; INITIAL PARAMETERS
1325	—	—	—	—	—	2ND RUN TO SCREEN #1; COLLECT MW-002-033
1345	6.92	3.10	23.5	1189	—	3RD RUN TO SCREEN #1; FINAL PARAMETERS

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL (MW)
Project Number: 1572-~~0312~~0313
Date: 7/17/00
Site Engineer: M. Hunt / J. Sulick
Well Number: MW-17
Equipment: WESTBAY, VSI 3500, HF Scientific DRT-15CE
Contractor: ~~Fwenc~~ (MW) None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile Sheets *		
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____
Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____
Casing Volumes Purged _____
Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0830	6.88	4.44	18.9	413	—	1st Run to screen #5; initial parameters
0915	—	—	—	—	—	2nd run to screen #5; Collect MW-002-044
1000	8.04	14.9	19.1	372	—	3rd run to screen #5; final parameters
1035	7.87	1.43	18.7	373	—	1st run to screen #4; initial parameters
1110	—	—	—	—	—	2nd run to screen #4; Collect MW-002-043, 043MS, 043MSD
1140	7.95	5.50	19.7	378	—	3rd run to screen #4; final parameters
1215	7.93	1.80	18.5	391	—	1st run to screen #3; initial parameters
1245	—	—	—	—	—	2nd (MW) ~~Fwenc~~ run to screen #3; Collect MW-002-042
1315	7.99	3.11	19.2	333	—	3rd run to screen #3; final parameters
1345	8.24	1.32	18.6	280	—	1st Run To Screen #2; initial parameters
1410	—	—	—	—	—	2nd run to screen #2; Collect MW-002-041
1435	8.48	1.75	20.0	289	—	3rd run to screen #2; final parameters
1500	7.62	1.45	20.5	367	—	1st run to screen #1; initial parameters
1520	—	—	—	—	—	2nd run to screen #1; Collect MW-002-040
1545	7.42	0.80	20.1	366	—	3rd run to screen #1; final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/12/00
Site Engineer: M. Hunt
Well Number: MW-18
Equipment: WESTBAY, YSI 3500, HF Scientific DRT-15CE
Contractor: ~~[illegible]~~ Small None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile	Sheets *	
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0952	8.93	1.79	19.0	254	—	1ST RUN TO SCREEN 5; INITIAL PARAMETERS
1020	—	—	—	—	—	2ND RUN TO SCREEN 5; SAMPLE VOCS, CT46, CLO4, METALS MW-002-049
1052	9.21	1.26	20.7	265	—	3RD RUN TO SCREEN 5; MW-002-049 ANIONS, FINAL PARAMS.
1125	8.37	0.40	19.9	363	—	1ST RUN TO SCREEN 4; INITIAL PARAMETERS
1155	—	—	—	—	—	2ND RUN TO SCREEN 4, MW-002-048 SAMPLE
1220	8.16	0.28	20.2	370	—	3RD RUN TO SCREEN 4; MW-002-048 ANIONS; FINAL PARAMS
1245	8.05	0.11	19.6	435	—	1ST RUN TO SCREEN 3; INITIAL PARAMETERS.
1310	—	—	—	—	—	2ND RUN TO SCREEN 3; MW-002-047 SAMPLE
1336	8.07	0.09	20.3	446	—	3RD RUN TO SCREEN 3; MW-002-047 ANIONS, FINAL PARAMS
1400	7.70	2.10	20.5	395	—	1ST RUN TO SCREEN 2; INITIAL PARAMETERS.
1420	—	—	—	—	—	2ND RUN TO SCREEN 2; MW-002-046 SAMPLE
1447	7.45	1.49	21.3	410	—	3RD RUN TO SCREEN 2; MW-002-046 ANIONS, FINAL PARAMS.
1510	7.38	0.13	21.9	361	—	1ST RUN TO SCREEN #1; INITIAL PARAMETERS
1535	—	—	—	—	—	2ND RUN TO SCREEN #1; MW-002-045 SAMPLE
1600	7.30	0.18	23.3	384	—	3RD RUN TO SCREEN #1; FINAL PARAMETERS.

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/13/00
Site Engineer: M. Hunt

Well Number: MW-19
Equipment: WESTBAY, YSI 3500, HF Scientific DRT-15CE
Contractor: ~~Foster~~ None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile	Sheets *	
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0812	6.75	0.18	18.7	730	—	1ST RUN TO SCREEN #5: INITIAL PARAMETERS
0840	—	—	—	—	—	2ND RUN TO SCREEN #5 MW-002-054 SAMPLE
0909	7.42	0.42	19.6	767	—	3RD RUN TO SCREEN #5, FINAL PARAMS.
0935	7.52	2.31	18.8	412	—	1ST RUN TO SCREEN #4, INITIAL PARAMETERS
1015	—	—	—	—	—	2ND RUN TO SCREEN #4: MW-002-053 SAMPLE VOC MS/MSD
1040	7.57	0.89	19.7	412	—	3RD RUN TO SCREEN #5; FINAL PARAMS.
		MJH recalibrated				
1103	7.11	5.44 ~~6.43~~	20.2	~~7.15~~ 890	—	1ST RUN TO SCREEN #3; INITIAL PARAMETERS.
1126	—	—	—	—	—	2ND RUN TO SCREEN #3; MW-002-052 SAMPLE, QC COLLECTED
1155	7.02	8.60	22.0	960	—	3RD RUN TO SCREEN #3; FINAL PARAMETERS
1215	6.85	0.33	22.7	729	—	1ST RUN TO SCREEN #2; INITIAL PARAMETERS
1240	—	—	—	—	—	2ND RUN TO SCREEN #2; MW-002-051 SAMPLES
1302	6.82	4.28	22.2	732	—	3RD RUN TO SCREEN #2; FINAL PARAMETERS.
1320	7.11	0.76	22.0	396	—	1ST RUN TO SCREEN #1; INITIAL PARAMETERS.
1337	—	—	—	—	—	2ND RUN TO SCREEN #1; MW-002-050 SAMPLE
1358	7.22	1.30	20.4	380		3RD RUN TO SCREEN #1, FINAL PARAMS

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/18/00
Site Engineer: M. Hunt
Well Number: MW-20
Equipment: West Day, YSI 3500, HF Scientific DRT-15CE
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile	Sheets *	
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ *see pressure profile sheets
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0837	9.33	2.30	19.6	408	—	1st run to screen 5: initial parameters
~~0840~~ 0910	—	—	—	—	—	2nd run to screen 5: collect MW-002-059
0945	8.83	2.72	21.4	347	—	3rd run to screen 5: final parameters
1020	8.81	1.55	19.8	297	—	1st run to screen 4: initial parameters
1050	—	—	—	—	—	2nd run to screen 4: collect MW-002-058, -058MS, -058MSD
1115	8.78	1.63	20.8	305	—	3rd run to screen 4: final parameters
1150	8.19	0.07	20.4	518	—	1st run to screen 3: initial parameters
1210	—	—	—	—	—	2nd run to screen 3: collect MW-002-057
1235	8.14	0.13	21.3	544	—	3rd run to screen 3: final parameters
~~1300~~	7.84	0.03	22.1	395	—	1st run to screen 2: initial parameters
1325	—	—	—	—	—	2nd run to screen 2: collect MW-002-056
1340	7.76	0.12	20.7	384	—	3rd run to screen 2: final parameters.
1400	7.65	0.23	23.1	797	—	1st run to screen 1: initial parameters
1425	—	—	—	—	—	2nd run to screen 1: collect MW-002-055
1440	7.60	0.35	22.9	815	—	3rd run to screen 1 final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL (MWH)
Project Number: 1572.~~0312~~0313
Date: 7/14/00
Site Engineer: M. HUNT
Well Number: MW-21
Equipment: WESTBAY, YSI 3500, HF Scientific DRT-15CE
Contractor: ~~Foster~~ (MWH) None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile Sheets *		
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0817	6.63	3.01	19.7	710	—	1ST RUN TO SCREEN #5, INITIAL PARAMETERS.
0840	—	—	—	—	—	2ND RUN TO SCREEN #5, MW-002-061 SAMPLE
0908	7.78	3.36	20.6	761	—	3RD RUN TO SCREEN #5; FINAL PARAMS
0925	7.57	6.20	20.1	713	—	1ST RUN TO SCREEN #4; INITIAL PARAM.
0946	—	—	—	—	—	2ND RUN TO SCREEN #4. MW-002-063 SAMPLE + VOC MS/MSD
1010	7.33	6.25	20.8	707	—	3RD RUN TO SCREEN #4. FINAL PARAM.
1030	7.37	1.24	20.4	944	—	1ST RUN TO SCREEN #3; INITIAL PARAMETERS.
1047	—	—	—	—	—	2ND RUN TO SCREEN #3 MW-002-062 QC FOR Cr+6
1106	7.50	1.95	21.1	537	—	3RD RUN TO SCREEN #3; FINAL PARAMS.
1124	7.68	0.76	21.2	1008	—	1ST RUN TO SCREEN #2; INITIAL PARAMETERS.
1145	—	—	—	—	—	2ND RUN TO SCREEN #2; MW-002-061 SAMPLE
1203	7.63	0.48	21.5	849	—	3RD RUN TO SCREEN #2; FINAL PARAMS.
1217	7.03	0.24	24.8	880	—	1ST RUN TO SCREEN #1, INITIAL PARAMETERS
1232	—	—	—	—	—	2ND RUN TO SCREEN #1; MW-002-060 SAMPLE
1250	6.62	0.25	23.8	~~[illegible]~~ 880	—	3RD RUN TO SCREEN #1; FINAL PARAMETERS.

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7/21/00
Site Engineer: M. Hunt, E. Schneyer

Well Number: MW-22
Equipment: Westbay, YSI 3500, DRT-15CE
Contractor: None

	Before *	Reference Point *	After *
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ See Pressure profile sheet
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0805	8.08	0.44	20.6	331	—	1st run to screen 5: initial parameters
0835	—	—	—	—	—	2nd run to screen 5: collect MW-002-069
0900	9.04	0.31	20.9	340	—	3rd run to screen 5: final parameters
0925	8.31	0.81	20.9	330	—	1st run to screen 4: initial parameters
0955	—	—	—	—	—	2nd run to screen 4: collect MW-002-068, MW-002-068MS, MW-002-068MSC
1015	8.01	0.42	22.2	339	—	3rd run to screen 4: final parameters
1035	8.08	0.46	22.1	488	—	1st run to screen 3: initial parameters
1100	—	—	—	—	—	2nd run to screen 3: collect MW-002-067
1120	8.11	4.58	22.7	503	—	3rd run to screen 3: final parameters
1140	8.15	0.55	22.0	582	—	1st run to screen 2: initial parameters
1205	—	—	—	—	—	2nd run to screen 2: ~~initial~~ collect MW-002-0660
1220	8.02	0.47	22.9	613	—	3rd run to screen 2: final parameters
					—	
1245	7.60	15.75	24.9	1117	—	1st run to screen 1: initial parameters
1305	—	—	—	—	—	2nd run to screen 1: collect MW-002-065
1325	7.31	13.35	24.4	1152	—	3rd run to screen 1: final parameters

Notes on Sampling Procedures: _____

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.~~0312~~ 0313
Date: 7/27/00
Site Engineer: J. Osline / M. Hunt
Well Number: MW-23
Equipment: WESTBAY, YSI 3500, HF Scientific DRT-15CE
Contractor: ~~Fosterwheeler~~ None

	Before	Reference Point	After
Depth to Water (ft)	*See Pressure Profile Sheets*		
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0755	9.60	1.36	21.4	488	—	1ST RUN TO SCREEN 5; INITIAL PARAMETERS
0825	—	—	—	—	—	2ND RUN TO SCREEN 5; COLLECT MW-002-074
0850	9.62	1.10	22.2	504	—	3RD RUN TO SCREEN 5; FINAL PARAMETERS
0915	8.36	0.83	21.7	366	—	1ST RUN TO SCREEN #4; INITIAL PARAMETERS
0940	—	—	—	—	—	2ND RUN TO SCREEN 4; COLLECT MW-002-073
1000	7.87	1.72	22.3	372	—	3RD RUN TO SCREEN 4; FINAL PARAMETERS
1020	7.78	2.71	22.1	440	—	1ST RUN TO SCREEN #3; INITIAL PARAMETERS
1040	—	—	—	—	—	2ND RUN TO SCREEN #3; COLLECT MW-002-072
1100	7.80	2.04	22.6	455		3RD RUN TO SCREEN #3; FINAL PARAMETERS
1115	7.42	1.74	22.1	975	—	1ST RUN TO SCREEN #2; INITIAL PARAMETERS
1135	—	—	—	—	—	2ND RUN TO SCREEN #2; COLLECT MW-002-071
1155	7.29	1.35	22.7	1022	—	3RD RUN TO SCREEN #2; FINAL PARAMETERS
1215	7.09	13.05	25.7	1075	—	1ST RUN TO SCREEN #1; INITIAL PARAMETERS
1230	—	—	—	—	—	2ND RUN TO SCREEN 1; COLLECT MW-002-070
1245	6.98	7.87	24.8	1085		3RD RUN TO SCREEN 1; FINAL PARAMETERS

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 7-31-00
Site Engineer: M. Hunt, J. Donnay
Well Number: MW-24
Equipment: YSI 3500, HF Scientific DRT-15CE, Westbay
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure Profile Sheets *		
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____
Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____
Casing Volumes Purged _____
Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0935	6.93	16.10	22.0	383	—	1st run to SC5 initial parameters
1015	—	—	—	—	—	2nd run to SC5; Collect MW-002-0079
1040	7.88	2.75	23.2	398	—	3rd run to screen 5; final parameters
1110	8.57	4.88	22.8	344	—	1st run to screen 4; initial parameters
1135	—	—	—	—	—	2nd run to screen 4; Collect MW-002-078, -078MS, -078MSD
1205	8.59	5.10	23.8	355	—	3rd run to screen 4; final parameters
1240	8.00	6.85	23.5	467	—	1st run to screen 3; initial parameters
1300	—	—	—	—	—	2nd run to screen 3; Collect MW-002-077
1330	7.91	4.95	26.4	501	—	3rd run to screen 3; final parameters
1400	8.37	14.08	24.2	397	—	1st run to screen 2; initial parameters
1415	—	—	—	—	—	2nd run to screen 2; Collect MW-002-076
1445	8.46	16.90	27.0	424	—	3rd run to screen 2; final parameters

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0313
Date: 8-1-00
Site Engineer: Matt Hunt

Well Number: MW-24
Equipment: YSI 3500, HF Scientific DRT-15CE, Westbay
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	* See Pressure	Profile Sheets *	
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp (°C)	Conductivity (µmhos)	Pump Rate (GPM)	Comments
0811	7.16	0.82	22.5	433	—	1st run to screen 1; initial parameters
—	—	—	—	—	—	2nd run to screen 1; Collect MW-002-075
—	—	—	—	—	—	3rd run to screen 1; Continued collecting sample
—	—	—	—	—	—	4th run to screen 1; Continued collecting sample
0940	7.63	1.71	24.1	451	—	5th ~~Event~~ run to screen 1; final parameters (MJH)

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-3
Elevation of Datum(ft msl): 1100.34
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.13/23.48/1257
Finish: 14.15/19.12/1316

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	653	169.25			23.58	1259		239.91	860.43
			193.21						
			193.24						
			193.20						
				170.68					
4	558	129.46			23.95	1302		211.04	889.30
			164.55						
			164.55						
			164.54						
				129.47					
3	346	37.44			22.98	1305		134.83	965.51
			105.67						
			105.69						
			105.69						
				37.45					
2	252	14.25			20.63	1310		131.02	969.32
			66.59						
			66.58						
			66.59						
				14.27					
1	172	14.23			19.86	1312		122.83	977.51
			35.47						
			35.45						
			35.44						
				14.22					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-4
Elevation of Datum(ft msl): 1082.84
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.12/28.07/1142
Finish: 14.14/19.62/1201

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	513	125.30			25.56	1145		197.04	885.80
			151.10						
			151.11						
			151.08						
				125.32					
4	392	72.72			22.88	1150		122.78	960.06
			130.83						
			130.85						
			130.83						
				72.72					
3	322	42.31			22.35	1152		113.73	969.11
			104.41						
			104.42						
			104.42						
				42.34					
2	240	14.21			21.56	1155		110.51	972.33
			70.26						
			70.27						
			70.26						
				14.27					
1	150	14.20			20.21	1159		97.51	985.33
			36.88						
			36.90						
			36.87						
				14.21					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-11
Elevation of Datum(ft msl): 1139.30
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/19.70/0822
Finish: 14.14/18.63/0859

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	639	168.74			20.72	0845		237.68	901.62
			188.10						
			188.08						
			188.10						
				168.76					
4	524	119.25			21.24	0847		178.13	961.17
			164.05						
			164.07						
			164.04						
				119.33					
3	429	78.40			20.14	0853		170.42	968.88
			126.21						
			126.23						
			126.20						
				78.40					
2	259	14.29			19.58	0855		154.35	984.95
			59.46						
			59.49						
			59.51						
				14.17					
1	149	14.17			18.97	0857		118.63	1020.67
			27.30						
			27.29						
			27.27						
				14.18					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-12
Elevation of Datum(ft msl): 1102.14
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.13/25.71/1218
Finish: 14.14/18.84/1237

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	548	134.35			23.91	1222		203.99	898.15
			163.26						
			163.27						
			163.26						
				134.37					
4	436	85.71			21.70	1230		143.89	958.25
			140.78						
			140.77						
			140.75						
				85.70					
3	323	36.56			20.75	1232		130.32	971.82
			97.65						
			97.68						
			97.65						
				36.59					
2	243	14.25			19.62	1234		126.67	975.47
			64.57						
			64.56						
			64.56						
				14.26					
1	140	14.21			19.15	1236		111.89	990.25
			26.31						
			26.33						
			26.32						
				14.20					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-14
Elevation of Datum(ft msl): 1173.47
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/28.36/1438
Finish: 14.12/20.38/1450

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	540	158.83			25.10	1441		184.41	989.06
			168.26						
			168.26						
			168.25						
				158.87					
4	456	122.35			23.83	1443		183.24	990.23
			132.35						
			132.37						
			132.34						
				122.37					
3	382	90.19			22.76	1444		183.03	990.44
			100.36						
			100.36						
			100.37						
				90.19					
2	277	44.53			21.57	1446		182.39	991.08
			55.13						
			55.11						
			55.13						
				44.52					
1	207	14.23			20.86	1448		181.13	992.34
			25.33						
			25.31						
			25.33						
				14.22					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-17
Elevation of Datum(ft msl): 1191.21
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.12/18.36/0915
Finish: 14.11/16.37/0932

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	726	169.60			18.94	0919		305.25	885.96
			196.51						
			196.52						
			196.50						
				169.50					
4	582	107.06			19.53	0922		296.32	894.89
			137.96						
			137.95						
			137.96						
				107.04					
3	468	57.48			18.58	0925		247.97	943.24
			109.49						
			109.51						
			109.50						
				57.51					
2	370	14.84			17.48	0927		231.16	960.05
			74.30						
			74.29						
			74.31						
				14.80					
1	250	14.20			16.85	0929		214.64	976.57
			29.46						
			29.43						
			29.44						
				14.19					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-18
Elevation of Datum(ft msl): 1225.41
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.12/17.27/0942
Finish: 14.15/17.81/0954

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	684	147.10			18.69	0944		309.86	915.55
			176.32						
			176.33						
			176.32						
				147.12					
4	564	94.98			19.72	0946		294.30	931.11
			131.06						
			131.04						
			131.05						
				95.00					
3	424	34.17			19.76	0948		262.80	962.61
			84.02						
			84.03						
			84.00						
				34.16					
2	330	14.28			19.06	0950		256.05	969.36
			46.19						
			46.21						
			46.18						
				14.27					
1	270	14.28			18.48	0952		254.02	971.39
			21.06						
			21.08						
			21.05						
				14.28					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-19
Elevation of Datum(ft msl): 1142.94
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.17/20.90/1047
Finish: 14.18/18.29/1100

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	498	77.89			20.90	1050		294.99	847.95
			102.19						
			102.17						
			102.18						
				77.89					
4	444	54.41			20.04	1052		291.06	851.88
			80.48						
			80.45						
			80.49						
				54.40					
3	392	31.81			19.16	1054		192.88	950.06
			100.50						
			100.49						
			100.49						
				31.82					
2	314	14.31			18.97	1055		188.11	954.83
			68.76						
			68.73						
			68.76						
				14.29					
1	242	14.24			18.75	1057		174.80	968.14
			43.30						
			43.32						
			43.30						
				14.31					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-20
Elevation of Datum(ft msl): 1165.05
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.19/20.98/1014
Finish: 14.10/18.26/1032

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	900	261.99			21.91	1020		210.18	954.87
			313.18						
			313.17						
			313.19						
				261.92					
4	700	175.12			22.67	1023		245.62	919.43
			211.12						
			211.13						
			211.11						
				175.10					
3	562	115.19			22.25	1025		240.20	924.85
			153.65						
			153.63						
			153.66						
				115.18					
2	392	41.30			21.15	1028		213.65	951.40
			91.45						
			91.47						
			91.46						
				41.30					
1	230	14.23			19.14	1030		212.27	952.78
			21.81						
			21.85						
			21.83						
				14.23					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-21
Elevation of Datum(ft msl): 1059.10
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.22/21.35/1116
Finish: 14.22/19.52/1128

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	372	124.63			21.29	1118		74.65	984.45
			143.12						
			143.14						
			143.11						
				124.62					
4	310	97.66			21.15	1120		74.55	984.55
			116.30						
			116.28						
			116.28						
				97.65					
3	240	67.68			20.75	1122		73.16	985.94
			86.55						
			86.53						
			86.55						
				67.66					
2	161	33.32			20.14	1124		72.39	986.71
			52.63						
			52.62						
			52.65						
				33.32					
1	90	14.27			19.76	1126		72.04	987.06
			22.01						
			22.03						
			21.98						
				14.24					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-22
Elevation of Datum(ft msl): 1176.98
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.12/37.41/1409
Finish: 14.10/21.26/1429

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	588	145.83			27.12	1415		221.79	955.19
			172.86						
			172.85						
			172.87						
				145.88					
4	467	93.40			24.42	1421		210.89	966.09
			125.14						
			125.13						
			125.13						
				93.41					
3	389	59.53			23.33	1423		193.04	983.94
			99.06						
			99.06						
			99.05						
				59.55					
2	329	33.47			22.35	1426		193.08	983.90
			73.03						
			73.05						
			73.02						
				33.47					
1	245	14.23			21.76	1427		189.38	987.60
			38.22						
			38.21						
			38.23						
				14.23					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-23
Elevation of Datum(ft msl): 1108.84
Range: 0 to 1000 psia
Client: Jet Propulsion Laboratory
Weather: 83 degrees F, hazy sunshine
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.12/22.01/0755
Finish: 14.08/20.42/0806

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	542	158.83			22.06	0758		151.92	956.92
			183.21						
			183.19						
			183.20						
				158.84					
4	445	116.71			22.14	0800		151.51	957.33
			141.33						
			141.32						
			141.34						
				116.71					
3	319	62.02			21.82	0802		129.86	978.98
			96.10						
			96.08						
			96.10						
				62.02					
2	254	33.78			21.45	0803		129.02	979.82
			68.29						
			68.27						
			68.28						
				33.78					
1	174	14.20			20.86	0805		122.64	986.20
			36.37						
			36.38						
			36.35						
				14.21					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 7/11/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-24
Elevation of Datum(ft msl): 1200.94
Range: 0 to 1000 psia
Weather: 83 degrees F, hazy sunshine
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/M. Losi/J. Oslick
Ambient Reading (Pressure/Temperature/Time) Start: 14.07/27.63/1331
Finish: 14.12/21.33/1401

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	678	167.77			23.97	1338		271.84	929.10
			190.17						
			190.15						
			190.17						
				167.80					
4	554	114.00			23.12	1341		249.63	951.31
			146.04						
			146.05						
			146.03						
				114.00					
3	435	62.34			22.12	1354		225.11	975.83
			105.09						
			105.07						
			105.09						
				62.35					
2	373	35.43			22.00	1356		221.72	979.22
			79.67						
			79.69						
			79.67						
				35.43					
1	279	14.22			21.79	1358		213.04	987.90
			42.69						
			42.69						
			42.68						
				14.24					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-3
Elevation of Datum(ft msl): 1100.34
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.18/20.99/1018
Finish: 14.21/20.62/1044

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	653	171.54			23.96	1036		246.53	853.81
			190.40						
			190.41						
			190.39						
				171.52					
4	558	130.32			23.66	1038		217.51	882.83
			161.78						
			161.80						
			161.81						
				130.33					
3	346	38.30			22.99	1040		142.09	958.25
			102.58						
			102.60						
			102.59						
				38.29					
2	252	14.30			22.00	1041		138.78	961.56
			63.29						
			63.28						
			63.26						
				14.28					
1	172	14.27			21.10	1042		131.97	968.37
			31.55						
			31.56						
			31.53						
				14.24					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-4
Elevation of Datum(ft msl): 1082.84
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.18/20.55/1122
Finish: 14.20/20.34/1136

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	513	131.44			21.99	1126		203.07	879.77
			148.55						
			148.53						
			148.56						
				131.47					
4	392	78.83			22.12	1129		129.55	953.29
			127.96						
			127.95						
			127.98						
				78.86					
3	322	48.42			21.83	1131		120.75	962.09
			101.42						
			101.44						
			101.43						
				48.45					
2	240	14.31			21.20	1133		118.03	964.81
			67.06						
			67.08						
			67.05						
				14.32					
1	150	14.24			20.86	1135		107.29	975.55
			32.69						
			32.71						
			32.72						
				14.26					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-11
Elevation of Datum(ft msl): 1139.30
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.15/24.12/1335
Finish: 14.16/19.33/1351

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	639	168.48			23.03	1338		244.44	894.86
			185.18						
			185.20						
			185.21						
				168.49					
4	524	119.00			21.57	1343		184.79	954.51
			161.20						
			161.22						
			161.19						
				119.02					
3	429	78.16			21.22	1345		177.42	961.88
			123.20						
			123.21						
			123.23						
				78.18					
2	259	14.26			20.39	1347		161.89	977.41
			56.27						
			56.25						
			56.24						
				14.24					
1	149	14.21			19.64	1349		122.44	1016.86
			25.68						
			25.67						
			25.65						
				14.22					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-12
Elevation of Datum(ft msl): 1102.14
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.19/22.48/1105
Finish: 14.20/19.41/1116

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	548	134.16			22.25	1107		210.60	891.54
			160.45						
			160.47						
			160.45						
				134.17					
4	436	85.49			21.93	1109		150.61	951.53
			137.92						
			137.90						
			137.91						
				85.48					
3	323	36.30			21.21	1110		137.83	964.31
			94.45						
			94.47						
			94.48						
				36.31					
2	243	14.28			20.13	1112		134.63	967.51
			61.16						
			61.17						
			61.19						
				14.31					
1	140	14.24			19.67	1114		122.17	979.97
			21.91						
			21.92						
			21.94						
				14.22					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-14
Elevation of Datum(ft msl): 1173.47
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.12/24.98/1232
Finish: 14.19/20.64/1244

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	540	162.30			23.58	1236		190.98	982.49
			165.47						
			165.45						
			165.44						
				162.28					
4	456	125.79			23.12	1238		189.92	983.55
			129.49						
			129.50						
			129.51						
				125.77					
3	382	93.58			22.38	1239		189.75	983.72
			97.51						
			97.50						
			97.47						
				93.57					
2	277	47.90			21.58	1241		189.11	984.36
			52.24						
			52.25						
			52.27						
				47.88					
1	207	17.44			20.88	1242		187.80	985.67
			22.48						
			22.49						
			22.46						
				17.43					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-17
Elevation of Datum(ft msl): 1191.21
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.15/17.45/0836
Finish: 14.10/16.49/0852

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	726	169.37			18.88	0841		311.84	879.37
			193.65						
			193.66						
			193.68						
				169.39					
4	582	106.83			19.17	0843		302.80	888.41
			135.16						
			135.15						
			135.16						
				106.81					
3	468	57.24			18.31	0845		255.29	935.92
			106.34						
			106.33						
			106.34						
				57.21					
2	370	14.41			17.60	0847		238.48	952.73
			71.13						
			71.15						
			71.14						
				14.50					
1	250	14.25			16.72	0849		224.05	967.16
			25.37						
			25.39						
			25.36						
				14.21					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-18
Elevation of Datum(ft msl): 1225.41
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.09/17.66/0901
Finish: 14.09/18.35/0915

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	684	146.92			19.95	0906		317.41	908.00
			173.01						
			173.01						
			173.00						
				146.93					
4	564	94.79			20.54	0908		301.44	923.97
			127.91						
			127.90						
			127.92						
				94.74					
3	424	33.96			19.86	0910		270.27	955.14
			80.74						
			80.72						
			80.73						
				33.97					
2	330	14.27			19.23	0912		264.33	961.08
			42.56						
			42.55						
			42.56						
				14.25					
1	270	14.24			18.77	0914		262.63	962.78
			17.28						
			17.28						
			17.30						
				14.23					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-19
Elevation of Datum(ft msl): 1142.94
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.16/21.58/0955
Finish: 14.19/18.53/1006

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	498	77.78			20.96	0958		300.51	842.43
			99.77						
			99.80						
			99.79						
				77.77					
4	444	54.30			20.08	0959		296.48	846.46
			78.13						
			78.14						
			78.11						
				54.28					
3	392	31.69			19.12	1001		198.23	944.71
			98.17						
			98.19						
			98.16						
				31.71					
2	314	14.31			18.97	1002		193.43	949.51
			66.44						
			66.46						
			66.43						
				14.32					
1	242	14.29			18.78	1004		181.47	961.47
			40.39						
			40.42						
			40.44						
				14.28					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-20
Elevation of Datum(ft msl): 1165.05
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/20.25/0930
Finish: 14.14/18.15/0951

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	900	261.60			21.84	0941		215.35	949.70
			310.92						
			310.91						
			310.92						
				261.64					
4	700	174.77			22.43	0943		254.18	910.87
			207.39						
			207.38						
			207.38						
				174.74					
3	562	114.79			21.89	0945		246.77	918.28
			150.78						
			150.77						
			150.77						
				114.78					
2	392	40.88			19.60	0947		219.52	945.53
			88.89						
			88.89						
			88.89						
				40.87					
1	230	14.26			18.50	0949		218.11	946.94
			19.27						
			19.28						
			19.27						
				14.25					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-21
Elevation of Datum(ft msl): 1059.10
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.18/24.60/1211
Finish: 14.19/19.94/1222

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	372	124.32			22.51	1214		81.05	978.05
			140.30						
			140.31						
			140.32						
				124.31					
4	310	97.37			21.72	1216		80.96	978.14
			113.47						
			113.49						
			113.46						
				97.34					
3	240	67.35			21.04	1218		79.60	979.50
			83.72						
			83.74						
			83.70						
				67.33					
2	161	33.01			20.45	1220		78.86	980.24
			49.81						
			49.78						
			49.79						
				33.00					
1	90	14.25			20.04	1221		78.32	980.78
			19.27						
			19.24						
			19.23						
				14.23					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-22
Elevation of Datum(ft msl): 1176.98
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.13/23.89/1254
Finish: 14.18/20.98/1307

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	588	177.96			23.27	1259		228.35	948.63
			170.06						
			170.07						
			170.06						
				177.97					
4	467	125.60			23.06	1301		217.58	959.40
			122.28						
			122.29						
			122.27						
				125.58					
3	389	91.79			22.54	1302		200.03	976.95
			96.07						
			96.06						
			96.09						
				91.77					
2	329	65.80			22.04	1304		200.15	976.83
			70.01						
			70.02						
			70.00						
				65.77					
1	245	28.92			21.42	1305		197.30	979.68
			34.83						
			34.82						
			34.85						
				28.89					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-23
Elevation of Datum(ft msl): 1108.84
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.17/22.35/1146
Finish: 14.20/20.86/1157

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	542	158.66			22.36	1149		158.84	950.00
			180.28						
			180.29						
			180.28						
				158.65					
4	445	116.52			22.42	1151		158.42	950.42
			138.41						
			138.43						
			138.41						
				116.51					
3	319	61.79			22.00	1153		136.92	971.92
			93.10						
			93.12						
			93.13						
				61.82					
2	254	33.57			21.59	1154		136.33	972.51
			65.21						
			65.20						
			65.18						
				33.56					
1	174	14.24			21.11	1155		130.96	977.88
			32.86						
			32.85						
			32.82						
				14.26					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 8/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-24
Elevation of Datum(ft msl): 1200.94
Range: 0 to 1000 psia
Weather: 85 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: M. Hunt/J. Brenner
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/23.23/1315
Finish: 14.21/21.89/1326

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	678	167.61			23.32	1318		278.45	922.49
			187.37						
			187.35						
			187.36						
				167.60					
4	554	113.79			23.02	1320		256.36	944.58
			143.18						
			143.20						
			143.17						
				113.80					
3	435	62.11			22.56	1322		232.34	968.60
			102.00						
			102.02						
			102.00						
				62.10					
2	373	35.16			22.36	1323		229.44	971.50
			76.39						
			76.38						
			76.40						
				35.17					
1	279	14.27			22.11	1324		222.23	978.71
			38.78						
			38.77						
			38.75						
				14.25					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 172 ft. Date: 7-25-00

Well ID: MW-3 Sampling Zone: 1 Starting Time: 1230 Finishing Time: 1320

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.17 psia (End of Session): 14.15 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.17	✓	1235	1238	✓	14.16	0.75	1st run; initial parameters; NTUs = 7.60
2	✓	✓	✓	✓	✓	✓	14.15	✓	1250	1254	✓	14.14	1.0	2nd run; Collect MW-002-002; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.14	✓	1308	1311	✓	14.15	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 33.42 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 252 ft. Date: 7-25-00

Well ID: MW-3 Sampling Zone: 2 Starting Time: 1135 Finishing Time: 1225

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.19 psia (End of Session): 14.23 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.19	✓	1140	1142	✓	14.22	0.75	1st run; initial parameters; NTUs = 1.24
2	✓	✓	✓	✓	✓	✓	14.20	✓	1157	1200	✓	14.23	1.0	2nd run; Collect MW-002-003; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.21	✓	1216	1219	✓	14.23	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 65.06 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 346 ft. Date: 7-25-00

Well ID: MW-3 Sampling Zone: 3 Starting Time: 1030 Finishing Time: 1130

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 38.89 psia (End of Session): 39.50 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	38.89	✓	1035	1037	✓	38.93	0.75	1st run; initial parameters; NTUs = 1.13
2	✓	✓	✓	✓	✓	✓	39.43	✓	1057	1100	✓	39.47	1.0	2nd run; Collect MW-002-004; VOCs, Metals, Cr^{6+}, ClO_4
3	✓	✓	✓	✓	✓	✓	39.45	✓	1118	1120	✓	39.50	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 104.27 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 558 ft. Date: 7-25-00

Well ID: MW-3 Sampling Zone: 4 Starting Time: 0910 Finishing Time: 1025

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 130.95 psia (End of Session): 131.52 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	130.95	✓	0920	0921	✓	130.99	0.75	1st run; initial parameters; NTUs = 1.58
2	✓	✓	✓	✓	✓	✓	131.47	✓	0942	0944	✓	131.51	1.0	2nd run; Collect MW-002-005, -005MS, +-005MSD; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	131.46	✓	1011	1014	✓	131.52	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 163.39 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 653 ft. Date: 7-25-00

Well ID: MW-3 Sampling Zone: 5 Starting Time: 0745 Finishing Time: 0905

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 172.28 psia (End of Session): 172.76 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	172.28	✓	0754	0758	✓	172.30	0.75	1st run; initial parameters; NTUs = 11.60
2	✓	✓	✓	✓	✓	✓	172.75	✓	0823	0825	✓	172.78	1.0	2nd run; Collect MW-002-006; VOCs, Metals, Cr6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	172.72	✓	0852	0853	✓	172.76	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 192.06 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-4 Depth: 150 ft. Date: 7-26-00

Well ID: MW-4 Sampling Zone: 1 Starting Time: 1210 Finishing Time: 1250

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.17 psia (End of Session): 14.14 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.17	✓	1213	1215	✓	14.15	0.75	1st run; initial parameters; NTUs = 8.60
2	✓	✓	✓	✓	✓	✓	14.16	✓	1226	1229	✓	14.13	1.0	2nd run; Collect MW-002-007; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.15	✓	1241	1244	✓	14.14	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 34.44 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-4 Depth: 240 ft. Date: 7-26-00

Well ID: MW-4 Sampling Zone: 2 Starting Time: 1115 Finishing Time: 1205

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 psia (End of Session): 14.23 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1121	1123	✓	14.23	0.75	1st run; initial parameters; NTUs = 6.99
2	✓	✓	✓	✓	✓	✓	14.18	✓	1135	1138	✓	14.23	1.0	2nd run; Collect MW-002-008+-009; VOCs, Metals, Cr-6+
3	✓	✓	✓	✓	✓	✓	14.21	✓	1154	1157	✓	14.23	1.0	3rd run; ClO_4^-, Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 68.37 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-4 Depth: 322 ft. Date: 7-26-00

Well ID: MW-4 Sampling Zone: 3 Starting Time: 1005 Finishing Time: 1110

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 44.60 psia (End of Session): 48.12 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	44.60	✓	1008	1009	✓	45.32	0.75	1st run; initial parameters; NTUs = 9.64
2	✓	✓	✓	✓	✓	✓	45.73	✓	1026	1028	✓	46.61	1.0	2nd run; check parameters
3	✓	✓	✓	✓	✓	✓	46.56	✓	1043	1045	✓	47.37	1.0	3rd run; Collect MW-002-010; VOCs, Metals, Cr^{6+}, ClO_4^-
4	✓	✓	✓	✓	✓	✓	47.33	✓	1101	1103	✓	48.12	1.0	4th run; Anions; final parameters
5														
6														
7														
8														

Total Volume: 3.75

Comments: Pressure Outside MP Casing = 102.64 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-4 Depth: 392 ft. Date: 7-26-00

Well ID: MW-4 Sampling Zone: 4 Starting Time: 0900 Finishing Time: 1000

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 74.28 psia (End of Session): 75.59 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	74.28	✓	0905	0907	✓	74.42	0.75	1st run; initial parameters; NTUs = 5.29
2	✓	✓	✓	✓	✓	✓	74.89	✓	0923	0925	✓	~~74~~ 75.22	1.0	2nd run; Collect MW-002-011, -011MS, -011MSD; VOCs, Metals, CrO_4^-, ClO_4^-
3	✓	✓	✓	✓	✓	✓	75.17	✓	0946	0948	✓	75.59	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 129.28 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-4 Depth: 513 ft. Date: 7-26-00

Well ID: MW-4 Sampling Zone: 5 Starting Time: 0740 Finishing Time: 0855

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 126.89 psia (End of Session): 127.42 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	126.89	✓	0751	0753	✓	126.91	0.75	1st run; initial parameters; NTUs = 0.40
2	✓	✓	✓	✓	✓	✓	127.38	✓	0817	0819	✓	127.41	1.0	2nd run; Collect MW-002-012; VOCs, Metals, Cr-6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	127.40	✓	0842	0843	✓	127.42	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 150.08 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-11 Depth: 149 ft. Date: 7-19-00

Well ID: MW-11 Sampling Zone: 1 Starting Time: 1255 Finishing Time: 1350

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.13 psia (End of Session): 14.10 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.13	✓	1258	1302	✓	14.09	0.75	1st run; initial parameters; NTUs = 0.77
2	✓	✓	✓	✓	✓	✓	14.13	✓	1314	1321	✓	14.11	1.0	2nd run; Collect MW-002-020; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.15	✓	1334	1341	✓	14.10	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 26.78 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-11 Depth: 259 ft. Date: 7-19-00

Well ID: MW-11 Sampling Zone: 2 Starting Time: 1140 Finishing Time: 1250

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 psia (End of Session): 14.19 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1147	1151	✓	14.22	0.75	1st run; initial parameters; NTUs = 0.99
2	✓	✓	✓	✓	✓	✓	14.21	✓	1211	1216	✓	14.23	1.0	2nd run; Collect MW-002-021; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.20	✓	1234	1239	✓	14.19	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 58.52 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-11 Depth: 429 ft. Date: 7-19-00

Well ID: MW-11 Sampling Zone: 3 Starting Time: 1035 Finishing Time: 1135

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 79.56 psia (End of Session): 80.08 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	79.56	✓	1040	1043	✓	79.60	0.75	1st run; initial parameters; NTUs = 1.57
2	✓	✓	✓	✓	✓	✓	80.08	✓	1100	1104	✓	80.11	1.0	2nd run; Collect MW-002-022; VOCs, Metals, Cr 6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	80.03	✓	1124	1127	✓	80.08	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 125.28 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-11 Depth: 524 ft. Date: 7-19-00

Well ID: MW-11 Sampling Zone: 4 Starting Time: 0915 Finishing Time: 1030

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 120.56 psia (End of Session): 121.04 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	120.56	✓	0922	0926	✓	120.59	0.75	1st run; initial parameters; NTUs = 1.94
2	✓	✓	✓	✓	✓	✓	121.05	✓	0947	0950	✓	121.07	1.0	2nd run; Collect MW-002-023, 023MS, -023MSD; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	121.01	✓	1015	1018	✓	121.04	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 163.22 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-11 Depth: 639 ft. Date: 7-19-00

Well ID: MW-11 Sampling Zone: 5 Starting Time: 0740 Finishing Time: 0910

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 170.20 psia (End of Session): 170.68 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	170.20	✓	0749	0752	✓	170.23	0.75	1st run; initial parameters; NTUs = 0.29
2	✓	✓	✓	✓	✓	✓	170.68	✓	0816	0819	✓	170.69	1.0	2nd run; Collect MW-002-024; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	170.66	✓	0849	0851	✓	170.68	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 187.52 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-12 Depth: 140 ft. Date: 7-28-00

Well ID: MW-12 Sampling Zone: 1 Starting Time: 1345 Finishing Time: 1440

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.17 psia (End of Session): 14.13 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.17	✓	1349	1354	✓	14.13	0.75	1st run; initial parameters; NTUs = 33.6
2	✓	✓	✓	✓	✓	✓	14.17	✓	1406	1411	✓	14.14	1.0	2nd run; Collect MW-002-025; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.17	✓	1425	1433	✓	14.13	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 23.50 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-12 Depth: 243 ft. Date: 7-28-00

Well ID: MW-12 Sampling Zone: 2 Starting Time: 1240 Finishing Time: 1340

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 psia (End of Session): 14.21 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1246	1249	✓	14.22	0.75	1st run; initial parameters; NTUs = 1.70
2	✓	✓	✓	✓	✓	✓	14.21	✓	1304	1307	✓	14.23	1.0	2nd run; Collect MW-002-0264-02T; VOCs, Metals, Cr 6+
3	✓	✓	✓	✓	✓	✓	14.21	✓	1326	1330	✓	14.21	1.0	3rd run; ClO_4^-, Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 62.43 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-12 Depth: 323 ft. Date: 7-28-00

Well ID: MW-12 Sampling Zone: 3 Starting Time: 1115 Finishing Time: 1235

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 37.75 psia (End of Session): 38.29 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	37.75	✓	1128	1131	✓	37.79	0.75	1st run; initial parameters; NTUs = 0.35
2	✓	✓	✓	✓	✓	✓	38.21	✓	1155	1159	✓	38.24	1.0	2nd run; collect MW-002-028; VOCs, Metals, Cr^{tot}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	38.19	✓	1225	1229	✓	38.29	1.0	3rd run; Anions, final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 95.62

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-12 Depth: 436 ft. Date: 7-28-00

Well ID: MW-12 Sampling Zone: 4 Starting Time: 0935 Finishing Time: 1105

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 86.99 psia (End of Session): 87.46 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	86.99	✓	0944	0947	✓	87.01	0.75	1st run; initial parameters; NTUs = 0.57
2	✓	✓	✓	✓	✓	✓	87.45	✓	1009	1012	✓	87.48	1.0	2nd run; Collect MW-002-029, -029 MS, & -029 MSD; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	87.41	✓	1050	1054	✓	87.46	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 139.03 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-12 Depth: 548 ft. Date: 7-28-00

Well ID: MW-12 Sampling Zone: 5' Starting Time: 0815 Finishing Time: 0930

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 135.77 psia (End of Session): 136.23 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	135.77	✓	0823	0825	✓	135.79	0.75	1st run; initial parameters; NTUs = 1.71
2	✓	✓	✓	✓	✓	✓	136.24	✓	0849	0852	✓	136.25	1.0	2nd run; Collect MW-002-030; VOCs, Metals, Cr^{+6}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	136.22	✓	0916	0919	✓	136.23	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 161.93 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-14 Depth: 207 ft. Date: 7-20-00

Well ID: MW-14 Sampling Zone: 1 Starting Time: 1255 Finishing Time: 1345

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 19.00 psia (End of Session): 19.47 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	19.00	✓	1259	1302	✓	19.01	0.75	1st run; initial parameters; NTUs = 2.15
2	✓	✓	✓	✓	✓	✓	19.48	✓	1314	1318	✓	19.49	1.0	2nd run; Collect MW-002-033; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	19.46	✓	1331	1336	✓	19.47	1.0	3rd run; Anions; Final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 24.33 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-14 Depth: 277 ft. Date: 7-20-00

Well ID: MW-14 Sampling Zone: 2 Starting Time: 1200 Finishing Time: 1250

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 49.45 psia (End of Session): 49.93 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	49.45	✓	1205	1208	✓	49.47	0.75	1st run; initial parameters; NTUs = 3.42
2	✓	✓	✓	✓	✓	✓	49.96	✓	1221	1224	✓	49.97	1.0	2nd run; Collect MW-002-034; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	49.91	✓	1240	1243	✓	49.93	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 54.04 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-14 Depth: 382 ft. Date: 7-20-00

Well ID: MW-14 Sampling Zone: 3 Starting Time: 1100 Finishing Time: 1155

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 95.19 psia (End of Session): 95.71 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	95.19	✓	1108	1110	✓	95.23	0.75	1st run; initial parameters; NTUs = 0.15
2	✓	✓	✓	✓	✓	✓	95.74	✓	1126	1128	✓	95.76	1.0	2nd run; Collect MW-002-035; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	95.70	✓	1147	1149	✓	95.71	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 99.21 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-14 Depth: 456 ft. Date: 7-20-00

Well ID: MW-14 Sampling Zone: 4 Starting Time: 0915 Finishing Time: 1050

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 127.62 psia (End of Session): 128.05 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	Comments
1	✓	✓	✓	✓	✓	✓	127.62	✓	0920	0926	✓	127.64	0.75	1st run; initial parameters; NTUs = 0.23 -036KS, -036KSD
2	✓	✓	✓	✓	✓	✓	128.08	✓	0944	1005	✓	128.10	1.0	2nd run; Collect MW-002-036; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	128.00	✓	1028	1041	✓	128.05	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 131.31 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-14 Depth: 540 ft. Date: 7-20-00

Well ID: MW-14 Sampling Zone: 5 Starting Time: 0745 Finishing Time: 0910

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 164.29 psia (End of Session): 164.71 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	164.29	✓	0757	0803	✓	164.31	0.75	1st run; initial parameters; NTUs = 2.85
2	✓	✓	✓	✓	✓	✓	164.75	✓	0825	0830	✓	164.76	1.0	2nd run; Collect MW-002-037; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	164.68	✓	0853	0858	✓	164.71	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 167.27 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-17 Depth: 250 ft. Date: 7-17-00

Well ID: MW-17 Sampling Zone: 1 Starting Time: 1440 Finishing Time: ~~1440~~ 1545

Technicians: M. Hunt, J. Oslick

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.22 psia (End of Session): 14.21 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.22	✓	1451	1456	✓	14.22	0.75	1ST RUN TO SCREEN, INITIAL PARAMETERS NTU = 1.45
2	✓	✓	✓	✓	✓	✓	14.21	✓	1512	1517	✓	14.22	1.00	2ND RUN; COLLECT AW-002-040 VOCS, METALS, Cr^{+6}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.22	✓	1535	1540	✓	14.21	1.00	3RD RUN, ANIONS, FINAL PARAMETERS
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 28.45 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-17 Depth: 370 ft. Date: 7-17-00

Well ID: MW-17 Sampling Zone: 2 Starting Time: 1325 Finishing Time: 1435

Technicians: M. Hunt, J. Oslick

Pressure Reading Inside MP Casing in psia (Beginning of Session): 16.04 psia (End of Session): 16.65 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	16.04	✓	1333	1338	✓	16.12	0.75	1ST RUN: INITIAL PARAMETER NTU = 1.32
2	✓	✓	✓	✓	✓	✓	16.58	✓	1356	1402	✓	16.62	1.00	2ND RUN, COLLECT MW-002-041 VOC'S METALS, CO_3^{-2}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	16.56	✓	1422	1428	✓	16.65	1.00	3RD RUN, ANIONS, FINAL PARAMETERS
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 73.56 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-17 Depth: 468 ft. Date: 7-17-00

Well ID: MW-17 Sampling Zone: 3 Starting Time: 1145 Finishing Time: 1315

Technicians: M. Hunt, J. Oslick

Pressure Reading Inside MP Casing in psia (Beginning of Session): 58.70 psia (End of Session): 59.23 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	58.70	✓	1156	1203	✓	58.76	0.75	1st run; initial parameters; NTUs = 1.80
2	✓	✓	✓	✓	✓	✓	59.19	✓	1229	1235	✓	59.24	1.00	2nd run; collect MW-002-012 VOCs, metals, Cr^{+6}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	59.16	✓	1302	1308	✓	59.23	1.00	3rd run; anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 108.75 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-17 Depth: 582 ft. Date: 7-17-00

Well Name: MW-17 Sampling Zone No.: 4 Starting Time: 1010 Finishing Time: 1140

Technicians: M. Hunt, J. Oslick

Water Level Inside MP Casing (Beginning of Session) 108.38 psia (End of Session) 108.85 psia

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (~~ft~~) psi	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (~~ft~~) psi Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	108.38	✓	1019	1024	✓	108.40	0.75	1ST RUN; INITIAL PARAMETERS NTU = 1.43
2	✓	✓	✓	✓	✓	✓	108.86	✓	1051	1056	✓	108.89	1.00	2ND RUN; COLLECT MW-002-043 VOC's, METALS, CrO_4, ClO_4
3	✓	✓	✓	✓	✓	✓	108.80	✓	1128	1134	✓	108.85	1.00	3rd run; Anions; final parameters
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = ~~108.50~~ 135.94 psia

Total Volume: 2.75

F-2

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-17 Depth: 726 ft. Date: 7-17-00

Well Name: MW-17 Sampling Zone No.: 5 Starting Time: 0800 Finishing Time: 1000

Technicians M. Hunt, J. Oslick

Water Level Inside MP Casing (Beginning of Session) 171.04 psia (End of Session) 171.48 psia

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (ft) psi	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) psi Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	171.04	✓	0812	0817	✓	171.05	0.75	1st run; initial parameters; NTUs = 4.44
2	✓	✓	✓	✓	✓	✓	171.50	✓	0850	0858	✓	171.50	1.00	2nd Run; COLLECT MW-002-044; VOC's, METALS, CO_3, ClO_4
3	✓	✓	✓	✓	✓	✓	171.47	✓	0937	0943	✓	171.48	1.00	3rd Run; ANIONS; FINAL PARAMETERS.
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = 196.06 psia

Total Volume: 2.75

F-2

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-18 Depth: 270 ft. Date: 7-12-00

Well ID: MW-18 Sampling Zone: 1 Starting Time: 1450 Finishing Time: 1600

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 (End of Session): 14.20

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1456	1501	✓	14.23	0.75	1st run; initial parameters; NTUs = 0.13
2	✓	✓	✓	✓	✓	✓	14.22	✓	1520	1527	✓	14.23	1.0	2nd run; Collect MW-002-045; VOCs, Metals, Cr6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.19	✓	1545	1552	✓	14.20	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 20.90 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-18 Depth: 330 ft. Date: 7-12-00

Well ID: MW-18 Sampling Zone: 2 Starting Time: 1340 Finishing Time: 1445

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.22 (End of Session): 14.26

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.22	✓	1346	1351	✓	14.26	0.75	1st run; initial parameters; NTUs = 2.10
2	✓	✓	✓	✓	✓	✓	14.25	✓	1407	1414	✓	14.28	1.0	2nd run; Collect MW-002-046; VOCs, Metals, Co^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.25	✓	1433	1439	✓	14.26	1.0	3rd run; Anions; Final parameters
4	~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~									
5		MXD												
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 46.05 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-18 Depth: 424 ft. Date: 7-12-00

Well ID: MW-18 Sampling Zone: 3 Starting Time: 1225 Finishing Time: 1335

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 35.49 (End of Session): 35.97

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	35.49	✓	1232	1236	✓	35.51	0.75	1st run; initial parameters; NTUs = 0.11
2	✓	✓	✓	✓	✓	✓	35.97	✓	1255	1300	✓	35.99	1.0	2nd run; Collect MW-002-047; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	35.93	✓	1321	1326	✓	35.97	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 83.87 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-18 Depth: 564 ft. Date: 7-12-00

Well ID: MW-18 Sampling Zone: 4 Starting Time: 1055 Finishing Time: 1220

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 96.33 (End of Session): 96.81

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	Comments
1	✓	✓	✓	✓	✓	✓	96.33	✓	1107	1110	✓	96.35	0.75	1st run; initial parameters; NTU's = 0.40
2	✓	✓	✓	✓	✓	✓	96.81	✓	1134	1137	✓	96.82	1.0	2nd run; Collect MW-002-048, -048 MS, + -048 MSD; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	96.76	✓	1205	1208	✓	96.81	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 130.95 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-18 Depth: 684 ft. Date: 7-12-00

Well ID: MW-18 Sampling Zone: 5 Starting Time: 0920 Finishing Time: 1050

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 148.56 (End of Session): 149.061

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	148.56	✓	0932	0935	✓	148.59	0.75	1st run; initial parameters, NTU's = 1.79
2	✓	✓	✓	✓	✓	✓	149.04	✓	1002	1005	✓	149.06	1.0	2nd run; Collect MW-002-049; VOC's, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	149.00	✓	1037	1040	✓	149.01	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 176.25 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-19 Depth: 242 ft. Date: 7-13-00

Well ID: MW-19 Sampling Zone: 1 Starting Time: 1305 Finishing Time: 1355

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.26 (End of Session): 14.25

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.26	✓	1309	1312	✓	14.24	0.75	1st run; initial parameters; NTUs = 0.76
2	✓	✓	✓	✓	✓	✓	14.24	✓	1324	1327	✓	14.24	1.0	2nd run; Collect MW-002-050; VOCs, Metals, Cr6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.26	✓	1345	1350	✓	14.25	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 43.14 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-19 Depth: 314 ft. Date: 7-13-00

Well ID: MW-19 Sampling Zone: 2 Starting Time: 1155 Finishing Time: 1300

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.30 (End of Session): 14.31

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.30	✓	1202	1206	✓	14.31	0.75	1st run; initial parameters; NTUs = 0.33
2	✓	✓	✓	✓	✓	✓	14.28	✓	1222	1228	✓	14.31	1.0	2nd run; Collect MW-002-051; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.2~~2~~9	✓	1248	1253	✓	14.31	1.0	3rd run; Anions; final parameters
4							MW-19							
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 68.65 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-19 Depth: 392 ft. Date: 7-13-00

Well ID: MW-19 Sampling Zone: 3 Starting Time: 1040 Finishing Time: 1150

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 33.18 (End of Session): 33.66

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	33.18	✓	1050	1053	✓	33.20	0.75	1st run; initial parameters; NTUs = 5.44
2	✓	✓	✓	✓	✓	✓	33.67	✓	1112	1117	✓	33.68	1.0	2nd run; Collect MW-002-052; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	33.62	✓	1137	1142	✓	33.66	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 100.36 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-19 Depth: 444 ft. Date: 7-13-00

Well ID: MW-19 Sampling Zone: 4 Starting Time: 0910 Finishing Time: 1035

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 55.82 (End of Session): 56.30

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	55.82	✓	0921	0923	✓	55.84	0.75	1st run; initial parameters; NTUs = 2.31
2	✓	✓	✓	✓	✓	✓	56.32	✓	0945	0952	✓	56.30	1.0	2nd run; Collect MW-002-053; -053MS, +-053MSD; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	56.25	✓	1022	1027	✓	56.30	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 80.30 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-19 Depth: 498 ft. Date: 7-13-00

Well ID: MW-19 Sampling Zone: 5 Starting Time: 0750 Finishing Time: 0905

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 79.41 (End of Session): 79.87

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	79.41	✓	0758	0802	✓	79.42	0.75	1st run; initial parameters; NTUs = 0.18
2	✓	✓	✓	✓	✓	✓	79.88	✓	0825	0830	✓	79.90	1.0	2nd run; Collect MW-002-054; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	79.84	✓	0852	0857	✓	79.87	1.0	3rd run; Anions; Final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 101.95 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 230 ft. Date: 7-18-00

Well ID: MW-20 Sampling Zone: 1 Starting Time: 1345 Finishing Time: 1440

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.22 psia (End of Session): 14.22 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	~~✓~~ 14.22 (mdl)	✓	1352	1356	✓	14.23	0.75	1st run; initial parameters; NTUs = 0.23
2	✓	✓	✓	✓	✓	✓	14.21	✓	1408	1414	✓	14.22	1.0	2nd run; Collect MW-002-055; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.20	✓	1429	1435	✓	14.22	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 21.40 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 392 ft. Date: 7-18-00

Well ID: MW-20 Sampling Zone: 2 Starting Time: 1240 Finishing Time: 1340

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 42.23 psia (End of Session): 42.91 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	42.23	✓	1246	1248	✓	42.25	0.75	1st run; initial parameters; NTUs = 0.03
2	✓	✓	✓	✓	✓	✓	42.67	✓	1310	1314	✓	42.72	1.0	2nd run; Collect MW-002-056; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	42.87	✓	1333	1336	✓	42.91	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 90.86 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 562 ft. Date: 7-18-00

Well ID: MW-20 Sampling Zone: 3 Starting Time: 1120 Finishing Time: 1235

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 116.18 psia (End of Session): 116.68 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	116.18	✓	1132	1134	✓	116.21	0.75	1st run; initial parameters; NTUs = 0.07
2	✓	✓	✓	✓	✓	✓	116.65	✓	1156	1158	✓	116.70	1.0	2nd run; Collect MW-002-057; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	116.63	✓	1221	1224	✓	116.68	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 153.17 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 700 ft. Date: 7-18-00

Well ID: MW-20 Sampling Zone: 4 Starting Time: 0950 Finishing Time: 1115

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 176.29 psia (End of Session): 176.72 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	176.29	✓	1002	1004	✓	176.27	0.75	1st run; initial parameters; NTUs = 1.55 -058MS, -058MSD
2	✓	✓	✓	✓	✓	✓	176.76	✓	1029	1032	✓	176.78	1.0	2nd run; Collect (MW-002-058); VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	176.69	✓	1103	1105	✓	176.72	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 210.43 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 900 ft. Date: 7-18-00

Well ID: MW-20 Sampling Zone: 5 Starting Time: 0800 Finishing Time: ~~0950~~ 0945

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 263.36 psia (End of Session): 263.72 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	263.36	✓	0815	0819	✓	263.37	0.75	1st run; initial parameters; NTUs = 2.30
2	✓	✓	✓	✓	✓	✓	263.75	✓	0851	0854	✓	263.72	1.0	2nd run; Collect MW-002-059; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	263.70	✓	0928	0930	✓	263.72	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 312.70 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 90 ft. Date: 7-14-00

Well Name: MW-21 Sampling Zone No.: 1 Starting Time: 1205 Finishing Time: 1250

Technicians: M. Hunt

Water Level Inside MP Casing (Beginning of Session) 14.24 psia (End of Session) 14.22

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (ft) psi	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) psi Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.24	✓	1208	1212	✓	14.23	0.75	1st run; initial parameters; NTUs = 0.24
2	✓	✓	✓	✓	✓	✓	14.23	✓	1221	1227	✓	14.24	1.0	2nd run; Collect MW-002-060; VOCs, Metals, Cr6+, CCl4
3	✓	✓	✓	✓	✓	✓	14.22	✓	1238	1245	✓	14.22	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = 21.74 psia

Total Volume: 2.75

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 161 ft. Date: 7-14-00

Well Name: MW-21 Sampling Zone No.: 2 Starting Time: 1110 Finishing Time: 1200

Technicians M. Hunt

Water Level Inside MP Casing (Beginning of Session) 34.55 psia (End of Session) 35.02 psia

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (~~ft~~ psi)	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (~~ft~~ psi) Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	34.55	✓	1113	1119	✓	34.56	0.75	1st run; initial parameters; NTUs = 0.76
2	✓	✓	✓	✓	✓	✓	35.04	✓	1130	1136	✓	35.06	1.0	2nd run; Collect MW-002-061; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	34.98	✓	1149	1155	✓	35.02	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = 52.33 psia

Total Volume: 2.75

F-2

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 240 ft. Date: 7-14-00

Well Name: MW-21 Sampling Zone No.: 3 Starting Time: 1015 Finishing Time: 1105

Technicians M. Hunt

Water Level Inside MP Casing (Beginning of Session) 68.98 psia (End of Session) 69.47

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (ft) psi	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) psi Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	68.98	✓	1017	1021	✓	69.00	0.75	1st run; initial parameters; NTUs = 1.24
2	✓	✓	✓	✓	✓	✓	69.46	✓	1034	1039	✓	69.49	1.0	2nd run; Collect MW-002-062; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	69.43	✓	1054	1059	✓	69.47	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = 86.25 psia

Total Volume: 2.75

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 310 ft. Date: 7-14-00

Well Name: MW-21 Sampling Zone No.: 4 Starting Time: 0910 Finishing Time: 1010

Technicians M. Hunt

Water Level Inside MP Casing (Beginning of Session) 99.06 psia (End of Session) 99.51 psia

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (ft) psi	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) psi Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	99.06	✓	0916	0918	✓	99.07	0.75	1st run; initial parameters; NTUs = 6.20
2	✓	✓	✓	✓	✓	✓	99.52	✓	0933	0937	✓	99.55	1.0	2nd run; Collect MW-002-063; VOCs, Metals, Cr^{6+}, CCl_4^- 4-063MS, 4-063MSD
3	✓	✓	✓	✓	✓	✓	99.49	✓	0957	1001	✓	99.51	1.0	3rd run; Anions; Final parameters
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = 115.99 psia

Total Volume: 2.75

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 372 ft. Date: 7-14-00

Well Name: MW-21 Sampling Zone No.: 5 Starting Time: 0755 Finishing Time: 0905

Technicians M. Hunt

Water Level Inside MP Casing (Beginning of Session) 126.11 psia (End of Session) 126.59 psia

Run No.	Surface Function Checks					Position Sampler	Surface Collection Checks							Comments
	Activate	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Water Level in MP (ft) psi	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) psi Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	126.11	✓	0802	0806	✓	126.13	0.75	1st run; initial parameters; NTUs = 3.01
2	✓	✓	✓	✓	✓	✓	126.58	✓	0824	0830	✓	126.59	1.0	2nd run; Collect MW-002-064; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	126.56	✓	0851	0856	✓	126.59	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Pressure outside MP casing = 142.83 psia

Total Volume: 2.75

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 245 ft. Date: 7-21-00

Well ID: MW-22 Sampling Zone: 1 Starting Time: 1225 Finishing Time: 1325

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.19 psia (End of Session): 14.17 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.19	✓	1233	1235	✓	14.20	0.75	1st run; initial parameters; NTUs = 15.75
2	✓	✓	✓	✓	✓	✓	14.12	✓	1252	1255	✓	14.19	1.0	2nd run; Collect MW-002-065; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.16	✓	1312	1316	✓	14.17	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 36.94 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 329 ft. Date: 7-21-00

Well ID: MW-22 Sampling Zone: 2 Starting Time: 1125 Finishing Time: 1220

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 38.45 psia (End of Session): 39.23 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	38.45	✓	1132	1135	✓	38.49	0.75	1st run; initial parameters; NTUs = ~~4.58~~ 0.55
2	✓	✓	✓	✓	✓	✓	39.06	✓	1151	1154	✓	39.09	1.0	2nd run; Collect MW-002-066; VOCs, Metals, Cr^{6+}; ClO_4^-
3	✓	✓	✓	✓	✓	✓	39.18	✓	1212	1215	✓	39.23	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 71.83 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 389 ft. Date: 7-21-00

Well ID: MW-22 Sampling Zone: 3 Starting Time: 1020 Finishing Time: 1120

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 64.46 psia (End of Session): 65.00 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	64.46	✓	1027	1030	✓	64.49	0.75	1st run; initial parameters; NTUs = 0.46
2	✓	✓	✓	✓	✓	✓	64.98	✓	1047	1050	✓	65.01	1.0	2nd run; Collect MW-002-067; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	64.96	✓	1110	1113	✓	65.00	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 97.91 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 467 ft. Date: 7-21-00

Well ID: MW-22 Sampling Zone: 4 Starting Time: 0905 Finishing Time: 1015

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 98.34 psia (End of Session): 98.93 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	98.34	✓	0916	0919	✓	98.37	0.75	1st run; initial parameters; NTUs = 0.81
2	✓	✓	✓	✓	✓	✓	98.94	✓	0939	0942	✓	98.95	1.0	2nd run; Collect MW-002-068, -068MS, + -068MSD; VOCs, Metals, C_6H_6, ClO_4^-
3	✓	✓	✓	✓	✓	✓	98.90	✓	1004	1007	✓	98.93	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 124.27 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 588 ft. Date: 7-21-00

Well ID: MW-22 Sampling Zone: 5 Starting Time: 0745 Finishing Time: 0900

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 150.47 psia (End of Session): 151.28 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	150.47	✓	0754	0756	✓	150.49	0.75	1st run; initial parameters; NTUs = 0.44
2	✓	✓	✓	✓	✓	✓	151.11	✓	0821	0824	✓	151.14	1.0	2nd run; Collect MW-002-069; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	151.24	✓	0848	0850	✓	151.28	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 172.15 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 174 ft. Date: 7-27-00

Well ID: MW-23 Sampling Zone: 1 Starting Time: 1200 Finishing Time: 1245

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.17 psia (End of Session): 14.16 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.17	✓	1204	1207	✓	14.16	0.75	1st run; initial parameters; NTUs = 1305
2	✓	✓	✓	✓	✓	✓	14.15	✓	1219	1222	✓	14.16	1.0	2nd run; Collect MW-002-070; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.16	✓	1235	1239	✓	14.16	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 34.26 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 254 ft. Date: 7-27-00

Well ID: MW-23 Sampling Zone: 2 Starting Time: 1105 Finishing Time: 1155

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 35.00 psia (End of Session): 35.52 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	35.00	✓	1109	1111	✓	35.05	0.75	1st run; initial parameters; NTUs = 1.74
2	✓	✓	✓	✓	✓	✓	35.52	✓	1123	1125	✓	35.53	1.0	2nd run; Collect MW-002-071; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	35.49	✓	1142	1144	✓	35.52	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 66.41 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 319 ft. Date: 7-27-00

Well ID: MW-23 Sampling Zone: 3 Starting Time: 1005 Finishing Time: 1100

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 63.24 psia (End of Session): 63.78 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	63.24	✓	1010	1012	✓	63.29	0.75	1st run; initial parameters; NTUs = 2.71
2	✓	✓	✓	✓	✓	✓	63.78	✓	1026	1029	✓	63.81	1.0	2nd run; Collect MW-002-072; VOCs, Metals, Cr6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	63.74	✓	1045	1048	✓	63.78	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 94.28 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 445 ft. Date: 7-27-00

Well ID: MW-23 Sampling Zone: 4 Starting Time: 0855 Finishing Time: 1000

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 118.06 psia (End of Session): 118.55 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	118.06	✓	0901	0903	✓	118.08	0.75	1st run; initial parameters; NTUs = 0.83
2	✓	✓	✓	✓	✓	✓	118.57	✓	0922	0924	✓	118.59	1.0	2nd run; Collect MW-002-073, -073MS, + 073MSD; VOCs, Metals, Cr6+, ClO4-
3	✓	✓	✓	✓	✓	✓	118.52	✓	0949	0951	✓	118.55	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 139.70 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 542 ft. Date: 7-27-00

Well ID: MW-23 Sampling Zone: 5 Starting Time: 0735 Finishing Time: 0850

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 160.28 psia (End of Session): 160.73 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	160.28	✓	0743	0745	✓	160.28	0.75	1st run; initial parameters; NTUs = 1.36
2	✓	✓	✓	✓	✓	✓	160.75	✓	0808	0811	✓	160.77	1.0	2nd run; Collect MW-002-074; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	160.72	✓	0836	0838	✓	160.73	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 181.60 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 279 ft. Date: 8-1-00

Well ID: MW-24 Sampling Zone: 1 Starting Time: 0755 Finishing Time: 0940

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.18 psia (End of Session): 14.21 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.18	✓	0800	0804	✓	14.21	0.75	1st run; initial parameters; NTUs = 0.82
2	✓	✓	✓	✓	✓	✓	14.18	✓	0821	0827	✓	14.22	1.0	2nd run; Collect MW-002-075; VOCs, 1,4-Dioxane
3	✓	✓	✓	✓	✓	✓	14.20	✓	0846	0852	✓	14.23	1.0	3rd run; NDMA
4	✓	✓	✓	✓	✓	✓	14.20	✓	0906	0912	✓	14.23	1.0	4th run; Metals, Cr6+
5	✓	✓	✓	✓	✓	✓	14.18	✓	0927	0931	✓	14.21	1.0	5th run; ClO_4^-, Anions; final parameters
6													~~1.0~~ MGH	
7														
8														

Total Volume: 4.75

Comments: Pressure Outside MP Casing = 39.67 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 37.3 ft. Date: 7-31-00

Well ID: MW-24 Sampling Zone: 2 Starting Time: 1335 Finishing Time: ~~1445~~ 1445 (MMH)

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 36.55 psia (End of Session): 37.07 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	36.55	✓	1342	1345	✓	36.59	0.75	1st run; initial parameters; NTUs = 14.08 (MMH)
2	✓	✓	✓	✓	✓	✓	37.07	✓	1403	1407	✓	37.09	1.0	2nd run; Collect ~~MW~~ MW-002-016; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	37.05	✓	1425	1430	✓	37.07	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 77.18 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 435 ft. Date: 7-31-00

Well ID: MW-24 Sampling Zone: 3 Starting Time: 1210 Finishing Time: 1330

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 63.58 psia (End of Session): 64.08 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	63.58	✓	1221	1225	✓	63.60	0.75	1st run; initial parameters; NTUs = 6.85
2	✓	✓	✓	✓	✓	✓	64.06	✓	1245	1249	✓	64.09	1.0	2nd run; Collect MW-002-077; VOCs, Metals, Cr 6+, ClO_4^-
3	✓	✓	✓	✓	✓	✓	64.05	✓	1312	1316	✓	64.08	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 102.82 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 554 ft. Date: 7-31-00

Well ID: MW-24 Sampling Zone: 4 Starting Time: 1045 Finishing Time: 1205

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 115.36 psia (End of Session): 115.83 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	115.36	✓	1056	1059	✓	115.38	0.75	1st run; initial parameters; NTUs = 4.88 -078MS, +-078MSD
2	✓	✓	✓	✓	✓	✓	115.83	✓	1123	1126	✓	115.85	1.0	2nd run; Collect MW-002-078; VOCs, Metals, Cr6+
3	✓	✓	✓	✓	✓	✓	115.81	✓	1152	1155	✓	115.83	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 144.18 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 678 ft. Date: 7-31-00

Well ID: MW-24 Sampling Zone: 5 Starting Time: 0910 Finishing Time: 1040

Technicians: M. Hunt

Pressure Reading Inside MP Casing in psia (Beginning of Session): 169.29 psia (End of Session): 169.73 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	169.29	✓	0922	0924	✓	169.30	0.75	1st run; initial parameters; NTUs = 16.10
2	✓	✓	✓	✓	✓	✓	169.74	✓	0957	1000	✓	169.77	1.0	2nd run; Collect MW-002-079; VOCs, Metals, Cr^{6+}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	169.71	✓	1027	1030	✓	169.73	1.0	3rd run; Anions; final parameters
4														
5														
6														
7														
8														

Total Volume: 2.75

Comments: Pressure Outside MP Casing = 188.50 psia

APPENDIX C

FIELD INSTRUMENT CALIBRATION FORMS

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: Jeff Osuch Date: 7/12/00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6861 Calibration Date: 7/12/00

STANDARDIZATION

Time: 0905 Scale: 10 Zero: YES Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1607 Scale: 10 Zero: YES Stray Light: N/A
Standard NTU: 0.02 Reading: -0.04
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL

Standardization by: Jeffrey Osborn Date: 7/13/00

Instrument Manufacturer: HF Scientific Model: DRT-15CE

Serial Number: 6801 (Hach) Calibration Date: 7/13/00

STANDARDIZATION

Time: 0731 Scale: 10 Zero: Zero Stray Light: N/A

Standard NTU: 0.02 Reading: 0.02

Standard NTU: Reading:

Time: 1107 Scale: 10 Zero: Zero Stray Light: N/A

Standard NTU: 0.02 Reading: 0.73 Pre-Calibration

Standard NTU: 0.02 Reading: 0.02 Post Calibration

Time: 1402 Scale: 10 Zero: Zero Stray Light: N/A

Standard NTU: 0.02 Reading: 0.00

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: M. Hunt Date: 7-14-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 7-14-00

STANDARDIZATION

Time: 0750 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1255 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.01
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: IPL

Standardization by: J. Oblick Date: 7/17/00

Instrument Manufacturer: HF Scientific Model: DRT-15CE

Serial Number: 6881 Calibration Date: 7/17/00

STANDARDIZATION

Time: 0750 Scale: 10 Zero: ~~Zero~~ Yes (initial) Stray Light: NA

Standard NTU: 0.02 Reading: 0.02

Standard NTU: Reading:

Time: 1550 Scale: 10 Zero: Yes Stray Light: NA

Standard NTU: 0.02 Reading: -0.02

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: E. Schmeyer Date: 7-15-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 7-15-00

STANDARDIZATION

Time: 7:53 am Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1445 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: -0.01
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: Elizabeth Schneuer Date: 7/19/00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: HZCO 6881 Calibration Date: 7/19/00

STANDARDIZATION

Time: 0735 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: ~~1355~~ (N/A) Reading:

Time: 1355 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL

Standardization by: Jeff Osuck Date: 7/20/00

Instrument Manufacturer: HF SCIENTIFIC Model: ~~HF~~ DRT-15CE

Serial Number: 6881 Hach Calibration Date: 7/20/00

STANDARDIZATION

Time: 0745 Scale: 10 Zero: zero Stray Light: N/A

Standard NTU: 0.02 Reading: 0.02

Standard NTU: Reading:

Time: 1350 Scale: 10 Zero: zero Stray Light: N/A

Standard NTU: 0.02 Reading: 0.00

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Time: Scale: Zero: Stray Light:

Standard NTU: Reading:

Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: Elizabeth Schneyer Date: 7/21/00
Instrument Manufacturer: HF Scientific Inc Model: DRT-15CE
Serial Number: HRZCO 6881 Calibration Date: 7/21/00

STANDARDIZATION

Time: 0740 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1330 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.05
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: M. Hunt Date: 7-25-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 7-25-00

STANDARDIZATION

Time: 0740 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1325 Scale: 10 Zero: OK Stray Light: NA
Standard NTU: 0.02 Reading: -0.07
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: Elizabeth Schneyer Date: 7/26/00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 7/26/00

STANDARDIZATION

Time: 0730 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1255 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.01
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: J. Osuna Date: 7/27/00
Instrument Manufacturer: HF SCIENTIFIC Model: DRT-15CE
Serial Number: 0881 HAZ0 Calibration Date: 7/27/00

STANDARDIZATION

Time: 0740 Scale: 10 Zero: ϕ Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1255 Scale: 10 Zero: ϕ Stray Light: N/A
Standard NTU: 0.02 Reading: -0.05
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: E. Schmeyer Date: 7/28/00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 7/25/00

STANDARDIZATION

Time: 0720 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1425 Scale: 10 Zero: OK Stray Light: N/A
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: M. Hunt Date: 7-31-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 7-31-00

STANDARDIZATION

Time: 0900 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1450 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: M. Hunt Date: 8-1-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 8-1-00

STANDARDIZATION

Time: 0750 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1540 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.04
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: H. Hunt Date: 8-2-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 8-2-00

STANDARDIZATION

Time: 0810 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1450 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.03
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: M. Hecht Date: 8-3-00
Instrument Manufacturer: HF Scientific Model: PRT-15CE
Serial Number: 6981 Calibration Date: 8-3-00

STANDARDIZATION

Time: 0740 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1450 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.03
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL
Standardization by: M. Hunt Date: 8-4-00
Instrument Manufacturer: HF Scientific Model: DRT-15CE
Serial Number: 6881 Calibration Date: 8-4-00

STANDARDIZATION

Time: 0655 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.02
Standard NTU: Reading:

Time: 1020 Scale: 10 Zero: Yes Stray Light: NA
Standard NTU: 0.02 Reading: 0.03
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Time: Scale: Zero: Stray Light:
Standard NTU: Reading:
Standard NTU: Reading:

Comments:

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: J. Oslick Date: 7-12-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/20/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0805 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 17.4 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0805 Slope: N/A Temperature: 17.7 C

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1607 Slope: N/A Temperature: 27.8

Response to Low Buffer: 7.00 Response to High Buffer: 9.94

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: JEFF [illegible] Date: 7/13/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99HS17052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/20/01 pH 10.00: 1/12/00

INSTRUMENTATION CHECK-OUT

Time: 0731 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 001 Temperature: 16.4 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0731 Slope: N/A Temperature: 14.5

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1402 Slope: N/A Temperature: ~~37.7~~ 31.7

Response to Low Buffer: 7.00 Response to High Buffer: 9.92

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: M. Hunt Date: 7-14-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93C09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99HS17052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0750 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 17.9 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition:

FIELD CALIBRATION

Time: 0800 Slope: N/A Temperature: 14.9

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1255 Slope: N/A Temperature: 31.2

Response to Low Buffer: 7.03 Response to High Buffer: 9.83

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: Josick Date: 7/17/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: ~~5689~~ 93C09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/20/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0750 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 004 Temperature: 24.3 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0750 Slope: N/A Temperature: 19.9

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1550 Slope: N/A Temperature: 33.3

Response to Low Buffer: 7.11 Response to High Buffer: 9.99

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: E. Schmeyer Date: 7/18/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H517052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 7:53 am Battery Condition: good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 25.9 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: good

FIELD CALIBRATION

Time: 8:05 Slope: N/A Temperature: 19.5

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1445 Slope: N/A Temperature: 34.4

Response to Low Buffer: 7.09 Response to High Buffer: 10.10

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: Elizabeth Schmeyer Date: 7/19/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: ~~93L09994~~ 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0735 Battery Condition: OK

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 21.2 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: OK

FIELD CALIBRATION

Time: 0735 Slope: N/A Temperature: 20.05

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: ~~0735~~ 1355 Slope: N/A Temperature: 40.7

Response to Low Buffer: 7.05 Response to High Buffer: 10.10

Time: ~~0735~~ Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: Jeff Ouck Date: 7/20/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H517052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0745 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 22.3 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0745 Slope: N/A Temperature: 19.0

Response to Low Buffer: 7.00 Response to High Buffer: 10.0

Time: 1350 Slope: N/A Temperature: 36.5

Response to Low Buffer: 6.98 Response to High Buffer: 9.75

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: E. Schneyer Date: 7/21/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99 # 817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0740 Battery Condition: OK

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 21.0 pH: 6.88

Reference Chamber Solution Changed?: N/A

pH Probe Condition: OK

FIELD CALIBRATION

Time: 0740 Slope: N/A Temperature: 15.9

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1330 Slope: N/A Temperature: 30.1

Response to Low Buffer: 7.17 Response to High Buffer: 10.05

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: E. Schnever Date: 7-25-00

Instrument Manufacturer: YSI 3500 Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 94A817052

ATC Probe Manufacturer: YSI (YSI) Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0740 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 20.7 pH: 7.01

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0740 Slope: N/A Temperature: 21.1

Response to Low Buffer: 7.00 Response to High Buffer: 10.02

Time: 1325 Slope: N/A Temperature: 34.7

Response to Low Buffer: 7.18 Response to High Buffer: 10.08

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: E. Schneyer Date: 7/26/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A 94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/01 pH 7.00: 12/01 pH 10.00: 11/00

INSTRUMENTATION CHECK-OUT

Time: 0730 Battery Condition: OK

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 19.3 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: OK

FIELD CALIBRATION

Time: 0730 Slope: N/A Temperature: 18.5

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1255 Slope: N/A Temperature: 32.5

Response to Low Buffer: 7.14 Response to High Buffer: 10.05

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: J. Osuick Date: 7/27/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/29/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0740 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 18.9 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0740 Slope: N/A Temperature: 16.9

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1255 Slope: N/A Temperature: 37.5

Response to Low Buffer: 7.02 Response to High Buffer: 9.86

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: E. Schneyer Date: 7/28/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/01 pH 7.00: 12/01 pH 10.00: 11/00

INSTRUMENTATION CHECK-OUT

Time: 0720 Battery Condition: OK

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 20.3 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: OK

FIELD CALIBRATION

Time: 0720 Slope: N/A Temperature: 16.7

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1445 Slope: N/A Temperature: 37.3

Response to Low Buffer: 7.26 Response to High Buffer: 10.08

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: M. Hunt Date: 7-31-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H 817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0900 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 23.1 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0900 Slope: N/A Temperature: 22.4

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1450 Slope: N/A Temperature: 35.1

Response to Low Buffer: 7.05 Response to High Buffer: 9.95

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: M. Hunt Date: 8-1-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93C09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0750 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 26.6 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0750 Slope: N/A Temperature: 24.2

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1540 Slope: N/A Temperature: 36.8

Response to Low Buffer: 7.05 Response to High Buffer: 9.96

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: M. Hunt Date: 8-2-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0810 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 22.2 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0810 Slope: N/A Temperature: 21.2

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1450 Slope: N/A Temperature: 37.1

Response to Low Buffer: 7.01 Response to High Buffer: 9.99

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: M. Hunt Date: 8-3-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H817052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0740 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 22.3 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0740 Slope: N/A Temperature: 20.1

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1450 Slope: N/A Temperature: 33.7

Response to Low Buffer: 7.00 Response to High Buffer: 9.89

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory

Calibration by: M. Hunt Date: 8-4-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

pH Probe Manufacturer: YSI Model: 3530

Serial Number: 99H517052

ATC Probe Manufacturer: YSI Model: 3510

Serial Number: 95A94402

Buffer Solution Manufacturer: Calitech

Expiration Dates of Buffer Solutions: pH 4.00: 3/19/01 pH 7.00: 12/28/01 pH 10.00: 11/12/00

INSTRUMENTATION CHECK-OUT

Time: 0655 Battery Condition: Good

Instrument Readings with Shorting Plug in, mV: 000 Temperature: 16.8 pH: 7.00

Reference Chamber Solution Changed?: N/A

pH Probe Condition: Good

FIELD CALIBRATION

Time: 0655 Slope: N/A Temperature: 18.5

Response to Low Buffer: 7.00 Response to High Buffer: 10.00

Time: 1020 Slope: N/A Temperature: 24.5

Response to Low Buffer: 6.97 Response to High Buffer: 9.87

Time: Slope: N/A Temperature:

Response to Low Buffer: Response to High Buffer:

Comments:

The calibration of the pH probe (YSI 3530) is to an accuracy of ± 0.05 pH units.
The YSI 3500 (pH/temperature/EC meter) will not calibrate properly without a pH probe that has a slope from 80-100%.

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: Jeff Osuna Date: 7/12/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 µS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0805 Temperature of Solution: 17.6 °C

Instrument Response to Calibration Solution: 872 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 858 µS/cm

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1607 Temperature of Solution: 33.2°C

Instrument Response to Calibration Solution: 1,169 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1162

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: Jeff Osuna Date: 7/13/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 µS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0731 Temperature of Solution: 14.5 °C

Instrument Response to Calibration Solution: 803 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 801

Probe Constant: 1.00 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1402 Temperature of Solution: 30.7 °C

Instrument Response to Calibration Solution: 1136 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1132

Probe Constant: 1.00 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: Jeff Osuna Date: 7/14/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0800 Temperature of Solution: 15.4 °C

Instrument Response to Calibration Solution: 817 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 817

Probe Constant: 1.00 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1255 Temperature of Solution: 31.8 °C

Instrument Response to Calibration Solution: 1,142 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1134

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: J. Osuck Date: 7/17/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93U9994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0750 Temperature of Solution: 19.8 °C

Instrument Response to Calibration Solution: 911 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 900

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1550 Temperature of Solution: 34.0 °C

Instrument Response to Calibration Solution: 1135 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1179

Probe Constant: 1.04 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: E. Schneyer Date: 7/18/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 7:53 am ~~6:10 am~~ Temperature of Solution: 20.1 °C

Instrument Response to Calibration Solution: 907 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 906

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1445 Temperature of Solution: ~~33~~ 34.3 °C

Instrument Response to Calibration Solution: 1195 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1185

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: Elizabeth Schneyer Date: 7/19/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0735 Temperature of Solution: 19.7 °C

Instrument Response to Calibration Solution: 916 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 889

Probe Constant: 0.97 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1355 Temperature of Solution: 42.5 °C

Instrument Response to Calibration Solution: 1371 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1354

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: JEFF OSLICK Date: 7/20/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0745 Temperature of Solution: 19.0 °C

Instrument Response to Calibration Solution: 927 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 885

Probe Constant: 0.95 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1350 Temperature of Solution: 36.8 °C

Instrument Response to Calibration Solution: 1,267 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1236

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: E. Schneyer Date: 7/21/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0740 Temperature of Solution: ~~17.0~~ 16.1 °C

Instrument Response to Calibration Solution: 850 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 830

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1330 Temperature of Solution: 30.6 °C

Instrument Response to Calibration Solution: 1120 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1110

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: E. Schmeyer Date: 7-25-00

Instrument Manufacturer: YSI 3500 Model: 3500

Serial Number: 93L09944

Probe Manufacturer: YSI Model: 3520

Serial Number: 99AE218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0740 Temperature of Solution: 20.4 °C

Instrument Response to Calibration Solution: 935 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 912

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1325 Temperature of Solution: ~~34~~ 35.7 °C

Instrument Response to Calibration Solution: 1227 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1203

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: E. Schneyer Date: 7/26/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0730 Temperature of Solution: 18.8 °C

Instrument Response to Calibration Solution: 903 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 881

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1255 Temperature of Solution: 32.9 °C

Instrument Response to Calibration Solution: 1186 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1156

Probe Constant: 0.97 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: J. Osuck Date: 7/27/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0740 Temperature of Solution: 17.6 °C

Instrument Response to Calibration Solution: 879 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 858

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1255 Temperature of Solution: 38.0 °C

Instrument Response to Calibration Solution: 1296 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1260

Probe Constant: 0.97 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: E. Schmeyer Date: 7/28/00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0720 Temperature of Solution: 17.0 °C

Instrument Response to Calibration Solution: 860 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 847

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1445 Temperature of Solution: 37.6 °C

Instrument Response to Calibration Solution: 1278 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1252

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: M. Hunt Date: 7-31-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 09/01

FIELD CALIBRATION

Time: 0900 Temperature of Solution: 22.0 °C

Instrument Response to Calibration Solution: 970 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 942

Probe Constant: 0.97 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1450 Temperature of Solution: 35.8 °C

Instrument Response to Calibration Solution: 1261 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1215

Probe Constant: 0.96 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: M. Hunt Date: 8-1-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M021S

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0750 Temperature of Solution: 24.5 °C

Instrument Response to Calibration Solution: 998 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 990

Probe Constant: 0.99 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1540 Temperature of Solution: 36.7 °C

Instrument Response to Calibration Solution: 1225 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1234

Probe Constant: 1.01 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: M. Hunt Date: 5-2-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0810 Temperature of Solution: 21.0 °C

Instrument Response to Calibration Solution: 960 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 923

Probe Constant: 0.96 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1450 Temperature of Solution: 39.0 °C

Instrument Response to Calibration Solution: 1286 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1281

Probe Constant: 1.00 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: M. Hunt Date: 8-3-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99MC218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0740 Temperature of Solution: 19.5 °C

Instrument Response to Calibration Solution: 936 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 894

Probe Constant: 0.96 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1450 Temperature of Solution: 34.5 °C

Instrument Response to Calibration Solution: 1216 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1189

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

ELECTRICAL CONDUCTIVITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: Jet Propulsion Laboratory Laboratory

Calibration by: M. Hunt Date: 5-4-00

Instrument Manufacturer: YSI Model: 3500

Serial Number: 93L09994

Probe Manufacturer: YSI Model: 3520

Serial Number: 99M0218

Calibration Solution Manufacturer: YSI

Solution Conductivity: 1000 mS/cm (@ 25 °C) Solution Expiration Date: 9/01

FIELD CALIBRATION

Time: 0655 Temperature of Solution: 18.8 °C

Instrument Response to Calibration Solution: 899 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 881

Probe Constant: 0.98 Instrument Response within Limits of Error** Yes: ✓ No: ____

Time: 1020 Temperature of Solution: 25.1 °C

Instrument Response to Calibration Solution: 1042 µS/cm

Temperature Compensated Solution Conductivity (µ S/cm)*: 1002

Probe Constant: 0.96 Instrument Response within Limits of Error** Yes: ✓ No: ____

*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:

Conductivity (µS/cm) = (Conductivity at 25 °C) (A + BT + CT^2)

Where T = Temperature in °C

And

Conductivity @ 25 °C (µ S/cm)	A	B	C
1,000	0.5407	0.0173	0.000043
10,000	0.5538	0.0168	0.000042
100,000	0.5825	0.0157	0.000040

Probe Constant = Temperature Compensated Solution Conductivity/Instrument Response

**Instrument response is within 6% error if probe constant is: $0.94 \geq x \leq 1.06$

APPENDIX D

LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY FORMS

ANALYTICAL RESULTS INDEX

GROUNDWATER SAMPLES

Well Number	Report Number	Sample Number	Tab Number	Date Sampled
MW-1	68578	MW-002-001	16	8/3/2000
MW-3-1	68237	MW-002-002	9	7/25/2000
MW-3-2	68237	MW-002-003	9	7/25/2000
MW-3-3	68237	MW-002-004	9	7/25/2000
MW-3-4	68237	MW-002-005	9	7/25/2000
MW-3-5	68237	MW-002-006	9	7/25/2000
MW-4-1	68272	MW-002-007	10	7/26/2000
MW-4-2	68272	MW-002-008	10	7/26/2000
MW-4-2 Dup	68272	MW-002-009	10	7/26/2000
MW-4-3	68272	MW-002-010	10	7/26/2000
MW-4-4	68272	MW-002-011	10	7/26/2000
MW-4-5	68272	MW-002-012	10	7/26/2000
MW-5	68567	MW-002-013	15	8/2/2000
MW-6	68567	MW-002-014	15	8/2/2000
MW-7	68504	MW-002-015	14	8/1/2000
MW-8	68625	MW-002-016	17	8/4/2000
MW-9	68578	MW-002-017	16	8/3/2000
MW-10	68625	MW-002-018	17	8/4/2000
MW-10 Dup	68625	MW-002-019	17	8/4/2000
MW-11-1	68038	MW-002-020	6	7/19/2000
MW-11-2	68038	MW-002-021	6	7/19/2000
MW-11-3	68038	MW-002-022	6	7/19/2000
MW-11-4	68038	MW-002-023	6	7/19/2000
MW-11-5	68038	MW-002-024	6	7/19/2000
MW-12-1	68403	MW-002-025	12	7/28/2000
MW-12-2	68403	MW-002-026	12	7/28/2000
MW-12-2 Dup	68403	MW-002-027	12	7/28/2000
MW-12-3	68403	MW-002-028	12	7/28/2000
MW-12-4	68403	MW-002-029	12	7/28/2000
MW-12-5	68403	MW-002-030	12	7/28/2000
MW-13	68567	MW-002-031	15	8/2/2000
MW-13 Dup	68567	MW-002-032	15	8/2/2000
MW-14-1	68096	MW-002-033	7	7/20/2000
MW-14-2	68096	MW-002-034	7	7/20/2000
MW-14-3	68096	MW-002-035	7	7/20/2000
MW-14-4	68096	MW-002-036	7	7/20/2000
MW-14-5	68096	MW-002-037	7	7/20/2000
MW-15	68578	MW-002-038	16	8/3/2000
MW-16	68504	MW-002-039	14	8/1/2000
MW-17-1	67974	MW-002-040	4	7/17/2000
MW-17-2	67974	MW-002-041	4	7/17/2000
MW-17-3	67974	MW-002-042	4	7/17/2000
MW-17-4	67974	MW-002-043	4	7/17/2000
MW-17-5	67974	MW-002-044	4	7/17/2000
MW-18-1	67859	MW-002-045	1	7/12/2000
MW-18-2	67859	MW-002-046	1	7/12/2000
MW-18-3	67859	MW-002-047	1	7/12/2000

ANALYTICAL RESULTS INDEX

GROUNDWATER SAMPLES

Well Number	Report Number	Sample Number	Tab Number	Date Sampled
MW-18-4	67859	MW-002-048	1	7/12/2000
MW-18-5	67859	MW-002-049	1	7/12/2000
MW-19-1	67903	MW-002-050	2	7/13/2000
MW-19-2	67903	MW-002-051	2	7/13/2000
MW-19-3	67903	MW-002-052	2	7/13/2000
MW-19-4	67903	MW-002-053	2	7/13/2000
MW-19-5	67903	MW-002-054	2	7/13/2000
MW-20-1	67993	MW-002-055	5	7/18/2000
MW-20-2	67993	MW-002-056	5	7/18/2000
MW-20-3	67993	MW-002-057	5	7/18/2000
MW-20-4	67993	MW-002-058	5	7/18/2000
MW-20-5	67993	MW-002-059	5	7/18/2000
MW-21-1	67913	MW-002-060	3	7/14/2000
MW-21-2	67913	MW-002-061	3	7/14/2000
MW-21-3	67913	MW-002-062	3	7/14/2000
MW-21-4	67913	MW-002-063	3	7/14/2000
MW-21-5	67913	MW-002-064	3	7/14/2000
MW-22-1	68166	MW-002-065	8	7/21/2000
MW-22-2	68166	MW-002-066	8	7/21/2000
MW-22-3	68166	MW-002-067	8	7/21/2000
MW-22-4	68166	MW-002-068	8	7/21/2000
MW-22-5	68166	MW-002-069	8	7/21/2000
MW-23-1	68355	MW-002-070	11	7/27/2000
MW-23-2	68355	MW-002-071	11	7/27/2000
MW-23-3	68355	MW-002-072	11	7/27/2000
MW-23-4	68355	MW-002-073	11	7/27/2000
MW-23-5	68355	MW-002-074	11	7/27/2000
MW-24-1	68504	MW-002-075	14	8/1/2000
MW-24-2	68460	MW-002-076	13	7/31/2000
MW-24-3	68460	MW-002-077	13	7/31/2000
MW-24-4	68460	MW-002-078	13	7/31/2000
MW-24-5	68460	MW-002-079	13	7/31/2000

ANALYTICAL RESULTS INDEX

QA/QC SAMPLE BLANKS

Sample Type	Report Number	Sample Number	Tab Number	Date Sampled
TB	67859	MW-002-080	1	7/12/2000
EB	67859	MW-002-081	1	7/12/2000
TB	67903	MW-002-082	2	7/13/2000
EB	67903	MW-002-083	2	7/13/2000
TB	67913	MW-002-084	3	7/14/2000
EB	67913	MW-002-085	3	7/14/2000
TB	67974	MW-002-086	4	7/17/2000
EB	67974	MW-002-087	4	7/17/2000
TB	67993	MW-002-088	5	7/18/2000
EB	67993	MW-002-089	5	7/18/2000
TB	68038	MW-002-090	6	7/19/2000
EB	68038	MW-002-091	6	7/19/2000
TB	68096	MW-002-092	7	7/20/2000
EB	68096	MW-002-093	7	7/20/2000
TB	68166	MW-002-094	8	7/21/2000
EB	68166	MW-002-095	8	7/21/2000
TB	68237	MW-002-096	9	7/25/2000
EB	68237	MW-002-097	9	7/25/2000
TB	68272	MW-002-098	10	7/26/2000
EB	68272	MW-002-099	10	7/26/2000
TB	68355	MW-002-100	11	7/27/2000
EB	68355	MW-002-101	11	7/27/2000
TB	68403	MW-002-102	12	7/28/2000
EB	68403	MW-002-103	12	7/28/2000
TB	68460	MW-002-104	13	7/31/2000
EB	68460	MW-002-105	13	7/31/2000
TB	68504	MW-002-106	14	8/1/2000
EB	68504	MW-002-107	14	8/1/2000
FB	68504	MW-002-200	14	8/1/2000
TB	68567	MW-002-108	15	8/2/2000
TB	68578	MW-002-111	16	8/3/2000
TB	68625	MW-002-112	17	8/4/2000

MONTGOMERY WATSON LABORATORIES

Quality Environmental Analysis

A division of Montgomery Watson Americas, Inc.

August 21, 2000

Attention: Mark Cutler
Foster Wheeler Environmental Corp
1940 E Deere St, Ste 200
Santa Ana, CA 92705

Report # 67859 (MW-002-080, MW-002-081, MW-002-049, MW-002-048, MW-002-047, MW-002-046, MW-002-045)

Sampled: 07/12/00

Dear Mark,

Enclosed please find data deliverables for the recent JPL project. A detailed quality control (QC) summary follows:

Non-conformance (LCS, MS/MSD, Surrogates, and Holding Times)
None
Samples requiring dilution (with increased MRL's):
None
Method blanks with compounds detected:
None
Comments:
Carbon Tetrachloride was detected in MW-002-048
Chloroform was detected in MW-002-081, -048, -047
Tetrachloroethylene was detected in MW-002-048
Trichloroethylene was detected in MW-002-048, -047
Perchlorate was detected n MW-002-048
TIC'S:
None
Method Variation:
TIC's are reported only if the final result is >0.5 ug/L.
Additional Comments:
None

Sincerely

Debbie Frank
Project Manager

CC: Judy Novelly (JPL)

Laboratory
555 East Walnut Street
Pasadena, California 91101
Tel: 626 568 6400
Fax: 626 568 6324

Southwest Service Center
4625 S. Wendler Drive - Suite 111
Tempe, Arizona 85282
Tel: 602 748 1448
Fax: 602 748 1450

Northern California Service Center
1340 Treat Boulevard - Suite 300
Walnut Creek, California 94596
Tel: 925 274 2322
Fax: 925 945 1760

Southern California Service Center
30 Corporate Park - Suite 303
Irvine, California 92606
Tel: 949 222 1845
Fax: 949 222 1849

NUMBER 1670

67859

Continue

FOSTER WHEELER ENVIRONMENTAL CORPORATION

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

PROJECT: JPL

OFS NO.: 1572.0312

PROJECT ADDRESS: 4800 Oak Grove Dr. Pasadena, CA

SAMPLER (Name): Jeffrey Osbick

SAMPLER (Signature): [illegible]

LABORATORY: Montgomery Watson Lab

REPORTS TO BE SENT TO: Mr. Mark Cutler

HAZARD IDENTIFICATION: Non Hazard ☒ Reactive ☐ Flammable ☐ Toxic ☐ Skin Irritant ☐ Infectious ☐

TIME REQUIRED: NORMAL ☒ ____ DAYS; RUSH ☐ ____ DAYS

ANALYSES REQUIRED

SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL: WATER	SOIL	OTHER (Describe)	VOCs (524.2)	Total Cr, As, Pb (6010/7000)	Cr (VI)	ClO_4^-	Major Anions / TDS	MS for VOCs	MSD for VOCs	MS/MSD for Metals	QC for Cr 6+
MW-002-080	0932	7/12/00	2	2 x 40ml	X			X								
MW-002-081	0957	7/12/00	5	2x40ml 1x250ml 2x125ml	X			X	X	X	X					
MW-002-049	1020	7/12/00	6	2x40ml 2x500ml 2x125ml	X			X	X	X	X	X			X	
MW-002-048	1155	7/12/00	6	2x40ml 1x250ml 1x500ml 2x125ml	X			X	X	X	X	X				
MW-002-048MS	1155	7/12/00	2	2x40ml	X								X			
MW-002-048MSD	1155	7/12/00	2	2 x 40ml	X									X		
MW-002-047	1310	7/12/00	6	2x40ml 1x250ml 1x500ml 2x125ml	X			X	X	X	X	X				X
MW-002-046	1420	7/12/00	6	2x40ml 1x250ml 1x500ml 2x125ml	X			X	X	X	X	X				
MW-002-045	1535	7/12/00	6	2x40ml 1x250ml 1x500ml 2x125ml	X			X	X	X	X	X				

LABORATORY INSTRUCTIONS/COMMENTS

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[illegible]	[illegible]	[illegible]			
COMPANY: [illegible]	TIME: [illegible]	COMPANY: [illegible]	COMPANY	TIME	COMPANY

F-2

SHIPPING COPY