



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 230 Date: 2/25/99  
 Well Name: MW-20 Sampling Zone No.: 1 Starting Time: 1420 Finishing Time: 1515  
 Technicians: J. BRENNER, B. FELDPAUSCH  
 Water Level Inside MP Casing (Beginning of Session) 13.90 (PSIA) (End of Session) 14.05

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	13.90	✓	1429	1433	✓	14.11	1.0	1st RUN; INITIAL PARAMETERS; NTUS = 0.51
2	✓	✓	✓	✓	✓	✓	13.87	✓	1447	1451	✓	14.01	1.0	2nd RUN; COLLECT MW-F11-025 2UGAS, METALS, ANIONS
3	✓	✓	✓	✓	✓	✓	13.92	✓	1505	1510	✓	14.05	1.0	3rd RUN; C16, C104; FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Press. OUTSIDE MP CASING = 30.16 (PSIA) Total Volume: 3.0 L<sup>2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 562 Date: 2/25/99

Well Name: MW-20 Sampling Zone No.: 3 Starting Time: 1200 Finishing Time: 1310

Technicians J. BRENNER, B. FELDPAUSCH

Water Level Inside MP Casing (Beginning of Session) 119.48 (P.S.A) (End of Session) 119.42 (P.S.A)

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	119.48	✓	1211	1213	✓	119.46	1.0	1ST RUN, INITIAL PARAMETERS, NTUS = 0.10
2	✓	✓	✓	✓	✓	✓	119.43	✓	1234	1236	✓	119.44	1.0	2ND RUN: COLLECT MW-20-023MS, -023MSID; COVDAS 2 METALS, 12 ANIONS
3	✓	✓	✓	✓	✓	✓	119.46	✓	1300	1302	✓	119.42	1.0	3RD RUN: 1/2 ANIONS, C, 64, ClO4 FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 175.78 (P.S.A)

Total Volume: 3.02 <sup>F2</sup>

**FOSTER WHEELER ENVIRONMENTAL CORPORATION****Groundwater Sampling  
Field Data Sheet for Multi-Port Well**Project: JPL Location: MW-20 Depth: 700 Date: 2/25/99Well Name: MW-20 Sampling Zone No.: 4 Starting Time: 1035 Finishing Time: 1150Technicians: J. BRENNER, B.Water Level Inside MP Casing (Beginning of Session) 179.52 (PSIA) (End of Session) 178.50 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	179.52	✓	1045	1047	✓	179.54	1.0	1ST RUN; INITIAL PARAMETERS NTU'S = 0.83
2	✓	✓	✓	✓	✓	✓	179.50	✓	1116	1110	✓	179.59	1.0	2ND RUN; COLLECT MW-991-022 ZUCAS METALS, ANIONS, C-64
3	✓	✓	✓	✓	✓	✓	178.50	✓	1144	1145	✓	178.50	0.5	3RD RUN; C104; FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 231.16 PSIATotal Volume: 2.52 <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-20 Depth: 900 Date: 2/25/99

Well Name: MW-20 Sampling Zone No.: 5 Starting Time: 0830 Finishing Time: 1020

Technicians J. BRENNER, B. FELDMAN

Water Level Inside MP Casing (Beginning of Session) 266.47 (P.S.A) (End of Session) 265.41 (P.S.A)

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	266.47	✓	0850	0852	✓	266.46	1.0	1ST RUN: INITIAL PARAMETERS NTU'S = 1.02
2	✓	✓	✓	✓	✓	✓	266.43	✓	0930	0930	✓	266.39	1.0	2ND RUN: COLLECT MW-CF1-021 2VCS: METAL, ANIONS, Cr <sup>6+</sup>
3	✓	✓	✓	✓	✓	✓	265.40	✓	1010	1011	✓	265.41	0.5	3RD RUN: C109; FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 321.06 P.S.A

Total Volume: 2.5 <sup>F2</sup>





# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 90 Date: 3/16/99  
 Well Name: MW-21 Sampling Zone No.: 1 Starting Time: 1250 Finishing Time: 1346  
 Technicians: J. BRUNER, I. MAYES, D. TIETJE  
 Water Level Inside MP Casing (Beginning of Session) 15.18 (PS.A) (End of Session) 19.05 (PS.A)

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	15.18	✓	1255	1259	✓	15.18	1.0	1ST RUN TO SCREEN # 1 NTU'S = 0.27
2	✓	✓	✓	✓	✓	✓	15.05	✓	1310	1315	✓	15.11	1.0	2ND RUN COLLECT MW-21-020 2 VIALS METALS ANIONS
3	✓	✓	✓	✓	✓	✓	15.01	✓	1320	1332	✓	15.05	1.0	3RD RUN CLOSING FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 28.71 (PS.A)

Total Volume: 3.0L F2



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 161 Date: 3/16/99  
 Well Name: MW-21 Sampling Zone No.: 2 Starting Time: 1155 Finishing Time: 1245  
 Technicians: J. BRANNON, I. MAYES, D. TIEJE  
 Water Level Inside MP Casing (Beginning of Session) 46.56 (P.S.I.) (End of Session) 46.54 (P.S.I.)

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	46.56	✓	1203	1206	✓	46.57	1.0	1st run, INITIAL PARAMETERS, NTU'S = 0.04
2	✓	✓	✓	✓	✓	✓	46.57	✓	1219	1223	✓	46.55	1.0	2ND RUN, COLLECT MW-21-019, 2 VOAS METALS ANIONS, C-61
3	✓	✓	✓	✓	✓	✓	46.55	✓	1237	1241	✓	46.54	1.0	3RD RUN, C109, FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Press. outside MP casing = 59.15 (P.S.I.) Total Volume: 3.02 <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 240 Date: 3/16/99  
 Well Name: MW-21 Sampling Zone No.: 3 Starting Time: 1050 Finishing Time: 1150  
 Technicians: J. BRENNER, I. MAYES, D. TIETJF  
 Water Level Inside MP Casing (Beginning of Session) 81.08 (PSIA) (End of Session) 81.02 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	81.08	✓	1059	1101	✓	81.05	1.0	1st run, initial parameters NTN'S = 4.16
2	✓	✓	✓	✓	✓	✓	81.07	✓	1117	1120	✓	81.05	1.0	2nd run, collect MW-21-018, -018MS 018MSD, 6VDS, 2MMS, 1/2 ANIONS
3														
4	✓	✓	✓	✓	✓	✓	81.02	✓	1140	1142	✓	81.02	1.0	3rd run, 1/2 ANIONS, CBr, ClO4 FINAL PARAMETERS
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 93.30 PSIA

Total Volume: 3.0L



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 310 Date: 3/16/99

Well Name: MW-21 Sampling Zone No.: 4 Starting Time: 0945 Finishing Time: 1045

Technicians: J. BRENNER, I. MAYES, D. TIETJE

Water Level Inside MP Casing (Beginning of Session) 111.18 (PSIA) (End of Session) 111.19 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)	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) Remove Tape		Volume Retrieved (liters)
1	✓	✓	✓	✓	✓	✓	111.18	✓	0952	0954	✓	111.20	1.0	1ST RUN, INITIAL PARAMETERS; NTU'S = 13.1
2	✓	✓	✓	✓	✓	✓	111.21	✓	1010	1012	✓	111.20	1.0	2ND RUN, NTU'S = 3.89; CHECK MW-21-017 24005 METERS
3	✓	✓	✓	✓	✓	✓	111.19	✓	1036	1038	✓	111.19	1.0	ANIONS 340' RUN, C-6+, C10+ FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Press. OUTSIDE MP CASING = 123.16 PSIA

Total Volume: 3.0 <sup>PSI</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-21 Depth: 372 Date: 3/16/99Well Name: MW-21 Sampling Zone No.: 5 Starting Time: 0840 Finishing Time: 0940Technicians: J. BIRNELL, I. MAYES, D.T.Water Level Inside MP Casing (Beginning of Session) 138.20 (PSIA) (End of Session) 137.10 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	138.20	✓	0850	0852	<del>0854</del>	138.16	1.0	1ST RUN, INITIAL PARAMETERS, NTU'S = 4.29
2	✓	✓	✓	✓	✓	✓	138.20	✓	0910	0912	✓	138.18	1.0	2ND RUN, COLLECT MW-991-016 2 YEARS METALS ANIONS C-64
3	✓	✓	✓	✓	✓	✓	137.03	✓	0931	0933	✓	137.10	0.5	3RD RUN, ClO <sub>2</sub> , FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 150.01 (PSIA)Total Volume: 2.5 <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 245 Date: 3/7/97Well Name: MW-22 Sampling Zone No.: 1 Starting Time: 1335 Finishing Time: 1500Technicians: J. BRENNER, B. FELDTAUSCHWater Level Inside MP Casing (Beginning of Session) 20.61 (PSIA) (End of Session) 29.69

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	20.61	✓	1342	1345	✓	20.63	1.0	1ST RUN: INITIAL PARAMETERS, NTU'S = 545
2	✓	✓	✓	✓	✓	✓	29.72	✓	1425	1429	✓	29.69	1.0	2ND RUN: NTU'S = 20.1; COLLECT MW-0711-015-015MS - 015MSD GV0AS, 2 METALS
3														
4	✓	✓	✓	✓	✓	✓	29.70	✓	1443	1448	✓	29.69	1.0	3RD RUN: ANIONS, HEX. Cr, ClO4 FINAL PARAMETERS
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 44.87 PSIA; \* APPROX 1 gal  
PURGED BETWEEN RUN 1 AND RUN 2

Total Volume: 3.02 <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 329 Date: 3/9/99  
 Well Name: MW-12 Sampling Zone No.: 2 Starting Time: 1155 Finishing Time: 1330  
 Technicians: J. BRENNER, B. FELDPAUSCH  
 Water Level Inside MP Casing (Beginning of Session) 53.60 (End of Session) 63.51 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	53.60	✓	1202	1205	53.61	✓	1.0	1ST RUN: INITIAL PARAMETERS NTU'S = 90.1
2	✓	✓	✓	✓	✓	✓	65.50	✓	1306	1308	63.49	✓	1.0	2ND * RUN: TURBIDITY = 8.10 MMS COLLECT MW-12991-014: 2 VOLS METALS ANALYSIS
3														
4	✓	✓	✓	✓	✓	✓	65.50	✓	1325	1327	63.51	✓	1.0	3RD RUN: C-64, C104, FINAL PARAMETERS
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 90.20 PSIA \* APPROX. 2.5 GALS  
PURGED BETWEEN RUN 1 AND RUN 2 IN ATTEMPT TO REDUCE  
TURBIDITY  
 Total Volume: 3.02 <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 389 Date: 3/9/99

Well Name: MW-22 Sampling Zone No.: 3 Starting Time: 1055 Finishing Time: 1150

Technicians: J. BRENNER; B. FELDPAISCH

Water Level Inside MP Casing (Beginning of Session) 79.75 (PSIA) (End of Session) 78.69 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	79.75	✓	1105	1107	✓	79.72	1.0	1st R.S.W. INITIAL PARAMETERS; NTU'S = <del>4.7</del> 5.13
2	✓	✓	✓	✓	✓	✓	79.73	✓	1125	1127	✓	79.69	1.0	2ND R.S.W. COLLECT MW-991-013; 2 VQAS METALS ANIONS G-6+
3	✓	✓	✓	✓	✓	✓	78.75	✓	1144	1146	✓	78.69	0.5	3RD R.S.W. CLOS. FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 106.35 PSIA

Total Volume: 2.52 <sup>F2</sup>





# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 467 Date: 3/9/99Well Name: MW-22 Sampling Zone No.: 4 Starting Time: 0940 Finishing Time: 1050Technicians: J. Brannan; B. FeldpauschWater Level Inside MP Casing (Beginning of Session) 113.69 (PSID) (End of Session) 113.64 (PSID)

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	113.69	✓	0955	0958	✓	113.67	1.0	1st RUN; INITIAL PARAMETERS; NTU'S = 5.13
2	✓	✓	✓	✓	✓	✓	113.66	✓	1018	1021	✓	113.64	1.0	2nd RUN; COLLECT MW-991-012 2 VOLS, METALS, ANIONS, C <sub>6</sub> H <sub>6</sub>
3	✓	✓	✓	✓	✓	✓	113.65	✓	1043	1045	✓	113.64	1.0	3rd C104; FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP = 132.56 CASINGTotal Volume: 3.0 L<sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-22 Depth: 588 Date: 3/9/99

Well Name: MW-22 Sampling Zone No.: 5 Starting Time: 0820 Finishing Time: 0930

Technicians J. BRUNNER, B. FELDPAUSCH

Water Level Inside MP Casing (Beginning of Session) 166.20 (PSIA) (End of Session) 166.19 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) Remove Tape	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	166.23	✓	0830	0833	✓	166.21	1.0	1st run, INITIAL PARAMETERS; NTU's = 2.63
2	✓	✓	✓	✓	✓	✓	166.23	✓	0856	0859	✓	166.20	1.0	2nd run, COLLECT MW-911-011 2 VOLS METALS, ANIONS, C-6r
3	✓	✓	✓	✓	✓	✓	166.20	✓	0924	0926	✓	166.19	1.0	3rd run, C104, FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 180.41 (PSIA)

Total Volume: 3.0L<sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 174 Date: 3/11/99  
 Well Name: MW-23 Sampling Zone No.: 1 Starting Time: 1250 Finishing Time: 1330  
 Technicians: J. BRENNAN, B. FELDPAUSCH  
 Water Level Inside MP Casing (Beginning of Session) 33.26 (PSIA) (End of Session) 33.19

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	33.26	✓	1254	1258	✓	33.16	1.0	1ST RUN: INITIAL PARAMETERS MUS = 4.24
2	✓	✓	✓	✓	✓	✓	33.23	✓	1308	1311	✓	33.19	1.0	2ND RUN: COLLECT MW-991-010 2 VOLS METALS ANALYSIS
3	✓	✓	✓	✓	✓	✓	33.19	✓	1323	1327	✓	33.19	1.0	3RD RUN: C-6, C104, FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: \_\_\_\_\_  
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Total Volume: 3.0L <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 254 Date: 3/11/99

Well Name: MW-23 Sampling Zone No.: 2 Starting Time: 1155 Finishing Time: 1245

Technicians: J. BRENNER, B. FELD, PAUL

Water Level Inside MP Casing (Beginning of Session) 68.02 (PSIA) (End of Session) 67.99 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)	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) Remove Tape	
1	✓	✓	✓	✓	✓	✓	68.02	✓	1203	1206	✓	68.01	1.0	1ST RUN, INITIAL PARAMETERS. NDS = 2.53
2	✓	✓	✓	✓	✓	✓	68.00	✓	1220	1223	✓	68.02	1.0	2ND RUN, COLLECT MW-991-C09. 2VDS, METALS, ANIONS, C-64
3	✓	✓	✓	✓	✓	✓	67.99	✓	1238	1240	✓	67.99	1.0	3RD RUN, C104, FINAL PARAMETERS.
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: \_\_\_\_\_

Total Volume: 3.0L <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 319 Date: 3/11/99  
 Well Name: MW-23 Sampling Zone No.: 3 Starting Time: 1050 Finishing Time: 1150  
 Technicians: J. BRINER; B. FELDPAUSCH  
 Water Level Inside MP Casing (Beginning of Session) 96.17 (PS, A) (End of Session) 96.14 PS, A

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	96.17	✓	1055	1100	✓	96.17	1.0	1ST RUN; INITIAL PARAMETERS; NITR'S = 4.31
2	✓	✓	✓	✓	✓	✓	96.12	✓	1117	1120	✓	96.14	1.0	2ND RUN; COLLECT MW-991-0083, 008MS & 5008MS; 6VOCAS, 2 METALS 1/2 ANIONS
3														
4	✓	✓	✓	✓	✓	✓	96.12	✓	1141	1143	✓	96.14	1.0	3RD RUN; 1/2 ANIONS; CR64 C104; FINAL PARAMETERS
5														
6														
7														
8														
9														
10														
11														
12														

Comments: \_\_\_\_\_

Total Volume: 3.0L<sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 445 Date: 3/11/99

Well Name: MW-23 Sampling Zone No.: 4 Starting Time: 0945 Finishing Time: 1045

Technicians J. BRENNER; B. KELD PAUSCH

Water Level Inside MP Casing (Beginning of Session) 150.73 (PSIA) (End of Session) 150.39 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	150.73	✓	0955	0957	✓	150.76	1.0	1ST RUN, INITIAL PARAMETERS; NUS = 5.07
2	✓	✓	✓	✓	✓	✓	150.77	✓	1014	1016	✓	150.79	1.0	2ND RUN, COLLECT MW-23-1-007 ZVDAS METALS, ANIONS, C60
3	✓	✓	✓	✓	✓	✓	150.35	✓	1036	1038	✓	150.39	0.5	3RD RUN, C104 FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: \_\_\_\_\_

Total Volume: 3.0 L<sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-23 Depth: 542 Date: 3/11/99  
 Well Name: MW-23 Sampling Zone No.: 5 Starting Time: 0830 Finishing Time: 0940  
 Technicians: J. BRENNER, B. FELDPAUSCH  
 Water Level Inside MP Casing (Beginning of Session) 192.76 (PSIA) (End of Session) 192.40 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	192.76	✓	0843	0845	✓	192.77	1.0	1ST RUN; INITIAL PARAMETERS; NIN'S = 3.19
2	✓	✓	✓	✓	✓	✓	192.78	✓	0906	0908	✓	192.80	1.0	2ND RUN; COLLECT MW-991-006 2 VOLS METALS, ANALYSIS TO BE
3	✓	✓	✓	✓	✓	✓	192.37	✓	0931	0933	✓	192.40	0.5	3RD RUN; C104 FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: AA

Total Volume: 2.5L<sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 279 Date: 3/17/99Well Name: MW-24 Sampling Zone No.: 1 Starting Time: 1345 Finishing Time: 1515Technicians: J. BRUNNER, T. MATESWater Level Inside MP Casing (Beginning of Session) 13.87 (PSIA) (End of Session) 13.96 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate	Water Level in MP (ft) Remove Tape		Volume Retrieved (liters)
1	✓	✓	✓	✓	✓	✓	13.87	✓	1348	1352	✓	13.93	1.0	1st run: INITIAL PARAMETERS; NTU'S = 763
2	✓	✓	✓	✓	✓	✓	13.83	✓	1410	1413	✓	13.87	1.0	2nd run: COLLECT MW SPICES 2 VOLS: 3/4 DIOXANE
3	✓	✓	✓	✓	✓	✓	13.83	✓	1430	1433	✓	13.93	1.0	3rd run: 1/4 DIOXANE; 1/2 NIDMA
4	✓	✓	✓	✓	✓	✓	13.80	✓	1448	1451	✓	13.93	1.0	4th run: 1/2 NIDMA; METALS 1/2 ANIONS
5	✓	✓	✓	✓	✓	✓	13.80	✓	1508	1511	✓	13.96	1.0	5th run: 1/2 ANIONS; Cr6+ ClO4; FINAL PARAMETERS
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 48.77 PSIATotal Volume: 5.0 L





# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 373 Date: 3/17/99  
 Well Name: MW-24 Sampling Zone No.: 2 Starting Time: 1235 Finishing Time: 1355  
 Technicians: J. BRENNER, I. MATES  
 Water Level Inside MP Casing (Beginning of Session) 54.17 (PSIA) (End of Session) 53.19 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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	54.17	✓	1243	1245	✓	54.18	1.0	1ST RUN, INITIAL PARAMETERS NTU'S = 4.7
2	✓	✓	✓	✓	✓	✓	54.17	✓	1307	1309	✓	54.18	1.0	2ND RUN, COLLECT MW-991-004, 2 VAS, METALS, ANIONS, CFA
3	✓	✓	✓	✓	✓	✓	53.20	✓	1327	1327	✓	53.19	0.5	3RD RUN, CLOSURE PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRES. OUTSIDE MP CASING = 86.21 PSIA Total Volume: 2.50 <sup>FT</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 435 Date: 3/17/99

Well Name: MW-24 Sampling Zone No.: 3 Starting Time: 1205 Finishing Time: 1635

Technicians: J. BRENNER; I. MATES

Water Level Inside MP Casing (Beginning of Session) 81.07 (PS.A) (End of Session) 92.85

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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	81.07	✓	1219	1224	✓	81.15	1.0	1ST RUN, INITIAL PARAMETERS, NTU'S = 121.5
2	<del>✓</del>	<del>✓</del>	<del>✓</del>	<del>✓</del>	<del>✓</del>	<del>✓</del>	<del>92.86</del>							*WILL RETURN LATER
3	✓	✓	✓	✓	✓	✓	92.86	✓	1615	1617	✓	92.55	1.0	1ST RUN AFTER PURGING 2.5 GALS;
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = ~~92.86~~ 11.65 (PS.A) Total Volume: 2.0 F2



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 435 Date: 3/18/99Well Name: MW-24 Sampling Zone No.: 3 Starting Time: 1350 Finishing Time: 1450Technicians: J. BRENNER, D. DIRKINWater Level Inside MP Casing (Beginning of Session) 101.11 (PSIA) (End of Session) 100.71 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	101.11	✓	1401	1403	✓	101.12	1.0	1ST RUN; INITIAL PARAMETERS; NTUS = 368
2	✓	✓	✓	✓	✓	✓	101.09	✓	1421	1423	✓	101.10	1.0	2ND RUN; UNABLE TO REDUCE TURBIDITY AFTER PACKING
3														APPROX 1 PACKED VOLUME - COLLECT MW-991-003
4														2 VOLS, METALS, ANIONS, C66
5	✓	✓	✓	✓	✓	✓	100.67	✓	1442	1445	✓	100.71	0.5	3RD RUN; C109; FINAL PARAMETERS
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 111.99 (PSIA)Total Volume: 2.52 <sup>F2</sup>



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## Groundwater Sampling Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 554 Date: 3/12/99

Well Name: MW-24 Sampling Zone No.: 4 Starting Time: 1015 Finishing Time: 1130

Technicians J. BRENNER, B. KED PAUSCH

Water Level Inside MP Casing (Beginning of Session) 133.07 (PSIA) (End of Session) 132.06 (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)	Activate	Valve Open Time	Valve Closed Time	Deactivate		Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	133.07	✓	1027	1029	✓	133.06	1.0	1ST RUN, INITIAL PARAMETERS NTU'S = 6.1
2	✓	✓	✓	✓	✓	✓	133.09	✓	1055	1057	✓	133.10	1.0	2ND RUN, COLLECT MW-24-002 2 VOA'S METALS, ANIONS
3	✓	✓	✓	✓	✓	✓	132.08	✓	1121	1123	✓	132.06	0.5	3RD RUN, CR-6+, C104, FINAL PARAMETERS
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments: Press. OUTSIDE MP CASING = 152.86 (PSIA) Total Volume: 2.5 L <sup>F2</sup>

**FOSTER WHEELER ENVIRONMENTAL CORPORATION****Groundwater Sampling**  
Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-24 Depth: 678 Date: 3/12/99  
 Well Name: MW-24 Sampling Zone No.: 5 Starting Time: 0820 Finishing Time: 1010  
 Technicians: J. BRENNER, B. FELDPAUSCH  
 Water Level Inside MP Casing (Beginning of Session) 187.04 (PSID) (End of Session) 185.99

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)	Activate	Valve Open Time	Valve Closed Time		Deactivate	Water Level in MP (ft) Remove Tape
1	✓	✓	✓	✓	✓	✓	187.04	✓	0831	0833	✓	187.01	1.0	1ST RUN; INITIAL PARAMETERS; NTU'S = 46.7
2	✓	✓	✓	✓	✓	✓	187.03	✓	0859	0902	✓	187.01	1.0	2ND RUN; ATTEMPTING TO REDUCE TURBIDITY; NTU'S = 5.70
3	✓	✓	✓	✓	✓	✓	187.01	✓	0927	0930	✓	187.01	1.0	3RD RUN; / COLLECT MW-991-001 ZVONS METALS ANALYSIS C-6+
4	✓	✓	✓	✓	✓	✓	185.97	✓	0957	0959	✓	185.99	0.5	4TH RUN; C104 FINAL PARAMETERS
5														
6														
7														
8														
9														
10														
11														
12														

Comments: PRESS. OUTSIDE MP CASING = 196.89 (PSID) Total Volume: 3.52 <sup>F2</sup>

**APPENDIX C**  
**FIELD INSTRUMENT CALIBRATION FORMS**

# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: J. BRENNER Date: 2/24/99  
Instrument Manufacturer: HF SCIENTIAL Model: DZT-15CE  
Serial Number: 11862 Calibration Date: 2/24/99

## STANDARDIZATION

Time: 0845 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1400 Scale: 10 Zero: YES 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: J. BRENNER Date: 2/25/99  
Instrument Manufacturer: H.F. SCIENTIFIC Model: DZ-1502  
Serial Number: 11862 Calibration Date: 2/25/99

## STANDARDIZATION

Time: 0800 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1545 Scale: 10 Zero: YES 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: J. BRENNER Date: 2/26/99  
Instrument Manufacturer: HE SCIENTIFIC Model: DIF-15CE  
Serial Number: 11862 Calibration Date: 2/26/99

## STANDARDIZATION

Time: 0745 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1450 Scale: 10 Zero: YES 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: J. BRUNNER Date: 3/1/99  
Instrument Manufacturer: HF SCIENTIFIC Model: D2T-15CE  
Serial Number: \_\_\_\_\_ Calibration Date: 3/1/99

## STANDARDIZATION

Time: 0745 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1510 Scale: 10 Zero: YES 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: D. DIRKIN Date: 3/2/99  
Instrument Manufacturer: HF SCIENTIFIC Model: DS-15CE  
Serial Number: \_\_\_\_\_ Calibration Date: 3/2/99

## STANDARDIZATION

Time: 0900 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1645 Scale: 10 Zero: YES 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: D. Dirliko Date: 3/3/99  
Instrument Manufacturer: AF SCIENTIFIC Model: DRY-1500  
Serial Number: 11862 Calibration Date: 3/3/99

## STANDARDIZATION

Time: 0650 Scale: 10 Zero: 0 Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1130 Scale: 10 Zero: 0 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: D. Dirkin Date: 3/4/99  
Instrument Manufacturer: A.F. Scientific Model: DET-15CE  
Serial Number: 11362 Calibration Date: 3/4/99

## STANDARDIZATION

Time: 0805 Scale: 10 Zero: ∅ Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1445 Scale: 10 Zero: ∅ 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: D. Dirkin Date: 3/5/99  
Instrument Manufacturer: HF Scientific Model: DA-15CE  
Serial Number: 11862 Calibration Date: 3/5/99

## STANDARDIZATION

Time: 0710 Scale: 10x Zero: 0 Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1435 Scale: 10x Zero: 0 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: Bob Feldman Date: 3/8/99  
Instrument Manufacturer: HF Scientific, Inc Model: DRT-1500  
Serial Number: 11862 Calibration Date: 3/8/99

## STANDARDIZATION

Time: 8:00 Scale: 10 Zero: yes Stray Light: NA  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1300 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: Bob Feldpausch Date: 3/9/99  
Instrument Manufacturer: HF Scientific, Inc Model: DRT-15CE  
Serial Number: 11862 Calibration Date: 3/9/99

## STANDARDIZATION

Time: 0810 Scale: 10 Zero: yes Stray Light: NA  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1500 Scale: 10 Zero: YES 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: Dirk A Date: 3-10-99  
Instrument Manufacturer: HF Scientific Model: DRT-15CE  
Serial Number: \_\_\_\_\_ Calibration Date: 3-10-99

## STANDARDIZATION

Time: 0830 Scale: 10x Zero: Ø Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1435 Scale: 10x Zero: Ø 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: Bob Feldpausch Date: 3/11/98  
Instrument Manufacturer: HF Scientific Inc Model: DRE-15CE  
Serial Number: 11862 Calibration Date: 3/11/98

## STANDARDIZATION

Time: 830 Scale: 10 Zero: \_\_\_\_\_ Stray Light: NA  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1345 Scale: 10 Zero: \_\_\_\_\_ 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: Bob Feldpaus Date: 3/11/98  
Instrument Manufacturer: HF Scientific, Inc. Model: DRT-15CE  
Serial Number: 11862 Calibration Date: 3/11/98

## STANDARDIZATION

Time: 0915 Scale: 10 Zero: YES Stray Light: NA  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1145 Scale: 10 Zero: YES 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: J. BRENNER Date: 3/15/99  
Instrument Manufacturer: HF SCIENTIFIC Model: DR-15LE  
Serial Number: 11862 Calibration Date: 3/15/99

## STANDARDIZATION

Time: 1015 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1430 Scale: 10 Zero: YES 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: J. BRENNER Date: 3/16/99  
Instrument Manufacturer: HF SCIENTIFIC Model: DRT-15CE  
Serial Number: 11962 Calibration Date: 3/16/99

## STANDARDIZATION

Time: 0810 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.10  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1345 Scale: 10 Zero: YES 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: J. BRENNER Date: 3/17/99  
Instrument Manufacturer: HE. SCIENTIFIC Model: D25-15CE  
Serial Number: 11862 Calibration Date: 3/17/99

## STANDARDIZATION

Time: 0830 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1700 Scale: 10 Zero: YES 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: D. Dinkin Date: 3-18-99  
Instrument Manufacturer: AF Scientific Model: DAT-15CE  
Serial Number: 11862 Calibration Date: 3-18-99

## STANDARDIZATION

Time: 0725 Scale: 10x Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1455 Scale: 10x Zero: yes 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: J. BRENNER Date: 3/19/99  
Instrument Manufacturer: H.F. SCIENTIFIC Model: D25-1SCF  
Serial Number: 11862 Calibration Date: 3/19/99

## STANDARDIZATION

Time: 1000 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1745 Scale: 10 Zero: YES 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: \_\_\_\_\_  
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# TURBIDIMETER FIELD STANDARDIZATION FORM

Project Name: JPL  
Standardization by: J. BRENNER Date: 3/22/99  
Instrument Manufacturer: HE SCIENTIFIC Model: D14-15CE  
Serial Number: 11862 Calibration Date: 3/22/99

## STANDARDIZATION

Time: 0900 Scale: 10 Zero: YES Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1455 Scale: 10 Zero: YES 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: T. Turpin-Keasler Date: 3/23/99  
Instrument Manufacturer: HF SCIENTIFIC Model: DRT-15CE  
Serial Number: 11862 Calibration Date: 3/23/99

## STANDARDIZATION

Time: 0715 Scale: 10 Zero: Yes Stray Light: N/A  
Standard NTU: 0.02 Reading: 0.02  
Standard NTU: \_\_\_\_\_ Reading: \_\_\_\_\_

Time: 1145 Scale: 10 Zero: YES 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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRENNER Date: 2/24/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 97M812436  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALITECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0845 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: — Temperature: 22.2 pH: 6.37 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 0845 Slope: N/A Temperature: 12.0  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: 1600 Slope: N/A Temperature: 26.2  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRINNEL Date: 2/25/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 971812436  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 921157441  
Buffer Solution Manufacturer: CALTECH  
Expiration Dates of Buffer Solutions pH 4.01: - pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0900 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: - Temperature: 10.2 pH: 6.13 ISO: -  
Reference Chamber Solution Changed?:   
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0900 Slope: N/A Temperature: 7.1  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: 1545 Slope: N/A Temperature: 19.6  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRENNER Date: 2/26/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 98B812637  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALITECH  
Expiration Dates of Buffer Solutions pH 4.01: - pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0745 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: - Temperature: 8.5 pH: 7.1 ISO: -  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 0745 Slope: N/A Temperature: 6.9  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: 1450 Slope: N/A Temperature: 19.1  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRUNNER Date: 3/1/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 98B812637  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALITAN  
Expiration Dates of Buffer Solutions pH 4.01: - pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0745 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: - Temperature: 12.7 pH: 6.73 ISO: -  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 0745 Slope: N/A Temperature: 9.1  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 15.0 Slope: N/A Temperature: 27.8  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: D. DIRKIN Date: 3/2/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B03674  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 98B812637  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALITECH  
Expiration Dates of Buffer Solutions pH 4.01: - pH 7.00: 7/2000 pH 10.01: -

## INSTRUMENTATION CHECK-OUT

Time: 1350 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: - Temperature: 24.9 pH: 6.73 ISO: -  
Reference Chamber Solution Changed?:   
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 1350 Slope: N/A Temperature: 24.9  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1640 Slope: N/A Temperature: 23.2  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: D. Dirkin Date: 3/3/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 928036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 988812637  
ATC Probe Manufacturer: YSI Model: 3570  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CAITECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0650 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: — Temperature: 11.3 pH: 6.57 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0650 Slope: N/A Temperature: 6.6  
Response to Low Buffer: 6.64 Response to High Buffer: 7.63  
Time: 1130 Slope: 70 N/A Temperature: 9.9 16.0  
Response to Low Buffer: 7.0 Response to High Buffer: 9.41  
Time: — Slope: — Temperature: —  
Response to Low Buffer: — Response to High Buffer: —

Comments: \* Difficulty calibrating instrument. will attempt to identify the source for the problem.

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%



# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: D. Dirkin Date: 3/4/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 928036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 985812637  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92m57441  
Buffer Solution Manufacturer: CAITECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0805 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: — Temperature: 10.0°C pH: 7.69 ISO: —  
Reference Chamber Solution Changed?: NO  
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0805 Slope: N/A Temperature: 11.2°C  
Response to Low Buffer: 7.0 Response to High Buffer: 9.82 \* 10.0  
Time: 1445 Slope: N/A Temperature: 29.6  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: Could not calibrate to High Buffer

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: D. DIRKIN Date: 3/5/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 928036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 983812637  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALTECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0710 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: — Temperature: 6.9 pH: 8.29 ISO: —  
Reference Chamber Solution Changed?: No  
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0710 Slope: N/A Temperature: 6.7°C  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1435 Slope: N/A Temperature: 16.4  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%



# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: Bob Feldman Date: 3/9/99  
Instrument Manufacturer: YSE, Inc Model: 3500  
Serial Number: 92B03673  
pH Probe Manufacturer: YSE, Inc Model: 3530  
Serial Number: 98B812637  
ATC Probe Manufacturer: YSE, Inc Model: 3510  
Serial Number: 92429590  
Buffer Solution Manufacturer: Hazco  
Expiration Dates of Buffer Solutions pH 4.01: - pH 7.00: 7/28/00 pH 10.01: 5/23/99

## INSTRUMENTATION CHECK-OUT

Time: 0810 Battery Condition: good  
Instrument Readings with Shorting Plug in, mV: 0.0 Temperature: 7.8 pH: 6.76 ISO: -  
Reference Chamber Solution Changed?: -  
pH Probe Condition: good

## FIELD CALIBRATION

Time: 0810 Slope: - Temperature: 7.8  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1500 Slope: - Temperature: 14.1  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: D. DIRMID Date: 3-10-99  
Instrument Manufacturer: YSE Model: 3500  
Serial Number: 928036734  
pH Probe Manufacturer: YSE Model: 3530  
Serial Number: 983812637  
ATC Probe Manufacturer: YSE Model: 3570  
Serial Number: 92M5741  
Buffer Solution Manufacturer: CALTECH  
Expiration Dates of Buffer Solutions pH 4.01: \_\_\_\_\_ pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0830 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: \_\_\_\_\_ Temperature: 15.0 pH: 7.01 ISO: \_\_\_\_\_  
Reference Chamber Solution Changed?: NO  
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0836 Slope: N/A Temperature: 9.0  
Response to Low Buffer: 7.00 Response to High Buffer: 10.00  
Time: 1435 Slope: N/A Temperature: 15.2  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: Bob Feldgruss Date: 3/11/99  
Instrument Manufacturer: YSI, Inc Model: 3500  
Serial Number: 928036734  
pH Probe Manufacturer: YSI, Inc Model: 3570  
Serial Number: 92M57441  
ATC Probe Manufacturer: YSI, Inc Model: 3520  
Serial Number: 98C0631  
Buffer Solution Manufacturer: Caltech  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/28/00 pH 10.01: 5/23/99

## INSTRUMENTATION CHECK-OUT

Time: 830 Battery Condition: good  
Instrument Readings with Shorting Plug in, mV: — Temperature: 13.5 pH: 7.0 ISO: —  
Reference Chamber Solution Changed?: —  
pH Probe Condition: good

## FIELD CALIBRATION

Time: 830 Slope: — Temperature: 8.1  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1345 Slope: — Temperature: 12.5  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: — Slope: — Temperature: —  
Response to Low Buffer: — Response to High Buffer: —

Comments: —  
—  
—

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: Bob Feldpausch Date: 3/12/99  
Instrument Manufacturer: YSI, Inc. Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI, Inc. Model: 3510  
Serial Number: 92M57441  
ATC Probe Manufacturer: YSI, Inc. Model: 3520  
Serial Number: 98C031  
Buffer Solution Manufacturer: Calitech  
Expiration Dates of Buffer Solutions pH 4.01: \_\_\_\_\_ pH 7.00: \_\_\_\_\_ pH 10.01: \_\_\_\_\_

## INSTRUMENTATION CHECK-OUT

Time: 0815 Battery Condition: good  
Instrument Readings with Shorting Plug in, mV: - Temperature: 5.0 pH: 7.0 ISO: -  
Reference Chamber Solution Changed?: -  
pH Probe Condition: good

## FIELD CALIBRATION

Time: 0815 Slope: - Temperature: 4.7  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1145 Slope: - Temperature: 12.3  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRENNER Date: 3/15/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 928036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 98F813792  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 9800631  
Buffer Solution Manufacturer: CALIBREX  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 11/2000

## INSTRUMENTATION CHECK-OUT

Time: 1015 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: — Temperature: 12.5 pH: 7.0 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 1015 Slope: N/A Temperature: 12.5  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1430 Slope: N/A Temperature: 13.7  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%



# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BIRNBAUM Date: 3/16/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 90F 013712  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92MS7441  
Buffer Solution Manufacturer: CALITECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0810 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: — Temperature: 10.7 pH: 7.01 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 0810 Slope: N/A Temperature: 6.2  
Response to Low Buffer: 7.0 Response to High Buffer: 10  
Time: 1345 Slope: N/A Temperature: 15.3  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: — Slope: — Temperature: —  
Response to Low Buffer: — Response to High Buffer: —

Comments: —  
—  
—

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRENNAN Date: 3/17/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 90F913792  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92MS7441  
Buffer Solution Manufacturer: CALIFERT  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0830 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: — Temperature: 12.1 pH: 7.01 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 0830 Slope: N/A Temperature: 12.3  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: 1700 Slope: N/A Temperature: —  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: — Slope: — Temperature: —  
Response to Low Buffer: — Response to High Buffer: —

Comments: —  
—  
—

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: E.D. Dirkin Date: 3-18-99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 97M812436  
ATC Probe Manufacturer: YSI Model: 3570  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CAITECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0725 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: — Temperature: 9.3 pH: 7.37 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0725 Slope: N/A Temperature: 9.3  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: 1455 Slope: 9A Temperature: 25.1  
Response to Low Buffer: 7.00 Response to High Buffer: —  
Time: — Slope: — Temperature: —  
Response to Low Buffer: — Response to High Buffer: —

Comments: —  
—  
—

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRENNER Date: 3/19/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 97M312436  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALTECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 1000 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: — Temperature: 10.4 pH: 7.00 ISO: —  
Reference Chamber Solution Changed?: —  
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 1000 Slope: N/A Temperature: 10.1  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: 1745 Slope: N/A Temperature: 24.7  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: J. BRENNER Date: 3/22/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B030734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 98F 813792  
ATC Probe Manufacturer: YSI Model: 3510  
Serial Number: 92M57441  
Buffer Solution Manufacturer: CALTECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0900 Battery Condition: Good  
Instrument Readings with Shorting Plug in, mV: — Temperature: 16.6 pH: 7.00 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: Good

## FIELD CALIBRATION

Time: 0900 Slope: N/A Temperature: 11.9  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: 1455 Slope: N/A Temperature: 22.6  
Response to Low Buffer: 7.00 Response to High Buffer: 10.0  
Time: \_\_\_\_\_ Slope: \_\_\_\_\_ Temperature: \_\_\_\_\_  
Response to Low Buffer: \_\_\_\_\_ Response to High Buffer: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# pH/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
Calibration by: T. Turpin-Keasler Date: 3/23/99  
Instrument Manufacturer: YSI Model: 3500  
Serial Number: 92B036734  
pH Probe Manufacturer: YSI Model: 3530  
Serial Number: 98F813792  
ATC Probe Manufacturer: YSI Model: 3570  
Serial Number: 92MS7441  
Buffer Solution Manufacturer: CALITECH  
Expiration Dates of Buffer Solutions pH 4.01: — pH 7.00: 7/2000 pH 10.01: 5/99

## INSTRUMENTATION CHECK-OUT

Time: 0715 Battery Condition: GOOD  
Instrument Readings with Shorting Plug in, mV: — Temperature: 10.8 pH: 7.0 ISO: —  
Reference Chamber Solution Changed?:   
pH Probe Condition: GOOD

## FIELD CALIBRATION

Time: 0715 Slope: N/A Temperature: 11.3  
Response to Low Buffer: 7.20 Response to High Buffer: 10.00  
Time: 1145 Slope: N/A Temperature: 22.9  
Response to Low Buffer: 7.0 Response to High Buffer: 10.0  
Time: — Slope: — Temperature: —  
Response to Low Buffer: — Response to High Buffer: —

Comments: —  
—  
—

Calibrate to Accuracy of  $\pm 0.05$  pH Units  
Slope Must Be Between 80 - 110%

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRUNER Date: 2/24/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92303674  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 9800631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 10/99

## FIELD CALIBRATION

Time: 0845 Temperature of Solution: 10.9  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 734  
 Instrument Response to Calibration Solution: 775  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1600 Temperature of Solution: 25.7  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 1014  
 Instrument Response to Calibration Solution: 1020  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes: \_\_\_\_\_ No: \_\_\_\_\_

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in °C

And	Conductivity @ 25°C ( $\mu$ 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

\*\* **Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu$ hos/cm on 500 scale;  $\leq 1500$   $\mu$ hos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ hos/cm on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ hos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ hos/cm on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ hos/cm on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ hos/cm on 500 scale;  $\geq 3000$   $\mu$ hos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ hos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRANNEN Date: 2/25/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 923036734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 10/99

## FIELD CALIBRATION

Time: 0800 Temperature of Solution: 7.0  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 663  
 Instrument Response to Calibration Solution: 696  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: 1545 Temperature of Solution: 19.2  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 889  
 Instrument Response to Calibration Solution: 903  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

\*\* **Instrument is Calibrated if Response is:**  
 $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.  
 $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.  
 $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.



# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRENNER Date: 2/26/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 925036734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94B79013  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0745 Temperature of Solution: 7.9  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 691  
 Instrument Response to Calibration Solution: 742  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 0450 Temperature of Solution: 19.4  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 892  
 Instrument Response to Calibration Solution: 966  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25°C ( $\mu$ 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

\*\* **Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  and 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRENNER Date: 3/1/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 928036734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94379013  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0745 Temperature of Solution: 9.8  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 714  
 Instrument Response to Calibration Solution: ~~700~~ 713 700  
 Instrument Response within Instrument and Probe Limits of Error:\*\* Yes:  No:

Time: 1510 Temperature of Solution: 27.6  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 1090  
 Instrument Response to Calibration Solution: 1036  
 Instrument Response within Instrument and Probe Limits of Error:\*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error:\*\* Yes: \_\_\_\_\_ No: \_\_\_\_\_

\*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:  
 Conductivity ( $\mu$  S/cm) = (Conductivity at 25°C) (A + BT + CT<sup>2</sup>)  
 Where T = Temperature in °C

And	Conductivity @ 25°C ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu$ hos/cm on 500 scale;  $\leq 1500$   $\mu$ hos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ hos/cm on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ hos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ hos/cm on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ hos/cm on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ hos/cm on 500 scale;  $\geq 3000$   $\mu$ hos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ hos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: DD (KIN) Date: 3/2/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92B036734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94B79613  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 1315 Temperature of Solution: 24.0 °C  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 981  
 Instrument Response to Calibration Solution: 975  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1645 Temperature of Solution: 27.7  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 1040  
 Instrument Response to Calibration Solution: 1052  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

\*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:  
 Conductivity ( $\mu$  S/cm) = (Conductivity at 25°C) (A + BT + CT<sup>2</sup>)  
 Where T = Temperature in °C

And	Conductivity @ 25°C ( $\mu$ 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

\*\* **Instrument is Calibrated if Response is:**  
 $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu$ mhos/cm on 500 scale;  $\leq 1500$   $\mu$ mhos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ mhos/cm on 50,000 scale.  
 $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ mhos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ mhos/cm and 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ mhos/cm on 50,000 scale.  
 $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ mhos/cm on 500 scale;  $\geq 3000$   $\mu$ mhos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ mhos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: D. D. RIGIN Date: 3/3/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92803674  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94879013  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 2/99

## FIELD CALIBRATION

Time: 0650 Temperature of Solution: 6.2  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 656  
 Instrument Response to Calibration Solution: 656  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: 1130 Temperature of Solution: 16.1  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 830  
 Instrument Response to Calibration Solution: 856  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

\*\*

**Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: D. Darwin Date: 3/4/99  
 Instrument Manufacturer: YSE Model: 3500  
 Serial Number: 92803674  
 Probe Manufacturer: YSE Model: 3526  
 Serial Number: 94879013  
 Calibration Solution Manufacturer: YSE  
 Solution Conductivity: 1000 µS/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 805 Temperature of Solution: 11.2  
 Temperature Compensated Solution Conductivity (µ S/cm)\* ~~737~~ 737  
 Instrument Response to Calibration Solution: 737  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1415 Temperature of Solution: 24.6  
 Temperature Compensated Solution Conductivity (µ S/cm)\* 992  
 Instrument Response to Calibration Solution: 994  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity (µ S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

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

\*\*

**Instrument is Calibrated if Response is:**

- ±6% of calibration solution if reading is ≤ 150 µmhos/cm on 500 scale; ≤1500 µmhos/cm on 5000 scale; or ≤15,000 µmhos/cm on 50,000 scale.
- ±4.5% to 6% of calibration solution if reading is > 150 and < 300 µmhos/cm on 500 scale; > 1500 and < 3000 µmhos/cm and 5000 scale; and > 15,000 and < 30,000 µmhos/cm on 50,000 scale.
- ± 4.5% of calibration solution if reading is ≥ 300 µmhos/cm on 500 scale; ≥ 3000 µmhos/cm on 5000 scale; and ≥ 30,000 µmhos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: D. Dirkin Date 3/5/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92B03674  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94B79013  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000 µS/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0710 Temperature of Solution: 6.4  
 Temperature Compensated Solution Conductivity (µ S/cm)\* 653  
 Instrument Response to Calibration Solution: 654  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1135 Temperature of Solution: 16.4  
 Temperature Compensated Solution Conductivity (µ S/cm)\* 836  
 Instrument Response to Calibration Solution: 840  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity (µ S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes: \_\_\_\_\_ No: \_\_\_\_\_

\*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:  
 Conductivity (µ S/cm) = (Conductivity at 25°C) (A + BT + CT<sup>2</sup>)  
 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

\*\* **Instrument is Calibrated if Response is:**  
 ±6% of calibration solution if reading is ≤ 150 µmhos/cm on 500 scale; ≤ 1500 µmhos/cm on 5000 scale; or ≤ 15,000 µmhos/cm on 50,000 scale.  
 ±4.5% to 6% of calibration solution if reading is > 150 and < 300 µmhos/cm on 500 scale; > 1500 and < 3000 µmhos/cm on 5000 scale; and > 15,000 and < 30,000 µmhos/cm on 50,000 scale.  
 ± 4.5% of calibration solution if reading is ≥ 300 µmhos/cm on 500 scale; ≥ 3000 µmhos/cm on 5000 scale; and ≥ 30,000 µmhos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: Bob Feldman Date: 3/8/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92303673  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94879013  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000 Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0910 Temperature of Solution: 9.9  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 716  
 Instrument Response to Calibration Solution: 722  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1500 Temperature of Solution: 10.0 / 2.1  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 728 756  
 Instrument Response to Calibration Solution: 725 762  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

\*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:  
 Conductivity ( $\mu$  S/cm) = (Conductivity at 25°C) (A + BT + CT<sup>2</sup>)  
 Where T = Temperature in °C

And	Conductivity @ 25°C ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**

- ±6% of calibration solution if reading is  $\leq 150$   $\mu$ mhos/cm on 500 scale;  $\leq 1500$   $\mu$ mhos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ mhos/cm on 50,000 scale.
- ±4.5% to 6% of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ mhos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ mhos/cm and 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ mhos/cm on 50,000 scale.
- ± 4.5% of calibration solution if reading is  $\geq 300$   $\mu$ mhos/cm on 500 scale;  $\geq 3000$   $\mu$ mhos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ mhos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: Bob Feldhausen Date: 3/9/99  
 Instrument Manufacturer: YSI Inc Model: 3500  
 Serial Number: 92B03673  
 Probe Manufacturer: YSI Inc Model: 3520  
 Serial Number: 94B79013  
 Calibration Solution Manufacturer: YSI Inc  
 Solution Conductivity: 1,000 Solution Expiration Date: 2/99

## FIELD CALIBRATION

Time: 0810 Temperature of Solution: 7.3  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 671  
 Instrument Response to Calibration Solution: 674  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: 1500 Temperature of Solution: 13.8  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 787  
 Instrument Response to Calibration Solution: 793  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

\*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:  
 Conductivity ( $\mu$  S/cm) = (Conductivity at 25°C) (A + BT + CT<sup>2</sup>)  
 Where T = Temperature in °C

And	Conductivity @ 25°C ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu$ mhos/cm on 500 scale;  $\leq 1500$   $\mu$ mhos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ mhos/cm on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ mhos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ mhos/cm on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ mhos/cm on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ mhos/cm on 500 scale;  $\geq 3000$   $\mu$ mhos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ mhos/cm on 50,000 scale.



# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: D. Dirkin Date 3-10-99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92803674  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 94B79013  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu\text{S/cm}$  Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0830 Temperature of Solution: 10.6  
 Temperature Compensated Solution Conductivity ( $\mu\text{S/cm}$ )\* 729  
 Instrument Response to Calibration Solution: 732  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1435 Temperature of Solution: 15.8  
 Temperature Compensated Solution Conductivity ( $\mu\text{S/cm}$ )\* 825  
 Instrument Response to Calibration Solution: 830  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu\text{S/cm}$ )\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu\text{S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25°C ( $\mu\text{S/cm}$ )	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

\*\*

**Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: Bob Feldgrussch Date: 3/11/99  
 Instrument Manufacturer: YSI, Inc. Model: 3500  
 Serial Number: 92 B036734  
 Probe Manufacturer: YSI, Inc. Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI, Inc.  
 Solution Conductivity: 1,000 Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 830 Temperature of Solution: 8.5  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 690  
 Instrument Response to Calibration Solution: 706  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1345 Temperature of Solution: 12.2  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: 790  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$
 Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25°C ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: Bob Feldman Date: 3/12/99  
 Instrument Manufacturer: YSI, Inc. Model: 3500  
 Serial Number: 92B036734  
 Probe Manufacturer: YSI, Inc. Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI, Inc.  
 Solution Conductivity: 1,00 Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0815 Temperature of Solution: 4.5  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 669  
 Instrument Response to Calibration Solution: 640  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1145 Temperature of Solution: 12.7  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 767  
 Instrument Response to Calibration Solution: 795  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

\*The Temperature Compensated Solution Conductivity May Be Computed Using Following Equation:  
 Conductivity ( $\mu$  S/cm) = (Conductivity at 25°C) (A + BT + CT<sup>2</sup>)  
 Where T = Temperature in °C

And	Conductivity @ 25°C ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**

- ±6% of calibration solution if reading is  $\leq 150$   $\mu$ mhos/cm on 500 scale;  $\leq 1500$   $\mu$ mhos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ mhos/cm on 50,000 scale.
- ±4.5% to 6% of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ mhos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ mhos/cm on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ mhos/cm on 50,000 scale.
- ± 4.5% of calibration solution if reading is  $\geq 300$   $\mu$ mhos/cm on 500 scale;  $\geq 3000$   $\mu$ mhos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ mhos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: S. BRENNER Date: 3/15/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92B036734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 08/99

## FIELD CALIBRATION

Time: 1015 Temperature of Solution: 9.5  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 709  
 Instrument Response to Calibration Solution: 737  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1430 Temperature of Solution: 13.4  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 780  
 Instrument Response to Calibration Solution: 793  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**  
 $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale;  
 or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.  
 $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  
 $< 3000$   $\mu\text{mhos/cm}$  and 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.  
 $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000  
 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRENNER Date: 3/16/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 923036734  
 Probe Manufacturer: YSI Model: 3500  
 Serial Number: 90C0631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0810 Temperature of Solution: 5.7  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 661  
 Instrument Response to Calibration Solution: 661  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1345 Temperature of Solution: 15.3  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 815  
 Instrument Response to Calibration Solution: 845  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$
 Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25°C ( $\mu$ S/cm)	A	B	C
	<u>1,000</u>	0.5407	0.0173	0.000043
	10,000	0.5538	0.0168	0.000042
	100,000	0.5825	0.0157	0.000040

**\*\* Instrument is Calibrated if Response is:**  
 $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu$ hos/cm on 500 scale;  $\leq 1500$   $\mu$ hos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ hos/cm on 50,000 scale.  
 $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ hos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ hos/cm and 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ hos/cm on 50,000 scale.  
 $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ hos/cm on 500 scale;  $\geq 3000$   $\mu$ hos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ hos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRENNER Date: 3/17/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92B036734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 3/99

## FIELD CALIBRATION

Time: 0930 Temperature of Solution: 9.6  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 711  
 Instrument Response to Calibration Solution: 731  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1700 Temperature of Solution: 15.0  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 810  
 Instrument Response to Calibration Solution: 823  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

\*\*

**Instrument is Calibrated if Response is:**

$\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu$ hos/cm on 500 scale;  $\leq 1500$   $\mu$ hos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ hos/cm on 50,000 scale.  
 $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ hos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ hos/cm on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ hos/cm on 50,000 scale.  
 $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ hos/cm on 500 scale;  $\geq 3000$   $\mu$ hos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ hos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: D. DIRKIN Date 3-18-99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92803674  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 98C063  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 10/99

## FIELD CALIBRATION

Time: 0725 Temperature of Solution: 9.4  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 707  
 Instrument Response to Calibration Solution: 727  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1455 Temperature of Solution: 25.7 26.3  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 1,098  
 Instrument Response to Calibration Solution: 1,043  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

**\*\* Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRENNER Date: 3/19/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92B03674  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 1000 Temperature of Solution: 10.9  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 734  
 Instrument Response to Calibration Solution: 712  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 17.45 Temperature of Solution: 23.6  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 973  
 Instrument Response to Calibration Solution: 934  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

\*\*

**Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.



# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: J. BRANKER Date: 3/22/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92B030734  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 98C0631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1,000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0900 Temperature of Solution: 11.5  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 745  
 Instrument Response to Calibration Solution: 781  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: 1455 Temperature of Solution: 21.8  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 938  
 Instrument Response to Calibration Solution: 906  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:   
 Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + B/T) + CT^2$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25°C ( $\mu$ 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

\*\* **Instrument is Calibrated if Response is:**

- +6% of calibration solution if reading is  $\leq 150$   $\mu$ hos/cm on 500 scale;  $\leq 1500$   $\mu$ hos/cm on 5000 scale; or  $\leq 15,000$   $\mu$ hos/cm on 50,000 scale.
- +4.5% to 6% of calibration solution if reading is  $> 150$  and  $< 300$   $\mu$ hos/cm on 500 scale;  $> 1500$  and  $< 3000$   $\mu$ hos/cm on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu$ hos/cm on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu$ hos/cm on 500 scale;  $\geq 3000$   $\mu$ hos/cm on 5000 scale; and  $\geq 30,000$   $\mu$ hos/cm on 50,000 scale.

# CONDUCTIVITY/SALINITY/TEMPERATURE METER FIELD CALIBRATION FORM

Project Name: JPL  
 Calibration by: T. Turpin-Keasler Date: 3/23/99  
 Instrument Manufacturer: YSI Model: 3500  
 Serial Number: 92803673  
 Probe Manufacturer: YSI Model: 3520  
 Serial Number: 9800631  
 Calibration Solution Manufacturer: YSI  
 Solution Conductivity: 1000  $\mu$ S/cm Solution Expiration Date: 8/99

## FIELD CALIBRATION

Time: 0715 Temperature of Solution: 9.7  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 712  
 Instrument Response to Calibration Solution: 735  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: 1145 Temperature of Solution: 22.4  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* 950  
 Instrument Response to Calibration Solution: 914  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

Time: \_\_\_\_\_ Temperature of Solution: \_\_\_\_\_  
 Temperature Compensated Solution Conductivity ( $\mu$  S/cm)\* \_\_\_\_\_  
 Instrument Response to Calibration Solution: \_\_\_\_\_  
 Instrument Response within Instrument and Probe Limits of Error: \*\* Yes:  No:

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

$$\text{Conductivity } (\mu \text{ S/cm}) = (\text{Conductivity at } 25^\circ\text{C}) (A + BT + CT^2)$$

Where T = Temperature in  $^\circ\text{C}$

And	Conductivity @ 25 $^\circ\text{C}$ ( $\mu$ 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

\*\*

**Instrument is Calibrated if Response is:**

- $\pm 6\%$  of calibration solution if reading is  $\leq 150$   $\mu\text{mhos/cm}$  on 500 scale;  $\leq 1500$   $\mu\text{mhos/cm}$  on 5000 scale; or  $\leq 15,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  to  $6\%$  of calibration solution if reading is  $> 150$  and  $< 300$   $\mu\text{mhos/cm}$  on 500 scale;  $> 1500$  and  $< 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $> 15,000$  and  $< 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.
- $\pm 4.5\%$  of calibration solution if reading is  $\geq 300$   $\mu\text{mhos/cm}$  on 500 scale;  $\geq 3000$   $\mu\text{mhos/cm}$  on 5000 scale; and  $\geq 30,000$   $\mu\text{mhos/cm}$  on 50,000 scale.

**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	52867	MW-991-079	20	3/23/99
MW-3-1	52303	MW-991-078	6	3/3/99
MW-3-2	52303	MW-991-077	6	3/3/99
MW-3-3	52303	MW-991-076	6	3/3/99
MW-3-4	52286	MW-991-075	5	3/2/99
MW-3-5	52286	MW-991-074	5	3/2/99
MW-4-1	52431	MW-991-073	9	3/8/99
MW-4-2	52729	MW-991-072	16	3/17/99
MW-4-2 Dup	52729	MW-991-071	16	3/17/99
MW-4-3	52431	MW-991-070	9	3/8/99
MW-4-4	52431	MW-991-069	9	3/8/99
MW-4-5	52431	MW-991-068	9	3/8/99
MW-5	52845	MW-991-067	19	3/22/99
MW-6	52845	MW-991-066	19	3/22/99
MW-7	52812	MW-991-065	18	3/19/99
MW-8	52867	MW-991-064	20	3/23/99
MW-9	52867	MW-991-063	20	3/23/99
MW-10	52845	MW-991-062	19	3/22/99
MW-10 Dup	52845	MW-991-061	19	3/22/99
MW-11-1	52399	MW-991-060	8	3/5/99
MW-11-2	52399	MW-991-059	8	3/5/99
MW-11-3	52399	MW-991-058	8	3/5/99
MW-11-4	52399	MW-991-057	8	3/5/99
MW-11-5	52399	MW-991-056	8	3/5/99
MW-12-1	52247	MW-991-055	4	3/1/99
MW-12-2	52247	MW-991-054	4	3/1/99
MW-12-2 Dup	52247	MW-991-053	4	3/1/99
MW-12-3	52247	MW-991-052	4	3/1/99
MW-12-4	52247	MW-991-051	4	3/1/99
MW-12-5	52247	MW-991-050	4	3/1/99
MW-13	52812	MW-991-049	18	3/19/99
MW-13 Dup	52812	MW-991-048	18	3/19/99
MW-14-1	52351	MW-991-047	7	3/4/99
MW-14-2	52351	MW-991-046	7	3/4/99
MW-14-3	52351	MW-991-045	7	3/4/99
MW-14-4	52351	MW-991-044	7	3/4/99
MW-14-5	52351	MW-991-043	7	3/4/99
MW-15	52867	MW-991-042	20	3/23/99
MW-16	52812	MW-991-041	18	3/19/99
MW-17-1	52507/52757	MW-991-040	11/17	3/10 - 3/18/99
MW-17-2	52507	MW-991-039	11	3/10/99
MW-17-3	52757	MW-991-038	17	3/18/99
MW-17-4	52507	MW-991-037	11	3/10/99
MW-17-5	52618	MW-991-036	14	3/15/99

## ANALYTICAL RESULTS INDEX

### GROUNDWATER SAMPLES

Well Number	Report Number	Sample Number	Tab Number	Date Sampled
MW-18-1	52128	MW-991-035	1	2/24/99
MW-18-2	52128	MW-991-034	1	2/24/99
MW-18-3	52128	MW-991-033	1	2/24/99
MW-18-4	52128	MW-991-032	1	2/24/99
MW-18-5	52128	MW-991-031	1	2/24/99
MW-19-1	52208	MW-991-030	3	2/26/99
MW-19-2	52208	MW-991-029	3	2/26/99
MW-19-3	52208	MW-991-028	3	2/26/99
MW-19-4	52208	MW-991-027	3	2/26/99
MW-19-5	52208	MW-991-026	3	2/26/99
MW-20-1	52176	MW-991-025	2	2/25/99
MW-20-2	52176	MW-991-024	2	2/25/99
MW-20-3	52176	MW-991-023	2	2/25/99
MW-20-4	52176	MW-991-022	2	2/25/99
MW-20-5	52176	MW-991-021	2	2/25/99
MW-21-1	52654	MW-991-020	15	3/16/99
MW-21-2	52654	MW-991-019	15	3/16/99
MW-21-3	52654	MW-991-018	15	3/16/99
MW-21-4	52654	MW-991-017	15	3/16/99
MW-21-5	52654	MW-991-016	15	3/16/99
MW-22-1	52447	MW-991-015	10	3/9/99
MW-22-2	52447	MW-991-014	10	3/9/99
MW-22-3	52447	MW-991-013	10	3/9/99
MW-22-4	52447	MW-991-012	10	3/9/99
MW-22-5	52447	MW-991-011	10	3/9/99
MW-23-1	52526	MW-991-010	12	3/11/99
MW-23-2	52526	MW-991-009	12	3/11/99
MW-23-3	52526	MW-991-008	12	3/11/99
MW-23-4	52526	MW-991-007	12	3/11/99
MW-23-5	52526	MW-991-006	12	3/11/99
MW-24-1	52729	MW-991-005	16	3/17/99
MW-24-2	52729	MW-991-004	16	3/17/99
MW-24-3	52757	MW-991-003	17	3/18/99
MW-24-4	52568	MW-991-002	13	3/12/99
MW-24-5	52568	MW-991-001	13	3/12/99

## ANALYTICAL RESULTS INDEX

### QA/QC SAMPLE BLANKS

Sample Type	Report Number	Sample Number	Tab Number	Date Sampled
TB	52128	MW-991-80	1	2/24/99
EB	52128	MW-991-81	1	2/24/99
TB	52176	MW-991-82	2	2/25/99
EB	52176	MW-991-83	2	2/25/99
TB	52208	MW-991-84	3	2/26/99
EB	52208	MW-991-85	3	2/26/99
TB	52247	MW-991-86	4	3/1/99
EB	52247	MW-991-87	4	3/1/99
EB	52286	MW-991-88	5	3/2/99
TB	52286	MW-991-89	5	3/2/99
TB	52303	MW-991-90	6	3/3/99
EB	52303	MW-991-91	6	3/3/99
TB	52351	MW-991-92	7	3/4/99
EB	52351	MW-991-93	7	3/4/99
TB	52399	MW-991-94	8	3/5/99
EB	52399	MW-991-95	8	3/5/99
TB	52431	MW-991-96	9	3/8/99
EB	52431	MW-991-97	9	3/8/99
TB	52447	MW-991-98	10	3/9/99
EB	52447	MW-991-99	10	3/9/99
TB	52507	MW-991-100	11	3/10/99
EB	52507	MW-991-101	11	3/10/99
TB	52526	MW-991-102	12	3/11/99
EB	52526	MW-991-103	12	3/11/99
TB	52568	MW-991-105	13	3/12/99
EB	52568	MW-991-106	13	3/12/99
EB	52618	MW-991-107	14	3/15/99
TB	52618	MW-991-108	14	3/15/99
EB	52654	MW-991-109	15	3/16/99
TB	52654	MW-991-110	15	3/16/99
EB	52729	MW-991-111	16	3/17/99
TB	52729	MW-991-112	16	3/17/99
TB	52757	MW-991-113	17	3/18/99
EB	52757	MW-991-114	17	3/18/99
TB	52812	MW-991-115	18	3/19/99
TB	52845	MW-991-116	19	3/22/99
TB	52867	MW-991-117	20	3/23/99
FB	52812	MW-991-200	18	3/19/99

## ANALYTICAL RESULTS INDEX

### 1,4 DIOXANE & NDMA RESULTS

Well Number	Report Number	Sample Number	Lab Number	Date Sampled
MW-4-2	52730	MW-991-072	23	3/17/99
MW-7	52813	MW-991-065	21	3/19/99
MW-13	52813	MW-991-049	21	3/19/99
MW-16	52813	MW-991-041	21	3/19/99
MW-17-3	52758	MW-991-038	22	3/18/99
MW-24-1	52730	MW-991-005	23	3/17/99



**MONTGOMERY WATSON LABORATORIES**

March 19, 1999

Foster Wheeler Environmental  
611 Anton Blvd Suite 800  
Costa Mesa, CA.92626

Attention: Mark Cutler

Re: Report # 52128 (MW-991-080, -081, -031, -032, -033, -034,  
-035)

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

**Other Comments:**

Bromodichloromethane was detected in sample ID: MW-991-034

Carbon Tetrachloride was detected in sample ID: MW-991-032

Chloroform was detected in sample ID: MW-991-032, -033, -034

Tetrachloroethylene was detected in sample ID: MW-991-032, -033

Trichloroethylene was detected in sample ID: MW-991-032, -033

Lead was detected in sample ID: MW-991-034

Hexavalent Chrome was detected in sample ID: MW-991-033

Perchlorate is reported as ND for sample ID: MW-991-032

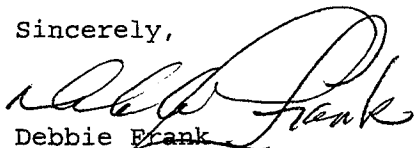
**TICS:**

None

**Method Variance:**

None

Sincerely,



Debbie Frank  
Project Manager

cc: Judy Novelly (JPL)

a Division of Montgomery Watson Americas, Inc.

555 East Walnut Street  
Pasadena, California 91101  
Tel: 626 568 6400  
Fax: 626 568 6324

4820 South Mill Avenue  
Suite 202  
Tempe, Arizona 85282  
Tel: 602 755 8201  
Fax: 602 755 8203

*Quality Environmental Analysis*



**Montgomery Watson Laboratories**  
 , Los Angeles, CA 90051-3508  
 PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Foster Wheeler Environmental, Inc  
 611 Anton Boulevard  
 Suite 800  
 Costa Mesa, CA 92626  
 Attn: Mark Cutler

Customer Code: ENSERCH  
 PO#: Sub PO#007618-0005  
 Group#: 52128  
 Project#: JPL  
 Proj Mgr: Debbie Frank  
 Phone: (714) 444-5526

The following samples were received from you on 02/24/99. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Montgomery Watson Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
990224199	MW-991-080	@EBASVOA	Water	02/24/99
990224200	MW-991-081	@EBASVOA CR-VI CLO4	Water PB-EBAS	02/24/99
990224201	MW-991-031	@EBASVOA CR-VI TDS CATION1 CO3 ALK K NA	Water PB-EBAS ANION1 NO3 MG	02/24/99
990224202	MW-991-032	@EBASVOA CR-VI TDS CATION1 CO3 ALK K NA	Water PB-EBAS ANION1 NO3 MG	02/24/99
990224203	MW-991-033	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/24/99
990224204	MW-991-034	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/24/99
990224205	MW-991-035	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/24/99

Test Acronym Description

Test Acronym	Description
--------------	-------------

Foster Wheeler Environmental, Inc  
611 Anton Boulevard  
Suite 800  
Costa Mesa, CA 92626  
Attn: Mark Cutler

Customer Code: ENSERCH  
PO#: Sub PO#007618-0005  
Group#: 52128  
Project#: JPL  
Proj Mgr: Debbie Frank  
Phone: (714) 444-5526

---

Test Acronym Description

---

Test Acronym	Description
@EBASVOA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity
ANION1	Anion Sum
AS-EBAS	Arsenic, Total, GF
CA	Calcium, Total, ICAP
CATION1	Cation Sum
CL	Chloride
CLO4	Perchlorate
CO3	Carbonate as CO3, Calculated
CR-EBAS	Chromium, Total, ICAP/MS
CR-VI	Hexavalent chromium (Cr VI)
EC	Specific Conductance
FE-MS	Iron, Total, ICAP/MS
HCO3	Bicarbonate as HCO3,calculated
K	Potassium, Total, ICAP
MG	Magnesium, Total, ICAP
NA	Sodium, Total, ICAP
NO3	Nitrate-N by IC
PB-EBAS	Lead, Total, ICAP/MS
PH	Lab pH
SO4	Sulfate
TDS	Total Dissolved Solid (TDS)



52128

NUMBER 1200

TEMP = 3-10

BD - REG, STILL OKAY  
ICE

# FOSTER WHEELER ENVIRONMENTAL CORPORATION

## CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

PAGE 1 OF 1

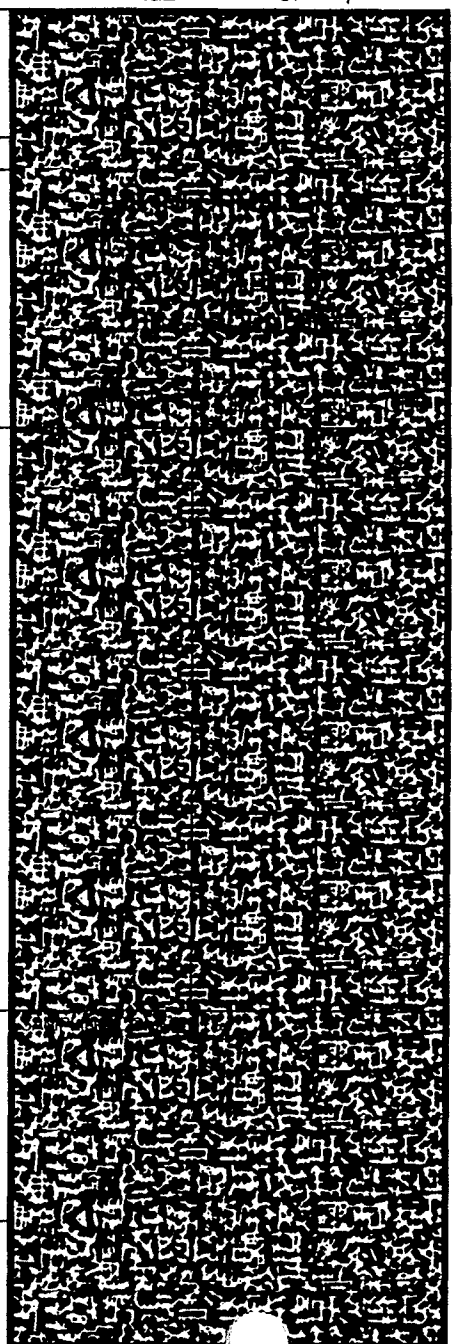
PROJECT <b>JPL</b>	OFFS NO. <b>1572.0268</b>	HAZARD IDENTIFICATION Non Hazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>	TIME REQUIRED NORMAL <input checked="" type="checkbox"/> DAYS RUSH <input type="checkbox"/> DAYS
PROJECT ADDRESS <b>4800 ONE GILBERT DR. PHILADELPHIA PA</b>			

SAMPLER (Name) <b>J. BRENNER</b>	SAMPLER (Signature) <i>J. Brenner</i>	ANALYSES REQUIRED										
LABORATORY <b>MONTGOMERY CLASS</b>		<table border="1"> <tr> <td>VOCs (S&amp;G)</td> <td>TRIAL 10/10/05</td> <td>MINI-ANALYSIS</td> <td>HEX CR</td> <td>RESIDUAL</td> <td>MISCELL VOCs</td> <td>MISCELL VOCs</td> <td>MISCELL METALS</td> <td>OC</td> </tr> </table>		VOCs (S&G)	TRIAL 10/10/05	MINI-ANALYSIS	HEX CR	RESIDUAL	MISCELL VOCs	MISCELL VOCs	MISCELL METALS	OC
VOCs (S&G)	TRIAL 10/10/05	MINI-ANALYSIS	HEX CR	RESIDUAL	MISCELL VOCs	MISCELL VOCs	MISCELL METALS	OC				
REPORTS TO BE SENT TO <b>M. MAJIK COTLER</b>												

SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			VOCs (S&G)	TRIAL 10/10/05	MINI-ANALYSIS	HEX CR	RESIDUAL	MISCELL VOCs	MISCELL VOCs	MISCELL METALS	OC
					WATER	SOIL	OTHER (Describe)									
MW 991-028	0900	2/24/97	2	2x40ml	X			X								
MW 991-031	1130	↓	5	2x40ml 2, 125ml 1x250ml	X			X	X		X	X				
MW 991-031	1030		6	2x40ml 1, 150ml 1x250ml 2x125ml	X			X	X	X	X	X				
MW 991-032	1210		7	2x40ml 1x250ml 2x125ml	X			X	X	X	X	X			X	
MA 991-032MS	1210		2	2x40ml	X								X			
MA 991-032MS	1210		2	2x40ml	X								X			
MW 991-033	1330		6	2x40ml 1, 250ml 2, 125ml 1, 125ml	X			X	X	X	X	X				
MW 991-034	1425	↓	6		X			X	X	X	X					
MW 991-035	1515		6		X			X	X	X	X				X	

LABORATORY INSTRUCTIONS/COMMENTS  
**Level IV W/AC**

RELINQUISHED BY (Signature) <i>[Signature]</i>	DATE 2/24/97	RECEIVED BY (Signature) <i>M. W. MEH</i>	RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY Foster Wheeler	TIME 1630	COMPANY M.W.	COMPANY	TIME	COMPANY



MONTGOMERY LABORATORIES COOLER RECEIPT FORM

PROJECT: ENSERCH Date Received: 2-24-99

Use other side of this form to note further details concerning check-in problems and to describe any action(s) regarding the resolution(s) of problems.

A. PRELIMINARY EXAMINATION: Date cooler opened: 2-24-99  
 by (print) M. DE MESA (sign) [Signature]

1. Did cooler come with shipping slip (air bill, etc.)? Yes No  
 If YES, attach & enter carrier and air bill # here: DELIVERED BY CLIENT
2. Were custody seals on outside of cooler? Yes No  
 If YES, how many & where: 4 lid to body SEE BACK  
 If Yes, enter the following: seal date: 2/24/99, seal name: Jeff Boerner
3. Were custody seals unbroken & intact at delivery? Yes No
4. Were custody papers sealed in bag & taped to lid? Yes No
5. Were custody papers filled out properly (ink, etc.)? Yes No
6. Did you sign custody papers in appropriate place? Yes No
7. Was project identifiable from custody papers? Yes No
8. Have designated person(s) initial to acknowledge receipt: MLD (date) 2-24-99

B. LOG-IN PHASE: Date samples were logged-in: 2-24-99 by:  
 (print) M. DE MESA (sign) [Signature]

9. Describe packing:
10. If required, was enough ice used? Yes No
11. Were all bottles sealed in separate plastic bags? Yes No
12. Did all bottles arrive unbroken/in good condition? Yes No
13. Were all bottle labels complete (ID, date, sign, pres)? Yes No
14. Did all bottle labels agree with custody papers?  
 If NO, indicate discrepancies on back. Yes No
15. Were correct containers used for the analytes? Yes No
16. Were correct preservatives used when required? Yes No
17. Was sufficient amount of sample sent for tests? Yes No
18. Bubbles absent in YOA vials?  
 If NO, list by sample id on back. Yes No

19. Was Client Services informed of problems? NA Yes No no problems

Report Summary of positive results, PR52128

			Result	MDL	UNITS
Analyzed	990224199	MW-991-080			
Analyzed	990224200	MW-991-081			
Analyzed	990224201	MW-991-031			
03/02/99	Alkalinity		145	2.000	MGL
03/05/99	Anion Sum		3.38	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		176	.001	MGL
03/08/99	Calcium, Total, ICAP		13.3	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		1.81	.001	MGL
03/12/99	Cation Sum		3.27	.001	MEQL
02/25/99	Chloride		12	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		165	*****	UGL
02/26/99	Lab pH		8.2	.001	UNIT
03/08/99	Magnesium, Total, ICAP		5.17	1.000	MGL
02/25/99	Nitrate-N by IC		0.31	.100	MGL
03/08/99	Potassium, Total, ICAP		1.52	1.000	MGL
03/08/99	Sodium, Total, ICAP		49.3	1.000	MGL
02/25/99	Specific Conductance		330	4.000	UMHO
02/25/99	Sulfate		5.5	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)		210	10.000	MGL
Analyzed	990224202	MW-991-032			
03/02/99	Carbon Tetrachloride		4.7	.500	UGL
03/02/99	Chloroform (Trichloromethane)		1.1	.500	UGL
03/02/99	Tetrachloroethylene (PCE)		2.3	.500	UGL
03/02/99	Trichloroethylene (TCE)		1.2	.500	UGL
03/02/99	Alkalinity		147	2.000	MGL
03/05/99	Anion Sum		3.85	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		178	.001	MGL
03/08/99	Calcium, Total, ICAP		29.4	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		2.91	.001	MGL
03/12/99	Cation Sum		3.82	.001	MEQL
02/25/99	Chloride		11	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		170	*****	UGL
02/26/99	Lab pH		8.4	.001	UNIT
03/08/99	Magnesium, Total, ICAP		11.2	1.000	MGL
02/25/99	Nitrate-N by IC		0.84	.100	MGL
03/10/99	Perchlorate		24	4.000	UGL
03/08/99	Potassium, Total, ICAP		1.38	1.000	MGL
03/08/99	Sodium, Total, ICAP		32.0	1.000	MGL
02/25/99	Specific Conductance		370	4.000	UMHO
02/25/99	Sulfate		26	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)		220	10.000	MGL
Analyzed	990224203	MW-991-033			
03/02/99	Chloroform (Trichloromethane)		3.5	.500	UGL
03/02/99	Tetrachloroethylene (PCE)		0.5	.500	UGL
03/02/99	Trichloroethylene (TCE)		1.0	.500	UGL
03/02/99	Alkalinity		200	2.000	MGL
03/05/99	Anion Sum		5.27	.001	MEQL

03/05/99	Bicarbonate as HCO3,calculated	243	.001	MGL
03/08/99	Calcium, Total, ICAP	57.8	1.000	MGL
03/05/99	Carbonate as CO3, Calculated	1.58	.001	MGL
03/12/99	Cation Sum	5.27	.001	MEQL
02/25/99	Chloride	13	1.000	MG
02/25/99	Hexavalent chromium (Cr VI)	0.0069	.005	MGL
02/26/99	Lab pH	8.0	.001	UNIT
03/08/99	Magnesium, Total, ICAP	17.4	1.000	MGL
02/25/99	Nitrate-N by IC	1.0	.100	MGL
03/08/99	Potassium, Total, ICAP	2.68	1.000	MGL
03/08/99	Sodium, Total, ICAP	20.3	1.000	MGL
02/25/99	Specific Conductance	505	4.000	UMHO
02/25/99	Sulfate	40	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)	320	10.000	MGL

Analyzed 990224204 MW-991-034

03/02/99	Bromodichloromethane	0.8	.500	UGL
03/02/99	Chloroform (Trichloromethane)	3.0	.500	UGL
03/02/99	Alkalinity	175	2.000	MGL
03/05/99	Anion Sum	4.79	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated	213	.001	MGL
03/08/99	Calcium, Total, ICAP	50.0	1.000	MGL
03/05/99	Carbonate as CO3, Calculated	0.551	.001	MGL
03/12/99	Cation Sum	4.69	.001	MEQL
02/25/99	Chloride	12	1.000	MGL
03/05/99	Iron, Total, ICAP/MS	130	*****	UGL
02/26/99	Lab pH	7.6	.001	UNIT
03/05/99	Lead, Total, ICAP/MS	5.3	2.000	UGL
03/08/99	Magnesium, Total, ICAP	16.2	1.000	MG <sup>+</sup>
02/25/99	Nitrate-N by IC	1.3	.100	MC
03/08/99	Potassium, Total, ICAP	2.48	1.000	MGL
03/08/99	Sodium, Total, ICAP	18.3	1.000	MGL
02/25/99	Specific Conductance	460	4.000	UMHO
02/25/99	Sulfate	41	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)	290	10.000	MGL

Analyzed 990224205 MW-991-035

03/02/99	Alkalinity	146	2.000	MGL
03/05/99	Anion Sum	3.71	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated	178	.001	MGL
03/08/99	Calcium, Total, ICAP	41.0	1.000	MGL
03/05/99	Carbonate as CO3, Calculated	0.366	.001	MGL
03/12/99	Cation Sum	3.73	.001	MEQL
02/25/99	Chloride	5.5	1.000	MGL
02/26/99	Lab pH	7.5	.001	UNIT
03/08/99	Magnesium, Total, ICAP	12.8	1.000	MGL
02/25/99	Nitrate-N by IC	0.78	.100	MGL
03/08/99	Potassium, Total, ICAP	2.15	1.000	MGL
03/08/99	Sodium, Total, ICAP	13.1	1.000	MGL
02/25/99	Specific Conductance	360	4.000	UMHO
02/25/99	Sulfate	28	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)	240	10.000	MGL



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**Laboratory Report**

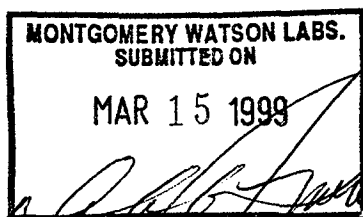
for

Foster Wheeler Environmental, Inc  
611 Anton Boulevard

Suite 800

Costa Mesa , CA 92626

Attention: Mark Cutler  
Fax: (714)444-5560



DEB\* Debbie Frank

Report#: 52128  
JPL



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Laboratory  
 Report  
 #52128

Foster Wheeler Environmental, Inc  
 Mark Cutler  
 611 Anton Boulevard  
 Suite 800  
 Costa Mesa , CA 92626

Samples Received  
 24-feb-1999 18:57:37

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
MW-991-080 (990224199)				Sampled on 02/24/99				
<b>Regulated VOCs plus Lists 1&amp;3</b>								
03/02/99	93005	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1	
03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1	
03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1	





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**Laboratory  
 Report  
 #52128**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	107	% Rec		
			( Surrogate )	4-Bromofluorobenzene	96	% Rec		
			( Surrogate )	Toluene-d8	90	% Rec		



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Laboratory  
 Report  
 #52128

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-081 (990224200)</b>				<b>Sampled on 02/24/99</b>				
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
	03/10/99	93283	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92594	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
03/02/99	93005	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1	
03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1	
03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1	
03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1	

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Laboratory  
 Report  
 #52128

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	107	% Rec		
			( Surrogate )	4-Bromofluorobenzene	98	% Rec		



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**Laboratory  
 Report  
 #52128**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
			( Surrogate	) Toluene-d8	93	% Rec		
<b>MW-991-031 (990224201)</b>				<b>Sampled on 02/24/99</b>				
	03/02/99	92808	( ML/SM2320B	) Alkalinity	145	mg/l	2.0	1
	03/05/99		( ML/SM1040	) Anion Sum	3.38	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9	) Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7	) Calcium, Total, ICAP	13.3	mg/l	1.0	1
	03/12/99		( ML/SM1040	) Cation Sum	3.27	meq/l	0.0010	1
	02/25/99	92878	( ML/EPA 300	) Chloride	12	mg/l	1.0	1
	03/10/99	93283	( MOD/EPA 300	) Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B	) Carbonate as CO3, Calculated	1.81	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8	) Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92594	( ML/SW 7196	) Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	02/25/99	92580	( ML/S2510B	) Specific Conductance	330	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8	) Iron, Total, ICAP/MS	165	ug/l	100	1
	03/05/99		( ML/SM2320B	) Bicarbonate as HCO3,calculated	176	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7	) Potassium, Total, ICAP	1.52	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7	) Magnesium, Total, ICAP	5.17	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7	) Sodium, Total, ICAP	49.3	mg/l	1.0	1
	02/25/99	92880	( ML/EPA 300.0	) Nitrate-N by IC	0.31	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8	) Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B	) Lab pH	8.2	Units	0.0010	1
	02/25/99	92882	( ML/EPA 300.0	) Sulfate	5.5	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C	) Total Dissolved Solid (TDS)	210	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/02/99	93005	( ML/EPA 524.2	) 1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,1-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,1-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2	) 1,2,4-Trichlorobenzene	ND	ug/l	0.50	1



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Laboratory  
Report  
#52128

Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1



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Laboratory  
 Report  
 #52128

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	110	% Rec		
			( Surrogate )	4-Bromofluorobenzene	93	% Rec		
			( Surrogate )	Toluene-d8	95	% Rec		

**MW-991-032 (990224202) Sampled on 02/24/99**

	03/02/99	92808	( ML/SM2320B )	Alkalinity	147	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	3.85	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	29.4	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	3.82	meq/l	0.0010	1
	02/25/99	92878	( ML/EPA 300 )	Chloride	11	mg/l	1.0	1
	03/10/99	93283	( MOD/EPA 300 )	Perchlorate	24	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	2.91	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92594	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	02/25/99	92580	( ML/S2510B )	Specific Conductance	370	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	170	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	178	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	1.38	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	11.2	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	32.0	mg/l	1.0	1

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Laboratory  
 Report  
 #52128

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	02/25/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	0.84	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	8.4	Units	0.0010	1
	02/25/99	92882	( ML/EPA 300.0 )	Sulfate	26	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	220	mg/l	10	1

**Regulated VOCs plus Lists 1&3**

03/02/99	93005	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	4.7	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	1.1	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	2.3	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichloroethylene (TCE)	1.2	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	110	% Rec		
			( Surrogate )	4-Bromofluorobenzene	91	% Rec		
			( Surrogate )	Toluene-d8	91	% Rec		





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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-033 (990224203)                      Sampled on 02/24/99</b>								
	03/02/99	92808	( ML/SM2320B )	Alkalinity	200	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	5.27	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	57.8	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	5.27	meq/l	0.0010	1
	02/25/99	92878	( ML/EPA 300 )	Chloride	13	mg/l	1.0	1
	03/10/99	93283	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.58	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92594	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	0.0069	mg/l	0.005	1
	02/25/99	92580	( ML/S2510B )	Specific Conductance	505	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	243	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.68	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	17.4	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	20.3	mg/l	1.0	1
	02/25/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	1.0	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	8.0	Units	0.0010	1
	02/25/99	92882	( ML/EPA 300.0 )	Sulfate	40	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	320	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/02/99	93005	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1

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Laboratory  
Report  
#52128

Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	3.5	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	0.5	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichloroethylene (TCE)	1.0	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	107	% Rec		
			( Surrogate )	4-Bromofluorobenzene	91	% Rec		
			( Surrogate )	Toluene-d8	93	% Rec		

**MW-991-034 (990224204)                      Sampled on 02/24/99**

	03/02/99	92808	( ML/SM2320B )	Alkalinity	175	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	4.79	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	50.0	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	4.69	meq/l	0.0010	1
	02/25/99	92878	( ML/EPA 300 )	Chloride	12	mg/l	1.0	1
	03/10/99	93283	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	0.551	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92594	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	02/25/99	92583	( ML/S2510B )	Specific Conductance	460	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	130	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	213	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.48	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	16.2	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	18.3	mg/l	1.0	1
	02/25/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	1.3	mg/l	0.10	1



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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	5.3	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	7.6	Units	0.0010	1
	02/25/99	92882	( ML/EPA 300.0 )	Sulfate	41	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	290	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/02/99	93005	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	3.0	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/02/99	93005		( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Bromodichloromethane	0.8	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
03/02/99	93005		( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	111	% Rec		
			( Surrogate )	4-Bromofluorobenzene	91	% Rec		
			( Surrogate )	Toluene-d8	94	% Rec		



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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-035 (990224205)</b>				<b>Sampled on 02/24/99</b>				
	03/02/99	92808	( ML/SM2320B )	Alkalinity	146	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	3.71	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	41.0	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	3.73	meq/l	0.0010	1
	02/25/99	92878	( ML/EPA 300 )	Chloride	5.5	mg/l	1.0	1
	03/10/99	93283	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	0.366	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92594	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	02/25/99	92583	( ML/S2510B )	Specific Conductance	360	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	178	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.15	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	12.8	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	13.1	mg/l	1.0	1
	02/25/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	0.78	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	7.5	Units	0.0010	1
	02/25/99	92882	( ML/EPA 300.0 )	Sulfate	28	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	240	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/02/99	93005	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/02/99	93005	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
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Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/02/99	93005	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/02/99	93005	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	103	% Rec		
			( Surrogate )	4-Bromofluorobenzene	92	% Rec		
			( Surrogate )	Toluene-d8	88	% Rec		





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**QC Batch #92580**

**Specific Conductance**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0224203		( 0.00 - 0.00 )	

**QC Batch #92583**

**Specific Conductance**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0224205		( 0.00 - 0.00 )	

**QC Batch #92594**

**Hexavalent chromium (Cr VI)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224204		( 0.00 - 0.00 )	
LCS1	Hexavalent chromium (Cr VI)	0.050	0.0494	98.8	( 78.00 - 118.00 )	
LCS2	Hexavalent chromium (Cr VI)	0.050	0.0488	97.6	( 78.00 - 118.00 )	1.2
MBLK	Hexavalent chromium (Cr VI)	ND				
MS	Hexavalent chromium (Cr VI)	0.050	0.0488	97.6	( 80.00 - 120.00 )	
MSD	Hexavalent chromium (Cr VI)	0.050	0.0488	97.6	( 80.00 - 120.00 )	0.00

**QC Batch #92680**

**Lab pH**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	lab # 99	0225127		( 0.00 - 0.00 )	

**QC Batch #92777**

**Total Dissolved Solid (TDS)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	021515		( 0.00 - 0.00 )	
LCS1	Total Dissolved Solid (TDS)	175	170	97.1	( 85.00 - 115.00 )	
LCS2	Total Dissolved Solid (TDS)	700	682	97.4	( 85.00 - 115.00 )	
MBLK	Total Dissolved Solid (TDS)	ND				

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QC Batch #92808

Alkalinity

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224205		( 0.00 - 0.00 )	
LCS1	Alkalinity	96.2	96.8	100.6	( 90.00 - 110.00 )	
LCS2	Alkalinity	96.2	97.2	101.0	( 90.00 - 110.00 )	0.41
MBLK	Alkalinity	ND				
MS	Alkalinity	96.2	90.0	93.6	( 80.00 - 120.00 )	
MSD	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	1.1

QC Batch #92878

Chloride

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Chloride	25	25.3	101.2	( 90.00 - 110.00 )	
LCS2	Chloride	25	25.3	101.2	( 90.00 - 110.00 )	0.00
MBLK	Chloride	ND				
MS	Chloride	25	28.5	114.0	( 80.00 - 120.00 )	
MSD	Chloride	25	28.5	114.0	( 80.00 - 120.00 )	0.00

QC Batch #92880

Nitrate-N by IC

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224078		( 0.00 - 0.00 )	
LCS1	Nitrate-N by IC	2.5	2.56	102.4	( 90.00 - 110.00 )	
LCS2	Nitrate-N by IC	2.5	2.55	102.0	( 90.00 - 110.00 )	0.39
MBLK	Nitrate-N by IC	ND				
MS	Nitrate-N by IC	2.5	2.51	100.4	( 80.00 - 120.00 )	
MSD	Nitrate-N by IC	2.5	2.51	100.4	( 80.00 - 120.00 )	0.00

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**QC Batch #92882**

**Sulfate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224078		( 0.00 - 0.00 )	
LCS1	Sulfate	50	50.2	100.4	( 90.00 - 110.00 )	
LCS2	Sulfate	50	50.3	100.6	( 90.00 - 110.00 )	0.20
MBLK	Sulfate	ND				
MS	Sulfate	50	53.6	107.2	( 80.00 - 120.00 )	
MSD	Sulfate	50	53.6	107.2	( 80.00 - 120.00 )	0.00

**QC Batch #92976**

**Chromium, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Chromium, Total, ICAP/MS	100	99	99.0	( 85.00 - 115.00 )	
LCS2	Chromium, Total, ICAP/MS	100	95	95.0	( 85.00 - 115.00 )	4.1
MBLK	Chromium, Total, ICAP/MS	ND				
MS	Chromium, Total, ICAP/MS	100	98	98.0	( 70.00 - 130.00 )	
MSD	Chromium, Total, ICAP/MS	100	95	95.0	( 70.00 - 130.00 )	3.1

**QC Batch #92977**

**Iron, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Iron, Total, ICAP/MS	500	543	108.6	( 85.00 - 115.00 )	
LCS2	Iron, Total, ICAP/MS	500	517	103.4	( 85.00 - 115.00 )	4.9
MBLK	Iron, Total, ICAP/MS	ND				
MS	Iron, Total, ICAP/MS	500	562	112.4	( 70.00 - 130.00 )	
MSD	Iron, Total, ICAP/MS	500	550	110.0	( 70.00 - 130.00 )	2.2

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**QC Batch #92979****Lead, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Lead, Total, ICAP/MS	20.0	21.6	108.0	( 85.00 - 115.00 )	
LCS2	Lead, Total, ICAP/MS	20.0	19.9	99.5	( 85.00 - 115.00 )	8.2
MBLK	Lead, Total, ICAP/MS	ND				
MS	Lead, Total, ICAP/MS	20.0	20.6	103.0	( 70.00 - 130.00 )	
MSD	Lead, Total, ICAP/MS	20.0	20.0	100.0	( 70.00 - 130.00 )	3.0

**QC Batch #93005****Regulated VOCs plus Lists 1&3**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4	3.99	99.8	( 70.00 - 130.00 )	
MBLK	1,1,1-Trichloroethane	ND				
LCS1	1,1,2,2-Tetrachloroethane	4	3.71	92.8	( 70.00 - 130.00 )	
MBLK	1,1,2,2-Tetrachloroethane	ND				
LCS1	1,1,2-Trichloroethane	4	3.81	95.2	( 70.00 - 130.00 )	
MBLK	1,1,2-Trichloroethane	ND				
LCS1	1,1-Dichloroethane	4	3.76	94.0	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethane	ND				
LCS1	1,1-Dichloroethylene	4	4.42	110.5	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethylene	ND				
MS	1,1-Dichloroethylene	4	4.69	117.3	( 70.00 - 130.00 )	
MSD	1,1-Dichloroethylene	4	4.59	114.8	( 70.00 - 130.00 )	2.2
MBLK	1,1-Dichloropropene	ND				
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
LCS1	1,2,4-Trichlorobenzene	4	3.87	96.8	( 70.00 - 130.00 )	
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
LCS1	1,2-Dichloroethane	4	3.97	99.2	( 70.00 - 130.00 )	
MBLK	1,2-Dichloroethane	ND				

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LCS1	1,2-Dichloropropane	4	4.38	109.5	( 70.00 - 130.00 )	
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
LCS1	1,3-Dichloropropane	8	7.23	90.4	( 70.00 - 130.00 )	
MBLK	1,3-Dichloropropane	ND				
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.74	93.5	( 70.00 - 130.00 )	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Butanone (MEK)	ND				
MBLK	2-Chloroethylvinylether	ND				
MBLK	o-Chlorotoluene	ND				
MBLK	p-Chlorotoluene	ND				
MBLK	4-Methyl-2-Pentanone (MIBK)	ND				
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Benzene	4	4.22	105.5	( 70.00 - 130.00 )	
MBLK	Benzene	ND				
MS	Benzene	4	4.47	111.8	( 70.00 - 130.00 )	
MSD	Benzene	4	4.28	107.0	( 70.00 - 130.00 )	4.3
MBLK	Bromobenzene	ND				
MBLK	Bromomethane (Methyl Bromide)	ND				
LCS1	cis-1,2-Dichloroethylene	4	4.23	105.8	( 70.00 - 130.00 )	
MBLK	cis-1,2-Dichloroethylene	ND				
LCS1	Chlorobenzene	4	3.91	97.8	( 70.00 - 130.00 )	
MBLK	Chlorobenzene	ND				
MS	Chlorobenzene	4	3.75	93.8	( 70.00 - 130.00 )	
MSD	Chlorobenzene	4	3.61	90.2	( 70.00 - 130.00 )	3.8
LCS1	Carbon Tetrachloride	4	4.03	100.8	( 70.00 - 130.00 )	
MBLK	Carbon Tetrachloride	ND				
MBLK	cis-1,3-Dichloropropene	ND				
LCS1	Bromoform	4	2.84	71.0	( 70.00 - 130.00 )	
MBLK	Bromoform	ND				
LCS1	Chloroform (Trichloromethane)	4	3.96	99.0	( 70.00 - 130.00 )	
MBLK	Chloroform (Trichloromethane)	ND				
MBLK	Bromochloromethane	ND				
MBLK	Chloroethane	ND				
MBLK	Chloromethane (Methyl Chloride)	ND				
LCS1	Chlorodibromomethane	4	3.61	90.2	( 70.00 - 130.00 )	

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MBLK	Chlorodibromomethane	ND				
MBLK	Dibromomethane	ND				
LCS1	Bromodichloromethane	4	3.71	92.8	( 70.00 - 130.00 )	
MBLK	Bromodichloromethane	ND				
LCS1	Dichloromethane	4	4.10	102.5	( 70.00 - 130.00 )	
MBLK	Dichloromethane	ND				
LCS1	Ethyl benzene	4	3.90	97.5	( 70.00 - 130.00 )	
MBLK	Ethyl benzene	ND				
MBLK	Dichlorodifluoromethane	ND				
LCS1	Fluorotrichloromethane-Freon11	2	1.71	85.5	( 70.00 - 130.00 )	
MBLK	Fluorotrichloromethane-Freon11	ND				
MBLK	Hexachlorobutadiene	ND				
MBLK	Isopropylbenzene	ND				
MBLK	m-Dichlorobenzene (1,3-DCB)	ND				
LCS1	m,p-Xylenes	8	8.03	100.4	( 70.00 - 130.00 )	
MBLK	m,p-Xylenes	ND				
MBLK	Naphthalene	ND				
MBLK	n-Butylbenzene	ND				
MBLK	n-Propylbenzene	ND				
LCS1	o-Xylene	4	3.92	98.0	( 70.00 - 130.00 )	
MBLK	o-Xylene	ND				
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.82	95.5	( 70.00 - 130.00 )	
MBLK	o-Dichlorobenzene (1,2-DCB)	ND				
LCS1	Tetrachloroethylene (PCE)	4	4.15	103.8	( 70.00 - 130.00 )	
MBLK	Tetrachloroethylene (PCE)	ND				
MBLK	p-Isopropyltoluene	ND				
MBLK	sec-Butylbenzene	ND				
LCS1	Styrene	4	3.76	94.0	( 70.00 - 130.00 )	
MBLK	Styrene	ND				
LCS1	1,2-dichloroethane-d4	100	101	101.0	( 80.00 - 120.00 )	
MBLK	1,2-dichloroethane-d4	100	91.0	91.0		
MS	1,2-dichloroethane-d4	100	109	109.0	( 80.00 - 120.00 )	
MSD	1,2-dichloroethane-d4	100	104	104.0	( 80.00 - 120.00 )	4.7
LCS1	Toluene-d8	100	95.5	95.5	( 80.00 - 120.00 )	
MBLK	Toluene-d8	100	93.6	93.6		
MS	Toluene-d8	100	91.5	91.5	( 80.00 - 120.00 )	
MSD	Toluene-d8	100	91.2	91.2	( 80.00 - 120.00 )	0.33

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LCS1	4-Bromofluorobenzene	100	101	101.0	( 80.00 - 120.00 )	
MBLK	4-Bromofluorobenzene	100	101	101.0		
MS	4-Bromofluorobenzene	100	93.4	93.4	( 80.00 - 120.00 )	
MSD	4-Bromofluorobenzene	100	97.5	97.5	( 80.00 - 120.00 )	4.3
LCS1	trans-1,2-Dichloroethylene	4	4.43	110.8	( 70.00 - 130.00 )	
MBLK	trans-1,2-Dichloroethylene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	Trichloroethylene (TCE)	4	4.04	101.0	( 70.00 - 130.00 )	
MBLK	Trichloroethylene (TCE)	ND				
MS	Trichloroethylene (TCE)	4	4.45	111.0	( 70.00 - 130.00 )	
MSD	Trichloroethylene (TCE)	4	3.94	99.0	( 70.00 - 130.00 )	12
LCS1	Trichlorotrifluoroethane (Freon	2	1.79	89.5	( 70.00 - 130.00 )	
MBLK	Trichlorotrifluoroethane (Freon	ND				
MBLK	trans-1,3-Dichloropropene	ND				
LCS1	Toluene	4	4.06	101.5	( 70.00 - 130.00 )	
MBLK	Toluene	ND				
MS	Toluene	4	4.02	100.5	( 70.00 - 130.00 )	
MSD	Toluene	4	3.78	94.5	( 70.00 - 130.00 )	6.2
LCS1	Vinyl chloride (VC)	2	1.68	84.0	( 70.00 - 130.00 )	
MBLK	Vinyl chloride (VC)	ND				

QC Batch #93028

Arsenic, Total, GF

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	
LCS2	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	0.00
MBLK	Arsenic, Total, GF	ND				
MS	Arsenic, Total, GF	0.020	0.0193	96.5	( 70.00 - 130.00 )	
MSD	Arsenic, Total, GF	0.020	0.0192	96.0	( 70.00 - 130.00 )	0.52

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
 Criteria for MS and DUP are advisory only and not applicable for ICR monitoring.



**MONTGOMERY WATSON LABORATORIES**  
 a Division of Montgomery Watson Americas, Inc.  
 555 East Walnut Street  
 Pasadena, California 91101  
 Tel: 626 568 6400 Fax: 626 568 6324  
 1 800 566 LABS (1 800 566 5227)

Laboratory  
 QC Report  
 #52128

Foster Wheeler Environmental, Inc  
 (continued)

**QC Batch #93076**

**Calcium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Calcium, Total, ICAP	50	47.8	95.6	( 85.00 - 115.00 )	
LCS2	Calcium, Total, ICAP	50	48.0	96.0	( 85.00 - 115.00 )	0.42
MBLK	Calcium, Total, ICAP	ND				
MS	Calcium, Total, ICAP	50	50.6	101.2	( 70.00 - 130.00 )	
MSD	Calcium, Total, ICAP	50	52.1	104.2	( 70.00 - 130.00 )	2.9

**QC Batch #93080**

**Potassium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Potassium, Total, ICAP	20	19.4	97.0	( 80.00 - 110.00 )	
LCS2	Potassium, Total, ICAP	20	19.5	97.5	( 80.00 - 110.00 )	0.51
MBLK	Potassium, Total, ICAP	ND				
MS	Potassium, Total, ICAP	20	19.3	96.5	( 80.00 - 120.00 )	
MSD	Potassium, Total, ICAP	20	19.6	98.0	( 80.00 - 120.00 )	1.5

**QC Batch #93083**

**Magnesium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Magnesium, Total, ICAP	20	19.7	98.5	( 85.00 - 115.00 )	
LCS2	Magnesium, Total, ICAP	20	19.8	99.0	( 85.00 - 115.00 )	0.51
MBLK	Magnesium, Total, ICAP	ND				
MS	Magnesium, Total, ICAP	20	19.7	98.5	( 70.00 - 130.00 )	
MSD	Magnesium, Total, ICAP	20	20.2	101.0	( 70.00 - 130.00 )	2.5

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
 Criteria for MS and DUP are advisory only and not applicable for ICR monitoring.





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Laboratory  
QC Report  
#52128

Foster Wheeler Environmental, Inc  
(continued)

**QC Batch #93086**

**Sodium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Sodium, Total, ICAP	50	49.3	98.6	( 85.00 - 115.00 )	
LCS2	Sodium, Total, ICAP	50	49.7	99.4	( 85.00 - 115.00 )	0.81
MBLK	Sodium, Total, ICAP	ND				
MS	Sodium, Total, ICAP	50	47.0	94.0	( 70.00 - 130.00 )	
MSD	Sodium, Total, ICAP	50	47.8	95.6	( 70.00 - 130.00 )	1.7

**QC Batch #93283**

**Perchlorate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224200		( 0.00 - 0.00 )	
LCS1	Perchlorate	20.0	19.2	96.0	( 90.00 - 110.00 )	
LCS2	Perchlorate	20.0	18.9	94.5	( 90.00 - 110.00 )	1.6
MBLK	Perchlorate	ND				
MS	Perchlorate	20.0	19.1	95.5	( 75.00 - 125.00 )	
MSD	Perchlorate	20.0	19.3	96.5	( 75.00 - 125.00 )	1.0

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
Criteria for MS and DUP are advisory only and not applicable for ICR monitoring.



**MONTGOMERY WATSON LABORATORIES**

March 21, 1999

Foster Wheeler Environmental  
611 Anton Blvd, Suite 800  
Costa Mesa, CA.92626

Attention: Mark Cutler

Re: Report # 52176 (MW-991-082, MW-991-083, MW-991-021 MW-991-022, MW-991-023, MW-991-024, MW-991-025)

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):**

(VOC) MW-991-083: Internal Standard (IS) #3 recovered below the QC acceptance limits in this sample. Any target analytes quantified off this IS will contain a high bias to the result. This sample is Non Detect, ND. The impact is minimal.

**Samples requiring dilution (with increased MRL's):**

MW-991-025: Chloride, Nitrate, Sulfate

**Method blanks with compounds detected:**

None

**Other Comments:**

None

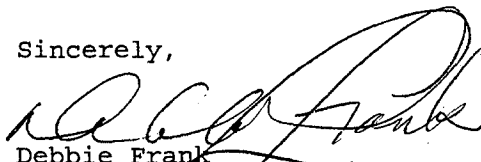
**TIC's:**

None

**Method Variance:**

None

Sincerely,



Debbie Frank  
Project Manager

cc: Judy Novelly (JPL)

a Division of Montgomery Watson Americas, Inc.

555 East Walnut Street  
Pasadena, California 91101  
Tel: 626 568 6400  
Fax: 626 568 6324

4820 South Mill Avenue  
Suite 202  
Tempe, Arizona 85282  
Tel: 602 755 8201  
Fax: 602 755 8203

*Quality Environmental Analysis*

**Montgomery Watson Laboratories**  
 , Los Angeles, CA 90051-3508  
 PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Foster Wheeler Environmental, Inc  
 611 Anton Boulevard  
 Suite 800  
 Costa Mesa, CA 92626  
 Attn: Mark Cutler

Customer Code: ENSERCH  
 PO#: Sub PO#007618-0005-0001  
 Group#: 52176  
 Project#: JPL  
 Proj Mgr: Debbie Frank  
 Phone: (714) 444-5526

The following samples were received from you on 02/25/99. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Montgomery Watson Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
990225121	MW-991-082	@EBASVOA	Water	02/25/99
990225122	MW-991-083	@EBASVOA AS-EBAS CR-EBAS PB-EBAS CR-VI CLO4	Water	02/25/99
990225123	MW-991-021	@EBASVOA CR-VI PB-EBAS CR-EBAS AS-EBAS TDS CATION1 ANION1 PH EC HCO3 CO3 ALK NO3 SO4 CL FE-MS K NA MG CA CLO4	Water	02/25/99
990225124	MW-991-022	@EBASVOA CLO4 CA MG NA K FE-MS CL SO4 NO3 ALK CO3 HCO3 EC PH ANION1 CATIO TDS AS-EBAS CR-EBAS PB-EBAS CR-VI	Water	02/25/99
990225125	MW-991-023	@EBASVOA CLO4 CA MG NA K FE-MS CL SO4 NO3 ALK CO3 HCO3 EC PH ANION1 CATIO TDS AS-EBAS CR-EBAS PB-EBAS CR-VI	Water	02/25/99
990225126	MW-991-024	@EBASVOA CLO4 CA MG NA K FE-MS CL SO4 NO3 ALK CO3 HCO3 EC PH ANION1 CATIO TDS AS-EBAS CR-EBAS PB-EBAS CR-VI	Water	02/25/99
990225127	MW-991-025	@EBASVOA CLO4 CA MG NA K FE-MS CL SO4 NO3 ALK CO3 HCO3 EC PH ANION1 CATIO TDS AS-EBAS CR-EBAS PB-EBAS CR-VI	Water	02/25/99

Test Acronym Description

Test Acronym	Description
--------------	-------------

Foster Wheeler Environmental, Inc  
611 Anton Boulevard  
Suite 800  
Costa Mesa, CA 92626  
Attn: Mark Cutler

Customer Code: ENSERCH  
PO#: Sub PO#007618-0005-0001  
Group#: 52176  
Project#: JPL  
Proj Mgr: Debbie Frank  
Phone: (714) 444-5526

Test Acronym Description

Test Acronym	Description
@EBASVOA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity
ANION1	Anion Sum
AS-EBAS	Arsenic, Total, GF
CA	Calcium, Total, ICAP
CATION1	Cation Sum
CL	Chloride
CLO4	Perchlorate
CO3	Carbonate as CO3, Calculated
CR-EBAS	Chromium, Total, ICAP/MS
CR-VI	Hexavalent chromium (Cr VI)
EC	Specific Conductance
FE-MS	Iron, Total, ICAP/MS
HCO3	Bicarbonate as HCO3,calculated
K	Potassium, Total, ICAP
MG	Magnesium, Total, ICAP
NA	Sodium, Total, ICAP
NO3	Nitrate-N by IC
PB-EBAS	Lead, Total, ICAP/MS
PH	Lab pH
SO4	Sulfate
TDS	Total Dissolved Solid (TDS)



52176

NUMBER 1250

## FOSTER WHEELER ENVIRONMENTAL CORPORATION

TEMP. 5-10

REG ICE STILL OK

## CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

PAGE ( ) OF ( )

PROJECT JPL		OFS NO. 1572.0268		HAZARD IDENTIFICATION Non Hazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		TIME REQUIRED NORMAL <input checked="" type="checkbox"/> DAYS RUSH <input type="checkbox"/> DAYS										
PROJECT ADDRESS 4800 OAK GLEN DR. PASADENA, CA				SAMPLER (Name) J. BRENNER				SAMPLER (Signature) [Signature]								
LABORATORY MONTGOMERY WATSON LABS				ANALYSES REQUIRED												
REPORTS TO BE SENT TO MR. MARK CUTLER				SAMPLE MATERIAL		VOCs (5242)		TOTAL AS, G, Pb (6010/7000)		MSD FOL VOCs		MS/MSD FOL METALS		GC FOL Cr		
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			VOCs	TOTAL AS, G, Pb	MSD FOL VOCs	MS/MSD FOL METALS	GC FOL Cr				
					WATER	SOIL	OTHER (Describe)						PERCHLORATE	MS FOL VOCs	MS/MSD FOL METALS	GC FOL Cr
MW-991-082	0830	2/25/99	2	2x40ml	X			X								
MW-991-083	1210	↓	5	2x40ml 1x25ml 2x125ml	X			X	X							
MW-991-021*	1000		6	2x40ml 1x250ml 2x125ml 1x500ml	X			X	X	X						
MW-991-022	1130		6	↓	X			X	X	X						
MW-991-023	1230		7	2x40ml 2x250ml 2x125ml 1x500ml	X			X	X	X		X				
MW-991-023MS	1230		2	2x40ml	X						X					
MW-991-023MS2	1230		2	2x40ml	X							X				
MW-991-024	1400		6	2x40ml 1x250ml 2x125ml 1x500ml	X			X	X	X						
MW-991-025	1500		6	↓	X			X	X	X				X		
LABORATORY INSTRUCTIONS/COMMENTS												* CLIENT DID NOT CHANGE ID'S ON TAG #'S. STATES "083" SOME LABELS WERE CHANGED FROM 083 TO 021.				
LEVEL III QA/QC																
RELINQUISHED BY (Signature) [Signature]		DATE RE 2/25/99		RECEIVED BY (Signature) [Signature]		RELINQUISHED BY (Signature)		DATE		RECEIVED BY (Signature)						
COMPANY Foster Wheeler		TIME 4:11		COMPANY AECOM		COMPANY		TIME		COMPANY						

MONTGOMERY LABORATORIES COOLER RECEIPT FORM

PROJECT: ENSERCH Date Received: 2-25-99

Use other side of this form to note further details concerning check-in problems and to describe any action(s) regarding the resolution(s) of problems.

A. PRELIMINARY EXAMINATION: Date cooler opened: 2-25-99  
by (print) MARTIN L. DE MESA (sign) [Signature]

1. Did cooler come with shipping slip (air bill, etc.)?  Yes  No  
If YES, attach & enter carrier and air bill # here: DELIVERED BY CLIENT

2. Were custody seals on outside of cooler?  Yes  No  
If YES, how many & where: SEE BACK  
If Yes, enter the following: seal date: 2/25/99, seal name: R.F.

3. Were custody seals unbroken & intact at delivery?  Yes  No

4. Were custody papers sealed in bag & taped to lid?  Yes  No DEL BY CLIENT

5. Were custody papers filled out properly (ink, etc.)?  Yes  No

6. Did you sign custody papers in appropriate place?  Yes  No

7. Was project identifiable from custody papers?  Yes  No

8. Have designated person(s) initial to acknowledge receipt: MLD (date) 2-25-99

B. LOG-IN PHASE: Date samples were logged-in: 2-25-99 by:  
(print) M. DE MESA (sign) [Signature]

9. Describe packing:

10. If required, was enough ice used?  Yes  No

11. Were all bottles sealed in separate plastic bags?  Yes  No

12. Did all bottles arrive unbroken/in good condition?  Yes  No

13. Were all bottle labels complete (ID, date, sign, pres)?  Yes  No

14. Did all bottle labels agree with custody papers?  Yes  No - SEE COC  
If NO, indicate discrepancies on back.

MLD  
2-25-99

15. Were correct containers used for the analytes?  Yes  No

16. Were correct preservatives used when required?  Yes  No

17. Was sufficient amount of sample sent for tests?  Yes  No

18. Bubbles absent in VOA vials?  
If NO, list by sample id on back.  Yes  No

19. Was Client Services informed of problems?  Yes  No

Report Summary of positive results, PR52176

			Result	MDL	UNITS
Analyzed	990225121	MW-991-082			
Analyzed	990225122	MW-991-083			
Analyzed	990225123	MW-991-021			
03/02/99	Alkalinity		139	2.000	MGL
03/05/99	Anion Sum		3.52	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		167	.001	MGL
03/08/99	Calcium, Total, ICAP		13.4	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		6.85	.001	MGL
03/12/99	Cation Sum		3.47	.001	MEQL
02/25/99	Chloride		8.6	1.000	MGL
02/26/99	Lab pH		8.8	.001	UNIT
03/08/99	Magnesium, Total, ICAP		3.47	1.000	MGL
03/08/99	Potassium, Total, ICAP		1.57	1.000	MGL
03/08/99	Sodium, Total, ICAP		56.9	1.000	MGL
03/02/99	Specific Conductance		325	4.000	UMHO
02/25/99	Sulfate		24	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)		210	10.000	MGL
Analyzed	990225124	MW-991-022			
03/02/99	Alkalinity		134	2.000	MGL
03/05/99	Anion Sum		3.45	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		162	.001	MGL
03/08/99	Calcium, Total, ICAP		10.3	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		4.19	.001	MGL
03/12/99	Cation Sum		3.37	.001	MEQL
02/26/99	Chloride		11	1.000	MGL
02/26/99	Lab pH		8.6	.001	UNIT
03/08/99	Magnesium, Total, ICAP		2.89	1.000	MGL
03/08/99	Sodium, Total, ICAP		60.3	1.000	MGL
03/02/99	Specific Conductance		320	4.000	UMHO
02/26/99	Sulfate		22	2.000	MGL
02/26/99	Total Dissolved Solid (TDS)		200	10.000	MGL
Analyzed	990225125	MW-991-023			
03/02/99	Alkalinity		156	2.000	MGL
03/05/99	Anion Sum		4.97	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		188	.001	MGL
03/08/99	Calcium, Total, ICAP		16.9	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		6.12	.001	MGL
03/12/99	Cation Sum		4.78	.001	MEQL
02/26/99	Chloride		41	1.000	MGL
02/26/99	Lab pH		8.7	.001	UNIT
03/05/99	Lead, Total, ICAP/MS		9.5	2.000	UGL
03/08/99	Magnesium, Total, ICAP		14.0	1.000	MGL
02/26/99	Nitrate-N by IC		1.2	.100	MGL
03/08/99	Potassium, Total, ICAP		2.24	1.000	MGL
03/08/99	Sodium, Total, ICAP		62.8	1.000	MGL
03/02/99	Specific Conductance		450	4.000	UMHO
02/26/99	Sulfate		29	2.000	MGL

02/26/99	Total Dissolved Solid (TDS)	300	10.000	MGL
Analyzed	990225126	MW-991-024		
03/04/99	Chloroform (Trichloromethane)	4.2	.500	UGL
03/02/99	Alkalinity	148	2.000	MGL
03/05/99	Anion Sum	4.26	.001	MEQL
03/05/99	Bicarbonate as HCO <sub>3</sub> ,calculated	180	.001	MGL
03/08/99	Calcium, Total, ICAP	43.0	1.000	MGL
03/05/99	Carbonate as CO <sub>3</sub> , Calculated	1.17	.001	MGL
03/12/99	Cation Sum	4.29	.001	MEQL
02/26/99	Chloride	14	1.000	MGL
02/26/99	Lab pH	8.0	.001	UNIT
03/08/99	Magnesium, Total, ICAP	17.5	1.000	MGL
02/26/99	Nitrate-N by IC	2.7	.100	MGL
03/08/99	Potassium, Total, ICAP	2.04	1.000	MGL
03/08/99	Sodium, Total, ICAP	14.8	1.000	MGL
03/02/99	Specific Conductance	370	4.000	UMHO
02/26/99	Sulfate	34	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)	240	10.000	MGL
Analyzed	990225127	MW-991-025		
03/04/99	Chloroform (Trichloromethane)	2.2	.500	UGL
03/02/99	Alkalinity	164	2.000	MGL
03/05/99	Anion Sum	8.23	.001	MEQL
03/05/99	Bicarbonate as HCO <sub>3</sub> ,calculated	200	.001	MGL
03/08/99	Calcium, Total, ICAP	93.0	1.000	MGL
03/05/99	Carbonate as CO <sub>3</sub> , Calculated	0.517	.001	MGL
03/12/99	Cation Sum	8.07	.001	MEQL
02/26/99	Chloride	49	2.000	MGL
02/26/99	Lab pH	7.6	.001	UNIT
03/08/99	Magnesium, Total, ICAP	29.4	1.000	MGL
02/26/99	Nitrate-N by IC	12	.200	MGL
03/11/99	Perchlorate	4.9	4.000	UGL
03/08/99	Potassium, Total, ICAP	3.24	1.000	MGL
03/08/99	Sodium, Total, ICAP	21.2	1.000	MGL
03/02/99	Specific Conductance	685	4.000	UMHO
02/26/99	Sulfate	130	4.000	MGL
03/04/99	Total Dissolved Solid (TDS)	420	10.000	MGL





**MONTGOMERY WATSON LABORATORIES**

a Division of Montgomery Watson Americas, Inc.  
555 East Walnut Street  
Pasadena, California 91101  
Tel: 626 568 6400 Fax: 626 568 6324  
1 800 566 LABS (1 800 566 5227)

Laboratory Report

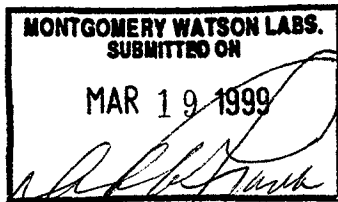
for

Foster Wheeler Environmental, Inc  
611 Anton Boulevard

Suite 800

Costa Mesa , CA 92626

Attention: Mark Cutler  
Fax: (714)444-5560



DEB\* Debbie Frank

Report#: 52176  
JPL



**MONTGOMERY WATSON LABORATORIES**

a Division of Montgomery Watson Americas, Inc.  
555 East Walnut Street  
Pasadena, California 91101  
Tel: 626 568 6400 Fax: 626 568 6324  
1 800 566 LABS (1 800 566 5227)

Report  
Comments  
#52176

(990225122)

@EBASVOA

Internal standard#3 recovered below QC limit in this sample.  
Target analytes quantitated off this IS will be biased high.  
Since this sample is ND, the impact is minimal.  
Reference QIR-MS-99-026.



**MONTGOMERY WATSON LABORATORIES**  
a Division of Montgomery Watson Americas, Inc.  
555 East Walnut Street  
Pasadena, California 91101  
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Laboratory  
Report  
#52176

Foster Wheeler Environmental, Inc  
Mark Cutler  
611 Anton Boulevard  
Suite 800  
Costa Mesa , CA 92626

Samples Received  
25-feb-1999 16:43:28

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
MW-991-082 (990225121)				Sampled on 02/25/99				
				<b>Regulated VOCs plus Lists 1&amp;3</b>				
03/04/99	93303		( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,3-Trichloropropene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
03/04/99	93303		( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
03/04/99	93303		( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1



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**Laboratory  
 Report  
 #52176**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	118	% Rec		
			( Surrogate )	4-Bromofluorobenzene	94	% Rec		
			( Surrogate )	Toluene-d8	86	% Rec		

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Laboratory  
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 #52176

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-083 (990225122)</b>				<b>Sampled on 02/25/99</b>				
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
	03/10/99	93285	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92630	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1



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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
03/04/99	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate	1,2-Dichloroethane-d4	117	% Rec		
			( Surrogate	4-Bromofluorobenzene	88	% Rec		



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Laboratory  
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 #52176

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
			( Surrogate )	Toluene-d8	93	% Rec		
<b>MW-991-021 (990225123)</b>				<b>Sampled on 02/25/99</b>				
	03/02/99	92809	( ML/SM2320B )	Alkalinity	139	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	3.52	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	13.4	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	3.47	meq/l	0.0010	1
	02/25/99	92878	( ML/EPA 300 )	Chloride	8.6	mg/l	1.0	1
	03/11/99	93285	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	6.85	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92630	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92749	( ML/S2510B )	Specific Conductance	325	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	167	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	1.57	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	3.47	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	56.9	mg/l	1.0	1
	02/25/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	ND	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	8.8	Units	0.0010	1
	02/25/99	92882	( ML/EPA 300.0 )	Sulfate	24	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	210	mg/l	10	1
				<b>Regulated VOCs plus Lists 1&amp;3</b>				
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1





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Laboratory  
 Report  
 #52176

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane(Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	111	% Rec		
			( Surrogate )	4-Bromofluorobenzene	89	% Rec		
			( Surrogate )	Toluene-d8	89	% Rec		

**MW-991-022 (990225124) Sampled on 02/25/99**

	03/02/99	92809	( ML/SM2320B )	Alkalinity	134	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	3.45	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	10.3	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	3.37	meq/l	0.0010	1
	02/26/99	92878	( ML/EPA 300 )	Chloride	11	mg/l	1.0	1
	03/11/99	93285	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	4.19	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92630	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92749	( ML/S2510B )	Specific Conductance	320	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	162	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	ND	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	2.89	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	60.3	mg/l	1.0	1



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**Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	02/26/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	ND	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	8.6	Units	0.0010	1
	02/26/99	92882	( ML/EPA 300.0 )	Sulfate	22	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	200	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1

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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	115	% Rec		
			( Surrogate )	4-Bromofluorobenzene	90	% Rec		
			( Surrogate )	Toluene-d8	90	% Rec		



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**Laboratory  
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 #52176**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-023 (990225125)                      Sampled on 02/25/99</b>								
	03/02/99	92809	( ML/SM2320B )	Alkalinity	156	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	4.97	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	16.9	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	4.78	meq/l	0.0010	1
	02/26/99	92878	( ML/EPA 300 )	Chloride	41	mg/l	1.0	1
	03/11/99	93285	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	6.12	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92630	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92749	( ML/S2510B )	Specific Conductance	450	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	188	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.24	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	14.0	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	62.8	mg/l	1.0	1
	02/26/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	1.2	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	9.5	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	8.7	Units	0.0010	1
	02/26/99	92882	( ML/EPA 300.0 )	Sulfate	29	mg/l	2.0	1
	02/26/99	92777	( ML/S2540C )	Total Dissolved Solid (TDS)	300	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Napthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1



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Laboratory  
 Report  
 #52176

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane(Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	105	% Rec		
			( Surrogate )	4-Bromofluorobenzene	84	% Rec		
			( Surrogate )	Toluene-d8	82	% Rec		

**MW-991-024 (990225126) Sampled on 02/25/99**

	03/02/99	92807	( ML/SM2320B )	Alkalinity	148	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	4.26	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	43.0	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	4.29	meq/l	0.0010	1
	02/26/99	92878	( ML/EPA 300 )	Chloride	14	mg/l	1.0	1
	03/11/99	93285	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.17	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92630	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92749	( ML/S2510B )	Specific Conductance	370	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	180	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.04	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	17.5	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	14.8	mg/l	1.0	1
	02/26/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	2.7	mg/l	0.10	1



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**Laboratory  
 Report  
 #52176**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	8.0	Units	0.0010	1
	02/26/99	92882	( ML/EPA 300.0 )	Sulfate	34	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	240	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	4.2	ug/l	0.50	1



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**Laboratory  
 Report  
 #52176**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate	1,2-Dichloroethane-d4	120	% Rec		
			( Surrogate	4-Bromofluorobenzene	91	% Rec		
			( Surrogate	Toluene-d8	88	% Rec		



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Laboratory  
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 #52176

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-025 (990225127)                      Sampled on 02/25/99</b>								
	03/02/99	92809	( ML/SM2320B )	Alkalinity	164	mg/l	2.0	1
	03/05/99		( ML/SM1040 )	Anion Sum	8.23	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	93.0	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	8.07	meq/l	0.0010	1
	02/26/99	92878	( ML/EPA 300 )	Chloride	49	mg/l	2.0	2
	03/11/99	93285	( MOD/EPA 300 )	Perchlorate	4.9	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	0.517	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/25/99	92630	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92749	( ML/S2510B )	Specific Conductance	685	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	ND	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	200	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	3.24	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	29.4	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	21.2	mg/l	1.0	1
	02/26/99	92880	( ML/EPA 300.0 )	Nitrate-N by IC	12	mg/l	0.20	2
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	02/26/99	92680	( ML/SM4500H-B )	Lab pH	7.6	Units	0.0010	1
	02/26/99	92882	( ML/EPA 300.0 )	Sulfate	130	mg/l	4.0	2
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	420	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	2.2	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	112	% Rec		
			( Surrogate )	4-Bromofluorobenzene	90	% Rec		
			( Surrogate )	Toluene-d8	86	% Rec		



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**QC Batch #92630**

**Hexavalent chromium (Cr VI)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0225127		( 0.00 - 0.00 )	
LCS1	Hexavalent chromium (Cr VI)	0.050	0.0494	98.8	( 78.00 - 118.00 )	
LCS2	Hexavalent chromium (Cr VI)	0.050	0.0500	100.0	( 78.00 - 118.00 )	1.2
MBLK	Hexavalent chromium (Cr VI)	ND				
MS	Hexavalent chromium (Cr VI)	0.050	0.0494	98.8	( 80.00 - 120.00 )	
MSD	Hexavalent chromium (Cr VI)	0.050	0.0500	100.0	( 80.00 - 120.00 )	1.2

**QC Batch #92680**

**Lab pH**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	lab # 99	0225127		( 0.00 - 0.00 )	

**QC Batch #92749**

**Specific Conductance**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0225127		( 0.00 - 0.00 )	

**QC Batch #92777**

**Total Dissolved Solid (TDS)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	021515		( 0.00 - 0.00 )	
LCS1	Total Dissolved Solid (TDS)	175	170	97.1	( 85.00 - 115.00 )	
LCS2	Total Dissolved Solid (TDS)	700	682	97.4	( 85.00 - 115.00 )	
MBLK	Total Dissolved Solid (TDS)	ND				

**QC Batch #92807**

**Alkalinity**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Alkalinity	96.2	97.9	101.8	( 90.00 - 110.00 )	
LCS2	Alkalinity	96.2	97.5	101.4	( 90.00 - 110.00 )	0.41
MBLK	Alkalinity	ND				

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MS	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	
MSD	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	0.00

**QC Batch #92809**

**Alkalinity**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Alkalinity	96.2	97.9	101.8	( 90.00 - 110.00 )	
LCS2	Alkalinity	96.2	97.5	101.4	( 90.00 - 110.00 )	0.41
MBLK	Alkalinity	ND				
MS	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	
MSD	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	0.00

**QC Batch #92878**

**Chloride**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Chloride	25	25.3	101.2	( 90.00 - 110.00 )	
LCS2	Chloride	25	25.3	101.2	( 90.00 - 110.00 )	0.00
MBLK	Chloride	ND				
MS	Chloride	25	28.5	114.0	( 80.00 - 120.00 )	
MSD	Chloride	25	28.5	114.0	( 80.00 - 120.00 )	0.00

**QC Batch #92880**

**Nitrate-N by IC**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224078		( 0.00 - 0.00 )	
LCS1	Nitrate-N by IC	2.5	2.56	102.4	( 90.00 - 110.00 )	
LCS2	Nitrate-N by IC	2.5	2.55	102.0	( 90.00 - 110.00 )	0.39
MBLK	Nitrate-N by IC	ND				
MS	Nitrate-N by IC	2.5	2.51	100.4	( 80.00 - 120.00 )	
MSD	Nitrate-N by IC	2.5	2.51	100.4	( 80.00 - 120.00 )	0.00

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**QC Batch #92882**

**Sulfate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224078		( 0.00 - 0.00 )	
LCS1	Sulfate	50	50.2	100.4	( 90.00 - 110.00 )	
LCS2	Sulfate	50	50.3	100.6	( 90.00 - 110.00 )	0.20
MBLK	Sulfate	ND				
MS	Sulfate	50	53.6	107.2	( 80.00 - 120.00 )	
MSD	Sulfate	50	53.6	107.2	( 80.00 - 120.00 )	0.00

**QC Batch #92914**

**Total Dissolved Solid (TDS)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0302066		( 0.00 - 0.00 )	
LCS1	Total Dissolved Solid (TDS)	175	170	97.1	( 85.00 - 115.00 )	
LCS2	Total Dissolved Solid (TDS)	700	684	97.7	( 85.00 - 115.00 )	
MBLK	Total Dissolved Solid (TDS)	ND				

**QC Batch #92976**

**Chromium, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Chromium, Total, ICAP/MS	100	99	99.0	( 85.00 - 115.00 )	
LCS2	Chromium, Total, ICAP/MS	100	95	95.0	( 85.00 - 115.00 )	4.1
MBLK	Chromium, Total, ICAP/MS	ND				
MS	Chromium, Total, ICAP/MS	100	98	98.0	( 70.00 - 130.00 )	
MSD	Chromium, Total, ICAP/MS	100	95	95.0	( 70.00 - 130.00 )	3.1

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**QC Batch #92977****Iron, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Iron, Total, ICAP/MS	500	543	108.6	( 85.00 - 115.00 )	
LCS2	Iron, Total, ICAP/MS	500	517	103.4	( 85.00 - 115.00 )	4.9
MBLK	Iron, Total, ICAP/MS	ND				
MS	Iron, Total, ICAP/MS	500	562	112.4	( 70.00 - 130.00 )	
MSD	Iron, Total, ICAP/MS	500	550	110.0	( 70.00 - 130.00 )	2.2

**QC Batch #92979****Lead, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Lead, Total, ICAP/MS	20.0	21.6	108.0	( 85.00 - 115.00 )	
LCS2	Lead, Total, ICAP/MS	20.0	19.9	99.5	( 85.00 - 115.00 )	8.2
MBLK	Lead, Total, ICAP/MS	ND				
MS	Lead, Total, ICAP/MS	20.0	20.6	103.0	( 70.00 - 130.00 )	
MSD	Lead, Total, ICAP/MS	20.0	20.0	100.0	( 70.00 - 130.00 )	3.0

**QC Batch #93028****Arsenic, Total, GF**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	
LCS2	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	0.00
MBLK	Arsenic, Total, GF	ND				
MS	Arsenic, Total, GF	0.020	0.0193	96.5	( 70.00 - 130.00 )	
MSD	Arsenic, Total, GF	0.020	0.0192	96.0	( 70.00 - 130.00 )	0.52

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**QC Batch #93076**

**Calcium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Calcium, Total, ICAP	50	47.8	95.6	( 85.00 - 115.00 )	
LCS2	Calcium, Total, ICAP	50	48.0	96.0	( 85.00 - 115.00 )	0.42
MBLK	Calcium, Total, ICAP	ND				
MS	Calcium, Total, ICAP	50	50.6	101.2	( 70.00 - 130.00 )	
MSD	Calcium, Total, ICAP	50	52.1	104.2	( 70.00 - 130.00 )	2.9

**QC Batch #93080**

**Potassium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Potassium, Total, ICAP	20	19.4	97.0	( 80.00 - 110.00 )	
LCS2	Potassium, Total, ICAP	20	19.5	97.5	( 80.00 - 110.00 )	0.51
MBLK	Potassium, Total, ICAP	ND				
MS	Potassium, Total, ICAP	20	19.3	96.5	( 80.00 - 120.00 )	
MSD	Potassium, Total, ICAP	20	19.6	98.0	( 80.00 - 120.00 )	1.5

**QC Batch #93083**

**Magnesium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Magnesium, Total, ICAP	20	19.7	98.5	( 85.00 - 115.00 )	
LCS2	Magnesium, Total, ICAP	20	19.8	99.0	( 85.00 - 115.00 )	0.51
MBLK	Magnesium, Total, ICAP	ND				
MS	Magnesium, Total, ICAP	20	19.7	98.5	( 70.00 - 130.00 )	
MSD	Magnesium, Total, ICAP	20	20.2	101.0	( 70.00 - 130.00 )	2.5

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QC Batch #93086

Sodium, Total, ICAP

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Sodium, Total, ICAP	50	49.3	98.6	( 85.00 - 115.00 )	
LCS2	Sodium, Total, ICAP	50	49.7	99.4	( 85.00 - 115.00 )	0.81
MBLK	Sodium, Total, ICAP	ND				
MS	Sodium, Total, ICAP	50	47.0	94.0	( 70.00 - 130.00 )	
MSD	Sodium, Total, ICAP	50	47.8	95.6	( 70.00 - 130.00 )	1.7

QC Batch #93285

Perchlorate

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0225123		( 0.00 - 0.00 )	
LCS1	Perchlorate	20.0	19.5	97.5	( 90.00 - 110.00 )	
LCS2	Perchlorate	20.0	20.2	101.0	( 90.00 - 110.00 )	3.5
MBLK	Perchlorate	ND				
MS	Perchlorate	20.0	17.8	89.0	( 75.00 - 125.00 )	
MSD	Perchlorate	20.0	19.2	96.0	( 75.00 - 125.00 )	7.6

QC Batch #93303

Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4	4.16	104.0	( 70.00 - 130.00 )	
MBLK	1,1,1-Trichloroethane	ND				
LCS1	1,1,2,2-Tetrachloroethane	4	3.44	86.0	( 70.00 - 130.00 )	
MBLK	1,1,2,2-Tetrachloroethane	ND				
LCS1	1,1,2-Trichloroethane	4	3.62	90.5	( 70.00 - 130.00 )	
MBLK	1,1,2-Trichloroethane	ND				
LCS1	1,1-Dichloroethane	4	3.95	98.8	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethane	ND				
LCS1	1,1-Dichloroethylene	4	4.63	115.8	( 70.00 - 130.00 )	

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MBLK	1,1-Dichloroethylene	ND				
MS	1,1-Dichloroethylene	4	4.69	117.3	( 70.00 - 130.00 )	
MSD	1,1-Dichloroethylene	4	4.59	114.8	( 70.00 - 130.00 )	2.2
MBLK	1,1-Dichloropropene	ND				
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
LCS1	1,2,4-Trichlorobenzene	4	3.48	87.0	( 70.00 - 130.00 )	
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
LCS1	1,2-Dichloroethane	4	4.12	103.0	( 70.00 - 130.00 )	
MBLK	1,2-Dichloroethane	ND				
LCS1	1,2-Dichloropropane	4	4.42	110.5	( 70.00 - 130.00 )	
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
LCS1	1,3-Dichloropropane	8	6.52	81.5	( 70.00 - 130.00 )	
MBLK	1,3-Dichloropropane	ND				
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.55	88.8	( 70.00 - 130.00 )	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Butanone (MEK)	ND				
MBLK	2-Chloroethylvinylether	ND				
MBLK	o-Chlorotoluene	ND				
MBLK	p-Chlorotoluene	ND				
MBLK	4-Methyl-2-Pentanone (MIBK)	ND				
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Benzene	4	4.36	109.0	( 70.00 - 130.00 )	
MBLK	Benzene	ND				
MS	Benzene	4	4.47	111.8	( 70.00 - 130.00 )	
MSD	Benzene	4	4.28	107.0	( 70.00 - 130.00 )	4.3
MBLK	Bromobenzene	ND				
MBLK	Bromomethane (Methyl Bromide)	ND				
LCS1	cis-1,2-Dichloroethylene	4	4.40	110.0	( 70.00 - 130.00 )	
MBLK	cis-1,2-Dichloroethylene	ND				
LCS1	Chlorobenzene	4	3.61	90.2	( 70.00 - 130.00 )	
MBLK	Chlorobenzene	ND				
MS	Chlorobenzene	4	3.75	93.8	( 70.00 - 130.00 )	
MSD	Chlorobenzene	4	3.61	90.2	( 70.00 - 130.00 )	3.8

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LCS1	Carbon Tetrachloride	4	4.58	114.5	( 70.00 - 130.00 )
MBLK	Carbon Tetrachloride	ND			
MBLK	cis-1,3-Dichloropropene	ND			
LCS1	Bromoform	8	5.81	72.6	( 70.00 - 130.00 )
MBLK	Bromoform	ND			
LCS1	Chloroform (Trichloromethane)	4	4.27	106.7	( 70.00 - 130.00 )
MBLK	Chloroform (Trichloromethane)	ND			
MBLK	Bromochloromethane	ND			
MBLK	Chloroethane	ND			
MBLK	Chloromethane (Methyl Chloride)	ND			
LCS1	Chlorodibromomethane	4	3.05	76.2	( 70.00 - 130.00 )
MBLK	Chlorodibromomethane	ND			
MBLK	Dibromomethane	ND			
LCS1	Bromodichloromethane	4	3.53	88.2	( 70.00 - 130.00 )
MBLK	Bromodichloromethane	ND			
LCS1	Dichloromethane	4	4.13	103.2	( 70.00 - 130.00 )
MBLK	Dichloromethane	ND			
LCS1	Ethyl benzene	4	3.57	89.2	( 70.00 - 130.00 )
MBLK	Ethyl benzene	ND			
MBLK	Dichlorodifluoromethane	ND			
LCS1	Fluorotrichloromethane-Freon11	2	1.83	91.5	( 70.00 - 130.00 )
MBLK	Fluorotrichloromethane-Freon11	ND			
MBLK	Hexachlorobutadiene	ND			
MBLK	Isopropylbenzene	ND			
MBLK	m-Dichlorobenzene (1,3-DCB)	ND			
LCS1	m,p-Xylenes	8	7.27	90.9	( 70.00 - 130.00 )
MBLK	m,p-Xylenes	ND			
MBLK	Naphthalene	ND			
MBLK	n-Butylbenzene	ND			
MBLK	n-Propylbenzene	ND			
LCS1	o-Xylene	4	3.55	88.8	( 70.00 - 130.00 )
MBLK	o-Xylene	ND			
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.86	96.5	( 70.00 - 130.00 )
MBLK	o-Dichlorobenzene (1,2-DCB)	ND			
LCS1	Tetrachloroethylene (PCE)	4	3.66	91.5	( 70.00 - 130.00 )
MBLK	Tetrachloroethylene (PCE)	ND			
MBLK	p-Isopropyltoluene	ND			

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MBLK	sec-Butylbenzene	ND				
LCS1	Styrene	4	3.32	83.0	( 70.00 - 130.00 )	
MBLK	Styrene	ND				
LCS1	1,2-dichloroethane-d4	100	104	104.0	( 80.00 - 120.00 )	
MBLK	1,2-dichloroethane-d4	100	105	105.0		
MS	1,2-dichloroethane-d4	100	109	109.0	( 80.00 - 120.00 )	
MSD	1,2-dichloroethane-d4	100	104	104.0	( 80.00 - 120.00 )	4.7
LCS1	Toluene-d8	100	90	90.0	( 80.00 - 120.00 )	
MBLK	Toluene-d8	100	91.0	91.0		
MS	Toluene-d8	100	91.5	91.5	( 80.00 - 120.00 )	
MSD	Toluene-d8	100	91.2	91.2	( 80.00 - 120.00 )	0.33
LCS1	4-Bromofluorobenzene	100	98	98.0	( 80.00 - 120.00 )	
MBLK	4-Bromofluorobenzene	100	93.6	93.6		
MS	4-Bromofluorobenzene	100	93.4	93.4	( 80.00 - 120.00 )	
MSD	4-Bromofluorobenzene	100	97.5	97.5	( 80.00 - 120.00 )	4.3
LCS1	trans-1,2-Dichloroethylene	4	4.72	118.0	( 70.00 - 130.00 )	
MBLK	trans-1,2-Dichloroethylene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	Trichloroethylene (TCE)	4	3.78	94.5	( 70.00 - 130.00 )	
MBLK	Trichloroethylene (TCE)	ND				
MS	Trichloroethylene (TCE)	4	4.45	111.2	( 70.00 - 130.00 )	
MSD	Trichloroethylene (TCE)	4	3.94	98.5	( 70.00 - 130.00 )	12
LCS1	Trichlorotrifluoroethane (Freon	2	2.01	100.5	( 70.00 - 130.00 )	
MBLK	Trichlorotrifluoroethane (Freon	ND				
MBLK	trans-1,3-Dichloropropene	ND				
LCS1	Toluene	4	3.94	98.5	( 70.00 - 130.00 )	
MBLK	Toluene	ND				
MS	Toluene	4	4.02	100.5	( 70.00 - 130.00 )	
MSD	Toluene	4	3.78	94.5	( 70.00 - 130.00 )	6.2
LCS1	Vinyl chloride (VC)	2	2.04	102.0	( 70.00 - 130.00 )	
MBLK	Vinyl chloride (VC)	ND				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
 Criteria for MS and DUP are advisory only and not applicable for ICR monitoring.



**MONTGOMERY WATSON LABORATORIES**

Quality Environmental Analysis

A division of Montgomery Watson Americas, Inc.

April 9, 1999

Foster Wheeler Environmental  
611 Anton Blvd, Suite 800  
Costa Mesa, CA.92626

Attention: Mark Cutler

Re: Report # 52208 (MW-991-084, MW-991-085, MW-991-026 MW-991-027, MW-991-028, MW-991-029, MW-991-030)

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):**

(VOC) QC batch 93298: The LCS for Bromoform recovered at 60.2, which is below the acceptance criteria of 70-130. The sample associated with this QC batch is ND with a low bias for this compound and flagged with a J.

The LCS for Carbon Tetrachloride recovered above acceptance criteria of 70-130, at 130.2%. The reported sample is ND for this compound. The result is reported without qualification.

A re-analysis was attempted within the HT of 7 days, but the instrument failed to acquire the data thus the run was not successful. Results are reported from the run within HT.

**Samples requiring dilution (with increased MRL's):**

MW-991-030 was diluted for Iron.

**Method blanks with compounds detected:**

None

**Other Comments:**

Chloroform was detected in sample ID: MW-991-027

Tetrachloroethylene was detected in sample ID: MW-991-026, -028

Trichloroethylene was detected in sample ID: MW-991-029

**TIC's:**

None

**Method Variance:**

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  
4820 South Mill Avenue - Suite 202  
Tempe, Arizona 85282  
Tel: 602 755 8201  
Fax: 602 755 8203

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 302  
Irvine, California 92606  
Tel: 949 222 1845  
Fax: 949 222 1849

**Montgomery Watson Laboratories**  
 , Los Angeles, CA 90051-3508  
 PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Foster Wheeler Environmental, Inc  
 611 Anton Boulevard  
 Suite 800  
 Costa Mesa, CA 92626  
 Attn: Mark Cutler

Customer Code: ENSERCH  
 PO#: Sub PO#007618-0005-0001  
 Group#: 52208  
 Project#: JPL  
 Proj Mgr: Debbie Frank  
 Phone: (714) 444-5526

The following samples were received from you on 02/26/99. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Montgomery Watson Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
990226108	MW-991-084	@EBASVOA	Water	02/26/99
990226109	MW-991-085	@EBASVOA AS-EBAS CLO4	Water CR-EBAS	02/26/99
990226110	MW-991-026	@EBASVOA CR-VI TDS CATION1 CO3 ALK K NA	Water PB-EBAS CR-EBAS ANION1 NO3 MG	02/26/99
990226111	MW-991-027	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/26/99
990226112	MW-991-028	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/26/99
990226113	MW-991-029	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/26/99
990226114	MW-991-030	@EBASVOA CLO4 K FE-MS CO3 HCO3 TDS AS-EBAS	Water CA CL EC CR-EBAS	02/26/99

Test Acronym Description

Test Acronym	Description
--------------	-------------

Foster Wheeler Environmental, Inc  
611 Anton Boulevard  
Suite 800  
Costa Mesa, CA 92626  
Attn: Mark Cutler

Customer Code: ENSERCH  
PO#: Sub PO#007618-0005-0001  
Group#: 52208  
Project#: JPL  
Proj Mgr: Debbie Frank  
Phone: (714) 444-5526

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Test Acronym Description

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Test Acronym	Description
@EBASVOA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity
ANION1	Anion Sum
AS-EBAS	Arsenic, Total, GF
CA	Calcium, Total, ICAP
CATION1	Cation Sum
CL	Chloride
CLO4	Perchlorate
CO3	Carbonate as CO3, Calculated
CR-EBAS	Chromium, Total, ICAP/MS
CR-VI	Hexavalent chromium (Cr VI)
EC	Specific Conductance
FE-MS	Iron, Total, ICAP/MS
HCO3	Bicarbonate as HCO3,calculated
K	Potassium, Total, ICAP
MG	Magnesium, Total, ICAP
NA	Sodium, Total, ICAP
NO3	Nitrate-N by IC
PB-EBAS	Lead, Total, ICAP/MS
PH	Lab pH
SO4	Sulfate
TDS	Total Dissolved Solid (TDS)



52208

NUMBER 1237

TEMP. 5-10  
REG ICE STILL OK

FOSTER WHEELER ENVIRONMENTAL CORPORATION

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

PAGE 1 OF 1

PROJECT JPL		OFS NO. 1572 0268		HAZARD IDENTIFICATION Non Hazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		TIME REQUIRED NORMAL <input checked="" type="checkbox"/> DAYS RUSH <input type="checkbox"/> DAYS																									
PROJECT ADDRESS 4300 OAK GROVE DR, PASADENA, CA				SAMPLER (Name) J. BRENNER				SAMPLER (Signature) [Signature]																							
LABORATORY MONTGOMERY WATSON LABS				ANALYSES REQUIRED																											
REPORTS TO BE SENT TO MIZ. MARK CUTLER				<table border="1"> <tr> <th rowspan="2">SAMPLE NUMBER</th> <th rowspan="2">TIME COLLECTED</th> <th rowspan="2">DATE COLLECTED</th> <th rowspan="2">NUMBER OF CONTAINERS</th> <th rowspan="2">CONTAINER SIZE(S)</th> <th colspan="3">SAMPLE MATERIAL</th> <th rowspan="2">Vocs (S2A2)</th> <th rowspan="2">TDNAs P, C, Pb</th> <th rowspan="2">MAJOC ANALYSIS 3 TDS</th> <th rowspan="2">HX Cr</th> <th rowspan="2">ClO4 (Perchlorate)</th> <th rowspan="2">MS EOX Vocs</th> <th rowspan="2">MSD EOX Vocs</th> <th rowspan="2">MS/MSD EOX METALS</th> <th rowspan="2">OC</th> </tr> <tr> <th>WATER</th> <th>SOIL</th> <th>OTHER (Describe)</th> </tr> </table>								SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			Vocs (S2A2)	TDNAs P, C, Pb	MAJOC ANALYSIS 3 TDS	HX Cr	ClO4 (Perchlorate)	MS EOX Vocs	MSD EOX Vocs	MS/MSD EOX METALS	OC	WATER	SOIL	OTHER (Describe)
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			Vocs (S2A2)	TDNAs P, C, Pb	MAJOC ANALYSIS 3 TDS	HX Cr						ClO4 (Perchlorate)	MS EOX Vocs	MSD EOX Vocs										MS/MSD EOX METALS	OC	
					WATER	SOIL	OTHER (Describe)																								
MW 991 084	1005	2/26/99	2	2 x 40ml	X			X																							
MW 991 085	1000		5	2 x 40ml 1 x 25ml 2 x 125ml	X			X	X		X	X																			
MW 99 026	0930		6	2 x 40ml 1 x 25ml 2 x 125ml 1 x 50ml	X			X	X	X	X	X																			
MW 991 027	1045		6		X			X	X	X	X	X																			
MW 991 028	1150		6		X			X	X	X	X	X																			
MW 991 028A	1150		2	2 x 40ml	X								X																		
MW 991 028B	1150		2	2 x 40ml	X								X																		
MW 991 028C	1150		1	1 x 250ml	X									X																	
MW 991 029	1320		6	2 x 40ml 1 x 25ml 2 x 125ml 1 x 50ml	X			X	X	X	X	X																			
MW 991 030	1420		6		X			X	X	X	X	X				X															

LABORATORY INSTRUCTIONS/COMMENTS  
LEVEL III QA/QC

RELINQUISHED BY (Signature) [Signature]	DATE 2/26/99	RECEIVED BY (Signature) [Signature]	DATE 2/26/99
COMPANY Foster Wheeler	TIME 3:55	COMPANY M.W.S. Inc	COMPANY M.W.S. Inc



MONTGOMERY LABORATORIES COOLER RECEIPT FORM

PROJECT: ENSERCH Date Received: 2-26-99

Use other side of this form to note further details concerning check-in problems and to describe any action(s) regarding the resolution(s) of problems.

A. PRELIMINARY EXAMINATION: Date cooler opened: 2-26-99 by M. DE WESA (print) [Signature] (sign)

1. Did cooler come with shipping slip (air bill, etc.)? Yes If YES, attach & enter carrier and air bill # here: PER BY CURRENT

2. Were custody seals on outside of cooler? Yes If YES, how many & where: SEE BACK If Yes, enter the following: seal date: Jan, seal name: LR

3. Were custody seals unbroken & intact at delivery? Yes

4. Were custody papers sealed in bag & taped to lid? Yes

5. Were custody papers filled out properly (ink, etc.)? Yes

6. Did you sign custody papers in appropriate place? Yes

7. Was project identifiable from custody papers? Yes

8. Have designated person(s) initial to acknowledge receipt: WLD (date) 2-26-99

B. LOG-IN PHASE: Date samples were logged-in: 2-26-99 by: M. DE WESA (print) [Signature] (sign)

9. Describe packing:

10. If required, was enough ice used? Yes

11. Were all bottles sealed in separate plastic bags? Yes

12. Did all bottles arrive unbroken/in good condition? Yes

13. Were all bottle labels complete (ID, date, sign, pres)? Yes

14. Did all bottle labels agree with custody papers? Yes If NO, indicate discrepancies on back.

15. Were correct containers used for the analytes? Yes

16. Were correct preservatives used when required? Yes

17. Was sufficient amount of sample sent for tests? Yes

18. Bubbles absent in VOA vials? Yes If NO, list by sample id on back.

19. Was Client Services informed of problems? Yes

**QUALITY INVESTIGATION REPORT**

Analysis Date: 3-05-99  
 Extraction Date: \_\_\_\_\_  
 Analyst: Cecilia Lee

QIR No. MS-99-036  
 Analysis: 524.5/2 msc 3/30/99  
 Matrix: Water  
 Instrument ID: GCMS-H

**SAMPLES IMPACTED**

Lab #	Client ID	Client Name	Lab #	Client ID	Client Name
990226111	} Enserch		990301251	Enserch	
<del>990226112</del>					
990303001	} WRD		990301253	↓	
002			990301254		
003			990301255		
004			990301256		

**Brief Description:** (include reason for non-compliance)

Bromoform in the LFB is 60%, This is lower than acceptable limit of 70-130%. The Results for Bromoform in the above samples are going to be biased low. Also recovery of CCL<sub>4</sub> in the LFB is 130.2%, control

**Action Taken:** limit is 70-130%. The Bromoform percent recovery was miscalculated by analyst to be 80%, but during data review by supervisor the error in calculation was corrected to be 60%. By this time samples were past Holding time

**Impact on Data Quality:**

corrective action was not possible.

**Data Disposition:** Re-run  Re-sample  Original Data Reported  Report Annotated

Other: \_\_\_\_\_

**Annotation:** Report was annotated.

**Client Contact:** mssg M. Cutler mssg 3/30/99 - Data should be flagged  
 J per Email?  
 WRD - Report and Annotate as above

<b>Extraction:</b>	_____	Date:	_____
<b>Analyst:</b>	<u>Cecilia Lee</u>	Date:	<u>3-30-99</u>
<b>Group Leader:</b>	<u>[Signature]</u>	Date:	<u>3-30-99</u>
<b>QA Coordinator:</b>	<u>[Signature]</u>	Date:	<u>3/30/99</u>
<b>Project Manager:</b>	<u>[Signature]</u>	Date:	<u>3/30/99 4/7/99</u>

Report Summary of positive results, PR52208

			Result	MDL	UNITS
Analyzed	990226108	MW-991-084			
Analyzed	990226109	MW-991-085			
Analyzed	990226110	MW-991-026			
03/04/99	Tetrachloroethylene (PCE)		1.3	.500	UGL
03/02/99	Alkalinity		169	2.000	MGL
03/12/99	Anion Sum		7.23	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		206	.001	MGL
03/08/99	Calcium, Total, ICAP		60.6	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		1.34	.001	MGL
03/12/99	Cation Sum		6.97	.001	MEQL
02/27/99	Chloride		73	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		290	*****	UGL
03/01/99	Lab pH		8.0	.001	UNIT
03/08/99	Magnesium, Total, ICAP		30.1	1.000	MGL
02/27/99	Nitrate-N by IC		4.3	.100	MGL
03/08/99	Potassium, Total, ICAP		2.48	1.000	MGL
03/08/99	Sodium, Total, ICAP		32.2	1.000	MGL
03/02/99	Specific Conductance		625	4.000	UMHO
02/27/99	Sulfate		71	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)		400	10.000	MGL
Analyzed	990226111	MW-991-027			
03/05/99	Bromoform		ND J	.500	UGL
03/05/99	Chloroform (Trichloromethane)		3.0	.500	UGL
03/02/99	Alkalinity		146	2.000	MGL
03/12/99	Anion Sum		4.31	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		176	.001	MGL
03/08/99	Calcium, Total, ICAP		33.4	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		4.55	.001	MGL
03/12/99	Cation Sum		4.29	.001	MEQL
02/27/99	Chloride		17	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		520	*****	UGL
03/01/99	Lab pH		8.6	.001	UNIT
03/08/99	Magnesium, Total, ICAP		18.0	1.000	MGL
02/27/99	Nitrate-N by IC		2.2	.100	MGL
03/08/99	Potassium, Total, ICAP		1.93	1.000	MGL
03/08/99	Sodium, Total, ICAP		25.0	1.000	MGL
03/02/99	Specific Conductance		390	4.000	UMHO
02/27/99	Sulfate		36	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)		250	10.000	MGL
Analyzed	990226112	MW-991-028			
03/04/99	Tetrachloroethylene (PCE)		1.5	.500	UGL
03/02/99	Alkalinity		253	2.000	MGL
03/12/99	Anion Sum		10.7	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		308	.001	MGL
03/08/99	Calcium, Total, ICAP		115	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		1.00	.001	MGL
03/12/99	Cation Sum		10.5	.001	MEQL

02/27/99	Chloride	95	1.000	MGL
03/05/99	Iron, Total, ICAP/MS	1500	*****	UGL
03/01/99	Lab pH	7.7	.001	UNIT
03/08/99	Magnesium, Total, ICAP	40.1	1.000	MGL
02/27/99	Nitrate-N by IC	9.9	.100	MGL
03/08/99	Potassium, Total, ICAP	2.79	1.000	MGL
03/08/99	Sodium, Total, ICAP	31.3	1.000	MGL
03/02/99	Specific Conductance	945	4.000	UMHO
02/27/99	Sulfate	110	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)	620	10.000	MGL

Analyzed 990226113 MW-991-029

03/04/99	Trichloroethylene (TCE)	0.6	.500	UGL
03/02/99	Alkalinity	166	2.000	MGL
03/12/99	Anion Sum	5.45	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated	202	.001	MGL
03/08/99	Calcium, Total, ICAP	58.3	1.000	MGL
03/05/99	Carbonate as CO3, Calculated	0.131	.001	MGL
03/12/99	Cation Sum	5.37	.001	MEQL
02/27/99	Chloride	25	1.000	MGL
03/05/99	Iron, Total, ICAP/MS	910	*****	UGL
03/01/99	Lab pH	7.0	.001	UNIT
03/08/99	Magnesium, Total, ICAP	21.1	1.000	MGL
02/27/99	Nitrate-N by IC	4.8	.100	MGL
03/08/99	Potassium, Total, ICAP	1.74	1.000	MGL
03/08/99	Sodium, Total, ICAP	15.5	1.000	MGL
03/02/99	Specific Conductance	460	4.000	UMHO
02/27/99	Sulfate	52	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)	300	10.000	MGL

Analyzed 990226114 MW-991-030

03/02/99	Alkalinity	119	2.000	MGL
03/12/99	Anion Sum	2.90	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated	145	.001	MGL
03/08/99	Calcium, Total, ICAP	31.5	1.000	MGL
03/05/99	Carbonate as CO3, Calculated	0.375	.001	MGL
03/12/99	Cation Sum	2.99	.001	MEQL
02/27/99	Chloride	4.4	1.000	MGL
03/10/99	Iron, Total, ICAP/MS	5700	*****	UGL
03/01/99	Lab pH	7.6	.001	UNIT
03/08/99	Magnesium, Total, ICAP	10.5	1.000	MGL
02/27/99	Nitrate-N by IC	0.29	.100	MGL
03/08/99	Potassium, Total, ICAP	2.03	1.000	MGL
03/08/99	Sodium, Total, ICAP	11.4	1.000	MGL
03/02/99	Specific Conductance	255	4.000	UMHO
02/27/99	Sulfate	18	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)	170	10.000	MGL



**MONTGOMERY WATSON LABORATORIES**

a Division of Montgomery Watson Americas, Inc.  
555 East Walnut Street  
Pasadena, California 91101  
Tel: 626 568 6400 Fax: 626 568 6324  
1 800 566 LABS (1 800 566 5227)

**Laboratory Report**

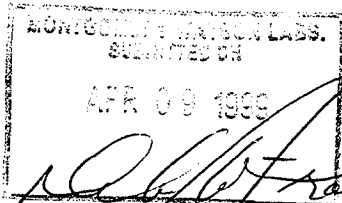
for

Foster Wheeler Environmental, Inc  
611 Anton Boulevard

Suite 800

Costa Mesa , CA 92626

Attention: Mark Cutler  
Fax: (714)444-5560



DEB\* Debbie Frank

Report#: 52208  
JPL

**MONTGOMERY WATSON LABORATORIES**

a Division of Montgomery Watson Americas, Inc.  
 555 East Walnut Street  
 Pasadena, California 91101  
 Tel: 626 568 6400 Fax: 626 568 6324  
 1 800 566 LABS (1 800 566 5227)

Laboratory  
 Report  
 #52208

Foster Wheeler Environmental, Inc  
 Mark Cutler  
 611 Anton Boulevard  
 Suite 800  
 Costa Mesa , CA 92626

Samples Received  
 26-feb-1999 16:24:30

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-084 (990226108)                      Sampled on 02/26/99</b>								
<b>Regulated VOCs plus Lists 1&amp;3</b>								
03/04/99	93303		( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
03/04/99	93303		( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
03/04/99	93303		( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
03/04/99	93303		( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1



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**Laboratory  
 Report  
 #52208**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Fluorotrchloromethane-Freon11	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1	
		( EPA 524.2 )	None Detected	ND			1	
		( Surrogate )	1,2-Dichloroethane-d4	116	% Rec			
		( Surrogate )	4-Bromofluorobenzene	94	% Rec			
		( Surrogate )	Toluene-d8	89	% Rec			



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**Laboratory  
 Report  
 #52208**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-085 (990226109)</b>				<b>Sampled on 02/26/99</b>				
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
	03/11/99	93355	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/26/99	92718	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1	
03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1	
03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1	



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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrchloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	117	% Rec		
			( Surrogate )	4-Bromofluorobenzene	98	% Rec		



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Laboratory  
 Report  
 #52208

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
			( Surrogate )	Toluene-d8	85	% Rec		
<b>MW-991-026 (990226110) Sampled on 02/26/99</b>								
	03/02/99	92809	( ML/SM2320B )	Alkalinity	169	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	7.23	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	60.6	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	6.97	meq/l	0.0010	1
	02/27/99	93163	( ML/EPA 300 )	Chloride	73	mg/l	1.0	1
	03/11/99	93355	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.34	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/26/99	92718	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	625	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	290	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	206	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.48	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	30.1	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	32.2	mg/l	1.0	1
	02/27/99	93164	( ML/EPA 300.0 )	Nitrate-N by IC	4.3	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/01/99	92811	( ML/SM 4500EB)	Lab pH	8.0	Units	0.0010	1
	02/27/99	93165	( ML/EPA 300.0 )	Sulfate	71	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	400	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1

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 Tel: 626 568 6400 Fax: 626 568 6324  
 1 800 566 LABS (1 800 566 5227)

Laboratory  
 Report  
 #52208

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	1.3	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	115	% Rec		
			( Surrogate )	4-Bromofluorobenzene	89	% Rec		
			( Surrogate )	Toluene-d8	86	% Rec		

**MW-991-027 (990226111)                      Sampled on 02/26/99**

	03/02/99	92809	( ML/SM2320B )	Alkalinity	146	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	4.31	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	33.4	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	4.29	meq/l	0.0010	1
	02/27/99	93163	( ML/EPA 300 )	Chloride	17	mg/l	1.0	1
	03/11/99	93355	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	4.55	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/26/99	92718	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	390	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	520	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	176	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	1.93	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	18.0	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	25.0	mg/l	1.0	1

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Laboratory  
 Report  
 #52208

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	02/27/99	93164	( ML/EPA 300.0 )	Nitrate-N by IC	2.2	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/01/99	92811	( ML/SM 4500HB)	Lab pH	8.6	Units	0.0010	1
	02/27/99	93165	( ML/EPA 300.0 )	Sulfate	36	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	250	mg/l	10	1

**Regulated VOCs plus Lists 1&3**

03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	3.0	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	118	% Rec		
			( Surrogate )	4-Bromofluorobenzene	87	% Rec		
			( Surrogate )	Toluene-d8	83	% Rec		



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**Laboratory  
 Report  
 #52208**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-028 (990226112)</b>				<b>Sampled on 02/26/99</b>				
	03/02/99	92807	( ML/SM2320B )	Alkalinity	253	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	10.7	meq/l	0.0010	1
03/04/99	03/08/99	93112	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	115	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	10.5	meq/l	0.0010	1
	02/27/99	93163	( ML/EPA 300 )	Chloride	95	mg/l	1.0	1
	03/11/99	93355	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.00	mg/l	0.0010	1
03/04/99	03/05/99	93064	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/26/99	92718	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	945	umho/cm	4.0	1
03/04/99	03/05/99	93067	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	1500	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	308	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.79	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	40.1	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	31.3	mg/l	1.0	1
	02/27/99	93164	( ML/EPA 300.0 )	Nitrate-N by IC	9.9	mg/l	0.10	1
03/04/99	03/05/99	93066	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/01/99	92806	( ML/SM 4500HB)	Lab pH	7.7	Units	0.0010	1
	02/27/99	93165	( ML/EPA 300.0 )	Sulfate	110	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	620	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1



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 #52208

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	1.5	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	114	% Rec		
			( Surrogate )	4-Bromofluorobenzene	95	% Rec		
			( Surrogate )	Toluene-d8	85	% Rec		

**MW-991-029 (990226113)      Sampled on 02/26/99**

	03/02/99	92809	( ML/SM2320B )	Alkalinity	166	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	5.45	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	58.3	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	5.37	meq/l	0.0010	1
	02/27/99	93163	( ML/EPA 300 )	Chloride	25	mg/l	1.0	1
	03/11/99	93355	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	0.131	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/26/99	92718	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	460	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	910	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	202	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	1.74	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	21.1	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	15.5	mg/l	1.0	1
	02/27/99	93164	( ML/EPA 300.0 )	Nitrate-N by IC	4.8	mg/l	0.10	1



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Laboratory  
 Report  
 #52208

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/01/99	92811	( ML/SM 4500HB)	Lab pH	7.0	Units	0.0010	1
	02/27/99	93165	( ML/EPA 300.0 )	Sulfate	52	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	300	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chloromethane(Methyl Chloride)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	0.6	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	113	% Rec		
			( Surrogate )	4-Bromofluorobenzene	91	% Rec		
			( Surrogate )	Toluene-d8	83	% Rec		



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**Laboratory  
 Report  
 #52208**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-030 (990226114)                      Sampled on 02/26/99</b>								
	03/02/99	92807	( ML/SM2320B )	Alkalinity	119	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	2.90	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	31.5	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	2.99	meq/l	0.0010	1
	02/27/99	93163	( ML/EPA 300 )	Chloride	4.4	mg/l	1.0	1
	03/11/99	93355	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO <sub>3</sub> , Calculated	0.375	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	02/26/99	92718	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	255	umho/cm	4.0	1
03/04/99	03/10/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	5700	ug/l	1000	10
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO <sub>3</sub> ,calculated	145	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.03	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	10.5	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	11.4	mg/l	1.0	1
	02/27/99	93164	( ML/EPA 300.0 )	Nitrate-N by IC	0.29	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/01/99	92806	( ML/SM 4500HB)	Lab pH	7.6	Units	0.0010	1
	02/27/99	93165	( ML/EPA 300.0 )	Sulfate	18	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	170	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1

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(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1	
03/04/99	93303	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1	
03/04/99	93303	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1	
03/04/99	93303	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1	



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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/04/99	93303	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/04/99	93303	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	112	% Rec		
			( Surrogate )	4-Bromofluorobenzene	94	% Rec		
			( Surrogate )	Toluene-d8	86	% Rec		

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**Group Comments**

(524.2) Recovery of Bromoform in the LFB analyzed on 03/05/99 was lower than 70%. The result of Bromoform in samples analyzed on 3/5/99 are biased low. See QIR-MS-99-036. Also recovery of CCL4 in the LFB is 130.2%, control limit is 70-130%. GG 3/30/99

(FE-MS) Recovery of matrix spike performed on sample# 990226112 is lower than 70-130%, due to high concentration of Fe in the spiked sample. Result of Fe in the sample is three times the spiked amount. GG 3/30/99



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**QC Batch #92718**

**Hexavalent chromium (Cr VI)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226144		( 0.00 - 0.00 )	
LCS1	Hexavalent chromium (Cr VI)	0.050	0.0487	97.4	( 78.00 - 118.00 )	
LCS2	Hexavalent chromium (Cr VI)	0.050	0.0493	98.6	( 78.00 - 118.00 )	1.2
MBLK	Hexavalent chromium (Cr VI)	ND				
MS	Hexavalent chromium (Cr VI)	0.050	0.0499	99.8	( 80.00 - 120.00 )	
MSD	Hexavalent chromium (Cr VI)	0.050	0.0493	98.6	( 80.00 - 120.00 )	1.2

**QC Batch #92750**

**Specific Conductance**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0301256		( 0.00 - 0.00 )	

**QC Batch #92806**

**Lab pH**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0302128		( 0.00 - 0.00 )	

**QC Batch #92807**

**Alkalinity**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Alkalinity	96.2	97.9	101.8	( 90.00 - 110.00 )	
LCS2	Alkalinity	96.2	97.5	101.4	( 90.00 - 110.00 )	0.41
MBLK	Alkalinity	ND				
MS	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	
MSD	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	0.00

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**QC Batch #92809****Alkalinity**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Alkalinity	96.2	97.9	101.8	( 90.00 - 110.00 )	
LCS2	Alkalinity	96.2	97.5	101.4	( 90.00 - 110.00 )	0.41
MBLK	Alkalinity	ND				
MS	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	
MSD	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	0.00

**QC Batch #92811****Lab pH**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	lab # 99	0302128		( 0.00 - 0.00 )	

**QC Batch #92914****Total Dissolved Solid (TDS)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0302066		( 0.00 - 0.00 )	
LCS1	Total Dissolved Solid (TDS)	175	170	97.1	( 85.00 - 115.00 )	
LCS2	Total Dissolved Solid (TDS)	700	684	97.7	( 85.00 - 115.00 )	
MBLK	Total Dissolved Solid (TDS)	ND				

**QC Batch #92976****Chromium, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Chromium, Total, ICAP/MS	100	99	99.0	( 85.00 - 115.00 )	
LCS2	Chromium, Total, ICAP/MS	100	95	95.0	( 85.00 - 115.00 )	4.1
MBLK	Chromium, Total, ICAP/MS	ND				
MS	Chromium, Total, ICAP/MS	100	98	98.0	( 70.00 - 130.00 )	
MSD	Chromium, Total, ICAP/MS	100	95	95.0	( 70.00 - 130.00 )	3.1

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QC Batch #92977

Iron, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Iron, Total, ICAP/MS	500	543	108.6	( 85.00 - 115.00 )	
LCS2	Iron, Total, ICAP/MS	500	517	103.4	( 85.00 - 115.00 )	4.9
MBLK	Iron, Total, ICAP/MS	ND				
MS	Iron, Total, ICAP/MS	500	562	112.4	( 70.00 - 130.00 )	
MSD	Iron, Total, ICAP/MS	500	550	110.0	( 70.00 - 130.00 )	2.2

QC Batch #92979

Lead, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Lead, Total, ICAP/MS	20.0	21.6	108.0	( 85.00 - 115.00 )	
LCS2	Lead, Total, ICAP/MS	20.0	19.9	99.5	( 85.00 - 115.00 )	8.2
MBLK	Lead, Total, ICAP/MS	ND				
MS	Lead, Total, ICAP/MS	20.0	20.6	103.0	( 70.00 - 130.00 )	
MSD	Lead, Total, ICAP/MS	20.0	20.0	100.0	( 70.00 - 130.00 )	3.0

QC Batch #93028

Arsenic, Total, GF

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	
LCS2	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	0.00
MBLK	Arsenic, Total, GF	ND				
MS	Arsenic, Total, GF	0.020	0.0193	96.5	( 70.00 - 130.00 )	
MSD	Arsenic, Total, GF	0.020	0.0192	96.0	( 70.00 - 130.00 )	0.52

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**QC Batch #93064****Chromium, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Chromium, Total, ICAP/MS	100	101	101.0	( 85.00 - 115.00 )	
LCS2	Chromium, Total, ICAP/MS	100	102	102.0	( 85.00 - 115.00 )	0.99
MBLK	Chromium, Total, ICAP/MS	ND				
MS	Chromium, Total, ICAP/MS	100	95	95.0	( 70.00 - 130.00 )	
MSD	Chromium, Total, ICAP/MS	100	97	97.0	( 70.00 - 130.00 )	2.1

**QC Batch #93066****Lead, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Lead, Total, ICAP/MS	20.0	21.0	105.0	( 85.00 - 115.00 )	
LCS2	Lead, Total, ICAP/MS	20.0	21.8	109.0	( 85.00 - 115.00 )	3.7
MBLK	Lead, Total, ICAP/MS	ND				
MS	Lead, Total, ICAP/MS	20.0	20.4	102.0	( 70.00 - 130.00 )	
MSD	Lead, Total, ICAP/MS	20.0	19.4	97.0	( 70.00 - 130.00 )	5.0

**QC Batch #93067****Iron, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Iron, Total, ICAP/MS	500	496	99.2	( 85.00 - 115.00 )	
LCS2	Iron, Total, ICAP/MS	500	532	106.4	( 85.00 - 115.00 )	7.0
MBLK	Iron, Total, ICAP/MS	ND				
MS	Iron, Total, ICAP/MS	500	300	<u>60.0</u>	( 70.00 - 130.00 )	
MSD	Iron, Total, ICAP/MS	500	527	105.4	( 70.00 - 130.00 )	55

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**QC Batch #93076**

**Calcium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Calcium, Total, ICAP	50	47.8	95.6	( 85.00 - 115.00 )	
LCS2	Calcium, Total, ICAP	50	48.0	96.0	( 85.00 - 115.00 )	0.42
MBLK	Calcium, Total, ICAP	ND				
MS	Calcium, Total, ICAP	50	50.6	101.2	( 70.00 - 130.00 )	
MSD	Calcium, Total, ICAP	50	52.1	104.2	( 70.00 - 130.00 )	2.9

**QC Batch #93080**

**Potassium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Potassium, Total, ICAP	20	19.4	97.0	( 80.00 - 110.00 )	
LCS2	Potassium, Total, ICAP	20	19.5	97.5	( 80.00 - 110.00 )	0.51
MBLK	Potassium, Total, ICAP	ND				
MS	Potassium, Total, ICAP	20	19.3	96.5	( 80.00 - 120.00 )	
MSD	Potassium, Total, ICAP	20	19.6	98.0	( 80.00 - 120.00 )	1.5

**QC Batch #93083**

**Magnesium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Magnesium, Total, ICAP	20	19.7	98.5	( 85.00 - 115.00 )	
LCS2	Magnesium, Total, ICAP	20	19.8	99.0	( 85.00 - 115.00 )	0.51
MBLK	Magnesium, Total, ICAP	ND				
MS	Magnesium, Total, ICAP	20	19.7	98.5	( 70.00 - 130.00 )	
MSD	Magnesium, Total, ICAP	20	20.2	101.0	( 70.00 - 130.00 )	2.5

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**QC Batch #93086****Sodium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Sodium, Total, ICAP	50	49.3	98.6	( 85.00 - 115.00 )	
LCS2	Sodium, Total, ICAP	50	49.7	99.4	( 85.00 - 115.00 )	0.81
MBLK	Sodium, Total, ICAP	ND				
MS	Sodium, Total, ICAP	50	47.0	94.0	( 70.00 - 130.00 )	
MSD	Sodium, Total, ICAP	50	47.8	95.6	( 70.00 - 130.00 )	1.7

**QC Batch #93112****Arsenic, Total, GF**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Arsenic, Total, GF	0.020	0.0201	100.5	( 85.00 - 115.00 )	
LCS2	Arsenic, Total, GF	0.020	0.0199	99.5	( 85.00 - 115.00 )	1.00
MBLK	Arsenic, Total, GF	ND				
MS	Arsenic, Total, GF	0.020	0.0201	100.5	( 70.00 - 130.00 )	
MSD	Arsenic, Total, GF	0.020	0.0199	99.5	( 70.00 - 130.00 )	1.00

**QC Batch #93163****Chloride**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Chloride	25	25.1	100.4	( 90.00 - 110.00 )	
LCS2	Chloride	25	25.1	100.4	( 90.00 - 110.00 )	0.00
MBLK	Chloride	ND				
MS	Chloride	25	25.5	102.0	( 80.00 - 120.00 )	
MSD	Chloride	25	25.5	102.0	( 80.00 - 120.00 )	0.00

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QC Batch #93164

Nitrate-N by IC

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Nitrate-N by IC	2.5	2.55	102.0	( 90.00 - 110.00 )	
LCS2	Nitrate-N by IC	2.5	2.54	101.6	( 90.00 - 110.00 )	0.39
MBLK	Nitrate-N by IC	ND				
MS	Nitrate-N by IC	2.5	2.48	99.2	( 80.00 - 120.00 )	
MSD	Nitrate-N by IC	2.5	2.36	94.4	( 80.00 - 120.00 )	5.0

QC Batch #93165

Sulfate

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Sulfate	50	50.1	100.2	( 90.00 - 110.00 )	
LCS2	Sulfate	50	50.1	100.2	( 90.00 - 110.00 )	0.00
MBLK	Sulfate	ND				
MS	Sulfate	50	52.0	104.0	( 80.00 - 120.00 )	
MSD	Sulfate	50	49.9	99.8	( 80.00 - 120.00 )	4.1

QC Batch #93298

Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4	4.60	115.0	( 70.00 - 130.00 )	
MBLK	1,1,1-Trichloroethane	ND				
LCS1	1,1,2,2-Tetrachloroethane	4	3.91	97.8	( 70.00 - 130.00 )	
MBLK	1,1,2,2-Tetrachloroethane	ND				
LCS1	1,1,2-Trichloroethane	4	4.28	107.0	( 70.00 - 130.00 )	
MBLK	1,1,2-Trichloroethane	ND				
LCS1	1,1-Dichloroethane	4	4.43	110.8	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethane	ND				
LCS1	1,1-Dichloroethylene	4	5.04	126.0	( 70.00 - 130.00 )	

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MBLK	1,1-Dichloroethylene	ND				
MS	1,1-Dichloroethylene	4	4.12	103.0	( 70.00 - 130.00 )	
MSD	1,1-Dichloroethylene	4	3.11	77.8	( 70.00 - 130.00 )	28
MBLK	1,1-Dichloropropene	ND				
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
LCS1	1,2,4-Trichlorobenzene	4	3.79	94.8	( 70.00 - 130.00 )	
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
LCS1	1,2-Dichloroethane	4	4.84	121.0	( 70.00 - 130.00 )	
MBLK	1,2-Dichloroethane	ND				
LCS1	1,2-Dichloropropane	4	4.69	117.3	( 70.00 - 130.00 )	
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
LCS1	1,3-Dichloropropane	8	7.55	94.4	( 70.00 - 130.00 )	
MBLK	1,3-Dichloropropane	ND				
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.59	89.8	( 70.00 - 130.00 )	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Butanone (MEK)	ND				
MBLK	2-Chloroethylvinylether	ND				
MBLK	o-Chlorotoluene	ND				
MBLK	p-Chlorotoluene	ND				
MBLK	4-Methyl-2-Pentanone (MIBK)	ND				
MS	Spiked sample	Lab # 99	0303079		( 0.00 - 0.00 )	
LCS1	Benzene	4	4.69	117.3	( 70.00 - 130.00 )	
MBLK	Benzene	ND				
MS	Benzene	4	4.02	100.5	( 70.00 - 130.00 )	
MSD	Benzene	4	3.70	92.5	( 70.00 - 130.00 )	8.3
MBLK	Bromobenzene	ND				
MBLK	Bromomethane (Methyl Bromide)	ND				
LCS1	cis-1,2-Dichloroethylene	4	4.80	120.0	( 70.00 - 130.00 )	
MBLK	cis-1,2-Dichloroethylene	ND				
LCS1	Chlorobenzene	4	3.94	98.5	( 70.00 - 130.00 )	
MBLK	Chlorobenzene	ND				
MS	Chlorobenzene	4	3.87	96.8	( 70.00 - 130.00 )	
MSD	Chlorobenzene	4	3.82	95.5	( 70.00 - 130.00 )	1.3

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LCS1	Carbon Tetrachloride	4	5.21	<u>130.2</u>	( 70.00 - 130.00 )
MBLK	Carbon Tetrachloride	ND			
MBLK	cis-1,3-Dichloropropene	ND			
LCS1	Bromoform	5	3.01	<u>60.2</u>	( 70.00 - 130.00 )
MBLK	Bromoform	ND			
LCS1	Chloroform (Trichloromethane)	4	4.60	115.0	( 70.00 - 130.00 )
MBLK	Chloroform (Trichloromethane)	ND			
MBLK	Bromochloromethane	ND			
MBLK	Chloroethane	ND			
MBLK	Chloromethane (Methyl Chloride)	ND			
LCS1	Chlorodibromomethane	4	3.60	90.0	( 70.00 - 130.00 )
MBLK	Chlorodibromomethane	ND			
MBLK	Dibromomethane	ND			
LCS1	Bromodichloromethane	4	3.98	99.5	( 70.00 - 130.00 )
MBLK	Bromodichloromethane	ND			
LCS1	Dichloromethane	4	4.63	115.8	( 70.00 - 130.00 )
MBLK	Dichloromethane	ND			
LCS1	Ethyl benzene	4	4.07	101.8	( 70.00 - 130.00 )
MBLK	Ethyl benzene	ND			
MBLK	Dichlorodifluoromethane	ND			
LCS1	Fluorotrichloromethane-Freon11	2	2.02	101.0	( 70.00 - 130.00 )
MBLK	Fluorotrichloromethane-Freon11	ND			
MBLK	Hexachlorobutadiene	ND			
MBLK	Isopropylbenzene	ND			
MBLK	m-Dichlorobenzene (1,3-DCB)	ND			
LCS1	m,p-Xylenes	8	8.00	100.0	( 70.00 - 130.00 )
MBLK	m,p-Xylenes	ND			
MBLK	Naphthalene	ND			
MBLK	n-Butylbenzene	ND			
MBLK	n-Propylbenzene	ND			
LCS1	o-Xylene	4	3.94	98.5	( 70.00 - 130.00 )
MBLK	o-Xylene	ND			
LCS1	o-Dichlorobenzene (1,2-DCB)	4	4.15	103.8	( 70.00 - 130.00 )
MBLK	o-Dichlorobenzene (1,2-DCB)	ND			
LCS1	Tetrachloroethylene (PCE)	4	3.87	96.8	( 70.00 - 130.00 )
MBLK	Tetrachloroethylene (PCE)	ND			
MBLK	p-Isopropyltoluene	ND			

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
Criteria for MS and DUP are advisory only and not applicable for ICR monitoring.



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Laboratory  
 QC Report  
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Foster Wheeler Environmental, Inc  
 (continued)

MBLK	sec-Butylbenzene	ND				
LCS1	Styrene	4	3.74	93.5	( 70.00 - 130.00 )	
MBLK	Styrene	ND				
LCS1	1,2-dichloroethane-d4	100	110	110.0	( 80.00 - 120.00 )	
MBLK	1,2-dichloroethane-d4	100	114	114.0		
MS	1,2-dichloroethane-d4	100	105	105.0	( 80.00 - 120.00 )	
MSD	1,2-dichloroethane-d4	100	106	106.0	( 80.00 - 120.00 )	0.95
LCS1	Toluene-d8	100	94.6	94.6	( 80.00 - 120.00 )	
MBLK	Toluene-d8	100	85.8	85.8		
MS	Toluene-d8	100	96.3	96.3	( 80.00 - 120.00 )	
MSD	Toluene-d8	100	99.2	99.2	( 80.00 - 120.00 )	3.0
LCS1	4-Bromofluorobenzene	100	92.2	92.2	( 80.00 - 120.00 )	
MBLK	4-Bromofluorobenzene	100	89.0	89.0		
MS	4-Bromofluorobenzene	100	105	105.0	( 80.00 - 120.00 )	
MSD	4-Bromofluorobenzene	100	101	101.0	( 80.00 - 120.00 )	3.9
LCS1	trans-1,2-Dichloroethylene	4	5.00	125.0	( 70.00 - 130.00 )	
MBLK	trans-1,2-Dichloroethylene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	Trichloroethylene (TCE)	4	4.24	106.0	( 70.00 - 130.00 )	
MBLK	Trichloroethylene (TCE)	ND				
MS	Trichloroethylene (TCE)	4	4.79	119.8	( 70.00 - 130.00 )	
MSD	Trichloroethylene (TCE)	4	4.72	118.0	( 70.00 - 130.00 )	1.5
LCS1	Trichlorotrifluoroethane (Freon	2	2.05	102.5	( 70.00 - 130.00 )	
MBLK	Trichlorotrifluoroethane (Freon	ND				
MBLK	trans-1,3-Dichloropropene	ND				
LCS1	Toluene	4	4.27	106.7	( 70.00 - 130.00 )	
MBLK	Toluene	ND				
MS	Toluene	4	3.95	98.8	( 70.00 - 130.00 )	
MSD	Toluene	4	3.80	95.0	( 70.00 - 130.00 )	3.9
LCS1	Vinyl chloride (VC)	2	1.88	94.0	( 70.00 - 130.00 )	
MBLK	Vinyl chloride (VC)	ND				

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Laboratory  
 QC Report  
 #52208

Foster Wheeler Environmental, Inc  
 (continued)

QC Batch #93303

Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4	4.16	104.0	( 70.00 - 130.00 )	
MBLK	1,1,1-Trichloroethane	ND				
LCS1	1,1,2,2-Tetrachloroethane	4	3.44	86.0	( 70.00 - 130.00 )	
MBLK	1,1,2,2-Tetrachloroethane	ND				
LCS1	1,1,2-Trichloroethane	4	3.62	90.5	( 70.00 - 130.00 )	
MBLK	1,1,2-Trichloroethane	ND				
LCS1	1,1-Dichloroethane	4	3.95	98.8	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethane	ND				
LCS1	1,1-Dichloroethylene	4	4.63	115.8	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethylene	ND				
MS	1,1-Dichloroethylene	4	4.69	117.3	( 70.00 - 130.00 )	
MSD	1,1-Dichloroethylene	4	4.59	114.8	( 70.00 - 130.00 )	2.2
MBLK	1,1-Dichloropropene	ND				
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
LCS1	1,2,4-Trichlorobenzene	4	3.48	87.0	( 70.00 - 130.00 )	
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
LCS1	1,2-Dichloroethane	4	4.12	103.0	( 70.00 - 130.00 )	
MBLK	1,2-Dichloroethane	ND				
LCS1	1,2-Dichloropropane	4	4.42	110.5	( 70.00 - 130.00 )	
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
LCS1	1,3-Dichloropropane	8	6.52	81.5	( 70.00 - 130.00 )	
MBLK	1,3-Dichloropropane	ND				
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.55	88.8	( 70.00 - 130.00 )	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Butanone (MEK)	ND				
MBLK	2-Chloroethylvinylether	ND				
MBLK	o-Chlorotoluene	ND				

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(continued)

MBLK	p-Chlorotoluene	ND				
MBLK	4-Methyl-2-Pentanone (MIBK)	ND				
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Benzene	4	4.36	109.0	( 70.00 - 130.00 )	
MBLK	Benzene	ND				
MS	Benzene	4	4.47	111.8	( 70.00 - 130.00 )	
MSD	Benzene	4	4.28	107.0	( 70.00 - 130.00 )	4.3
MBLK	Bromobenzene	ND				
MBLK	Bromomethane (Methyl Bromide)	ND				
LCS1	cis-1,2-Dichloroethylene	4	4.40	110.0	( 70.00 - 130.00 )	
MBLK	cis-1,2-Dichloroethylene	ND				
LCS1	Chlorobenzene	4	3.61	90.2	( 70.00 - 130.00 )	
MBLK	Chlorobenzene	ND				
MS	Chlorobenzene	4	3.75	93.8	( 70.00 - 130.00 )	
MSD	Chlorobenzene	4	3.61	90.2	( 70.00 - 130.00 )	3.8
LCS1	Carbon Tetrachloride	4	4.58	114.5	( 70.00 - 130.00 )	
MBLK	Carbon Tetrachloride	ND				
MBLK	cis-1,3-Dichloropropene	ND				
LCS1	Bromoform	8	5.81	72.6	( 70.00 - 130.00 )	
MBLK	Bromoform	ND				
LCS1	Chloroform (Trichloromethane)	4	4.27	106.7	( 70.00 - 130.00 )	
MBLK	Chloroform (Trichloromethane)	ND				
MBLK	Bromochloromethane	ND				
MBLK	Chloroethane	ND				
MBLK	Chloromethane (Methyl Chloride)	ND				
LCS1	Chlorodibromomethane	4	3.05	76.2	( 70.00 - 130.00 )	
MBLK	Chlorodibromomethane	ND				
MBLK	Dibromomethane	ND				
LCS1	Bromodichloromethane	4	3.53	88.2	( 70.00 - 130.00 )	
MBLK	Bromodichloromethane	ND				
LCS1	Dichloromethane	4	4.13	103.2	( 70.00 - 130.00 )	
MBLK	Dichloromethane	ND				
LCS1	Ethyl benzene	4	3.57	89.2	( 70.00 - 130.00 )	
MBLK	Ethyl benzene	ND				
MBLK	Dichlorodifluoromethane	ND				
LCS1	Fluorotrichloromethane-Freon11	2	1.83	91.5	( 70.00 - 130.00 )	
MBLK	Fluorotrichloromethane-Freon11	ND				

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Foster Wheeler Environmental, Inc  
 (continued)

MBLK	Hexachlorobutadiene	ND				
MBLK	Isopropylbenzene	ND				
MBLK	m-Dichlorobenzene (1,3-DCB)	ND				
LCS1	m,p-Xylenes	8	7.27	90.9	( 70.00 - 130.00 )	
MBLK	m,p-Xylenes	ND				
MBLK	Naphthalene	ND				
MBLK	n-Butylbenzene	ND				
MBLK	n-Propylbenzene	ND				
LCS1	o-Xylene	4	3.55	88.8	( 70.00 - 130.00 )	
MBLK	o-Xylene	ND				
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.86	96.5	( 70.00 - 130.00 )	
MBLK	o-Dichlorobenzene (1,2-DCB)	ND				
LCS1	Tetrachloroethylene (PCE)	4	3.66	91.5	( 70.00 - 130.00 )	
MBLK	Tetrachloroethylene (PCE)	ND				
MBLK	p-Isopropyltoluene	ND				
MBLK	sec-Butylbenzene	ND				
LCS1	Styrene	4	3.32	83.0	( 70.00 - 130.00 )	
MBLK	Styrene	ND				
LCS1	1,2-dichloroethane-d4	100	104	104.0	( 80.00 - 120.00 )	
MBLK	1,2-dichloroethane-d4	100	105	105.0		
MS	1,2-dichloroethane-d4	100	109	109.0	( 80.00 - 120.00 )	
MSD	1,2-dichloroethane-d4	100	104	104.0	( 80.00 - 120.00 )	4.7
LCS1	Toluene-d8	100	90	90.0	( 80.00 - 120.00 )	
MBLK	Toluene-d8	100	91.0	91.0		
MS	Toluene-d8	100	91.5	91.5	( 80.00 - 120.00 )	
MSD	Toluene-d8	100	91.2	91.2	( 80.00 - 120.00 )	0.33
LCS1	4-Bromofluorobenzene	100	98	98.0	( 80.00 - 120.00 )	
MBLK	4-Bromofluorobenzene	100	93.6	93.6		
MS	4-Bromofluorobenzene	100	93.4	93.4	( 80.00 - 120.00 )	
MSD	4-Bromofluorobenzene	100	97.5	97.5	( 80.00 - 120.00 )	4.3
LCS1	trans-1,2-Dichloroethylene	4	4.72	118.0	( 70.00 - 130.00 )	
MBLK	trans-1,2-Dichloroethylene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	Trichloroethylene (TCE)	4	3.78	94.5	( 70.00 - 130.00 )	
MBLK	Trichloroethylene (TCE)	ND				
MS	Trichloroethylene (TCE)	4	4.45	111.2	( 70.00 - 130.00 )	
MSD	Trichloroethylene (TCE)	4	3.94	98.5	( 70.00 - 130.00 )	12

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
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 #52208

Foster Wheeler Environmental, Inc  
 (continued)

LCS1	Trichlorotrifluoroethane (Freon	2	2.01	100.5	( 70.00 - 130.00 )	
MBLK	Trichlorotrifluoroethane (Freon	ND				
MBLK	trans-1,3-Dichloropropene	ND				
LCS1	Toluene	4	3.94	98.5	( 70.00 - 130.00 )	
MBLK	Toluene	ND				
MS	Toluene	4	4.02	100.5	( 70.00 - 130.00 )	
MSD	Toluene	4	3.78	94.5	( 70.00 - 130.00 )	6.2
LCS1	Vinyl chloride (VC)	2	2.04	102.0	( 70.00 - 130.00 )	
MBLK	Vinyl chloride (VC)	ND				

**QC Batch #93355****Perchlorate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Perchlorate	20.0	19.2	96.0	( 90.00 - 110.00 )	
LCS2	Perchlorate	20.0	19.1	95.5	( 90.00 - 110.00 )	0.52
MBLK	Perchlorate	ND				
MS	Perchlorate	20.0	20.7	103.5	( 75.00 - 125.00 )	
MSD	Perchlorate	20.0	22.5	112.5	( 75.00 - 125.00 )	8.3

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
 Criteria for MS and DUP are advisory only and not applicable for ICR monitoring.



**MONTGOMERY WATSON LABORATORIES**

*Quality Environmental Analysis*

A division of Montgomery Watson Americas, Inc.

April 9, 1999

Foster Wheeler Environmental  
611 Anton Blvd, Suite 800  
Costa Mesa, CA.92626

Attention: Mark Cutler

Re: Report # 52247 (MW-991-086, MW-991-087, MW-991-050 MW-991-051, MW-991-052, MW-991-053, MW-991-054, MW -991-055)

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):**

(VOC) The Internal Standard (IS) #3 1,2-Diclorobenzene-d4 recovered below the QC acceptance limits in these samples. Any target analytes quantified off this IS will contain a high bias to the result. These samples are Non Detect, ND, for all analytes quantified off this IS. The impact is minimal. The following are quantified off of IS#3:

1,2-Dichlorobenzene	n-butybenzene
1,2,4-Trichlorobenzene	Naphthalene
1,2,3-Trichlorobenzene	Hexachlorobutadiene

The surrogate 1,2-Dichloroethane-d4 (1,2-DCA) recovered at 123 in sample ID MW-991-052, which is above the acceptance criteria. The results associated with this surrogate may contain a high bias. This sample is ND for 1,2-DCA.

The surrogate Toluene-d8 recovered at 76% in MW-991-051, which is below the MWL internal acceptance criteria of 80-120% for this surrogate. This surrogate is not required per the QAPP. Results are reported without qualification in the HC report.

QC batch 93298: The LCS for Bromoform recovered at 60.2, which is below the acceptance criteria of 70-130. The samples associated with this QC batch are ND with a low bias for this compound and are flagged with a J.

The LCS for Carbon Tetrachloride recovered above acceptance criteria of 70-130, at 130.2%. Samples with Carbon Tetrachloride reported may contain a high bias to the reported result.

A re-analysis was attempted within the HT of 7 days, but the instrument failed to acquire the data thus the run was not successful. Qualified results are reported from the run within HT.

HT MW-991-086 and -087 were analyzed 1 day outside the QAPP HT of 7 days, but within the EPA HT of 14 days for preserved samples. An analysis was attempted within the HT of 7 days, but the instrument failed to acquire the data thus the run was not successful. These samples contain the required HCL preservative to meet the EPA criterion and were analyzed on the 8<sup>th</sup> day.

(Fe) The MS for Iron by 200.8 does not meet acceptance criteria of +30, at 60%. RPD of the MS/MSD does not meet acceptance Criteria. A sample not reported on this report was used for the

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Southwest Service Center  
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Tempe, Arizona 85282  
Tel: 602 755 8201  
Fax: 602 755 8203

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 302  
Irvine, California 92606  
Tel: 949 222 1845  
Fax: 949 222 1849

MS/MSD. The blank and the LCS pair are acceptable. The results for these samples are reported without qualifications. QC batch 93067

**Samples requiring dilution (with increased MRL's):**

None

**Method blanks with compounds detected:**

None

**Other Comments:**

Carbon Tetrachloride was detected in sample ID: MW-991-050, -051, -052, -053, -054

Chloroform was detected in sample ID: MW-991-050, -051, -052, -053, -054

Perchlorate was detected in sample ID: MW-991-051, -053, -054

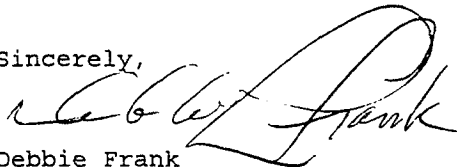
**TIC's:**

None

**Method Variance:**

None

Sincerely,



Debbie Frank  
Project Manager

cc: Judy Novelly (JPL)

**Montgomery Watson Laboratories**  
 , Los Angeles, CA 90051-3508  
 PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Foster Wheeler Environmental, Inc  
 611 Anton Boulevard  
 Suite 800  
 Costa Mesa, CA 92626  
 Attn: Mark Cutler

Customer Code: ENSERCH  
 PO#: Sub PO#007618-0005-0001  
 Group#: 52247  
 Project#: JPL  
 Proj Mgr: Debbie Frank  
 Phone: (714) 444-5526

The following samples were received from you on 03/01/99. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Montgomery Watson Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
990301249	MW-991-086	@EBASVOA	Water	03/01/99
990301250	MW-991-087	@EBASVOA AS-EBAS CR-EBAS PB-EBAS CR-VI CLO4	Water	03/01/99
990301251	MW-991-050	@EBASVOA CR-VI PB-EBAS CR-EBAS AS-EBAS TDS CATION1 ANION1 PH EC HCO3 CO3 ALK NO3 SO4 CL FE-MS K NA MG CA CLO4	Water	03/01/99
990301252	MW-991-051	@EBASVOA CLO4 CA MG NA K FE-MS CL SO4 NO3 ALK CO3 HCO3 EC PH ANION1 CATION1 TDS AS-EBAS CR-EBAS PB-EBAS CR-VI	Water	03/01/99
990301253	MW-991-052	@EBASVOA CLO4 CA MG NA K FE-MS CL SO4 NO3 ALK CO3 HCO3 EC PH ANION1 CATION1 TDS AS-EBAS CR-EBAS PB-EBAS CR-VI	Water	03/01/99
990301254	MW-991-053	@EBASVOA AS-EBAS CR-EBAS PB-EBAS CR-VI CLO4	Water	03/01/99
990301255	MW-991-054	@EBASVOA CR-VI PB-EBAS CR-EBAS AS-EBAS TDS CATION1 ANION1 PH EC HCO3 CO3 ALK NO3 SO4 CL FE-MS K NA MG CA CLO4	Water	03/01/99
990301256	MW-991-055	@EBASVOA CR-VI PB-EBAS CR-EBAS AS-EBAS TDS CATION1 ANION1 PH EC HCO3 CO3 ALK NO3 SO4 CL FE-MS	Water	03/01/99



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 Attn: Mark Cutler

Customer Code: ENSERCH  
 PO#: Sub PO#007618-0005-0001  
 Group#: 52247  
 Project#: JPL  
 Proj Mgr: Debbie Frank  
 Phone: (714) 444-5526

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
990301256	MW-991-055 (con't)	K NA MG CA CLO4		
Test Acronym Description				

Test Acronym	Description
@EBASVOA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity
ANION1	Anion Sum
AS-EBAS	Arsenic, Total, GF
CA	Calcium, Total, ICAP
CATION1	Cation Sum
CL	Chloride
CLO4	Perchlorate
CO3	Carbonate as CO3, Calculated
CR-EBAS	Chromium, Total, ICAP/MS
CR-VI	Hexavalent chromium (Cr VI)
EC	Specific Conductance
FE-MS	Iron, Total, ICAP/MS
HCO3	Bicarbonate as HCO3,calculated
K	Potassium, Total, ICAP
MG	Magnesium, Total, ICAP
NA	Sodium, Total, ICAP
NO3	Nitrate-N by IC
PB-EBAS	Lead, Total, ICAP/MS
PH	Lab pH
SO4	Sulfate
TDS	Total Dissolved Solid (TDS)



52247

NUMBER 1239

TEMP = 9-17

REG ICE STILL O.K.

FOSTER WHEELER ENVIRONMENTAL CORPORATION

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

PAGE 1 OF 1

PROJECT <u>JPL</u>		OFS NO. <u>1572 0263</u>		HAZARD IDENTIFICATION Non Hazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		TIME REQUIRED NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS	
PROJECT ADDRESS <u>4000 OAK GLEN DRIVE PASADENA CA</u>				ANALYSES REQUIRED			
SAMPLER (Name) <u>J. SIRENNER</u>		SAMPLER (Signature) <u>[Signature]</u>		<u>VOCs (S24 Z)</u> <u>TOTAL AS, C, P, B</u> <u>MALDIANIONS</u> <u>+TDS</u> <u>HEX CC</u> <u>ClO<sub>4</sub></u> <u>OC</u>			
LABORATORY <u>MONTEGOMERY WATSON LABS</u>							
REPORTS TO BE SENT TO <u>MR. MARK CUTLER</u>							
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL		
					WATER	SOIL	OTHER (Describe)
MW 991-086	0930	3/1/99	2	2x40ml	X		
MW 991-057	1330		5	2x40ml 1x25ml	X		
MW 991-050	0905		6	2x125ml	X		
MW 991-051	1010		6	2x40ml 1x125ml	X		
MW 991-052	1115		6	↓	X		
MW 991-053	1210		5	2x40ml 1x125ml	X		
MW 991-054	1225		6	2x125ml 1x25ml	X		
MW 991-055	1445		6	↓	X		

LABORATORY INSTRUCTIONS/COMMENTS  
LEVEL IX W/OC

RELINQUISHED BY (Signature) <u>[Signature]</u>	DATE <u>3-1-99</u>	RECEIVED BY (Signature) <u>[Signature]</u>	DATE <u>3-1-99</u>
COMPANY <u>Foster Wheeler</u>	TIME <u>4:30</u>	COMPANY <u>M.W.</u>	COMPANY

MONTGOMERY LABORATORIES COOLER RECEIPT FORM

PROJECT: ENSERCH Date Received: 3-1-99  
Use other side of this form to note further details concerning check-in problems and to describe any action(s) regarding the resolution(s) of problems.

A. PRELIMINARY EXAMINATION: Date cooler opened: 3-1-99  
by (print) M. DE LUESA (sign) [Signature]

- 1. Did cooler come with shipping slip (air bill, etc.)? Yes No  
If YES, attach & enter carrier and air bill # here: DELIVERED BY CLIENT
- 2. Were custody seals on outside of cooler? Yes No  
If YES, how many & where: 4, 2 @ EACH SIDE  
If Yes, enter the following: seal date: 3-1-99, seal name: RF
- 3. Were custody seals unbroken & intact at delivery? Yes No
- 4. Were custody papers sealed in bag & taped to lid? Yes No
- 5. Were custody papers filled out properly (ink, etc.)? Yes No
- 6. Did you sign custody papers in appropriate place? Yes No
- 7. Was project identifiable from custody papers? Yes No
- 8. Have designated person(s) initial to acknowledge receipt: MLD (date) 3-1-99  
*Receipt app. by sign. review 2/3*
- B. LOG-IN PHASE: Date samples were logged in: 3-1-99 by:  
(print) M. DE LUESA (sign) [Signature]
- 9. Describe packing:
- 10. If required, was enough ice used? Yes No
- 11. Were all bottles sealed in separate plastic bags? Yes No
- 12. Did all bottles arrive unbroken/in good condition? Yes No
- 13. Were all bottle labels complete (ID, date, sign, pres)? Yes No
- 14. Did all bottle labels agree with custody papers?  
If NO, indicate discrepancies on back. Yes No
- 15. Were correct containers used for the analytes? Yes No
- 16. Were correct preservatives used when required? Yes No
- 17. Was sufficient amount of sample sent for tests? Yes No
- 18. Bubbles absent in VOA vials?  
If NO, list by sample id on back. Yes No
- 19. Was Client Services informed of problems? Yes No

**QUALITY INVESTIGATION REPORT**

Analysis Date: 3-05-99  
 Extraction Date: \_\_\_\_\_  
 Analyst: Cecilia Lee

QIR No. MS-99-036  
 Analysis: 524.5/2 MAC 3/30/99  
 Matrix: Water  
 Instrument ID: GCMS-H

**SAMPLES IMPACTED**

Lab #	Client ID	Client Name	Lab #	Client ID	Client Name
990226111	} Enserch		990301251	Enserch	
<del>990226112</del>			990301252		
990303001			990301253		
002	} WRD		990301254	↓	
003			990301255		
004			990301256		
005					

**Brief Description:** (include reason for non-compliance)

Bromoform in the LFB is 60%, This is lower than acceptable Limit of 70-130%. The Results for Bromoform in the above Samples are going to be biased low. Also recovery of CCL<sub>4</sub> in the LFB is 130.2%, control

**Action Taken:** Limit is 70-130%. The Bromoform percent recovery was miscalculated by analyst to be 80%, but during data review by supervisor the error in calculation was corrected to be 60%. By this time Samples were past Holding time

**Impact on Data Quality:** Corrective action was not possible.

Data Disposition: Re-run  Re-sample  Original Data Reported  Report Annotated

Other:

**Annotation:** Report was annotated.

**Client Contact:** mssg M. Cutler mssg 3/30/99 - Data should be flagged  
 J per Email?  
 WRD - Report and Annotate as above

Extraction: \_\_\_\_\_ Date: 3-30-99  
 Analyst: Cecilia Lee Date: 3-30-99  
 Group Leader: \_\_\_\_\_ Date: 3/30/99  
 QA Coordinator: \_\_\_\_\_ Date: 3/30/99  
 Project Manager: James C. Hein Date: 3/30/99 4/7/99

**QUALITY INVESTIGATION REPORT**

Analysis Date: 3/5/99  
 Extraction Date: NA  
 Analyst: Cecilia Lei

QIR No. MS-99-028  
 Analysis: EPA 524 (@EBASVDA)  
 Matrix: GCMS-H  
 Instrument ID: water (COL)

**SAMPLES IMPACTED**

Lab #	Client ID	Client Name	Lab #	Client ID	Client Name
990301251	MW-991-050	ENSerch	990301254	MW-991-053	ENSerch
252	051	(Foster Wheeler)			(Foster Wheeler)
253	052				
255	05A				
256	055				

**Brief Description:** (include reason for non-compliance)

- ① Internal standard # 3 (1,2-Dichlorobenzene-d4) recovered below 70% in the samples above.
- ② 1,2-DCA-d4 (surrogate) recovered at 123% (above <sup>QC limit</sup> 80-120%) in sample MW-991-052
- ③ Toluene-d8 (a surrogate) recovered at 76% (below <sup>QC limit</sup> 80-120) in MW-052

**Action Taken:**

Samples were re-analyzed on 3/8/99 but data was lost because analyst forgot to enter samples into data system for analysis

**Impact on Data Quality:**

Compounds quantitated off IS # 3 were all ND.

1,2-Dichlorobenzene  
 n-Butylbenzene  
 1,2,4-Trichlorobenzene  
 Naphthalene  
 Hexachlorobutadiene  
 1,2,3-Trichlorobenzene

Data Disposition: Re-run  Re-sample  Original Data Reported  Report Annotated

Other:

Annotation: ~~Instrument failed to acquire~~ Covered in Case Narrative

Client Contact: Dr. B. M. Cullen 3/2/99 ok to report from original run w/ annotation

Extraction: N/A Date: \_\_\_\_\_  
 Analyst: Cecilia Lei Date: 3/9/99  
 Group Leader: \_\_\_\_\_ Date: 3/9/99  
 QA Coordinator: Veda Cox Date: 3/30/99  
 Project Manager: [Signature] Date: 3/30/99

Report Summary of positive results, PR52247

			Result	MDL	UNITS
Analyzed	990301249	MW-991-086			
Analyzed	990301250	MW-991-087			
Analyzed	990301251	MW-991-050			
03/05/99	Bromoform		ND J	.500	UGL
03/05/99	Carbon Tetrachloride		1.3	.500	UGL
03/05/99	Chloroform (Trichloromethane)		0.7	.500	UGL
03/02/99	Alkalinity		169	2.000	MGL
03/12/99	Anion Sum		4.24	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		205	.001	MGL
03/08/99	Calcium, Total, ICAP		38.0	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		1.68	.001	MGL
03/12/99	Cation Sum		4.33	.001	MEQL
03/03/99	Chloride		14	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		170	*****	UGL
03/02/99	Lab pH		8.1	.001	UNIT
03/08/99	Magnesium, Total, ICAP		10.7	1.000	MGL
03/03/99	Nitrate-N by IC		1.0	.100	MGL
03/08/99	Potassium, Total, ICAP		1.92	1.000	MGL
03/08/99	Sodium, Total, ICAP		34.6	1.000	MGL
03/02/99	Specific Conductance		385	4.000	UMHO
03/03/99	Sulfate		19	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)		240	10.000	MGL
Analyzed	990301252	MW-991-051			
03/05/99	Bromoform		ND J	.500	UGL
03/05/99	Carbon Tetrachloride		4.5	.500	UGL
03/05/99	Chloroform (Trichloromethane)		1.2	.500	UGL
03/02/99	Alkalinity		186	2.000	MGL
03/12/99	Anion Sum		4.91	.001	MEQL
03/05/99	Bicarbonate as HCO3,calculated		226	.001	MGL
03/08/99	Calcium, Total, ICAP		56.2	1.000	MGL
03/05/99	Carbonate as CO3, Calculated		1.17	.001	MGL
03/12/99	Cation Sum		5.04	.001	MEQL
03/03/99	Chloride		15	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		180	*****	UGL
03/02/99	Lab pH		7.9	.001	UNIT
03/08/99	Magnesium, Total, ICAP		14.3	1.000	MGL
03/03/99	Nitrate-N by IC		1.4	.100	MGL
03/15/99	Perchlorate		7.0	4.000	UGL
03/08/99	Potassium, Total, ICAP		2.19	1.000	MGL
03/08/99	Sodium, Total, ICAP		22.9	1.000	MGL
03/02/99	Specific Conductance		450	4.000	UMHO
03/03/99	Sulfate		32	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)		280	10.000	MGL
Analyzed	990301253	MW-991-052			
03/05/99	Bromoform		ND J	.500	UGL
03/05/99	Carbon Tetrachloride		23	.500	UGL
03/05/99	Chloroform (Trichloromethane)		4.5	.500	UGL

03/02/99	Alkalinity	160	2.000	MGL
03/12/99	Anion Sum	4.56	.001	MEQL
03/05/99	Bicarbonate as HCO <sub>3</sub> ,calculated	195	.001	MGL
03/08/99	Calcium, Total, ICAP	43.4	1.000	MGL
03/05/99	Carbonate as CO <sub>3</sub> , Calculated	1.60	.001	MGL
03/12/99	Cation Sum	4.62	.001	MEQL
03/03/99	Chloride	19	1.000	MGL
03/05/99	Iron, Total, ICAP/MS	540	*****	UGL
03/02/99	Lab pH	8.1	.001	UNIT
03/08/99	Magnesium, Total, ICAP	15.6	1.000	MGL
03/03/99	Nitrate-N by IC	0.21	.100	MGL
03/08/99	Potassium, Total, ICAP	2.79	1.000	MGL
03/08/99	Sodium, Total, ICAP	25.1	1.000	MGL
03/02/99	Specific Conductance	420	4.000	UMHO
03/03/99	Sulfate	39	2.000	MGL
03/04/99	Total Dissolved Solid (TDS)	260	10.000	MGL

Analyzed 990301254 MW-991-053

03/05/99	Bromoform	ND J	.500	UGL
03/05/99	Carbon Tetrachloride	1.4	.500	UGL
03/05/99	Chloroform (Trichloromethane)	1.0	.500	UGL
03/15/99	Perchlorate	4.6	4.000	UGL

Analyzed 990301255 MW-991-054

03/05/99	Bromoform	ND J	.500	UGL
03/05/99	Carbon Tetrachloride	1.3	.500	UGL
03/05/99	Chloroform (Trichloromethane)	0.9	.500	UGL
03/02/99	Alkalinity	189	2.000	MGL
03/12/99	Anion Sum	5.24	.001	MEQL
03/05/99	Bicarbonate as HCO <sub>3</sub> ,calculated	230	.001	MGL
03/08/99	Calcium, Total, ICAP	55.0	1.000	MGL
03/05/99	Carbonate as CO <sub>3</sub> , Calculated	0.749	.001	MGL
03/12/99	Cation Sum	5.34	.001	MEQL
03/03/99	Chloride	15	1.000	MGL
03/05/99	Iron, Total, ICAP/MS	240	*****	UGL
03/02/99	Lab pH	7.7	.001	UNIT
03/08/99	Magnesium, Total, ICAP	17.8	1.000	MGL
03/03/99	Nitrate-N by IC	2.0	.100	MGL
03/15/99	Perchlorate	4.1	4.000	UGL
03/08/99	Potassium, Total, ICAP	3.02	1.000	MGL
03/08/99	Sodium, Total, ICAP	24.2	1.000	MGL
03/02/99	Specific Conductance	465	4.000	UMHO
03/03/99	Sulfate	43	2.000	MGL
03/08/99	Total Dissolved Solid (TDS)	290	10.000	MGL

Analyzed 990301256 MW-991-055

03/05/99	Bromoform	ND J	.500	UGL
03/02/99	Alkalinity	142	2.000	MGL
03/12/99	Anion Sum	3.73	.001	MEQL
03/05/99	Bicarbonate as HCO <sub>3</sub> ,calculated	173	.001	MGL
03/08/99	Calcium, Total, ICAP	34.5	1.000	MGL
03/05/99	Carbonate as CO <sub>3</sub> , Calculated	0.282	.001	MGL
03/12/99	Cation Sum	3.80	.001	MEQL
03/03/99	Chloride	10	1.000	MGL
03/05/99	Iron, Total, ICAP/MS	890	*****	UGL
03/02/99	Lab pH	7.4	.001	UNIT
03/08/99	Magnesium, Total, ICAP	14.4	1.000	MGL

03/03/99	Nitrate-N by IC	0.92	.100	MGL
03/08/99	Potassium, Total, ICAP	2.73	1.000	MGL
03/08/99	Sodium, Total, ICAP	18.9	1.000	MGL
03/02/99	Specific Conductance	340	4.000	UMHO
03/03/99	Sulfate	26	2.000	MGL
03/08/99	Total Dissolved Solid (TDS)	210	10.000	MGL





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**Laboratory Report**

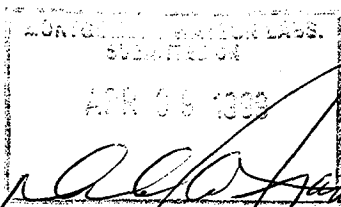
for

Foster Wheeler Environmental, Inc  
611 Anton Boulevard

Suite 800

Costa Mesa , CA 92626

Attention: Mark Cutler  
Fax: (714)444-5560



DEB\* Debbie Frank

Report#: 52247  
JPL



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Laboratory  
Report  
#52247

Foster Wheeler Environmental, Inc  
Mark Cutler  
611 Anton Boulevard  
Suite 800  
Costa Mesa , CA 92626

Samples Received  
01-mar-1999 16:38:14

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-086 (990301249)                      Sampled on 03/01/99</b>								
<b>Regulated VOCs plus Lists 1&amp;3</b>								
03/09/99	93783		( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
03/09/99	93783		( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
03/09/99	93783		( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
03/09/99	93783		( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1

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Laboratory  
 Report  
 #52247

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/09/99	93783	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	104	% Rec		
			( Surrogate )	4-Bromofluorobenzene	101	% Rec		
			( Surrogate )	Toluene-d8	99	% Rec		



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**Laboratory  
 Report  
 #52247**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-087 (990301250)</b>				<b>Sampled on 03/01/99</b>				
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/09/99	93783	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/09/99	93783	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/09/99	93783	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1

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Laboratory  
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 #52247

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/09/99	93783	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromoform	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/09/99	93783	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	102	% Rec		
			( Surrogate )	4-Bromofluorobenzene	104	% Rec		



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**Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
			( Surrogate )	Toluene-d8	102	% Rec		
<b>MW-991-050 (990301251) Sampled on 03/01/99</b>								
	03/02/99	92807	( ML/SM2320B )	Alkalinity	169	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	4.24	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	38.0	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	4.33	meq/l	0.0010	1
	03/03/99	93306	( ML/EPA 300 )	Chloride	14	mg/l	1.0	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.68	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	385	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	170	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	205	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	1.92	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	10.7	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	34.6	mg/l	1.0	1
	03/03/99	93308	( ML/EPA 300.0 )	Nitrate-N by IC	1.0	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/02/99	92812	( ML/SM 4500HB )	Lab pH	8.1	Units	0.0010	1
	03/03/99	93311	( ML/EPA 300.0 )	Sulfate	19	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	240	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1

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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	1.3	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	0.7	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1



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**Laboratory  
 Report  
 #52247**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	112	‡ Rec		
			( Surrogate )	4-Bromofluorobenzene	86	‡ Rec		
			( Surrogate )	Toluene-d8	82	‡ Rec		

**MW-991-051 (990301252) Sampled on 03/01/99**

	03/02/99	92807	( ML/SM2320B )	Alkalinity	186	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	4.91	meq/l	0.0010	1
03/05/99	03/05/99	93028	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	56.2	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	5.04	meq/l	0.0010	1
	03/03/99	93306	( ML/EPA 300 )	Chloride	15	mg/l	1.0	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	7.0	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.17	mg/l	0.0010	1
03/04/99	03/05/99	92976	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	450	umho/cm	4.0	1
03/04/99	03/05/99	92977	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	180	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	226	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.19	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	14.3	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	22.9	mg/l	1.0	1



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Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/03/99	93308	( ML/EPA 300.0 )	Nitrate-N by IC	1.4	mg/l	0.10	1
03/04/99	03/05/99	92979	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/02/99	92812	( ML/SM 4500HB)	Lab pH	7.9	Units	0.0010	1
	03/03/99	93311	( ML/EPA 300.0 )	Sulfate	32	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	280	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	4.5	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1



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**Laboratory  
 Report  
 #52247**

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	1.2	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloromethane(Methyl Chloride)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	116	% Rec		
			( Surrogate )	4-Bromofluorobenzene	82	% Rec		
			( Surrogate )	Toluene-d8	76	% Rec		



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Laboratory  
Report  
#52247

Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-052 (990301253)                      Sampled on 03/01/99</b>								
	03/02/99	92807	( ML/SM2320B )	Alkalinity	160	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	4.56	meq/l	0.0010	1
03/04/99	03/08/99	93112	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	43.4	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	4.62	meq/l	0.0010	1
	03/03/99	93306	( ML/EPA 300 )	Chloride	19	mg/l	1.0	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	1.60	mg/l	0.0010	1
03/04/99	03/05/99	93064	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	420	umho/cm	4.0	1
03/04/99	03/05/99	93067	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	540	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	195	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.79	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	15.6	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	25.1	mg/l	1.0	1
	03/03/99	93308	( ML/EPA 300.0 )	Nitrate-N by IC	0.21	mg/l	0.10	1
03/04/99	03/05/99	93066	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/02/99	92812	( ML/SM 4500HB)	Lab pH	8.1	Units	0.0010	1
	03/03/99	93311	( ML/EPA 300.0 )	Sulfate	39	mg/l	2.0	1
	03/04/99	92914	( ML/S2540C )	Total Dissolved Solid (TDS)	260	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1



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**Laboratory  
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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	23	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	4.5	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1



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Laboratory  
 Report  
 #52247

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	123	% Rec		
			( Surrogate )	4-Bromofluorobenzene	87	% Rec		
			( Surrogate )	Toluene-d8	87	% Rec		

**MW-991-053 (990301254) Sampled on 03/01/99**

03/04/99	03/08/99	93112	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	4.6	ug/l	4.0	1
03/04/99	03/05/99	93064	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
03/04/99	03/05/99	93066	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1

**Regulated VOCs plus Lists 1&3**

03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	1.4	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	1.0	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1



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Laboratory  
 Report  
 #52247

Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	116	‡ Rec		
			( Surrogate )	4-Bromofluorobenzene	92	‡ Rec		
			( Surrogate )	Toluene-d8	82	‡ Rec		

MW-991-054 (990301255) Sampled on 03/01/99

	03/02/99	92807	( ML/SM2320B )	Alkalinity	189	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	5.24	meq/l	0.0010	1
03/04/99	03/08/99	93112	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	55.0	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	5.34	meq/l	0.0010	1
	03/03/99	93306	( ML/EPA 300 )	Chloride	15	mg/l	1.0	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	4.1	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	0.749	mg/l	0.0010	1
03/04/99	03/05/99	93064	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	465	umho/cm	4.0	1
03/04/99	03/05/99	93067	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	240	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	230	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	3.02	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	17.8	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	24.2	mg/l	1.0	1



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**Laboratory  
Report  
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Foster Wheeler Environmental, Inc  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/03/99	93308	( ML/EPA 300.0 )	Nitrate-N by IC	2.0	mg/l	0.10	1
03/04/99	03/05/99	93066	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/02/99	92812	( ML/SM 4500HB)	Lab pH	7.7	Units	0.0010	1
	03/03/99	93311	( ML/EPA 300.0 )	Sulfate	43	mg/l	2.0	1
	03/08/99	93180	( ML/S2540C )	Total Dissolved Solid (TDS)	290	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	1.3	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1



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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
03/05/99	93298		( ML/EPA 524.2 )	Chloroform (Trichloromethane)	0.9	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
03/05/99	93298		( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	119	% Rec		
			( Surrogate )	4-Bromofluorobenzene	86	% Rec		
			( Surrogate )	Toluene-d8	82	% Rec		

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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>MW-991-055 (990301256)</b>				<b>Sampled on 03/01/99</b>				
	03/02/99	92807	( ML/SM2320B )	Alkalinity	142	mg/l	2.0	1
	03/12/99		( ML/SM1040 )	Anion Sum	3.73	meq/l	0.0010	1
03/04/99	03/08/99	93112	( S3113B/E200.9 )	Arsenic, Total, GF	ND	mg/l	0.005	1
03/08/99	03/08/99	93076	( ML/EPA 200.7 )	Calcium, Total, ICAP	34.5	mg/l	1.0	1
	03/12/99		( ML/SM1040 )	Cation Sum	3.80	meq/l	0.0010	1
	03/03/99	93306	( ML/EPA 300 )	Chloride	10	mg/l	1.0	1
	03/15/99	93470	( MOD/EPA 300 )	Perchlorate	ND	ug/l	4.0	1
	03/05/99		( ML/SM2320B )	Carbonate as CO3, Calculated	0.282	mg/l	0.0010	1
03/04/99	03/05/99	93064	( EPA/ML 200.8 )	Chromium, Total, ICAP/MS	ND	ug/l	10	1
	03/01/99	92725	( ML/SW 7196 )	Hexavalent chromium (Cr VI)	ND	mg/l	0.005	1
	03/02/99	92750	( ML/S2510B )	Specific Conductance	340	umho/cm	4.0	1
03/04/99	03/05/99	93067	( EPA/ML 200.8 )	Iron, Total, ICAP/MS	890	ug/l	100	1
	03/05/99		( ML/SM2320B )	Bicarbonate as HCO3,calculated	173	mg/l	0.0010	1
03/08/99	03/08/99	93080	( ML/EPA 200.7 )	Potassium, Total, ICAP	2.73	mg/l	1.0	1
03/08/99	03/08/99	93083	( ML/EPA 200.7 )	Magnesium, Total, ICAP	14.4	mg/l	1.0	1
03/08/99	03/08/99	93086	( ML/EPA 200.7 )	Sodium, Total, ICAP	18.9	mg/l	1.0	1
	03/03/99	93308	( ML/EPA 300.0 )	Nitrate-N by IC	0.92	mg/l	0.10	1
03/04/99	03/05/99	93066	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	2.0	1
	03/02/99	92812	( ML/SM 4500HB)	Lab pH	7.4	Units	0.0010	1
	03/03/99	93311	( ML/EPA 300.0 )	Sulfate	26	mg/l	2.0	1
	03/08/99	93180	( ML/S2540C )	Total Dissolved Solid (TDS)	210	mg/l	10	1
<b>Regulated VOCs plus Lists 1&amp;3</b>								
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1



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Foster Wheeler Environmental, Inc  
 (continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	2-Butanone (MEK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Chlorotoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	03/05/99	93298	( ML/EPA 524.2 )	Benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorobenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Carbon Tetrachloride	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromoform	ND J	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromochloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloroethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chloromethane (Methyl Chloride)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Chlorodibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dibromomethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichloromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Ethyl benzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	m,p-Xylenes	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Naphthalene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	n-Propylbenzene	ND	ug/l	0.50	1

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Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	03/05/99	93298	( ML/EPA 524.2 )	o-Xylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Styrene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Toluene	ND	ug/l	0.50	1
	03/05/99	93298	( ML/EPA 524.2 )	Vinyl chloride (VC)	ND	ug/l	0.30	1
			( EPA 524.2 )	None Detected	ND			1
			( Surrogate )	1,2-Dichloroethane-d4	115	% Rec		
			( Surrogate )	4-Bromofluorobenzene	94	% Rec		
			( Surrogate )	Toluene-d8	82	% Rec		



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**Group Comments**

(524.2) Sample#990301250 and #990301251 are analyzed past holding time. Internal standard #3 (1,2-Dichlorobenzene-d4) recovered below 70% in the following samples: #990301251, #990301252, #990301253, #990301253, #990301255 and #990301256. 1,2-DCA-d4 surrogate recovered at 123% which was above acceptable limit of 80-120% in sample ID#MW-991-052. Toluene-d8 surrogate recovered at 76% which was above acceptable limit of 80-120% in sample ID#MW-99-051. Samples were reanalyzed on 03/08/99, but data was lost because of analyst error. Compounds quantitated off of Internal standard #3 are 1,2-Dichlorobenzene , n-Butylbenzene, 1,2,4-Trichlobenzene, Naphthalene, 1,2,3-Trichlorobenzene and Hexachlorobutadiene. Results for these compounds are biased high, however samples were non-detect for these compounds. See QIR- MS-99-028. Bromoform recovery in the LFB analyzed on 3/05/99 is lower than 70%. Bromoform results in the samples analyzed on 3/05/99 are biased low. See QIR-MS-99-036. (FE-MS) Matrix spike recovery performed on sample#990226112 is lower than 70-130%, due to high concentration of Fe in the spiked sample. Result of FE in this sample is three times the spiked amount. GG 3/30/99.

(990301249)

@EBASVOA

Sample analyzed one day past holding time due to instrument problem. Reference QIR-MS-99-029.

(990301250)

@EBASVOA

Sample analyzed one day past holding time due to instrument problem. Reference QIR-MS-99-029.



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**QC Batch #92725**

**Hexavalent chromium (Cr VI)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0301256		( 0.00 - 0.00 )	
LCS1	Hexavalent chromium (Cr VI)	0.050	0.0495	99.0	( 78.00 - 118.00 )	
LCS2	Hexavalent chromium (Cr VI)	0.050	0.0502	100.4	( 78.00 - 118.00 )	1.4
MBLK	Hexavalent chromium (Cr VI)	ND				
MS	Hexavalent chromium (Cr VI)	0.050	0.0508	101.6	( 80.00 - 120.00 )	
MSD	Hexavalent chromium (Cr VI)	0.050	0.0514	102.8	( 80.00 - 120.00 )	1.2

**QC Batch #92750**

**Specific Conductance**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0301256		( 0.00 - 0.00 )	

**QC Batch #92807**

**Alkalinity**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226110		( 0.00 - 0.00 )	
LCS1	Alkalinity	96.2	97.9	101.8	( 90.00 - 110.00 )	
LCS2	Alkalinity	96.2	97.5	101.4	( 90.00 - 110.00 )	0.41
MBLK	Alkalinity	ND				
MS	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	
MSD	Alkalinity	96.2	89.0	92.5	( 80.00 - 120.00 )	0.00

**QC Batch #92812**

**Lab pH**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	lab # 99	0302171		( 0.00 - 0.00 )	

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**QC Batch #92914**

**Total Dissolved Solid (TDS)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0302066		( 0.00 - 0.00 )	
LCS1	Total Dissolved Solid (TDS)	175	170	97.1	( 85.00 - 115.00 )	
LCS2	Total Dissolved Solid (TDS)	700	684	97.7	( 85.00 - 115.00 )	
MBLK	Total Dissolved Solid (TDS)	ND				

**QC Batch #92976**

**Chromium, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Chromium, Total, ICAP/MS	100	99	99.0	( 85.00 - 115.00 )	
LCS2	Chromium, Total, ICAP/MS	100	95	95.0	( 85.00 - 115.00 )	4.1
MBLK	Chromium, Total, ICAP/MS	ND				
MS	Chromium, Total, ICAP/MS	100	98	98.0	( 70.00 - 130.00 )	
MSD	Chromium, Total, ICAP/MS	100	95	95.0	( 70.00 - 130.00 )	3.1

**QC Batch #92977**

**Iron, Total, ICAP/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Iron, Total, ICAP/MS	500	543	108.6	( 85.00 - 115.00 )	
LCS2	Iron, Total, ICAP/MS	500	517	103.4	( 85.00 - 115.00 )	4.9
MBLK	Iron, Total, ICAP/MS	ND				
MS	Iron, Total, ICAP/MS	500	562	112.4	( 70.00 - 130.00 )	
MSD	Iron, Total, ICAP/MS	500	550	110.0	( 70.00 - 130.00 )	2.2

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QC Batch #92979

Lead, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Lead, Total, ICAP/MS	20.0	21.6	108.0	( 85.00 - 115.00 )	
LCS2	Lead, Total, ICAP/MS	20.0	19.9	99.5	( 85.00 - 115.00 )	8.2
MBLK	Lead, Total, ICAP/MS	ND				
MS	Lead, Total, ICAP/MS	20.0	20.6	103.0	( 70.00 - 130.00 )	
MSD	Lead, Total, ICAP/MS	20.0	20.0	100.0	( 70.00 - 130.00 )	3.0

QC Batch #93028

Arsenic, Total, GF

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224202		( 0.00 - 0.00 )	
LCS1	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	
LCS2	Arsenic, Total, GF	0.020	0.0195	97.5	( 85.00 - 115.00 )	0.00
MBLK	Arsenic, Total, GF	ND				
MS	Arsenic, Total, GF	0.020	0.0193	96.5	( 70.00 - 130.00 )	
MSD	Arsenic, Total, GF	0.020	0.0192	96.0	( 70.00 - 130.00 )	0.52

QC Batch #93064

Chromium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Chromium, Total, ICAP/MS	100	101	101.0	( 85.00 - 115.00 )	
LCS2	Chromium, Total, ICAP/MS	100	102	102.0	( 85.00 - 115.00 )	0.99
MBLK	Chromium, Total, ICAP/MS	ND				
MS	Chromium, Total, ICAP/MS	100	95	95.0	( 70.00 - 130.00 )	
MSD	Chromium, Total, ICAP/MS	100	97	97.0	( 70.00 - 130.00 )	2.1

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QC Batch #93066

Lead, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Lead, Total, ICAP/MS	20.0	21.0	105.0	( 85.00 - 115.00 )	
LCS2	Lead, Total, ICAP/MS	20.0	21.8	109.0	( 85.00 - 115.00 )	3.7
MBLK	Lead, Total, ICAP/MS	ND				
MS	Lead, Total, ICAP/MS	20.0	20.4	102.0	( 70.00 - 130.00 )	
MSD	Lead, Total, ICAP/MS	20.0	19.4	97.0	( 70.00 - 130.00 )	5.0

QC Batch #93067

Iron, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Iron, Total, ICAP/MS	500	496	99.2	( 85.00 - 115.00 )	
LCS2	Iron, Total, ICAP/MS	500	532	106.4	( 85.00 - 115.00 )	7.0
MBLK	Iron, Total, ICAP/MS	ND				
MS	Iron, Total, ICAP/MS	500	300	<u>60.0</u>	( 70.00 - 130.00 )	
MSD	Iron, Total, ICAP/MS	500	527	105.4	( 70.00 - 130.00 )	55

QC Batch #93076

Calcium, Total, ICAP

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Calcium, Total, ICAP	50	47.8	95.6	( 85.00 - 115.00 )	
LCS2	Calcium, Total, ICAP	50	48.0	96.0	( 85.00 - 115.00 )	0.42
MBLK	Calcium, Total, ICAP	ND				
MS	Calcium, Total, ICAP	50	50.6	101.2	( 70.00 - 130.00 )	
MSD	Calcium, Total, ICAP	50	52.1	104.2	( 70.00 - 130.00 )	2.9

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**QC Batch #93080**

**Potassium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Potassium, Total, ICAP	20	19.4	97.0	( 80.00 - 110.00 )	
LCS2	Potassium, Total, ICAP	20	19.5	97.5	( 80.00 - 110.00 )	0.51
MBLK	Potassium, Total, ICAP	ND				
MS	Potassium, Total, ICAP	20	19.3	96.5	( 80.00 - 120.00 )	
MSD	Potassium, Total, ICAP	20	19.6	98.0	( 80.00 - 120.00 )	1.5

**QC Batch #93083**

**Magnesium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Magnesium, Total, ICAP	20	19.7	98.5	( 85.00 - 115.00 )	
LCS2	Magnesium, Total, ICAP	20	19.8	99.0	( 85.00 - 115.00 )	0.51
MBLK	Magnesium, Total, ICAP	ND				
MS	Magnesium, Total, ICAP	20	19.7	98.5	( 70.00 - 130.00 )	
MSD	Magnesium, Total, ICAP	20	20.2	101.0	( 70.00 - 130.00 )	2.5

**QC Batch #93086**

**Sodium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0224201		( 0.00 - 0.00 )	
LCS1	Sodium, Total, ICAP	50	49.3	98.6	( 85.00 - 115.00 )	
LCS2	Sodium, Total, ICAP	50	49.7	99.4	( 85.00 - 115.00 )	0.81
MBLK	Sodium, Total, ICAP	ND				
MS	Sodium, Total, ICAP	50	47.0	94.0	( 70.00 - 130.00 )	
MSD	Sodium, Total, ICAP	50	47.8	95.6	( 70.00 - 130.00 )	1.7

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**QC Batch #93112**

**Arsenic, Total, GF**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0226112		( 0.00 - 0.00 )	
LCS1	Arsenic, Total, GF	0.020	0.0201	100.5	( 85.00 - 115.00 )	
LCS2	Arsenic, Total, GF	0.020	0.0199	99.5	( 85.00 - 115.00 )	1.00
MBLK	Arsenic, Total, GF	ND				
MS	Arsenic, Total, GF	0.020	0.0201	100.5	( 70.00 - 130.00 )	
MSD	Arsenic, Total, GF	0.020	0.0199	99.5	( 70.00 - 130.00 )	1.00

**QC Batch #93180**

**Total Dissolved Solid (TDS)**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Spiked sample	Lab # 99	0304033		( 0.00 - 0.00 )	
LCS1	Total Dissolved Solid (TDS)	175	174	99.4	( 85.00 - 115.00 )	
LCS2	Total Dissolved Solid (TDS)	700	676	96.6	( 85.00 - 115.00 )	
MBLK	Total Dissolved Solid (TDS)	ND				

**QC Batch #93298**

**Regulated VOCs plus Lists 1&3**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4	4.60	115.0	( 70.00 - 130.00 )	
MBLK	1,1,1-Trichloroethane	ND				
LCS1	1,1,2,2-Tetrachloroethane	4	3.91	97.8	( 70.00 - 130.00 )	
MBLK	1,1,2,2-Tetrachloroethane	ND				
LCS1	1,1,2-Trichloroethane	4	4.28	107.0	( 70.00 - 130.00 )	
MBLK	1,1,2-Trichloroethane	ND				
LCS1	1,1-Dichloroethane	4	4.43	110.8	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethane	ND				
LCS1	1,1-Dichloroethylene	4	5.04	126.0	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethylene	ND				
MS	1,1-Dichloroethylene	4	4.12	103.0	( 70.00 - 130.00 )	

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MSD	1,1-Dichloroethylene	4	3.11	77.8	( 70.00 - 130.00 )	28
MBLK	1,1-Dichloropropene	ND				
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
LCS1	1,2,4-Trichlorobenzene	4	3.79	94.8	( 70.00 - 130.00 )	
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
LCS1	1,2-Dichloroethane	4	4.84	121.0	( 70.00 - 130.00 )	
MBLK	1,2-Dichloroethane	ND				
LCS1	1,2-Dichloropropane	4	4.69	117.3	( 70.00 - 130.00 )	
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
LCS1	1,3-Dichloropropane	8	7.55	94.4	( 70.00 - 130.00 )	
MBLK	1,3-Dichloropropane	ND				
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.59	89.8	( 70.00 - 130.00 )	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Butanone (MEK)	ND				
MBLK	2-Chloroethylvinylether	ND				
MBLK	o-Chlorotoluene	ND				
MBLK	p-Chlorotoluene	ND				
MBLK	4-Methyl-2-Pentanone (MIBK)	ND				
MS	Spiked sample	Lab # 99	0303079		( 0.00 - 0.00 )	
LCS1	Benzene	4	4.69	117.3	( 70.00 - 130.00 )	
MBLK	Benzene	ND				
MS	Benzene	4	4.02	100.5	( 70.00 - 130.00 )	
MSD	Benzene	4	3.70	92.5	( 70.00 - 130.00 )	8.3
MBLK	Bromobenzene	ND				
MBLK	Bromomethane (Methyl Bromide)	ND				
LCS1	cis-1,2-Dichloroethylene	4	4.80	120.0	( 70.00 - 130.00 )	
MBLK	cis-1,2-Dichloroethylene	ND				
LCS1	Chlorobenzene	4	3.94	98.5	( 70.00 - 130.00 )	
MBLK	Chlorobenzene	ND				
MS	Chlorobenzene	4	3.87	96.8	( 70.00 - 130.00 )	
MSD	Chlorobenzene	4	3.82	95.5	( 70.00 - 130.00 )	1.3
LCS1	Carbon Tetrachloride	4	5.21	<u>130.2</u>	( 70.00 - 130.00 )	
MBLK	Carbon Tetrachloride	ND				

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MBLK	cis-1,3-Dichloropropene	ND			
LCS1	Bromoform	5	3.01	<u>60.2</u>	( 70.00 - 130.00 )
MBLK	Bromoform	ND			
LCS1	Chloroform (Trichloromethane)	4	4.60	115.0	( 70.00 - 130.00 )
MBLK	Chloroform (Trichloromethane)	ND			
MBLK	Bromochloromethane	ND			
MBLK	Chloroethane	ND			
MBLK	Chloromethane (Methyl Chloride)	ND			
LCS1	Chlorodibromomethane	4	3.60	90.0	( 70.00 - 130.00 )
MBLK	Chlorodibromomethane	ND			
MBLK	Dibromomethane	ND			
LCS1	Bromodichloromethane	4	3.98	99.5	( 70.00 - 130.00 )
MBLK	Bromodichloromethane	ND			
LCS1	Dichloromethane	4	4.63	115.8	( 70.00 - 130.00 )
MBLK	Dichloromethane	ND			
LCS1	Ethyl benzene	4	4.07	101.8	( 70.00 - 130.00 )
MBLK	Ethyl benzene	ND			
MBLK	Dichlorodifluoromethane	ND			
LCS1	Fluorotrichloromethane-Freon11	2	2.02	101.0	( 70.00 - 130.00 )
MBLK	Fluorotrichloromethane-Freon11	ND			
MBLK	Hexachlorobutadiene	ND			
MBLK	Isopropylbenzene	ND			
MBLK	m-Dichlorobenzene (1,3-DCB)	ND			
LCS1	m,p-Xylenes	8	8.00	100.0	( 70.00 - 130.00 )
MBLK	m,p-Xylenes	ND			
MBLK	Naphthalene	ND			
MBLK	n-Butylbenzene	ND			
MBLK	n-Propylbenzene	ND			
LCS1	o-Xylene	4	3.94	98.5	( 70.00 - 130.00 )
MBLK	o-Xylene	ND			
LCS1	o-Dichlorobenzene (1,2-DCB)	4	4.15	103.8	( 70.00 - 130.00 )
MBLK	o-Dichlorobenzene (1,2-DCB)	ND			
LCS1	Tetrachloroethylene (PCE)	4	3.87	96.8	( 70.00 - 130.00 )
MBLK	Tetrachloroethylene (PCE)	ND			
MBLK	p-Isopropyltoluene	ND			
MBLK	sec-Butylbenzene	ND			
LCS1	Styrene	4	3.74	93.5	( 70.00 - 130.00 )

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Laboratory  
 QC Report  
 #52247

Foster Wheeler Environmental, Inc  
 (continued)

MBLK	Styrene	ND				
LCS1	1,2-dichloroethane-d4	100	110	110.0	( 80.00 - 120.00 )	
MBLK	1,2-dichloroethane-d4	100	114	114.0		
MS	1,2-dichloroethane-d4	100	105	105.0	( 80.00 - 120.00 )	
MSD	1,2-dichloroethane-d4	100	106	106.0	( 80.00 - 120.00 )	0.95
LCS1	Toluene-d8	100	94.6	94.6	( 80.00 - 120.00 )	
MBLK	Toluene-d8	100	85.8	85.8		
MS	Toluene-d8	100	96.3	96.3	( 80.00 - 120.00 )	
MSD	Toluene-d8	100	99.2	99.2	( 80.00 - 120.00 )	3.0
LCS1	4-Bromofluorobenzene	100	92.2	92.2	( 80.00 - 120.00 )	
MBLK	4-Bromofluorobenzene	100	89.0	89.0		
MS	4-Bromofluorobenzene	100	105	105.0	( 80.00 - 120.00 )	
MSD	4-Bromofluorobenzene	100	101	101.0	( 80.00 - 120.00 )	3.9
LCS1	trans-1,2-Dichloroethylene	4	5.00	125.0	( 70.00 - 130.00 )	
MBLK	trans-1,2-Dichloroethylene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	Trichloroethylene (TCE)	4	4.24	106.0	( 70.00 - 130.00 )	
MBLK	Trichloroethylene (TCE)	ND				
MS	Trichloroethylene (TCE)	4	4.79	119.8	( 70.00 - 130.00 )	
MSD	Trichloroethylene (TCE)	4	4.72	118.0	( 70.00 - 130.00 )	1.5
LCS1	Trichlorotrifluoroethane (Freon)	2	2.05	102.5	( 70.00 - 130.00 )	
MBLK	Trichlorotrifluoroethane (Freon)	ND				
MBLK	trans-1,3-Dichloropropene	ND				
LCS1	Toluene	4	4.27	106.7	( 70.00 - 130.00 )	
MBLK	Toluene	ND				
MS	Toluene	4	3.95	98.8	( 70.00 - 130.00 )	
MSD	Toluene	4	3.80	95.0	( 70.00 - 130.00 )	3.9
LCS1	Vinyl chloride (VC)	2	1.88	94.0	( 70.00 - 130.00 )	
MBLK	Vinyl chloride (VC)	ND				

QC Batch #93306

Chloride

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0301252		( 0.00 - 0.00 )	
LCS1	Chloride	25	23.7	94.8	( 90.00 - 110.00 )	
LCS2	Chloride	25	25.3	101.2	( 90.00 - 110.00 )	6.5

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Foster Wheeler Environmental, Inc  
 (continued)

MBLK	Chloride	ND				
MS	Chloride	25	28.3	113.2	( 80.00 - 120.00 )	
MSD	Chloride	25	28.3	113.2	( 80.00 - 120.00 )	0.00

**QC Batch #93308**

**Nitrate-N by IC**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0301252		( 0.00 - 0.00 )	
LCS1	Nitrate-N by IC	2.5	2.35	94.0	( 90.00 - 110.00 )	
LCS2	Nitrate-N by IC	2.5	2.50	100.0	( 90.00 - 110.00 )	6.2
MBLK	Nitrate-N by IC	ND				
MS	Nitrate-N by IC	2.5	2.74	109.6	( 80.00 - 120.00 )	
MSD	Nitrate-N by IC	2.5	2.75	110.0	( 80.00 - 120.00 )	0.36

**QC Batch #93311**

**Sulfate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0301252		( 0.00 - 0.00 )	
LCS1	Sulfate	50	47.1	94.2	( 90.00 - 110.00 )	
LCS2	Sulfate	50	50.2	100.4	( 90.00 - 110.00 )	6.4
MBLK	Sulfate	ND				
MS	Sulfate	50	56.7	113.4	( 80.00 - 120.00 )	
MSD	Sulfate	50	56.6	113.2	( 80.00 - 120.00 )	0.18

**QC Batch #93470**

**Perchlorate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 99	0301250		( 0.00 - 0.00 )	
LCS1	Perchlorate	20.0	19.3	96.5	( 90.00 - 110.00 )	
LCS2	Perchlorate	20.0	19.9	99.5	( 90.00 - 110.00 )	3.1
MBLK	Perchlorate	ND				
MS	Perchlorate	20.0	20.6	103.0	( 75.00 - 125.00 )	
MSD	Perchlorate	20.0	20.8	104.0	( 75.00 - 125.00 )	0.97

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Laboratory  
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Foster Wheeler Environmental, Inc  
 (continued)

QC Batch #93783

Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4	3.96	99.0	( 70.00 - 130.00 )	
MBLK	1,1,1-Trichloroethane	ND				
LCS1	1,1,2,2-Tetrachloroethane	4	3.85	96.2	( 70.00 - 130.00 )	
MBLK	1,1,2,2-Tetrachloroethane	ND				
LCS1	1,1,2-Trichloroethane	4	3.94	98.5	( 70.00 - 130.00 )	
MBLK	1,1,2-Trichloroethane	ND				
LCS1	1,1-Dichloroethane	4	3.83	95.8	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethane	ND				
LCS1	1,1-Dichloroethylene	4	3.14	78.5	( 70.00 - 130.00 )	
MBLK	1,1-Dichloroethylene	ND				
MS	1,1-Dichloroethylene	4	4.12	103.0	( 70.00 - 130.00 )	
MSD	1,1-Dichloroethylene	4	3.11	77.8	( 70.00 - 130.00 )	28
MBLK	1,1-Dichloropropane	ND				
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
LCS1	1,2,4-Trichlorobenzene	4	3.99	99.8	( 70.00 - 130.00 )	
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
LCS1	1,2-Dichloroethane	4	3.82	95.5	( 70.00 - 130.00 )	
MBLK	1,2-Dichloroethane	ND				
LCS1	1,2-Dichloropropane	4	4.05	101.2	( 70.00 - 130.00 )	
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
LCS1	1,3-Dichloropropane	8	7.50	93.8	( 70.00 - 130.00 )	
MBLK	1,3-Dichloropropane	ND				
LCS1	p-Dichlorobenzene (1,4-DCB)	4	4.07	101.8	( 70.00 - 130.00 )	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Butanone (MEK)	ND				
MBLK	2-Chloroethylvinylether	ND				
MBLK	o-Chlorotoluene	ND				

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Foster Wheeler Environmental, Inc  
 (continued)

MBLK	p-Chlorotoluene	ND				
MBLK	4-Methyl-2-Pentanone (MIBK)	ND				
MS	Spiked sample	Lab # 99	0303079		( 0.00 - 0.00 )	
LCS1	Benzene	4	4.02	100.5	( 70.00 - 130.00 )	
MBLK	Benzene	ND				
MS	Benzene	4	4.02	100.0	( 70.00 - 130.00 )	
MSD	Benzene	4	3.70	92.5	( 70.00 - 130.00 )	8.3
MBLK	Bromobenzene	ND				
MBLK	Bromomethane (Methyl Bromide)	ND				
LCS1	cis-1,2-Dichloroethylene	4	4.21	105.2	( 70.00 - 130.00 )	
MBLK	cis-1,2-Dichloroethylene	ND				
LCS1	Chlorobenzene	4	3.95	98.8	( 70.00 - 130.00 )	
MBLK	Chlorobenzene	ND				
MS	Chlorobenzene	4	3.87	96.8	( 70.00 - 130.00 )	
MSD	Chlorobenzene	4	3.82	95.5	( 70.00 - 130.00 )	1.3
LCS1	Carbon Tetrachloride	4	3.79	94.8	( 70.00 - 130.00 )	
MBLK	Carbon Tetrachloride	ND				
MBLK	cis-1,3-Dichloropropene	ND				
LCS1	Bromoform	4	3.04	76.0	( 70.00 - 130.00 )	
MBLK	Bromoform	ND				
LCS1	Chloroform (Trichloromethane)	4	3.97	99.2	( 70.00 - 130.00 )	
MBLK	Chloroform (Trichloromethane)	ND				
MBLK	Bromochloromethane	ND				
MBLK	Chloroethane	ND				
MBLK	Chloromethane (Methyl Chloride)	ND				
LCS1	Chlorodibromomethane	4	3.78	94.5	( 70.00 - 130.00 )	
MBLK	Chlorodibromomethane	ND				
MBLK	Dibromomethane	ND				
LCS1	Bromodichloromethane	4	3.84	96.0	( 70.00 - 130.00 )	
MBLK	Bromodichloromethane	ND				
LCS1	Dichloromethane	4	2.99	74.8	( 70.00 - 130.00 )	
MBLK	Dichloromethane	ND				
LCS1	Ethyl benzene	4	4.11	102.8	( 70.00 - 130.00 )	
MBLK	Ethyl benzene	ND				
MBLK	Dichlorodifluoromethane	ND				
LCS1	Fluorotrichloromethane-Freon11	2	1.64	82.0	( 70.00 - 130.00 )	
MBLK	Fluorotrichloromethane-Freon11	ND				

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Foster Wheeler Environmental, Inc  
 (continued)

MBLK	Hexachlorobutadiene	ND				
MBLK	Isopropylbenzene	ND				
MBLK	m-Dichlorobenzene (1,3-DCB)	ND				
LCS1	m,p-Xylenes	8	7.88	98.5	( 70.00 - 130.00 )	
MBLK	m,p-Xylenes	ND				
MBLK	Naphthalene	ND				
MBLK	n-Butylbenzene	ND				
MBLK	n-Propylbenzene	ND				
LCS1	o-Xylene	4	4.03	100.8	( 70.00 - 130.00 )	
MBLK	o-Xylene	ND				
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.74	93.5	( 70.00 - 130.00 )	
MBLK	o-Dichlorobenzene (1,2-DCB)	ND				
LCS1	Tetrachloroethylene (PCE)	4	4.01	100.2	( 70.00 - 130.00 )	
MBLK	Tetrachloroethylene (PCE)	ND				
MBLK	p-Isopropyltoluene	ND				
MBLK	sec-Butylbenzene	ND				
LCS1	Styrene	4	3.97	99.2	( 70.00 - 130.00 )	
MBLK	Styrene	ND				
LCS1	1,2-dichloroethane-d4	100	104	104.0	( 80.00 - 120.00 )	
MBLK	1,2-dichloroethane-d4	100	103	103.0		
MS	1,2-dichloroethane-d4	100	105	105.0	( 80.00 - 120.00 )	
MSD	1,2-dichloroethane-d4	100	106	106.0	( 80.00 - 120.00 )	0.95
LCS1	Toluene-d8	100	100	100.0	( 80.00 - 120.00 )	
MBLK	Toluene-d8	100	97.4	97.4		
MS	Toluene-d8	100	96.3	96.3	( 80.00 - 120.00 )	
MSD	Toluene-d8	100	99.2	99.2	( 80.00 - 120.00 )	3.0
LCS1	4-Bromofluorobenzene	100	103	103.0	( 80.00 - 120.00 )	
MBLK	4-Bromofluorobenzene	100	97.5	97.5		
MS	4-Bromofluorobenzene	100	105	105.0	( 80.00 - 120.00 )	
MSD	4-Bromofluorobenzene	100	101	101.0	( 80.00 - 120.00 )	3.9
LCS1	trans-1,2-Dichloroethylene	4	3.99	99.8	( 70.00 - 130.00 )	
MBLK	trans-1,2-Dichloroethylene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	Trichloroethylene (TCE)	4	3.93	98.2	( 70.00 - 130.00 )	
MBLK	Trichloroethylene (TCE)	ND				
MS	Trichloroethylene (TCE)	4	4.79	119.8	( 70.00 - 130.00 )	
MSD	Trichloroethylene (TCE)	4	4.72	118.0	( 70.00 - 130.00 )	1.5

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Laboratory  
QC Report  
#52247

Foster Wheeler Environmental, Inc  
(continued)

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LCS1	Trichlorotrifluoroethane (Freon)	2	1.71	85.5	( 70.00 - 130.00 )	
MBLK	Trichlorotrifluoroethane (Freon)	ND				
MBLK	trans-1,3-Dichloropropene	ND				
LCS1	Toluene	4	4.14	103.5	( 70.00 - 130.00 )	
MBLK	Toluene	ND				
MS	Toluene	4	3.95	98.8	( 70.00 - 130.00 )	
MSD	Toluene	4	3.80	95.0	( 70.00 - 130.00 )	3.9
LCS1	Vinyl chloride (VC)	2	1.65	82.5	( 70.00 - 130.00 )	
MBLK	Vinyl chloride (VC)	ND				

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A division of Montgomery Watson Americas, Inc.

Quality Environmental Analysis

March 28, 1999

Foster Wheeler Environmental  
611 Anton Blvd, Suite 800  
Costa Mesa, CA.92626

Attention: Mark Cutler

Re: Report # 52286 (MW-991-088, MW-991-089, MW-991-074 MW-991-075)

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):**

(Fe) The MS for Iron by 200.8 does not meet acceptance criteria of +30, at 60%. RPD of the MS/MSD does not meet acceptance criteria. A sample not reported on this report was used for the MS/MSD. The blank and the LCS pair are acceptable. The results for these samples are reported without qualifications.

**Samples requiring dilution (with increased MRL's):**

None

**Method blanks with compounds detected:**

None

**Other Comments:**

None

**TIC's:**

None

**Method Variance:**

None

Sincerely,

Debbie Frank  
Project Manager

cc: Judy Novelly (JPL)

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**Southwest Service Center**  
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Tempe, Arizona 85282  
Tel: 602 755 8201  
Fax: 602 755 8203

**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 302  
Irvine, California 92606  
Tel: 949 222 1845  
Fax: 949 222 1849

**Montgomery Watson Laboratories**  
 , Los Angeles, CA 90051-3508  
 PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Foster Wheeler Environmental, Inc 611 Anton Boulevard Suite 800 Costa Mesa, CA 92626 Attn: Mark Cutler	Customer Code: ENSERCH PO#: Sub PO#007618-0005-0001 Group#: 52286 Project#: JPL Proj Mgr: Debbie Frank Phone: (714) 444-5526
--	---

The following samples were received from you on 03/02/99. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Montgomery Watson Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
990302172	MW-991-088	@EBASVOA AS-EBAS CR-EBAS PB-EBAS CR-VI CLO4	Water	03/02/99
990302173	MW-991-089	@EBASVOA	Water	03/02/99
990302174	MW-991-074	@EBASVOA CR-VI PB-EBAS CR-EBAS AS-EBAS TDS CATION1 ANION1 PH EC HCO3 CO3 ALK NO3 SO4 CL FE-MS K NA MG CA CLO4	Water	03/02/99
990302175	MW-991-075	@EBASVOA CR-VI PB-EBAS CR-EBAS AS-EBAS TDS CATION1 ANION1 PH EC HCO3 CO3 ALK NO3 SO4 CL FE-MS K NA MG CA CLO4	Water	03/02/99

Test Acronym Description

Test Acronym	Description
@EBASVOA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity
ANION1	Anion Sum
AS-EBAS	Arsenic, Total, GF
CA	Calcium, Total, ICAP
CATION1	Cation Sum
CL	Chloride
CLO4	Perchlorate
CO3	Carbonate as CO3, Calculated
CR-EBAS	Chromium, Total, ICAP/MS
CR-VI	Hexavalent chromium (Cr VI)
EC	Specific Conductance
FE-MS	Iron, Total, ICAP/MS

---

Foster Wheeler Environmental, Inc  
611 Anton Boulevard  
Suite 800  
Costa Mesa, CA 92626  
Attn: Mark Cutler

Customer Code: ENSERCH  
PO#: Sub PO#007618-0005-0001  
Group#: 52286  
Project#: JPL  
Proj Mgr: Debbie Frank  
Phone: (714) 444-5526

---

Test Acronym Description

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Test Acronym	Description
HCO3	Bicarbonate as HCO3, calculated
K	Potassium, Total, ICAP
MG	Magnesium, Total, ICAP
NA	Sodium, Total, ICAP
NO3	Nitrate-N by IC
PB-EBAS	Lead, Total, ICAP/MS
PH	Lab pH
SO4	Sulfate
TDS	Total Dissolved Solid (TDS)



52284

NUMBER 2000

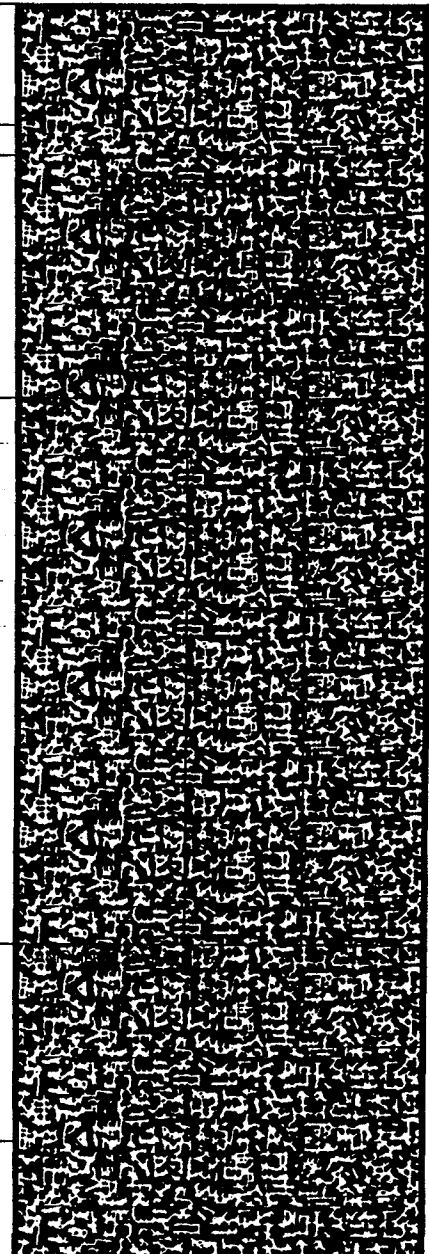
TEMP = 6-11  
B.D - OK

FOSTER WHEELER ENVIRONMENTAL CORPORATION

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

PAGE 1 OF 1

PROJECT JPL		OFS NO.		HAZARD IDENTIFICATION Non Hazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>			TIME REQUIRED NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS											
PROJECT ADDRESS 4800 Oak Grove Dr. Pasadena, CA				SAMPLER (Name) R. J. Adair			SAMPLER (Signature) [Signature]											
LABORATORY Montgomery Watson Labs				ANALYSES REQUIRED														
REPORTS TO BE SENT TO A/E, M/A, R/E, U/A				[Vertical text in column: Vectors, etc.]														
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			1	2	3	4	5	6	7	8	9	10	
					WATER	SOIL	OTHER (Describe)											
MW-911-088	1350	3/2/99	5	2 x 200ml 1 x 150ml 1 x 150ml	X			X	X									
MW 911-089	1410	3/2/99	2	2 x 200ml	X			X										
MW-911-077	1445	3/2/99	6	2 x 200ml 1 x 150ml 1 x 150ml	X			X	X	X	X	X						
MW 911-075	1600	3/2/99	6	↓	X			X	X	X	X	X	X					
LABORATORY INSTRUCTIONS/COMMENTS Level IV QM/QC Range IV																		
RELINQUISHED BY (Signature) [Signature]		DATE	RECEIVED BY (Signature) [Signature]		RELINQUISHED BY (Signature)		DATE	RECEIVED BY (Signature)										
COMPANY		TIME	COMPANY		COMPANY		TIME	COMPANY										



**MONTGOMERY LABORATORIES COOLER RECEIPT FORM**

PROJECT: ENSEARCH Date Received: 3-2-99

Use other side of this form to note further details concerning check-in problems and to describe any action(s) regarding the resolution(s) of problems.

A. PRELIMINARY EXAMINATION: Date cooler opened: 3-2-99  
 by (print) M. DE LUCA (sign) [Signature]

1. Did cooler come with shipping slip (air bill, etc.)? Yes No  
 If YES, attach & enter carrier and air bill # here: DEL BY COURIER

2. Were custody seals on outside of cooler? Yes No  
 If YES, how many & where: 4  
 If Yes, enter the following: seal date: 3-2-99, seal name: RF

3. Were custody seals unbroken & intact at delivery? Yes No

4. Were custody papers sealed in bag & taped to lid? Yes No

5. Were custody papers filled out properly (ink, etc.) Yes No

6. Did you sign custody papers in appropriate place? Yes No

7. Was project identifiable from custody papers? Yes No

8. Have designated person(s) initial to acknowledge receipt: MLD (date) 3-2-99

B. LOG-IN PHASE: Date samples were logged-in: 3-2-99 by:  
 (print) M. DE LUCA (sign) [Signature]

9. Describe packing:

10. If required, was enough ice used? Yes No

11. Were all bottles sealed in separate plastic bags? Yes No

12. Did all bottles arrive unbroken/in good condition? Yes No

13. Were all bottle labels complete (ID, date, sign, pres)? Yes No

14. Did all bottle labels agree with custody papers?  
 If NO, indicate discrepancies on back. Yes No

15. Were correct containers used for the analytes? Yes No

16. Were correct preservatives used when required? Yes No

17. Was sufficient amount of sample sent for tests? Yes No

18. Bubbles absent in VOA vials?  
 If NO, list by sample id on back. Yes No

19. Was Client Services informed of problems? Yes No



port Summary of positive results, PR52286

			Result	MDL	UNITS
Analyzed	990302172	MW-991-088			
Analyzed	990302173	MW-991-089			
Analyzed	990302174	MW-991-074			
03/09/99	Alkalinity		127	2.000	MGL
03/12/99	Anion Sum		2.90	.001	MEQL
03/12/99	Bicarbonate as HCO3,calculated		145	.001	MGL
03/08/99	Calcium, Total, ICAP		2.53	1.000	MGL
03/12/99	Carbonate as CO3, Calculated		23.7	.001	MGL
03/12/99	Cation Sum		3.06	.001	MEQL
03/03/99	Chloride		10	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		1100	*****	UGL
03/08/99	Lab pH		9.4	.001	UNIT
03/08/99	Sodium, Total, ICAP		67.4	1.000	MGL
03/05/99	Specific Conductance		315	4.000	UMHO
03/03/99	Sulfate		3.7	2.000	MGL
03/08/99	Total Dissolved Solid (TDS)		210	10.000	MGL
Analyzed	990302175	MW-991-075			
03/09/99	Alkalinity		151	2.000	MGL
03/12/99	Anion Sum		3.69	.001	MEQL
03/12/99	Bicarbonate as HCO3,calculated		183	.001	MGL
03/08/99	Calcium, Total, ICAP		18.6	1.000	MGL
03/12/99	Carbonate as CO3, Calculated		2.99	.001	MGL
03/12/99	Cation Sum		3.70	.001	MEQL
03/03/99	Chloride		12	1.000	MGL
03/05/99	Iron, Total, ICAP/MS		540	*****	UGL
03/08/99	Lab pH		8.4	.001	UNIT
03/08/99	Magnesium, Total, ICAP		8.70	1.000	MGL
03/03/99	Nitrate-N by IC		0.21	.100	MGL
03/08/99	Potassium, Total, ICAP		1.96	1.000	MGL
03/08/99	Sodium, Total, ICAP		46.0	1.000	MGL
03/05/99	Specific Conductance		350	4.000	UMHO
03/03/99	Sulfate		15	2.000	MGL
03/08/99	Total Dissolved Solid (TDS)		220	10.000	MGL



**MONTGOMERY WATSON LABORATORIES**

a Division of Montgomery Watson Americas, Inc.  
555 East Walnut Street  
Pasadena, California 91101  
Tel: 626 568 6400 Fax: 626 568 6324  
1 800 566 LABS (1 800 566 5227)

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Report  
Comments  
#52286

**Group Comments**

(FE-MS) Recovery of matrix spike performed on sample#990226112 is lower than 70-130%, due to high concentration of Fe in the sample. Result of Fe in this sample is three times the spiked amount. GG 3/30/99.



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**Laboratory Report**

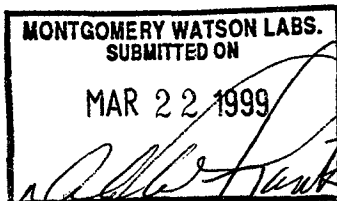
for

Foster Wheeler Environmental, Inc  
611 Anton Boulevard

Suite 800

Costa Mesa , CA 92626

Attention: Mark Cutler  
Fax: (714)444-5560



DEB\* Debbie Frank

Report#: 52286  
JPL