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HUNTERS POINT
SSIC NO. 5090.3

Tetra Tech EM Inc.

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April 4, 2003

Mr. G. Patrick Brooks, R.G.
Remedial Project Manager
Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 1100
San Diego, CA 92101

Subject: **User Data Package 2 – Results of the Baseline Groundwater Sampling**
Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California
Contract Number N68711-00-D-0005, Delivery Order 0013

Dear Mr. Brooks:

Between November 11 and December 4, 2002, Tetra Tech EM Inc. (Tetra Tech) completed baseline groundwater sampling for the Ferox^{sm} Injection Technology demonstration at Parcel C, Remedial Unit C4, of Hunters Point Shipyard. This work was conducted under the above-referenced delivery order from the U.S. Department of the Navy (Navy), Naval Facilities Engineering Command, Southwest Division, under the Indefinite Quantity Contract for Architectural-Engineering Services to Provide CERCLA/RCRA/UST Studies.

The technology demonstration project is being conducted in association with, and partially funded by, the Navy's Alternative Restoration Technology Team, Naval Facilities Engineering Service Center (NFESC). This user data package summarizes the results of field activities, which included groundwater sampling of 18 monitoring wells, collection of one grab groundwater sample from a direct-push location, and measurement of groundwater levels in 21 monitoring wells.

Enclosure 1 of this letter report provides copies of the groundwater sampling forms, Enclosure 2 provides copies of the chain-of-custody forms for the samples, Enclosure 3 provides the groundwater level measurement forms, Enclosure 4 provides the analytical laboratory reports, and Enclosure 5 provides the data validation reports. Groundwater sampling, groundwater level measurement, laboratory analysis, and data validation are discussed below.

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GROUNDWATER SAMPLING

Tetra Tech collected groundwater samples from 18 monitoring wells and one direct-push location on November 12 and 13, and December 3 and 4, 2002. Samples were collected from the following locations:

IR28MW211F	IR28MW275F	IR28MW311A	IR28MW341F	IR28MW342F
IR28MW351F	IR28MW355F	IR28MW356F	IR28MW357F	IR28MW358F
IR28MW359F	IR28MW360F	IR28MW361F	IR28MW362F (F2)	IR28MW932F
IR28MW933F5	IR28MW934F5	IR28IW938F	IR28IW939F	

Note that sample location F2 was that of injection borehole F2, which would later be converted to monitoring well IR28MW362F following the Ferox^{sm} injections. Samples were sent to an off-site laboratory for a subset of the following analyses: volatile organic compounds (VOC), total iron, dissolved iron, dissolved arsenic, dissolved manganese, alkalinity, chloride, nitrate, ethane, ethene, and dissolved hydrogen. Table 1 at the end of this letter summarizes specific sampling requirements. In addition, groundwater was analyzed during purging for the following parameters: temperature, specific conductance, dissolved oxygen, pH, oxidation-reduction potential, and turbidity. Enclosures 1 and 2 present the groundwater sampling forms and chain-of-custody records.

GROUNDWATER LEVEL MEASUREMENT

Tetra Tech measured groundwater levels in 21 monitoring wells on December 3, 2002. Water level measurements were collected from the following wells:

IR28MW211F	IR28MW275F	IR28MW310F	IR28MW311A	IR28MW342F
IR28MW351F	IR28MW355F	IR28MW356F	IR28MW357F	IR28MW358F
IR28MW359F	IR28MW360F	IR28MW361F	IR28MW393F	IR28MW935F
IR28MW936F	IR28MW937F	IR28IW938F	IR28IW939F	IR28MW940F
IR28MW402F				

Enclosure 3 provides the groundwater level measurement forms.

LABORATORY ANALYSIS

Groundwater samples were sent for analysis to Columbia Analytical Services in Redding, California, a pre-qualified subcontractor laboratory. The laboratory was approved by NFESC and evaluated by Tetra Tech to ensure that it can meet the technical requirements of the laboratory scope of work and produce data of acceptable quality. Table 2 at the end of this letter

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summarizes the validated analytical results. Enclosure 4 provides the analytical laboratory reports for the baseline sampling.

DATA VALIDATION

Data generated during field and laboratory activities must be validated and verified to ensure that they are defensible and of acceptable quality. An independent third-party contractor validated laboratory data for metals and VOCs. Table 2 at the end of this letter summarizes the validated analytical results. Enclosure 5 provides the data validation report and an internal memorandum generated during Tetra Tech's technical review comments of the validation for the baseline sampling data.

If you have any questions or comments about this user data package, please contact me at (215) 656-8720 or Doug Bielskis at (415) 222-8242.

Sincerely,

John McCall, P.E.
Project Manager

Enclosures:
1. Groundwater Sampling Forms
2. Chain-of-Custody Forms
3. Groundwater Level Measurement Forms
4. Analytical Laboratory Reports
5. Data Validation Reports

cc: Mr. Keith Forman, Southwest Division
Mr. Dave DeMars, Southwest Division
Ms. Diane Silva (Admin. Record), Southwest Division
Mr. Doug Bielskis, Tetra Tech EM Inc.
AECRU File

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TABLE 1: GROUNDWATER SAMPLING REQUIREMENTS

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Monitoring Well	Volatile Organic Compounds	Total Iron	Dissolved Iron	Dissolved Arsenic	Dissolved Manganese	Nitrate	Chloride	Alkalinity	Ethane	Ethene	Dissolved Hydrogen
IR28MW211F	X	X	X	--	--	--	X	X	X	X	X
IR28MW275F	X	X	X	--	--	--	X	X	X	X	X
IR28MW311A	X	X	X	--	--	--	X	X	X	X	X
IR28MW341F	X	X	X	--	--	X	X	X	X	X	X
IR28MW342F	X	X	X	--	--	--	X	X	X	X	X
IR28MW351F	X	X	X	X	X	--	X	X	X	X	X
IR28MW355F	X	X	X	X	X	--	X	X	X	X	X
IR28MW356F	X	X	X	X	X	--	X	X	X	X	X
IR28MW357F	X	X	X	X	X	--	X	X	X	X	X
IR28MW358F	X	X	X	X	X	--	X	X	X	X	X
IR28MW359F	X	X	X	--	--	X	X	X	X	X	X
IR28MW360F	X	X	X	X	X	X	X	X	X	X	X
IR28MW361F	X	X	X	--	--	X	X	X	X	X	X
IR28MW362F (F2)	X	X	X	--	--	X	X	X	X	X	X
IR28MW932F	X	X	X	X	X	--	X	X	X	X	X
IR28MW933F5	X	X	X	--	--	X	X	X	X	X	X
IR28MW934F5	X	X	X	--	--	--	X	X	X	X	X
IR28IW938F	X	X	X	X	X	--	X	X	X	X	X
IR28IW939F	X	X	X	X	X	--	X	X	X	X	X
Total	**19**	**19**	**19**	**9**	**9**	**6**	**19**	**19**	**19**	**19**	**19**

Note:

-- Analyte was not sampled for at this location.

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	F2	IR28IW938F	IR28IW939F	IR28MW211F	IR28MW275F	IR28MW311A
Sample Date	12/04/2002	11/12/2002	11/12/2002	11/13/2002	11/13/2002	11/13/2002
Matrix	GRAB WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0249H015	0246H006	0246H005	0246H009	0246H010	0246H011
VOLATILE ORGANIC COMPOUNDS (µg/L)						
1,1,1-TRICHLOROETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,1,2,2-TETRACHLOROETHANE	< 250	< 500	< 100	* 120 J *	< 1	< 1
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	< 250	< 500	< 100	< 1,000	< 1	* 0.4 J *
1,1,2-TRICHLOROETHANE	* 230 J *	< 500	< 100	< 1,000	< 1	< 1
1,1-DICHLOROETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,1-DICHLOROETHENE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,2,3-TRICHLOROBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,2,4-TRICHLOROBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,2-DIBROMO-3-CHLOROPROPANE	< 1,200	< 2,500	< 500	< 5,000	< 5	< 5
1,2-DIBROMOETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,2-DICHLOROBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,2-DICHLOROETHANE	* 100 J *	< 500	* 120 J *	< 1,000	< 1	< 1
1,2-DICHLOROPROPANE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,3-DICHLOROBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
1,4-DICHLOROBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
2-HEXANONE	< 1,200	< 2,500	< 500	< 5,000	< 5	< 5
4-METHYL-2-PENTANONE	< 1,200	< 2,500	< 500	< 5,000	< 5	< 5
BENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
BROMOCHLOROMETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
BROMODICHLOROMETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
BROMOFORM	< 250	< 500	< 100	< 1,000	< 1	< 1
BROMOMETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
CARBON DISULFIDE	< 250	< 500	< 100	< 1,000	< 1	< 1
CARBON TETRACHLORIDE	< 250	< 500	* 77 J *	< 1,000	< 1	< 1
CHLOROBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
CHLOROETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
CHLOROFORM	* 450 *	< 500	* 1,100 J *	< 1,000	< 1	< 1
CHLOROMETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
CIS-1,2-DICHLOROETHENE	* 160 J *	< 500	* 420 J *	< 1,000	* 2 *	* 2 *
CIS-1,3-DICHLOROPROPENE	< 250	< 500	< 100	< 1,000	< 1	< 1

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TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	F2	IR28IW938F	IR28IW939F	IR28MW211F	IR28MW275F	IR28MW311A
Sample Date	12/04/2002	11/12/2002	11/12/2002	11/13/2002	11/13/2002	11/13/2002
Matrix	GRAB WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0249H015	0246H006	0246H005	0246H009	0246H010	0246H011
VOLATILE ORGANIC COMPOUNDS (µg/L)						
DIBROMOCHLOROMETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
DICHLORODIFLUOROMETHANE	< 250	< 500	< 100	< 1,000	< 1	< 1
ETHYLBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
ISOPROPYLBENZENE	< 250	< 500	< 100	< 1,000	< 1	< 1
METHYLENE CHLORIDE	< 500	< 1,000	< 200	< 2,000	< 2	< 2
STYRENE	< 250	< 500	< 100	< 1,000	< 1	< 1
TERT-BUTYL METHYL ETHER	< 250	< 500	< 100	< 1,000	< 1	< 1
TETRACHLOROETHENE	< 250	< 500	* 130 J *	< 1,000	* 14 *	< 1
TOLUENE	< 250	< 500	< 100	< 1,000	< 1	< 1
TRANS-1,2-DICHLOROETHENE	< 250	< 500	< 100	< 1,000	< 1	< 1
TRANS-1,3-DICHLOROPROPENE	< 250	< 500	< 100	< 1,000	< 1	< 1
TRICHLOROETHENE	* 88,000 *	* 34,000 *	* 15,000 *	* 76,000 *	* 36 *	* 8 *
TRICHLOROFLUOROMETHANE	< 250	< 500	< 100	< 1,000	< 1	* 2 *
VINYL CHLORIDE	< 250	< 500	< 100	< 1,000	< 1	< 1
XYLENE (TOTAL)	< 250	< 500	< 100	< 1,000	< 1	< 1
TOTAL METALS (µg/L)						
IRON	* 32,000 *	* 140 *	* 110 *	* 26 J *	* 120 *	< 9
DISSOLVED METALS (µg/L)						
ARSENIC	NA	< 5	< 6	NA	NA	NA
IRON	< 9	* 49 J *	* 9 J *	< 9	* 86 J *	< 9
MANGANESE	NA	* 110 *	* 390 *	NA	NA	NA
DISSOLVED GASES (µg/L)						
ETHANE	* 3 *	< 0.5	* 0.4 J *	* 0.5 J *	< 0.5	< 0.5
ETHENE	* 3 *	< 2	< 2	< 2	< 2	< 2
HYDROGEN IN WATER	< 5	< 5	< 5	< 5	< 5	< 5

Notes to table on page 13

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support

Hunters Point Shipyard, San Francisco, California

Sample Location ID	F2	IR28IW938F	IR28IW939F	IR28MW211F	IR28MW275F	IR28MW311A
Sample Date	12/04/2002	11/12/2002	11/12/2002	11/13/2002	11/13/2002	11/13/2002
Matrix	GRAB WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0249H015	0246H006	0246H005	0246H009	0246H010	0246H011
ANIONS (µg/L)						
CHLORIDE	* 110,000 *	* 170,000 *	* 190,000 *	* 110,000 *	* 13,000 *	* 15,000,000 *
NITRATE AS NITROGEN	* 1,200 *	NA	NA	NA	NA	NA
ALKALINITY (µg/L)						
ALKALINITY, TOTAL (AS CACO3)	* 190,000 *	* 140,000 *	* 160,000 *	* 130,000 *	* 120,000 *	* 210,000 *

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TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW341F	IR28MW341F	IR28MW342F	IR28MW351F	IR28MW355F	IR28MW356F
Sample Date	11/13/2002	12/04/2002	11/12/2002	11/12/2002	12/03/2002	12/03/2002
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0246H008	0249H012	0246H003	0246H002	0249H003	0249H002
VOLATILE ORGANIC COMPOUNDS (µg/L)						
1,1,1-TRICHLOROETHANE	< 200	NA	< 50	< 1	< 1	< 1
1,1,2,2-TETRACHLOROETHANE	< 200	NA	< 50	< 1	< 1	< 1
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	< 200	NA	< 50	* 1 *	< 1	< 1
1,1,2-TRICHLOROETHANE	< 200	NA	< 50	< 1	< 1	< 1
1,1-DICHLOROETHANE	< 200	NA	< 50	< 1	< 1	< 1
1,1-DICHLOROETHENE	< 200	NA	< 50	< 1	< 1	< 1
1,2,3-TRICHLOROBENZENE	< 200	NA	< 50	< 1	< 1	< 1
1,2,4-TRICHLOROBENZENE	< 200	NA	< 50	< 1	< 1	< 1
1,2-DIBROMO-3-CHLOROPROPANE	< 1,000	NA	< 250	< 5	< 5	< 5
1,2-DIBROMOETHANE	< 200	NA	< 50	< 1	< 1	< 1
1,2-DICHLOROBENZENE	< 200	NA	< 50	< 1	< 1	< 1
1,2-DICHLOROETHANE	< 200	NA	< 50	* 0.5 J *	< 1	< 1
1,2-DICHLOROPROPANE	< 200	NA	< 50	< 1	< 1	< 1
1,3-DICHLOROBENZENE	< 200	NA	< 50	< 1	< 1	< 1
1,4-DICHLOROBENZENE	< 200	NA	< 50	< 1	< 1	< 1
2-BUTANONE	NA	NA	NA	NA	NA	< 5
2-HEXANONE	< 1,000	NA	< 250	< 5	< 5	< 5
4-METHYL-2-PENTANONE	< 1,000	NA	< 250	< 5	< 5	< 5
BENZENE	< 200	NA	< 50	< 1	< 1	< 1
BROMOCHLOROMETHANE	< 200	NA	< 50	< 1	< 1	< 1
BROMODICHLOROMETHANE	< 200	NA	< 50	< 1	< 1	< 1
BROMOFORM	< 200	NA	< 50	< 1	< 1	< 1
BROMOMETHANE	< 200	NA	< 50	< 1	< 1	< 1
CARBON DISULFIDE	< 200	NA	< 50	< 1	< 1	< 1
CARBON TETRACHLORIDE	* 67 J *	NA	* 50 J *	* 2 *	< 1	* 12 *
CHLOROBENZENE	< 200	NA	< 50	< 1	< 1	< 1
CHLOROETHANE	< 200	NA	< 50	< 1	< 1	< 1
CHLOROFORM	< 230	NA	* 190 J *	* 2 *	* 0.2 J *	* 5 *
CHLOROMETHANE	< 200	NA	< 50	< 1	< 1	< 1
CIS-1,2-DICHLOROETHENE	< 200	NA	* 17 J *	* 4 *	< 1	* 11 *

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TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW341F	IR28MW341F	IR28MW342F	IR28MW351F	IR28MW355F	IR28MW356F
Sample Date	11/13/2002	12/04/2002	11/12/2002	11/12/2002	12/03/2002	12/03/2002
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0246H008	0249H012	0246H003	0246H002	0249H003	0249H002
VOLATILE ORGANIC COMPOUNDS (µg/L)						
CIS-1,3-DICHLOROPROPENE	< 200	NA	< 50	< 1	< 1	< 1
DIBROMOCHLOROMETHANE	< 200	NA	< 50	< 1	< 1	< 1
DICHLORODIFLUOROMETHANE	< 200	NA	< 50	< 1	< 1	< 1
ETHYLBENZENE	< 200	NA	< 50	< 1	< 1	< 1
ISOPROPYLBENZENE	< 200	NA	< 50	< 1	< 1	< 1
METHYLENE CHLORIDE	< 400	NA	< 100	< 2	< 2	< 2
STYRENE	< 200	NA	< 50	< 1	< 1	< 1
TERT-BUTYL METHYL ETHER	< 200	NA	< 50	< 1	< 1	< 1
TETRACHLOROETHENE	< 200	NA	* 85 J *	* 0.3 J *	< 1	< 1
TOLUENE	< 200	NA	< 50	< 1	< 1	< 1
TRANS-1,2-DICHLOROETHENE	< 200	NA	< 50	< 1	< 1	< 1
TRANS-1,3-DICHLOROPROPENE	< 200	NA	< 50	< 1	< 1	< 1
TRICHLOROETHENE	* 41,000 J *	NA	* 5,100 J *	* 39 *	* 3 *	* 71 *
TRICHLOROFLUOROMETHANE	< 200	NA	< 50	* 3 *	< 1	< 1
VINYL CHLORIDE	< 200	NA	< 50	< 1	< 1	< 1
XYLENE (TOTAL)	< 200	NA	< 50	< 1	< 1	< 1
TOTAL METALS (µg/L)						
IRON	* 11 J *	NA	* 45 J *	* 19 J *	* 140 *	* 95 J *
DISSOLVED METALS (µg/L)						
ARSENIC	NA	NA	NA	< 1	< 4	< 2
IRON	* 16 J *	NA	< 9	* 12 J *	< 9	* 17 J *
MANGANESE	NA	NA	NA	* 200 *	* 5 J *	* 23 *
DISSOLVED GASES (µg/L)						
ETHANE	* 0.3 J *	NA	< 0.5	< 0.5	< 0.3	< 0.3
ETHENE	< 2	NA	< 2	< 2	< 0.4	< 0.4
HYDROGEN IN WATER	< 5	NA	< 5	< 5	< 5	< 5

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TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW341F	IR28MW341F	IR28MW342F	IR28MW351F	IR28MW355F	IR28MW356F
Sample Date	11/13/2002	12/04/2002	11/12/2002	11/12/2002	12/03/2002	12/03/2002
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0246H008	0249H012	0246H003	0246H002	0249H003	0249H002
ANIONS (µg/L)						
CHLORIDE	* 150,000 *	NA	* 160,000 *	* 2,800,000 *	* 68,000 *	* 180,000 *
NITRATE AS NITROGEN	NA	* 3,600 *	NA	NA	NA	NA
ALKALINITY (µg/L)						
ALKALINITY, TOTAL (AS CACO3)	* 140,000 *	NA	* 130,000 *	* 100,000 *	* 110,000 *	* 120,000 *

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TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support

Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW357F	IR28MW358F	IR28MW359F	IR28MW360F	IR28MW360F (DUP)	IR28MW361F
Sample Date	12/03/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0249H004	0249H013	0249H006	0249H009	0249H010	0249H008
VOLATILE ORGANIC COMPOUNDS (µg/L)						
1,1,1-TRICHLOROETHANE	< 1	< 1	< 1	< 25	< 50	< 1
1,1,2,2-TETRACHLOROETHANE	< 1	< 1	< 1	< 25	< 50	< 1
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	< 1	< 1	< 1	< 25	< 50	< 1
1,1,2-TRICHLOROETHANE	< 1	< 1	< 1	< 25	< 50	< 1
1,1-DICHLOROETHANE	< 1	< 1	< 1	< 25	< 50	< 1
1,1-DICHLOROETHENE	< 1	< 1	< 1	< 25	< 50	< 1
1,2,3-TRICHLOROBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
1,2,4-TRICHLOROBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
1,2-DIBROMO-3-CHLOROPROPANE	< 5	< 5	< 5	< 120	< 250	< 5
1,2-DIBROMOETHANE	< 1	< 1	< 1	< 25	< 50	< 1
1,2-DICHLOROBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
1,2-DICHLOROETHANE	< 1	< 1	< 1	* 53 *	* 68 *	< 1
1,2-DICHLOROPROPANE	< 1	< 1	< 1	< 25	< 50	< 1
1,3-DICHLOROBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
1,4-DICHLOROBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
2-BUTANONE	< 5	NA	NA	NA	NA	NA
2-HEXANONE	< 5	< 5	< 5	< 120	< 250	< 5
4-METHYL-2-PENTANONE	< 5	< 5	< 5	< 120	< 250	< 5
BENZENE	< 1	< 1	< 1	< 25	< 50	< 1
BROMOCHLOROMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
BROMODICHLOROMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
BROMOFORM	< 1	< 1	< 1	< 25	< 50	< 1
BROMOMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
CARBON DISULFIDE	< 1	< 1	< 1	< 25	< 50	< 1
CARBON TETRACHLORIDE	< 1	< 1	< 1	* 82 *	* 71 *	* 0.6 J *
CHLOROBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
CHLOROETHANE	< 1	< 1	< 1	< 25	< 50	< 1
CHLOROFORM	< 1	< 1	< 1	* 420 *	* 440 *	* 3 *
CHLOROMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
CIS-1,2-DICHLOROETHENE	< 1	< 1	< 1	* 320 *	* 320 *	* 0.6 J *

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TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW357F	IR28MW358F	IR28MW359F	IR28MW360F	IR28MW360F (DUP)	IR28MW361F
Sample Date	12/03/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0249H004	0249H013	0249H006	0249H009	0249H010	0249H008
VOLATILE ORGANIC COMPOUNDS (µg/L)						
CIS-1,3-DICHLOROPROPENE	< 1	< 1	< 1	< 25	< 50	< 1
DIBROMOCHLOROMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
DICHLORODIFLUOROMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
ETHYLBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
ISOPROPYLBENZENE	< 1	< 1	< 1	< 25	< 50	< 1
METHYLENE CHLORIDE	< 2	< 2	< 2	< 50	< 100	< 2
STYRENE	< 1	< 1	< 1	< 25	< 50	< 1
TERT-BUTYL METHYL ETHER	< 1	< 1	< 1	< 25	< 50	< 1
TETRACHLOROETHENE	< 1	< 1	< 1	* 140 *	* 130 *	< 1
TOLUENE	< 1	* 0.3 J *	< 1	< 25	< 50	< 1
TRANS-1,2-DICHLOROETHENE	< 1	< 1	< 1	< 25	< 50	< 1
TRANS-1,3-DICHLOROPROPENE	< 1	< 1	< 1	< 25	< 50	< 1
TRICHLOROETHENE	* 6 *	* 0.3 J *	< 1	* 7,400 *	* 6,300 *	* 1 *
TRICHLOROFLUOROMETHANE	< 1	< 1	< 1	< 25	< 50	< 1
VINYL CHLORIDE	< 1	< 1	< 1	< 25	< 50	< 1
XYLENE (TOTAL)	< 1	< 1	< 1	< 25	< 50	< 1
TOTAL METALS (µg/L)						
IRON	* 180 *	* 27 J *	* 140 *	* 38 J *	* 34 J *	* 42 J *
DISSOLVED METALS (µg/L)						
ARSENIC	< 3	< 4	NA	< 3	< 3	NA
IRON	< 9	< 9	* 46 J *	< 9	< 9	* 10 J *
MANGANESE	* 10 J *	* 4 J *	NA	* 7 J *	* 7 J *	NA
DISSOLVED GASES (µg/L)						
ETHANE	< 0.3	< 0.5	< 0.5	* 0.3 J *	NA	< 0.5
ETHENE	< 0.4	< 2	< 2	* 0.7 J *	NA	< 2
HYDROGEN IN WATER	< 5	< 5	< 5	< 5	NA	< 5

Notes to table on page 13

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW357F	IR28MW358F	IR28MW359F	IR28MW360F	IR28MW360F (DUP)	IR28MW361F
Sample Date	12/03/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sample ID	0249H004	0249H013	0249H006	0249H009	0249H010	0249H008
ANIONS (µg/L)						
CHLORIDE	* 68,000 *	* 58,000 *	* 72,000 *	* 150,000 *	NA	* 150,000 *
NITRATE AS NITROGEN	NA	NA	* 4,400 *	* 730 *	NA	* 4,400 *
ALKALINITY (µg/L)						
ALKALINITY, TOTAL (AS CACO3)	* 120,000 *	* 190,000 *	* 160,000 *	* 160,000 *	NA	* 120,000 *

Notes to table on page 13

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW932F	IR28MW933F5	IR28MW933F5 (DUP)	IR28MW933F5	IR28MW934F5
Sample Date	11/12/2002	11/13/2002	11/13/2002	12/04/2002	11/13/2002
Matrix	WATER	WATER	WATER	WATER	WATER
Sample ID	0246H004	0246H013	0246H015	0249H011	0246H012
VOLATILE ORGANIC COMPOUNDS (µg/L)					
1,1,1-TRICHLOROETHANE	< 50	< 1	< 1	NA	< 5
1,1,2,2-TETRACHLOROETHANE	< 50	< 1	< 1	NA	< 5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	< 50	< 1	< 1	NA	< 5
1,1,2-TRICHLOROETHANE	< 50	< 1	< 1	NA	< 5
1,1-DICHLOROETHANE	< 50	< 1	< 1	NA	< 5
1,1-DICHLOROETHENE	< 50	< 1	< 1	NA	< 5
1,2,3-TRICHLOROBENZENE	< 50	< 1	< 1	NA	< 5
1,2,4-TRICHLOROBENZENE	< 50	< 1	< 1	NA	< 5
1,2-DIBROMO-3-CHLOROPROPANE	< 250	< 5	< 5	NA	< 25
1,2-DIBROMOETHANE	< 50	< 1	< 1	NA	< 5
1,2-DICHLOROBENZENE	< 50	< 1	< 1	NA	< 5
1,2-DICHLOROETHANE	* 110 *	< 1	< 1	NA	< 5
1,2-DICHLOROPROPANE	< 50	< 1	< 1	NA	< 5
1,3-DICHLOROBENZENE	< 50	< 1	< 1	NA	< 5
1,4-DICHLOROBENZENE	< 50	< 1	< 1	NA	< 5
2-HEXANONE	< 250	< 5	< 5	NA	< 25
4-METHYL-2-PENTANONE	< 250	< 5	< 5	NA	< 25
BENZENE	< 50	< 1	< 1	NA	< 5
BROMOCHLOROMETHANE	< 50	< 1	< 1	NA	< 5
BROMODICHLOROMETHANE	< 50	< 1	< 1	NA	< 5
BROMOFORM	< 50	< 1	< 1	NA	< 5
BROMOMETHANE	< 50	< 1	< 1	NA	< 5
CARBON DISULFIDE	< 50	< 1	< 1	NA	< 5
CARBON TETRACHLORIDE	* 41 J *	* 4 *	* 4 *	NA	* 21 *
CHLOROBENZENE	< 50	< 1	< 1	NA	< 5
CHLOROETHANE	< 50	< 1	< 1	NA	< 5
CHLOROFORM	* 420 *	* 12 *	* 12 *	NA	* 60 *
CHLOROMETHANE	< 50	< 1	< 1	NA	< 5
CIS-1,2-DICHLOROETHENE	* 410 *	* 2 *	* 2 *	NA	* 37 *
CIS-1,3-DICHLOROPROPENE	< 50	< 1	< 1	NA	< 5

Notes to table on page 13

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW932F	IR28MW933F5	IR28MW933F5 (DUP)	IR28MW933F5	IR28MW934F5
Sample Date	11/12/2002	11/13/2002	11/13/2002	12/04/2002	11/13/2002
Matrix	WATER	WATER	WATER	WATER	WATER
Sample ID	0246H004	0246H013	0246H015	0249H011	0246H012
VOLATILE ORGANIC COMPOUNDS (µg/L)					
DIBROMOCHLOROMETHANE	< 50	< 1	< 1	NA	< 5
DICHLORODIFLUOROMETHANE	< 50	< 1	< 1	NA	< 5
ETHYLBENZENE	< 50	< 1	< 1	NA	< 5
ISOPROPYLBENZENE	< 50	< 1	< 1	NA	< 5
METHYLENE CHLORIDE	< 100	< 2	< 2	NA	< 10
STYRENE	< 50	< 1	< 1	NA	< 5
TERT-BUTYL METHYL ETHER	< 50	< 1	< 1	NA	< 5
TETRACHLOROETHENE	* 89 *	< 1	< 1	NA	< 5
TOLUENE	< 50	< 1	< 1	NA	< 5
TRANS-1,2-DICHLOROETHENE	< 50	< 1	< 1	NA	< 5
TRANS-1,3-DICHLOROPROPENE	< 50	< 1	< 1	NA	< 5
TRICHLOROETHENE	* 5,300 *	* 26 *	* 26 *	NA	* 1,100 *
TRICHLOROFLUOROMETHANE	< 50	< 1	< 1	NA	< 5
VINYL CHLORIDE	< 50	< 1	< 1	NA	< 5
XYLENE (TOTAL)	< 50	< 1	< 1	NA	< 5
TOTAL METALS (µg/L)					
IRON	* 1,300 *	* 14 J *	* 16 J *	NA	< 9
DISSOLVED METALS (µg/L)					
ARSENIC	< 8	NA	NA	NA	NA
IRON	* 1,400 *	* 14 J *	< 9	NA	< 9
MANGANESE	* 1,900 *	NA	NA	NA	NA
DISSOLVED GASES (µg/L)					
ETHANE	* 0.6 *	< 0.5	NA	NA	< 0.5
ETHENE	* 1 J *	< 2	NA	NA	< 2
HYDROGEN IN WATER	< 5	< 5	NA	NA	< 5

Notes to table on page 13

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Sample Location ID	IR28MW932F	IR28MW933F5	IR28MW933F5 (DUP)	IR28MW933F5	IR28MW934F5
Sample Date	11/12/2002	11/13/2002	11/13/2002	12/04/2002	11/13/2002
Matrix	WATER	WATER	WATER	WATER	WATER
Sample ID	0246H004	0246H013	0246H015	0249H011	0246H012
ANIONS (µg/L)					
CHLORIDE	* 120,000 *	* 280,000 *	NA	NA	* 250,000 *
NITRATE AS NITROGEN	NA	NA	NA	* 4,400 *	NA
ALKALINITY (µg/L)					
ALKALINITY, TOTAL (AS CACO3)	* 180,000 *	* 110,000 *	NA	NA	* 110,000 *

Notes to table on page 13

TABLE 2: ANALYTICAL RESULTS FOR BASELINE GROUNDWATER SAMPLES (Continued)

User Data Package 2, Parcel C Treatability Study Support
Hunters Point Shipyard, San Francisco, California

Notes: < = Chemical was analyzed for and was not detected at the associated reporting limit
J = Estimated value
NA = Not analyzed

All detected concentrations are flanked by asterisks (*).

ENCLOSURE 1
GROUNDWATER SAMPLING FORMS

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW211F

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 11/13/02

Casing Volume = 6.68 Gallons

Initial depth to water: 6.60 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 436 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1107	0	–	6.87	17.11	0.697	2.81	7.00	202.8	1.90	0
1120	1	70	7.02	17.10	0.692	1.78	6.99	196.1	1.03	0
1125	2	70	7.19	17.00	0.684	2.01	6.99	192.4	0.89	0
1150	9	480	8.02	17.30	0.684	4.39	6.94	195.3	0.74	0
1154	10	109	8.05	17.30	0.684	2.48	6.92	194.2	0.83	0
1202	11	120	8.11	17.28	0.683	2.16	6.91	190.9	0.41	0
1209	12	96	8.11	17.28	0.682	1.59	6.91	185.6	0.54	0
1217	13	96	8.12	17.29	0.682	1.29	6.91	179.6	0.58	0
1226	14	100	8.14	17.29	0.682	1.13	6.91	173.4	0.59	0
1235	15	100	8.15	17.31	0.682	1.07	6.91	168.8	0.56	0
1244	16	100	8.15	17.31	0.682	1.01	6.90	166.3	0.67	0

After sampling and, if accessible, depth to bottom: 16.85 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.23	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PER1.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0246H009 Sample Date/Time: 11/13/02 1250

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 10' bgs

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW275F

Sheet 1 of 1

Personnel: D. CHENG, H. CHENG

Day: WEDNESDAY

Date: 11/13/02

Casing Volume = Gallons

Initial depth to water: 6.45 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 0.6 ppm Background: 0 ppm

Modified micropurging. Drawdown at 280 mL/min.

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1356	0	—	7.04	16.72	0.319	4.65	6.98	198.8	1.02	0
1408	1	70	7.35	16.73	0.315	3.94	6.92	196.3	0.68	0
1417	6	280	8.41	16.73	0.320	4.40	6.88	204.6	0.70	0
1424	7	160	8.41	16.79	0.321	3.55	6.88	205.6	2.53	0
1429	8	160	8.41	16.75	0.334	4.18	6.87	114.5	2.73	0
1435	9	120	8.46	16.76	0.336	3.13	6.88	70.3	2.60	0
1442	10	120	8.40	16.78	0.340	2.86	6.88	62.1	2.33	0
1448	11	120	8.43	16.81	0.341	2.67	6.87	56.4	1.88	0
1455	12	120	8.46	16.87	0.341	2.73	6.87	59.2	1.48	0

After sampling and, if accessible, depth to bottom: 12.25 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	SOLINST 122	SOL122-23	Other Turbidimeter	DRT-15CE	TURB. 21
Pump	Geopump 2	PERI.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0246H00

Sample Date/Time: 11/13/02 1500

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 9' bgs

Method of Extraction:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Method of Sampling:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR2[redacted]MW311A

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 11/13/02

Casing Volume = N/A Gallons

Initial depth to water: 5.52 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 3.0 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1532	0	—	5.55	18.99	40.24	2.41	6.69	191.9	1.18	0
1536	1	240	5.55	19.15	40.32	0.31	6.73	172.7	0.70	0
1539	2	260	5.55	19.19	40.31	0.31	6.75	159.0	0.65	0
1542	3	300	5.55	19.24	40.23	0.31	6.74	150.4	0.51	0
1545	4	300	5.55	19.14	40.14	0.33	6.74	143.6	0.34	0
1548	5	300	5.55	19.15	40.01	0.30	6.73	137.3	0.30	0
1552	6	340	5.55	19.16	39.97	0.34	6.72	132.2	0.34	0
1555	7	340	5.55	19.14	39.95	0.33	6.72	128.3	0.25	0
1559	8	340	5.55	19.20	39.90	0.23	6.71	124.8	0.31	0

After sampling and, if accessible, depth to bottom: 19.60 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.23	Other Turbidimeter	DRT-15CE	TURB. 21
Pump	Geopump 2	PER1.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern — Off-Site Lab		Fate and Transport Data — Off-Site Lab	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0246H011

Sample Date/Time: 11/13/02 ~~1545~~ (HC) 1615

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 8' bgs.

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW341F

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 11/13/02

Casing Volume = 1.62 Gallons

Initial depth to water: 7.03 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 671 ppm Background: 0.5 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
0939	0	—	7.54	16.35	0.504	9.37	6.60	216.1	5.83	0
0952	1	70	8.08	16.75	0.831	0.52	6.95	202.6	0.92	0
1004	2	70	8.19	16.78	0.828	0.34	6.96	192.0	0.58	0
1016	6	500	9.99	17.09	0.823	0.23	6.94	182.6	1.28	0
1022	7	200	9.98	17.00	0.825	0.19	6.93	177.7	1.08	0
1028	8	200	9.99	17.02	0.824	0.17	6.93	175.2	0.89	0
1038	9	200	9.98	17.02	0.823	0.17	6.92	170.7	0.71	0

Modified Micropurging Drew down at 500 mL/min

After sampling and, if accessible, depth to bottom: 16.94 ft. below TOC

Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	Sol-122.23	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PER1.27	Other		
PID	OVM580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	
Middle (mg/L)	N/A
Bottom (mg/L)	

Sample Number: 0246H008

Sample Date/Time: 11/13/02 1035

QA/QC Sample(s)? [X] None [X] Field Dup (DC) [ ] MS/MSD

Dup. Sample Time ~~1050~~ (DC) Dup. Sample Number ~~0246H009~~ (DC)

Comments: Pump intake at 15' bgs

Method of Extraction:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Method of Sampling:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1828 MW 34 F

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 12/4/02

Casing Volume = N/A Gallons

Initial depth to water: 7.03 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 671 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1522	0	120	8.05	16.98	0.835	0.63	7.02	86.9	1.25	0
1525	0.5	120	8.47	16.98	0.836	0.29	6.97	86.2	0.98	0
1535	5	200	11.65	17.06	0.828	0.88	6.91	86.9	0.80	0
1539	6	240	11.65	17.04	0.829	0.73	6.90	87.0	2.47	0
1543	7	200	11.54	17.03	0.830	0.33	6.88	87.1	2.81	0
1546	8	200	11.58	17.03	0.831	0.28	6.87	86.9	2.05	0
1550	9	200	11.59	17.03	0.830	0.26	6.86	86.9	1.76	0

Modified low-flow at 500 ml/min

After sampling and, if accessible, depth to bottom: 16.94 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.02	Filter Apparatus	0.45 μm	N/A
Water Level Meter	Solinst 122	SOL.122.22	Other Turbidimeter	ART-150	TURB. 21
Pump	Geopump 2	PER1.29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern — Off-Site Lab		Fate and Transport Data — Off-Site Lab	
Fe (Total)	~~X~~ HC	Chloride	~~X~~
Fe (Dis.)	~~X~~	Alkalinity	~~X~~ HC
As (Dis.)		Ethane	~~X~~
Mn (Dis.)		Ethene	~~X~~
VOCs	~~X~~	Hydrogen	~~X~~
		Nitrate	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	
Middle (mg/L)	N/A
Bottom (mg/L)	

Sample Number: 0249H012

Sample Date/Time: 12/4/02 1600

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs.

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW342F

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 11/12/02

Casing Volume = 1.35 Gallons

Initial depth to water: 6.65 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 91.2 ppm Background: 0.3 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1118	0	—	6.68	17.19	0.728	2.09	7.23	132.5	14.6	0
1130	1	130	7.06	17.08	0.624	0.96	6.97	133.7	~~0.88~~ 8.8 (DO)	0
1133	Not enough recharge. Increase flow rate and attempt to purge dry.									
1158	15	700	8.63	17.09	0.666	1.64	6.77	154.9	~~1.05~~ 10.00 (HC)	0
1159	17	700	8.64	17.09	0.673	1.54	6.76	157.2	5.96	0
1201	18	700	8.64	17.10	0.667	1.48	6.77	158.2	4.33	0
1203	19	700	8.67	17.10	0.668	1.45	6.76	159.1	3.20	0
1205	21	700	8.71	17.10	0.669	1.40	6.77	159.7	3.25	0
1210	Over 3 casing volumes purged & parameters stable - ready to sample									

Pump intake lowered to bottom

After sampling and, if accessible, depth to bottom: 14.96 ft. below TOC Purged Dry? YES

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.23	Other Turbidimeter	DRT-15CE	TURB.21
Pump	~~Grundfos~~ Grundfos 2	~~Fulflo 2~~ PER1.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern	Off-Site Lab	Fate and Transport Data	Off-Site Lab
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0246H003 Sample Date/Time: 11/12/02 1210

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 10' bgs.

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW35(F

Sheet 1 of 2

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 11/12/02

Casing Volume = N/A Gallons

Initial depth to water: 6.88 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 1.0 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
0937	0	500	6.86	16.88	5.084	3.45	6.79	235.3	21.9	1.0
0940	1	400	7.01	17.35	7.085	1.32	6.84	179.1	23.7	1.0
0945	2	125	7.04	17.36	7.033	1.07	7.01	126.0	23.5	0.3
0951	3	333	7.05	17.31	6.771	0.52	7.04	105.1	16.1	0.3
0954	4	250	~~6.97~~ 6.96	17.33	6.725	0.46	7.03	97.8	12.1	0.3
1000	5	400	6.99	17.37	6.642	0.41	7.02	89.5	8.0	0.3
1003	6	333	7.01	17.35	6.601	0.41	7.01	90.8	6.7	0.3
1006	7	500	7.20	17.42	6.548	0.35	7.02	86.7	3.9	0.3
1008	8	333	7.28	17.58	6.535	0.37	7.02	84.3	3.0	0.3
1012	9	333	7.15	17.85	5.820	0.21	7.03	80.3	2.0	0.3
1014	10	333	7.15	17.85	5.775	0.22	7.08	80.9	1.1	0.3

After sampling and, if accessible, depth to bottom: 61.04 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	Sol.122.23	Other Turbidimeter	DRT-15CE	TURB. 21
Pump	Fultz	Fultz.04	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen
Top (mg/L)
Middle (mg/L) N/A
Bottom (mg/L)

Sample Number: 0246H002

Sample Date/Time: 11/12/02 ~~1045~~ 1025

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 55' bgs

Method of Extraction:
[X] Submersible Pump
[ ] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[X] Submersible Pump
[ ] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW351F

Sheet 2 of 2

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 11/12/02

Casing Volume = N/A Gallons

Initial depth to water: 6.88 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 1.0 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
0916	11	333	7.13	17.80	5.89	0.19	7.08	82.3	1.0	0.3

After sampling and, if accessible, depth to bottom: 61.04 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter			Filter Apparatus		
Water Level Meter			Other		
Pump			Other		
PID			Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern	Off-Site Lab	Fate and Transport Data	Off-Site Lab	Field Test Kit Analyses	Unfiltered	Filtered
Fe (Total)		Chloride		Fe^{2+} (mg/L)		
Fe (Dis.)		Alkalinity		Mn^{2+} (mg/L)		
As (Dis.)		Ethane		Filter where turbidity > 50 NTU.		
Mn (Dis.)		Ethene		Downhole Dissolved Oxygen		
VOCs		Hydrogen		Top (mg/L)		
				Middle (mg/L)		
				Bottom (mg/L)		

Sample Number: _____ Sample Date/Time: _____

QA/QC Sample(s)? ☐ None ☐ Field Dup ☐ MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: _____

Method of Extraction:
☐ Submersible Pump
☐ Peristaltic Pump
☐ Disposable Bailer

Method of Sampling:
☐ Submersible Pump
☐ Peristaltic Pump
☐ Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: ~~IR28MW355F~~ IR28MW355F

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 12/3/02

Sheet 1 of 1

Casing Volume = N/A Gallons

Initial depth to water: 7.42 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: Ø ppm Background: Ø ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1300	Ø	—	7.65	16.93	Ø.568	5.46	7.22	93.Ø	5.2Ø	Ø
1312	1	1ØØ	7.83	16.92	Ø.567	4.57	7.17	96.3	5.53	Ø
1318	1.5	4ØØ	7.96	16.94	Ø.567	4.71	7.18	96.8	5.15	Ø
1328	6.Ø	13Ø	9.Ø1	17.23	Ø.561	4.64	7.15	97.2	5.39	Ø
1335	7.Ø	95	9.1Ø	17.15	Ø.56Ø	4.46	7.14	97.7	5.27	Ø
1344	8.Ø	8Ø	9.21	17.18	Ø.56Ø	4.6Ø	7.15	98.1	4.64	Ø

Modified micropurge at 400 ml/min

After sampling and, if accessible, depth to bottom: 2Ø.42 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.Ø2	Filter Apparatus	Ø.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.22	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PERI.29	Other		
PID	OVM 58ØB	OVM.1Ø	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	
Middle (mg/L)	N/A
Bottom (mg/L)	

Sample Number: Ø24HØØ3

Sample Date/Time: 12/3/Ø2 135Ø

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: ~~1R28MW355F~~ 1R28MW356F (RC)

Sheet 1 of 1

Personnel: D CHENG, H CHENG

Day: TUESDAY

Date: 12/31/02

Casing Volume = N/A Gallons

Initial depth to water: 7.42 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: Ø ppm Background: Ø ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1037	0	160	7.64	16.44	0.898	5.19	6.63	186.5	4.05	Ø
BEGIN MOD. LOW FLOW → 1043	0.5	80	7.71	16.50	0.845	3.61	6.54	170.1	3.16	Ø
1045	1.0	400	8.07	16.81	0.824	5.65	6.52	161.1	3.06	Ø
1058	7.Ø	2ØØ	9.12	17.31	Ø.8Ø6	4.38	6.5Ø	131.9	3.33	Ø
11Ø2	8.Ø	2ØØ	9.18	17.23	Ø.8Ø7	3.63	6.49	128.2	2.88	Ø
11Ø3	9.Ø	15Ø	9.21	17.16	Ø.815	4.23	6.51	123.7	2.99	Ø
1114	1Ø.Ø	14Ø	9.25	17.08	Ø.823	3.4Ø	6.53	12Ø.5	2.43	Ø
112Ø	11.Ø	14Ø	9.27	17.Ø9	Ø.827	3.5Ø	6.56	117.6	2.34	Ø
1125	12.Ø	14Ø	9.28	17.Ø2	Ø.83Ø	3.59	6.57	115.8	2.61	Ø

After sampling and, if accessible, depth to bottom: 2Ø.4Ø ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.Ø2	Filter Apparatus	Ø.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.22	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PER1.29	Other		
PID	OVM 58ØB	OVM.1Ø	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X
		~~Nitrate~~	~~X~~ (RC)

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: Ø249HØØ2

Sample Date/Time: 12/3/02 1140

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15 ft BGS

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW357F

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 12/3/02

Casing Volume = N/A Gallons

Initial depth to water: 6.93 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 1.6 ppm Background: 0 ppm

modified Micropurge at 500 mL/min

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1425 ~~0445~~	0	–	6.99 ~~6.99~~	17.18 ~~16.99~~	~~0.507~~ ~~0.001~~	4.32 ~~10.32~~	7.00	98.8	11.7	0
1435	1.0	110	7.19	17.23	0.508	4.05	6.83	99.1	12.1	0
1440	1.5	~~120~~ 500	7.29	17.26	0.508	4.11	6.80	99.1	10.3	0
1448	5.0	160	8.07	17.35	0.509	4.77	6.74	98.2	11.9	0
1454	6.0	160	8.08	17.32	0.510	4.13	6.73	98.8	9.8	0
1459	7.0	160	8.11	17.31	0.511	5.74	6.73	98.3	9.6	0
1504	8.0	160	8.15	17.31	0.518	4.20	6.75	98.0	9.5	0
1509	9.0	160	8.18	17.31	0.519	4.26	6.75	97.5	9.3	0
1514	10.0	160	8.21	17.31	0.528	4.30	6.75	97.3	9.1	0

After sampling and, if accessible, depth to bottom: 20.24 ft. below TOC Purged Dry? No

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556. 02	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.22	Other Turbidimeter	DRT-15CE	TURB. 21
Pump	Geopump 2	PERI. 29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X
		~~Nitrate~~	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0249H004

Sample Date/Time: 12/3/02 1525

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs.

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW358F

Sheet 1 of 1

Personnel: D. CHENG, H. CHENG

Day: TUESDAY

Date: 12/3/02

Casing Volume = 8.63 Gallons

Initial depth to water: 7.18 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: Ø ppm Background: Ø ppm

Groundwater Parameters

	Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
MODIFIED LOW FLOW → DRAWDOWN AT 580 mL/min	1549	Ø	15Ø	7.39	17.16	Ø.724	5.6Ø	7.36	89.3	2.58	Ø
	1554	1	12Ø	7.74	17.19	Ø.725	4.61	7.47	88.6	Ø.54	Ø
	161Ø	6	16Ø	9.42	17.27	Ø.722	5.6Ø	7.52	89.Ø	1.46	Ø
	1616	7	96	9.57	17.24	Ø.721	4.13	7.53	88.8	Ø.66	Ø
	1627	8	8Ø	9.76	17.13	Ø.723	3.96	7.53	88.4	Ø.67	Ø
EXCESSIVE DRAWDOWN → PURGE DRY AT 100D mL/min	1634	8.5	8Ø	9.85	17.12	Ø.723	3.84	7.53	88.3	1.70	Ø
	1837	PURGED DRY									
	AFTER 80% RECHARGE:										
12/4	162Ø	—	1ØØ	9.70	17.Ø1	Ø.68Ø	4.29	7.3Ø	85.5	Ø.96	Ø

After sampling and, if accessible, depth to bottom: 2Ø.41 ft. below TOC Purged Dry? Y

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.Ø2	Filter Apparatus	Ø.45 μm	N/A
Water Level Meter	SOLINST 122	SOL122.22	Other TURBIDIMETER	DET-15CE	TURB.21
Pump	GEOPUMP 2	PER1.29	Other		
PID	OVM 580B	OVM.1Ø	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern — Off-Site Lab		Fate and Transport Data — Off-Site Lab	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: Ø249HØ13 Sample Date/Time: 12/4/Ø2 163Ø

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: PUMP INTAKE AT 15' BGS
PURGED DRY

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW359F

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 12/4/02

Sheet 1 of 1

Casing Volume = N/A Gallons

Initial depth to water: 6.99 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 1.6 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
0917	0	80	7.26	16.56	0.764	4.85	6.76	152.0	1.83	0
0930	1	80	7.57	16.60	0.695	3.51	6.82	123.7	1.17	0
0949	7	96	9.33	17.20	0.659	4.62	6.89	110.1	1.23	0
1002	8	80	9.42	16.67	0.661	3.70	6.85	106.4	1.15	0
1009	8.5	80	9.50	16.72	0.662	3.78	6.86	103.6	1.22	0
1016	9	80	9.52	16.59	0.663	3.86	6.87	102.1	1.68	0

MODIFIED LOW-FLOW → AT 500 mL/min

After sampling and, if accessible, depth to bottom: 20.42 ft. below TOC Purged Dry? No

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.02	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	Sol.122.22	Other Turbidimeter	DRT-100B	TURB.21
Pump	Geopump 2	PERI.29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern — Off-Site Lab

Fe (Total)	X
Fe (Dis.)	X
As (Dis.)	
Mn (Dis.)	
VOCs	X

Fate and Transport Data — Off-Site Lab

Chloride	X
Alkalinity	X
Ethane	X
Ethene	X
Hydrogen	X
Nitrate	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0249H006

Sample Date/Time: 12/4/02 1030

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs

Method of Extraction:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Method of Sampling:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW360F

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 12/4/02

Sheet 1 of 1

Casing Volume = N/A Gallons

Initial depth to water: 6.85 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 33.1 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1215	0	120	6.91	16.16	0.842	2.02	7.05	94.1	2.58	0
1222	1	130	6.95	16.32	0.837	1.88	7.02	92.3	1.58	0
1227	2	120	6.97	16.45	0.833	1.69	6.98	91.9	1.44	0
1234	3	130	6.97	16.40	0.831	1.36	6.94	92.2	1.03	0
1241	4	160	6.98	16.49	0.830	1.62	6.92	91.8	2.06	0
1247	5	160	6.98	16.49	0.830	1.45	6.92	91.5	1.65	0
1253	6	160	7.00	16.42	0.831	1.33	6.91	91.5	0.94	0
1259	7	160	7.00	16.43	0.830	1.47	6.91	91.5	1.25	0
1304	8	160	7.00	16.52	0.831	1.60	6.91	91.1	1.27	0
1309	9	160	7.01	16.67	0.831	1.67	6.91	90.6	1.37	0

After sampling and, if accessible, depth to bottom: 20.41 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.02	Filter Apparatus	0.45 μm	N/A
Water Level Meter	Solinst 122	SOL122.22	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PERI.29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X
		Nitrate	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0249H009 Sample Date/Time: 12/3/02 1815

QA/QC Sample(s)? [ ] None [X] Field Dup [ ] MS/MSD

Dup. Sample Time 1325 Dup. Sample Number 0249H010

Comments: Pump intake at 15' bgs.

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW3UF

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 12/4/02

Casing Volume = N/A Gallons

Initial depth to water: 7.08 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 1.6 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1100	0.5	120	7.41	16.75	0.774	3.77	7.11	97.1	0.87	0
1105	1.0	100	7.62	16.87	0.774	3.35	7.00	97.9	1.76	0
1113	2.0	100	7.76	16.88	0.774	3.21	6.92	97.8	1.42	0
1127	9.0	100	9.12	17.26	0.773	3.31	6.81	97.7	0.99	0
1130	9.5	160	9.12	17.14	0.781	3.25	6.81	97.9	1.18	0
1133	10.0	160	9.11	17.12	0.785	3.40	6.80	97.6	0.94	0

MODIFIED LOW FLOW → DRAWDOWN AT 500 mL/min

After sampling and, if accessible, depth to bottom: 24.39 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556 02	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	Sol122.22	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PERI.29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X
		Nitrate	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	
Middle (mg/L)	N/A
Bottom (mg/L)	

Sample Number: 0249400 8

Sample Date/Time: 12/4/02 1145

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs

Method of Extraction:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Method of Sampling:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW932F

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 11/12/02

Casing Volume = N/A Gallons

Initial depth to water: 6.79 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 329 ppm Background: 1.0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1455	0	—	7.31	17.34	0.651	1.99	7.11	-11.9	7.98	0
1502	1	120	7.31	17.21	0.654	0.28	7.09	-40.6	2.76	0
1508	2	160	7.41	17.11	0.655	0.25	7.09	-65.9	0.90	0
1513	3	160	7.42	17.09	0.655	0.17	7.08	-76.4	0.73	0
1521	4	160	7.39	17.08	0.656	0.15	7.08	-77.9	1.08	0
1527	5	160	7.41	17.06	0.657	0.14	7.07	-81.2	1.88	0
1532	6	120	7.52	17.04	0.657	0.15	7.07	-84.8	0.42	0
1537	7	120	7.56	17.01	0.656	0.12	7.06	-88.2	1.12	0
1541	8	120	7.49	17.00	0.655	0.13	7.06	-87.6	2.61	0

After sampling and, if accessible, depth to bottom: 30.55 ft. below TOC Purged Dry? No

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µM	N/A
Water Level Meter	Solinst 122	Sol 22.23	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2 ~~Grundfos~~	FGR1.27 ~~GRUNFOS-04~~	Other		
PID	OVM580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern — Off-Site Lab		Fate and Transport Data — Off-Site Lab	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	
Middle (mg/L)	N/A
Bottom (mg/L)	

Sample Number: 02WH004 Sample Date/Time: 11/12/02 1545

QA/QC Sample(s)? ☐ None ☐ Field Dup ☒ MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 28.5' bgs
MS/MSD for all VOCs except Ethane/Ethene + Alkalinity

Method of Extraction:
☐ Submersible Pump
☒ Peristaltic Pump
☐ Disposable Bailer

Method of Sampling:
☐ Submersible Pump
☒ Peristaltic Pump
☐ Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: IR28MW933P5

Sheet 1 of 1

Personnel: H CHENG, D CHENG

Day: WEDNESDAY

Date: 11/13/02

Casing Volume = N/A Gallons

Initial depth to water: — ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 0 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1848	0	—	—	17.26	1.185	1.74	6.82	154.2	48.3	0
1852	1	160	—	17.21	1.196	0.58	6.82	143.4	14.7	0
1901	2	160	—	17.12	1.211	0.46	6.81	123.9	5.69	0
1912	3	160	—	17.09	1.208	0.48	6.80	112.8	1.81	0
1918	4	160	—	17.06	1.205	0.46	6.79	107.3	2.65	0
1926	5	160	—	17.04	1.201	0.51	6.77	103.6	0.84	0
1934	6	160	—	17.04	1.197	0.55	6.76	102.1	1.12	0
1941	7	160	—	17.03	1.195	0.57	6.76	101.7	0.56	0
1950	8	160	—	17.12	1.191	0.56	6.74	101.2	0.23	0

After sampling and, if accessible, depth to bottom: — ft. below TOC Purged Dry? No

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter			Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PER1.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern — Off-Site Lab		Fate and Transport Data — Off-Site Lab	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0246013

Sample Date/Time: 11/13/02 1955

QA/QC Sample(s)? [X] None [X] Field Dup [ ] MS/MSD

Dup. Sample Time 2015 Dup. Sample Number 0246015

Comments: Pump intake at 29.4' bgs. DTW could not be measured because well chamber is ~7/8" (too small for water level meter)

Method of Extraction: [ ] Submersible Pump [X] Peristaltic Pump [ ] Disposable Bailer

Method of Sampling: [ ] Submersible Pump [X] Peristaltic Pump [ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW[illegible]35PS

Sheet 1 of 1

Personnel: H. [illegible], D. Chenda

Day: WEDNESDAY

Date: 12/3/02

Casing Volume = N/A Gallons

Initial depth to water: ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 0 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1400	0	150	N/A ~~[illegible]~~	16.70 ~~1.189~~	1.192	~~6.46~~	6.94	92.0	3.46	0
1406	1	150	N/A	16.92	1.209	0.48	6.84	91.3	0.93	0
1412	2	150	N/A	16.99	1.224	0.39	6.80	90.9	0.34	0
1418	3	150	N/A	17.00	1.229	0.44	6.78	90.5	0.98	0
1425	4	150	N/A	17.03	1.228	0.54	6.76	89.9	0.53	0
1433	5	150	N/A	17.04	1.225	0.58	6.75	89.6	0.62	0
1439	6	150	N/A	17.05	1.224	0.61	6.74	89.5	0.18	0
1446	7	150	N/A	17.05	1.222	0.56	6.73	89.3	0.58	0
1453	8	150	N/A	17.05	1.221	0.63	6.72	89.1	0.77	0

After sampling and, if accessible, depth to bottom: N/A ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.02	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.22	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PERI.29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern	Off-Site Lab	Fate and Transport Data	Off-Site Lab	Field Test Kit Analyses	Unfiltered	Filtered
Fe (Total)		Chloride		Fe^{2+} (mg/L)	N/A	N/A
Fe (Dis.)		Alkalinity		Mn^{2+} (mg/L)		
As (Dis.)		Ethane		Filter where turbidity > 50 NTU.		
Mn (Dis.)		Ethene		Downhole Dissolved Oxygen		
VOCs		Hydrogen		Top (mg/L)		
		Nitrate	X	Middle (mg/L)	N/A	
				Bottom (mg/L)		

Sample Number: 0249H011

Sample Date/Time: 12/4/02 1455

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: pump intake at 29.4' bgs.

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28MW934F5

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 11/13/02

Casing Volume = N/A Gallons

Initial depth to water: — ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: Ø ppm Background: Ø ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1650	Ø	—	—	17.16	1.798	1.29	7.18	91.4	13.Ø	Ø
1656	1	15Ø	—	17.13	1.34Ø	Ø.25	7.1Ø	9Ø.3	Ø.71	Ø
17Ø3	2	15Ø	—	17.Ø7	1.224	Ø.23	7.Ø7	89.Ø	1.35	Ø
17Ø9	3	15Ø	—	17.Ø3	1.187	Ø.18	7.Ø1	87.4	Ø.45	Ø
1714	4	15Ø	—	17.ØØ	1.173	Ø.19	6.95	83.6	Ø.20	Ø
1721	5	15Ø	—	16.98	1.162	Ø.19	6.9Ø	81.4	Ø.19	Ø
1728	6	15Ø	—	16.99	1.157	Ø.17	6.87	80.1	Ø.19	Ø
1735	7	15Ø	—	16.99	1.156	Ø.26	6.83	79.6	Ø.42	Ø
1743	8	15Ø	—	16.99	1.154	Ø.26	6.81	79.4	Ø.24	Ø

After sampling and, if accessible, depth to bottom: — ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	Ø.45 µm	N/A
Water Level Meter			Other Turbidimeter	DRT-15CE	TURB. 21
Pump	Geopump 2	PERI. 27	Other		
PID	OVM 584B	OVM. 47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data (Off-Site Lab)	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: Ø246HØ12

Sample Date/Time: 11/13/02 1745

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 29.4' bgs. DTW could not be measured because well chamber is ~ 7/8" (too small for water level meter)

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28IW938F

Sheet 1 of 1

Personnel: H. Cheng, D. Cheng

Day: Tuesday

Date: 11/12/02

Casing Volume = N/A Gallons

Initial depth to water: 6.86 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 321 ppm Background: 0.3 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1808	0	—	6.98	17.37	0.766	1.09	6.76	83.9	19.1	0
1813	1	150	7.07	17.23	0.767	0.34	6.68	66.8	9.1	0
1818	2	120	7.18	17.22	0.767	0.18	6.66	62.8	6.8	0
1829	3	110	7.28	17.22	0.767	0.17	6.66	64.1	4.4	0
1840	4	90	7.37	17.30	0.765	0.18	6.65	63.8	4.8	0
1842	Attempt modified micropurge									0 (HR)
1904	16	250	8.63	17.23	0.761	0.06	6.62	62.7	1.70	0
1908	18	160	8.68	17.24	0.761	0.05	6.62	62.3	2.19	0
1913	19	160	8.68	17.26	0.761	0.07	6.63	61.0	1.97	0
1919	20	160	8.68	17.23	0.761	0.09	6.63	58.9	1.55	0

After sampling and, if accessible, depth to bottom: 20.33 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI 556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL 122.23	Other Turbidimeter	HET-ISCE	TURB.21
Pump	Geopump 2	Pump.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data: Off-Site Lab		Field Test Kit Analyses	Unfiltered	Filtered
Fe (Total)	X	Chloride	X	Fe^{2+} (mg/L)	N/A	N/A
Fe (Dis.)	X	Alkalinity	X	Mn^{2+} (mg/L)		
As (Dis.)	X	Ethane	X	Filter where turbidity > 50 NTU.		
Mn (Dis.)	X	Ethene	X	Downhole Dissolved Oxygen		
VOCs	X	Hydrogen	X	Top (mg/L)	N/A	
				Middle (mg/L)		
				Bottom (mg/L)		

Sample Number: 0246H006

Sample Date/Time: 11/12/02 1930

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs

Method of Extraction:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Method of Sampling:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: 1R28IW93AF

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: TUESDAY

Date: 11/12/02

Casing Volume = N/A Gallons

Initial depth to water: 6.86 ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 188.7 ppm Background: 1.0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1642	0	—	7.09	17.09	0.828	0.90	7.23	78.2	16.02	0
1645	1	250	7.16	17.07	0.833	0.30	7.15	65.0	13.15	0
1648	2	250	7.18	17.09	0.834	0.22	7.14	50.2	6.95	0
1656	3	120	7.18	17.13	0.835	0.17	7.13	40.6	3.99	0
1703	4	150	7.19	17.12	0.835	0.16	7.13	39.0	3.80	0
1709	5	150	7.20	17.11	0.835	0.14	7.12	38.4	4.69	0
1717	6	120	7.20	17.11	0.834	0.14	7.11	38.6	2.06	0
1724	7	120	7.20	17.09	0.834	0.14	7.11	40.3	2.07	0
1730	8	120	7.20	17.09	0.833	0.13	7.11	38.8	2.13	0

After sampling and, if accessible, depth to bottom: 20.56 ft. below TOC Purged Dry? NO

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.27	Filter Apparatus	0.45 µm	N/A
Water Level Meter	Solinst 122	SOL122.23	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PERI.27	Other		
PID	OVM 580B	OVM.47	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern (Off-Site Lab)		Fate and Transport Data: Off-Site Lab	
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)	X	Ethane	X
Mn (Dis.)	X	Ethene	X
VOCs	X	Hydrogen	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU

Downhole Dissolved Oxygen

Top (mg/L)	N/A
Middle (mg/L)	
Bottom (mg/L)	

Sample Number: 0246H005

Sample Date/Time: 11/12/02 1730

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: Pump intake at 15' bgs

Method of Extraction:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Method of Sampling:
[ ] Submersible Pump
[X] Peristaltic Pump
[ ] Disposable Bailer

Revised 10/31/02

TETRA TECH INC.
MONITORING WELL SAMPLING SHEET

Well No.: F2

Sheet 1 of 1

Personnel: H. CHENG, D. CHENG

Day: WEDNESDAY

Date: 12/4/02

Casing Volume = N/A Gallons

Initial depth to water: N/A ft. below top of casing

[casing volume = water column height (ft) x 0.03 gal/ft (0.75-inch well) or 0.163 gal/ft (2-inch well) or 0.652 gal/ft (4-inch well)]

Organic Vapor Concentrations
Top of Casing: 0.3 ppm Background: 0 ppm

Groundwater Parameters

Time	Cumulative Volume Purged (L)	Discharge Rate (mL/min)	Depth to water (ft. below TOC)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	PID/OVM (ppm)
1650	—	—	—	16.52	0.688	4.57	7.32	88.5	43.3	0
	GRAB GROUNDWATER SAMPLE COLLECTED									
	PARAMETER READINGS NOT TAKEN THROUGH FLOW-CELL									

After sampling and, if accessible, depth to bottom: ~14 ft. below ~~TOC~~ GS Purged Dry? Y

Field Measurement Equipment Used

Equipment	Model	Serial Number	Equipment	Model	Serial Number
Water Quality Meter	YSI 556	YSI-556.02	Filter Apparatus	0.45 mm	N/A
Water Level Meter	Solinst 122	SOL122.22	Other Turbidimeter	DRT-15CE	TURB.21
Pump	Geopump 2	PERI.29	Other		
PID	OVM 580B	OVM.10	Other		

Groundwater Samples Collected (check all that apply)

Analytes of Concern	Off-Site Lab	Fate and Transport Data	Off-Site Lab
Fe (Total)	X	Chloride	X
Fe (Dis.)	X	Alkalinity	X
As (Dis.)		Ethane	X
Mn (Dis.)		Ethene	X
VOCs	X	Hydrogen	X
		Nitrate	X

Field Test Kit Analyses

	Unfiltered	Filtered
Fe^{2+} (mg/L)	N/A	N/A
Mn^{2+} (mg/L)		

Filter where turbidity > 50 NTU.

Downhole Dissolved Oxygen

Top (mg/L)	
Middle (mg/L)	N/A
Bottom (mg/L)	

Sample Number: 0249H015

Sample Date/Time: 12/4/02 1650

QA/QC Sample(s)? [X] None [ ] Field Dup [ ] MS/MSD

Dup. Sample Time _____ Dup. Sample Number _____

Comments: GRAB GROUNDWATER SAMPLE

Method of Extraction:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Method of Sampling:
- [ ] Submersible Pump
- [X] Peristaltic Pump
- [ ] Disposable Bailer

Revised 10/31/02

ENCLOSURE 2
CHAIN-OF-CUSTODY FORMS

Tetra Tech EM Inc.
San Francisco Office
135 Main St. Suite 1800
San Francisco, CA 94105
415-543-4880
Fax 415-543-5480

Chain of Custody Record No. 5493

5493

Lab PO#:	Lab:
Φ22277	Columbia

Project name:	TtEMI technical contact:	Field samplers:
Ferox Injection Tech. Dem.	Deb Kutsal	Hwakung Cheng

Project (CTO) number:	TtEMI project manager:	Field samplers' signatures:
G9Φ1ΦΦ13Φ3Φ7Φ2Φ8Φ2	John McCall	Hwa Kung Cheng

Preservative Added: HCl; HNO3; HNO3; —; HCl; —

Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	MS / MSD	40 ml VOA	1 liter Amber	500 ml Poly	Sleeve	Glass Jar	VOA	SVOA	Pest/PCBs	Metals	TPH Purgeables	TPH Extractables	Total Iron	Dissolved Fe/As/Mn	Chloride/Alkalinity	Ethane/Ethene	Dissolved Hydrocarbons	Dissolved Fe
Φ246HΦΦ1	Trip blank	11/12/Φ2	1ΦΦΦ	WATER		2	—	—	—	—	X	—	—	—	—	—	—	—	—	—	—	—
~~Φ246HΦΦ2~~	~~IR28MW351F~~		~~1Φ25~~			~~7~~	~~—~~	~~3~~	—	—	~~X~~	—	—	—	—	—	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	—
Φ246HΦΦ2	IR28MW351F		1Φ25			7	—	3	—	—	X	—	—	—	—	—	X	X	X	X	X	—
Φ246HΦΦ3	IR28MW342F		121Φ			7	—	3	—	—	X	—	—	—	—	—	X	—	X	X	X	X
Φ246HΦΦ4	IR28MW932F		1545		X	12	—	6	—	—	X	—	—	—	—	—	X	X	X	X	X	—
Φ246HΦΦ5	IR28MW939F		12[illegible]			7	—	3	—	—	X	—	—	—	—	—	X	X	X	X	X	—
Φ246HΦΦ6	IR28MW938F		14[illegible]			7	—	3	—	—	X	—	—	—	—	—	X	X	X	X	X	—
~~Φ246HΦΦ7~~	~~Equipment rinsate~~		~~2ΦΦΦ~~			~~3~~	~~—~~	~~2~~	—	—	~~X~~	—	—	—	—	—	~~X~~	~~X~~	—	—	—	—
Φ246HΦΦ8	IR28MW341F	11/15/Φ2	1Φ35			7	—	3	—	—	X	—	—	—	—	—	X	—	X	X	X	X
Φ246HΦΦ9	IR28MW21F		125Φ			7	—	3	—	—	X	—	—	—	—	—	X	—	X	X	X	X
Φ246HΦ1Φ	IR28MW275F		15ΦΦ			7	—	3	—	—	X	—	—	—	—	—	X	—	X	X	X	X
Φ246HΦ11	IR28MW311A		1615			7	—	3	—	—	X	—	—	—	—	—	X	—	X	X	X	X

	Name (print)	Company Name	Date	Time
Relinquished by: Hwa Kung Cheng	Hwakung Cheng	TtEMI	11/14/Φ2	13ΦΦ
Received by: Fed EX				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Turnaround time/remarks:

Sample Φ246HΦΦ4 – MS/MSD for all cuxs except ethane/ethene and alkalinity

Dissolved metals field filtered

Fed Ex #: 8368 9469 4822

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Tetra Tech EM Inc.
San Francisco Office
135 Main St. Suite 1800
San Francisco, CA 94105
415-543-4880
Fax 415-543-5480

Chain of Custody Record No. 3629

3629

Lab PO#:	Lab:
Ø22277	Columbia

Project name:	TtEMI technical contact:	Field samplers:
G9Ø16ØØ13Ø3Ø7Ø24ØØ2	Dr. Kunsal	Hwakong Cheng

Project (CTO) number:	TtEMI project manager:	Field samplers' signatures:
Ferox Injection Tech. Dem.	John McCall	H. Cheng

Preservative Added: HCl, HCl, HNO3, HNO3, HNO3

No./Container Types: 40 ml VOA, 1 liter Amber, 500 ml Poly, Sleeve, Glass Jar

Analysis Required: VOC, SVOA, Pest/PCBs, Metals, TPH Purgeables, TPH Extractables, Ethane/Ethene, Dissolved Hydrogen, Total Iron, Dissolved Iron, Chloride/Alkalinity, Dissolved As/Mn

Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	MS / MSD	40 ml VOA	1 liter Amber	500 ml Poly	Sleeve	Glass Jar	VOC	SVOA	Pest/PCBs	Metals	TPH Purgeables	TPH Extractables	Ethane/Ethene	Dissolved Hydrogen	Total Iron	Dissolved Iron	Chloride/Alkalinity	Dissolved As/Mn
Ø246HØ12	1R28MW934F5	11/13/Ø2	1745	WATER		7	–	3			X						X	X	X	X	X	
~~Ø246HØ14~~	~~Equipment Rinsate~~		~~1800~~			~~3~~	~~–~~	~~2~~			~~X~~								~~X~~	~~X~~		
Ø246HØ13	1R28MW933F5		1955			7	–	3			X						X	X	X	X	X	
Ø246HØ15	Dup of 1R28MW933F5		2Ø15			3	–	2			X								X	X		
Ø246HØ14	Equipment Rinsate		18ØØ			3	–	1			X								X			
Ø246HØØ7	Equipment Rinsate	11/12/Ø2	21ØØ			3	–	1			X								X		X	

	Name (print)	Company Name	Date	Time
Relinquished by: H. Cheng	Hwakong Cheng	TtEMI	11/14/Ø2	13ØØ
Received by: Fed Ex				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Turnaround time/remarks:

Sample Ø246HØ13 – Include ethane/ethene
Dissolved metals field filtered

Sample Ø246HØØ7 – Include dissolved As/Mn

Fed Ex #: 8368 9469 4822

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Tetra Tech EM Inc.
San Francisco Office

135 Main St. Suite 1800
San Francisco. CA 94105
415-543-4880
Fax 415-543-5480

Chain of Custody Record No. 4371

4371

Lab PO#:	022277
Lab:	Columbia
Project name:	FEROX Injection Tech. Demo.
TtEMI technical contact:	Dr. Kueser
Field samplers:	H. Cheng
Project (CTO) number:	G9016.013070208002
TtEMI project manager:	John McCall
Field samplers' signatures:	H. Cheng

Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	MS / MSD	40 ml VOA	1 liter Amber	500 ml Poly	Sleeve	Glass Jar	VOA	SVOA	Pest/PCBs	Metals	TPH Purgeables	TPH Extractables	Total Iron	Diss. Fe/As/Mn	Chloride/Alkalinity	Ethane/Ethene	Diss. hydrogen
0249H001	Trip blank	12/3/02	1000	WATER		2					X										
0249H002	IR28MW ~~355F~~ (HO) 1/16 356F		1140			5	–	3			X						X	X	X	X	X
0249H003	IR28MW ~~356F~~ (HO) 1/16 355F		1350			5	–	3			X						X	X	X	X	X
0249H004	IR28MW357F		1525			5	–	3			X						X	X	X	X	X

DR

	Name (print)	Company Name	Date	Time
Relinquished by: H. Cheng	Hsiao-ming Cheng	TtEMI	12/3/02	1900
Received by: FedEx				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Turnaround time/remarks:

Fed Ex #: 8368 9469 4720

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Tetra Tech EM Inc.
San Francisco Office
135 Main St. Suite 1800
San Francisco, CA 94105
415-543-4880
Fax 415-543-5480

Chain of Custody Record No. 4373

4373

Lab PO#:	Lab:
Φ22777	Columbia

Project name:	TtEMI technical contact:	Field samplers:
Ferox Injection Tech. Demo.	Dr. Kunsal	Hwakong Chang

Project (CTO) number:	TtEMI project manager:	Field samplers' signatures:
G9ΦΙΙΦ13Φ3Φ7Φ2Φ8Φ2	John McCall	[signature]

Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	MS / MSD	40 ml VOA	1 liter Amber	500 ml Poly	Sleeve	Glass Jar	1 L Poly	250 ml Poly	VOA	SVOA	Pest/PCBs	Metals	TPH Purgeables	TPH Extractables	Diss. As / Mn	Total Iron	Ethane / Ethene	Diss. Hydrogen	Diss. Iron	Chloride / Alkalinity	Nitrate			
Φ249HΦΦ5	Equipment Rinsate	12/3/Φ2	19ΦΦ	WATER		3	–	2					X						X	X								
Φ249HΦΦ6	IR28MW359F	12/4/Φ2	1Φ3Φ			5	–	3					X							X	X	X	X	X	X			
Φ249HΦΦ7	Trip blank		11ΦΦ			2							X															
Φ249HΦΦ8	IR28MW36ΦF		1145			5	–	3					X							X	X	X	X	X	X			
Φ249HΦΦ9	IR28MW36ΦF		1315			5	–	3					X						X	X	X	X	X	X	X			
Φ249HΦ1Φ	IR28MW36ΦF duplicate		1325			3	–	2					X						X	X			X					
Φ249HΦ11	IR28MW33F5		1455								1														X			
~~Φ249HΦ12~~	~~IR28MW34IF~~		~~1600~~								1														X			
Φ249HΦ12	IR28MW341F		1600									1													X			
Φ249HΦ13	IR28MW359F		1630			5	–	3					X						X	X	X	X	X	X				
Φ249HΦ14	Equipment Rinsate		1645			3	–	2					X						X	X								
Φ249HΦ15 *	F2		1650			5	–	3					X							X	X	X	X	X	X			

	Name (print)	Company Name	Date	Time
Relinquished by: [signature]	Hwakong Chang	TtEMI	12/4/Φ2	19ΦΦ
Received by: Fed EX				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Turnaround time/remarks:

* Φ249HΦ15 is a grab groundwater sampe

Fed Ex #: 8368 9469 473Φ

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ENCLOSURE 3
GROUNDWATER LEVEL MEASUREMENT FORMS

TETRA TECH EM INC.
GROUNDWATER LEVEL MEASUREMENTS LOG

Type of organic vapor meter used (circle): (PID) FID

Well Identification Number	Organic Vapor Information: PID/FID Reading (ppm)	Organic Vapor Information: Date	Water Level Information: Well previously equilibrated? (Yes/No)	Water Level Information: If not previously equilibrated, pressure detected when cap removed? (NA/Yes/No)	Depth to Groundwater Information: Time	Depth to Groundwater Information: Date	Depth to Groundwater Information: Depth to Groundwater[1] from Pump Platform or Riser, if present (feet)	Depth to Groundwater Information: Thickness of Pump Platform or Riser, if present (feet)	Depth to Groundwater Information: Depth to Groundwater[1] from Top of PVC Casing (feet)	Depth to Well Bottom from Top of PVC Casing[2] (feet)	Comments
1R28MW361F	1.6	12/3/02	YES	N/A	0836	12/3/02	N/A	N/A	7.08	20.39	No tone from * 9.93 to bottom
1R28MW359F	1.6	↓	↓	↓	0842	↓	↓	↓	6.99	20.42	No tone from 9.84 to bottom
1R28MW358F	0	↓	↓	↓	0853	↓	↓	↓	7.18	20.41	Long tone at 7.18-sheen No tone from 10.03 to bot.
(NC) 1R28MW356F ~~1R28MW355F~~	0	↓	↓	↓	0857	↓	↓	↓	7.42	20.40	No tone from 10.26 to bottom
1R28MW357F	0	↓	↓	↓	0859	↓	↓	↓	6.93	20.24	No tone from 9.78 to bottom
(20) 1R28MW355F ~~1R28MW356F~~	0	↓	↓	↓	0901	↓	↓	↓	7.42	20.42	Long tone at 7.42-sheen No tone from 10.27 to bot.
1R28MW360F	33.1	↓	↓	↓	0904	↓	↓	↓	6.85	20.41	Long tone at 6.85-sheen No beep from 9.70 to bottom
1R28MW278F	6.6	↓	↓	↓	0907	↓	↓	↓	6.86	**	
1R28MW310F	24.8	↓	↓	↓	0910	↓	↓	↓	5.67	↓	Long tone at 5.67
1R28MW311A	6.6	↓	↓	↓	0911	↓	↓	↓	5.71	↓	

Notes: 1 Where bladder pump sampling platform or riser is present, depth to water must be corrected to depth from top of PVC casing.
2 Note if access to well bottom is limited by presence of dedicated bladder pump.

Field Staff: H. CHENG, D. CHENG

Field Staff Signature: [signature]

Page No.: 1 OF 3

Date: 12/3/02

* Lack of tone from interface probe reflects approximate screened intervals in wells.

* Recently measured - not measured again.

TETRA TECH EM INC.
GROUNDWATER LEVEL MEASUREMENTS LOG

Type of organic vapor meter used (circle): (PID) FID

Well Identification Number	Organic Vapor Information: PID/FID Reading (ppm)	Organic Vapor Information: Date	Water Level Information: Well previously equilibrated? (Yes/No)	Water Level Information: If not previously equilibrated, pressure detected when cap removed? (NA/Yes/No)	Depth to Groundwater Information: Time	Depth to Groundwater Information: Date	Depth to Groundwater Information: Depth to Groundwater[1] from Pump Platform or Riser, if present (feet)	Depth to Groundwater Information: Thickness of Pump Platform or Riser, if present (feet)	Depth to Groundwater Information: Depth to Groundwater[1] from Top of PVC Casing (feet)	Depth to Well Bottom from Top of PVC Casing[2] (feet)	Comments
1R28 MW393F	3.3	12/3/02	YES	N/A	0912	12/3/02	N/A	N/A	5.53	**	
1R28 MW402F	1.6	↓	↓	↓	0914	↓	↓	↓	5.63	↓	Long tone at 5.63
1R28 ~~MW~~ 1W939F	512	↓	↓	↓	0916	↓	↓	↓	7.26	↓	
1R28 MW211F	>2480	↓	↓	↓	0917	↓	↓	↓	6.98	↓	Long tone at 6.98 - sheen
1R28 MW351F	11.5	↓	↓	↓	0919	↓	↓	↓	7.20	↓	
1R28 1W938F	685	↓	↓	↓	0920	↓	↓	↓	7.22	↓	
1R28 1W940F	31.4	↓	↓	↓	0924	↓	↓	↓	7.09	↓	
1R28 MW342F	36.6	↓	↓	↓	0926	↓	↓	↓	7.03	↓	
1R28 MW937F	309	↓	↓	↓	0927	↓	↓	↓	7.10	↓	Poly tubing removed from well
1R28 MW936F	>3535	↓	↓	↓	0928	↓	↓	↓	7.27	↓	Poly tubing removed from well

Notes: 1 Where bladder pump sampling platform or riser is present, depth to water must be corrected to depth from top of PVC casing.
2 Note if access to well bottom is limited by presence of dedicated bladder pump.

Field Staff: H. CHENG, D. CHENG

Field Staff Signature: [signature]

Page No.: 2 of 3

Date: 12/3/02

** Recently measured - not measured again.

TETRA TECH EM INC.
GROUNDWATER LEVEL MEASUREMENTS LOG

Type of organic vapor meter used (circle): (PID) FID

Well Identification Number	Organic Vapor Information		Water Level Information							Depth to Well Bottom from Top of PVC Casing[2] (feet)	Comments
					Depth to Groundwater Information						
	PID/FID Reading (ppm)	Date	Well previously equilibrated? (Yes/No)	If not previously equilibrated, pressure detected when cap removed? (NA/Yes/No)	Time	Date	Depth to Groundwater[1] from Pump Platform or Riser, if present (feet)	Thickness of Pump Platform or Riser, if present (feet)	Depth to Groundwater[1] from Top of PVC Casing (feet)		
1R28 MW935F	24.8	12/3/02	YES	N/A	0928	12/3/02	N/A	N/A	7.23	**	Poly tubing removed from well. Long tape at 7.23

Notes: 1 Where bladder pump sampling platform or riser is present, depth to water must be corrected to depth from top of PVC casing.
2 Note if access to well bottom is limited by presence of dedicated bladder pump.

Field Staff: H. CHENG, D. CHENG

Field Staff Signature: [signature]

Page No.: 3 of 3

Date: 12/3/02

* Recently measured - not measured again.

ENCLOSURE 4
ANALYTICAL LABORATORY REPORTS

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H001

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990001

Lab File ID: J024586

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 1.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H001

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990001

Lab File ID: J024586

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H002

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990002

Lab File ID: J024642

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	3.0	
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	0.20	J
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	4.0	
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	2.0	
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	2.0	
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	0.50	J
79-01-6	Trichloroethene	0.25	1.0	39	
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	0.30	J
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H002

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990002

Lab File ID: J024642

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H003

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990003

Lab File ID: J024588

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 50.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	14	50	50	U
74-87-3	Chloromethane	10	50	50	U
75-01-4	Vinyl chloride	14	50	50	U
74-83-9	Bromomethane	16	50	50	U
75-00-3	Chloroethane	14	50	50	U
75-69-4	Trichlorofluoromethane	15	50	50	U
75-35-4	1,1-Dichloroethene	15	50	50	U
67-64-1	Acetone	32	250	250	U
75-15-0	Carbon disulfide	13	50	50	U
75-09-2	Methylene chloride	8.0	100	100	U
156-60-5	trans-1,2-Dichloroethene	14	50	50	U
1634-04-4	Methyl tert-butylether	12	50	50	U
75-34-3	1,1-Dichloroethane	6.5	50	50	U
156-59-2	cis-1,2-Dichloroethene	12	50	17	J
78-93-3	2-Butanone	36	250	250	U
74-97-5	Bromochloromethane	8.0	50	50	U
67-66-3	Chloroform	6.0	50	190	
71-55-6	1,1,1-Trichloroethane	12	50	50	U
56-23-5	Carbon tetrachloride	11	50	50	
71-43-2	Benzene	7.0	50	50	U
107-06-2	1,2-Dichloroethane	12	50	50	U
79-01-6	Trichloroethene	12	50	5000	E
78-87-5	1,2-Dichloropropane	6.5	50	50	U
75-27-4	Bromodichloromethane	6.0	50	50	U
10061-01-5	cis-1,3-Dichloropropene	11	50	50	U
108-10-1	4-Methyl-2-pentanone	24	250	250	U
108-88-3	Toluene	12	50	50	U
10061-02-6	trans-1,3-Dichloropropene	10	50	50	U
127-18-4	Tetrachloroethene	14	50	85	
79-00-5	1,1,2-Trichloroethane	14	50	50	U
591-78-6	2-Hexanone	17	250	250	U
124-48-1	Dibromochloromethane	6.0	50	50	U
106-93-4	1,2-Dibromoethane	10	50	50	U
108-90-7	Chlorobenzene	6.0	50	50	U
100-41-4	Ethylbenzene	11	50	50	U
1330-20-7	Xylene (total)	32	50	50	U
100-42-5	Styrene	6.0	50	50	U
75-25-2	Bromoform	10	50	50	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H003

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990003

Lab File ID: J024588

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 50.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	12	50	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	50	50	U
541-73-1	1,3-Dichlorobenzene	14	50	50	U
106-46-7	1,4-Dichlorobenzene	5.5	50	50	U
95-50-1	1,2-Dichlorobenzene	5.5	50	50	U
96-12-8	1,2-Dibromo-3-chloropropane	34	250	250	U
120-82-1	1,2,4-Trichlorobenzene	5.0	50	50	U
87-61-6	1,2,3-Trichlorobenzene	7.5	50	50	U
76-13-1	1,1,2-Trichlorotrifluoroetha	14	50	50	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H003DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990003DL

Lab File ID: J024589

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	140	500	500	U
74-87-3	Chloromethane	100	500	500	U
75-01-4	Vinyl chloride	140	500	500	U
74-83-9	Bromomethane	160	500	500	U
75-00-3	Chloroethane	140	500	500	U
75-69-4	Trichlorofluoromethane	150	500	500	U
75-35-4	1,1-Dichloroethene	150	500	500	U
67-64-1	Acetone	320	2500	2500	U
75-15-0	Carbon disulfide	130	500	500	U
75-09-2	Methylene chloride	80	1000	1000	U
156-60-5	trans-1,2-Dichloroethene	140	500	500	U
1634-04-4	Methyl tert-butylether	120	500	500	U
75-34-3	1,1-Dichloroethane	65	500	500	U
156-59-2	cis-1,2-Dichloroethene	120	500	500	U
78-93-3	2-Butanone	360	2500	2500	U
74-97-5	Bromochloromethane	80	500	500	U
67-66-3	Chloroform	60	500	210	DJ
71-55-6	1,1,1-Trichloroethane	120	500	500	U
56-23-5	Carbon tetrachloride	110	500	500	U
71-43-2	Benzene	70	500	500	U
107-06-2	1,2-Dichloroethane	120	500	500	U
79-01-6	Trichloroethene	120	500	5100	D
78-87-5	1,2-Dichloropropane	65	500	500	U
75-27-4	Bromodichloromethane	60	500	500	U
10061-01-5	cis-1,3-Dichloropropene	110	500	500	U
108-10-1	4-Methyl-2-pentanone	240	2500	2500	U
108-88-3	Toluene	120	500	500	U
10061-02-6	trans-1,3-Dichloropropene	100	500	500	U
127-18-4	Tetrachloroethene	140	500	500	U
79-00-5	1,1,2-Trichloroethane	140	500	500	U
591-78-6	2-Hexanone	170	2500	2500	U
124-48-1	Dibromochloromethane	60	500	500	U
106-93-4	1,2-Dibromoethane	100	500	500	U
108-90-7	Chlorobenzene	60	500	500	U
100-41-4	Ethylbenzene	110	500	500	U
1330-20-7	Xylene (total)	320	500	500	U
100-42-5	Styrene	60	500	500	U
75-25-2	Bromoform	100	500	500	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H003DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990003DL

Lab File ID: J024589

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	120	500	500	U
79-34-5	1,1,2,2-Tetrachloroethane	55	500	500	U
541-73-1	1,3-Dichlorobenzene	140	500	500	U
106-46-7	1,4-Dichlorobenzene	55	500	500	U
95-50-1	1,2-Dichlorobenzene	55	500	500	U
96-12-8	1,2-Dibromo-3-chloropropane	340	2500	2500	U
120-82-1	1,2,4-Trichlorobenzene	50	500	500	U
87-61-6	1,2,3-Trichlorobenzene	75	500	500	U
76-13-1	1,1,2-Trichlorotrifluoroetha	140	500	500	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H004

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990004

Lab File ID: J024590

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 50.0

CAS NO.	COMPOUND	Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane		14	50	50	U
74-87-3	Chloromethane		10	50	50	U
75-01-4	Vinyl chloride		14	50	50	U
74-83-9	Bromomethane		16	50	50	U
75-00-3	Chloroethane		14	50	50	U
75-69-4	Trichlorofluoromethane		15	50	50	U
75-35-4	1,1-Dichloroethene		15	50	50	U
67-64-1	Acetone		32	250	250	U
75-15-0	Carbon disulfide		13	50	50	U
75-09-2	Methylene chloride		8.0	100	100	U
156-60-5	trans-1,2-Dichloroethene		14	50	50	U
1634-04-4	Methyl tert-butylether		12	50	50	U
75-34-3	1,1-Dichloroethane		6.5	50	50	U
156-59-2	cis-1,2-Dichloroethene		12	50	410	
78-93-3	2-Butanone		36	250	250	U
74-97-5	Bromochloromethane		8.0	50	50	U
67-66-3	Chloroform		6.0	50	420	
71-55-6	1,1,1-Trichloroethane		12	50	50	U
56-23-5	Carbon tetrachloride		11	50	41	J
71-43-2	Benzene		7.0	50	50	U
107-06-2	1,2-Dichloroethane		12	50	110	
79-01-6	Trichloroethene		12	50	5600	E
78-87-5	1,2-Dichloropropane		6.5	50	50	U
75-27-4	Bromodichloromethane		6.0	50	50	U
10061-01-5	cis-1,3-Dichloropropene		11	50	50	U
108-10-1	4-Methyl-2-pentanone		24	250	250	U
108-88-3	Toluene		12	50	50	U
10061-02-6	trans-1,3-Dichloropropene		10	50	50	U
127-18-4	Tetrachloroethene		14	50	89	
79-00-5	1,1,2-Trichloroethane		14	50	50	U
591-78-6	2-Hexanone		17	250	250	U
124-48-1	Dibromochloromethane		6.0	50	50	U
106-93-4	1,2-Dibromoethane		10	50	50	U
108-90-7	Chlorobenzene		6.0	50	50	U
100-41-4	Ethylbenzene		11	50	50	U
1330-20-7	Xylene (total)		32	50	50	U
100-42-5	Styrene		6.0	50	50	U
75-25-2	Bromoform		10	50	50	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H004

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990004

Lab File ID: J024590

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 50.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	12	50	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	50	50	U
541-73-1	1,3-Dichlorobenzene	14	50	50	U
106-46-7	1,4-Dichlorobenzene	5.5	50	50	U
95-50-1	1,2-Dichlorobenzene	5.5	50	50	U
96-12-8	1,2-Dibromo-3-chloropropane	34	250	250	U
120-82-1	1,2,4-Trichlorobenzene	5.0	50	50	U
87-61-6	1,2,3-Trichlorobenzene	7.5	50	50	U
76-13-1	1,1,2-Trichlorotrifluoroetha	14	50	50	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H004DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990004DL

Lab File ID: J024591

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	140	500	500	U
74-87-3	Chloromethane	100	500	500	U
75-01-4	Vinyl chloride	140	500	500	U
74-83-9	Bromomethane	160	500	500	U
75-00-3	Chloroethane	140	500	500	U
75-69-4	Trichlorofluoromethane	150	500	500	U
75-35-4	1,1-Dichloroethene	150	500	500	U
67-64-1	Acetone	320	2500	2500	U
75-15-0	Carbon disulfide	130	500	500	U
75-09-2	Methylene chloride	80	1000	1000	U
156-60-5	trans-1,2-Dichloroethene	140	500	500	U
1634-04-4	Methyl tert-butylether	120	500	500	U
75-34-3	1,1-Dichloroethane	65	500	500	U
156-59-2	cis-1,2-Dichloroethene	120	500	350	DJ
78-93-3	2-Butanone	360	2500	2500	U
74-97-5	Bromochloromethane	80	500	500	U
67-66-3	Chloroform	60	500	390	DJ
71-55-6	1,1,1-Trichloroethane	120	500	500	U
56-23-5	Carbon tetrachloride	110	500	500	U
71-43-2	Benzene	70	500	500	U
107-06-2	1,2-Dichloroethane	120	500	500	U
79-01-6	Trichloroethene	120	500	5300	D
78-87-5	1,2-Dichloropropane	65	500	500	U
75-27-4	Bromodichloromethane	60	500	500	U
10061-01-5	cis-1,3-Dichloropropene	110	500	500	U
108-10-1	4-Methyl-2-pentanone	240	2500	2500	U
108-88-3	Toluene	120	500	500	U
10061-02-6	trans-1,3-Dichloropropene	100	500	500	U
127-18-4	Tetrachloroethene	140	500	500	U
79-00-5	1,1,2-Trichloroethane	140	500	500	U
591-78-6	2-Hexanone	170	2500	2500	U
124-48-1	Dibromochloromethane	60	500	500	U
106-93-4	1,2-Dibromoethane	100	500	500	U
108-90-7	Chlorobenzene	60	500	500	U
100-41-4	Ethylbenzene	110	500	500	U
1330-20-7	Xylene (total)	320	500	500	U
100-42-5	Styrene	60	500	500	U
75-25-2	Bromoform	100	500	500	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H004DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990004DL

Lab File ID: J024591

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	120	500	500	U
79-34-5	1,1,2,2-Tetrachloroethane	55	500	500	U
541-73-1	1,3-Dichlorobenzene	140	500	500	U
106-46-7	1,4-Dichlorobenzene	55	500	500	U
95-50-1	1,2-Dichlorobenzene	55	500	500	U
96-12-8	1,2-Dibromo-3-chloropropane	340	2500	2500	U
120-82-1	1,2,4-Trichlorobenzene	50	500	500	U
87-61-6	1,2,3-Trichlorobenzene	75	500	500	U
76-13-1	1,1,2-Trichlorotrifluoroetha	140	500	500	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H005

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990005

Lab File ID: J024592

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 100.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	27	100	100	U
74-87-3	Chloromethane	21	100	100	U
75-01-4	Vinyl chloride	27	100	100	U
74-83-9	Bromomethane	33	100	100	U
75-00-3	Chloroethane	29	100	100	U
75-69-4	Trichlorofluoromethane	30	100	100	U
75-35-4	1,1-Dichloroethene	30	100	100	U
67-64-1	Acetone	63	500	500	U
75-15-0	Carbon disulfide	26	100	100	U
75-09-2	Methylene chloride	16	200	200	U
156-60-5	trans-1,2-Dichloroethene	29	100	100	U
1634-04-4	Methyl tert-butylether	23	100	100	U
75-34-3	1,1-Dichloroethane	13	100	100	U
156-59-2	cis-1,2-Dichloroethene	24	100	420	
78-93-3	2-Butanone	72	500	500	U
74-97-5	Bromochloromethane	16	100	100	U
67-66-3	Chloroform	12	100	1100	
71-55-6	1,1,1-Trichloroethane	23	100	100	U
56-23-5	Carbon tetrachloride	22	100	77	J
71-43-2	Benzene	14	100	100	U
107-06-2	1,2-Dichloroethane	25	100	120	
79-01-6	Trichloroethene	25	100	15000	E
78-87-5	1,2-Dichloropropane	13	100	100	U
75-27-4	Bromodichloromethane	12	100	100	U
10061-01-5	cis-1,3-Dichloropropene	22	100	100	U
108-10-1	4-Methyl-2-pentanone	48	500	500	U
108-88-3	Toluene	24	100	100	U
10061-02-6	trans-1,3-Dichloropropene	21	100	100	U
127-18-4	Tetrachloroethene	27	100	130	
79-00-5	1,1,2-Trichloroethane	29	100	100	U
591-78-6	2-Hexanone	34	500	500	U
124-48-1	Dibromochloromethane	12	100	100	U
106-93-4	1,2-Dibromoethane	20	100	100	U
108-90-7	Chlorobenzene	12	100	100	U
100-41-4	Ethylbenzene	22	100	100	U
1330-20-7	Xylene (total)	65	100	100	U
100-42-5	Styrene	12	100	100	U
75-25-2	Bromoform	20	100	100	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H005

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990005

Lab File ID: J024592

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 100.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	25	100	100	U
79-34-5	1,1,2,2-Tetrachloroethane	11	100	100	U
541-73-1	1,3-Dichlorobenzene	27	100	100	U
106-46-7	1,4-Dichlorobenzene	11	100	100	U
95-50-1	1,2-Dichlorobenzene	11	100	100	U
96-12-8	1,2-Dibromo-3-chloropropane	69	500	500	U
120-82-1	1,2,4-Trichlorobenzene	10	100	100	U
87-61-6	1,2,3-Trichlorobenzene	15	100	100	U
76-13-1	1,1,2-Trichlorotrifluoroetha	28	100	100	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H005DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990005DL

Lab File ID: J024593

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 1000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	270	1000	1000	U
74-87-3	Chloromethane	210	1000	1000	U
75-01-4	Vinyl chloride	270	1000	1000	U
74-83-9	Bromomethane	330	1000	1000	U
75-00-3	Chloroethane	290	1000	1000	U
75-69-4	Trichlorofluoromethane	300	1000	1000	U
75-35-4	1,1-Dichloroethene	300	1000	1000	U
67-64-1	Acetone	630	5000	5000	U
75-15-0	Carbon disulfide	260	1000	1000	U
75-09-2	Methylene chloride	160	2000	2000	U
156-60-5	trans-1,2-Dichloroethene	290	1000	1000	U
1634-04-4	Methyl tert-butylether	230	1000	1000	U
75-34-3	1,1-Dichloroethane	130	1000	1000	U
156-59-2	cis-1,2-Dichloroethene	240	1000	280	DJ
78-93-3	2-Butanone	720	5000	5000	U
74-97-5	Bromochloromethane	160	1000	1000	U
67-66-3	Chloroform	120	1000	1100	D
71-55-6	1,1,1-Trichloroethane	230	1000	1000	U
56-23-5	Carbon tetrachloride	220	1000	1000	U
71-43-2	Benzene	140	1000	1000	U
107-06-2	1,2-Dichloroethane	250	1000	1000	U
79-01-6	Trichloroethene	250	1000	15000	D
78-87-5	1,2-Dichloropropane	130	1000	1000	U
75-27-4	Bromodichloromethane	120	1000	1000	U
10061-01-5	cis-1,3-Dichloropropene	220	1000	1000	U
108-10-1	4-Methyl-2-pentanone	480	5000	5000	U
108-88-3	Toluene	240	1000	1000	U
10061-02-6	trans-1,3-Dichloropropene	210	1000	1000	U
127-18-4	Tetrachloroethene	270	1000	1000	U
79-00-5	1,1,2-Trichloroethane	290	1000	1000	U
591-78-6	2-Hexanone	340	5000	5000	U
124-48-1	Dibromochloromethane	120	1000	1000	U
106-93-4	1,2-Dibromoethane	200	1000	1000	U
108-90-7	Chlorobenzene	120	1000	1000	U
100-41-4	Ethylbenzene	220	1000	1000	U
1330-20-7	Xylene (total)	650	1000	1000	U
100-42-5	Styrene	120	1000	1000	U
75-25-2	Bromoform	200	1000	1000	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H005DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990005DL

Lab File ID: J024593

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 1000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	250	1000	1000	U
79-34-5	1,1,2,2-Tetrachloroethane	110	1000	1000	U
541-73-1	1,3-Dichlorobenzene	270	1000	1000	U
106-46-7	1,4-Dichlorobenzene	110	1000	1000	U
95-50-1	1,2-Dichlorobenzene	110	1000	1000	U
96-12-8	1,2-Dibromo-3-chloropropane	690	5000	5000	U
120-82-1	1,2,4-Trichlorobenzene	100	1000	1000	U
87-61-6	1,2,3-Trichlorobenzene	150	1000	1000	U
76-13-1	1,1,2-Trichlorotrifluoroetha	280	1000	1000	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H006

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990006

Lab File ID: J024594

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	140	500	500	U
74-87-3	Chloromethane	100	500	500	U
75-01-4	Vinyl chloride	140	500	500	U
74-83-9	Bromomethane	160	500	500	U
75-00-3	Chloroethane	140	500	500	U
75-69-4	Trichlorofluoromethane	150	500	500	U
75-35-4	1,1-Dichloroethene	150	500	500	U
67-64-1	Acetone	320	2500	2500	U
75-15-0	Carbon disulfide	130	500	500	U
75-09-2	Methylene chloride	80	1000	1000	U
156-60-5	trans-1,2-Dichloroethene	140	500	500	U
1634-04-4	Methyl tert-butylether	120	500	500	U
75-34-3	1,1-Dichloroethane	65	500	500	U
156-59-2	cis-1,2-Dichloroethene	120	500	500	U
78-93-3	2-Butanone	360	2500	2500	U
74-97-5	Bromochloromethane	80	500	500	U
67-66-3	Chloroform	60	500	140	J
71-55-6	1,1,1-Trichloroethane	120	500	500	U
56-23-5	Carbon tetrachloride	110	500	500	U
71-43-2	Benzene	70	500	500	U
107-06-2	1,2-Dichloroethane	120	500	500	U
79-01-6	Trichloroethene	120	500	31000	E
78-87-5	1,2-Dichloropropane	65	500	500	U
75-27-4	Bromodichloromethane	60	500	500	U
10061-01-5	cis-1,3-Dichloropropene	110	500	500	U
108-10-1	4-Methyl-2-pentanone	240	2500	2500	U
108-88-3	Toluene	120	500	500	U
10061-02-6	trans-1,3-Dichloropropene	100	500	500	U
127-18-4	Tetrachloroethene	140	500	500	U
79-00-5	1,1,2-Trichloroethane	140	500	500	U
591-78-6	2-Hexanone	170	2500	2500	U
124-48-1	Dibromochloromethane	60	500	500	U
106-93-4	1,2-Dibromoethane	100	500	500	U
108-90-7	Chlorobenzene	60	500	500	U
100-41-4	Ethylbenzene	110	500	500	U
1330-20-7	Xylene (total)	320	500	500	U
100-42-5	Styrene	60	500	500	U
75-25-2	Bromoform	100	500	500	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H006

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990006

Lab File ID: J024594

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	120	500	500	U
79-34-5	1,1,2,2-Tetrachloroethane	55	500	500	U
541-73-1	1,3-Dichlorobenzene	140	500	500	U
106-46-7	1,4-Dichlorobenzene	55	500	500	U
95-50-1	1,2-Dichlorobenzene	55	500	500	U
96-12-8	1,2-Dibromo-3-chloropropane	340	2500	2500	U
120-82-1	1,2,4-Trichlorobenzene	50	500	500	U
87-61-6	1,2,3-Trichlorobenzene	75	500	500	U
76-13-1	1,1,2-Trichlorotrifluoroetha	140	500	500	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H006DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990006DL

Lab File ID: J024595

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 5000.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	1400	5000	5000	U
74-87-3	Chloromethane	1000	5000	5000	U
75-01-4	Vinyl chloride	1400	5000	5000	U
74-83-9	Bromomethane	1600	5000	5000	U
75-00-3	Chloroethane	1400	5000	5000	U
75-69-4	Trichlorofluoromethane	1500	5000	5000	U
75-35-4	1,1-Dichloroethene	1500	5000	5000	U
67-64-1	Acetone	3200	25000	25000	U
75-15-0	Carbon disulfide	1300	5000	5000	U
75-09-2	Methylene chloride	800	10000	10000	U
156-60-5	trans-1,2-Dichloroethene	1400	5000	5000	U
1634-04-4	Methyl tert-butylether	1200	5000	5000	U
75-34-3	1,1-Dichloroethane	650	5000	5000	U
156-59-2	cis-1,2-Dichloroethene	1200	5000	5000	U
78-93-3	2-Butanone	3600	25000	25000	U
74-97-5	Bromochloromethane	800	5000	5000	U
67-66-3	Chloroform	600	5000	5000	U
71-55-6	1,1,1-Trichloroethane	1200	5000	5000	U
56-23-5	Carbon tetrachloride	1100	5000	5000	U
71-43-2	Benzene	700	5000	5000	U
107-06-2	1,2-Dichloroethane	1200	5000	5000	U
79-01-6	Trichloroethene	1200	5000	34000	D
78-87-5	1,2-Dichloropropane	650	5000	5000	U
75-27-4	Bromodichloromethane	600	5000	5000	U
10061-01-5	cis-1,3-Dichloropropene	1100	5000	5000	U
108-10-1	4-Methyl-2-pentanone	2400	25000	25000	U
108-88-3	Toluene	1200	5000	5000	U
10061-02-6	trans-1,3-Dichloropropene	1000	5000	5000	U
127-18-4	Tetrachloroethene	1400	5000	5000	U
79-00-5	1,1,2-Trichloroethane	1400	5000	5000	U
591-78-6	2-Hexanone	1700	25000	25000	U
124-48-1	Dibromochloromethane	600	5000	5000	U
106-93-4	1,2-Dibromoethane	1000	5000	5000	U
108-90-7	Chlorobenzene	600	5000	5000	U
100-41-4	Ethylbenzene	1100	5000	5000	U
1330-20-7	Xylene (total)	3200	5000	5000	U
100-42-5	Styrene	600	5000	5000	U
75-25-2	Bromoform	1000	5000	5000	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H006DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990006DL

Lab File ID: J024595

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 5000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	1200	5000	5000	U
79-34-5	1,1,2,2-Tetrachloroethane	550	5000	5000	U
541-73-1	1,3-Dichlorobenzene	1400	5000	5000	U
106-46-7	1,4-Dichlorobenzene	550	5000	5000	U
95-50-1	1,2-Dichlorobenzene	550	5000	5000	U
96-12-8	1,2-Dibromo-3-chloropropane	3400	25000	25000	U
120-82-1	1,2,4-Trichlorobenzene	500	5000	830	DJ
87-61-6	1,2,3-Trichlorobenzene	750	5000	1100	DJ
76-13-1	1,1,2-Trichlorotrifluoroetha	1400	5000	5000	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H007

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990015

Lab File ID: J024645

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	0.30	J
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	0.20	J
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H007

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990015

Lab File ID: J024645

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H008

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990007

Lab File ID: J024596

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 200.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	54	200	200	U
74-87-3	Chloromethane	42	200	200	U
75-01-4	Vinyl chloride	54	200	200	U
74-83-9	Bromomethane	66	200	200	U
75-00-3	Chloroethane	58	200	200	U
75-69-4	Trichlorofluoromethane	60	200	200	U
75-35-4	1,1-Dichloroethene	60	200	200	U
67-64-1	Acetone	130	1000	1000	U
75-15-0	Carbon disulfide	52	200	200	U
75-09-2	Methylene chloride	32	400	400	U
156-60-5	trans-1,2-Dichloroethene	58	200	200	U
1634-04-4	Methyl tert-butylether	46	200	200	U
75-34-3	1,1-Dichloroethane	26	200	200	U
156-59-2	cis-1,2-Dichloroethene	48	200	200	U
78-93-3	2-Butanone	140	1000	1000	U
74-97-5	Bromochloromethane	32	200	200	U
67-66-3	Chloroform	24	200	230	
71-55-6	1,1,1-Trichloroethane	46	200	200	U
56-23-5	Carbon tetrachloride	44	200	67	J
71-43-2	Benzene	28	200	200	U
107-06-2	1,2-Dichloroethane	50	200	200	U
79-01-6	Trichloroethene	50	200	38000	E
78-87-5	1,2-Dichloropropane	26	200	200	U
75-27-4	Bromodichloromethane	24	200	200	U
10061-01-5	cis-1,3-Dichloropropene	44	200	200	U
108-10-1	4-Methyl-2-pentanone	96	1000	1000	U
108-88-3	Toluene	48	200	200	U
10061-02-6	trans-1,3-Dichloropropene	42	200	200	U
127-18-4	Tetrachloroethene	54	200	200	U
79-00-5	1,1,2-Trichloroethane	58	200	200	U
591-78-6	2-Hexanone	68	1000	1000	U
124-48-1	Dibromochloromethane	24	200	200	U
106-93-4	1,2-Dibromoethane	40	200	200	U
108-90-7	Chlorobenzene	24	200	200	U
100-41-4	Ethylbenzene	44	200	200	U
1330-20-7	Xylene (total)	130	200	200	U
100-42-5	Styrene	24	200	200	U
75-25-2	Bromoform	40	200	200	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H008

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990007

Lab File ID: J024596

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 200.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	50	200	200	U
79-34-5	1,1,2,2-Tetrachloroethane	22	200	200	U
541-73-1	1,3-Dichlorobenzene	54	200	200	U
106-46-7	1,4-Dichlorobenzene	22	200	200	U
95-50-1	1,2-Dichlorobenzene	22	200	200	U
96-12-8	1,2-Dibromo-3-chloropropane	140	1000	1000	U
120-82-1	1,2,4-Trichlorobenzene	20	200	200	U
87-61-6	1,2,3-Trichlorobenzene	30	200	200	U
76-13-1	1,1,2-Trichlorotrifluoroetha	56	200	200	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H008DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990007DL

Lab File ID: J024597

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 2000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	540	2000	2000	U
74-87-3	Chloromethane	420	2000	2000	U
75-01-4	Vinyl chloride	540	2000	2000	U
74-83-9	Bromomethane	660	2000	2000	U
75-00-3	Chloroethane	580	2000	2000	U
75-69-4	Trichlorofluoromethane	600	2000	2000	U
75-35-4	1,1-Dichloroethene	600	2000	2000	U
67-64-1	Acetone	1300	10000	10000	U
75-15-0	Carbon disulfide	520	2000	2000	U
75-09-2	Methylene chloride	320	4000	4000	U
156-60-5	trans-1,2-Dichloroethene	580	2000	2000	U
1634-04-4	Methyl tert-butylether	460	2000	2000	U
75-34-3	1,1-Dichloroethane	260	2000	2000	U
156-59-2	cis-1,2-Dichloroethene	480	2000	2000	U
78-93-3	2-Butanone	1400	10000	10000	U
74-97-5	Bromochloromethane	320	2000	2000	U
67-66-3	Chloroform	240	2000	310	DJ
71-55-6	1,1,1-Trichloroethane	460	2000	2000	U
56-23-5	Carbon tetrachloride	440	2000	2000	U
71-43-2	Benzene	280	2000	2000	U
107-06-2	1,2-Dichloroethane	500	2000	2000	U
79-01-6	Trichloroethene	500	2000	41000	D
78-87-5	1,2-Dichloropropane	260	2000	2000	U
75-27-4	Bromodichloromethane	240	2000	2000	U
10061-01-5	cis-1,3-Dichloropropene	440	2000	2000	U
108-10-1	4-Methyl-2-pentanone	960	10000	10000	U
108-88-3	Toluene	480	2000	2000	U
10061-02-6	trans-1,3-Dichloropropene	420	2000	2000	U
127-18-4	Tetrachloroethene	540	2000	2000	U
79-00-5	1,1,2-Trichloroethane	580	2000	2000	U
591-78-6	2-Hexanone	680	10000	10000	U
124-48-1	Dibromochloromethane	240	2000	2000	U
106-93-4	1,2-Dibromoethane	400	2000	2000	U
108-90-7	Chlorobenzene	240	2000	2000	U
100-41-4	Ethylbenzene	440	2000	2000	U
1330-20-7	Xylene (total)	1300	2000	2000	U
100-42-5	Styrene	240	2000	2000	U
75-25-2	Bromoform	400	2000	2000	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H008DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990007DL

Lab File ID: J024597

Date Received: 11/15/02

Date Analyzed: 11/23/02

Dilution Factor: 2000.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	500	2000	2000	U
79-34-5	1,1,2,2-Tetrachloroethane	220	2000	2000	U
541-73-1	1,3-Dichlorobenzene	540	2000	2000	U
106-46-7	1,4-Dichlorobenzene	220	2000	2000	U
95-50-1	1,2-Dichlorobenzene	220	2000	2000	U
96-12-8	1,2-Dibromo-3-chloropropane	1400	10000	10000	U
120-82-1	1,2,4-Trichlorobenzene	200	2000	330	DJ
87-61-6	1,2,3-Trichlorobenzene	300	2000	490	DJ
76-13-1	1,1,2-Trichlorotrifluoroetha	560	2000	2000	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H009

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990008

Lab File ID: J024643

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	270	1000	1000	U
74-87-3	Chloromethane	210	1000	1000	U
75-01-4	Vinyl chloride	270	1000	1000	U
74-83-9	Bromomethane	330	1000	1000	U
75-00-3	Chloroethane	290	1000	1000	U
75-69-4	Trichlorofluoromethane	300	1000	1000	U
75-35-4	1,1-Dichloroethene	300	1000	1000	U
67-64-1	Acetone	630	5000	5000	U
75-15-0	Carbon disulfide	260	1000	1000	U
75-09-2	Methylene chloride	160	2000	2000	U
156-60-5	trans-1,2-Dichloroethene	290	1000	1000	U
1634-04-4	Methyl tert-butylether	230	1000	1000	U
75-34-3	1,1-Dichloroethane	130	1000	1000	U
156-59-2	cis-1,2-Dichloroethene	240	1000	1000	U
78-93-3	2-Butanone	720	5000	5000	U
74-97-5	Bromochloromethane	160	1000	1000	U
67-66-3	Chloroform	120	1000	480	J
71-55-6	1,1,1-Trichloroethane	230	1000	1000	U
56-23-5	Carbon tetrachloride	220	1000	1000	U
71-43-2	Benzene	140	1000	1000	U
107-06-2	1,2-Dichloroethane	250	1000	1000	U
79-01-6	Trichloroethene	250	1000	78000	E
78-87-5	1,2-Dichloropropane	130	1000	1000	U
75-27-4	Bromodichloromethane	120	1000	1000	U
10061-01-5	cis-1,3-Dichloropropene	220	1000	1000	U
108-10-1	4-Methyl-2-pentanone	480	5000	5000	U
108-88-3	Toluene	240	1000	1000	U
10061-02-6	trans-1,3-Dichloropropene	210	1000	1000	U
127-18-4	Tetrachloroethene	270	1000	1000	U
79-00-5	1,1,2-Trichloroethane	290	1000	1000	U
591-78-6	2-Hexanone	340	5000	5000	U
124-48-1	Dibromochloromethane	120	1000	1000	U
106-93-4	1,2-Dibromoethane	200	1000	1000	U
108-90-7	Chlorobenzene	120	1000	1000	U
100-41-4	Ethylbenzene	220	1000	1000	U
1330-20-7	Xylene (total)	650	1000	1000	U
100-42-5	Styrene	120	1000	1000	U
75-25-2	Bromoform	200	1000	1000	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H009

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990008

Lab File ID: J024643

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	250	1000	1000	U
79-34-5	1,1,2,2-Tetrachloroethane	110	1000	120	J
541-73-1	1,3-Dichlorobenzene	270	1000	1000	U
106-46-7	1,4-Dichlorobenzene	110	1000	1000	U
95-50-1	1,2-Dichlorobenzene	110	1000	1000	U
96-12-8	1,2-Dibromo-3-chloropropane	690	5000	5000	U
120-82-1	1,2,4-Trichlorobenzene	100	1000	1000	U
87-61-6	1,2,3-Trichlorobenzene	150	1000	1000	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H009DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990008DL

Lab File ID: J024644

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 10000.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	2700	10000	10000	U
74-87-3	Chloromethane	2100	10000	10000	U
75-01-4	Vinyl chloride	2700	10000	10000	U
74-83-9	Bromomethane	3300	10000	10000	U
75-00-3	Chloroethane	2900	10000	10000	U
75-69-4	Trichlorofluoromethane	3000	10000	10000	U
75-35-4	1,1-Dichloroethene	3000	10000	10000	U
67-64-1	Acetone	6300	50000	50000	U
75-15-0	Carbon disulfide	2600	10000	10000	U
75-09-2	Methylene chloride	1600	20000	20000	U
156-60-5	trans-1,2-Dichloroethene	2900	10000	10000	U
1634-04-4	Methyl tert-butylether	2300	10000	10000	U
75-34-3	1,1-Dichloroethane	1300	10000	10000	U
156-59-2	cis-1,2-Dichloroethene	2400	10000	10000	U
78-93-3	2-Butanone	7200	50000	50000	U
74-97-5	Bromochloromethane	1600	10000	10000	U
67-66-3	Chloroform	1200	10000	10000	U
71-55-6	1,1,1-Trichloroethane	2300	10000	10000	U
56-23-5	Carbon tetrachloride	2200	10000	10000	U
71-43-2	Benzene	1400	10000	10000	U
107-06-2	1,2-Dichloroethane	2500	10000	10000	U
79-01-6	Trichloroethene	2500	10000	76000	D
78-87-5	1,2-Dichloropropane	1300	10000	10000	U
75-27-4	Bromodichloromethane	1200	10000	10000	U
10061-01-5	cis-1,3-Dichloropropene	2200	10000	10000	U
108-10-1	4-Methyl-2-pentanone	4800	50000	50000	U
108-88-3	Toluene	2400	10000	10000	U
10061-02-6	trans-1,3-Dichloropropene	2100	10000	10000	U
127-18-4	Tetrachloroethene	2700	10000	10000	U
79-00-5	1,1,2-Trichloroethane	2900	10000	10000	U
591-78-6	2-Hexanone	3400	50000	50000	U
124-48-1	Dibromochloromethane	1200	10000	10000	U
106-93-4	1,2-Dibromoethane	2000	10000	10000	U
108-90-7	Chlorobenzene	1200	10000	10000	U
100-41-4	Ethylbenzene	2200	10000	10000	U
1330-20-7	Xylene (total)	6500	10000	10000	U
100-42-5	Styrene	1200	10000	10000	U
75-25-2	Bromoform	2000	10000	10000	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H009DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990008DL

Lab File ID: J024644

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 10000.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	2500	10000	10000	U
79-34-5	1,1,2,2-Tetrachloroethane	1100	10000	1700	DJ
541-73-1	1,3-Dichlorobenzene	2700	10000	10000	U
106-46-7	1,4-Dichlorobenzene	1100	10000	10000	U
95-50-1	1,2-Dichlorobenzene	1100	10000	10000	U
96-12-8	1,2-Dibromo-3-chloropropane	6900	50000	9100	DJ
120-82-1	1,2,4-Trichlorobenzene	1000	10000	4300	DJ
87-61-6	1,2,3-Trichlorobenzene	1500	10000	7500	DJ

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H010

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990009

Lab File ID: J024650

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND	Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane		0.27	1.0	1.0	U
74-87-3	Chloromethane		0.21	1.0	1.0	U
75-01-4	Vinyl chloride		0.27	1.0	1.0	U
74-83-9	Bromomethane		0.33	1.0	1.0	U
75-00-3	Chloroethane		0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane		0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene		0.30	1.0	1.0	U
67-64-1	Acetone		0.63	5.0	5.0	U
75-15-0	Carbon disulfide		0.26	1.0	1.0	U
75-09-2	Methylene chloride		0.16	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene		0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether		0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane		0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.24	1.0	2.0	
78-93-3	2-Butanone		0.72	5.0	5.0	U
74-97-5	Bromochloromethane		0.16	1.0	1.0	U
67-66-3	Chloroform		0.12	1.0	0.30	J
71-55-6	1,1,1-Trichloroethane		0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride		0.22	1.0	1.0	U
71-43-2	Benzene		0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane		0.25	1.0	1.0	U
79-01-6	Trichloroethene		0.25	1.0	36	
78-87-5	1,2-Dichloropropane		0.13	1.0	1.0	U
75-27-4	Bromodichloromethane		0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene		0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone		0.48	5.0	5.0	U
108-88-3	Toluene		0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene		0.21	1.0	1.0	U
127-18-4	Tetrachloroethene		0.27	1.0	14	
79-00-5	1,1,2-Trichloroethane		0.29	1.0	1.0	U
591-78-6	2-Hexanone		0.34	5.0	5.0	U
124-48-1	Dibromochloromethane		0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane		0.20	1.0	1.0	U
108-90-7	Chlorobenzene		0.12	1.0	1.0	U
100-41-4	Ethylbenzene		0.22	1.0	1.0	U
1330-20-7	Xylene (total)		0.65	1.0	1.0	U
100-42-5	Styrene		0.12	1.0	1.0	U
75-25-2	Bromoform		0.20	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H010

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990009

Lab File ID: J024650

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H011

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990010

Lab File ID: J024651

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	2.0	
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	2.0	
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	0.20	J
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	8.0	
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H011

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990 Lab Sample ID: D8990010

Matrix: WATER Level: LOW Lab File ID: J024651

Sample Volume: 10.0 ML Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H012

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990 Lab Sample ID: D8990011

Matrix: WATER Level: LOW Lab File ID: J024652

Sample Volume: 10.0 ML Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 5.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	1.4	5.0	5.0	U
74-87-3	Chloromethane	1.0	5.0	5.0	U
75-01-4	Vinyl chloride	1.4	5.0	5.0	U
74-83-9	Bromomethane	1.6	5.0	5.0	U
75-00-3	Chloroethane	1.4	5.0	5.0	U
75-69-4	Trichlorofluoromethane	1.5	5.0	5.0	U
75-35-4	1,1-Dichloroethene	1.5	5.0	5.0	U
67-64-1	Acetone	3.2	25	25	U
75-15-0	Carbon disulfide	1.3	5.0	5.0	U
75-09-2	Methylene chloride	0.80	10	10	U
156-60-5	trans-1,2-Dichloroethene	1.4	5.0	5.0	U
1634-04-4	Methyl tert-butylether	1.2	5.0	5.0	U
75-34-3	1,1-Dichloroethane	0.65	5.0	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.2	5.0	37	
78-93-3	2-Butanone	3.6	25	25	U
74-97-5	Bromochloromethane	0.80	5.0	5.0	U
67-66-3	Chloroform	0.60	5.0	60	
71-55-6	1,1,1-Trichloroethane	1.2	5.0	5.0	U
56-23-5	Carbon tetrachloride	1.1	5.0	21	
71-43-2	Benzene	0.70	5.0	5.0	U
107-06-2	1,2-Dichloroethane	1.2	5.0	5.0	U
79-01-6	Trichloroethene	1.2	5.0	400	E
78-87-5	1,2-Dichloropropane	0.65	5.0	5.0	U
75-27-4	Bromodichloromethane	0.60	5.0	5.0	U
10061-01-5	cis-1,3-Dichloropropene	1.1	5.0	5.0	U
108-10-1	4-Methyl-2-pentanone	2.4	25	25	U
108-88-3	Toluene	1.2	5.0	5.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	5.0	5.0	U
127-18-4	Tetrachloroethene	1.4	5.0	5.0	U
79-00-5	1,1,2-Trichloroethane	1.4	5.0	5.0	U
591-78-6	2-Hexanone	1.7	25	25	U
124-48-1	Dibromochloromethane	0.60	5.0	5.0	U
106-93-4	1,2-Dibromoethane	1.0	5.0	5.0	U
108-90-7	Chlorobenzene	0.60	5.0	5.0	U
100-41-4	Ethylbenzene	1.1	5.0	5.0	U
1330-20-7	Xylene (total)	3.2	5.0	5.0	U
100-42-5	Styrene	0.60	5.0	5.0	U
75-25-2	Bromoform	1.0	5.0	5.0	U

FORM I VOA SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H012

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990011

Lab File ID: J024652

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 5.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	1.2	5.0	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.55	5.0	5.0	U
541-73-1	1,3-Dichlorobenzene	1.4	5.0	5.0	U
106-46-7	1,4-Dichlorobenzene	0.55	5.0	5.0	U
95-50-1	1,2-Dichlorobenzene	0.55	5.0	5.0	U
96-12-8	1,2-Dibromo-3-chloropropane	3.4	25	25	U
120-82-1	1,2,4-Trichlorobenzene	0.50	5.0	5.0	U
87-61-6	1,2,3-Trichlorobenzene	0.75	5.0	5.0	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H012DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990011DL

Lab File ID: J024653

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 50.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	14	50	50	U
74-87-3	Chloromethane	10	50	50	U
75-01-4	Vinyl chloride	14	50	50	U
74-83-9	Bromomethane	16	50	50	U
75-00-3	Chloroethane	14	50	50	U
75-69-4	Trichlorofluoromethane	15	50	50	U
75-35-4	1,1-Dichloroethene	15	50	50	U
67-64-1	Acetone	32	250	250	U
75-15-0	Carbon disulfide	13	50	50	U
75-09-2	Methylene chloride	8.0	100	100	U
156-60-5	trans-1,2-Dichloroethene	14	50	50	U
1634-04-4	Methyl tert-butylether	12	50	50	U
75-34-3	1,1-Dichloroethane	6.5	50	50	U
156-59-2	cis-1,2-Dichloroethene	12	50	84	D
78-93-3	2-Butanone	36	250	250	U
74-97-5	Bromochloromethane	8.0	50	50	U
67-66-3	Chloroform	6.0	50	150	D
71-55-6	1,1,1-Trichloroethane	12	50	50	U
56-23-5	Carbon tetrachloride	11	50	49	DJ
71-43-2	Benzene	7.0	50	50	U
107-06-2	1,2-Dichloroethane	12	50	50	U
79-01-6	Trichloroethene	12	50	1100	D
78-87-5	1,2-Dichloropropane	6.5	50	50	U
75-27-4	Bromodichloromethane	6.0	50	50	U
10061-01-5	cis-1,3-Dichloropropene	11	50	50	U
108-10-1	4-Methyl-2-pentanone	24	250	250	U
108-88-3	Toluene	12	50	50	U
10061-02-6	trans-1,3-Dichloropropene	10	50	50	U
127-18-4	Tetrachloroethene	14	50	50	U
79-00-5	1,1,2-Trichloroethane	14	50	50	U
591-78-6	2-Hexanone	17	250	250	U
124-48-1	Dibromochloromethane	6.0	50	50	U
106-93-4	1,2-Dibromoethane	10	50	50	U
108-90-7	Chlorobenzene	6.0	50	50	U
100-41-4	Ethylbenzene	11	50	50	U
1330-20-7	Xylene (total)	32	50	50	U
100-42-5	Styrene	6.0	50	50	U
75-25-2	Bromoform	10	50	50	U

FORM I VOA

SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H012DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990011DL

Lab File ID: J024653

Date Received: 11/15/02

Date Analyzed: 11/26/02

Dilution Factor: 50.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	12	50	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	50	50	U
541-73-1	1,3-Dichlorobenzene	14	50	50	U
106-46-7	1,4-Dichlorobenzene	5.5	50	50	U
95-50-1	1,2-Dichlorobenzene	5.5	50	50	U
96-12-8	1,2-Dibromo-3-chloropropane	34	250	250	U
120-82-1	1,2,4-Trichlorobenzene	5.0	50	50	U
87-61-6	1,2,3-Trichlorobenzene	7.5	50	50	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H013

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990012

Lab File ID: J024663

Date Received: 11/15/02

Date Analyzed: 11/27/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	0.20	J
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	2.0	
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	12	
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	4.0	
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	26	
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H013

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990012

Lab File ID: J024663

Date Received: 11/15/02

Date Analyzed: 11/27/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA

SW846

AMENDED

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H014

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990014

Lab File ID: J024667

Date Received: 11/15/02

Date Analyzed: 11/27/02

Dilution Factor: 1.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	3.0	J
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	0.20	J
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	0.30	J
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

AMENDED

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H014

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990014

Lab File ID: J024667

Date Received: 11/15/02

Date Analyzed: 11/27/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H015

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990013

Lab File ID: J024665

Date Received: 11/15/02

Date Analyzed: 11/27/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	0.20	J
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	2.0	
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	12	
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	4.0	
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	26	
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0246H015

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D8990 SDG No.: D8990

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D8990013

Lab File ID: J024665

Date Received: 11/15/02

Date Analyzed: 11/27/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U

FORM I VOA

SW846

'AMENDED'

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H002

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990002

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.0	U		P
7439-89-6	Iron	12.4	B		P
7439-96-5	Manganese	202			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H002T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990016

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	19.4	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H003

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990003

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H003T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990017

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	44.6	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H004

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990004

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.8	B		P
7439-89-6	Iron	1390			P
7439-96-5	Manganese	1900			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H004T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990018

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	1310			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H005

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990005

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.1	B		P
7439-89-6	Iron	9.3	B		P
7439-96-5	Manganese	388			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H005T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990019

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	107			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H006

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990006

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.3	B		P
7439-89-6	Iron	49.0	B		P
7439-96-5	Manganese	114			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H006T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990020

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	137			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H007

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990015

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.0	U		P
7439-96-5	Manganese	0.30	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H007T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990029

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H008

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990007

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	15.6	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SW-846

Form I - IN

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H011T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990024

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H012

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990011

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H013T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990026

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	14.4	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H014T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990028

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H015

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990013

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0246H015T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D8990

Matrix (soil/water): WATER Lab Sample ID: D8990027

Level (low/med): LOW Date Received: 11/15/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	15.6	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Report of Analytical Results

Client Sample ID: 0246H002
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/12/02 10:25 (Tue)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990002

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	100	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	2800	mg/L	200	11/19/02 16:32	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H003
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/12/02 12:10 (Tue)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990003

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	130	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	158	mg/L	20	11/19/02 17:42	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H004
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/12/02 15:45 (Tue)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990004

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	178	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	115	mg/L	20	11/19/02 18:00	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H005
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/12/02 17:30 (Tue)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990005

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	162	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	188	mg/L	20	11/19/02 18:53	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H006
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/12/02 19:30 (Tue)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990006

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	138	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	165	mg/L	20	11/19/02 19:10	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H008
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/13/02 10:35 (Wed)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990007

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	136	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	149	mg/L	20	11/19/02 19:28	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H009
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/13/02 12:50 (Wed)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990008

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	131	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	109	mg/L	20	11/19/02 19:45	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H010
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/13/02 15:00 (Wed)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990009

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	124	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	13.4	mg/L	1.0	11/19/02 15:04	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H011
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/13/02 16:15 (Wed)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990010

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	206	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	14500	mg/L	1000	11/19/02 20:38	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H012
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/13/02 17:45 (Wed)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990011

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	114	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	252	mg/L	50	11/19/02 21:13	EPA300.0

(19306)

Report of Analytical Results

Client Sample ID: 0246H013
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 11/13/02 19:55 (Wed)
Date Received: 11/15/02 10:00 (Fri)

Reference No: D8990
Lab Sample ID: D8990012

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	106	mg/L	10	11/23/02 10:00	EPA310.1
ANIONS					
Chloride	281	mg/L	50	11/19/02 21:31	EPA300.0

(19306)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277

Hydrogen

Test Code: RSK 175
Instrument ID: HP5890A/TCD #8
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date(s) Collected: 11/12 - 11/13/02
Date Received: 11/19/02
Date(s) Analyzed: 11/21/02
Volume(s) Analyzed: 0.10 ml

Client Sample ID	CAS Sample ID	D.F.	Hydrogen µg/L Result	MRL	MDL	Data Qualifier
0246H002	P2202277-001	1.00	ND	17.0	5.00	
0246H003	P2202277-002	1.00	ND	17.0	5.00	
0246H004	P2202277-003	1.00	ND	17.0	5.00	
0246H005	P2202277-005	1.00	ND	17.0	5.00	
0246H006	P2202277-006	1.00	ND	17.0	5.00	
0246H008	P2202277-007	1.00	ND	17.0	5.00	
0246H009	P2202277-008	1.00	ND	17.0	5.00	
0246H010	P2202277-009	1.00	ND	17.0	5.00	
0246H011	P2202277-010	1.00	ND	17.0	5.00	
0246H012	P2202277-011	1.00	ND	17.0	5.00	
0246H013	P2202277-012	1.00	ND	17.0	5.00	
Method Control Sample	P021121-MB	1.00	ND	17.0	5.00	

The Method Control Sample is laboratory water carried through the entire analytical process.
ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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Verified By: MLE Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H002**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-001

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/12/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml(s)

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHF Date: 11/26/02

02277SVG RD1- Sample

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H003**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-002

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/12/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHS Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H004**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-003

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/12/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	**1.1**	1.5	0.40	J
74-84-0	Ethane	**0.64**	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The analyte was positively identified below the laboratory method reporting limit;
the associated numerical value is considered estimated.

Verified By: MHF Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H005**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-005

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/12/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	**0.38**	0.50	0.30	**J**

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The analyte was positively identified below the laboratory method reporting limit;
the associated numerical value is considered estimated.

Verified By: MHS Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H006**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-006

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/12/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHF Date: 11/26/02

02277SVG.RD1- Sample (6)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H008**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-007

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/13/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	**0.30**	0.50	0.30	**J**

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The analyte was positively identified below the laboratory method reporting limit;
the associated numerical value is considered estimated.

Verified By: MHF Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H009**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-008

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/13/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	**0.45**	0.50	0.30	**J**

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The analyte was positively identified below the laboratory method reporting limit;
the associated numerical value is considered estimated.

Verified By: MHF Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H010**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-009

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/13/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHF Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H011**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-010

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/13/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHS Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H012**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-011

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/13/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHS Date: 11/26/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0246H013**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202277
CAS Sample ID: P2202277-012

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 11/13/02
Date Received: 11/19/02
Date Analyzed: 11/22/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHF Date: 11/26/02

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H001

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132001

Matrix: WATER Level: LOW Lab File ID: R025961

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.26	1.0	1.0	U
74-87-3	Chloromethane	0.20	1.0	1.0	U
75-01-4	Vinyl chloride	0.26	1.0	1.0	U
74-83-9	Bromomethane	0.32	1.0	1.0	U
75-00-3	Chloroethane	0.28	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.29	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.29	1.0	1.0	U
67-64-1	Acetone	0.62	5.0	5.0	U
75-15-0	Carbon disulfide	0.25	1.0	1.0	U
75-09-2	Methylene chloride	0.15	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.22	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.12	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.28	1.0	1.0	U
78-93-3	2-Butanone	0.71	5.0	5.0	U
74-97-5	Bromochloromethane	0.15	1.0	1.0	U
67-66-3	Chloroform	0.11	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.23	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.22	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.21	1.0	1.0	U
71-43-2	Benzene	0.13	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.24	1.0	1.0	U
79-01-6	Trichloroethene	0.24	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.12	1.0	1.0	U
75-27-4	Bromodichloromethane	0.11	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.21	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.47	5.0	5.0	U
108-88-3	Toluene	0.23	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.20	1.0	1.0	U
127-18-4	Tetrachloroethene	0.26	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.28	1.0	1.0	U
591-78-6	2-Hexanone	0.33	5.0	5.0	U
124-48-1	Dibromochloromethane	0.11	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.19	1.0	1.0	U
108-90-7	Chlorobenzene	0.11	1.0	1.0	U
100-41-4	Ethylbenzene	0.21	1.0	1.0	U
1330-20-7	Xylene (total)	0.64	1.0	1.0	U
100-42-5	Styrene	0.11	1.0	1.0	U
75-25-2	Bromoform	0.19	1.0	1.0	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H001

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132001

Matrix: WATER Level: LOW Lab File ID: R025961

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.24	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.10	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.26	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.10	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.10	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.68	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.090	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.14	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.27	1.0	1.0	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H002

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132002

Matrix: WATER Level: LOW Lab File ID: R025962

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.26	1.0	1.0	U
74-87-3	Chloromethane	0.20	1.0	1.0	U
75-01-4	Vinyl chloride	0.26	1.0	1.0	U
74-83-9	Bromomethane	0.32	1.0	1.0	U
75-00-3	Chloroethane	0.28	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.29	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.29	1.0	1.0	U
67-64-1	Acetone	0.62	5.0	5.0	U
75-15-0	Carbon disulfide	0.25	1.0	1.0	U
75-09-2	Methylene chloride	0.15	2.0	0.20	J
1634-04-4	Methyl tert-butylether	0.22	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.12	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.28	1.0	1.0	U
78-93-3	2-Butanone	0.71	5.0	5.0	U
74-97-5	Bromochloromethane	0.15	1.0	1.0	U
67-66-3	Chloroform	0.11	1.0	5.0	
156-59-2	cis-1,2-Dichloroethene	0.23	1.0	11	
71-55-6	1,1,1-Trichloroethane	0.22	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.21	1.0	12	
71-43-2	Benzene	0.13	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.24	1.0	1.0	U
79-01-6	Trichloroethene	0.24	1.0	75	E
78-87-5	1,2-Dichloropropane	0.12	1.0	1.0	U
75-27-4	Bromodichloromethane	0.11	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.21	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.47	5.0	5.0	U
108-88-3	Toluene	0.23	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.20	1.0	1.0	U
127-18-4	Tetrachloroethene	0.26	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.28	1.0	1.0	U
591-78-6	2-Hexanone	0.33	5.0	5.0	U
124-48-1	Dibromochloromethane	0.11	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.19	1.0	1.0	U
108-90-7	Chlorobenzene	0.11	1.0	1.0	U
100-41-4	Ethylbenzene	0.21	1.0	1.0	U
1330-20-7	Xylene (total)	0.64	1.0	1.0	U
100-42-5	Styrene	0.11	1.0	1.0	U
75-25-2	Bromoform	0.19	1.0	1.0	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H002

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132002

Matrix: WATER Level: LOW Lab File ID: R025962

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.24	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.10	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.26	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.10	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.10	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.68	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.090	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.14	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.27	1.0	1.0	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H002DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132002DL

Matrix: WATER Level: LOW Lab File ID: R025963

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 2.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.52	2.0	2.0	U
74-87-3	Chloromethane	0.40	2.0	2.0	U
75-01-4	Vinyl chloride	0.52	2.0	2.0	U
74-83-9	Bromomethane	0.64	2.0	2.0	U
75-00-3	Chloroethane	0.56	2.0	2.0	U
75-69-4	Trichlorofluoromethane	0.58	2.0	2.0	U
75-35-4	1,1-Dichloroethene	0.58	2.0	2.0	U
67-64-1	Acetone	1.2	10	10	U
75-15-0	Carbon disulfide	0.50	2.0	2.0	U
75-09-2	Methylene chloride	0.30	4.0	4.0	U
1634-04-4	Methyl tert-butylether	0.44	2.0	2.0	U
75-34-3	1,1-Dichloroethane	0.24	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	0.56	2.0	2.0	U
78-93-3	2-Butanone	1.4	10	10	U
74-97-5	Bromochloromethane	0.30	2.0	2.0	U
67-66-3	Chloroform	0.22	2.0	5.0	D
156-59-2	cis-1,2-Dichloroethene	0.46	2.0	11	D
71-55-6	1,1,1-Trichloroethane	0.44	2.0	2.0	U
56-23-5	Carbon tetrachloride	0.42	2.0	10	D
71-43-2	Benzene	0.26	2.0	2.0	U
107-06-2	1,2-Dichloroethane	0.48	2.0	2.0	U
79-01-6	Trichloroethene	0.48	2.0	71	D
78-87-5	1,2-Dichloropropane	0.24	2.0	2.0	U
75-27-4	Bromodichloromethane	0.22	2.0	2.0	U
10061-01-5	cis-1,3-Dichloropropene	0.42	2.0	2.0	U
108-10-1	4-Methyl-2-pentanone	0.94	10	10	U
108-88-3	Toluene	0.46	2.0	2.0	U
10061-02-6	trans-1,3-Dichloropropene	0.40	2.0	2.0	U
127-18-4	Tetrachloroethene	0.52	2.0	2.0	U
79-00-5	1,1,2-Trichloroethane	0.56	2.0	2.0	U
591-78-6	2-Hexanone	0.66	10	10	U
124-48-1	Dibromochloromethane	0.22	2.0	2.0	U
106-93-4	1,2-Dibromoethane	0.38	2.0	2.0	U
108-90-7	Chlorobenzene	0.22	2.0	2.0	U
100-41-4	Ethylbenzene	0.42	2.0	2.0	U
1330-20-7	Xylene (total)	1.3	2.0	2.0	U
100-42-5	Styrene	0.22	2.0	2.0	U
75-25-2	Bromoform	0.38	2.0	2.0	U

FORM I VOA SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H002DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132002DL

Matrix: WATER Level: LOW Lab File ID: R025963

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 2.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.48	2.0	2.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	2.0	2.0	U
541-73-1	1,3-Dichlorobenzene	0.52	2.0	2.0	U
106-46-7	1,4-Dichlorobenzene	0.20	2.0	2.0	U
95-50-1	1,2-Dichlorobenzene	0.20	2.0	2.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.4	10	10	U
120-82-1	1,2,4-Trichlorobenzene	0.18	2.0	2.0	U
87-61-6	1,2,3-Trichlorobenzene	0.28	2.0	2.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.54	2.0	2.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H003

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132003

Matrix: WATER Level: LOW Lab File ID: J024950

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	0.20	J
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	3.0	
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H003

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132003

Matrix: WATER Level: LOW Lab File ID: J024950

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H004

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132004

Matrix: WATER Level: LOW Lab File ID: R025965

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.26	1.0	1.0	U
74-87-3	Chloromethane	0.20	1.0	1.0	U
75-01-4	Vinyl chloride	0.26	1.0	1.0	U
74-83-9	Bromomethane	0.32	1.0	1.0	U
75-00-3	Chloroethane	0.28	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.29	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.29	1.0	1.0	U
67-64-1	Acetone	0.62	5.0	5.0	U
75-15-0	Carbon disulfide	0.25	1.0	1.0	U
75-09-2	Methylene chloride	0.15	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.22	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.12	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.28	1.0	1.0	U
78-93-3	2-Butanone	0.71	5.0	5.0	U
74-97-5	Bromochloromethane	0.15	1.0	1.0	U
67-66-3	Chloroform	0.11	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.23	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.22	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.21	1.0	1.0	U
71-43-2	Benzene	0.13	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.24	1.0	1.0	U
79-01-6	Trichloroethene	0.24	1.0	6.0	
78-87-5	1,2-Dichloropropane	0.12	1.0	1.0	U
75-27-4	Bromodichloromethane	0.11	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.21	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.47	5.0	5.0	U
108-88-3	Toluene	0.23	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.20	1.0	1.0	U
127-18-4	Tetrachloroethene	0.26	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.28	1.0	1.0	U
591-78-6	2-Hexanone	0.33	5.0	5.0	U
124-48-1	Dibromochloromethane	0.11	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.19	1.0	1.0	U
108-90-7	Chlorobenzene	0.11	1.0	1.0	U
100-41-4	Ethylbenzene	0.21	1.0	1.0	U
1330-20-7	Xylene (total)	0.64	1.0	1.0	U
100-42-5	Styrene	0.11	1.0	1.0	U
75-25-2	Bromoform	0.19	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H004

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9132 SDG No.: D9132 Lab Sample ID: D9132004

Matrix: WATER Level: LOW Lab File ID: R025965

Sample Volume: 10.0 ML Date Received: 12/04/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.24	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.10	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.26	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.10	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.10	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.68	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.090	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.14	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.27	1.0	1.0	U

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H002

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9132

Matrix (soil/water): WATER Lab Sample ID: D9132002

Level (low/med): LOW Date Received: 12/04/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.9	B		P
7439-89-6	Iron	16.5	B		P
7439-96-5	Manganese	23.3			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H002T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9132

Matrix (soil/water): WATER Lab Sample ID: D9132005

Level (low/med): LOW Date Received: 12/04/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	95.2	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H003

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9132

Matrix (soil/water): WATER Lab Sample ID: D9132003

Level (low/med): LOW Date Received: 12/04/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.5	B		P
7439-89-6	Iron	9.0	U		P
7439-96-5	Manganese	5.1	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H003T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9132

Matrix (soil/water): WATER Lab Sample ID: D9132006

Level (low/med): LOW Date Received: 12/04/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	137			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
0249H004

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9132

Matrix (soil/water): WATER Lab Sample ID: D9132004

Level (low/med): LOW Date Received: 12/04/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.8	B		P
7439-89-6	Iron	9.0	U		P
7439-96-5	Manganese	9.6	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H004T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9132

Matrix (soil/water): WATER Lab Sample ID: D9132007

Level (low/med): LOW Date Received: 12/04/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	181			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Report of Analytical Results

Client Sample ID: 0249H002
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/03/02 11:40 (Tue)
Date Received: 12/04/02 09:45 (Wed)

Reference No: D9132
Lab Sample ID: D9132002

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	124	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	177.5	mg/L	20	12/19/02 15:26	EPA300.0

(19389)

Report of Analytical Results

Client Sample ID: 0249H003
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/03/02 13:50 (Tue)
Date Received: 12/04/02 09:45 (Wed)

Reference No: D9132
Lab Sample ID: D9132003

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	114	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	68.23	mg/L	10	12/19/02 17:11	EPA300.0

(19389)

Report of Analytical Results

Client Sample ID: 0249H004
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/03/02 15:25 (Tue)
Date Received: 12/04/02 09:45 (Wed)

Reference No: D9132
Lab Sample ID: D9132004

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	120	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	68.12	mg/L	10	12/19/02 17:28	EPA300.0

(19389)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202442

Hydrogen

Test Code: RSK 175
Instrument ID: HP5890A/TCD #8
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date(s) Collected: 12/3/02
Date Received: 12/11/02
Date(s) Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

Client Sample ID	CAS Sample ID	D.F.	Hydrogen µg/L Result	MRL	MDL	Data Qualifier
0249H002	P2202442-001	1.00	ND	17.0	5.00	
0249H003	P2202442-002	1.00	ND	17.0	5.00	
0249H004	P2202442-003	1.00	ND	17.0	5.00	
Method Control Sample	P021213-MB	1.00	ND	17.0	5.00	

The Method Control Sample is laboratory water carried through the entire analytical process.
ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHB Date: 12/16/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H002**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202442
CAS Sample ID: P2202442-001

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/3/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml(s)

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHB Date: 12/16/02

02442SVG.RD1- Sample

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H003**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202442
CAS Sample ID: P2202442-002

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/3/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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Verified By: MHT Date: 12/16/02

02442SVG.RD1- Sample (2)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H004**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202442
CAS Sample ID: P2202442-003

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/3/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHS Date: 12/16/02

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H005

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141001

Matrix: WATER Level: LOW Lab File ID: J024937

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H005

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141001

Lab File ID: J024937

Date Received: 12/05/02

Date Analyzed: 12/16/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H006

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141002

Lab File ID: J024953

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H006

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141002

Lab File ID: J024953

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H007

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141003

Lab File ID: J024954

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND (Units: UG/L)	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H007

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141003

Lab File ID: J024954

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H008

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141004

Matrix: WATER Level: LOW Lab File ID: J024955

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	3.0	
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	0.70	J
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	0.60	J
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H008

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141004

Matrix: WATER Level: LOW Lab File ID: J024955

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H009

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141005

Matrix: WATER Level: LOW Lab File ID: J024984

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 25.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	6.8	25	25	U
74-87-3	Chloromethane	5.2	25	25	U
75-01-4	Vinyl chloride	6.8	25	25	U
74-83-9	Bromomethane	8.2	25	25	U
75-00-3	Chloroethane	7.2	25	25	U
75-69-4	Trichlorofluoromethane	7.5	25	25	U
75-35-4	1,1-Dichloroethene	7.5	25	25	U
67-64-1	Acetone	16	120	120	U
75-15-0	Carbon disulfide	6.5	25	25	U
75-09-2	Methylene chloride	4.0	50	50	U
1634-04-4	Methyl tert-butylether	5.8	25	25	U
75-34-3	1,1-Dichloroethane	3.2	25	25	U
156-60-5	trans-1,2-Dichloroethene	7.2	25	25	U
78-93-3	2-Butanone	18	120	120	U
74-97-5	Bromochloromethane	4.0	25	25	U
67-66-3	Chloroform	3.0	25	420	
156-59-2	cis-1,2-Dichloroethene	6.0	25	320	
71-55-6	1,1,1-Trichloroethane	5.8	25	25	U
56-23-5	Carbon tetrachloride	5.5	25	82	
71-43-2	Benzene	3.5	25	25	U
107-06-2	1,2-Dichloroethane	6.2	25	53	
79-01-6	Trichloroethene	6.2	25	6700	E
78-87-5	1,2-Dichloropropane	3.2	25	25	U
75-27-4	Bromodichloromethane	3.0	25	25	U
10061-01-5	cis-1,3-Dichloropropene	5.5	25	25	U
108-10-1	4-Methyl-2-pentanone	12	120	120	U
108-88-3	Toluene	6.0	25	25	U
10061-02-6	trans-1,3-Dichloropropene	5.2	25	25	U
127-18-4	Tetrachloroethene	6.8	25	140	
79-00-5	1,1,2-Trichloroethane	7.2	25	25	U
591-78-6	2-Hexanone	8.5	120	120	U
124-48-1	Dibromochloromethane	3.0	25	25	U
106-93-4	1,2-Dibromoethane	5.0	25	25	U
108-90-7	Chlorobenzene	3.0	25	25	U
100-41-4	Ethylbenzene	5.5	25	25	U
1330-20-7	Xylene (total)	16	25	25	U
100-42-5	Styrene	3.0	25	25	U
75-25-2	Bromoform	5.0	25	25	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H009

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141005

Matrix: WATER Level: LOW Lab File ID: J024984

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 25.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	6.2	25	25	U
79-34-5	1,1,2,2-Tetrachloroethane	2.8	25	25	U
541-73-1	1,3-Dichlorobenzene	6.8	25	25	U
106-46-7	1,4-Dichlorobenzene	2.8	25	25	U
95-50-1	1,2-Dichlorobenzene	2.8	25	25	U
96-12-8	1,2-Dibromo-3-chloropropane	17	120	120	U
120-82-1	1,2,4-Trichlorobenzene	2.5	25	25	U
87-61-6	1,2,3-Trichlorobenzene	3.8	25	25	U
76-13-1	1,1,2-Trichlorotrifluoroetha	7.0	25	25	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H009DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141005DL

Matrix: WATER Level: LOW Lab File ID: J024987

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 250.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	68	250	250	U
74-87-3	Chloromethane	52	250	250	U
75-01-4	Vinyl chloride	68	250	250	U
74-83-9	Bromomethane	82	250	250	U
75-00-3	Chloroethane	72	250	250	U
75-69-4	Trichlorofluoromethane	75	250	250	U
75-35-4	1,1-Dichloroethene	75	250	250	U
67-64-1	Acetone	160	1200	1200	U
75-15-0	Carbon disulfide	65	250	250	U
75-09-2	Methylene chloride	40	500	500	U
1634-04-4	Methyl tert-butylether	58	250	250	U
75-34-3	1,1-Dichloroethane	32	250	250	U
156-60-5	trans-1,2-Dichloroethene	72	250	250	U
78-93-3	2-Butanone	180	1200	1200	U
74-97-5	Bromochloromethane	40	250	250	U
67-66-3	Chloroform	30	250	420	D
156-59-2	cis-1,2-Dichloroethene	60	250	270	D
71-55-6	1,1,1-Trichloroethane	58	250	250	U
56-23-5	Carbon tetrachloride	55	250	250	U
71-43-2	Benzene	35	250	250	U
107-06-2	1,2-Dichloroethane	62	250	250	U
79-01-6	Trichloroethene	62	250	7400	D
78-87-5	1,2-Dichloropropane	32	250	250	U
75-27-4	Bromodichloromethane	30	250	250	U
10061-01-5	cis-1,3-Dichloropropene	55	250	250	U
108-10-1	4-Methyl-2-pentanone	120	1200	1200	U
108-88-3	Toluene	60	250	250	U
10061-02-6	trans-1,3-Dichloropropene	52	250	250	U
127-18-4	Tetrachloroethene	68	250	140	DJ
79-00-5	1,1,2-Trichloroethane	72	250	250	U
591-78-6	2-Hexanone	85	1200	1200	U
124-48-1	Dibromochloromethane	30	250	250	U
106-93-4	1,2-Dibromoethane	50	250	250	U
108-90-7	Chlorobenzene	30	250	250	U
100-41-4	Ethylbenzene	55	250	250	U
1330-20-7	Xylene (total)	160	250	250	U
100-42-5	Styrene	30	250	250	U
75-25-2	Bromoform	50	250	250	U

FORM I VOA SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H009DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141005DL

Lab File ID: J024987

Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 250.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	62	250	250	U
79-34-5	1,1,2,2-Tetrachloroethane	28	250	250	U
541-73-1	1,3-Dichlorobenzene	68	250	250	U
106-46-7	1,4-Dichlorobenzene	28	250	250	U
95-50-1	1,2-Dichlorobenzene	28	250	250	U
96-12-8	1,2-Dibromo-3-chloropropane	170	1200	1200	U
120-82-1	1,2,4-Trichlorobenzene	25	250	250	U
87-61-6	1,2,3-Trichlorobenzene	38	250	250	U
76-13-1	1,1,2-Trichlorotrifluoroetha	70	250	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H010

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141006

Matrix: WATER Level: LOW Lab File ID: J024957

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 50.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	14	50	50	U
74-87-3	Chloromethane	10	50	50	U
75-01-4	Vinyl chloride	14	50	50	U
74-83-9	Bromomethane	16	50	50	U
75-00-3	Chloroethane	14	50	50	U
75-69-4	Trichlorofluoromethane	15	50	50	U
75-35-4	1,1-Dichloroethene	15	50	50	U
67-64-1	Acetone	32	250	250	U
75-15-0	Carbon disulfide	13	50	50	U
75-09-2	Methylene chloride	8.0	100	100	U
1634-04-4	Methyl tert-butylether	12	50	50	U
75-34-3	1,1-Dichloroethane	6.5	50	50	U
156-60-5	trans-1,2-Dichloroethene	14	50	50	U
78-93-3	2-Butanone	36	250	250	U
74-97-5	Bromochloromethane	8.0	50	50	U
67-66-3	Chloroform	6.0	50	440	
156-59-2	cis-1,2-Dichloroethene	12	50	320	
71-55-6	1,1,1-Trichloroethane	12	50	50	U
56-23-5	Carbon tetrachloride	11	50	71	
71-43-2	Benzene	7.0	50	50	U
107-06-2	1,2-Dichloroethane	12	50	68	
79-01-6	Trichloroethene	12	50	7000	E
78-87-5	1,2-Dichloropropane	6.5	50	50	U
75-27-4	Bromodichloromethane	6.0	50	50	U
10061-01-5	cis-1,3-Dichloropropene	11	50	50	U
108-10-1	4-Methyl-2-pentanone	24	250	250	U
108-88-3	Toluene	12	50	50	U
10061-02-6	trans-1,3-Dichloropropene	10	50	50	U
127-18-4	Tetrachloroethene	14	50	130	
79-00-5	1,1,2-Trichloroethane	14	50	50	U
591-78-6	2-Hexanone	17	250	250	U
124-48-1	Dibromochloromethane	6.0	50	50	U
106-93-4	1,2-Dibromoethane	10	50	50	U
108-90-7	Chlorobenzene	6.0	50	50	U
100-41-4	Ethylbenzene	11	50	50	U
1330-20-7	Xylene (total)	32	50	50	U
100-42-5	Styrene	6.0	50	50	U
75-25-2	Bromoform	10	50	50	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H010

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141006

Lab File ID: J024957

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 50.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	12	50	50	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	50	50	U
541-73-1	1,3-Dichlorobenzene	14	50	50	U
106-46-7	1,4-Dichlorobenzene	5.5	50	50	U
95-50-1	1,2-Dichlorobenzene	5.5	50	50	U
96-12-8	1,2-Dibromo-3-chloropropane	34	250	250	U
120-82-1	1,2,4-Trichlorobenzene	5.0	50	50	U
87-61-6	1,2,3-Trichlorobenzene	7.5	50	50	U
76-13-1	1,1,2-Trichlorotrifluoroetha	14	50	50	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H010DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141006DL

Lab File ID: J024958

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	140	500	500	U
74-87-3	Chloromethane	100	500	500	U
75-01-4	Vinyl chloride	140	500	500	U
74-83-9	Bromomethane	160	500	500	U
75-00-3	Chloroethane	140	500	500	U
75-69-4	Trichlorofluoromethane	150	500	500	U
75-35-4	1,1-Dichloroethene	150	500	500	U
67-64-1	Acetone	320	2500	2500	U
75-15-0	Carbon disulfide	130	500	500	U
75-09-2	Methylene chloride	80	1000	1000	U
1634-04-4	Methyl tert-butylether	120	500	500	U
75-34-3	1,1-Dichloroethane	65	500	500	U
156-60-5	trans-1,2-Dichloroethene	140	500	500	U
78-93-3	2-Butanone	360	2500	2500	U
74-97-5	Bromochloromethane	80	500	500	U
67-66-3	Chloroform	60	500	380	DJ
156-59-2	cis-1,2-Dichloroethene	120	500	220	DJ
71-55-6	1,1,1-Trichloroethane	120	500	500	U
56-23-5	Carbon tetrachloride	110	500	500	U
71-43-2	Benzene	70	500	500	U
107-06-2	1,2-Dichloroethane	120	500	500	U
79-01-6	Trichloroethene	120	500	6300	D
78-87-5	1,2-Dichloropropane	65	500	500	U
75-27-4	Bromodichloromethane	60	500	500	U
10061-01-5	cis-1,3-Dichloropropene	110	500	500	U
108-10-1	4-Methyl-2-pentanone	240	2500	2500	U
108-88-3	Toluene	120	500	500	U
10061-02-6	trans-1,3-Dichloropropene	100	500	500	U
127-18-4	Tetrachloroethene	140	500	500	U
79-00-5	1,1,2-Trichloroethane	140	500	500	U
591-78-6	2-Hexanone	170	2500	2500	U
124-48-1	Dibromochloromethane	60	500	500	U
106-93-4	1,2-Dibromoethane	100	500	500	U
108-90-7	Chlorobenzene	60	500	500	U
100-41-4	Ethylbenzene	110	500	500	U
1330-20-7	Xylene (total)	320	500	500	U
100-42-5	Styrene	60	500	500	U
75-25-2	Bromoform	100	500	500	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H010DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141006DL

Lab File ID: J024958

Date Received: 12/05/02

Date Analyzed: 12/17/02

Dilution Factor: 500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	120	500	500	U
79-34-5	1,1,2,2-Tetrachloroethane	55	500	500	U
541-73-1	1,3-Dichlorobenzene	140	500	500	U
106-46-7	1,4-Dichlorobenzene	55	500	500	U
95-50-1	1,2-Dichlorobenzene	55	500	500	U
96-12-8	1,2-Dibromo-3-chloropropane	340	2500	2500	U
120-82-1	1,2,4-Trichlorobenzene	50	500	500	U
87-61-6	1,2,3-Trichlorobenzene	75	500	500	U
76-13-1	1,1,2-Trichlorotrifluoroetha	140	500	500	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H013

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141009

Matrix: WATER Level: LOW Lab File ID: J024982

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 1.0

CAS NO.	COMPOUND	Units: UG/L	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane		1.0	1.0	U
74-87-3	Chloromethane		1.0	1.0	U
75-01-4	Vinyl chloride		1.0	1.0	U
74-83-9	Bromomethane		1.0	1.0	U
75-00-3	Chloroethane		1.0	1.0	U
75-69-4	Trichlorofluoromethane		1.0	1.0	U
75-35-4	1,1-Dichloroethene		1.0	1.0	U
67-64-1	Acetone		5.0	5.0	U
75-15-0	Carbon disulfide		1.0	1.0	U
75-09-2	Methylene chloride		2.0	2.0	U
1634-04-4	Methyl tert-butylether		1.0	1.0	U
75-34-3	1,1-Dichloroethane		1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene		1.0	1.0	U
78-93-3	2-Butanone		5.0	5.0	U
74-97-5	Bromochloromethane		1.0	1.0	U
67-66-3	Chloroform		1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene		1.0	1.0	U
71-55-6	1,1,1-Trichloroethane		1.0	1.0	U
56-23-5	Carbon tetrachloride		1.0	1.0	U
71-43-2	Benzene		1.0	1.0	U
107-06-2	1,2-Dichloroethane		1.0	1.0	U
79-01-6	Trichloroethene		1.0	0.30	J
78-87-5	1,2-Dichloropropane		1.0	1.0	U
75-27-4	Bromodichloromethane		1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	1.0	U
108-10-1	4-Methyl-2-pentanone		5.0	5.0	U
108-88-3	Toluene		1.0	0.30	J
10061-02-6	trans-1,3-Dichloropropene		1.0	1.0	U
127-18-4	Tetrachloroethene		1.0	1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	1.0	U
591-78-6	2-Hexanone		5.0	5.0	U
124-48-1	Dibromochloromethane		1.0	1.0	U
106-93-4	1,2-Dibromoethane		1.0	1.0	U
108-90-7	Chlorobenzene		1.0	1.0	U
100-41-4	Ethylbenzene		1.0	1.0	U
1330-20-7	Xylene (total)		1.0	1.0	U
100-42-5	Styrene		1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H013

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141009

Lab File ID: J024982

Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 1.0

CAS NO.	COMPOUND (Units: UG/L)	RL	RESULT	Q
75-25-2	Bromoform	1.0	1.0	U
98-82-8	Isopropylbenzene	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H014

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141010

Matrix: WATER Level: LOW Lab File ID: J024977

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	0.27	1.0	1.0	U
74-87-3	Chloromethane	0.21	1.0	1.0	U
75-01-4	Vinyl chloride	0.27	1.0	1.0	U
74-83-9	Bromomethane	0.33	1.0	1.0	U
75-00-3	Chloroethane	0.29	1.0	1.0	U
75-69-4	Trichlorofluoromethane	0.30	1.0	1.0	U
75-35-4	1,1-Dichloroethene	0.30	1.0	1.0	U
67-64-1	Acetone	0.63	5.0	5.0	U
75-15-0	Carbon disulfide	0.26	1.0	1.0	U
75-09-2	Methylene chloride	0.16	2.0	2.0	U
1634-04-4	Methyl tert-butylether	0.23	1.0	1.0	U
75-34-3	1,1-Dichloroethane	0.13	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.29	1.0	1.0	U
78-93-3	2-Butanone	0.72	5.0	5.0	U
74-97-5	Bromochloromethane	0.16	1.0	1.0	U
67-66-3	Chloroform	0.12	1.0	1.0	U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	1.0	U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	1.0	U
56-23-5	Carbon tetrachloride	0.22	1.0	1.0	U
71-43-2	Benzene	0.14	1.0	1.0	U
107-06-2	1,2-Dichloroethane	0.25	1.0	1.0	U
79-01-6	Trichloroethene	0.25	1.0	1.0	U
78-87-5	1,2-Dichloropropane	0.13	1.0	1.0	U
75-27-4	Bromodichloromethane	0.12	1.0	1.0	U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	1.0	U
108-10-1	4-Methyl-2-pentanone	0.48	5.0	5.0	U
108-88-3	Toluene	0.24	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	1.0	U
127-18-4	Tetrachloroethene	0.27	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	1.0	U
591-78-6	2-Hexanone	0.34	5.0	5.0	U
124-48-1	Dibromochloromethane	0.12	1.0	1.0	U
106-93-4	1,2-Dibromoethane	0.20	1.0	1.0	U
108-90-7	Chlorobenzene	0.12	1.0	1.0	U
100-41-4	Ethylbenzene	0.22	1.0	1.0	U
1330-20-7	Xylene (total)	0.65	1.0	1.0	U
100-42-5	Styrene	0.12	1.0	1.0	U
75-25-2	Bromoform	0.20	1.0	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H014

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141010

Matrix: WATER Level: LOW Lab File ID: J024977

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 1.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	0.25	1.0	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	0.11	1.0	1.0	U
541-73-1	1,3-Dichlorobenzene	0.27	1.0	1.0	U
106-46-7	1,4-Dichlorobenzene	0.11	1.0	1.0	U
95-50-1	1,2-Dichlorobenzene	0.11	1.0	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	0.69	5.0	5.0	U
120-82-1	1,2,4-Trichlorobenzene	0.10	1.0	1.0	U
87-61-6	1,2,3-Trichlorobenzene	0.15	1.0	1.0	U
76-13-1	1,1,2-Trichlorotrifluoroetha	0.28	1.0	1.0	U

FORM I VOA SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H015

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141011

Lab File ID: J024979

Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 250.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	68	250	250	U
74-87-3	Chloromethane	52	250	250	U
75-01-4	Vinyl chloride	68	250	250	U
74-83-9	Bromomethane	82	250	250	U
75-00-3	Chloroethane	72	250	250	U
75-69-4	Trichlorofluoromethane	75	250	250	U
75-35-4	1,1-Dichloroethene	75	250	250	U
67-64-1	Acetone	160	1200	1200	U
75-15-0	Carbon disulfide	65	250	250	U
75-09-2	Methylene chloride	40	500	500	U
1634-04-4	Methyl tert-butylether	58	250	250	U
75-34-3	1,1-Dichloroethane	32	250	250	U
156-60-5	trans-1,2-Dichloroethene	72	250	250	U
78-93-3	2-Butanone	180	1200	1200	U
74-97-5	Bromochloromethane	40	250	250	U
67-66-3	Chloroform	30	250	450	
156-59-2	cis-1,2-Dichloroethene	60	250	160	J
71-55-6	1,1,1-Trichloroethane	58	250	250	U
56-23-5	Carbon tetrachloride	55	250	250	U
71-43-2	Benzene	35	250	250	U
107-06-2	1,2-Dichloroethane	62	250	100	J
79-01-6	Trichloroethene	62	250	82000	E
78-87-5	1,2-Dichloropropane	32	250	250	U
75-27-4	Bromodichloromethane	30	250	250	U
10061-01-5	cis-1,3-Dichloropropene	55	250	250	U
108-10-1	4-Methyl-2-pentanone	120	1200	1200	U
108-88-3	Toluene	60	250	250	U
10061-02-6	trans-1,3-Dichloropropene	52	250	250	U
127-18-4	Tetrachloroethene	68	250	250	U
79-00-5	1,1,2-Trichloroethane	72	250	230	J
591-78-6	2-Hexanone	85	1200	1200	U
124-48-1	Dibromochloromethane	30	250	250	U
106-93-4	1,2-Dibromoethane	50	250	250	U
108-90-7	Chlorobenzene	30	250	250	U
100-41-4	Ethylbenzene	55	250	250	U
1330-20-7	Xylene (total)	160	250	250	U
100-42-5	Styrene	30	250	250	U
75-25-2	Bromoform	50	250	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H015

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141011

Matrix: WATER Level: LOW Lab File ID: J024979

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 250.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	62	250	250	U
79-34-5	1,1,2,2-Tetrachloroethane	28	250	250	U
541-73-1	1,3-Dichlorobenzene	68	250	250	U
106-46-7	1,4-Dichlorobenzene	28	250	250	U
95-50-1	1,2-Dichlorobenzene	28	250	250	U
96-12-8	1,2-Dibromo-3-chloropropane	170	1200	1200	U
120-82-1	1,2,4-Trichlorobenzene	25	250	250	U
87-61-6	1,2,3-Trichlorobenzene	38	250	250	U
76-13-1	1,1,2-Trichlorotrifluoroetha	70	250	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H015DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141

Matrix: WATER Level: LOW

Sample Volume: 10.0 ML

Lab Sample ID: D9141011DL

Lab File ID: J024980

Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 2500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
75-71-8	Dichlorodifluoromethane	680	2500	2500	U
74-87-3	Chloromethane	520	2500	2500	U
75-01-4	Vinyl chloride	680	2500	2500	U
74-83-9	Bromomethane	820	2500	2500	U
75-00-3	Chloroethane	720	2500	2500	U
75-69-4	Trichlorofluoromethane	750	2500	2500	U
75-35-4	1,1-Dichloroethene	750	2500	2500	U
67-64-1	Acetone	1600	12000	12000	U
75-15-0	Carbon disulfide	650	2500	2500	U
75-09-2	Methylene chloride	400	5000	5000	U
1634-04-4	Methyl tert-butylether	580	2500	2500	U
75-34-3	1,1-Dichloroethane	320	2500	2500	U
156-60-5	trans-1,2-Dichloroethene	720	2500	2500	U
78-93-3	2-Butanone	1800	12000	12000	U
74-97-5	Bromochloromethane	400	2500	2500	U
67-66-3	Chloroform	300	2500	430	DJ
156-59-2	cis-1,2-Dichloroethene	600	2500	2500	U
71-55-6	1,1,1-Trichloroethane	580	2500	2500	U
56-23-5	Carbon tetrachloride	550	2500	2500	U
71-43-2	Benzene	350	2500	2500	U
107-06-2	1,2-Dichloroethane	620	2500	2500	U
79-01-6	Trichloroethene	620	2500	88000	D
78-87-5	1,2-Dichloropropane	320	2500	2500	U
75-27-4	Bromodichloromethane	300	2500	2500	U
10061-01-5	cis-1,3-Dichloropropene	550	2500	2500	U
108-10-1	4-Methyl-2-pentanone	1200	12000	12000	U
108-88-3	Toluene	600	2500	2500	U
10061-02-6	trans-1,3-Dichloropropene	520	2500	2500	U
127-18-4	Tetrachloroethene	680	2500	2500	U
79-00-5	1,1,2-Trichloroethane	720	2500	2500	U
591-78-6	2-Hexanone	850	12000	12000	U
124-48-1	Dibromochloromethane	300	2500	2500	U
106-93-4	1,2-Dibromoethane	500	2500	2500	U
108-90-7	Chlorobenzene	300	2500	2500	U
100-41-4	Ethylbenzene	550	2500	2500	U
1330-20-7	Xylene (total)	1600	2500	2500	U
100-42-5	Styrene	300	2500	2500	U
75-25-2	Bromoform	500	2500	2500	U

FORM I VOA SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT ID.

0249H015DL

Lab Name: COLUMBIA ANALYTICAL SERVICES - REDDING

Case No.: D9141 SDG No.: D9141 Lab Sample ID: D9141011DL

Matrix: WATER Level: LOW Lab File ID: J024980

Sample Volume: 10.0 ML Date Received: 12/05/02

Date Analyzed: 12/18/02

Dilution Factor: 2500.0

CAS NO.	COMPOUND Units: UG/L	MDL	RL	RESULT	Q
98-82-8	Isopropylbenzene	620	2500	2500	U
79-34-5	1,1,2,2-Tetrachloroethane	280	2500	2500	U
541-73-1	1,3-Dichlorobenzene	680	2500	2500	U
106-46-7	1,4-Dichlorobenzene	280	2500	2500	U
95-50-1	1,2-Dichlorobenzene	280	2500	2500	U
96-12-8	1,2-Dibromo-3-chloropropane	1700	12000	12000	U
120-82-1	1,2,4-Trichlorobenzene	250	2500	2500	U
87-61-6	1,2,3-Trichlorobenzene	380	2500	2500	U
76-13-1	1,1,2-Trichlorotrifluoroetha	700	2500	2500	U

FORM I VOA SW846

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H005

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141001

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.0	U		P
7439-96-5	Manganese	0.30	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H005T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141012

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H006

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141002

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	46.1	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H006T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141013

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	135			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H008

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141004

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	10.4	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H008T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141014

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	42.1	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

0098

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H009

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141005

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.8	B		P
7439-89-6	Iron	9.0	U		P
7439-96-5	Manganese	7.0	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H009T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141015

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	37.7	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H010

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141006

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.6	B		P
7439-89-6	Iron	9.0	U		P
7439-96-5	Manganese	6.5	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
0249H010T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141016

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	34.4	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H013

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141009

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	3.5	B		P
7439-89-6	Iron	9.0	U		P
7439-96-5	Manganese	3.8	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H013T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141017

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	27.3	B		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H014

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141010

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.0	U		P
7439-96-5	Manganese	0.30	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H014T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141018

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H015

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141011

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	9.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Columbia Analytical Services, Inc.

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

0249H015T

Contract: TTEMI/HUNTER'S PT

Lab Code: RDD Case No.: SAS No.: SDG NO.: D9141

Matrix (soil/water): WATER Lab Sample ID: D9141019

Level (low/med): LOW Date Received: 12/05/02

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron	32200			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Report of Analytical Results

Client Sample ID: 0249H006
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 10:30 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141002

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	160	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	72.4	mg/L	10	12/05/02 20:54	EPA300.0
NUTRIENTS					
Nitrate as N	4.44	mg/L	0.10	12/05/02 15:03	EPA300.0

(19391)

Report of Analytical Results

Client Sample ID: 0249H008
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 11:45 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141004

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	120	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	150.0	mg/L	10	12/05/02 21:12	EPA300.0
NUTRIENTS					
Nitrate as N	4.38	mg/L	0.10	12/05/02 15:21	EPA300.0

(19391)

Report of Analytical Results

Client Sample ID: 0249H009
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 13:15 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141005

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	158	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	145.6	mg/L	10	12/05/02 21:29	EPA300.0
NUTRIENTS					
Nitrate as N	0.73	mg/L	0.10	12/05/02 15:38	EPA300.0

(19391)

Report of Analytical Results

Client Sample ID: 0249H011
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 14:55 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141007

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
NUTRIENTS					
Nitrate as N	4.35	mg/L	0.10	12/05/02 17:06	EPA300.0

(19391)

Report of Analytical Results

Client Sample ID: 0249H012
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 16:00 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141008

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
NUTRIENTS					
Nitrate as N	3.63	mg/L	0.10	12/05/02 17:24	EPA300.0

(19391)

Report of Analytical Results

Client Sample ID: 0249H013
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 16:30 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141009

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	192	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	57.5	mg/L	10	12/05/02 22:57	EPA300.0

(19391)

Report of Analytical Results

Client Sample ID: 0249H015
Sample Description: None
Sample Matrix: Water
Site: N/A

Date Collected: 12/04/02 16:50 (Wed)
Date Received: 12/05/02 09:40 (Thu)

Reference No: D9141
Lab Sample ID: D9141011

CATEGORY NAME Analytical Parameter	Result	Units	Reporting Level	Date/Time of Analysis	Analytical Method(s)
GENERAL					
Alkalinity as CaCO3	186	mg/L	10	12/13/02 09:10	EPA310.1
ANIONS					
Chloride	107.2	mg/L	10	12/06/02 00:07	EPA300.0
NUTRIENTS					
Nitrate as N	1.19	mg/L	0.10	12/05/02 18:51	EPA300.0

(19391)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202443

Hydrogen

Test Code: RSK 175
Instrument ID: HP5890A/TCD #8
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date(s) Collected: 12/4/02
Date Received: 12/11/02
Date(s) Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

Client Sample ID	CAS Sample ID	D.F.	Hydrogen µg/L Result	MRL	MDL	Data Qualifier
0249H006	P2202443-001	1.00	ND	17.0	5.00	
0249H008	P2202443-002	1.00	ND	17.0	5.00	
0249H009	P2202443-003	1.00	ND	17.0	5.00	
0249H013	P2202443-004	1.00	ND	17.0	5.00	
0249H013	P2202443-004DUP	1.00	ND	17.0	5.00	
0249H015	P2202443-005	1.00	ND	17.0	5.00	
Method Control Sample	P021213-MB	1.00	ND	17.0	5.00	

The Method Control Sample is laboratory water carried through the entire analytical process.
ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MLS Date: 12/17/02

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H006**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202443
CAS Sample ID: P2202443-001

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/4/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml(s)

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MH Date: 12/17/02

02443SVG.RDT- Sample

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H008**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202443
CAS Sample ID: P2202443-002

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/4/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHS Date: 12/17/02

02443SVG.RD1 - Sample (2)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H009**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202443
CAS Sample ID: P2202443-003

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/4/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	**0.67**	1.5	0.40	**J**
74-84-0	Ethane	**0.34**	0.50	0.30	**J, L1**

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The analyte was positively identified below the laboratory method reporting limit;
the associated numerical value is considered estimated.
L1 = Laboratory control sample recovery outside specified limits; results may be biased high.

Verified By: MHB Date: 12/17/02

02443SVG.RD1- Sample (3)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H013**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202443
CAS Sample ID: P2202443-004

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/4/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	ND	1.5	0.40	
74-84-0	Ethane	ND	0.50	0.30	

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: MHF Date: 12/17/02

02443SVG.RD1- Sample (4)

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Tetra Tech**
Client Sample ID: **0249H015**
Client Project ID: **Hunter's Point**

CAS Project ID: P2202443
CAS Sample ID: P2202443-005

Test Code: RSK 175
Instrument ID: HP5890A/FID #10
Analyst: Regan Lau
Sampling Media: Liquid
Test Notes:

Date Collected: 12/4/02
Date Received: 12/11/02
Date Analyzed: 12/13/02
Volume(s) Analyzed: 0.10 ml

D.F. = 1.00

CAS #	Compound	Result µg/L	MRL µg/L	Detection Limit µg/L	Data Qualifier
74-85-1	Ethene	2.5	1.5	0.40	
74-84-0	Ethane	2.7	0.50	0.30	L1

ND = Compound was analyzed for, but not detected above the **laboratory detection limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
L1 = Laboratory control sample recovery outside specified limits; results may be biased high.

Verified By: MHF Date: 12/17/02

02443SVG RD1- Sample (5)

ENCLOSURE 5
DATA VALIDATION REPORTS

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Hunters Point Shipyard
Project Name:	DO-013
Laboratory:	Columbia Analytical Services - Redding
Data Reviewer:	Sandra Obleas, The DV Group
Review Date:	January 23, 2003

Sample Delivery Group (SDG) No.: D8990

Sample Nos.:		
	0246H001	0246H009
	0246H002	0246H010
	0246H003	0246H011
	0246H004 *	0246H012
	0246H005	0246H013 *
	0246H006	0246H014
	0246H007	0246H015
	0246H008	

* Full Validation Sample

Matrix: Water

Collection Date(s): November 12 & 13, 2002

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), "USEPA Contract Laboratory National Functional Guidelines for Low Concentration Organic Data" (EPA 2001), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the TtEMI documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (August 2001), and the document entitled "TtEMI Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (May 2000) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

_____
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. An asterisk (*) indicates cursory validation parameters.

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

U1, U2, U4	Laboratory method blank, Field blank, Common blank contamination
J1, UJ1, R3	Noncompliance with instrument performance criteria
J2, UJ2	Duplicate precision exceedance
J3, UJ3, R2	Surrogate, Matrix spike, Laboratory control sample (LCS) exceedance
J4, UJ4	Serial Dilution
J5, UJ5, R1	Holding time exceedance
J7, UJ7, R7	Calibration exceedance
J8	Compound above calibration range
J9, UJ9	ICP Interference check sample; Compound identification
J0, UJ0, R0	Internal standard exceedance
J	Quantification below reporting limit

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards
VOA 8260	√	pg. 6	pg. 6	N/A	√	pg. 6,7	pg. 6	√
Metals	√	N/A	√	√	√	pg. 9	√	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Samples 0246H004 and 0246H013

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interferenc Check Sam
VOA 8260	√	√	√	√	N/A	√	N/A
Metals	N/A	N/A	√	√	N/A	√	√

Notes:

√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

VOLATILES (8260) ANALYSIS

I. Surrogate Recovery

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (J3).

- Volatiles for samples 0246H003, 0246H005, 0246H006, 0246H003DL, and 0246H008DL.

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	%R	QC Limits
0246H003	1,2-Dichloroethane-d4	116	76-114%
0246H005	1,2-Dichloroethane-d4	121	76-114%
0246H006	1,2-Dichloroethane-d4	119	76-114%
0246H003DL	1,2-Dichloroethane-d4	118	76-114%
0246H008DL	1,2-Dichloroethane-d4	120	76-114%

High percent recoveries indicate that detected results may be biased high.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (J3).

- Trichloroethene in matrix sample 0246H004.

The recoveries outside the QC limits are listed below.

Sample ID	Compound	MS%R, MSD%R / RPD	QC Limits
0246H004	Trichloroethene	160*, 100 / 46*	71-120 / 40

This outlier affected only the spiked sample. Spike recoveries above the QC limit indicate that detects may be biased high.

III. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (U4).

- Methylene chloride in samples 0246H002, 0246H013, 0246H015.
- Acetone in sample 0246H014.

Methylene chloride and Acetone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

B. Due to field, trip, and equipment rinsate blank contamination, the following results are considered nondetected (U2).

- Chloroform in samples 0246H006, 0246H008, 0246H009, 0246H010, 0246H011, 0246H003DL, 0246H004DL, 0246H005DL, and 0246H008DL.

The following compounds were detected in the associated field, trip, and equipment rinsate blanks at the concentrations noted below.

Compound	Blank ID	Concentration, µg/L
Chloroform	0246H007 Equipment rinsate	0.3

Detected results less than 5x the maximum blank contamination were qualified.

IV. Calibrations

A. Due to severe calibration problems, the following detected results are estimated (J7) and the nondetected results are rejected (R7).

- Acetone and 2-Butanone in all samples.

The following relative response factor (RRF) did not meet the QC limit of >0.05.

Calibration Date	Compound	RRF
11/15/02 Init. Cal.	Acetone	0.031
	2-Butanone	0.043
11/25/02 Init. Cal.	Acetone	0.034
	2-Butanone	0.049

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (J7/UJ7).

- Dichlorodifluoromethane in samples 0246H001, 0246H003, 0246H004, 0246H005, 0246H006, 0246H008, 0246H003DL, 0246H004DL, 0246H005DL, 0246H006DL and 0246H008DL.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
11/23/02 0958	Dichlorodifluoromethane	-50.1

V. Other Qualifications

A. The following results are qualified as estimated (J).

- 1,2-Dichloroethane and Tetrachloroethene detected results were reported below the contract required report limit (RL) for sample 0246H002.
- Carbon tetrachloride detected result was reported below the contract required report limit (RL) for samples 0246H004, 0246H008, and 0246H012DL.
- cis-1,2-Dichloroethene detected result was reported below the contract required report limit (RL) for samples 0246H004DL and 0246H005DL.

- 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene detected results were reported below the contract required report limit (RL) for sample 0246H006DL.
- Bromodichloromethane and Chloroform detected results were reported below the contract required report limit (RL) for samples 0246H007 and 0246H014.
- 1,1,2,2-Tetrachloroethane detected result was reported below the contract required report limit (RL) for sample 0246H009.
- 1,1,2,2-Tetrachloroethane, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane detected results were reported below the contract required report limit (RL) for sample 0246H009DL.
- 1,1,2-Trichlorotrifluoroethane detected result was reported below the contract required report limit (RL) for sample 0249H011.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. The following result was qualified as estimated (J8) due to exceed calibration range.

- Trichloroethene for samples 0246H003, 0246H004, 0246H005, 0246H006, 0246H008, 0246H009, and 0246H012.

Full Validation Criteria for Samples 0246H004 and 0246H013

VI. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

VII. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VIII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IX. Tentatively Identified Compounds (TICs)

A. TICs not performed.

X. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP METALS ANALYSIS

I. Blank Contamination

A. Due to calibration and method blank contamination, the following results are considered nondetected (U1).

- Dissolved Arsenic for samples 0246H004, 0246H005, and 0246H006.

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, ug/L
Dissolved Arsenic	CCB7	2.2

Detected results less than 5x the maximum blank contamination were qualified.

II. Field Duplicate

A. The following RPDs were obtained for the field duplicate samples 0246H013 / 0246H015:

- 200% for Dissolved Iron.

For water samples, the field RPD guideline is ± 25%. The data are not qualified on the basis of field duplicate results.

III. Other Qualifications

A. The following results are qualified as estimated (J).

- Dissolved Iron detected results were reported above the IDL but below the CRDL for samples 0246H002, 0246H005, 0246H006, 0246H008, 0246H010, and 0246H013.
- Total Iron detected results were reported above the IDL but below the CRDL for samples 0246H002, 0246H003, 0246H008, 0246H009, 0246H013, and 0246H015.

Results above the IDL but below the CRDL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

Full Validation Criteria for Samples 0246H004 and 0246H013

IV. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. Graphite Furnace Atomic Absorption (GFAA) Analysis

A. GFAA was not performed.

VI. ICP Interference Check Sample

A. ICSAB percent recoveries were acceptable and spectral interference was not found.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to severe calibration problems in the Volatiles analysis, the following were rejected: Acetone and 2-Butanone for twenty-two samples. RRFs were less than 0.05.

B. Due to high surrogate recoveries in the Volatile analyses, the following were qualified as estimate: five analytes for sample 0246H003; six analytes for sample 0246H005; two analytes for sample 0246H006; two analytes for sample 0246H003DL; and four analytes for sample 0246H008DL. Due to common laboratory contamination, the following were considered nondetected: Methylene chloride for three samples; and Acetone for one sample. Due to equipment rinsate contamination, Chloroform was considered nondetected for nine samples. Dichlorodifluoromethane was qualified as estimated for eleven samples. Due to uncertainty in the analytical precision near the limit of detection, the following were qualified as estimated: 1,2-Dichloroethane and Tetrachloroethene for one sample; Carbon tetrachloride for three samples; cis-1,2-Dichloroethene for two samples; 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene for two samples; Bromodichloromethane and Chloroform for two samples; 1,1,2,2-Tetrachloroethane for two samples; 1,2-Dibromo-3-chloropropane for one sample; and 1,1,2-Trichlorotrifluoroethane for one sample. The sample result for Trichloroethene for seven samples exceeded the calibration range.

C. Volatile samples 0246H003, 0246H004, 0246H005, 0246H006, 0246H008, 0246H009, and 0246H012 were reanalyzed at a dilution due to the Trichloroethene result exceeding the calibration range. The diluted results should be used as the final validated results.

D. Due to calibration blank contamination in the Metals analyses, the following were considered nondetected: Dissolved Arsenic for three samples. Due to uncertainty in the analytical precision near the limit of detection, the following were qualified as estimated: Dissolved Iron for six samples; and Total Iron for six samples.

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the few data points of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Hunters Point Shipyard
Project Name:	DO-013
Laboratory:	Columbia Analytical Services - Redding
Data Reviewer:	Sandra Obleas, The DV Group
Review Date:	January 23, 2003

Sample Delivery Group (SDG) No.: D9132

Sample Nos.:
0249H001
0249H002 *
0249H003
0249H004

* Full Validation Sample

Matrix: Water

Collection Date(s): December 3, 2002

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), "USEPA Contract Laboratory National Functional Guidelines for Low Concentration Organic Data" (EPA 2001), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the TtEMI documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (August 2001), and the document entitled "TtEMI Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (May 2000) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

_____
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. An asterisk (*) indicates cursory validation parameters.

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

U1, U2, U4	Laboratory method blank, Field blank, Common blank contamination
J1, UJ1, R3	Noncompliance with instrument performance criteria
J2, UJ2	Duplicate precision exceedance
J3, UJ3, R2	Surrogate, Matrix spike, Laboratory control sample (LCS) exceedance
J4, UJ4	Serial Dilution
J5, UJ5, R1	Holding time exceedance
J7, UJ7, R7	Calibration exceedance
J8	Compound above calibration range
J9, UJ9	ICP Interference check sample; Compound identification
J0, UJ0, R0	Internal standard exceedance
J	Quantification below reporting limit

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards
VOA 8260	√	√	N/A	N/A	√	pg. 6	pg. 6	√
Metals	√	N/A	N/A	N/A	√	pg. 8	√	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample 0249H002

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interferenc Check Sam
VOA 8260	√	√	√	√	N/A	√	N/A
Metals	N/A	N/A	√	√	N/A	√	√

Notes:

√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

VOLATILES (8260) ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (U4).

- Methylene chloride in sample 0249H002.

Methylene chloride is considered a common laboratory contaminant when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to severe calibration problems, the following nondetected results are rejected (R7).

- Acetone in all samples.
- 2-Butanone in sample 0249H003.

The following r2 and relative response factor (RRF) did not meet the QC limit of > 0.990 and >0.05, respectively.

Calibration Date	Compound	r2 / RRF
12/16/02 MSR Init. Cal.	Acetone	0.929
12/16/02 MSJ Init. Cal.	Acetone	0.035
	2-Butanone	0.049

III. Other Qualifications

A. The following results are qualified as estimated (J).

- Chloroform detected result was reported below the contract required report limit (RL) for sample 0249H003.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. The following result was qualified as estimated (J8) due to exceed calibration range.

- Trichloroethene for sample 0249H002.

Full Validation Criteria for Sample 0249H002

IV. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

V. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VII. Tentatively Identified Compounds (TICs)

A. TICs not performed.

VIII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP METALS ANALYSIS

I. Blank Contamination

A. Due to calibration and method blank contamination, the following results are considered nondetected (U1).

- Dissolved Arsenic for samples 0249H002, 0249H003 and 0249H004.

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, ug/L
Dissolved Arsenic	CCB5	2.1

Detected results less than 5x the maximum blank contamination were qualified.

II. Other Qualifications

A. The following results are qualified as estimated (J).

- Dissolved Iron and Total Iron detected results were reported above the IDL but below the CRDL for sample 0249H002.
- Dissolved Manganese detected result was reported above the IDL but below the CRDL for samples 0249H003 and 0249H004.

Results above the IDL but below the CRDL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

Full Validation Criteria for Sample 0249H002

III. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. Graphite Furnace Atomic Absorption (GFAA) Analysis

A. GFAA was not performed.

V. ICP Interference Check Sample

A. ICSAB percent recoveries were acceptable and spectral interference was not found.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to severe calibration problems in the Volatiles analysis, the following were rejected: Acetone for five samples; 2-Butanone for one sample. Acetone r2 was greater than 0.990 and RRFs were less than 0.05.

B. Due to common laboratory contaminant contamination in the Volatile analyses, Methylene chloride was considered nondetected for one sample. Due to uncertainty in the analytical precision near the limit of detection, the following were qualified as estimated: Chloroform for one sample. The sample result for Trichloroethene for one sample exceeded the calibration range.

C. Volatile sample 0249H002 was reanalyzed at a dilution due to the Trichloroethene result exceeding the calibration range. The diluted result should be used as the final validated result.

D. Due to calibration blank contamination in the Metals analyses, the following were considered nondetected: Dissolved Arsenic for three samples. Due to uncertainty in the analytical precision near the limit of detection, the following were qualified as estimated: Dissolved Iron and Total Iron for one sample; Dissolved Manganese for two samples.

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the few data points of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Hunters Point Shipyard
Project Name:	DO-013
Laboratory:	Columbia Analytical Services - Redding
Data Reviewer:	Sandra Obleas, The DV Group
Review Date:	January 23, 2003

Sample Delivery Group (SDG) No.: D9141

Sample Nos.:	0249H005	0249H011
	0249H006	0249H012
	0249H007	0249H013
	0249H008	0249H014
	0249H009 *	0249H015
	0249H010	

* Full Validation Sample

Matrix: Water

Collection Date(s): December 3 & 4, 2002

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), "USEPA Contract Laboratory National Functional Guidelines for Low Concentration Organic Data" (EPA 2001), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the TtEMI documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (August 2001), and the document entitled "TtEMI Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (May 2000) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

_____
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. An asterisk (*) indicates cursory validation parameters.

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

U1, U2, U4	Laboratory method blank, Field blank, Common blank contamination
J1, UJ1, R3	Noncompliance with instrument performance criteria
J2, UJ2	Duplicate precision exceedance
J3, UJ3, R2	Surrogate, Matrix spike, Laboratory control sample (LCS) exceedance
J4, UJ4	Serial Dilution
J5, UJ5, R1	Holding time exceedance
J7, UJ7, R7	Calibration exceedance
J8	Compound above calibration range
J9, UJ9	ICP Interference check sample; Compound identification
J0, UJ0, R0	Internal standard exceedance
J	Quantification below reporting limit

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards
VOA 8260	√	√	N/A	N/A	√	√	pg. 6	√
Metals	√	N/A	N/A	N/A	√	pg. 8	√	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample 0249H009

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interferenc Check Sam
VOA 8260	√	√	√	√	N/A	√	N/A
Metals	N/A	N/A	√	√	N/A	√	√

Notes:

√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

VOLATILES (8260) ANALYSIS

I. Calibrations

A. Due to severe calibration problems, the following nondetected results are rejected (R7).

- Acetone and 2-Butanone in all samples.

The following relative response factor (RRF) did not meet the QC limit of >0.05.

Calibration Date	Compound	RRF
12/16/02 MSJ Init. Cal.	Acetone	0.035
	2-Butanone	0.049

II. Field Duplicate

A. The following RPDs were obtained for the field duplicate samples 0249H009 / 0249H010:

- 37% for cis-1,2-Dichloroethene and 50% for Trichloroethene.

For water samples, the field RPD guideline is ± 25%. The data are not qualified on the basis of field duplicate results.

III. Other Qualifications

A. The following results are qualified as estimated (J).

- Carbon tetrachloride and cis-1,2-Dichloroethene detected results were reported below the contract required report limit (RL) for sample 0249H008.
- Tetrachloroethene detected result was reported below the contract required report limit (RL) for sample 0249H009DL.
- Chloroform and cis-1,2-Dichloroethene detected results were reported below the contract required report limit (RL) for sample 0249H010DL.
- Toluene and Trichloroethene detected results were reported below the contract required report limit (RL) for sample 0249H013.
- 1,1,2-Trichloroethane, 1,2-Dichloroethane, and cis-1,2-Dichloroethene detected results were reported below the contract required report limit (RL) for sample 0249H015.
- Chloroform detected result was reported below the contract required report limit (RL) for sample 0249H015DL.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. The following result was qualified as estimated (J8) due to exceed calibration range.

- Trichloroethene for samples 0249H009, 0249H010, and 0249H015.

Full Validation Criteria for Sample 0249H009

IV. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

V. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VII. Tentatively Identified Compounds (TICs)

A. TICs not performed.

VIII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP METALS ANALYSIS

I. Blank Contamination

A. Due to calibration and method blank contamination, the following results are considered nondetected (U1).

- Dissolved Arsenic for samples 0249H009, 0249H010, and 0249H013.

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, ug/L
Dissolved Arsenic	CCB5	2.1

Detected results less than 5x the maximum blank contamination were qualified.

II. Other Qualifications

A. The following results are qualified as estimated (J).

- Dissolved Iron detected results were reported above the IDL but below the CRDL for samples 0249H006 and 0249H008.
- Dissolved Manganese detected result was reported above the IDL but below the CRDL for samples 0249H009, 0249H010, and 0249H013.
- Total Iron detected results were reported above the IDL but below the CRDL for samples 0249H008, 0249H009, 0249H010, and 0249H013.

Results above the IDL but below the CRDL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

Full Validation Criteria for Sample 0249H009

III. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. Graphite Furnace Atomic Absorption (GFAA) Analysis

A. GFAA was not performed.

V. ICP Interference Check Sample

A. ICSAB percent recoveries were acceptable and spectral interference was not found.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to severe calibration problems in the Volatiles analysis, the following were rejected: Acetone and 2-Butanone for twelve samples. RRFs were less than 0.05.

B. Due to uncertainty in the analytical precision near the limit of detection in the Volatile analyses, the following were qualified as estimated: Carbon tetrachloride for one sample; cis-1,2-Dichloroethene for three samples; Tetrachloroethene for one sample; Toluene and Trichloroethene for one sample; 1,12-Trichloroethane and 1,2-Dichloroethane for one sample; and Chloroform for two samples. The sample result for Trichloroethene for three samples exceeded the calibration range.

C. Volatile samples 0249H009, 0249H010, and 0249H015 were reanalyzed at a dilution due to the Trichloroethene result exceeding the calibration range. The diluted results should be used as the final validated results.

D. Due to calibration blank contamination in the Metals analyses, the following were considered nondetected: Dissolved Arsenic for three samples. Due to uncertainty in the analytical precision near the limit of detection, the following were qualified as estimated: Dissolved Iron for two samples; Dissolved Manganese for three samples; and Total Iron for four samples.

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the few data points of rejected data and the small number of qualifiers added to the data indicate high usability.

MEMORANDUM TO FILE
March 26, 2003
Tetra Tech EM Inc.

Notification of Data Validation Issue
Ferox^{SM} Zero Valent Iron (ZVI) Technology Demonstration
Volatile Organic Compound (VOC) Data
AECRU Delivery Order 013

The calibrated range for low-level VOCs is narrow, about 1 to 50 parts per billion (ppb) for trichloroethene (TCE). Many groundwater samples collected for this project have very high TCE concentrations, and thus require large dilutions. This leads to possibly large "dilution errors" which are unavoidable if the samples are analyzed by the low-level VOC method. For example, one sample was analyzed at a 10,000x dilution, and TCE was reported at 76,000 from an on-instrument result of only 7.6 ppb. (Note that technically, analysts should make an attempt to get the target analyte for the dilution in the upper half of the calibration range, but it is understood that it is difficult to guess correctly with such a small calibrated range and a large dilution.)

Nonetheless, the original and the diluted results agree for most samples. This is a good sign for reliability, especially since TCE is linear far beyond its calibrated range, in my experience.

However, I recommended to the laboratory that (for all projects) the lab screen all samples and run them by the regular rather than the low-level method if the concentrations require a large dilution. The lab will implement this protocol for analyses conducted for the fourth round of sampling on this project. This will result in additional documentation that the high-level results are as quantitatively accurate as possible given the routine method limitations.

Rameen Moezzi
Tech Reviewer, Hunters Point Shipyard

cc: Hwakong Cheng, ZVI Team
John McCall, DO13 Manager

TETRA TECH EM INC.

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Contracting Officer
Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 1100
San Diego, CA 92101-8517

DATE: 4/7/03
DO: 013
LOCATION:
Hunters Point Shipyard, San Francisco
California

FROM: **Michael Wanta,** Contract Manager

DOCUMENT TITLE AND DATE:

User Data Package 2 – Results of the Baseline Groundwater Sampling, Parcel C Treatability Study Support, April 4, 2003

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