APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

June 11, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2905 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042905
Collected by: MM/JJ
Collected on: 05/12/04

Received: 05/12/04
Extracted: N/A
Tested: 05/12-17/04
Reported: 05/19/04

Sample Description: Water from MW-12
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Dupe-4-2Q04 04-02905-1	EB-9-5/12/04 04-02905-2	MW-12-1 04-02905-3	MW-12-2 04-02905-4
BICARBONATE	SM2320B	mg/L	2	202	<2	176	201
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	<2
PH	9040	pH unit	0.01	7.66	7.02	7.76	7.60
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	295	<10	296	302
CHROMIUM (VI)	7196	mg/L	0.01	0.0040J	<0.01	0.0040J	<0.01
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	μg/L	4	4.5	<4	<4	<4
Dilution Factor				4	1.25	4	2.5
CHLORIDE CL^-	300.0	mg/L	0.2	15.2	0.064J	20.7	18.0
NITRATE AS N	300.0	mg/L	0.04	1.1	0.051	0.89	1.3
SULFATE SO_4^{--}	300.0	mg/L	0.5	30.6	<0.63	35.3	38.2
Dilution Factor				1	1	1.25	1
CHROMIUM	200.8	μg/L	0.1	8.2	0.36	2.6	10.9
LEAD	200.8	μg/L	0.12	<0.12	<0.12	0.043J	<0.12
Dilution Factor				1	1	1	1
ARSENIC	200.9	μg/L	5	<5	<5	<5	<5
Dilution Factor				1	1	1	1
CALCIUM	200.7	μg/L	200	53,200	<200	42,600	50,200
IRON	200.7	μg/L	50	78.7	<50	507	145
MAGNESIUM	200.7	μg/L	100	13,600	<100	17,800	16,800
POTASSIUM	200.7	μg/L	400	1,960	155J	2,710	2,590
SODIUM	200.7	μg/L	2000	21,200	645J	21,500	21,800
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	μg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	μg/L	0.5	2.2	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	0.8	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Dupe-4-2Q04 04-02905-1	EB-9-5/12/04 04-02905-2	MW-12-1 04-02905-3	MW-12-2 04-02905-4
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	0.5J	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-3 04-02905-5	MW-12-4 04-02905-6	MW-12-5 04-02905-7	TB-9-5/12/04 04-02905-8
BICARBONATE	SM2320B	mg/L	2	151	196	175	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	9040	pH unit	0.01	7.99	7.65	7.88	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	234	299	253	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	0.0050J	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	4.4	<4	-
Dilution Factor				2.5	2.5	4	1
CHLORIDE CL^-	300.0	mg/L	0.2	16.7	15.8	14.5	-
NITRATE N-NO_3^- AS N	300.0	mg/L	0.04	0.091J	1.1	1.2	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	30.6	31.5	17.3	-
Dilution Factor				1	1	1.25	1
CHROMIUM	200.8	µg/L	0.1	6.2	9.0	1.8	-
LEAD	200.8	µg/L	0.12	0.014J	<0.12	0.048J	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	34,200	53,800	33,600	-
IRON	200.7	µg/L	50	277	100	544	-
MAGNESIUM	200.7	µg/L	100	15,300	13,700	10,000	-
POTASSIUM	200.7	µg/L	400	2,710	1,920	1,750	-
SODIUM	200.7	µg/L	2000	23,100	21,700	34,600	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	1.1	1.1	0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	4.6	0.7	0.3J	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-12-3 04-02905-5	MW-12-4 04-02905-6	MW-12-5 04-02905-7	TB-9-5/12/04 04-02905-8
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	0.3J	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW MOn 2Q04/MW-12/4-12812

For GEOFON, Inc.

APCL Service No: 04-2905

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-12-5	04-02905-7
MW-12-4	04-02905-6
MW-12-3	04-02905-5
MW-12-2	04-02905-4
MW-12-1	04-02905-3
EB-9-5/12/04	04-02905-2
TB-9-5/12/04	04-02905-8
Dupe-4-2Q04	04-02905-1

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead, by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) 200.8:

Chromium in the amounts ranging from 0.134 ug/L through 0.263 ug/L was detected in the CCBs associated with the samples. The values were higher than 0.1 ug/L reporting limit. Chromium was not detected in the

associated Method Blank. Chromium was detected in the most of the field samples in the amounts significantly exceeding the reporting limit. The concentration in the sample EB-9-5/12/04 was 0.36 ug/L.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON
INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-12

LABORATORY COPY

0102

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon 2Q04	PROJECT LOCATION: MW-12	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: Navy - SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 542.2 (VOCs)	7196 (Cr(VI))	314.0 (ClO4)	200.8 (Cr)	pH, TDS, CO3, HCO3	200.7 (Na, K, Ca, Mg, Fe)	200.8 (Pb), 200.9 (Ag)	300.0 (NO3, SO4, Cl)		Comments
1	MW-12-5	W	5/12/04	0721	HCl HNO3 None	9.0 5.12.04 5	III	Normal	X	X	X	X	X	X				
2	MW-12-4			0814					X	X	X	X	X	X				
3	MW-12-3			0908					X	X	X	X	X	X				
4	MW-12-2			0936					X	X	X	X	X	X				
5	MW-12-1			1011					X	X	X	X	X	X				
6	EB-9 - 5/12/04			0950					X	X	X	X	X	X				
7	TB-9 - 5/12/04			—	HCl	2			X									
8	Dupe-4 - 2Q04			—	HCl HNO3 None	9.0 5.12.04 5	IV		X	X	X	X	X	X				
9																		
10																		

9.0.9 ons
5.12.04

2905

SAMPLES COLLECTED BY: MM + JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	Bichara Stinson	5-12-04	1122	
Bichara Stinson	[signature]	5-12-04	1230	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2905 **Client Name/Project:** Geofon JPL

1. Sample Arrival

Date/Time Received 5/12/04 1230 Date/Time Opened 5/12/04 1230 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 8
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 33 _____ _____ _____ _____ _____

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: [signature] Printed: 12 May 2004 9:10 a.m.

***HT:** Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

04-02905 (0470_ 233) (2202777_ 233)

05/12/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW MOn 2Q04*
			MW-12
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/12/04 1230*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.3 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*MM/JJ*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA D*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-12-5	VOC	04-02905-7-α	W	V	C	40	3	G	051204	N	0	9	☐
	MW-12-5	WET	04-02905-7-β	W	P		1000	1	G	051204	N	0	9	☐
	MW-12-5	MET	04-02905-7-γ	W	P	N	500	1	G	051204	N	0	9	☐
2	MW-12-4	VOC	04-02905-6-α	W	V	C	40	3	G	051204	N	0	9	☐
	MW-12-4	WET	04-02905-6-β	W	P		1000	1	G	051204	N	0	9	☐
	MW-12-4	MET	04-02905-6-γ	W	P	N	500	1	G	051204	N	0	9	☐
3	MW-12-3	VOC	04-02905-5-α	W	V	C	40	3	G	051204	N	0	9	☐
	MW-12-3	WET	04-02905-5-β	W	P		1000	1	G	051204	N	0	9	☐
	MW-12-3	MET	04-02905-5-γ	W	P	N	500	1	G	051204	N	0	9	☐
4	MW-12-2	VOC	04-02905-4-α	W	V	C	40	3	G	051204	N	0	9	☐
	MW-12-2	WET	04-02905-4-β	W	P		1000	1	G	051204	N	0	9	☐
	MW-12-2	MET	04-02905-4-γ	W	P	N	500	1	G	051204	N	0	9	☐
5	MW-12-1	VOC	04-02905-3-α	W	V	C	40	3	G	051204	N	0	9	☐
	MW-12-1	WET	04-02905-3-β	W	P		1000	1	G	051204	N	0	9	☐
	MW-12-1	MET	04-02905-3-γ	W	P	N	500	1	G	051204	N	0	9	☐
6	EB-9-5/12/04	VOC	04-02905-2-α	W	V	C	40	3	G	051204	N	0	9	☐
	EB-9-5/12/04	WET	04-02905-2-β	W	P		1000	1	G	051204	N	0	9	☐
	EB-9-5/12/04	MET	04-02905-2-γ	W	P		500	1	G	051204	N	0	9	☐
7	TB-9-5/12/04	VOC	04-02905-8	W	V	C	40	2	G	051204	N	0	9	☐
8	Dupe-4-2Q04	VOC	04-02905-1-α	W	V	C	40	3	G	051204	N	0	9	☐
	Dupe-4-2Q04	WET	04-02905-1-β	W	P		1000	1	G	051204	N	0	9	☐
	Dupe-4-2Q04	MET	04-02905-1-γ	W	P	N	500	1	G	051204	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)
- ☐ *200.7/6010B* Sodium, Na, by ICP
- ☐ *200.7/6010B* Calcium, Ca, by ICP

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

June 03, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2918 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042918
Collected by: MM/JJ
Collected on: 05/13/04

Received: 05/13/04
Extracted: N/A
Tested: 05/13-19/04
Reported: 05/20/04

Sample Description: Water from MW-11
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Dupe-5-2Q04 04-02918-1	EB-10-5/13/04 04-02918-3	MW-11-1 04-02918-4	MW-11-2 04-02918-5
BICARBONATE	SM2320B	mg/L	2	177	<2	204	175
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	<2
PH	9040B	pH unit	0.01	7.82	6.83	7.73	7.94
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	247	6.0J	320	276
CHROMIUM (VI)	7196	mg/L	0.01	0.0050J	<0.01	<0.01	<0.01
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	<4
Dilution Factor				2	1.25	4	2.5
CHLORIDE CL^-	300.0	mg/L	0.2	12.6	0.065J	22.3	16.2
NITRATE AS N	300.0	mg/L	0.04	0.11	0.049J	1.1	0.063J
SULFATE SO_4^{--}	300.0	mg/L	0.5	24.3	<0.63	44.6	34.2
Dilution Factor				1.25	1	1	1
CHROMIUM	200.8	µg/L	0.1	0.65	0.37	7.4	5.7
LEAD	200.8	µg/L	0.12	0.049J	<0.12	0.027J	<0.12
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	<5
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	36,700	<200	52,300	40,100
IRON	200.7	µg/L	50	454	23.0J	290	500
MAGNESIUM	200.7	µg/L	100	12,500	<100	19,200	17,300
POTASSIUM	200.7	µg/L	400	1,770	153J	2,760	2,650
SODIUM	200.7	µg/L	2000	23,500	588J	23,400	21,900
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result Dupe-5-2Q04 04-02918-1	EB-10-5/13/04 04-02918-3	MW-11-1 04-02918-4	MW-11-2 04-02918-5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-3 04-02918-6	MW-11-4 04-02918-7	MW-11-5 04-02918-8	TB-10-5/13/04 04-02918-9
BICARBONATE	SM2320B	mg/L	2	179	92.8	114	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	14.4	12.0	-
PH	9040B	pH unit	0.01	7.85	8.77	8.36	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	241	134	194	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	0.0040J	0.0040J	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
Dilution Factor				2	2	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	12.2	12.0	13.3	-
NITRATE AS N	300.0	mg/L	0.04	0.12	0.060J	0.064J	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	23.6	1.3	13.0	-
Dilution Factor				1.25	1	1.25	1
CHROMIUM	200.8	µg/L	0.1	1.1	2.2	0.73	-
LEAD	200.8	µg/L	0.12	0.055J	<0.12	0.099J	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	<5	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	39,000	9,640	15,000	-
IRON	200.7	µg/L	50	1,140	52.9	330	-
MAGNESIUM	200.7	µg/L	100	13,100	8,620	1,840	-
POTASSIUM	200.7	µg/L	400	1,930	1,750	1,110	-
SODIUM	200.7	µg/L	2000	24,900	24,300	43,600	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-3 04-02918-6	MW-11-4 04-02918-7	MW-11-5 04-02918-8	TB-10-5/13/04 04-02918-9
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	0.6	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW-11/4-12812

For GEOFON, Inc.

APCL Service No: 04-2918

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-11-5	04-02918-8
MW-11-4	04-02918-7
MW-11-3	04-02918-6
MW-11-2	04-02918-5
MW-11-1	04-02918-4
EB-10-5/13/04	04-02918-3
TB-10-5/13/04	04-02918-9
Dupe-5-2Q04	04-02918-1

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) 200.8:

Chromium in the amounts ranging from 0.134 ug/L through 0.263 ug/L was detected in the CCBs associated with the samples. The values were higher than 0.1 ug/L reporting limit. Chromium was not detected in the

associated Method Blank. Chromium was detected in the most of the field samples in the amounts significantly exceeding the reporting limit. The concentration in the sample EB-10-5/13/04 was 0.37 ug/L. Samples MW-11-4 and MW-11-5 were bracketed with CCBs that did not detect Chromium.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-11

LABORATORY COPY

0103

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: SPL Cold Mon. 2004	PROJECT LOCATION: MW-11	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: Navy ~ SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 8260.2 (VOCs)	7196 (Cr(VI))	314.0 (ClO4)	200.8 (Cr)	pH, TDS, CO3, HCO3	200.7 (Na, K, Ca, Mg, Fe)	200.8 (Pb), 200.7 (Ba)	300.0 (NO3, SO4, Cl-)			Comments
1	MW-11-5	W	5/13/04	0831	HCl HNO3 None	8 2 5	III	Normal	X	X	X	X	X	X					
2	MW-11-4	↓	↓	0920	↓	↓	↓	↓	X	X	X	X	X	X					
3	MW-11-3			0952		5			X	X	X	X	X	X					
4	MW-11-2			1041					X	X	X	X	X	X					
5	MW-11-1			1112					X	X	X	X	X	X					
6	EB-10 - 5/13/04			1056	↓	6			X	X	X	X	X	X					
7	FB-10 - 5/13/04			—	HCl	2	↓		X	≠									
8	Dupe-5 - 2004	↓	↓	—	HCl None HNO3	8 2 5	IV	↓	X	X	X	X	X	X					
9																			
10																			

J. D. Jones
5.13.04

SAMPLES COLLECTED BY: MM + JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	[illegible]	5-13-04	1224	
[illegible]	[illegible]	5-13-04	1308	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

8162

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2918 **Client Name/Project:** Geotn JPL

1. Sample Arrival

Date/Time Received 5/13/04 1308 Date/Time Opened 5/13/04 1308 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Richard Stinson

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold # Received 8
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 30

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number:
Type: ☐ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other:
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: Kenny Chan Printed: 13 May 2004 9:05 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [nesl.texfiles]smprcl.tex.

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Sample Login: Check List

2nd
KC

04-02918 (0470_ 234) (2202777_ 234)

05/13/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			MW-11
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/13/04 1308*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*MM/JJ*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA D*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-11-5	VOC	04-02918-8-α	W	V	C	40	3	G	051304	N	0	9	☐
	MW-11-5	WET	04-02918-8-β	W	P		1000	1	G	051304	N	0	9	☐
	MW-11-5	MET	04-02918-8-γ	W	P	N	500	1	G	051304	N	0	9	☐
2	MW-11-4	VOC	04-02918-7-α	W	V	C	40	3	G	051304	N	0	9	☐
	MW-11-4	WET	04-02918-7-β	W	P		1000	1	G	051304	N	0	9	☐
	MW-11-4	MET	04-02918-7-γ	W	P	N	500	1	G	051304	N	0	9	☐
3	MW-11-3	VOC	04-02918-6-α	W	V	C	40	3	G	051304	N	0	9	☐
	MW-11-3	WET	04-02918-6-β	W	P		1000	1	G	051304	N	0	9	☐
	MW-11-3	MET	04-02918-6-γ	W	P	N	500	1	G	051304	N	0	9	☐
4	MW-11-2	VOC	04-02918-5-α	W	V	C	40	3	G	051304	N	0	9	☐
	MW-11-2	WET	04-02918-5-β	W	P		1000	1	G	051304	N	0	9	☐
	MW-11-2	MET	04-02918-5-γ	W	P	N	500	1	G	051304	N	0	9	☐
5	MW-11-1	VOC	04-02918-4-α	W	V	C	40	3	G	051304	N	0	9	☐
	MW-11-1	WET	04-02918-4-β	W	P		1000	1	G	051304	N	0	9	☐
	MW-11-1	MET	04-02918-4-γ	W	P	N	500	1	G	051304	N	0	9	☐
6	EB-10-5/13/04	VOC	04-02918-3-α	W	V	C	40	3	G	051304	N	0	9	☐
	EB-10-5/13/04	WET	04-02918-3-β	W	P		1000	2	G	051304	N	0	9	☐
	EB-10-5/13/04	MET	04-02918-3-γ	W	P	N	500	1	G	051304	N	0	9	☐
7	TB-10-5/13/04	VOC	04-02918-9	W	V	C	40	2	G	051304	N	0	9	☐
8	Dupe-5-2Q04	VOC	04-02918-1-α	W	V	C	40	3	G	051304	N	0	9	☐
	Dupe-5-2Q04	WET	04-02918-1-β	W	P		1000	1	G	051304	N	0	9	☐
	Dupe-5-2Q04	MET	04-02918-1-γ	W	P	N	500	1	G	051304	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)
- ☐ *200.7/6010B* Sodium, Na, by ICP
- ☐ *200.7/6010B* Calcium, Ca, by ICP

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

June 08, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2947 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042947
Collected by: TM/JJ
Collected on: 05/17/04

Received: 05/17/04
Extracted: N/A
Tested: 05/17-19/04
Reported: 05/21/04

Sample Description: Water from MW-23
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-11-5/17/04 04-02947-1	MW-23-1 04-02947-2	MW-23-2 04-02947-3
BICARBONATE	SM2320B	mg/L	2	<2	244	206
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2
PH	9040B	pH unit	0.01	6.58	6.92	7.36
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	5.0J	829	632
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	0.0050J
Dilution Factor				1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	5.4
Dilution Factor				1.25	20	12.5
CHLORIDE CL^-	300.0	mg/L	0.2	0.11J	112	89.6
NITRATE AS N	300.0	mg/L	0.04	0.057	12.9	12.0
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	167	109
Dilution Factor				1	1	1
CHROMIUM	200.8	µg/L	0.1	0.21	11.9	9.8
LEAD	200.8	µg/L	0.12	<0.12	0.024J	<0.12
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	2.5J
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	<200	135,000	99,900
IRON	200.7	µg/L	50	<50	988	24.4J
MAGNESIUM	200.7	µg/L	100	<100	46,400	37,500
POTASSIUM	200.7	µg/L	400	157J	2,690	2,690
SODIUM	200.7	µg/L	2000	344J	32,800	33,500
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	0.5	0.4J

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Component Analyzed	Method	Unit	PQL	Analysis Result EB-11-5/17/04 04-02947-1	MW-23-1 04-02947-2	MW-23-2 04-02947-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	0.8	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	1.2	0.4J
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 04-02947-4	MW-23-4 04-02947-5	MW-23-5 04-02947-6	TB-11-5/17/04 04-02947-7
BICARBONATE	SM2320B	mg/L	2	147	131	102	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	84.2	-
PH	9040B	pH unit	0.01	7.52	7.93	9.42	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	261	215	247	-
CHROMIUM (VI)	7196	mg/L	0.01	0.0040J	0.0040J	0.0040J	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
Dilution Factor				4	2.5	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	19.2	17.2	15.9	-
NITRATE AS N	300.0	mg/L	0.04	6.8	6.2	0.063J	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	11.8	7.9	0.94J	-
Dilution Factor				1	1	1	1
CHROMIUM	200.8	µg/L	0.1	8.3	6.7	7.1	-
LEAD	200.8	µg/L	0.12	<0.12	<0.12	1.2	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	3.3J	4.0J	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	35,000	26,600	5,000	-
IRON	200.7	µg/L	50	1,480	122	196	-
MAGNESIUM	200.7	µg/L	100	12,500	11,800	405	-
POTASSIUM	200.7	µg/L	400	1,540	1,770	2,130	-
SODIUM	200.7	µg/L	2000	23,200	27,200	87,100	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 04-02947-4	MW-23-4 04-02947-5	MW-23-5 04-02947-6	TB-11-5/17/04 04-02947-7
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	0.4J	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	0.6	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
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Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW-23/4-12812

For GEOFON, Inc.

APCL Service No: 04-2947

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-23-5	04-02947-6
MW-23-4	04-02947-5
MW-23-3	04-02947-4
MW-23-2	04-02947-3
MW-23-1	04-02947-2
EB-11-5/17/04	04-02947-1
TB-11-5/17/04	04-02947-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON
INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-23

LABORATORY COPY

0104

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID	LABORATORY CONTACT: Henry Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL Gw Mon. 2004	PROJECT LOCATION: MW-23	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: Navy - SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 5/2.2 (VOCs)	7196, As, Cr(VI), 200.8 (Cd, Cu)	NO3, SO4, Cl, 200.8 (Cd)	pH, TDS, CO3, HCO3	Na, K, Ca, Mg, Fe, 200.8 (Cu)				Comments
1	MW-23-5	W	5/17/04	0720	HCl HNO3 None	6	III	Normal	X	X	X	X	X				
2	MW-23-4	↓	↓	0810	↓	↓	↓	↓	X	X	X	X	X				
3	MW-23-3	↓	↓	0840	↓	↓	↓	↓	X	X	X	X	X				2947
4	MW-23-2	↓	↓	0910	↓	↓	↓	↓	X	X	X	X	X				
5	MW-23-1	↓	↓	0944	↓	↓	↓	↓	X	X	X	X	X				
6	EB-11-5/17/04	↓	↓	0932	↓	↓	↓	↓	X	X	X	X	X				
7	TB-11-5/17/04	↓	↓	—	HCl	2	↓	↓	X								
8																	
9																	
10																	

J. D. Jones 5.17.04

SAMPLES COLLECTED BY: MM + JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME
J. D. Jones	[signature]	5/17/04	1045
[signature]	[signature]	5/17/04	1145

SAMPLE'S CONDITION UPON RECEIPT

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2947 **Client Name/Project:** Geofon JPL

1. Sample Arrival

Date/Time Received 5/17/04 1145 Date/Time Opened 5/17/04 1145 By (name): Kenny Chan
Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 36
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12
If Not, pH = Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number:
Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other:
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____
Received/Checked by: Kenny Chan Printed: 17 May 2004 7:27 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

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Sample Login: Check List

04-02947 (0470_ 235) (2202777_ 235)

05/17/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			MW-23
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/17/04 1145*
		COC No.	*0104*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.6 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*TM/JJ*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-23-5	VOC	04-02947-6-α	W	V	C	40	3	G	051704	N	0	9	☐
	MW-23-5	PH/TDS	04-02947-6-β	W	P		500	1	G	051704	N	0	9	☐
	MW-23-5	300	04-02947-6-γ	W	P		500	1	G	051704	N	0	9	☐
	MW-23-5	METAL	04-02947-6-δ	W	P	N	500	1	G	051704	N	0	9	☐
2	MW-23-4	VOC	04-02947-5-α	W	V	C	40	3	G	051704	N	0	9	☐
	MW-23-4	PH/TDS	04-02947-5-β	W	P		500	1	G	051704	N	0	9	☐
	MW-23-4	300	04-02947-5-γ	W	P		500	1	G	051704	N	0	9	☐
	MW-23-4	METAL	04-02947-5-δ	W	P	N	500	1	G	051704	N	0	9	☐
3	MW-23-3	VOC	04-02947-4-α	W	V	C	40	3	G	051704	N	0	9	☐
	MW-23-3	PH/TDS	04-02947-4-β	W	P		500	1	G	051704	N	0	9	☐
	MW-23-3	300	04-02947-4-γ	W	P		500	1	G	051704	N	0	9	☐
	MW-23-3	METAL	04-02947-4-δ	W	P	N	500	1	G	051704	N	0	9	☐
4	MW-23-2	VOC	04-02947-3-α	W	V	C	40	3	G	051704	N	0	9	☐
	MW-23-2	PH/TDS	04-02947-3-β	W	P		500	1	G	051704	N	0	9	☐
	MW-23-2	300	04-02947-3-γ	W	P		500	1	G	051704	N	0	9	☐
	MW-23-2	METAL	04-02947-3-δ	W	P	N	500	1	G	051704	N	0	9	☐
5	MW-23-1	VOC	04-02947-2-α	W	V	C	40	3	G	051704	N	0	9	☐
	MW-23-1	PH/TDS	04-02947-2-β	W	P		500	1	G	051704	N	0	9	☐
	MW-23-1	300	04-02947-2-γ	W	P		500	1	G	051704	N	0	9	☐
	MW-23-1	METAL	04-02947-2-δ	W	P	N	500	1	G	051704	N	0	9	☐
6	EB-11-5/17/04	VOC	04-02947-1-α	W	V	C	40	3	G	051704	N	0	9	☐
	EB-11-5/17/04	PH/TDS	04-02947-1-β	W	P		500	1	G	051704	N	0	9	☐
	EB-11-5/17/04	300	04-02947-1-γ	W	P		500	1	G	051704	N	0	9	☐
	EB-11-5/17/04	METAL	04-02947-1-δ	W	P	N	500	1	G	051704	N	0	9	☐
7	TB-11-5/17/04	VOC	04-02947-7	W	V	C	40	2	G	051704	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

June 08, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2953 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042953
Collected by: MM/JJ
Collected on: 05/18/04

Received: 05/18/04
Extracted: 05/24/04
Tested: 05/18-25/04
Reported: 05/27/04

Sample Description: Water from MW–24
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result EB-12-5/18/04 04-02953-1	MW-24-1 04-02953-2	MW-24-2 04-02953-3
BICARBONATE	SM2320B	mg/L	2	<2	159	137
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	2.4
PH	9040B	pH unit	0.01	6.80	7.44	8.13
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	7.0J	316	241
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01
Dilution Factor				1	50	2
PERCHLORATE	314.0	μg/L	4	<4	2,240	110
Dilution Factor				1.25	8	8
CHLORIDE CL^-	300.0	mg/L	0.2	0.44	36.7	38.4
NITRATE AS N	300.0	mg/L	0.04	0.053	5.9	1.9
SULFATE SO_4^{--}	300.0	mg/L	0.5	<0.63	37.4	18.2
Dilution Factor				1	1	1
ARSENIC	200.9	μg/L	5	<5	<5	3.5J
Dilution Factor				1	1	1
CHROMIUM	200.8	μg/L	0.1	0.45	7.9	6.2
LEAD	200.8	μg/L	0.12	<0.12	0.024J	<0.12
Dilution Factor				1	1	1
CALCIUM	200.7	μg/L	200	<200	54,600	22,900
IRON	200.7	μg/L	50	<50	287	246
MAGNESIUM	200.7	μg/L	100	<100	18,700	12,600
POTASSIUM	200.7	μg/L	400	154J	2,420	2,780
SODIUM	200.7	μg/L	2000	222J	18,500	38,200
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	μg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	μg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	μg/L	0.5	<0.5	8.3	1.6
CHLOROBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	<0.5	3.9	1.0

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result EB-12-5/18/04 04-02953-1	MW-24-1 04-02953-2	MW-24-2 04-02953-3
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	0.8	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	1.9	0.3J
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 04-02953-4	MW-24-4 04-02953-5	MW-24-5 04-02953-6	TB-12-5/18/04 04-02953-7
BICARBONATE	SM2320B	mg/L	2	127	91.4	164	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	28.8	38.6	<2	-
PH	9040B	pH unit	0.01	8.45	8.76	7.91	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	218	158	205	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
Dilution Factor				4	2.5	2	1
CHLORIDE CL^-	300.0	mg/L	0.2	20.2	13.0	10.2	-
NITRATE N	300.0	mg/L	0.04	0.20	0.070J	1.3	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	15.6	5.7	18.3	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	4.3J	<5	3.8J	-
Dilution Factor				1	1	1	1
CHROMIUM	200.8	µg/L	0.1	5.1	4.3	7.6	-
LEAD	200.8	µg/L	0.12	0.012J	<0.12	<0.12	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	19,200	7,910	29,300	-
IRON	200.7	µg/L	50	279	<50	55.4	-
MAGNESIUM	200.7	µg/L	100	12,800	9,040	9,300	-
POTASSIUM	200.7	µg/L	400	2,260	2,150	1,890	-
SODIUM	200.7	µg/L	2000	41,800	40,100	37,500	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 04-02953-4	MW-24-4 04-02953-5	MW-24-5 04-02953-6	TB-12-5/18/04 04-02953-7
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-1 04-02953-2
Dilution Factor				1
1,4-DIOXANE	8270-SIM	μg/L	1	3.2

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW–24/4-12812

For GEOFON, Inc.

APCL Service No: 04-2953

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-24-5	04-02953-6
MW-24-4	04-02953-5
MW-24-3	04-02953-4
MW-24-2	04-02953-3
MW-24-1	04-02953-2
EB-12-5/18/04	04-02953-1
TB-12-5/18/04	04-02953-7

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
6010B (Sodium, Na, by ICP),
200.9 (Arsenic, As, by GFAA),
8270-SIM (1,4-Dioxane),
200.8 (Chromium, Lead by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) 200.8:

Chromium in the amount of 0.116 ug/L was detected in one of the CCBs associated with the samples. The value in CCB was higher than 0.1 ug/L reporting limit. Chromium was not detected in the associated

Method Blank. Chromium was detected in the most of the field samples in the amounts significantly exceeding the reporting limit. The concentration in the sample EB-12-5/18/04 was 0.45 ug/L.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON
INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

MW-24

LABORATORY COPY

005

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon. 2004	PROJECT LOCATION: MW-24	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: NAVY ~ SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

2953

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 542.2 (VOCs)	714GP (Glycols)	314.0 (ClO4)	300.0 (NO3, SO4, Cl)	NDMA	pH, TDS, Alk, CO3, HCO3	1,4-Dioxane	200.7 (Na, Ca, Fe, Mg, K)	200.8 (Pb)	Comments
1	MW-24-5	W	5/18/04	0710	HCl HNO3 NaOH	9 5 5	III	Normal	X	X	X		X		X			
2	MW-24-4	↓	↓	0745	↓	↓	↓	↓	X	X	X		X		X			
3	MW-24-3	↓	↓	0821	↓	↓	↓	↓	X	X	X		X		X			
4	MW-24-2	↓	↓	0904	↓	↓	↓	↓	X	X	X		X		X			
5	MW-24-1	↓	↓	0947	↓	9 8 8	↓	↓	X	X	X	X	X	X	X			
6	EB-12-5/18/04	↓	↓	0843	↓	9 5 5	↓	↓	X	X	X		X		X			
7	TB-12-5/18/04	↓	↓	—	HY	2	↓	↓	X									
8								J. D. Jones										
9								5-18-04										
10																		

SAMPLES COLLECTED BY: MM + JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

SAMPLE'S CONDITION UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME
J. D. Jones	[signature]	5-18-04	1197
[signature]	[signature]	5-18-04	1205

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2953 **Client Name/Project:** Geofon

1. Sample Arrival

Date/Time Received 5/18/04 1205 Date/Time Opened 5/18/04 1205 By (name): Jason N

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☒ APCL Empl: S.B.

2. Chain-of-Custody (CoC)

☒ With Samples? ☐ Faxed? ☒ Client has Copy? ☐ Signed, dated? By:
☒ Project ID? ☒ Analyses Clear? ☐ Hold Samples? #on Hold # Received 7
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ☒ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. Shipping Container/Cooler

☒ Cooler Used? # of 1 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.1

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☒ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☒ Intact? ☐ Broken? ☐ Documented? Number:

Type: ☐ plastic ☒ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☐ Quantity OK? ☐ Leaking? ☐ Anomaly?
☐ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☐ Unique ID? ☒ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☒ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☒ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other:
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☒ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: _____ Printed: 18 May 2004 7:26 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

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Sample Login: Check List

04-02953 (0470_ 236) (2202777_ 236)

05/18/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			MW-24
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Jason Nario*
		Receiving Date/Time:	*05/18/04 1205*
		COC No.	*0105*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.1 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*MM/JJ*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-24-5	VOC	04-02953-6-α	W	V	C	40	3	G	051804	N	0	9	☐
	MW-24-5	WET	04-02953-6-β	W	P		1000	1	G	051804	N	0	9	☐
	MW-24-5	Metal	04-02953-6-γ	W	P	N	500	1	G	051804	N	0	9	☐
2	MW-24-4	VOC	04-02953-5-α	W	V	C	40	3	G	051804	N	0	9	☐
	MW-24-4	WET	04-02953-5-β	W	P		1000	1	G	051804	N	0	9	☐
	MW-24-4	Metal	04-02953-5-γ	W	P	N	500	1	G	051804	N	0	9	☐
3	MW-24-3	VOC	04-02953-4-α	W	V	C	40	3	G	051804	N	0	9	☐
	MW-24-3	WET	04-02953-4-β	W	P		1000	1	G	051804	N	0	9	☐
	MW-24-3	Metal	04-02953-4-γ	W	P	N	500	1	G	051804	N	0	9	☐
4	MW-24-2	VOC	04-02953-3-α	W	V	C	40	3	G	051804	N	0	9	☐
	MW-24-2	WET	04-02953-3-β	W	P		1000	1	G	051804	N	0	9	☐
	MW-24-2	Metal	04-02953-3-γ	W	P	N	500	1	G	051804	N	0	9	☐
5	MW-24-1	VOC	04-02953-2-α	W	V	C	40	3	G	051804	N	0	9	☐
	MW-24-1	WET	04-02953-2-β	W	P		1000	1	G	051804	N	0	9	☐
	MW-24-1	Metal	04-02953-2-γ	W	P	N	500	1	G	051804	N	0	9	☐
	MW-24-1	DIOX	04-02953-2-δ	W	G		1000	2	G	051804	N	0	9	☐
6	EB-12-5/18/04	VOC	04-02953-1-α	W	V	C	40	3	G	051804	N	0	9	☐
	EB-12-5/18/04	WET	04-02953-1-β	W	P		1000	1	G	051804	N	0	9	☐
	EB-12-5/18/04	Metal	04-02953-1-γ	W	P	N	500	1	G	051804	N	0	9	☐
7	TB-12-5/18/04	VOC	04-02953-7	W	V	C	40	2	G	051804	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3C* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)
- ☐ *200.7/6010B* Sodium, Na, by ICP
- ☐ *200.7/6010B* Calcium, Ca, by ICP
- ☐ *200.7/6010B* Potassium, K, by ICP
- ☐ *200.7/6010B* Magnesium, Mg, by ICP

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

June 11, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2974 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042974
Collected by: TM/JJ/MM
Collected on: 05/19/04

Received: 05/19/04
Extracted: 05/24/04
Tested: 05/19-26/04
Reported: 05/27/04

Sample Description: Water from Shallow Wells
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 04-02974-1	MW-6 04-02974-2
BICARBONATE	SM2320B	mg/L	2	217	244
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	353	687
PH	9040B	pH unit	0.01	7.20	6.83
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01
Dilution Factor				1	1
PERCHLORATE	314.0	μg/L	4	<4	<4
Dilution Factor				4	20
CHLORIDE CL^-	300.0	mg/L	0.2	21.6	96.6
NITRATE AS N	300.0	mg/L	0.04	0.92	8.9
SULFATE SO_4^{--}	300.0	mg/L	0.5	45.1	116
Dilution Factor				1	1.25
CHROMIUM	200.8	μg/L	0.1	10.0	7.8
LEAD	200.8	μg/L	0.12	0.010J	0.18
Dilution Factor				1	1
ARSENIC	200.9	μg/L	5	2.3J	<5
Dilution Factor				1	1
CALCIUM	200.7	μg/L	200	62,200	118,000
IRON	200.7	μg/L	50	94.7	1,340
MAGNESIUM	200.7	μg/L	100	20,000	39,200
POTASSIUM	200.7	μg/L	400	2,880	2,300
SODIUM	200.7	μg/L	2000	26,600	30,700
VOLATILE ORGANIC COMPOUNDS					
Dilution Factor				1	1
BENZENE	524.2	μg/L	0.5	<0.5	<0.5
BROMOBENZENE	524.2	μg/L	0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5
BROMOFORM	524.2	μg/L	0.5	<0.5	<0.5
BROMOMETHANE	524.2	μg/L	0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5
2-BUTANONE	524.2	μg/L	10	<10	<10
CARBON TETRACHLORIDE	524.2	μg/L	0.5	<0.5	<0.5
CHLOROBENZENE	524.2	μg/L	0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	μg/L	0.5	<0.5	<0.5
CHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5
CHLOROFORM	524.2	μg/L	0.5	<0.5	0.4J

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 04-02974-1	MW-6 04-02974-2
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.8
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	2.1
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-9 04-02974-3	MW-16 04-02974-4	TB-13-5/19/04 04-02974-5
BICARBONATE	SM2320B	mg/L	2	175	157	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	-
PH	9040B	pH unit	0.01	6.79	7.20	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	284	310	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	-
Dilution Factor				1	20	1
PERCHLORATE	314.0	µg/L	4	<4	929	-
Dilution Factor				4	8	1
CHLORIDE CL^-	300.0	mg/L	0.2	15.9	40.2	-
NITRATE AS N	300.0	mg/L	0.04	1.5	4.4	-
SULFATE SO_4^{--}	300.0	mg/L	0.5	35.3	28.2	-
Dilution Factor				1.25	1	1
CHROMIUM	200.8	µg/L	0.1	9.2	9.2	-
LEAD	200.8	µg/L	0.12	1.9	<0.12	-
Dilution Factor				1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	-
Dilution Factor				1	1	1
CALCIUM	200.7	µg/L	200	51,600	49,800	-
IRON	200.7	µg/L	50	1,710	<50	-
MAGNESIUM	200.7	µg/L	100	17,200	19,200	-
POTASSIUM	200.7	µg/L	400	3,250	2,290	-
SODIUM	200.7	µg/L	2000	22,900	24,400	-
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	1	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	1.6	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-9 04-02974-3	MW-16 04-02974-4	TB-13-5/19/04 04-02974-5
TRANS-1,2-DICHLOROETHENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	μg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	μg/L	1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	μg/L	10	<10	<10	<10
NAPHTHALENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	μg/L	0.5	<0.5	0.5J	<0.5
TRICHLOROFLUOROMETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-16 04-02974-4
Dilution Factor				1
1,4-DIOXANE (P-DIOXANE)	8270-SIM	μg/L	1	3.1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/Shallow Wells/4-12812

For GEOFON, Inc.

APCL Service No: 04-2974

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-1	04-02974-1
MW-9	04-02974-3
TB-13-5/19/04	04-02974-5
MW-6	04-02974-2
MW-16	04-02974-4

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead, by ICPMS),
8270-SIM (1,4-Dioxane),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON
INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

Shallow Wells

LABORATORY COPY

0106

GEOFON's LAB COORDINATOR: Scott Buhmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon 2Q04	PROJECT LOCATION: MW-2+9, 16+6	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J.D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: NAVY ~ SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 5H2.2 (VOCs)	7196 Cr (VI), 314.0 (ClO4), 300.0 (NO3, SO4, Cl)	200.8 (Cr)	PH, TDS, HCO3, CO3	200.7 (NO3, Na, Ca, Mg, Fe), 200.8 (Pb), 200.9 (As)	NDMA	1,4-Dioxane	Comments
1	MW-2	W	5/19/04	1217	~~8~~ 5	HCl HNO3 None	III	Normal	X	X	X	X	X			
2	MW-9	↓	↓	1327	↓	↓	↓	↓	X	X	X	X	X			
3	TB-13-5/19/04	↓	↓	—	2	HCl	↓	↓	X							
4	MW-6	↓	↓	0851	5	HCl HNO3 None	↓	↓	X	X	X	X	X			
5	MW-16	↓	↓	1031	8	↓	III	↓	X	X	X	X	X	X	X	
6	~~Dupe-6-2Q04~~			—			IV		X	X	X	X	X			cancel entry J.D. Jones 5.19.04
7																
8																
9																
10																

2974

J.D. Jones
5.19.04

SAMPLES COLLECTED BY: TM + JJ + MM

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J.D. Jones	[signature]	5/19/04	2:05 pm	
[signature]	[signature]	5/19/04	3:00 pm	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2974 **Client Name/Project:** Geotn JPL

1. Sample Arrival

Date/Time Received 5/19/04 1500 Date/Time Opened 5/19/04 1500 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam Wood

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on-Hold _____ # Received 5
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.0

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☑ pH 24hr ☐ BACT 6/24hr ☑ Cr^{VI} 24hr ☑ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: Kenny Chan Printed: 7 May 2004 7:22 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

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Sample Login: Check List

04-02974 (0470_ 239) (2202777_ 239)

05/19/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			Shallow Wells
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/19/04 1500*
		COC No.	*0106*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*TM/JJ/MM*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Normal*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-1	VOC	04-02974-1-α	W	V	C	40	3	G	051904	N	0	9	☐
	MW-1	WET	04-02974-1-β	W	P		1000	1	G	051904	N	0	9	☐
	MW-1	METAL	04-02974-1-γ	W	P	N	500	1	G	051904	N	0	9	☐
2	MW-9	VOC	04-02974-3-α	W	V	C	40	3	G	051904	N	0	9	☐
	MW-9	WET	04-02974-3-β	W	P		1000	1	G	051904	N	0	9	☐
	MW-9	METAL	04-02974-3-γ	W	P	N	500	1	G	051904	N	0	9	☐
3	TB-13-5/19/04	VOC	04-02974-5	W	V	C	40	2	G	051904	N	0	9	☐
4	MW-6	VOC	04-02974-2-α	W	V	C	40	3	G	051904	N	0	9	☐
	MW-6	WET	04-02974-2-β	W	P		1000	1	G	051904	N	0	9	☐
	MW-6	METAL	04-02974-2-γ	W	P	N	500	1	G	051904	N	0	9	☐
5	MW-16	VOC	04-02974-4-α	W	V	C	40	3	G	051904	N	0	9	☐
	MW-16	WET	04-02974-4-β	W	P		1000	1	G	051904	N	0	9	☐
	MW-16	METAL	04-02974-4-γ	W	P	N	500	1	G	051904	N	0	9	☐
	MW-16	DIOX	04-02974-4-δ	W	G		1000	2	G	051904	N	0	9	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3G* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)
- ☐ *200.7/6010B* Sodium, Na, by ICP
- ☐ *200.7/6010B* Calcium, Ca, by ICP
- ☐ *200.7/6010B* Potassium, K, by ICP
- ☐ *200.7/6010B* Magnesium, Mg, by ICP
- ☐ *200.7/6010B* Iron, Fe, by ICP
- ☐ *206.2/7060A* Arsenic, As, by GFAA
- ☐ *8270-SIM* 1,4-Dioxane
- ☐ *200.8* Target Analyte by ICPMS

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

June 17, 2004

GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Tony,

This package contains samples in our Service ID 04-2982 and your project : 4-12812 JPL GW Mon 2Q04.
Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Tony Ford
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-042982
Collected by: TM/JJ
Collected on: 05/20/04

Received: 05/20/04
Extracted: N/A
Tested: 05/20-24/04
Reported: 05/28/04

Sample Description: Water from MW15, MW5.
Project Description: 4-12812 JPL GW Mon 2Q04

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-6-2Q04 04-02982-1	MW-5 04-02982-2	MW-15 04-02982-3	TB-14-5/20/04 04-02982-4
BICARBONATE	SM2320B	mg/L	2	183	136	187	-
CARBONATE	SM2320B	mg-$CaCO_3$/L	2	<2	<2	<2	-
PH	9040B	pH unit	0.01	7.37	7.00	7.39	-
SOLIDS, TOTAL DISSOLVED (TDS)	160.1	mg/L	10	332	233	314	-
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	-
Dilution Factor				4	2	4	1
CHLORIDE	300.0	mg/L	0.2	24.1	14.0	24.3	-
NITRATE AS N	300.0	mg/L	0.04	1.3	1.7	1.3	-
SULFATE	300.0	mg/L	0.5	44.8	32.7	45.4	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
Dilution Factor				1	1.25	1	1
CHROMIUM	200.8	µg/L	0.1	11.6	1.9	12.1	-
LEAD	200.8	µg/L	0.12	0.049J	0.12J	0.036J	-
Dilution Factor				1	1	1	1
ARSENIC	200.9	µg/L	5	<5	<5	3.2J	-
Dilution Factor				1	1	1	1
CALCIUM	200.7	µg/L	200	52,800	40,100	53,200	-
IRON	200.7	µg/L	50	358	696	345	-
MAGNESIUM	200.7	µg/L	100	17,700	13,500	18,300	-
POTASSIUM	200.7	µg/L	400	2,820	2,520	2,900	-
SODIUM	200.7	µg/L	2000	25,600	15,000	26,000	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-BUTANONE	524.2	µg/L	10	<10	<10	<10	<10
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
13760 Magnolia Ave. Chino CA 91710
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-6-2Q04 04-02982-1	MW-5 04-02982-2	MW-15 04-02982-3	TB-14-5/20/04 04-02982-4
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
4-METHYL-2-PENTANONE (MIBK)	524.2	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

Applied P & CH Laboratories
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Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-6-2Q04 04-02982-1	MW-5 04-02982-2	MW-15 04-02982-3	TB-14-5/20/04 04-02982-4
1,2,4-TRIMETHYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	μg/L	0.5	<0.5	<0.5	<0.5	<0.5

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & CH Laboratories

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: JPL GW Mon 2Q04/MW15, MW5./4-12812

For GEOFON, Inc.

APCL Service No: 04-2982

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
MW-15	04-02982-3
MW-5	04-02982-2
DUPE-6-2Q04	04-02982-1
TB-14-5/20/04	04-02982-4

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196A (Chromium (VI)),
314.0 (Perchlorate, low level),
300.0 (Anions, by IC),
SM2320B (Carbonate),
9040B (pH),
160.1 (Solids, Total Dissolved (TDS)),
200.7 (Metals, by ICP),
200.9 (Arsenic, As, by GFAA),
200.8 (Chromium, Lead, by ICPMS),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

Email requesting level 4 deliverables on different sample.

6. Anomaly

(1) 200.8:

Chromium in the amount of 0.116 ug/L was detected in the CCB associated with the samples. The values were higher than 0.1 ug/L reporting limit. Chromium was not detected in the associated Method Blank. Chromium was detected in the two associated field samples in the amounts significantly exceeding the reporting limit.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & CH Laboratories

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

Shallow Wells

LABORATORY COPY

007

GEOFON's LAB COORDINATOR: Scott Brehmer	LAB COORDINATOR'S PHONE: 909 396 7662	LAB COORDINATOR'S FAX: 909 396 1455	LABORATORY SERVICE ID:	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON
PROJECT NAME: JPL GW Mon 2Q04	PROJECT LOCATION: MW-~~8, 10~~, 5-20-04, 15 + ~~5~~	PROJECT NUMBER: 4-12812	LABORATORY PHONE: 909 590 1828	LABORATORY FAX: 909 590 1498	RECIPIENT NAME: Tony Ford
PROJECT CONTACT: J. D. Jones	PROJECT PHONE NUMBER: 714 920 8729	PROJECT FAX: 909 396 1455	LABORATORY ADDRESS: 13760 Magnolia Ave.		ADDRESS: 22632 Golden Springs Dr., Ste 270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA	CLIENT: NAVY~SWDIV	CITY, STATE AND ZIPCODE: Chino, CA 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA 91765
PROJECT MANAGER: Tony Ford	PROJECT MANAGER'S PHONE: 909 396 7662	PROJECT MANAGER'S FAX: 909 396 1455			

2982

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T.	Analyses: 542.2 (VOCs)	7196 (CrO4) 314.0 (ClO4)	200.8 (Cr)	pH, TDS, HCO3, CO3	NDMA	1-4-Dioxane	200.7 (Na, Ca, Mg, K) 200.8 (Pb) + 200.4 (Ba)	Comments
1	~~MW-16~~	W	1/04		HCl None HNO3	8	III	Normal	X	X	X	X	X	X	X	Canal entry
2	MW-15	W	5/20/04	1043	HCl HNO3 None	5 ~~4~~	III	Normal	X	X	X	X			X	~~MS/MSD~~ 5.20.04
3	MW-5	↓	↓	0926	↓	10	↓	↓	X	X	X	X			X	MS/MSD
4	Dupe-6-2Q04	↓	↓	—	↓	5	IV	↓	X	X	X	X			X	
5	TB-14-5/20/04	↓	↓	—	HCl	2	III	↓	X							
6																
7																
8																
9																
10																

SAMPLES COLLECTED BY: TM + JJ

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
J. D. Jones	[signature]	5/20/04	11 10	
[signature]	[signature]	5/20/04	12 00	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

EDD

From: Kenny Chan
Sent: Monday, June 14, 2004 4:39 PM
To: EDD
Subject: FW: Change Authorization for Mark Sim

Mark,
These are the changes for JPL. Thank you.

Kenny

-----Original Message-----
From: Scott Brehmer [mailto:sbrehmer@geofon.com]
Sent: Monday, June 14, 2004 4:28 PM
To: Kenny Chan
Cc: Asrar Faheem; J. Jones; Tony Ford
Subject: Change Authorization

Kenny,

For JPL...
Please change all "Dupe" QC Levels from IV to III.
Please perform Level IV QC on the following Sample IDs:

MW-3-1 04-2845
MW-22-5 04-2865
MW-4-2 04-2885
MW-12-4 04-2905
MW-11-3 04-2918
MW-15 04-2982
MW-10 04-3040
MW-7 04-3080

For LBNSY, Building 101...
Please add analysis by 6010B, TTLC (17 metals) for the following samples:

MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
Dupe-1-2Q04

KC
6/14/04

Thank you,
Scott

Scott Brehmer
Project Engineer
GEOFON, Inc.

Phone: (909) 396-7662
Fax: (909) 396-1455
Email: sbrehmer@geofon.com

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2982 **Client Name/Project:** Geofon

1. Sample Arrival

Date/Time Received 5/20/04 1200 Date/Time Opened 5/20/04 1200 By (name): Jason N -

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☒ APCL Empl: AW

2. Chain-of-Custody (CoC)

☒ With Samples? ☐ Faxed? ☒ Client has Copy? ☒ Signed, dated? By: JN
☒ Project ID? ☒ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 4
☐ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☒ #Samples OK? ____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): ____

3. Shipping Container/Cooler

☒ Cooler Used? # of 1 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 3-D ____ ____ ____ ____ ____
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12
If Not, pH = ____ Preserved by: ☐ Client ☐ APCL ☐ Third Party ____

5. Holding-time Requirements

☒ pH 24hr ☐ BACT 6/24hr ☒ Cr^{VI} 24hr ☒ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☒ Intact? ☐ Broken? ☐ Documented? Number: ____
Type: ☐ plastic ☒ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☐ Quantity OK? ☐ Leaking? ☐ Anomaly?
☐ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☐ Unique ID? ☒ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: ____ ☒ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☒ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: ____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☒ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:____)Date/Time:____

Received/Checked by: ____ Printed: 20 May 2004 7:25 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

Applied P & CH Laboratories
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

04-02982 (0470_ 240) (2202777_ 240)

05/20/04

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL GW Mon 2Q04*
			Shallow Wells
		Project #:	*4-12812*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Jason Nario*
		Receiving Date/Time:	*05/20/04 1200*
		COC No.	*0107*
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	*TM/JJ*
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-15	VOC	04-02982-3-α	W	V	C	40	3	G	052004	N	0	7	☐
	MW-15	WET	04-02982-3-β	W	P		1000	1	G	052004	N	0	7	☐
	MW-15	Metal	04-02982-3-γ	W	P	N	500	1	G	052004	N	0	7	☐
2	MW-5	VOC	04-02982-2-α	W	V	C	40	6	G	052004	N	0	7	☐
	MW-5	WET	04-02982-2-β	W	P		1000	2	G	052004	N	0	7	☐
	MW-5	Metal	04-02982-2-γ	W	P	N	500	2	G	052004	N	0	7	☐
3	DUPE-6-2Q04	VOC	04-02982-1-α	W	V	C	40	3	G	052004	N	0	7	☐
	DUPE-6-2Q04	WET	04-02982-1-β	W	P		1000	1	G	052004	N	0	7	☐
	DUPE-6-2Q04	Metal	04-02982-1-γ	W	P	N	500	1	G	052004	N	0	7	☐
4	TB-14-5/20/04	VOC	04-02982-4	W	V	C	40	2	G	052004	N	0	7	☐

Part 3: Analysis Information

Test Items:

- ☐ *524.2* Volatile Organic Compounds
- ☐ *7196A* Chromium (VI)
- ☐ *314.0/300.0* Perchlorate, low level
- ☐ *300.0* Chloride Cl^- by IC
- ☐ *300.0* Sulfate (SO_4^{--}), by IC
- ☐ *300.0/SM4500NO3* Nitrate (NO_3^-) as N by IC
- ☐ *SM2320B* Carbonate
- ☐ *SM2320B* Bicarbonate
- ☐ *9040B/150.1* pH
- ☐ *160.1* Solids, Total Dissolved (TDS)
- ☐ *200.7/6010B* Sodium, Na, by ICP
- ☐ *200.7/6010B* Calcium, Ca, by ICP
- ☐ *200.7/6010B* Potassium, K, by ICP
- ☐ *200.7/6010B* Magnesium, Mg, by ICP
- ☐ *200.7/6010B* Iron, Fe, by ICP
- ☐ *206.2/7060A* Arsenic, As, by GFAA
- ☐ *8270-SIM* 1,4-Dioxane
- ☐ *200.8* Target Analyte by ICPMS

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCH	CL	SO4	NO3	CARBON	BICARB	
1	MW-15	VOC	04-02982-3-α	W	X								☐