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**ESTES LANDFILL RI/FS
REMEDIAL INVESTIGATION
REPORT**

**Volume IV of V
Appendix K**

RECEIVED

Prepared for
Arizona Department of Environmental Quality



By



**Environmental Science &
Engineering, Inc.**

A MACTEC COMPANY



Del Mar Analytical

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031

Report Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 10-18, 1999
 Analyzed: Jun 10-21, 1999
 Reported: Jun 22, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00530	EW-NE-GW- (6-9-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082 & 8141A
PIF00545	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane; Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

RR
 Robyn Rice
 Project Manager



Del Mar Analytical

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 12, 1999
 Analyzed: Jun 14, 1999
 Reported: Jun 22, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)		$\mu\text{g/L}$ (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	52%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

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Q.T Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 12, 1999
 Analyzed: Jun 15, 1999
 Reported: Jun 22, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)			$\mu\text{g/L}$ (ppb)
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	73%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 15, 1999
 Analyzed: Jun 15, 1999
 Reported: Jun 22, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	86%
Toluene-d8 (75-140).....	93%
4-Bromofluorobenzene (75-135).....	91%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00545

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 22, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	87%
Toluene-d8 (75-140).....	88%
4-Bromofluorobenzene (75-135).....	85%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 14, 1999
 Analyzed: Jun 16, 1999
 Reported: Jun 22, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene..	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine..	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	54%
Phenol-d6 (40-115).....	55%
2,4,6-Tribromophenol (40-140)	69%
Nitrobenzene-d5 (35-120).....	60%
2-Fluorobiphenyl (30-150).....	64%
Terphenyl-d14 (45-150).....	83%

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 11-14, 1999
 Analyzed: Jun 14-21, 1999
 Reported: Jun 22, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/11/99	06/18/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Barium.....	EPA 200.7	0.010	0.047	06/11/99	06/15/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/11/99	06/15/99
Chromium.....	EPA 200.7	0.010	0.064	06/11/99	06/15/99
Copper.....	EPA 200.7	0.020	N.D.	06/11/99	06/15/99
Iron.....	EPA 200.7	0.50	0.61	06/11/99	06/15/99
Lead.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Manganese.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/11/99	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 12-18, 1999
 Analyzed: Jun 12-18, 1999
 Reported: Jun 22, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Barium, Dissolved.....	EPA 200.7	0.010	0.043	N.A.	06/12/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/12/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/12/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/12/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/12/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/16/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



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AT Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted: Jun 10-18, 1999
 Analyzed: Jun 10-18, 1999
 Reported: Jun 22, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	180	N.A.	06/14/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	180	N.A.	06/14/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	27	N.A.	06/10/99
Chloride.....	EPA 300.0	50***	110	N.A.	06/10/99
Nitrate-N.....	EPA 300.0	0.10	3.7	N.A.	06/10/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/10/99
Nitrate/Nitrite-N.....	Calculation	0.10	3.7	N.A.	06/10/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	80	N.A.	06/10/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/10/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.2	06/16/99	06/16/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/15/99	06/15/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 12, 1999
 Analyzed: Jun 14, 1999
 Reported: Jun 22, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)			$\mu\text{g/L}$ (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	53%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 12, 1999
 Analyzed: Jun 14, 1999
 Reported: Jun 22, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	63%

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 15, 1999
 Analyzed: Jun 15, 1999
 Reported: Jun 22, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	84%
Toluene-d8 (75-140).....	94%
4-Bromofluorobenzene (75-135).....	94%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieber

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 22, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	81%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	92%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 14, 1999
 Analyzed: Jun 16, 1999
 Reported: Jun 22, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene..	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine..	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	53%
Phenol-d6 (40-115).....	56%
2,4,6-Tribromophenol (40-140)	75%
Nitrobenzene-d5 (35-120).....	60%
2-Fluorobiphenyl (30-150).....	66%
Terphenyl-d14 (45-150).....	77%



Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 11-14, 1999
 Analyzed: Jun 14-21, 1999
 Reported: Jun 22, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/11/99	06/18/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Barium.....	EPA 200.7	0.010	N.D.	06/11/99	06/15/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/11/99	06/15/99
Chromium.....	EPA 200.7	0.010	N.D.	06/11/99	06/15/99
Copper.....	EPA 200.7	0.020	N.D.	06/11/99	06/15/99
Iron.....	EPA 200.7	0.50	N.D.	06/11/99	06/15/99
Lead.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Manganese.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel.....	EPA 200.7	0.050	N.D.	06/11/99	06/15/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/11/99	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 12-18, 1999
 Analyzed: Jun 12-18, 1999
 Reported: Jun 22, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/12/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/12/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/12/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/12/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/12/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/12/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/16/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 10-18, 1999
 Analyzed: Jun 10-18, 1999
 Reported: Jun 22, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/10/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/10/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/10/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/10/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/10/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/16/99	06/16/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/15/99	06/15/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



R.R.

Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/14/99
 Sample #: LCS/LCSD*
 Batch #: IF12PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.338	0.344	68%	69%	2%	40	55-125
DDD	0	0.500	0.376	0.377	75%	75%	0%	20	60-130
DDT	0	0.500	0.411	0.414	82%	83%	1%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F14 #23

Associated Samples: PIF00530

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	116
DDT	1	124
Endosulfan Sulfate	1	120
Methoxychlor	1	120
Endrin Ketone	1	126

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/14/99
 Sample #: LCS/LCSD*
 Batch #: IF12PE1W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	Acceptance Limits	
								RPD %	PR1/PR2 %
AR 1016	0	4.0	2.61	2.56	65%	64%	2%	≤ 50	60-140%
AR 1260	0	4.0	2.73	3.06	68%	77%	11%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/15/99
 Sample #: PIF00919
 Batch #: IF15021W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	24.5	24.3	98%	97%	1%	≤ 20	50-128
1,1-Dichloroethene	19.0	25	45.8	43.1	107%	96%	6.1%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	27.6	26.7	110%	107%	3.3%	≤ 20	69-113
Chloroform	0.0	25	27.0	26.6	108%	106%	1.5%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	26.9	26.1	108%	104%	3.0%	≤ 20	61-122
Benzene	0.0	25	24.8	24.8	99%	99%	0.0%	≤ 20	80-115
Trichloroethene	2.1	25	26.4	26.3	97%	97%	0.4%	≤ 20	60-142
Toluene	0.0	25	23.9	24.1	96%	96%	0.8%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.4	24.7	98%	99%	1.2%	≤ 20	49-155
Chlorobenzene	0.0	25	23.5	24.0	94%	96%	2.1%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00801
 Batch #: IF17021W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>RPD</u>	<u>PR1/PR2</u>
	ppb	ppb	ppb	ppb	%	%	%	%	%
Vinyl Chloride	0.0	25	25.9	26.1	104%	104%	1%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	25.1	25.7	100%	103%	2.4%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	25.0	25.0	100%	100%	0.0%	≤ 20	69-113
Chloroform	0.0	25	24.9	25.0	100%	100%	0.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.1	25.6	100%	102%	2.0%	≤ 20	61-122
Benzene	0.0	25	24.0	24.6	96%	98%	2.5%	≤ 20	80-115
Trichloroethene	0.0	25	23.9	24.3	96%	97%	1.7%	≤ 20	60-142
Toluene	0.0	25	23.6	24.3	94%	97%	2.9%	≤ 20	69-136
Tetrachloroethene	0.0	25	23.5	24.1	94%	96%	2.5%	≤ 20	49-155
Chlorobenzene	0.0	25	22.6	23.4	90%	94%	3.5%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.

MS/MSD DATA REPORT

EPA Method: 8270
 Matrix: Water
 Instrument: GCMS

Date: 06/16/99
 Sample #: LCS/LCSD*
 Batch #: IF14SE1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
Phenol	0.0	50	33	32	66%	64%	3%	15	40-110
2-Chlorophenol	0.0	50	31	31	62%	62%	0%	15	40-110
1,4-Dichlorobenzene	0.0	50	28	27	56%	54%	4%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	39	36	78%	72%	8%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	34	32	68%	64%	6%	15	44-110
Chloro-3-methylphenol	0.0	50	41	38	82%	76%	8%	20	50-115
Benaphthene	0.1	50	38	34	76%	68%	11%	15	50-115
2,4-Dinitrotoluene	0.0	50	41	39	82%	78%	5%	15	55-120
4-Nitrophenol	0.0	50	42	40	84%	80%	5%	15	45-120
Pentachlorophenol	0.0	50	47	45	94%	90%	4%	20	50-125
Pyrene	0.1	50	39	37	78%	74%	5%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/14/99
 Sample #: PIF00554

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.07	1.09	107%	109%	1.9%	108%
Barium	0.0409	1.0	0.941	0.947	90%	91%	0.6%	90%
Cadmium	0	1.0	0.922	0.932	92%	93%	1.1%	93%
Chromium	0.0867	1.0	1.01	1.03	92%	94%	2.0%	93%
Copper	0	1.0	1.06	1.09	106%	109%	2.8%	108%
Iron	0	10.0	9.50	9.26	95%	93%	2.6%	94%
Lead	0	1.0	0.872	0.868	87%	87%	0.5%	87%
Manganese	0	1.0	0.915	0.921	92%	92%	0.7%	92%
Nickel	0	1.0	0.910	0.915	91%	92%	0.5%	91%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



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BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/11/99
 Sample #: PIF00488

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.07	0.974	107%	97%	9.4%	102%
Barium	0	1.0	0.944	0.965	94%	97%	2.2%	95%
Cadmium	0	1.0	0.952	0.964	95%	96%	1.3%	96%
Chromium	0	1.0	0.996	0.889	100%	89%	11.4%	94%
Copper	0	1.0	0.918	1.00	92%	100%	8.6%	96%
Iron	0	10.0	9.76	9.94	98%	99%	1.8%	99%
Lead	0	1.0	0.916	0.854	92%	85%	7.0%	89%
Manganese	0.0964	1.0	1.02	1.05	92%	95%	2.9%	94%
Nickel	0	1.0	0.974	0.950	97%	95%	2.5%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00554	0	1.0	1.03	0.994	103%	99%	4%
Thallium	200.9	06/21/99	PIF00554	0	1.0	0.957	0.954	96%	95%	0%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00488	0	0.040	0.0385	0.0392	96%	98%	2%
Thallium	200.9	06/16/99	PIF00488	0	0.020	0.0204	0.0210	102%	105%	3%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1)/SP) x 100
- PR2..... Percent Recovery of BSD; ((BSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2) x 100
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



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MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/14/99
 Sample #: PIF00554
 Batch #: IF14HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00504	0.00498	101%	100%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limit.



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GC DATA REPORT

DATE: 6/10/99
 SAMPLE # PIF00549

EPA METHOD
 Instrument:
 Matrix: 300
 DIONEX-IC
 WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	1.71	100	93.3	92.1	92%	90%	1.3%	91%
Chloride	4.73	200	178	177	87%	86%	0.6%	86%
Nitrite-N	0.00	30	26.8	26.7	89%	89%	0.4%	89%
Nitrate-N	0.00	90	80.9	81.1	90%	90%	0.2%	90%
OrthoPhos-P	0.00	194	172	172	89%	89%	0.0%	89%
Sulfate	28.4	400	387	389	90%	90%	0.5%	90%
Bromide	0.00	400	348	349	87%	87%	0.3%	87%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: CIF00399
 Batch #: IF16TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	%	%
Total Kjeldahl Nitrogen	1.7	10.0	12.0	11.0	103%	93%	9%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.

MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/15/99
 Sample #: IF00628
 Batch #: IF15CO1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
Total Organic Carbon	8.4	5.0	12.9	12.9	90%	90%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/10/99
 Sample #: PIF00382
 Batch #: IF10ST1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
								RPD	PR1/PR2
	ppm	ppm	ppm	ppm	%	%	%	%	%
Sulfide	0	1.0	1.38	1.39	138%	139%	1%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... The MS/MSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See LCS for batch validation.



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1344 FAX (818) 779-1343
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

LCS DATA REPORT

EPA METHOD: SM 4500-S-C,D

DATE: 6/10/99

Analyte	St	R1	PR
	ppm	ppm	%
Sulfide	1.0	0.804	80%

Definition of Terms:

- St..... Standard Concentration
- R1..... Standard Result
- PR..... Percent Recovery of R1; (R1/St) X 100

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30474

Dear Ms. Rice:

One water sample for Project Number 'PIF00530.QST' was received June 11, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00530	79943w	06/09/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00530.QST

ARF: 30474

Sample ID: PIF00530

APPL ID AP79943

Sample Collection Date: 6/9/99

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/15/99	6/17/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/15/99	6/17/99
EPA 8141	Def	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/15/99	6/17/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/15/99	6/17/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/15/99	6/17/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/15/99	6/17/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/15/99	6/17/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/15/99	6/17/99
EPA 8141	Surrogate: Tributylphosphate	73.2	60-150	%	6/15/99	6/17/99
EPA 8141	Surrogate: Triphenylphosphate	76.1	76-140	%	6/15/99	6/17/99

Run #: 35
Instrument: NPD02
Sequence: 990616
Dilution Factor: 1
Initials: RLB

EPA 8151 Herbicides

Del Mar Analytical
9000 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00530.QST

Sample ID: PIF00530

Sample Collection Date: 6/9/99

ARF: 30474

APPL ID AP79943

QCG: \$8151-990615A-17234

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/15/99	6/22/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/15/99	6/22/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/15/99	6/22/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/15/99	6/22/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/15/99	6/22/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/15/99	6/22/99
EPA 8151	MCPA	Not detected	100	ug/L	6/15/99	6/22/99
EPA 8151	MCPP	Not detected	100	ug/L	6/15/99	6/22/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/15/99	6/22/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/15/99	6/22/99
EPA 8151	Surrogate Recovery	108	61-120	%	6/15/99	6/22/99

Run #: 45
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/23/99 11:58:48 AM

Method Blank

EPA 8141

Blank Name/QCG: 990615W - 17149
 Batch ID: \$8141W-990615B

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/15/99	6/17/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/15/99	6/17/99
BLANK	Def	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/15/99	6/17/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/15/99	6/17/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	EPN	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Ethion	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/15/99	6/17/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Malathion	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Merphos	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/15/99	6/17/99
BLANK	Naled	Not detected	2.5	ug/L	6/15/99	6/17/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Phorate	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Prowl	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Tepp	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/15/99	6/17/99
BLANK	Surrogate: Tributylphosphate	86.7	60-150	%	6/15/99	6/17/99
BLANK	Surrogate: Triphenylphosphate	86.1	76-140	%	6/15/99	6/17/99

Run #: 28
Instrument: NPD02
Sequence: 990616
Initials: FML

Matrix / Control Spike Recoveries

ORGANOPHOSPHORUS PESTICIDES

APPL, Inc.
4203 West Swift Avenue
Fresno, CA 93722

EPA Method #: 8141
APPL Sample #: 990615BW LCS/LCSD
Date/Initials: 6/17/99 FML
Extraction Date: 6/15/99
Matrix Type: Water
Units: ug/L

Compound Name (Limits = See below)	Spike Level	Matrix Results	Spike Results	Spk % Recovery	Spk Dup Results	Spk Dup % Recovery	%RPD (See below)
Phorate	2.50	0.00	1.57	62.7	1.85	74.0	17
Diazinon*	2.50	0.00	1.64	65.4	1.78	71.4	8.7
Disulfoton	2.50	0.00	1.52	60.9	1.85	74.0	19
Methyl parathion	2.50	0.00	2.02	80.9	2.25	90.0	11
Stirophos*	2.50	0.00	2.35	93.8	2.74	109	15
Ethion*	2.50	0.00	2.24	89.4	2.44	97.6	8.7

Surrogate (see below)	Spike Level	Matrix Results	Spike Results	Spk % Recovery	Spk Dup Results	Spk Dup % Recovery
Tributyl phosphate	5.00	*****	3.20	63.9	3.45	69.0
Triphenyl phosphatate	5.00	*****	3.22	64.4	3.72	74.3

	Primary Column		Secondary Column	
	Spike	Spk Dup	Spike	Spk Dup
Analysis Date:	6/17/99	6/17/99	6/17/99	6/17/99
Analysis Time:	7:52 AM	8:33 AM	8:33 AM	9:14 AM
Instrument:	NPD02A	NPD02A	NPD02B	NPD002B
Column:	DB-35	DB-35	DB-5	DB-5
Sample/Vial #:	29	30	29	30
Extraction Ratio:	10/1000	10/1000	10/1000	10/1000
Dilution Factor:	1	1	1	1

Comments:

	Soil	Water	Soil RPD	Water RPD
Phorate	26-98	22-96	21	24
Diazinon	61-139	57-130	24	21
Disulfoton	14-131	47-117	26	22
Meth Parathion	63-153	55-164	19	24
Stirophos	58-140	68-128	21	25
Ethion	66-131	65-134	36	20
Tributyl phosphate	51-154	60-150	NA	NA
Triphenyl phosphate	63-151	76-140	NA	NA

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990615W - 17234
Batch ID: \$8151-990615A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/15/99	6/22/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/15/99	6/22/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/15/99	6/22/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/15/99	6/22/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/15/99	6/22/99
BLANK	MCPA	Not detected	100	ug/L	6/15/99	6/22/99
BLANK	MCPP	Not detected	100	ug/L	6/15/99	6/22/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	Surrogate recovery	111	61-120	%	6/15/99	6/22/99

Run #: 42
Instrument: ECD01
Sequence: 990621
Initials: KW

Printed: 6/23/99 11:58:58 AM

Laboratory Control Spike Recoveries
EPA 8151 Herbicides

APPL ID 990615W-79943 LCS/LCSD - 17234
Batch ID: \$8151-990615A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.923	0.939	92.3	93.9	53-134	1.7	32
2,4,5-TP	1.00	0.845	0.822	84.5	82.2	60-118	2.8	24
2,4-D	1.00	1.20	1.19	120	119	44-155	0.84	15
Dicamba	1.00	1.00	1.01	100	101	48-102	1.00	24
Dichlorprop (2,4-DP)	1.00	0.761	0.777	76.1	77.7	37-146	2.1	18
Dinoseb (DNBP)	1.00	0.857	0.888	85.7	88.8	73-173	3.6	31

Surrogate: 2,4-DCAA	3.00	3.36	3.31	112	110	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/15/99	6/15/99
Analysis Date :	6/22/99	6/22/99
Instrument :	ECD01	ECD01
Run :	43	44
Analyst :	KW	

Del Mar Analytical - Phoenix	Client Project ID: PIF00530	Sampled: 6/9/99
9830 South 51st Street, Suite B-120	QST	Received: 6/11/99
Phoenix, AZ 85044	Sample Descript: Water, PIF00530	Extracted: 6/12/99
Attention: Robyn Rice	Lab Number: IF01356	Analyzed: 6/14/99
	QC Batch: IF12PE1W	Reported: 6/22/99

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		µg/L (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL (AZ0428)
 Jeanne Shouder
 Project Manager

Surrogate Standard Recovery (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	52%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031

Sample Descript: Water, EW-NE-GW-(6-9-99)
 Lab Number: PIF00530

Sampled: Jun 9, 1999
 Received: Jun 9, 1999
 Extracted:
 Analyzed:
 Reported:

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):
Tetrachloro-m-xylene (30-130).....
Decachlorobiphenyl (30-130).....

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/10/99

Date Reported: 07/06/99

Attn: Robyn Rice

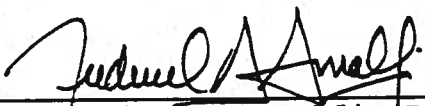
Sample Type: Water
Sample Date: 06/09/99
Sample Time: 13:47

Client ID: PIF00530
AC&T Lab No.: BE05472

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	0.3	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

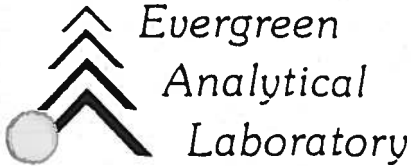
<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---



June 25, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2825
Client Project: F00530.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 7 degrees C.

This report contains a total of 9 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

14-Jun 11:47 am

Report To: Robyn Rice

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: F00530.QST

Phone: (602) 785-0043

FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2825-01A	PIF00530	Methane, Ethane, Ethene		Water	2	9-Jun-1999	11-Jun-1999	25-Jun-1999	23-Jun-1999

= Special list. See sample comments or test information.

HT = Holding Time expiration date.

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number : PIF00530	Client Project ID. : F00530.QST
Lab Sample Number : 99-2825-01	Lab Work Order : 99-2825
Date Sampled : 6/9/99	Dilution Factor : 1.00
Date Received : 6/11/99	Method : RSKSOP-175M
Date Extracted/Prepared : 6/21/99	Matrix : Water
Date Analyzed : 6/21/99	Lab File No. : GAS0621025

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: <u>71.2</u> F	Saturation	Meth <u>0</u>
Amount Injected	: <u>0.5</u> ml	Concentration	
Total Volume of Sample	: <u>43</u> ml	Concentration	Meth <u>0</u>
Head space created	: <u>4</u> ml	in Head Space	
Methane Area	: <u>0</u> ug	Saturation	Etha <u>0</u>
Ethane Area	: <u>0</u> ug	Concentration	
Ethene Area	: <u>0</u> ug	Concentration	Etha <u>0</u>
Atomic weight(Methane)	: <u>16</u> g	in Head Space	
Atomic weight(Ethane)	: <u>30</u> g	Saturation	Ethe <u>0</u>
Atomic weight(Ethene)	: <u>28</u> g	Concentration	
		Concentration	Ethe <u>0</u>
		in Head Space	

Qualifiers

- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- RL = Reporting Limit.
- N = Not Available/Not Applicable.

Note

Pressure calculated at sea level.

Analyst

Approved

1.6e4
1.5e4
1.4e4
1.3e4
1.2e4
1.1e4
1.0e4
9000
8000
7000

2
1
0
0

Data File Name : C:\HPCHEM\ALGA\DATA\GAS0621\025R0101.D
Operator : Leanne Hackney
Instrument : ALGA
Sample Name : 99-2825-01A
Run Time Bar Code:
Acquired on : 21 Jun 99 03:12 PM
Report Created on: 23 Jun 99 11:08 AM
Last Recalib on : 21 JUN 99 11:25 AM
Multiplier : 1
Sample Info : SAMP METHETH
DIF00530

Page Number : 1
Vial Number : 25
Injection Number : 1
Sequence Line : 1
Instrument Method: GAS.MTH
Analysis Method : GAS0621.MTH
Sample Amount : 0
ISTD Amount :

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062199 Client Project ID. : F00530.QST
Date Extracted/Prepared : 6/21/99 Lab Work Order : 99-2825
Date Analyzed : 6/21/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0621010

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

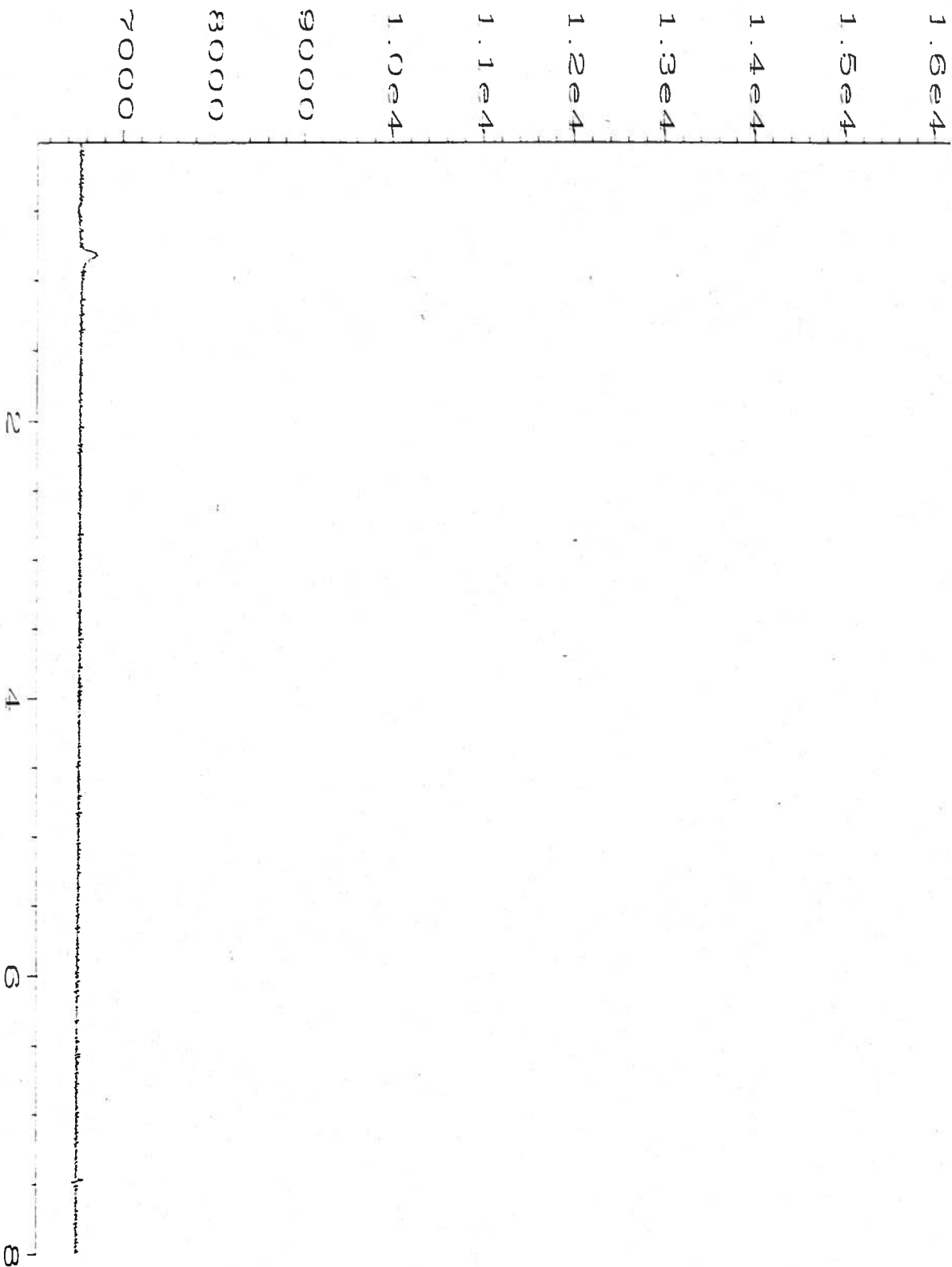
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N = Not Available/Not Applicable.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0621\010R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : GB062199
 Run Time Bar Code:
 Acquired on : 21 Jun 99 12:40 PM
 Report Created on: 23 Jun 99 11:23 AM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : MBLK METHETH
 Displaced 4ml of distilled water in 43ml vial with Helium,

Page Number : 1
 Vial Number : 10
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: GAS.MTH
 Analysis Method : GAS0621.MTH
 Sample Amount : 0
 ISTD Amount :

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062199 EPA Method No. : RSKSOP-175M
Date Prepared : 6/21/99 Matrix : Water
Date Analyzed : 6/21/99 Method Blank : GB062199
E.A. LCS Source No. : 1719 Lab File No. : GAS0621009


Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	355	71	64-90
Ethene Gas	500	0	261	52	37-58
Ethane Gas	500	0	344	69	53-83

Spike Recovery: 0 out of (3) outside limits.


Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

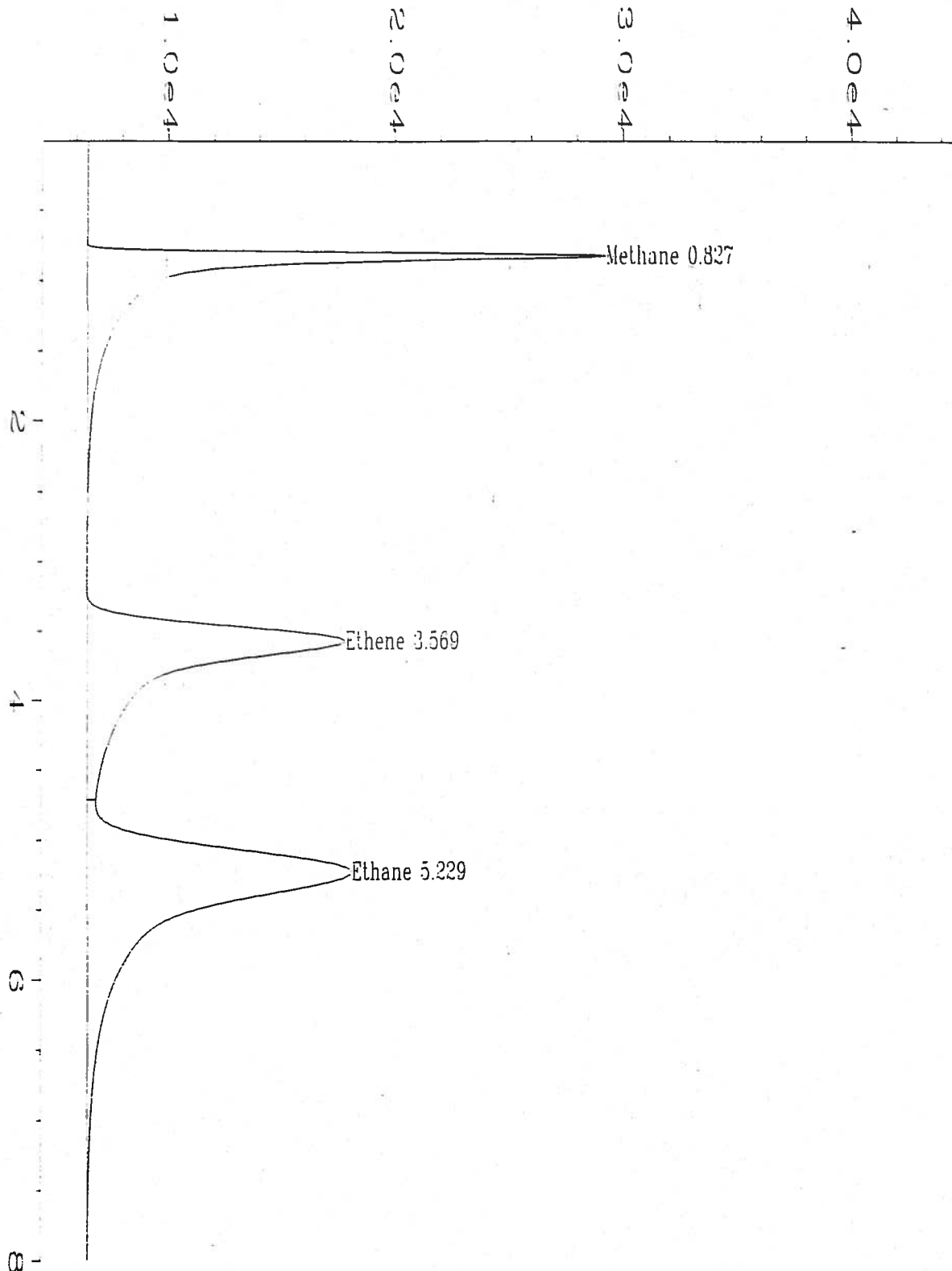
* = Values outside of QC limits.
NA = Not analyzed/not available.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0621\009R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 9
Instrument	: ALGA	Injection Number	: 1
Sample Name	: LCS062199	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 21 Jun 99 12:25 PM	Analysis Method	: GAS0621.MTH
Report Created on:	23 Jun 99 11:22 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: LCS METHETH		
	Displaced 4ml of distilled water in 43ml vial with 1%		

CHAIN OF CUSTODY FORM

Client Name/Address: PST, 26 N. 44th St. Phoenix, AZ 85018
 Project/PO Number: 6679030
 Analysis Required: II

Project Manager: John Michael
 Phone Number: 602 344 1192
 Sampler: Peter Horvath
 Fax Number:

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required								Special Instructions				
<u>W-NE-GW-(6-1-99)</u>		<u>11.0</u>	<u>2</u>	<u>06/01/99 15:13</u>	<u>11.0</u>	<input checked="" type="checkbox"/>												
		<u>11.0</u>	<u>2</u>	<u>06/01/99 15:11</u>														
		<u>50.0ml</u>	<u>1</u>	<u>06/01/99 15:11</u>	<u>11.0</u>													
		<u>11.0</u>	<u>1</u>	<u>06/01/99 15:11</u>														<u>Fill - 11.0</u>
		<u>11.0</u>	<u>1</u>	<u>06/01/99 15:11</u>														
		<u>11.0</u>	<u>1</u>	<u>06/01/99 15:11</u>														

Relinquished By: Peter Horvath Date /Time: 6/1/99 15:13 Received by: [Signature] Date /Time: [Signature]
 Turnaround Time: (Check)
 same day 72 hours
 24 hours 5 days
 48 hours normal
 Relinquished By: _____ Date /Time: _____ Received in Lab by: _____ Date /Time: _____
 Sample Integrity: (Check)
 intact on ice

By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Coolidge Dr., Suite A, Colton, CA 92324 (909) 370-4687 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: PIF00599

Report Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 11-22, 1999
 Analyzed: Jun 11-22, 1999
 Reported: Jun 23, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00599	EW-23-GW- (6-10-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00600	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 2830 South 31st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 15, 1999
 Analyzed: Jun 16, 1999
 Reported: Jun 23, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	65%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

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 1484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-3596 FAX (619) 505-9689
 2830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 15, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 23, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):
Decachlorobiphenyl (30-130)..... 73%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

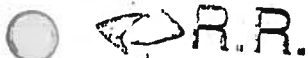
Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 23, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	6.7	Vinyl chloride.....	2.0	12
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	89%
Toluene-d8 (75-140).....	90%
4-Bromofluorobenzene (75-135).....	91%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

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 9484 Chesapeake Dr., Suite 905, San Diego, CA 92123 (619) 505-9598 FAX (619) 505-9609
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 335-0043 FAX (480) 335-0351

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: PIF00599
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00600

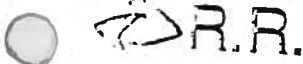
Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 23, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	93%
Toluene-d8 (75-140).....	89%
4-Bromofluorobenzene (75-135).....	88%

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Del Mar Analytical

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 23, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

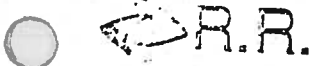
Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	56%
Phenol-d6 (40-115).....	58%
2,4,6-Tribromophenol (40-140)	85%
Nitrobenzene-d5 (35-120).....	63%
2-Fluorobiphenyl (30-150).....	65%
Terphenyl-d14 (45-150).....	87%



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 14-18, 1999
 Analyzed: Jun 14-18, 1999
 Reported: Jun 23, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Barium.....	EPA 200.7	0.010	0.045	N.A.	06/16/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/16/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/16/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/16/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/16/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Manganese.....	EPA 200.7	0.050	0.087	N.A.	06/16/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/16/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.

Robyn Rice
 Project Manager



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 3830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 14-18, 1999
 Analyzed: Jun 14-18, 1999
 Reported: Jun 23, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Barium, Dissolved.....	EPA 200.7	0.010	0.055	N.A.	06/18/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/18/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/18/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/18/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/18/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.10	N.A.	06/18/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/16/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: PIF00599
 Sample Descript: Water, EW-23-GW-(6-10-99)
 Lab Number: PIF00599

Sampled: Jun 10, 1999
 Received: Jun 10, 1999
 Extracted: Jun 11-22, 1999
 Analyzed: Jun 11-22, 1999
 Reported: Jun 24, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO ₃).....	SM2320B	5.0	250	N.A.	06/21/99
Bicarbonate Alkalinity (CaCO ₃)...	SM2320B	5.0	250	N.A.	06/21/99
Carbon Dioxide.....	SM4500-CO ₂ -C	1.0	24	N.A.	06/11/99
Chloride.....	EPA 300.0	50***	100	N.A.	06/11/99
Nitrate-N.....	EPA 300.0	0.10	1.5	N.A.	06/11/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/11/99
Nitrate/Nitrite-N.....	Calculation	0.10	1.5	N.A.	06/11/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	62	N.A.	06/11/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.8	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	1.1	06/18/99	06/18/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



R.R.

Robyn Rice
 Project Manager



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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 15, 1999
 Analyzed: Jun 16, 1999
 Reported: Jun 23, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	92%

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 15, 1999
 Analyzed: Jun 16, 1999
 Reported: Jun 23, 1999
 Matrix: Water

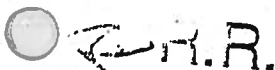
POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	88%

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QST Environmental
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Method Blank

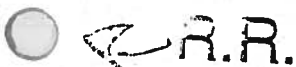
Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 23, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	81%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	92%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF00599.QST <12 of 16>

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 23, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

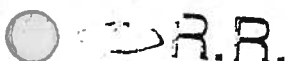
Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	81%
Phenol-d6 (40-115).....	86%
2,4,6-Tribromophenol (40-140).....	101%
Nitrobenzene-d5 (35-120).....	87%
2-Fluorobiphenyl (30-150).....	83%
Terphenyl-d14 (45-150).....	115%

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 14-18, 1999
 Analyzed: Jun 14-18, 1999
 Reported: Jun 23, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Barium.....	EPA 200.7	0.010	N.D.	N.A.	06/16/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/16/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/16/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/16/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/16/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/16/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/16/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.

Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

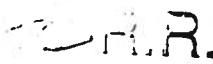
Extracted: Jun 14-18, 1999
 Analyzed: Jun 14-18, 1999
 Reported: Jun 23, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/18/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/18/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/18/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/18/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/18/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/14/99	06/14/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/18/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/16/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 11-22, 1999
 Analyzed: Jun 11-22, 1999
 Reported: Jun 24, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/11/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/11/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/11/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/11/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/18/99	06/18/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



R.R.

Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/16/99
 Sample #: LCS/LCSD*
 Batch #: IF15PE1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.428	0.465	86%	93%	8%	40	55-125
DDD	0	0.500	0.417	0.453	83%	91%	8%	20	60-130
DDT	0	0.500	0.421	0.462	84%	92%	9%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 1484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 2830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

GC CALIBRATION CHECK CRITERIA

Method: 8081.A

Associated Samples: PIF00559

Mid-Point: 1

QC Batch: IF15PE1W

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
Endrin Aldehyde	1	117

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



GC CALIBRATION CHECK CRITERIA

Method: 8081A
 Mid-Point: 2
 QC Batch: IF15PE1W

Associated Samples: PIF00559

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
Endo Sulfate	1	122
D-BHC	1	119

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/16/99
 Sample #: LCS/LCSD*
 Batch #: IF15PE1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
AR 1016	0	4.0	3.34	3.52	84%	88%	5%	≤ 50	60-140%
AR 1260	0	4.0	3.28	3.39	82%	85%	3%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00801
 Batch #: IF17021W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	25.9	26.1	104%	104%	1%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	25.1	25.7	100%	103%	2.4%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	25.0	25.0	100%	100%	0.0%	≤ 20	69-113
Chloroform	0.0	25	24.9	25.0	100%	100%	0.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.1	25.6	100%	102%	2.0%	≤ 20	61-122
Benzene	0.0	25	24.9	24.6	100%	98%	1.2%	≤ 20	80-115
Trichloroethene	0.0	25	23.9	24.3	96%	97%	1.7%	≤ 20	60-142
Toluene	0.0	25	23.6	24.3	94%	97%	2.9%	≤ 20	69-136
Tetrachloroethene	0.0	25	23.5	24.1	94%	96%	2.5%	≤ 20	49-155
Chlorobenzene	0.0	25	22.6	23.4	90%	94%	3.5%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270
 Matrix: Water
 Instrument: GCMS

Date: 06/18/99
 Sample #: LCS/LCSD*
 Batch #: IF16SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Phenol	0.0	50	42	38	84%	76%	10%	15	40-110
2-Chlorophenol	0.0	50	40	36	80%	72%	11%	15	40-110
1,4-Dichlorobenzene	0.0	50	29	30	58%	60%	3%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	48	46	96%	92%	4%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	35	34	70%	68%	3%	15	44-110
Chloro-3-methylphenol	0.0	50	53	47	106%	94%	12%	20	50-115
Acenaphthene	0.0	50	44	42	88%	84%	5%	15	50-115
2,4-Dinitrotoluene	0.0	50	54	47	108%	94%	14%	15	55-120
4-Nitrophenol	0.0	50	39	39	78%	78%	0%	15	45-120
Pentachlorophenol	0.0	50	44	43	88%	86%	2%	20	50-125
Pyrene	0.0	50	53	48	106%	96%	10%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

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 10525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-9043 FAX (480) 795-0851

BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/16/99
 Sample #: PIF00546

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	0.860	1.04	86%	104%	18.9%	95%
Barium	0	1.0	0.83	0.984	83%	98%	17.6%	90%
Cadmium	0	1.0	0.846	1.01	85%	101%	17.7%	93%
Chromium	0	1.0	0.909	1.05	91%	105%	14.4%	98%
Copper	0	1.0	0.857	1.03	86%	103%	18.3%	94%
Iron	0	10.0	8.65	10.3	87%	103%	17.4%	95%
Lead	0	1.0	0.798	0.969	80%	97%	19.4%	88%
Manganese	0.0588	1.0	0.902	1.07	84%	101%	17.0%	93%
Nickel	0	1.0	0.854	0.998	85%	100%	15.6%	93%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.

Del Mar Analytical (AZ0426)



CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/16/99

Analyte	St	CCV	PR
	ppm	ppm	%
Barium	1.0	0.931	93%
Lead	1.0	0.934	93%
Manganese	1.0	0.970	97%

Definition of Terms:

- St. Standard Concentration
- CCV. Continuing Calibration Verification
- PR. Percent Recovery of CCV; $(CCV/St) \times 100$
- Acceptance Limits CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00745	0	0.040	0.0402	0.0419	101%	105%	4%
Thallium	200.9	06/16/99	PIF00546	0	0.020	0.0216	0.0219	108%	110%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/14/99
 Sample #: PIF00554
 Batch #: IF14HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00504	0.00498	101%	100%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limit.



MS/MSD DATA REPORT

EPA Method: 300.0
 Matrix: Water
 Instrument: IC

Date: 06/11/99
 Sample #: PIF00745
 Batch #: N/A

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Chloride	104	200	287	280	92%	88%	2.5%	≤ 20	80-120
Nitrate-N	1.47	90	85.6	80.8	93%	88%	5.8%	≤ 20	80-120
Nitrite-N	0	30	27.9	26.3	93%	88%	5.9%	≤ 20	80-120
Sulfate-SO4	62.0	400	439	414	94%	88%	5.9%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Sulfide	0	1.0	0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: CIF00872
 Batch #: IF22TK1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Total Kjeldahl Nitrogen	8.1	10.0	17.0	17.0	89%	89%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01531
 Batch #: IF18CO1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.698	5.0	5.5	5.6	96%	98%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte								<u>Acceptance Limits</u>	
	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>RPD</u>	<u>PR1/PR2</u>
	ppm	ppm	ppm	ppm	%	%	%	%	%
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/11/99
Date Reported: 07/06/99

Attn: Robyn Rice

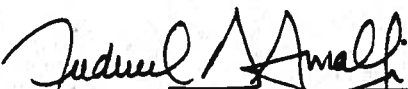
Sample Type: Water
Sample Date: 06/10/99
Sample Time: 11:00

Client ID: PIF00599
AC&T Lab No.: BE05507

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	1.7	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER: DOC UNITS: mg/L
METHOD NO.: EPA 415.1 ANALYST: CJC
ANALYSIS DATE: 07/01/99 PREPARED BY: CJC

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---



June 29, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2878
Client Project: PIF00599.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 9 degrees C.

This report contains a total of 7 pages including the cover letter.

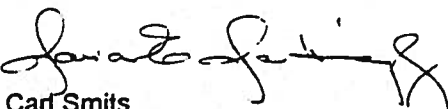
SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,


for: Carl Smits
V.P. Q.A.

WORK ORDER Summary

15-Jun 10:11 am

Report To: Robyn Rice

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: PIF00599.QST

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2878-01A	PIF00599	Methane, Ethane, Ethene		Water	2	10-Jun-1999	15-Jun-1999	29-Jun-1999	24-Jun-1999

= Special list. See sample comments or test information.

HT = Holding Time expiration date.

AKB

WO# 99-2878 BOP# NA
 C/S(O) NA NA C/S(I) C Fe/Ev
 Seals Present Y NA; Intact Y NA
 Pres Y NA Hd Sp Y NA Loc 2
 Temp (C) 9 Container 40VHCl By AS

CHAIN OF CUSTODY FORM

Del Mar Analytical
 830 South 51st St., Suite B-120
 Phoenix, AZ 85044

Project Manager/Phone Number:
Robyn Rice

Project/PO Number:
PIF00599.Q5T

Sampler:

Analysis Required

Sample Description	Sample Matrix	Container Type	#of Cont	Sampling Date/Time	Preservatives	Methane	Ethane	Ethene						Special Instructions
<u>PIF00599</u>	<u>H₂O</u>	<u>VOL</u>	<u>2</u>	<u>6/10/99 1100</u>	<u>HCL</u>	<u>X</u>	<u>X</u>	<u>X</u>						
														<u>Evergreen</u>

Relinquished By: Jaime Wood Date /Time: 6/14/99 1700

Received by: Fed Ex Date /Time: 6/14/199 1700

Turnaround Time: (check)
 same day _____ 72 hours _____
 24 hours _____ 5 days _____
 48 hours _____ normal X

Relinquished By: fedex Date /Time: 6/15/99 10:05

Received in Lab by: AMY Stumm Date /Time: 6/15/99 10:05

Sample Integrity: (Check)
 intact _____ on ice _____

Note: Sample(s) will be disposed of after 30 days.

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00599	Client Project ID.	: PIF00599.QST
Lab Sample Number	: 99-2878-01	Lab Work Order	: 99-2878
Date Sampled	: 6/10/99	Dilution Factor	: 1.00
Date Received	: 6/15/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/21/99	Matrix	: Water
Date Analyzed	: 6/21/99	Lab File No.	: GAS0621034

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025


Temperature	: 71.4 F	Saturation	Meth	0
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0
Head space created	: 4 ml	in Head Space		
Methane Area	: 0 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers


E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 N/A = Not Available/Not Applicable.

Note

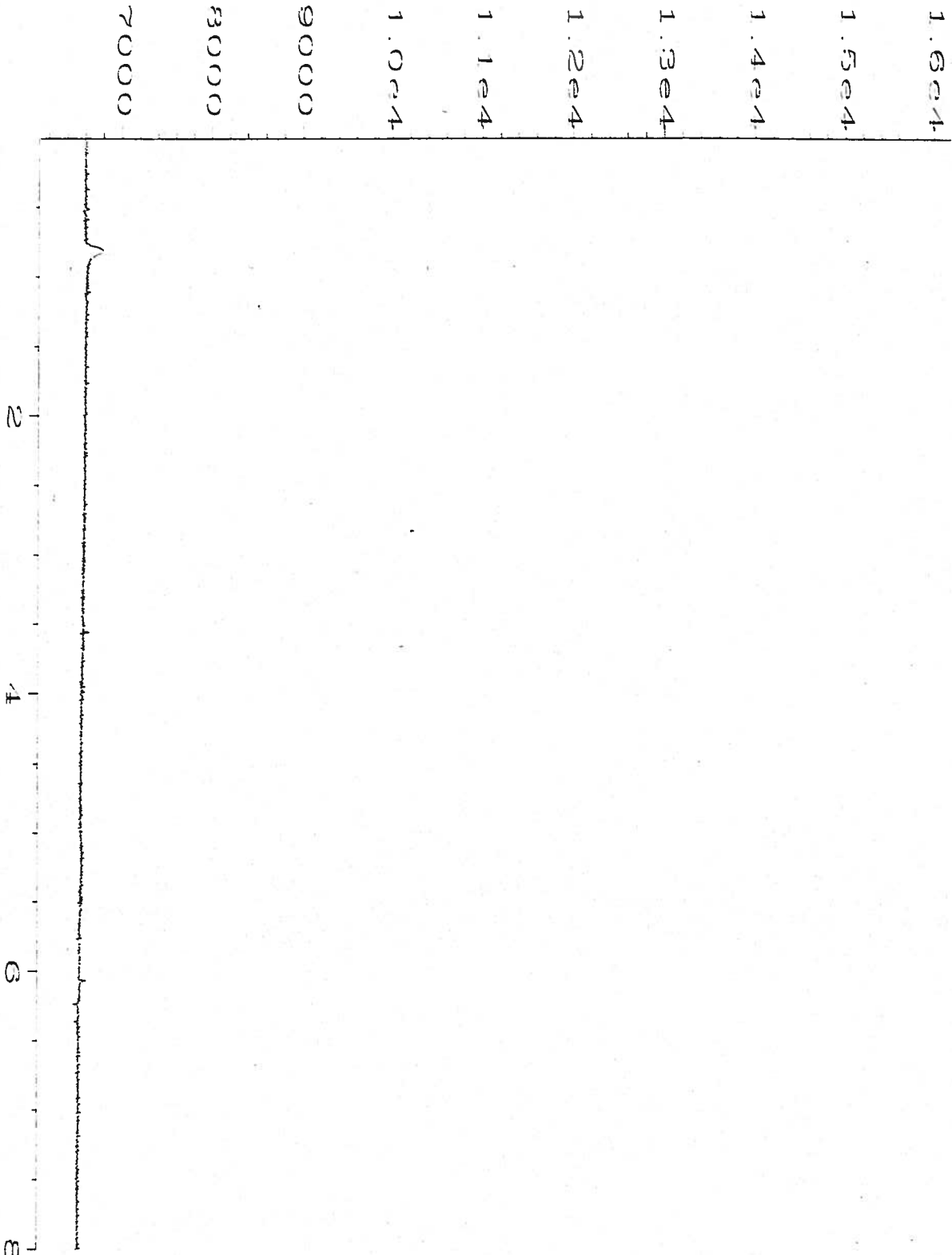
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0621\034R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 34
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2878-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 21 Jun 99 04:46 PM	Analysis Method	: GAS0621.MTH
Report Created on:	23 Jun 99 11:09 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	PIF00599		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062199 Client Project ID. : PIF00599.QST
Date Extracted/Prepared : 6/21/99 Lab Work Order : 99-2878
Date Analyzed : 6/21/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0621010


Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

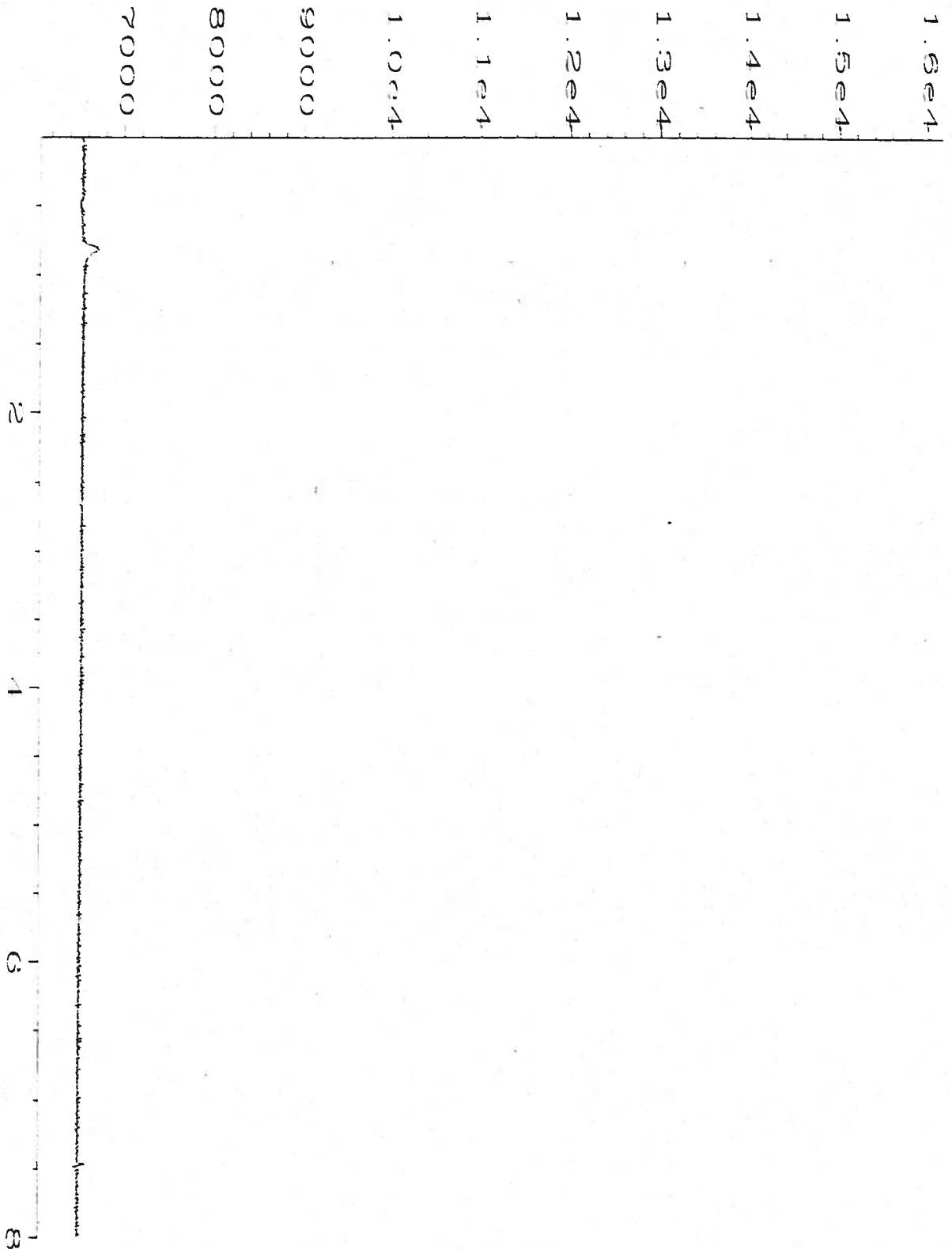
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N = Not Available/Not Applicable.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0621\010R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : GB062199
 Run Time Bar Code:
 Acquired on : 21 Jun 99 12:40 PM
 Report Created on: 23 Jun 99 11:24 AM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : MBLK METHETH
 Displaced 4ml of distilled water in 43ml vial with Helium,

Page Number : 1
 Vial Number : 10
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: GAS.MTH
 Analysis Method : GAS0621.MTH
 Sample Amount : 0
 ISTD Amount :



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30499

Dear Ms. Rice:

One water sample for Project Number 'PIF00599.QST' was received June 15, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00599	80083w	06/10/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

Method Blank

EPA 8141

Blank Name/QCG: 990617W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
BLANK	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Surrogate: Tributylphosphate	96.4	60-150	%	6/17/99	6/22/99
BLANK	Surrogate: Triphenylphosphate	110	76-140	%	6/17/99	6/22/99

Run #: 46
Instrument: NPD03
Sequence: 990621
Initials: RLB

EPA 8141

el Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00599.QST

Sample ID: PIF00599

Sample Collection Date: 6/10/99

ARF: 30499

APPL ID AP80083

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Surrogate: Tributylphosphate	85.0	60-150	%	6/17/99	6/22/99
EPA 8141	Surrogate: Triphenylphosphate	105	76-140	%	6/17/99	6/22/99

Run #: 54
Instrument: NPD03
Sequence: 990621
Dilution Factor: 1
Initials: RLB

Method Blank
EPA 8141

Del Mar Analytical
 9830 South 51st. St., Ste B-120
 Phoenix, AZ 85044

Attn: Robyn Rice
 Project: PIF00599.QST
 Sample ID: PIF00599
 Sample Collection Date: 6/10/99

ne/QCG: 990617W -

Analyte	Result	PQL	Units
Azinphosmethyl	Not detected	5.0	ug/L
Bolstar	Not detected	0.50	ug/L
Chlorpyrifos	Not detected	0.50	ug/L
Coumaphos	Not detected	1.0	ug/L
Demeton-s	Not detected	0.50	ug/L
Diazinon	Not detected	1.0	ug/L
Dichlorvos	Not detected	0.50	ug/L
Dimethoate	Not detected	1.0	ug/L
Disulfoton	Not detected	0.50	ug/L
EPN	Not detected	0.50	ug/L
Ethion	Not detected	0.50	ug/L
Ethoprop	Not detected	0.50	ug/L
Fensulfthion	Not detected	2.5	ug/L
Fenthion	Not detected	0.50	ug/L
Malathion	Not detected	0.50	ug/L
Merphos	Not detected	0.50	ug/L
Mevinphos	Not detected	0.50	ug/L
Naled	Not detected	0.50	ug/L
Parathion, ethyl	Not detected	0.50	ug/L
Parathion, methyl	Not detected	0.50	ug/L
Phorate	Not detected	0.50	ug/L
Prowl	Not detected	0.50	ug/L
Ronnel	Not detected	0.50	ug/L
Stirophos	Not detected	0.50	ug/L
Sulfotep	Not detected	0.50	ug/L
Tepp	Not detected	0.50	ug/L
Tokuthion	Not detected	0.50	ug/L
Trichloronate	Not detected	0.50	ug/L
Trifluralin	Not detected	0.50	ug/L
Surrogate: Tributylphosphate	96.4	60-150	%
Surrogate: Triphenylphosphate	110	76-140	%

Method	Analyte
EPA 8141	Azinphosmethyl
EPA 8141	Bolstar
EPA 8141	Chlorpyrifos
EPA 8141	Coumaphos
EPA 8141	Def
EPA 8141	Demeton-s
EPA 8141	Diazinon
EPA 8141	Dichlorvos
EPA 8141	Dimethoate
EPA 8141	Disulfoton
EPA 8141	EPN
EPA 8141	Ethion
EPA 8141	Ethoprop
EPA 8141	Fensulfthion
EPA 8141	Fenthion
EPA 8141	Malathion
EPA 8141	Merphos
EPA 8141	Mevinphos
EPA 8141	Naled
EPA 8141	Parathion, ethyl
EPA 8141	Parathion, methyl
EPA 8141	Phorate
EPA 8141	Prowl
EPA 8141	Ronnel
EPA 8141	Stirophos
EPA 8141	Sulfotep
EPA 8141	Tepp
EPA 8141	Tokuthion
EPA 8141	Trichloronate
EPA 8141	Trifluralin
EPA 8141	Surrogate: Tributylphosphate
EPA 8141	Surrogate: Triphenylphosphate

Laboratory Control Spike Recovery

EPA 8141

APPL ID: 990617W-80083 LCS - 17226

Batch ID: \$8141W-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Diazinon	2.5	1.76	70.4	57-130
Disulfoton	2.5	2.15	86.0	47-117
Ethion	2.5	2.37	94.8	65-134
Methyl Parathion	2.5	3.07	123	55-164
Phorate	2.5	2.51	100 #	22-96
Stirophos	2.5	3.24	130 #	68-128

Surrogate: Tributylphosphate	5.0	4.66	93.2	60-150
Surrogate: Triphenylphosphate	5.0	5.08	102	76-140

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Extraction Date :	6/17/99
Analysis Date :	6/22/99
Instrument :	NPD03
Run :	47
Analyst :	RLB

Matrix Spike Recoveries

EPA 8141

APPL ID: 990617W-80078 MS/MSD - 17232

Batch ID: S814SM-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	ND	1.88	1.79	75.2	71.6	57-130	4.9	21
Disulfoton	2.5	ND	2.24	2.02	89.6	80.8	47-117	10.3	22
Ethion	2.5	ND	2.45	2.39	98.0	95.6	65-134	2.5	20
Parathion, methyl	2.5	NC	3.19	3.14	128	126	55-164	1.6	24
Phorate	2.5	NC	2.58	2.54	103 #	102 #	22-96	1.5	24
Stirophos	2.5	ND	3.39	3.24	136 #	130 #	68-128	4.5	25
Surrogate: Tributylphosphate	5.0	NA	4.76	4.63	95.2	92.6	60-150		
Surrogate: Triphenylphosphate	5.0	NA	5.20	5.11	104	102	76-140		

= Recovery is outside QC limits.

Comments: _____

	Primary	SPK	DUP
Extraction Date :	6/17/99	6/17/99	6/17/99
Analysis Date :	6/22/99	6/22/99	6/22/99
Instrument :	NPD03	NPD03	NPD03
Run :	48	49	
Analyst :	RLB		

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990615W - 17234
Batch ID: \$8151-990615A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/15/99	6/22/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/15/99	6/22/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/15/99	6/22/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/15/99	6/22/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/15/99	6/22/99
BLANK	MCPA	Not detected	100	ug/L	6/15/99	6/22/99
BLANK	MCPP	Not detected	100	ug/L	6/15/99	6/22/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	Surrogate recovery	111	61-120	%	6/15/99	6/22/99

Run #: 42
Instrument: ECD01
Sequence: 990621
Initials: KW

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID 990615W-79943 LCS/LCSD - 17234
 Batch ID: \$8151-990615A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.923	0.939	92.3	93.9	53-134	1.7	32
2,4,5-TP	1.00	0.845	0.822	84.5	82.2	60-118	2.8	24
2,4-D	1.00	1.20	1.19	120	119	44-155	0.84	15
Dicamba	1.00	1.00	1.01	100	101	48-102	1.00	24
Dichlorprop (2,4-DP)	1.00	0.761	0.777	76.1	77.7	37-146	2.1	18
Dinoseb (DNBP)	1.00	0.857	0.888	85.7	88.8	73-173	3.6	31
Surrogate: 2,4-DCAA	3.00	3.36	3.31	112	110	61-120		

Comments:

Primary	SPK	DUP
Extraction Date :	8/15/99	8/15/99
Analysis Date :	8/22/99	8/22/99
Instrument :	ECD01	ECD01
Run :	43	44
Analyst :	KW	

CHAIN OF CUSTODY FORM

Quote#: _____ Page 1 of 2

Client Name/Address: <i>AS.T. 4/26 4/4/10 - 1. - de 4/10/10</i>			Project/PO Number:			Analysis Required												
Project Manager: <i>John Alston</i>			Phone Number: <i>714 1114</i>			(Vertical columns for analysis required, containing handwritten notes and 'X' marks)												
Sampler: <i>Peter H. ...</i>			Fax Number: <i>714 7280</i>															
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives													Special Instructions
<i>EW-23-610(4-0-01)</i>		<i>VQA</i>	<i>2</i>	<i>4/26/10</i>	<i>HCL</i>	<i>X</i>												
		<i>LVA</i>	<i>1</i>	<i>4/26/10</i>		<i>X</i>												
<i>↓</i>	<i>↓</i>	<i>Amplas LVA</i>	<i>3</i>	<i>↓</i>	<i>↓</i>	<i>X</i>												
		<i>Amplas LVA</i>	<i>3</i>			<i>X</i>												
		<i>500 ml Amber</i>	<i>1</i>			<i>X</i>												
<i>↓</i>	<i>↓</i>	<i>500 ml Poly</i>	<i>1</i>	<i>↓</i>	<i>HNO3</i>	<i>X</i>												
			<i>1</i>		<i>X</i>													
<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>X</i>												
Relinquished By: <i>[Signature]</i>			Date /Time: <i>4/1/10</i>			Received by: <i>[Signature]</i>			Date /Time: <i>4/1/10</i>			Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____						
Relinquished By: <i>[Signature]</i>			Date /Time: <i>4/1/10</i>			Received by: <i>[Signature]</i>			Date /Time: <i>4/1/10</i>			Sample Integrity: (Check) intact _____ on ice _____						
Relinquished By: <i>[Signature]</i>			Date /Time: <i>4/1/10</i>			Received in Lab by: <i>[Signature]</i>			Date /Time: <i>4/1/10</i>									

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 2 of 2

Client Name/Address: A.S.T. 4200 N. 4th St. Akron, OH 44310			Project/PO Number: 0099000			Analysis Required															
Project Manager: Johnnie Mecher			Phone Number: 314 1112			Analysis Required															
Sampler: Peter Hoffmann			Fax Number: 314 7780																		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives																Special Instructions
EW 23 (cont. 0.01)	Water	1 liter Amber	1	10/15/11																	
Relinquished By: Peter Hoffmann	Date /Time: 10/15/11	Received by: Johnnie Mecher	Date /Time: 10/15/11	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____																	
Relinquished By:	Date /Time:	Received by:	Date /Time:	Sample Integrity: (Check) intact _____ on ice _____																	
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:																		

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

QST Environmental
 16 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill

Report Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 11-23, 1999
 Analyzed: Jun 11-23, 1999
 Reported: Jun 24-25, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00801	EW-25-GW- (6-11-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00802	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

RTR
 Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)			$\mu\text{g/L}$ (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	83%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-1043 FAX (480) 795-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 16, 1999
 Reported: Jun 25, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	69%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 23, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 24, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	96%
Toluene-d8 (75-140).....	93%
4-Bromofluorobenzene (75-135).....	93%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00802

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 24, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	85%
Toluene-d8 (75-140).....	92%
4-Bromofluorobenzene (75-135).....	92%

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 25, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Del Mar Analytical

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	59%
Phenol-d6 (40-115).....	58%
2,4,6-Tribromophenol (40-140)	80%
Nitrobenzene-d5 (35-120).....	69%
2-Fluorobiphenyl (30-150).....	62%
Terphenyl-d14 (45-150).....	112%



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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 14-21, 1999
 Analyzed: Jun 14-23, 1999
 Reported: Jun 24, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/14/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/14/99	06/14/99
Barium.....	EPA 200.7	0.010	0.26	06/14/99	06/14/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/14/99	06/14/99
Chromium.....	EPA 200.7	0.010	0.15	06/14/99	06/14/99
Copper.....	EPA 200.7	0.020	0.046	06/14/99	06/16/99
Iron.....	EPA 200.7	0.50	20	06/14/99	06/14/99
Lead.....	EPA 200.7	0.050	N.D.	06/14/99	06/14/99
Manganese.....	EPA 200.7	0.050	1.9	06/14/99	06/14/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	0.052	06/14/99	06/14/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/14/99	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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ST Environmental
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 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 17-22, 1999
 Analyzed: Jun 17-22, 1999
 Reported: Jun 24, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	0.082	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.34	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-25-GW-(6-11-99)
 Lab Number: PIF00801

Sampled: Jun 11, 1999
 Received: Jun 11, 1999
 Extracted: Jun 11-22, 1999
 Analyzed: Jun 11-22, 1999
 Reported: Jun 25, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	200	N.A.	06/21/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	200	N.A.	06/21/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	23	N.A.	06/11/99
Chloride.....	EPA 300.0	50***	120	N.A.	06/11/99
Nitrate-N.....	EPA 300.0	0.10	2.4	N.A.	06/11/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/11/99
Nitrate/Nitrite-N.....	Calculation	0.10	2.4	N.A.	06/11/99
Phosphorus*.....	EPA 365.3	0.050	0.35	N.A.	06/18/99
Sulfate.....	EPA 300.0	5.0***	76	N.A.	06/11/99
Sulfide.....	SM4500-S-C.D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	5.0	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	3.2	N.A.	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	95%

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PIF00801.QST <10 of 17>

ST Environmental
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 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	84%



Del Mar Analytical

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 24, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	81%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	92%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 23, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 24, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	87%
Toluene-d8 (75-140).....	99%
4-Bromofluorobenzene (75-135).....	99%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 25, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	73%
Phenol-d6 (40-115).....	76%
2,4,6-Tribromophenol (40-140)	94%
Nitrobenzene-d5 (35-120).....	88%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	122%

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 14-21, 1999
 Analyzed: Jun 14-23, 1999
 Reported: Jun 24, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/14/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/14/99	06/14/99
Barium.....	EPA 200.7	0.010	N.D.	06/14/99	06/14/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/14/99	06/14/99
Chromium.....	EPA 200.7	0.010	N.D.	06/14/99	06/14/99
Copper.....	EPA 200.7	0.020	N.D.	06/14/99	06/16/99
Iron.....	EPA 200.7	0.50	N.D.	06/14/99	06/14/99
Lead.....	EPA 200.7	0.050	N.D.	06/14/99	06/14/99
Manganese.....	EPA 200.7	0.050	N.D.	06/14/99	06/14/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	N.D.	06/14/99	06/14/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/14/99	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-22, 1999
 Analyzed: Jun 17-22, 1999
 Reported: Jun 24, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/18/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

WEST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 11-22, 1999
 Analyzed: Jun 11-22, 1999
 Reported: Jun 25, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/11/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/11/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/11/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	N.A.	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/11/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	N.A.	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



R.R.

Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
DDE	0	0.500	0.381	0.409	76%	82%	7%	40	55-125
DDD	0	0.500	0.394	0.413	79%	83%	5%	20	60-130
DDT	0	0.500	0.434	0.470	87%	94%	8%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



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GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #5

Associated Samples: PIF00801

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	135
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	130

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #19

Associated Samples: PIF00801

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
D-BHC	1	140
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	132

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	3.38	2.12	85%	53%	46%	≤ 50	60-140%
AR 1260	0	4.0	3.34	1.30	84%	33%	88%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... See Case Narrative.



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GC CALIBRATION CHECK CRITERIA

Method: 8082

Associated Samples: PIF00801

QC Batches: F17 #39, #52

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
#39 1016	1	117
#52 1016	1	122
#52 1260	1	133

- ¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
All samples that were ND for this compound were unaffected and reported unqualified.
- ² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/23/99
 Sample #: PIF01461
 Batch #: IF23021W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	38.0	25	57.4	56.9	78%	76%	1%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	25.4	26.3	102%	105%	3.5%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	25.4	25.4	102%	102%	0.0%	≤ 20	69-113
Chloroform	0.0	25	25.5	26.2	102%	105%	2.7%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.4	26.2	102%	105%	3.1%	≤ 20	61-122
Benzene	0.0	25	24.2	24.0	97%	96%	0.8%	≤ 20	80-115
Trichloroethene	0.0	25	24.5	24.7	98%	99%	0.8%	≤ 20	60-142
Toluene	0.0	25	24.1	24.7	96%	99%	2.5%	≤ 20	69-136
Tetrachloroethene	0.0	25	23.9	24.5	96%	98%	2.5%	≤ 20	49-155
Chlorobenzene	0.0	25	24.5	25.7	98%	103%	4.8%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00801
 Batch #: IF17021W

Acceptance Limits

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %
Vinyl Chloride	0.0	25	25.9	26.1	104%	104%	1%
1,1-Dichloroethene	0.0	25	25.1	25.7	100%	103%	2.4%
1,1-Dichloroethane	0.0	25	25.0	25.0	100%	100%	0.0%
Chloroform	0.0	25	24.9	25.0	100%	100%	0.4%
1,2-Dichloroethane	0.0	25	25.1	25.6	100%	102%	2.0%
Benzene	0.0	25	24.0	24.6	96%	98%	2.5%
Trichloroethene	0.0	25	23.9	24.3	96%	97%	1.7%
Toluene	0.0	25	23.6	24.3	94%	97%	2.9%
Tetrachloroethene	0.0	25	23.5	24.1	94%	96%	2.5%
Chlorobenzene	0.0	25	22.6	23.4	90%	94%	3.5%

RPD %	PR1/PR2 %
≤ 20	50-128
≤ 20	69-119
≤ 20	69-113
≤ 20	23-191
≤ 20	61-122
≤ 20	80-115
≤ 20	60-142
≤ 20	69-136
≤ 20	49-155
≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270
 Matrix: Water
 Instrument: GCMS

Date: 06/21/99
 Sample #: LCS/LCSD*
 Batch #: IF18SE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
Phenol	0.1	50	33	40	66%	80%	19%	15	40-110
2-Chlorophenol	0.0	50	30	37	60%	74%	21%	15	40-110
1,4-Dichlorobenzene	0.0	50	23	26	46%	52%	12%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	41	44	82%	88%	7%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	28	31	56%	62%	10%	15	44-110
Chloro-3-methylphenol	0.0	50	37	43	74%	86%	15%	20	50-115
Acenaphthene	0.1	50	38	39	76%	78%	3%	15	50-115
2,4-Dinitrotoluene	0.0	50	41	44	82%	88%	7%	15	55-120
4-Nitrophenol	0.0	50	30	34	60%	68%	13%	15	45-120
Pentachlorophenol	0.0	50	33	39	66%	78%	17%	20	50-125
Pyrene	0.1	50	47	50	94%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... The RPD exceeded method control limit due to sample matrix effects. All QA/QC recoveries, however, were within acceptance limits.



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 9830 South 51st St., Suite B 120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0851

MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/14/99
 Sample #: PIF00758

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	0.910	0.950	91%	95%	4.3%	93%
Barium	0.0745	1.0	0.945	0.955	87%	88%	1.1%	88%
Cadmium	0	1.0	0.895	0.920	90%	92%	2.8%	91%
Chromium	0	1.0	0.915	0.925	92%	93%	1.1%	92%
Iron	0	10.0	9.40	9.70	94%	97%	3.1%	96%
Lead	0	1.0	0.900	0.910	90%	91%	1.1%	91%
Manganese	0	1.0	0.885	0.910	89%	91%	2.8%	90%
Nickel	0	1.0	0.880	0.890	88%	89%	1.1%	89%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1) / SP) X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD/2)) X 100
- Acceptance Limits RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/16/99
 Sample #: PIF00758

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Copper	0	1.0	0.878	0.861	88%	86%	2.0%	87%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD/2)) \times 100$
- Acceptance Limits RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony**	200.9	06/23/99	PIF00758	1.02	1.0	1.04	*	*	*	*
Thallium*	200.9	06/21/99	PIF00758	0.987	1.0	0.970	0.0340	0%	0%	186%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: *The MS/MSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See LCS for batch validation.

**Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See LCS for batch validation.

LCS DATA REPORT

Matrix: Water
 Instrument: AA

Analyte	EPA Method	DATE	Spike Conc. ppm	Result ppm	Recovery %	Acceptance Limits
						PR1 %
Antimony	200.9	06/23/99	1.0	1.09	109%	85-115%
Thallium	200.9	06/21/99	1.0	1.00	100%	85-115%

Definition of Terms

- LCS..... Laboratory Control Sample
- Spike Conc..... Result of Sample Analysis
- Result..... Result of Laboratory Control sample Analysis
- Recovery..... Percent Recovery LCS; (Result/Spike Conc.)
- Acceptance Limits..... Based on Method Acceptance Limits.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426)

MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/21/99
 Sample #: PIF00963
 Batch #: IF21HG3W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
								RPD	PR1/PR2
	ppm	ppm	ppm	ppm	%	%	%	%	%
Mercury	0	0.00500	0.00119	0.00117	24%	23%	1.7%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... The MS/MSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See LCS for batch validation.



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LCS DATA REPORT

METHOD: 245.1
 MATRIX: Water

DATE: 6/21/99

Analyte	Sp	LCS	PR
	ppm	ppm	%
Mercury	0.00200	0.00205	103%

Definition of Terms:

- Sp. Standard Concentration
- LCS. Laboratory Control Sample Result
- PR. Percent Recovery of LCS; (LCS/Sp) X 100

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



Del Mar Analytical

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BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00745

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.08	1.15	108%	115%	6.3%	112%
Barium	0.0666	1.0	1.02	1.05	95%	98%	2.9%	97%
Cadmium	0	1.0	0.980	1.00	98%	100%	2.0%	99%
Chromium	0	1.0	0.964	1.00	96%	100%	3.7%	98%
Copper	0	1.0	0.974	1.00	97%	100%	2.6%	99%
Iron	0	10.0	9.83	10.0	98%	100%	1.7%	99%
Lead	0	1.0	0.957	0.992	96%	99%	3.6%	97%
Manganese	0	1.0	0.982	1.01	98%	101%	2.8%	100%
Nickel	0	1.0	0.949	0.967	95%	97%	1.9%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00745	0	0.040	0.0402	0.0419	101%	105%	4%
Thallium	200.9	06/21/99	PIF00745	0	0.020	0.0197	0.0200	99%	100%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/17/99
 Sample #: PIF00745
 Batch #: IF17HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Mercury	0	0.00500	0.00497	0.00493	99%	99%	0.8%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC was within acceptance limit.



MS/MSD DATA REPORT

EPA Method: 300.0
 Matrix: Water
 Instrument: IC

Date: 06/11/99
 Sample #: PIF00745
 Batch #: N/A

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Fluoride	0.354	100	96.1	89.2	96%	89%	7.4%	≤ 20	80-120
Chloride	104	200	287	280	92%	88%	2.5%	≤ 20	80-120
Nitrate-N	0	30	27.9	26.3	93%	88%	5.9%	≤ 20	80-120
Nitrite-N	1.47	90	85.6	80.8	93%	88%	5.8%	≤ 20	80-120
Phosphate-HPO4	0	194	179	170	92%	88%	5.2%	≤ 20	80-120
Sulfate-SO4	62	400	439	414	94%	88%	5.9%	≤ 20	80-120
Bromide	0	400	364	342	91%	86%	6.2%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Sulfide	0	1.0	0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: CIF00872
 Batch #: IF22TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Kjeldahl Nitrogen	8.1	10.0	17.0	17.0	89%	89%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/21/99
 Sample #: IF02585
 Batch #: IF21CO1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Total Organic Carbon	0.0	5.0	4.9	4.8	98%	96%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC was within acceptance limits.

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106

P.O. Box 1510

Tempe, Arizona 85281

Phone: (602) 921-8044 • FAX: (602) 921-0049

L.c. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/11/99

Date Reported: 07/06/99

Attn: Robyn Rice

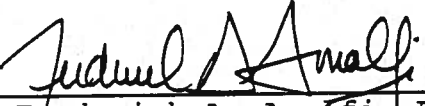
Sample Type: Water
Sample Date: 06/11/99
Sample Time: 11:25

Client ID: PIF00801
AC&T Lab No.: BE05680

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	8.6	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

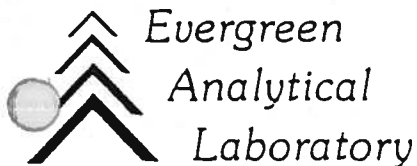
<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---



June 29, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2879
Client Project: PIF00801.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 9 degrees C.

This report contains a total of 7 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "Carl Smits", is written over a horizontal line.

for: Carl Smits
V.P. Q.A.

WORK ORDER Summary

30-Jun 03:54 pm

Report To: Robyn Rice

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: PIF00801.QST

Phone: (602) 785-0043

FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2879-01A	PIF00801	Methane, Ethane, Ethene		Water	5	11-Jun-1999	15-Jun-1999	29-Jun-1999	25-Jun-1999

= Special list. See sample comments or test information.

HT = Holding Time expiration date.

30

CHAIN OF CUSTODY FORM

WO# 99-2879 BOF# NA
 C/S(O) NA/NA C/S(I) C Fidelity
 Seals Present Y/NA; Intact Y
 Pres Y/NA Hd Sp Y/NA Loc 2
 Temp (C) 9 Container 10/10/1 By AS

Project/PO Number: <u>PIF-00801.QST</u>						Analysis Required										Special Instructions		
Sampler: <u>Robyn Rice</u>						<u>Methane</u>	<u>Ethane</u>	<u>Ethene</u>										
Sample Description	Sample Matrix	Container Type	# of Cont	Sampling Date/Time	Preservatives													
<u>PIF 00801</u>	<u>H2O</u>	<u>VQA</u>	<u>2</u>	<u>6/14/99</u>	<u>HCL</u>	<u>X</u>	<u>X</u>	<u>X</u>										
																		<u>Evergreen</u>

Relinquished By: [Signature] Date /Time: 6/14/99 1200 Received by: Fed-Ex Date /Time: 6/14/99 1200 Turnaround Time: (check)
 same day _____ 72 hours _____
 24 hours _____ 5 days _____
 48 hours _____ normal X

Relinquished By: Fedex Date /Time: 6/5/99 10:05 Received in Lab by: Amy Stamm Date /Time: 6/15/99 10:05 Sample Integrity: (Check)
 intact _____ on ice _____

Note: Sample(s) will be disposed of after 30 days.

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00801	Client Project ID.	: PIF00801.QST
Lab Sample Number	: 99-2879-01	Lab Work Order	: 99-2879
Date Sampled	: 6/11/99	Dilution Factor	: 1.00
Date Received	: 6/15/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/20/99	Matrix	: Water
Date Analyzed	: 6/21/99	Lab File No.	: GAS0621035

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: <u>71.6 F</u>	Saturation	Meth	<u>0</u>
Amount Injected	: <u>0.5 ml</u>	Concentration		
Total Volume of Sample	: <u>43 ml</u>	Concentration	Meth	<u>0</u>
Head space created	: <u>4 ml</u>	in Head Space		
Methane Area	: <u>0 ug</u>	Saturation	Etha	<u>0</u>
Ethane Area	: <u>0 ug</u>	Concentration		
Ethene Area	: <u>0 ug</u>	Concentration	Etha	<u>0</u>
Atomic weight(Methane)	: <u>16 g</u>	in Head Space		
Atomic weight(Ethane)	: <u>30 g</u>	Saturation	Ethe	<u>0</u>
Atomic weight(Ethene)	: <u>28 g</u>	Concentration		
		Concentration	Ethe	<u>0</u>
		in Head Space		

Qualifiers

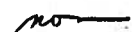
- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- ☉ = Reporting Limit.
- NA = Not Available/Not Applicable.

Note

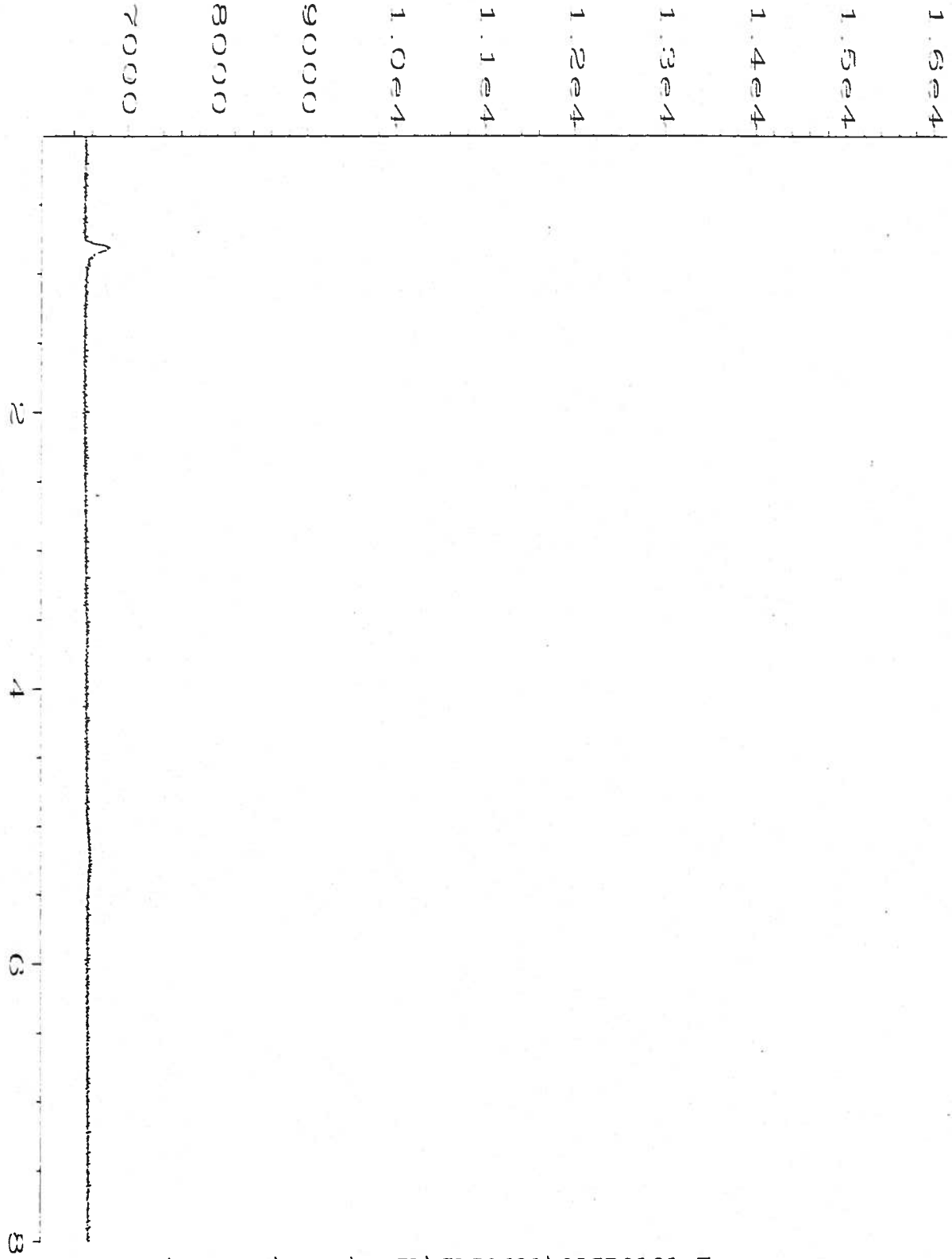
Pressure calculated at sea level.



Analvst



Approved



1.6e4
 1.5e4
 1.4e4
 1.3e4
 1.2e4
 1.1e4
 1.0e4
 9000
 8000
 7000

2
 4
 6
 8

Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0621\035R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 35
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2879-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 21 Jun 99 04:54 PM	Analysis Method	: GAS0621.MTH
Report Created on:	23 Jun 99 11:10 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number	: GB062199	Client Project ID.	: PIF00801.QST
Date Extracted/Prepared	: 6/21/99	Lab Work Order	: 99-2879
Date Analyzed	: 6/21/99	Dilution Factor	: 1.00
		Method	: RSKSOP-175
		Matrix	: Water
		Lab File No.	: GAS0621010

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

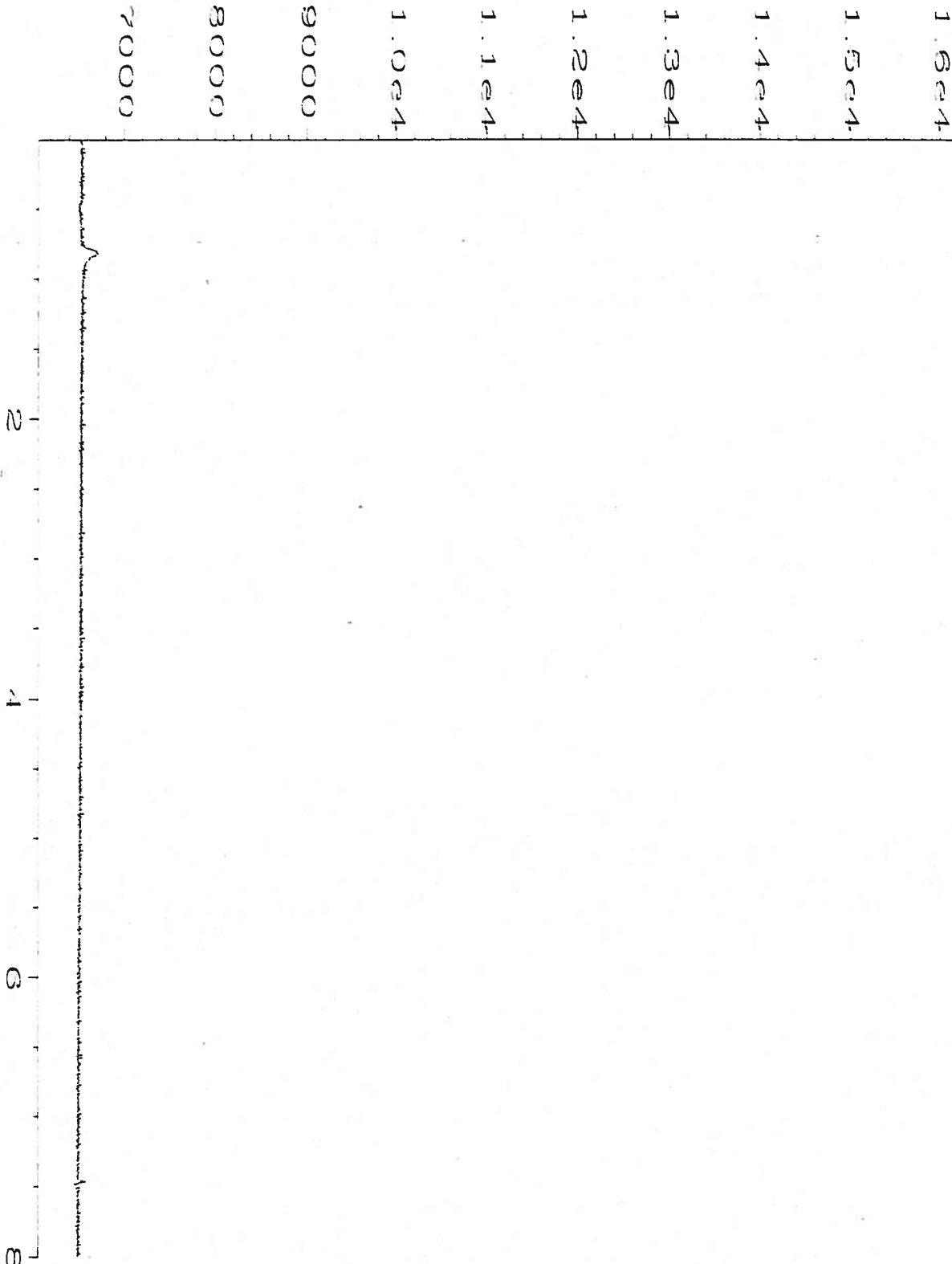
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
R Reporting Limit.
NA = Not Available/Not Applicable.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0621\010R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 10
Instrument	: ALGA	Injection Number	: 1
Sample Name	: GB062199	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 21 Jun 99 12:40 PM	Analysis Method	: GAS0621.MTH
Report Created on:	23 Jun 99 11:24 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MBLK METHETH		



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30501

Dear Ms. Rice:

One water sample for Project Number 'PIF00801.QST' was received June 15, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00801	80085w	06/11/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Del Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00801.QST

Sample ID: PIF00801

Sample Collection Date: 6/11/99

ARF: 30501

APPL ID AP80085

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Surrogate: Tributylphosphate	83.9	60-150	%	6/17/99	6/22/99
EPA 8141	Surrogate: Triphenylphosphate	92.5	76-140	%	6/17/99	6/22/99

Run #: 56
Instrument: NPD03
Sequence: 990621
Dilution Factor: 1

EPA 8151 Herbicides

Del Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

Attn: Robyn Rice

Project: PIF00801.QST

Sample ID: PIF00801

Sample Collection Date: 6/11/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 30501

APPL ID AP80085

QCG: \$8151-990615A-17234

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/15/99	6/22/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/15/99	6/22/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/15/99	6/22/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/15/99	6/22/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/15/99	6/22/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/15/99	6/22/99
EPA 8151	MCPA	Not detected	100	ug/L	6/15/99	6/22/99
EPA 8151	MCPP	Not detected	100	ug/L	6/15/99	6/22/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/15/99	6/22/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/15/99	6/22/99
EPA 8151	Surrogate Recovery	101	61-120	%	6/15/99	6/22/99

Run #: 48
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Method Blank

EPA 8141

Blank Name/QCG: 990617W -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
BLANK	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Surrogate: Tributylphosphate	96.4	60-150	%	6/17/99	6/22/99
BLANK	Surrogate: Triphenylphosphate	110	76-140	%	6/17/99	6/22/99

Run #: 46
 Instrument: NPD03
 Sequence: 990621
 Initials: RLB

Laboratory Control Spike Recovery
EPA 8141

APPL ID: 990617W-80083 LCS - 17226
Batch ID: \$8141W-990617A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Diazinon	2.5	1.76	70.4	57-130
Disulfoton	2.5	2.15	86.0	47-117
Ethion	2.5	2.37	94.8	65-134
Methyl Parathion	2.5	3.07	123	55-164
Phorate	2.5	2.51	100 #	22-96
Stirophos	2.5	3.24	130 #	68-128

Surrogate: Tributylphosphate	5.0	4.66	93.2	60-150
Surrogate: Triphenylphosphate	5.0	5.08	102	76-140

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Extraction Date :	6/17/99
Analysis Date :	6/22/99
Instrument :	NPD03
Run :	47

Matrix Spike Recoveries

EPA 8141

APPL ID: 990617W-80078 MS/MSD - 17232
 Batch ID: S814SM-990617A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	ND	1.88	1.79	75.2	71.6	57-130	4.9	21
Disulfoton	2.5	ND	2.24	2.02	89.6	80.8	47-117	10.3	22
Ethion	2.5	ND	2.45	2.39	98.0	95.6	65-134	2.5	20
Parathion, methyl	2.5	ND	3.19	3.14	128	126	55-164	1.6	24
Phorate	2.5	ND	2.58	2.54	103 #	102 #	22-96	1.6	24
Stirophos	2.5	ND	3.39	3.24	136 #	130 #	68-128	4.5	25
Surrogate: Tributylphosphate	5.0	NA	4.76	4.63	95.2	92.6	60-150		
Surrogate: Triphenylphosphate	5.0	NA	5.20	5.11	104	102	76-140		

= Recovery is outside QC limits.

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/17/99	6/17/99
Analysis Date :	6/22/99	6/22/99
Instrument :	NPD03	NPD03
Run :	48	49
Analyst :	RLB	

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990615W - 17234
Batch ID: \$8151-990615A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/15/99	6/22/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/15/99	6/22/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/15/99	6/22/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/15/99	6/22/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/15/99	6/22/99
BLANK	MCPA	Not detected	100	ug/L	6/15/99	6/22/99
BLANK	MCPP	Not detected	100	ug/L	6/15/99	6/22/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/15/99	6/22/99
BLANK	Surrogate recovery	111	61-120	%	6/15/99	6/22/99

Run #: 42
Instrument: ECD01
Sequence: 990621
Initials: KW

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID 990615W-79943 LCS/LCSD - 17234
 Batch ID: \$8151-990615A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.923	0.939	92.3	93.9	53-134	1.7	32
2,4,5-TP	1.00	0.845	0.822	84.5	82.2	60-118	2.8	24
2,4-D	1.00	1.20	1.19	120	119	44-155	0.84	15
Dicamba	1.00	1.00	1.01	100	101	48-102	1.00	24
Dichlorprop (2,4-DP)	1.00	0.761	0.777	76.1	77.7	37-146	2.1	18
Dinoseb (DNBP)	1.00	0.857	0.888	85.7	88.8	73-173	3.6	31
Surrogate: 2,4-DCAA	3.00	3.36	3.31	112	110	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/15/99	6/15/99
Analysis Date :	6/22/99	6/22/99
Instrument :	ECD01	ECD01
Run :	43	44
Analyst :	KW	



2652 Alton Ave. Irvine CA 92714 (714) 261 1022 FAX (714) 261 1228
 1014 E. Coates Dr. Suite A. Corona CA 92324 (909) 570 4667 FAX (909) 570 1046
 16525 Sherman Way, Suite C 11 Van Nuys CA 91406 (818) 779 1844 FAX (818) 779 1845
 AX (602) 968 1358



9830 South 51st St., Suite B-120
 Phoenix, AZ 85044

CHAIN OF CUSTODY FORM

Project/PO Number: PIF00801.QST		Analysis Required														
Project Manager/Phone Number: Robyn Rice		Sampler:														
Sample Description	Sample Matrix	Container Type	#of Cont	Sampling Date/Time	Preservatives	8/4/	8/5/									Special Instructions
PIF00801	H2O	Amb	2	6/11/99	N/A	X										
PIF00801	H2O	↓	2	↓	↓		X									
																APPL
Relinquished By: [Signature]		Date/Time: 6/14/99 1700		Received by: Fed-Ex		Date/Time: 6/11/99 1200		Turnaround Time: (check)								
Relinquished By:		Date/Time:		Received by:		Date/Time:		same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal X								
Relinquished By: Fed Express		Date/Time:		Received in Lab by: [Signature]		Date/Time: 6-15-99 1015		Sample Integrity: (Check)								
								intact _____ on ice _____								

Note: Sample(s) will be disposed of after 30 days.



Del Mar Analytical

2052 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9404 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 405-9596 FAX (619) 405-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0851

MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
DDE	0	0.500	0.381	0.409	76%	82%	7%	40	55-125
DDD	0	0.500	0.394	0.413	79%	83%	5%	20	60-130
DDT	0	0.500	0.434	0.470	87%	94%	8%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #5

Associated Samples: PIF00880

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	135
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	130

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0951

GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #19

Associated Samples: PIF00880

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	140
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	132

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	3.38	2.12	85%	53%	46%	≤ 50	60-140%
AR 1260	0	4.0	3.34	1.30	84%	33%	88%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... See Case Narrative.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

GC CALIBRATION CHECK CRITERIA

Method: 8082
QC Batches: F17 #5

Associated Samples: PIF00880

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
#39 1016	1	117
#52 1016	1	122
#52 1260	1	133

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00874
 Batch #: IF17011W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	28.9	28.2	116%	113%	2%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	28.8	27.7	115%	111%	3.9%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	27.1	26.9	108%	108%	0.7%	≤ 20	69-113
Chloroform	0.0	25	27.8	27.7	111%	111%	0.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	28.3	28.4	113%	114%	0.4%	≤ 20	61-122
Benzene	0.0	25	27.1	27.0	108%	108%	0.4%	≤ 20	80-115
Trichloroethene	0.0	25	28.2	28.6	113%	114%	1.4%	≤ 20	60-142
Toluene	0.0	25	27.5	27.5	110%	110%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	28.3	28.3	113%	113%	0.0%	≤ 20	49-155
Chlorobenzene	0.0	25	27.0	27.0	108%	108%	0.0%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/21/99
 Sample #: LCS/LCSD*
 Batch #: IF18SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
Phenol	0.1	50	33	40	66%	80%	19%	15	40-110
2-Chlorophenol	0.0	50	30	37	60%	74%	21%	15	40-110
1,4-Dichlorobenzene	0.0	50	23	26	46%	52%	12%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	41	44	82%	88%	7%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	28	31	56%	62%	10%	15	45-110
4-Chloro-3-methylphenol	0.0	50	37	43	74%	86%	15%	15	50-115
Benaphthene	0.1	50	38	39	76%	78%	3%	15	45-120
2,4-Dinitrotoluene	0.0	50	41	44	82%	88%	7%	15	55-120
4-Nitrophenol	0.0	50	30	34	60%	68%	13%	30	45-120
Pentachlorophenol	0.0	50	33	39	66%	78%	17%	15	50-125
Pyrene	0.1	50	47	50	94%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... The RPD exceeded Del Mar Analytical control limits.
 All QA/QC recoveries, however, were within acceptance limits.

Del Mar Analytical (AZ0426)

This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/18/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.09	106%	109%	2.8%	108%
Barium	0.286	1.0	1.26	1.28	97%	99%	1.6%	98%
Cadmium	0.377	1.0	1.35	1.38	97%	100%	2.2%	99%
Chromium	0.444	1.0	1.44	1.48	100%	104%	2.7%	102%
Iron	4.27	10.0	14.4	14.6	101%	103%	1.4%	102%
Lead	24.4	1.0	25.1	25.6	70%	120%	2.0%	95%
Manganese	0.359	1.0	1.34	1.35	98%	99%	0.7%	99%
Nickel	5.36	1.0	6.29	6.40	93%	104%	1.7%	99%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1) / SP) X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100
- Acceptance Limits RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Copper	167	1.0	174	176	*	*	1.1%	*

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: $\leq 20\%$
 MS/MSD: 70-130%

QA/QC Criteria: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See LCS for batch validation.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 9830 South First St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

LCS DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

DATE: 6/21/99

Analyte	St	LCS	PR
	ppm	ppm	%
Copper	1.0	0.966	97%

Definition of Terms:

- St. Standard Concentration
- LCS. Standard Result
- PR. Percent Recovery of LCS; $(LCS/St) \times 100$
- Acceptance Limits LCS: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 9830 South 51st St., Suite 13-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0851

MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00751	0.0620	1	1.16	1.10	110%	104%	5%
Thallium	200.9	06/23/99	PIF00751	0	1.0	1.08	1.13	108%	113%	5%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



Del Mar Analytical

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 9870 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00745

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.08	1.15	108%	115%	6.3%	112%
Barium	0.0666	1.0	1.02	1.05	95%	98%	2.9%	97%
Cadmium	0	1.0	0.980	1.00	98%	100%	2.0%	99%
Chromium	0	1.0	0.964	1.00	96%	100%	3.7%	98%
Copper	0	1.0	0.974	1.00	97%	100%	2.6%	99%
Iron	0	10.0	9.83	10.0	98%	100%	1.7%	99%
Lead	0	1.0	0.957	0.992	96%	99%	3.6%	97%
Manganese	0	1.0	0.982	1.01	98%	101%	2.8%	100%
Nickel	0	1.0	0.949	0.967	95%	97%	1.9%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: $< \text{ or } = 20\%$
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0351

BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00745	0	0.040	0.0402	0.0419	101%	105%	4%
Thallium	200.9	06/21/99	PIF00745	0	0.020	0.0197	0.0200	99%	100%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 335-0043 FAX (480) 335-0854

MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/17/99
 Sample #: PIF00745
 Batch #: IF17HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00497	0.00493	99%	99%	0.8%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limit.

Del Mar Analytical (AZ0426)

CHAIN OF CUSTODY FORM

Client Name/Address: 2551 Camino del Rio N. 126 N. 44th Street P.O. Box 23000		Project/PO Number: 15151	
Subject Manager: T. K. ...		Phone Number: (602) 244-1170	
Sampler: M. ...		Fax Number: (602) 244-2250	

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required										Special Instructions			
						Asst. Dir. / ...	...	...	...	...	...	...	...	...	...		...
W-25 - Sm. (6/11/14)	Acid	...	2	6/11/14	HeQ	X													
	Acid	...	2	6/11/14	HeQ		X												
	Acid	...	3	6/11/14	HeQ			X											
	Acid	...	3	6/11/14	HeQ				X										
	Acid	...	1	6/11/14	HeQ					X									
	Acid	...	1	6/11/14	HeQ						X								
	Acid	...	1	6/11/14	HeQ							X							
	Acid	...	1	6/11/14	HeQ								X						

Relinquished By: <i>Matthew ...</i>	Date/Time: 6/11/14 15:35	Received by: <i>...</i>	Date/Time: 6/11/14	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <input checked="" type="checkbox"/>
Relinquished By: <i>...</i>	Date/Time: <i>...</i>	Received by: <i>...</i>	Date/Time: <i>...</i>	
Relinquished By: <i>...</i>	Date/Time: <i>...</i>	Received in Lab by: <i>...</i>	Date/Time: <i>...</i>	Sample Integrity: (Check) intact <input checked="" type="checkbox"/> on ice <input type="checkbox"/>

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



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GB- 601

CHAIN OF CUSTODY FORM

Quote # _____ Page 2 of 2

Client Name/Address: West Environmental Resources 426 N. 44th Phoenix, AZ 85009		Project/PO Number: 6097050 - 1st & 1st 11		Analysis Required																				
Project Manager: John Miller		Phone Number: 602-344-1172		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Special Instructions
Sampler: M. Guelik		Fax Number: 602-344-7230																						

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required																Special Instructions			
EW-25-GW-(6-11-14)	AG	112. AMBER	2	6/11/14		X																			
EW-25-GW-(6-11-14)	AG	112. AMBER	2	6/11/14																					
EW-25-GW-(6-11-14)	AG	112. AMBER	2	6/11/14																					
EW-25-GW-(6-11-14)	AG	112. AMBER	2	6/11/14																					
EW-25-GW-(6-11-14)	AG	112. AMBER	1	6/11/14																					
EW-25-GW-(6-11-14)	AG	112. AMBER	1	6/11/14																					
EW-25-GW-(6-11-14)	AG	112. AMBER	1	6/11/14																					

Relinquished By: [Signature] Date /Time: 6/11/14	Received by: [Signature] Date /Time: 6/11/14	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____
Relinquished By: _____ Date /Time: _____	Received by: _____ Date /Time: _____	Sample Integrity: (Check) intact _____ on ice _____
Relinquished By: _____ Date /Time: _____	Received in Lab by: _____ Date /Time: _____	

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 25-29, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00880	EW-18-GW- (6-14-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270C, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00881	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: The 8082 duplicate LCS recovered below current control limits, but individual sample surrogate recoveries are acceptable. The 8270C RPD values for four spiked compounds in the LCS and LCSD are above the current control limits, but individual recoveries are acceptable. All other analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-18-GW-(6-14-99)
 Lab Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

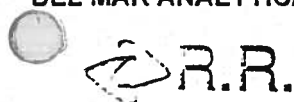
ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		
Aldrin.....	0.10		N.D.
alpha-BHC.....	0.10		N.D.
beta-BHC.....	0.10		N.D.
delta-BHC.....	0.25		N.D.
gamma-BHC (Lindane).....	0.10		N.D.
Chlordane.....	2.0		N.D.
4,4'-DDD.....	0.10		N.D.
4,4'-DDE.....	0.10		N.D.
4,4'-DDT.....	0.10		N.D.
Dieldrin.....	0.10		N.D.
Endosulfan I.....	0.10		N.D.
Endosulfan II.....	0.10		N.D.
Endosulfan sulfate.....	0.50		N.D.
Endrin.....	0.10		N.D.
Endrin aldehyde.....	0.10		N.D.
Heptachlor.....	0.10		N.D.
Heptachlor epoxide.....	0.10		N.D.
Methoxychlor.....	0.10		N.D.
Toxaphene.....	4.0		N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	75%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-18-GW-(6-14-99)
 Lab Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		µg/L (ppb)
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	84%

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Del Mar Analytical

QST Environmental
426 N. 44th St., Suite 110
Phoenix, AZ 85008
Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
Sample Descript: Water, EW-18-GW-(6-14-99)
Lab Number: PIF00880

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Sampled: Jun 14, 1999
Received: Jun 14, 1999
Extracted: Jun 17, 1999
Analyzed: Jun 17, 1999
Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	15	Vinyl chloride.....	2.0	8.5
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	100%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

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PIF00880.QST <4 of 16>



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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00881

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF00880.QST <5 of 16>



Del Mar Analytical

T Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-18-GW-(6-14-99)
 Lab Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 29, 1999

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)
 DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	80%
Phenol-d6 (40-115).....	80%
2,4,6-Tribromophenol (40-140)	97%
Nitrobenzene-d5 (35-120).....	83%
2-Fluorobiphenyl (30-150).....	80%
Terphenyl-d14 (45-150).....	-127%

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PIF00880.QST <6 of 16>



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-18-GW-(6-14-99)
 Lab Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	0.46	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	2.5	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF00880.QST <7 of 16>



Del Mar Analytical

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 9830 South 81st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Q.T Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-18-GW-(6-14-99)
 Lab Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	0.050	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.090	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager

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PIF00880.QST <8 of 16>



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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-18-GW-(6-14-99)
 Lab Number: PIF00880

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 29, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	400	N.A.	06/21/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	400	N.A.	06/21/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	62	N.A.	06/15/99
Chloride.....	EPA 300.0	50***	160	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	1.8	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/15/99
Nitrate/Nitrite-N.....	Calculation	0.10	1.8	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	96	N.A.	06/15/99
Sulfide.....	SM4500-S-C.D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.5	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	2.2	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		µg/L (ppb)
Aldrin.....	0.10		N.D.
alpha-BHC.....	0.10		N.D.
beta-BHC.....	0.10		N.D.
delta-BHC.....	0.25		N.D.
gamma-BHC (Lindane).....	0.10		N.D.
Chlordane.....	2.0		N.D.
4,4'-DDD.....	0.10		N.D.
4,4'-DDE.....	0.10		N.D.
4,4'-DDT.....	0.10		N.D.
Dieldrin.....	0.10		N.D.
Endosulfan I.....	0.10		N.D.
Endosulfan II.....	0.10		N.D.
Endosulfan sulfate.....	0.50		N.D.
Endrin.....	0.10		N.D.
Aldrin aldehyde.....	0.10		N.D.
Heptachlor.....	0.10		N.D.
Heptachlor epoxide.....	0.10		N.D.
Methoxychlor.....	0.10		N.D.
Toxaphene.....	4.0		N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	95%

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	84%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

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PIF00880.QST <12 of 16>

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 29, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzenidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	73%
Phenol-d6 (40-115).....	76%
2,4,6-Tribromophenol (40-140)	94%
Nitrobenzene-d5 (35-120).....	88%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	122%



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 9820 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF00880.QST <14 of 16>



Del Mar Analytical

7852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Cotten, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1344 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

T Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF00880.QST <15 of 16>

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 29, 1999
 Matrix: Water

LABORATORY ANALYSIS


Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

2852 Allon Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4867 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QC DATA REPORT

DATE: 6/15/99
 PIF00874 PIF00874

EPA METHOD
 Instrument:
 Matrix: 300
 DIONEX-IC
 WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.370	100	96.8	94.8	96%	94%	2.1%	95%
Chloride	90.4	200	267	261	88%	85%	2.3%	87%
Nitrite-N	0.00	30	28.4	27.2	95%	91%	4.3%	93%
Nitrate-N	0.486	90	85.8	83.4	95%	92%	2.8%	93%
OrthoPhos-P	0.00	194	183	177	94%	91%	3.3%	93%
Sulfate	50.6	400	434	422	96%	93%	2.8%	94%
Bromide	0.00	400	370	352	93%	88%	5.0%	90%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100

Del Mar Analytical

MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/23/99
 Sample #: CIF01193
 Batch #: IF23TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Total Kjeldahl Nitrogen	2.2	10.0	11.0	11.0	88%	88%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

352 Allan Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-0467 FAX (909) 370-1046
 68525 Sherman Way, Suite C-11, Van Nuys, CA 91411 (818) 779-1944 FAX (818) 779-1944
 6484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)

This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

3852 Alton Ave., Irvine, CA 92606 (949) 331-1022 FAX (949) 261-1228
 1014 E. Cochran Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16825 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1944 FAX (818) 779-1943
 9404 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (800) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
								RPD	PR1/PR2
	ppm	ppm	ppm	ppm	%	%	%	%	%
Sulfide	0	1.0	0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

2852 Allan Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Colby Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-0443
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 435-9596 FAX (619) 435-9889
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 335-0043 FAX (480) 335-0851

MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/21/99
 Sample #: IF02585
 Batch #: IF21CO1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.0	5.0	4.9	4.8	98%	96%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426)

This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30512

Dear Ms. Rice:

One water sample for Project Number 'PIF00880.QST' was received June 16, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00880	80180w	06/14/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Mar Analytical
330 South 51st. St., Ste B-120
Phoenix, AZ 85044

Attn: Robyn Rice
Project: PIF00880.QST
Sample ID: PIF00880
Sample Collection Date: 6/14/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 30512
APPL ID AP80180

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Surrogate: Tributylphosphate	76.0	60-150	%	6/17/99	6/22/99
EPA 8141	Surrogate: Triphenylphosphate	82.9	76-140	%	6/17/99	6/22/99

Run #: 60
Instrument: NPD03
Sequence: 990621
Dilution Factor: 1
Initials: RLB

Printed: 6/23/99 1:19:49 PM

EPA 8151 Herbicides

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00880.QST

Sample ID: PIF00880

Sample Collection Date: 6/14/99

ARF: 30512

APPL ID AP80180

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/24/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Surrogate Recovery	93.2	61-120	%	6/18/99	6/24/99

Run #: 65
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/24/99 10:10:36 AM

Method Blank EPA 8141

Blank Name/QCG: 990617W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
BLANK	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Suffotep	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Surrogate: Tributylphosphate	96.4	60-150	%	6/17/99	6/22/99
BLANK	Surrogate: Triphenylphosphate	110	76-140	%	6/17/99	6/22/99

Run #: 46
Instrument: NPD03
Sequence: 990621
Initials: RLB

Printed: 6/23/99 1:24:45 PM

Laboratory Control Spike Recovery

EPA 8141

APPL ID: 990617W-80083 LCS - 17226

Batch ID: S8141W-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Diazinon	2.5	1.76	70.4	57-130
Disulfoton	2.5	2.15	86.0	47-117
Ethion	2.5	2.37	94.8	65-134
Methyl Parathion	2.5	3.07	123	55-164
Phorate	2.5	2.51	100 #	22-96
Stirophos	2.5	3.24	130 #	68-128
Surrogate: Tributylphosphate	5.0	4.66	93.2	60-150
Surrogate: Triphenylphosphate	5.0	5.08	102	76-140

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/17/99
Analysis Date :	6/22/99
Instrument :	NPD03
Run :	47
Analyst :	RLB

Printed: 6/24/98 11:11:25 AM

Matrix Spike Recoveries

EPA 8141

APPL ID: 990617W-80078 MS/MSD - 17232
 Batch ID: S814SM-990617A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	ND	1.88	1.79	75.2	71.6	57-130	4.9	21
Disulfoton	2.5	ND	2.24	2.02	89.6	80.8	47-117	10.3	22
Ethion	2.5	ND	2.45	2.39	98.0	95.6	65-134	2.5	20
Parathion, methyl	2.5	ND	3.19	3.14	128	126	55-164	1.6	24
Phorate	2.5	ND	2.58	2.54	103 #	102 #	22-96	1.6	24
Stirophos	2.5	ND	3.39	3.24	136 #	130 #	68-128	4.5	25

Surrogate: Tributylphosphate	5.0	NA	4.76	4.63	95.2	92.6	60-150		
Surrogate: Triphenylphosphate	5.0	NA	5.20	5.11	104	102	76-140		

= Recovery is outside QC limits.

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/17/99	6/17/99
Analysis Date :	6/22/99	6/22/99
Instrument :	NPD03	NPD03
Run :	48	49
Analyst :	RLB	

Printed: 6/23/99 12:12:25 PM

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990618W - 17257

Batch ID: \$8151-990618A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
BLANK	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Surrogate recovery	105	61-120	%	6/18/99	6/23/99

Run #: 55
Instrument: ECD01
Sequence: 990621
Initials: KW

Printed: 6/24/99 10:18:44 AM

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990618W-80179 LCS/LCSD - 17257
 Batch ID: \$8151-990618A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.866	0.908	86.6	90.8	53-134	4.7	32
2,4,5-TP	1.00	0.747	0.820	74.7	82.0	60-118	9.3	24
2,4-D	1.00	1.08	1.17	108	117	44-155	8.0	15
Dicamba	1.00	0.891	0.979	89.1	97.9	48-102	9.4	24
Dichlorprop (2,4-DP)	1.00	0.687	0.749	68.7	74.9	37-146	8.6	18
Dinoseb (DNBP)	1.00	1.09	0.834	109	83.4	73-173	26.6	31
Surrogate: 2,4-DCAA	3.00	3.15	3.35	105	112	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/18/99	6/18/99
Analysis Date :	6/23/99	6/23/99
Instrument :	ECD01	ECD01
Run :	56	57
Analyst :	KW	

Printed: 6/24/99 10:17:05 AM

Matrix Spike Recovery

EPA 8151 Herbicides

APPL ID: 990618W-80179 MS - 17257

Batch ID: S8151-990618A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	Matrix Result ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	ND	0.842	84.2	53-134
2,4,5-TP	1.00	ND	0.762	76.2	60-118
2,4-D	1.00	ND	0.983	98.3	44-155
Dicamba	1.00	ND	0.765	76.5	48-102
Dichlorprop (2,4-DP)	1.00	ND	0.577	57.7	37-146
Dinoseb (DNBP)	1.00	ND	0.613	61.3 #	73-173
Surrogate: 2,4-DCAA	3.00	NA	3.38	113	61-120

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/18/99
Analysis Date :	6/23/99
Instrument :	ECD01
Run :	58
Analyst :	KW

Printed: 6/24/99 10:19:58 AM



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/14/99

Date Reported: 07/06/99

Attn: Robyn Rice


Sample Type: Water
Sample Date: 06/14/99
Sample Time: 15:10

Client ID: PIF00880
AC&T Lab No.: BE05761

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	1.1	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

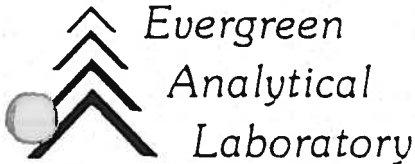
<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---



June 30, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2901
Client Project: PIF00880.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 17 degrees C.

This report contains a total of 9 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

16-Jun 09:59 am

Report To: Robyn Rice
Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: PIF00880.QST

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2901-01A	PIF00880	Methane, Ethane, Ethene		Water	2	14-Jun-1999	16-Jun-1999	30-Jun-1999	28-Jun-1999

AKB

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00880	Client Project ID.	: PIF00880.QST
Lab Sample Number	: 99-2901-01	Lab Work Order	: 99-2901
Date Sampled	: 6/14/99	Dilution Factor	: 1.00
Date Received	: 6/16/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/28/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629011

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.0051	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 67.1 F	Saturation	Meth	0.001219162
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.00387706
Head space created	: 4 ml	in Head Space		
Methane Area	: 28.351 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 N = Not Available/Not Applicable.

Note

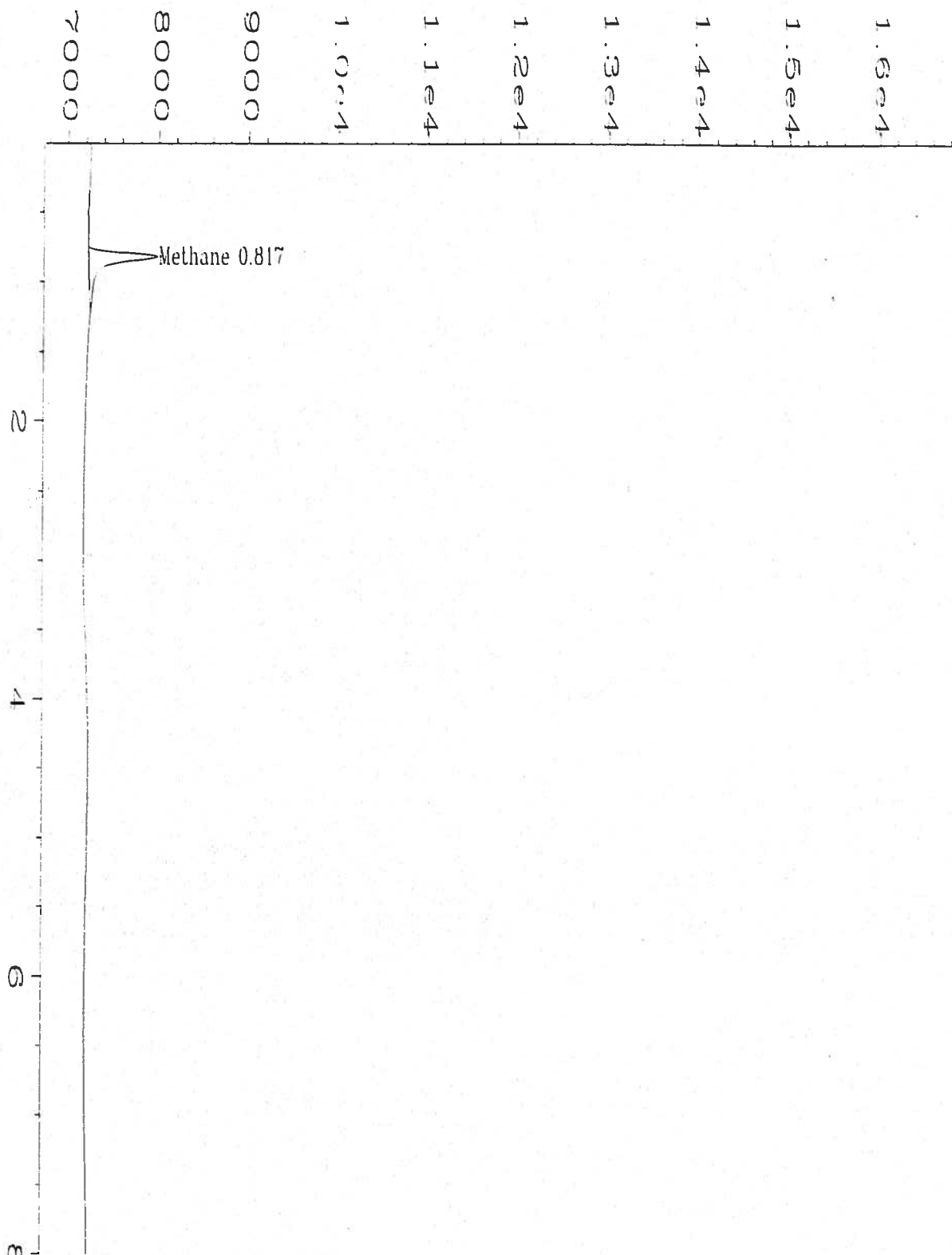
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\011R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 11
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2901-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 02:09 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:39 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	: PIF00880		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062999 Client Project ID. : PIF00880.QST
Date Extracted/Prepared : 6/29/99 Lab Work Order : 99-2901
Date Analyzed : 6/29/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

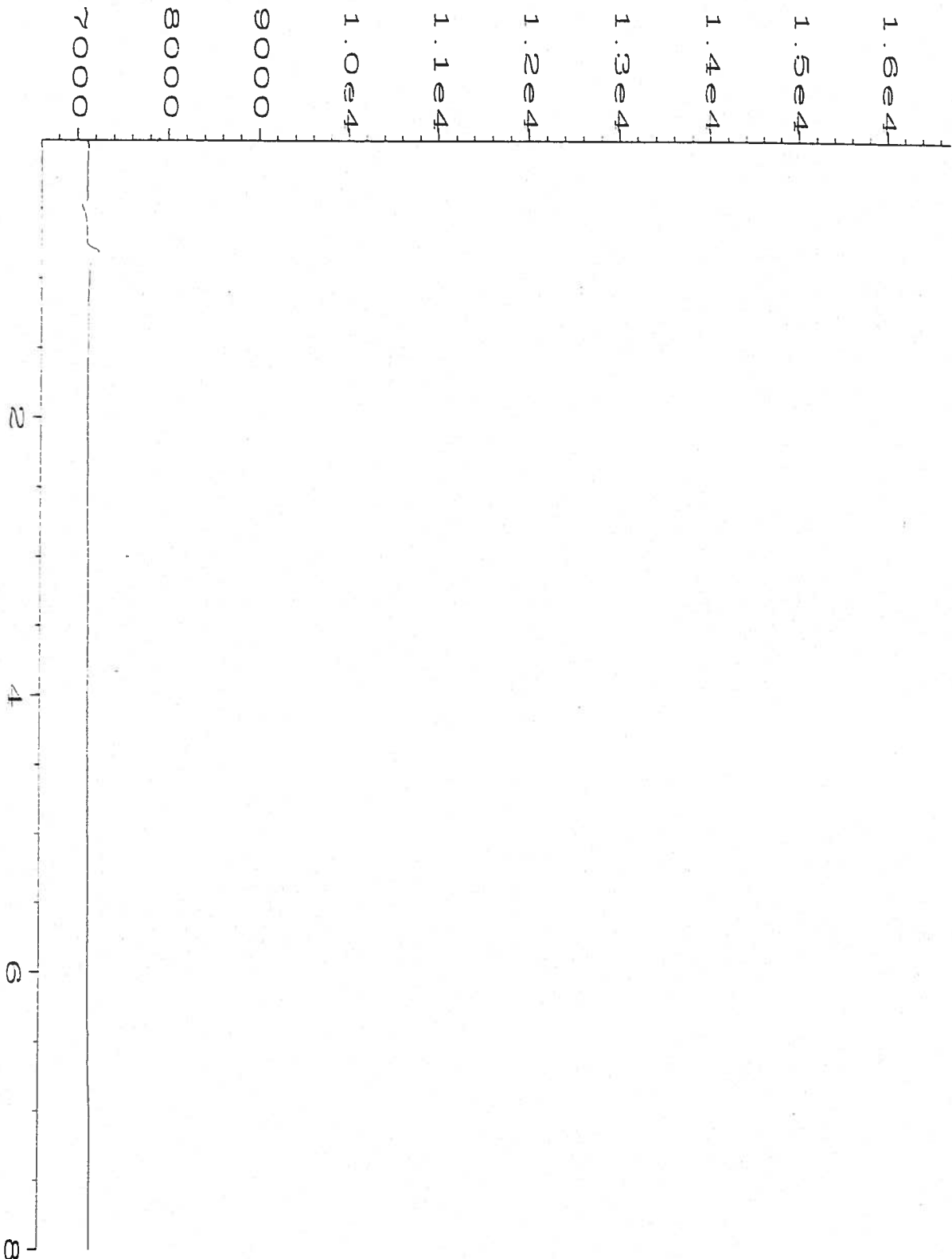
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N/A = Not Available/Not Applicable.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 8
Instrument	: ALGA	Injection Number	: 1
Sample Name	: GB062999	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:28 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:38 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MBLK METHETH		

Displaced 4ml of distilled water in 43ml vial with Helium,

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.


Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

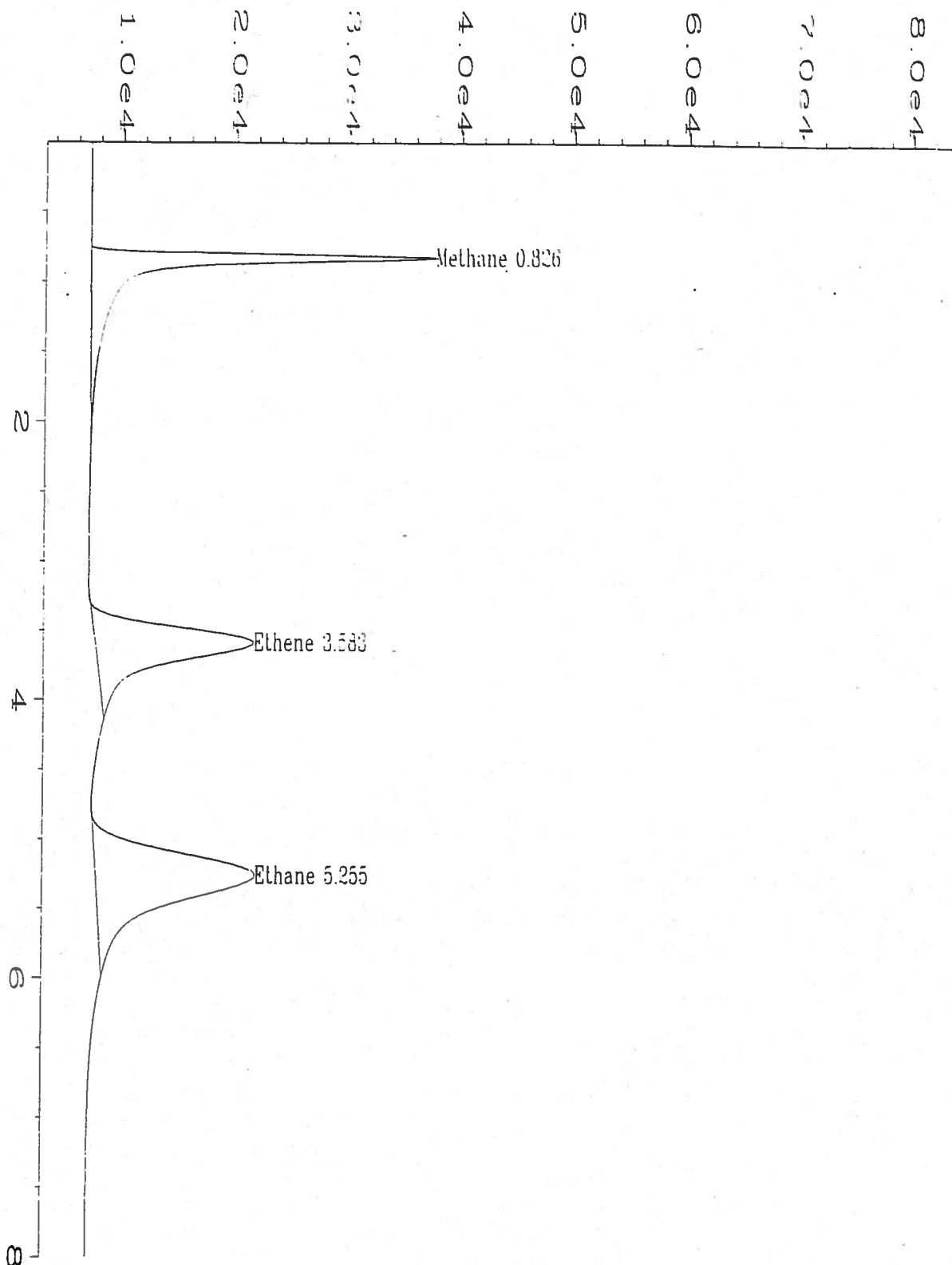
* = Values outside of QC limits.
NA = Not analyzed/not available.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : LCS062999
 Run Time Bar Code:
 Acquired on : 29 Jun 99 01:16 PM
 Report Created on: 30 Jun 99 09:46 AM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : LCS METHETH
 Displaced 4ml of distilled water in 43ml vial with 1%

Page Number	: 1
Vial Number	: 7
Injection Number	: 1
Sequence Line	: 1
Instrument Method	: GAS.MTH
Analysis Method	: GAS0629.MTH
Sample Amount	: 0
ISTD Amount	:

CHAIN OF CUSTODY FORM

Quote # _____ Page 1 of 2

Client Name/Address: WEST Environmental Inc 426 N. 4th Street Phoenix, AZ 85004		Project/PO Number: 60219031 1000000000		Analysis Required												
Project Manager: Jsk. [unclear]		Phone Number: 602 244-1112		[Handwritten notes in analysis columns]												
Sampler: M. [unclear]		Fax Number: 602 244-1180														
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives											Special Instructions
EW-18-600 (6/14/11)	AQ	Clear 2.5L	2	6/14/11	NaCl											
	AQ	Clear 2.5L	2	6/15/11	NaCl											
	AQ	Clear 2.5L	5	6/15/11	NaCl											
	AQ	Clear 2.5L	3	6/15/11	NaCl											
	AQ	Clear 2.5L	1	6/15/11	NaCl											
	AQ	Clear 2.5L	1	6/15/11	NaCl											
	AQ	Clear 2.5L	1	6/15/11	NaCl											
	AQ	Clear 2.5L	1	6/15/11	NaCl											
	AQ	Clear 2.5L	1	6/15/11	NaCl											
Top blank	AQ	Clear 2.5L	1													
Relinquished By:		Date /Time:		Received by:		Date /Time:		Turnaround Time: (Check)								
[Signature]		[Date]		[Signature]		[Date]		same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____								
Relinquished By:		Date /Time:		Received by:		Date /Time:		Sample Integrity: (Check)								
[Signature]		[Date]		[Signature]		[Date]		intact _____ on ice _____								

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 2 of 2

Client Name/Address: <i>3117 E. 11th St, Phoenix, AZ 756 Alameda St Phoenix, AZ 85016</i>		Project/PO Number: <i>2018-10-31 5103-00111</i>		Analysis Required [Grid for analysis requirements with handwritten entries]												
Project Manager: <i>John White</i>		Phone Number: <i>(602) 277-1100</i>														
Sampler: <i>John White</i>		Fax Number: <i>(602) 277-1100</i>														
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Special Instructions										
<i>FA-18</i>	<i>Water</i>	<i>16</i>	<i>2</i>	<i>11/15/10</i>	<i>X</i>											
	<i>Water</i>	<i>16</i>	<i>2</i>	<i>11/15/10</i>												
	<i>Water</i>	<i>16</i>	<i>2</i>	<i>11/15/10</i>												
	<i>Water</i>	<i>16</i>	<i>2</i>	<i>11/15/10</i>												
	<i>Water</i>	<i>16</i>	<i>1</i>	<i>11/15/10</i>												
Relinquished By: <i>John White</i>		Date /Time: <i>11/15/10</i>		Received by:			Date /Time:			Turnaround Time: (Check)						
Relinquished By:		Date /Time:		Received by:			Date /Time:			same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____						
Relinquished By:		Date /Time:		Received in Lab by:			Date /Time:			Sample Integrity: (Check) intact _____ on ice _____						

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



Del Mar Analytical

3852 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Colton Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1344 FAX (818) 779-1343
 4084 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 1st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Report Number: PIF00878

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 25-30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00878	EW-9-GW- (6-14-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270C, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00879	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: The 8082 duplicate LCS recovered below current control limits, but individual sample surrogate recoveries are acceptable. The 8270C RPD values for four spiked compounds in the LCS and LCSD are above the current control limits, but individual recoveries are acceptable. All other analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474). Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs. Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003). Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



Del Mar Analytical

3862 Allen Ave., Irvine, CA 92608 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16825 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-1844
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 405-9696 FAX (619) 405-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)			$\mu\text{g/L}$ (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Tetrachloro-m-xylene (30-130)....	63%
Decachlorobiphenyl (30-130).....	81%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF00878.QST <2 of 16>



Del Mar Analytical

2852 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9850 South 1st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	77%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF00878.QST <3 of 16>



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 9484 Chesapeake Dr., Suite 309, San Diego, CA 92123 (619) 505-0696 FAX (619) 505-0689
 8830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 335-0043 FAX (480) 335-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

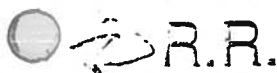
Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	8.7	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	5.5	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	3.3
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	40	Vinyl chloride.....	2.0	51
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00879

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.
 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	100%
Toluene-d8 (75-140).....	97%
4-Bromofluorobenzene (75-135).....	99%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzydine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	72%
Phenol-d6 (40-115).....	74%
2,4,6-Tribromophenol (40-140)	97%
Nitrobenzene-d5 (35-120).....	79%
2-Fluorobiphenyl (30-150).....	79%
Terphenyl-d14 (45-150).....	-111%

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PIF00878.QST <6 of 16>



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

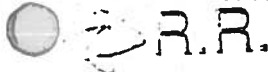
Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	0.39	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	2.9	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	3.5	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

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PIF00878.QST <7 of 16>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	0.37	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	3.4	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF00878.QST <8 of 16>



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-9-GW-(6-14-99)
 Lab Number: PIF00878

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-22, 1999
 Analyzed: Jun 15-22, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO ₃).....	SM2320B	5.0	350	N.A.	06/21/99
Bicarbonate Alkalinity (CaCO ₃)...	SM2320B	5.0	350	N.A.	06/21/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	38	N.A.	06/15/99
Chloride.....	EPA 300.0	50***	130	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	0.78	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/15/99
Nitrate/Nitrite-N.....	Calculation	0.10	0.78	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	59	N.A.	06/15/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	8.1	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	6.3	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

QST Environmental
 726 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	95%
Decachlorobiphenyl (30-130).....	90%

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PIF00878.QST <10 of 16>



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ST Environmental
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 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999
 Matrix: Water

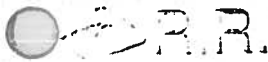
POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	84%

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PIF00878.QST <11 of 16>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 30, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzdine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	300	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)
 DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	73%
Phenol-d6 (40-115).....	76%
2,4,6-Tribromophenol (40-140)	94%
Nitrobenzene-d5 (35-120).....	88%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	122%

R.R.
 Robyn Rice
 Project Manager



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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF00878.QST <14 of 16>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0843 FAX (480) 785-0851

ST Environmental
 126 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF00878.QST <15 of 16>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 15-22, 1999
 Analyzed: Jun 15-22, 1999
 Reported: Jun 30, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Phosphorus*	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**	SM4500-N-O,C	0.50	N.D.	06/22/99	06/22/99
Total Organic Carbon*	EPA 415.1	1.0	N.D.	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

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PIF00878.QST <16 of 16>



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MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
DDE	0	0.500	0.381	0.409	76%	82%	7%	40	55-125
DDD	0	0.500	0.394	0.413	79%	83%	5%	20	60-130
DDT	0	0.500	0.434	0.470	87%	94%	8%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #19

Associated Samples: PIF00878

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	140
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	132

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.

Del Mar Analytical

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GC CALIBRATION CHECK CRITERIA

Method: 8081A
QC Batches: F17 #5

Associated Samples: PIF00878

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
D-BHC	1	135
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	130

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	3.38	2.12	85%	53%	46%	≤ 50	60-140%
AR 1260	0	4.0	3.34	1.30	84%	33%	88%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... See Case Narrative.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

GC CALIBRATION CHECK CRITERIA

Method: 8082
 QC Batches: F16 #39, #52

Associated Samples: PIF00878

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
#39 1016	1	117
#52 1016	1	122
#52 1260	1	133

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00874
 Batch #: IF17011W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD %	PR1/PR2 %
Vinyl Chloride	0.0	25	28.9	28.2	116%	113%	2%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	28.8	27.7	115%	111%	3.9%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	27.1	26.9	108%	108%	0.7%	≤ 20	69-113
Chloroform	0.0	25	27.8	27.7	111%	111%	0.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	28.3	28.4	113%	114%	0.4%	≤ 20	61-122
Benzene	0.0	25	27.1	27.0	108%	108%	0.4%	≤ 20	80-115
Trichloroethene	0.0	25	28.2	28.6	113%	114%	1.4%	≤ 20	60-142
Toluene	0.0	25	27.5	27.5	110%	110%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	28.3	28.3	113%	113%	0.0%	≤ 20	49-155
Chlorobenzene	0.0	25	27.0	27.0	108%	108%	0.0%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/21/99
 Sample #: LCS/LCSD*
 Batch #: IF18SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Phenol	0.1	50	33	40	66%	80%	19%	15	40-110
2-Chlorophenol	0.0	50	30	37	60%	74%	21%	15	40-110
1,4-Dichlorobenzene	0.0	50	23	26	46%	52%	12%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	41	44	82%	88%	7%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	28	31	56%	62%	10%	15	45-110
1-Chloro-3-methylphenol	0.0	50	37	43	74%	86%	15%	15	50-115
Acenaphthene	0.1	50	38	39	76%	78%	3%	15	45-120
2,4-Dinitrotoluene	0.0	50	41	44	82%	88%	7%	15	55-120
4-Nitrophenol	0.0	50	30	34	60%	68%	13%	30	45-120
Pentachlorophenol	0.0	50	33	39	66%	78%	17%	15	50-125
Pyrene	0.1	50	47	50	94%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... The RPD exceeded Del Mar Analytical control limits.
 All QA/QC recoveries, however, were within acceptance limits.

Del Mar Analytical (AZ0426)

This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/18/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.09	106%	109%	2.8%	108%
Barium	0.286	1.0	1.26	1.28	97%	99%	1.6%	98%
Cadmium	0.377	1.0	1.35	1.38	97%	100%	2.2%	99%
Chromium	0.444	1.0	1.44	1.48	100%	104%	2.7%	102%
Iron	4.27	10.0	14.4	14.6	101%	103%	1.4%	102%
Lead	24.4	1.0	25.1	25.6	70%	120%	2.0%	95%
Manganese	0.359	1.0	1.34	1.35	98%	99%	0.7%	99%
Nickel	5.36	1.0	6.29	6.40	93%	104%	1.7%	99%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1) / SP) X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2)) X 100
- Acceptance Limits RPD: < or = 20%
MS/MSD: 70-130%

QA/QC Criteria: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Copper	167	1.0	174	176	*	*	1.1%	*

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See LCS for batch validation.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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LCS DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

DATE: 6/21/99

Analyte	St	LCS	PR
	ppm	ppm	%
Copper	1.0	0.966	97%

Definition of Terms:

- St. Standard Concentration
- LCS. Standard Result
- PR. Percent Recovery of LCS; $(LCS/St) \times 100$
- Acceptance Limits LCS: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00751	0.0620	1.0	1.16	1.10	110%	104%	5%
Thallium	200.9	06/23/99	PIF00751	0	1.0	1.08	1.13	108%	113%	5%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



Del Mar Analytical

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BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00745

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.08	1.15	108%	115%	6.3%	112%
Barium	0.0666	1.0	1.02	1.05	95%	98%	2.9%	97%
Cadmium	0	1.0	0.980	1.00	98%	100%	2.0%	99%
Chromium	0	1.0	0.964	1.00	96%	100%	3.7%	98%
Copper	0	1.0	0.974	1.00	97%	100%	2.6%	99%
Iron	0	10.0	9.83	10.0	98%	100%	1.7%	99%
Lead	0	1.0	0.957	0.992	96%	99%	3.6%	97%
Manganese	0	1.0	0.982	1.01	98%	101%	2.8%	100%
Nickel	0	1.0	0.949	0.967	95%	97%	1.9%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2) X 100
- Acceptance Limits..... RPD: < or = 20%
MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00745	0	0.040	0.0402	0.0419	101%	105%	4%
Thallium	200.9	06/21/99	PIF00745	0	0.020	0.0197	0.0200	99%	100%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/17/99
 Sample #: PIF00745
 Batch #: IF17HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00497	0.00493	99%	99%	0.8%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limit.



Del Mar Analytical

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QC DATA REPORT

DATE: 6/15/99
 PIF00874 PIF00874

EPA METHOD 300
 Instrument: DIONEX-IC
 Matrix: WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.370	100	96.8	94.8	96%	94%	2.1%	95%
Chloride	90.4	200	267	261	88%	85%	2.3%	87%
Nitrite-N	0.00	30	28.4	27.2	95%	91%	4.3%	93%
Nitrate-N	0.486	90	85.8	83.4	95%	92%	2.8%	93%
OrthoPhos-P	0.00	194	183	177	94%	91%	3.3%	93%
Sulfate	50.6	400	434	422	96%	93%	2.8%	94%
Bromide	0.00	400	370	352	93%	88%	5.0%	90%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Sulfide	0	1.0	0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: CIF00872
 Batch #: IF22TK1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Total Kjeldahl Nitrogen	8.1	10.0	17.0	17.0	89%	89%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/21/99
 Sample #: IF02585
 Batch #: IF21CO1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.0	5.0	4.9	4.8	98%	96%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-9667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-0444 FAX (818) 770-0443
 484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-0506 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0851

MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30510

Dear Ms. Rice:

One water sample for Project Number 'PIF00878.QST' was received June 16, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00878	80178w	06/14/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

Method Blank

EPA 8141

Blank Name/QCG: 990617W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
BLANK	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Surrogate: Tributylphosphate	96.4	60-150	%	6/17/99	6/22/99
BLANK	Surrogate: Triphenylphosphate	110	76-140	%	6/17/99	6/22/99

Run #: 46
Instrument: NPD03
Sequence: 990621
Initials: RLB

Laboratory Control Spike Recovery

EPA 8141

APPL ID: 990617W-80083 LCS - 17226

Batch ID: S8141W-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Diazinon	2.5	1.76	70.4	57-130
Disulfoton	2.5	2.15	86.0	47-117
Ethion	2.5	2.37	94.8	65-134
Methyl Parathion	2.5	3.07	123	55-164
Phorate	2.5	2.51	100 #	22-96
Stirophos	2.5	3.24	130 #	68-128

Surrogate: Tributylphosphate	5.0	4.66	93.2	60-150
Surrogate: Triphenylphosphate	5.0	5.08	102	76-140

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Extraction Date :	6/17/99
Analysis Date :	6/22/99
Instrument :	NPD03
Run :	47
Analyst :	RLB

Matrix Spike Recoveries

EPA 8141

APPL ID: 990617W-30078 MS/MSD - 17232

Batch ID: S814SM-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	ND	1.88	1.79	75.2	71.5	57-130	4.9	21
Disulfoton	2.5	ND	2.24	2.02	89.6	80.8	47-117	10.3	22
Ethion	2.5	ND	2.45	2.39	98.0	95.5	55-134	2.5	20
Parathion, methyl	2.5	ND	3.19	3.14	128	126	55-164	1.3	24
Phorate	2.5	ND	2.58	2.54	103 #	102 #	22-96	1.3	24
Stirophos	2.5	ND	3.39	3.24	136 #	130 #	58-128	4.5	25
Surrogate: Tributylphosphate	5.0	NA	4.76	4.53	95.2	92.6	30-150		
Surrogate: Triphenylphosphate	5.0	NA	5.20	5.11	104	102	76-140		

= Recovery is outside QC limits.

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/17/99	6/17/99
Analysis Date :	6/22/99	6/22/99
Instrument :	NPD03	NPD03
Run :	48	49
Analyst :	RLB	

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990618W - 17257
Batch ID: \$8151-990618A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
BLANK	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Surrogate recovery	105	61-120	%	6/18/99	6/23/99

Run #: 55
Instrument: ECD01
Sequence: 990621
Initials: KW

Laboratory Control Spike Recoveries
EPA 8151 Herbicides

APPL ID: 990618W-80179 LCS/LCSD - 17257

Batch ID: S8151-990618A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.866	0.908	86.6	90.8	53-134	4.7	32
2,4,5-TP	1.00	0.747	0.820	74.7	82.0	60-118	9.3	24
2,4-D	1.00	1.08	1.17	108	117	44-155	8.0	15
Dicamba	1.00	0.891	0.979	89.1	97.9	48-102	9.4	24
Dichlorprop (2,4-DP)	1.00	0.687	0.749	68.7	74.9	37-146	8.6	18
Dinoseb (DNBP)	1.00	1.09	0.834	109	83.4	73-173	26.6	31
Surrogate: 2,4-DCAA	3.00	3.15	3.35	105	112	61-120		

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/18/99	6/18/99
Analysis Date :	6/23/99	6/23/99
Instrument :	ECD01	ECD01
Run :	56	57
Analyst :	KW	

Matrix Spike Recovery

EPA 8151 Herbicides

APPL ID: 990618W-80179 MS - 17257

Batch ID: \$8151-990618A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	Matrix Result ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	ND	0.842	84.2	53-134
2,4,5-TP	1.00	ND	0.762	76.2	60-118
2,4-D	1.00	ND	0.983	98.3	44-155
Dicamba	1.00	ND	0.765	76.5	48-102
Dichlorprop (2,4-DP)	1.00	ND	0.577	57.7	37-146
Dinoseb (DNBP)	1.00	ND	0.613	61.3 #	73-173
Surrogate: 2,4-DCAA	3.00	NA	3.38	113	61-120

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/18/99
Analysis Date :	6/23/99
Instrument :	ECD01
Run :	58
Analyst :	KW

EPA 8141

Al Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00878.QST

Sample ID: PIF00878

Sample Collection Date: 6/14/99

ARF: 30510

APPL ID AP80178

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Surrogate: Tributylphosphate	84.8	60-150	%	6/17/99	6/22/99
EPA 8141	Surrogate: Triphenylphosphate	89.8	76-140	%	6/17/99	6/22/99

Run #: 58
Instrument: NPD03
Sequence: 990621
Dilution Factor: 1
Initials: RLB

EPA 8151 Herbicides

I Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00878.QST

Sample ID: PIF00878

Sample Collection Date: 6/14/99

ARF: 30510

APPL ID AP80178

QCG: \$8151-990618A-17257

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
EPA 8151	Surrogate Recovery	108	61-120	%	6/18/99	6/23/99

Run #: 60
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/14/99
Date Reported: 07/06/99

Attn: Robyn Rice


Sample Type: Water
Sample Date: 06/14/99
Sample Time: 13:40

Client ID: PIF00878
AC&T Lab No.: BE05760

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	5.2	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

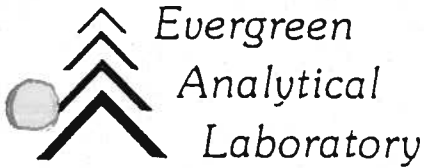
<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---



June 30, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2902
Client Project: PIF00878.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 17 degrees C.

This report contains a total of 9 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

16-Jun 10:01 am

Report To: Robyn Rice

Client Project ID: PIF00878.QST

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2902-01A	PIF00878	Methane, Ethane, Ethene		Water	2	14-Jun-1999	16-Jun-1999	30-Jun-1999	28-Jun-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

RHB

CS

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00878	Client Project ID.	: PIF00878.QST
Lab Sample Number	: 99-2902-01	Lab Work Order	: 99-2902
Date Sampled	: 6/14/99	Dilution Factor	: 1.00
Date Received	: 6/16/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/28/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629012

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.079	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 68.4 F	Saturation	Meth	0.019004017
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.060285881
Head space created	: 4 ml	in Head Space		
Methane Area	: 441.929 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

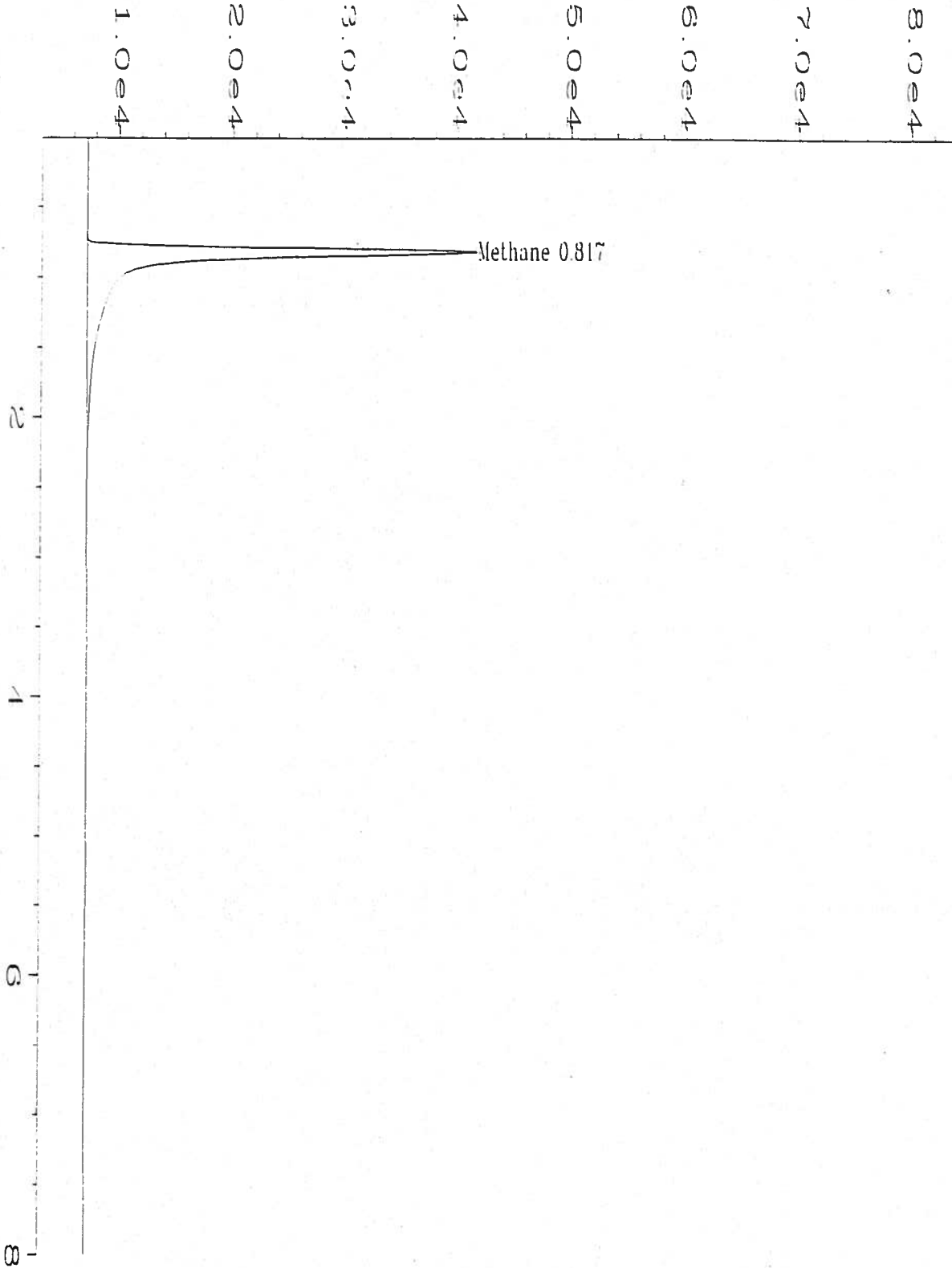
E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 N = Not Available/Not Applicable.

Note

Pressure calculated at sea level.

 Analyst

 Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\012R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 12
Instrument	: ALGA 21	Injection Number	: 1
Sample Name	: 99-2907-02A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 02:18 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:39 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062999 Client Project ID. : PIF00878.QST
Date Extracted/Prepared : 6/29/99 Lab Work Order : 99-2902
Date Analyzed : 6/29/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

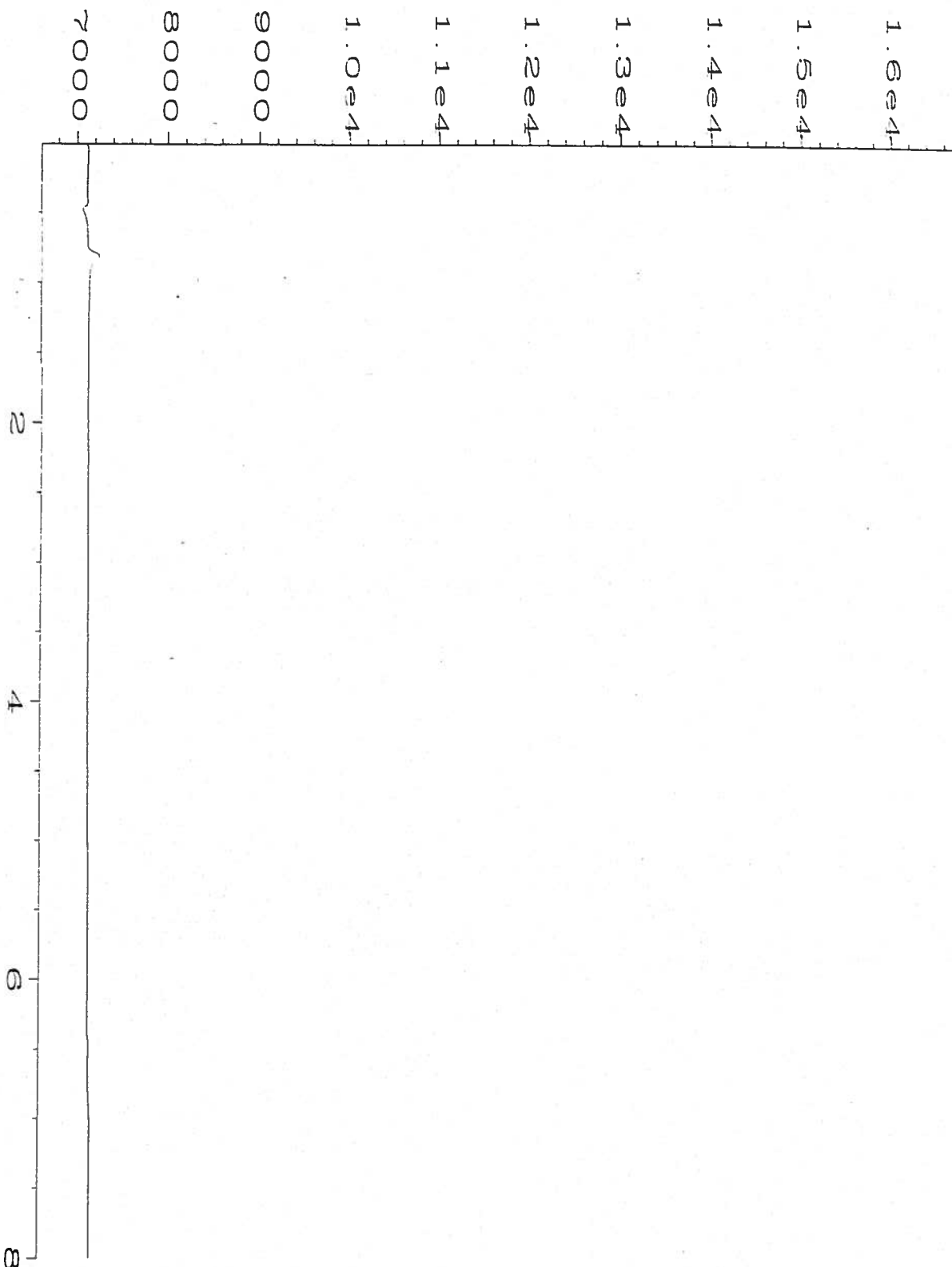
- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- RL = Reporting Limit.
- N/A = Not Available/Not Applicable.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D
 Operator : Leanne Hackney Page Number : 1
 Instrument : ALGA Vial Number : 8
 Sample Name : GB062999 Injection Number : 1
 Run Time Bar Code: Sequence Line : 1
 Acquired on : 29 Jun 99 01:28 PM Instrument Method: GAS.MTH
 Report Created on: 30 Jun 99 12:38 PM Analysis Method : GAS0629.MTH
 Last Recalib on : 21 JUN 99 11:25 AM Sample Amount : 0
 Multiplier : 1 ISTD Amount :
 Sample Info : MBLK METHETH
 Displaced 4ml of distilled water in 43ml vial with Helium,

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.


Notes

* = Values outside of QC limits.

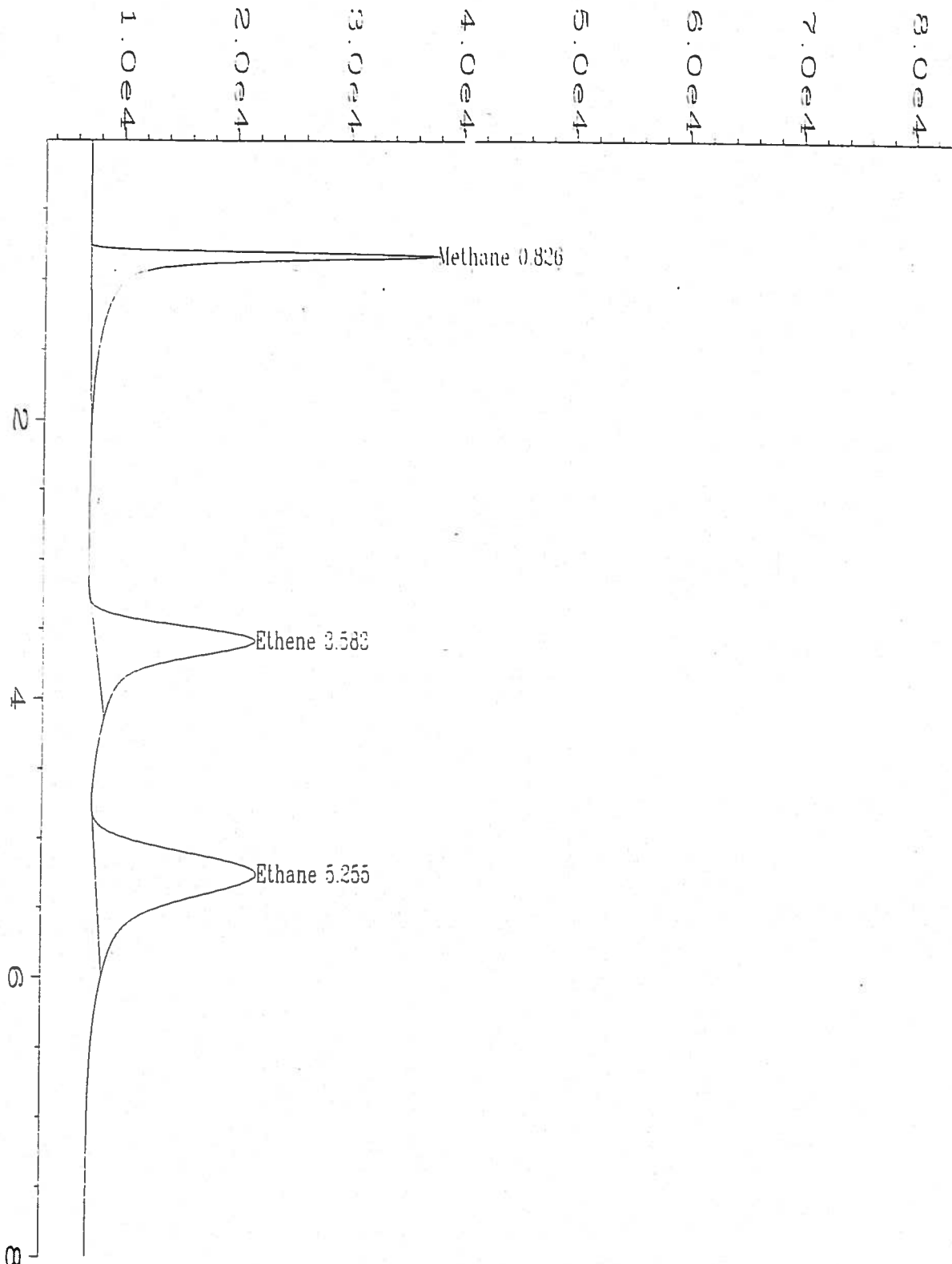
NA = Not analyzed/not available.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : LCS062999
 Run Time Bar Code:
 Acquired on : 29 Jun 99 01:16 PM
 Report Created on: 30 Jun 99 09:46 AM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : LCS METHETH
 Displaced 4ml of distilled water in 42ml vial with 1%

Page Number : 1
 Vial Number : 7
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: GAS.MTH
 Analysis Method : GAS0629.MTH
 Sample Amount : 0
 ISTD Amount :

CHAIN OF CUSTODY FORM

Quote # _____ Page 1 of 1

Client Name/Address: <i>CSI Environmental</i> <i>124 N. Hill Street</i> <i>Phoenix AZ 85003</i>		Project/PO Number: <i>...</i>				Analysis Required																		
Project Manager: <i>John ...</i>		Phone Number: <i>...</i>																						
Sampler: <i>M. ...</i>		Fax Number: <i>...</i>																						
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives																			Special Instructions
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			
<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>																			

Relinquished By: <i>...</i>	Date /Time: _____	Received by: _____	Date /Time: _____	Turnaround Time (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____
Relinquished By: _____	Date /Time: _____	Received by: _____	Date /Time: _____	
Relinquished By: _____	Date /Time: _____	Received in Lab by: _____	Date /Time: _____	
				Sample Integrity (Check) intact _____ on ice _____

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

 Quote #: _____ Page 2 of 2

Client Name/Address: QST Environmental 426 Alton Street Phoenix AZ 85008	Project/PO Number: 671031 (510) 200-1111	Analysis Required
-----------------------------------------------------------------------------------	------------------------------------------------	-------------------

Project Manager: John Smith	Phone Number: (602) 244-1772	
Sampler: M. [unclear]	Fax Number: (602) 244-1280	

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Special Instructions
E-1-9 - cow (1/1/10)	ACC	12 number	2	1/1/10										
↓	ACC	12 number	2	" / 1/10										
↓	ACC	12 number	2	" / 1/10										
↓	ACC	12 number	2	" / 1/10										
↓	ACC	12 poly	1	" / 1/10										

Relinquished By: <i>M. [unclear]</i>	Date /Time:	Received by:	Date /Time:	Turnaround Time: (Check)
Relinquished By:	Date /Time:	Received by:	Date /Time:	same day _____ 72 hours _____
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:	24 hours _____ 5 days _____
				48 hours _____ normal <input checked="" type="checkbox"/>
				Sample Integrity: (Check)
				intact _____ on ice _____

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-1843
 9484 Chesapeake Dr., Suite 802, San Diego, CA 92123 (619) 505-9896 FAX (619) 505-9889
 1830 South 1st St., Suite B-120, Phoenix, AZ 85044 (480) 335-0043 FAX (480) 335-0951

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill

Report Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-24, 1999
 Analyzed: Jun 15-24, 1999
 Reported: Jun 29, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00874	EW-24-GW- (6-14-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C.D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270C, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00875	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.


PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: The 8082 duplicate LCS recovered below current control limits, but individual sample surrogate recoveries are acceptable. The 8270C RPD values for four spiked compounds in the LCS and LCSD are above the current control limits, but individual recoveries are acceptable. All other analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



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 4084 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-0596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	65%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 1484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 305-9596 FAX (619) 205-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	77%

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 1830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

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 3830 South 31st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699030 / Estes Landfill

Sample Descript: Water, Trip Blank
 Lab Number: PIF00875

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 29, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	65%
Phenol-d6 (40-115).....	67%
2,4,6-Tribromophenol (40-140)	91%
Nitrobenzene-d5 (35-120).....	68%
2-Fluorobiphenyl (30-150).....	73%
Terphenyl-d14 (45-150).....	120%



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 2830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

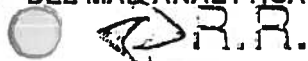
Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	0.39	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	1.1	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	3.1	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	0.39	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	3.5	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



3852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699030 / Estes Landfill
 Sample Descript: Water, EW-24-GW-(6-14-99)
 Lab Number: PIF00874

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 29, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	330	N.A.	06/21/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	330	N.A.	06/21/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	38	N.A.	06/15/99
Chloride.....	EPA 300.0	50***	90	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	0.49	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Nitrate/Nitrite-N.....	Calculation	0.10	0.49	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	0.13	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	51	N.A.	06/15/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	3.6	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	7.1	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	95%



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0943 FAX (480) 785-0851

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	84%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

DT Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 29, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

 R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	73%
Phenol-d6 (40-115).....	76%
2,4,6-Tribromophenol (40-140)	94%
Nitrobenzene-d5 (35-120).....	88%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	122%

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

WEST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 29, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Sulfide.....	SM4500-S-C.D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O.C	0.50	N.D.	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.381	0.409	76%	82%	7%	40	55-125
DDD	0	0.500	0.394	0.413	79%	83%	5%	20	60-130
DDT	0	0.500	0.434	0.470	87%	94%	8%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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2830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

GC CALIBRATION CHECK CRITERIA

Method: 8081.A
QC Batches: F17 #5

Associated Samples: PIF00874

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
D-BHC	1	135
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	130

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	3.38	2.12	85%	53%	46%	≤ 50	60-140%
AR 1260	0	4.0	3.34	1.30	84%	33%	88%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... See Case Narrative.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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GC CALIBRATION CHECK CRITERIA

Method: 8082
 QC Batches: F16 #39, #52

Associated Samples: PIF00874

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
#39 1016	1	117
#52 1016	1	122
#52 1260	1	133

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



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MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00874
 Batch #: IF17011W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	28.9	28.2	116%	113%	2%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	28.8	27.7	115%	111%	3.9%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	27.1	26.9	108%	108%	0.7%	≤ 20	69-113
Chloroform	0.0	25	27.8	27.7	111%	111%	0.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	28.3	28.4	113%	114%	0.4%	≤ 20	61-122
Benzene	0.0	25	27.1	27.0	108%	108%	0.4%	≤ 20	80-115
Trichloroethene	0.0	25	28.2	28.6	113%	114%	1.4%	≤ 20	60-142
Toluene	0.0	25	27.5	27.5	110%	110%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	28.3	28.3	113%	113%	0.0%	≤ 20	49-155
Chlorobenzene	0.0	25	27.0	27.0	108%	108%	0.0%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/21/99
 Sample #: LCS/LCSD*
 Batch #: IF18SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
Phenol	0.1	50	33	40	66%	80%	19%	15	40-110
2-Chlorophenol	0.0	50	30	37	60%	74%	21%	15	40-110
1,4-Dichlorobenzene	0.0	50	23	26	46%	52%	12%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	41	44	82%	88%	7%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	28	31	56%	62%	10%	15	45-110
Chloro-3-methylphenol	0.0	50	37	43	74%	86%	15%	15	50-115
Acenaphthene	0.1	50	38	39	76%	78%	3%	15	45-120
2,4-Dinitrotoluene	0.0	50	41	44	82%	88%	7%	15	55-120
4-Nitrophenol	0.0	50	30	34	60%	68%	13%	30	45-120
Pentachlorophenol	0.0	50	33	39	66%	78%	17%	15	50-125
Pyrene	0.1	50	47	50	94%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... The RPD exceeded Del Mar Analytical control limits.
 All QA/QC recoveries, however, were within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
INSTRUMENT: ICP
MATRIX: Water

Date: 6/18/99
Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.09	106%	109%	2.8%	108%
Barium	0.286	1.0	1.26	1.28	97%	99%	1.6%	98%
Cadmium	0.377	1.0	1.35	1.38	97%	100%	2.2%	99%
Chromium	0.444	1.0	1.44	1.48	100%	104%	2.7%	102%
Iron	4.27	10.0	14.4	14.6	101%	103%	1.4%	102%
Lead	24.4	1.0	25.1	25.6	70%	120%	2.0%	95%
Manganese	0.359	1.0	1.34	1.35	98%	99%	0.7%	99%
Nickel	5.36	1.0	6.29	6.40	93%	104%	1.7%	99%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1) / SP) X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD/2)) X 100
- Acceptance Limits RPD: < or = 20%
MS/MSD: 70-130%

QA/QC Criteria: All QA/QC was within acceptance limits.



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MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Copper	167	1.0	174	176	*	*	1.1%	*

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See LCS for batch validation.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

LCS DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

DATE: 6/21/99

Analyte	St	LCS	PR
	ppm	ppm	%
Copper	1.0	0.966	97%

Definition of Terms:

- St. Standard Concentration
- LCS. Standard Result
- PR. Percent Recovery of LCS; (LCS/St) X 100
- Acceptance Limits LCS: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00751	0.0620	1.0	1.16	1.10	110%	104%	5%
Thallium	200.9	06/23/99	PIF00751	0	1.0	1.08	1.13	108%	113%	5%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00745

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.08	1.15	108%	115%	6.3%	112%
Barium	0.0666	1.0	1.02	1.05	95%	98%	2.9%	97%
Cadmium	0	1.0	0.980	1.00	98%	100%	2.0%	99%
Chromium	0	1.0	0.964	1.00	96%	100%	3.7%	98%
Copper	0	1.0	0.974	1.00	97%	100%	2.6%	99%
Iron	0	10.0	9.83	10.0	98%	100%	1.7%	99%
Lead	0	1.0	0.957	0.992	96%	99%	3.6%	97%
Manganese	0	1.0	0.982	1.01	98%	101%	2.8%	100%
Nickel	0	1.0	0.949	0.967	95%	97%	1.9%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00745	0	0.040	0.0402	0.0419	101%	105%	4%
Thallium	200.9	06/21/99	PIF00745	0	0.020	0.0197	0.0200	99%	100%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/17/99
 Sample #: PIF00745
 Batch #: IF17HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Mercury	0	0.00500	0.00497	0.00493	99%	99%	0.8%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC was within acceptance limit.



Del Mar Analytical

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 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

GC DATA REPORT

DATE: 6/15/99
 PIF00874 PIF00874

EPA METHOD 300
 Instrument: DIONEX-IC
 Matrix: WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.370	100	96.8	94.8	96%	94%	2.1%	95%
Chloride	90.4	200	267	261	88%	85%	2.3%	87%
Nitrite-N	0.00	30	28.4	27.2	95%	91%	4.3%	93%
Nitrate-N	0.486	90	85.8	83.4	95%	92%	2.8%	93%
OrthoPhos-P	0.00	194	183	177	94%	91%	3.3%	93%
Sulfate	50.6	400	434	422	96%	93%	2.8%	94%
Bromide	0.00	400	370	352	93%	88%	5.0%	90%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2)) X 100

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Sulfide	0	1.0	-0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/23/99
 Sample #: CIF01193
 Batch #: IF23TK1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Kjeldahl Nitrogen	2.2	10.0	11.0	11.0	88%	88%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

2952 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 3484 Chesapeake Dr., Suite 805, San Diego, CA 92122 (619) 505-9596 FAX (619) 505-9689
 9830 South 81st St., Suite B-120, Phoenix, AZ 85044 (480) 795-9043 FAX (480) 795-0951

MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/21/99
 Sample #: IF02585
 Batch #: IF21CO1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.0	5.0	4.9	4.8	98%	96%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30511

Dear Ms. Rice:

One water sample for Project Number 'PIF00874.QST' was received June 16, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00874	80179w	06/14/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00874.QST

Sample ID: PIF00874

Sample Collection Date: 6/14/99

ARF: 30511

APPL ID AP80179

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
EPA 8141	Naied	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Surrogate: Tributylphosphate	77.6	60-150	%	6/17/99	6/22/99
EPA 8141	Surrogate: Triphenylphosphate	84.4	76-140	%	6/17/99	6/22/99

Run #: 59
Instrument: NPD03
Sequence: 990621
Dilution Factor: 1
Initials: RLB

EPA 8151 Herbicides

Mar Analytical
9930 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00874.QST

Sample ID: PIF00874

Sample Collection Date: 6/14/99

ARF: 30511

APPL ID AP80179

QCG: \$8151-990618A-17257

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/24/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Surrogate Recovery	100	61-120	%	6/18/99	6/24/99

Run #: 64
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/24/99 10:10:35 AM

Method Blank

EPA 8141

Blank Name/QCG: 990617W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Maiathion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
BLANK	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Surrogate: Tributylphosphate	96.4	60-150	%	6/17/99	6/22/99
BLANK	Surrogate: Triphenylphosphate	110	76-140	%	6/17/99	6/22/99

Run #: 46
Instrument: NPD03
Sequence: 990621
Initials: RLB

Laboratory Control Spike Recovery

EPA 8141

APPL ID: 990617W-80083 LCS - 17226

Batch ID: S8141W-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Diazinon	2.5	1.76	70.4	57-130
Disulfoton	2.5	2.15	86.0	47-117
Ethion	2.5	2.37	94.8	65-134
Methyl Parathion	2.5	3.07	123	55-164
Phorate	2.5	2.51	100 #	22-96
Stirophos	2.5	3.24	130 #	68-128

Surrogate: Tributylphosphate	5.0	4.66	93.2	60-150
Surrogate: Triphenylphosphate	5.0	5.08	102	76-140

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/17/99
Analysis Date :	6/22/99
Instrument :	NPD03
Run :	47
Analyst :	RLB

Matrix Spike Recoveries

EPA 8141

APPL ID: 990617W-30078 MS/MSD - 17232

Batch ID: S814SM-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	ND	1.98	1.79	75.2	71.6	57-130	4.9	21
Disulfoton	2.5	ND	2.24	2.02	89.6	80.8	47-117	10.3	22
Ethion	2.5	ND	2.45	2.39	98.0	95.6	65-134	2.5	20
Parathion, methyl	2.5	ND	3.19	3.14	128	126	55-164	1.6	24
Phorate	2.5	ND	2.58	2.54	103 #	102 #	22-96	1.6	24
Stirophos	2.5	ND	3.39	3.24	136 #	130 #	68-128	4.5	25
Surrogate: Tributylphosphate	5.0	NA	4.76	4.63	95.2	92.6	60-150		
Surrogate: Triphenylphosphate	5.0	NA	5.20	5.11	104	102	76-140		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Extraction Date :	5/17/99	5/17/99
Analysis Date :	5/22/99	5/22/99
Instrument :	NPD03	NPD03
Run :	48	49
Analyst :	RLB	

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990618W - 17257
Batch ID: \$8151-990618A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
BLANK	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Surrogate recovery	105	61-120	%	6/18/99	6/23/99

Run #: 55
Instrument: ECD01
Sequence: 990621
Initials: KW

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990618W-80179 LCS/LCSD - 17257
 Batch ID: S8151-990618A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.866	0.908	86.6	90.8	53-134	4.7	32
2,4,5-TP	1.00	0.747	0.820	74.7	82.0	60-118	9.3	24
2,4-D	1.00	1.08	1.17	108	117	44-155	8.0	15
Dicamba	1.00	0.891	0.979	89.1	97.9	48-102	9.4	24
Dichlorprop (2,4-DP)	1.00	0.687	0.749	68.7	74.9	37-146	8.6	18
Dinoseb (DNBP)	1.00	1.09	0.834	109	83.4	73-173	26.6	31
Surrogate: 2,4-DCAA	3.00	3.15	3.35	105	112	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/18/99	6/18/99
Analysis Date :	6/23/99	6/23/99
Instrument :	ECD01	ECD01
Run :	56	57
Analyst :	KW	

Matrix Spike Recovery
EPA 8151 Herbicides

APPL ID: 990618W-80179 MS - 17257
Batch ID: \$8151-990618A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Compound Name	Spike Level ug/L	Matrix Result ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	ND	0.842	84.2	53-134
2,4,5-TP	1.00	ND	0.762	76.2	60-118
2,4-D	1.00	ND	0.983	98.3	44-155
Dicamba	1.00	ND	0.765	76.5	48-102
Dichlorprop (2,4-DP)	1.00	ND	0.577	57.7	37-146
Dinoseb (DNBP)	1.00	ND	0.613	61.3 #	73-173
Surrogate: 2,4-DCAA	3.00	NA	3.38	113	61-120

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/18/99
Analysis Date :	6/23/99
Instrument :	ECD01
Run :	58
Analyst :	KW



June 30, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2899
Client Project: PIF00874.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 17 degrees C.

This report contains a total of 9 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

16-Jun 09:53 am

Report To: Robyn Rice

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: PIF00874.QST

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2899-01A	PIF00874	Methane, Ethane, Ethene		Water	2	14-Jun-1999	16-Jun-1999	30-Jun-1999	28-Jun-1999

RKB

ds

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00874	Client Project ID.	: PIF00874.QST
Lab Sample Number	: 99-2899-01	Lab Work Order	: 99-2899
Date Sampled	: 6/14/99	Dilution Factor	: 1.00
Date Received	: 6/16/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/21/99	Matrix	: Water
Date Analyzed	: 6/21/99	Lab File No.	: GAS0621036

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.018	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: <u>71.8 F</u>	Saturation	Meth	: <u>0.004377646</u>
Amount Injected	: <u>0.5 ml</u>	Concentration		
Total Volume of Sample	: <u>43 ml</u>	Concentration	Meth	: <u>0.013798193</u>
Head space created	: <u>4 ml</u>	in Head Space		
Methane Area	: <u>101.8 ug</u>	Saturation	Etha	: <u>0</u>
Ethane Area	: <u>0 ug</u>	Concentration		
Ethene Area	: <u>0 ug</u>	Concentration	Etha	: <u>0</u>
Atomic weight(Methane)	: <u>16 g</u>	in Head Space		
Atomic weight(Ethane)	: <u>30 g</u>	Saturation	Ethe	: <u>0</u>
Atomic weight(Ethene)	: <u>28 g</u>	Concentration		
		Concentration	Ethe	: <u>0</u>
		in Head Space		

Qualifiers

- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- RL = Reporting Limit.
- N/A = Not Available/Not Applicable.

Note

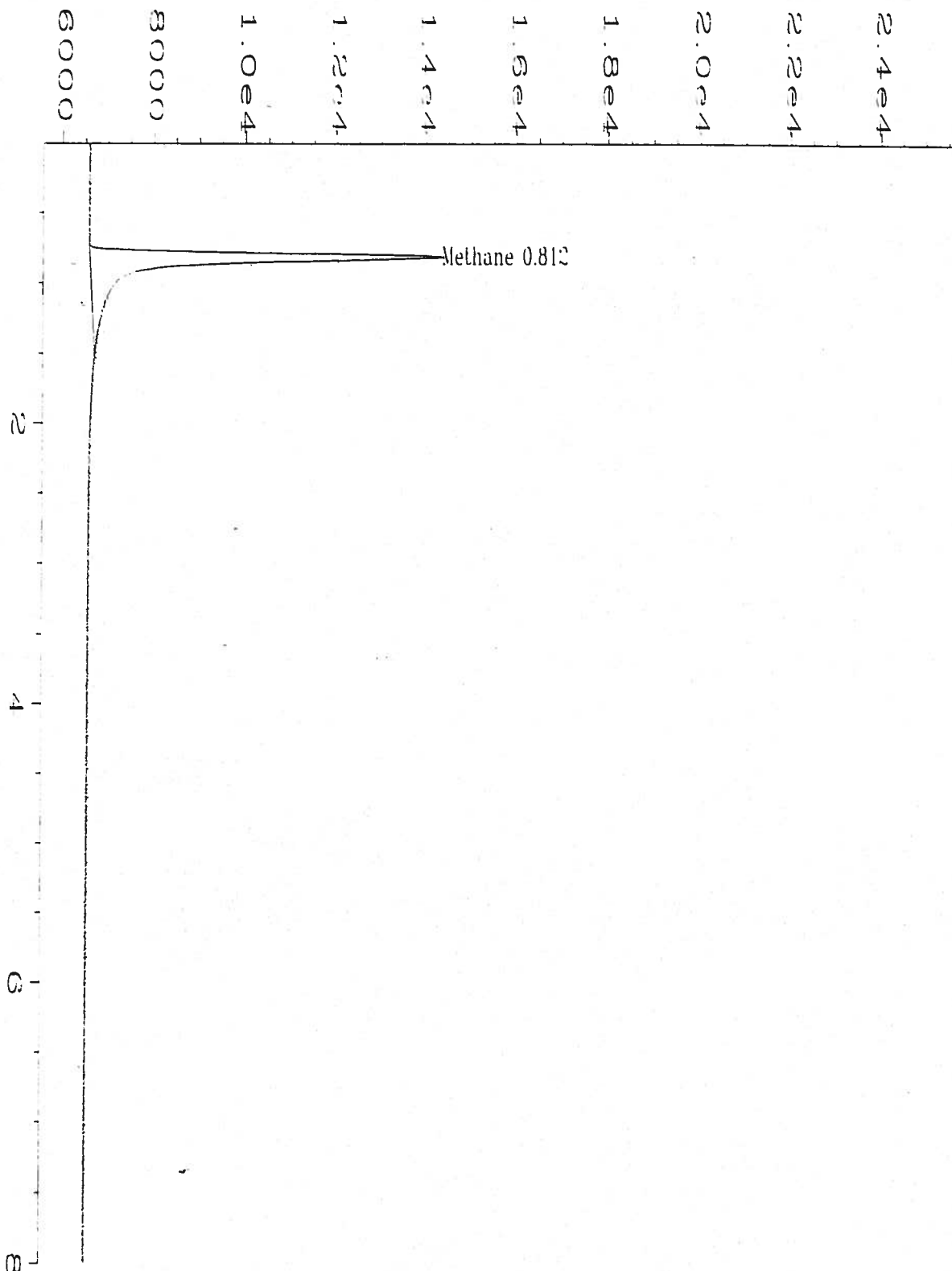
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0621\036R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 36
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2899-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 21 Jun 99 05:06 PM	Analysis Method	: GAS0621.MTH
Report Created on:	23 Jun 99 11:10 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number	: GB062199	Client Project ID.	: PIF00874.QST
Date Extracted/Prepared	: 6/21/99	Lab Work Order	: 99-2899
Date Analyzed	: 6/21/99	Dilution Factor	: 1.00
		Method	: RSKSOP-175
		Matrix	: Water
		Lab File No.	: GAS0621010

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

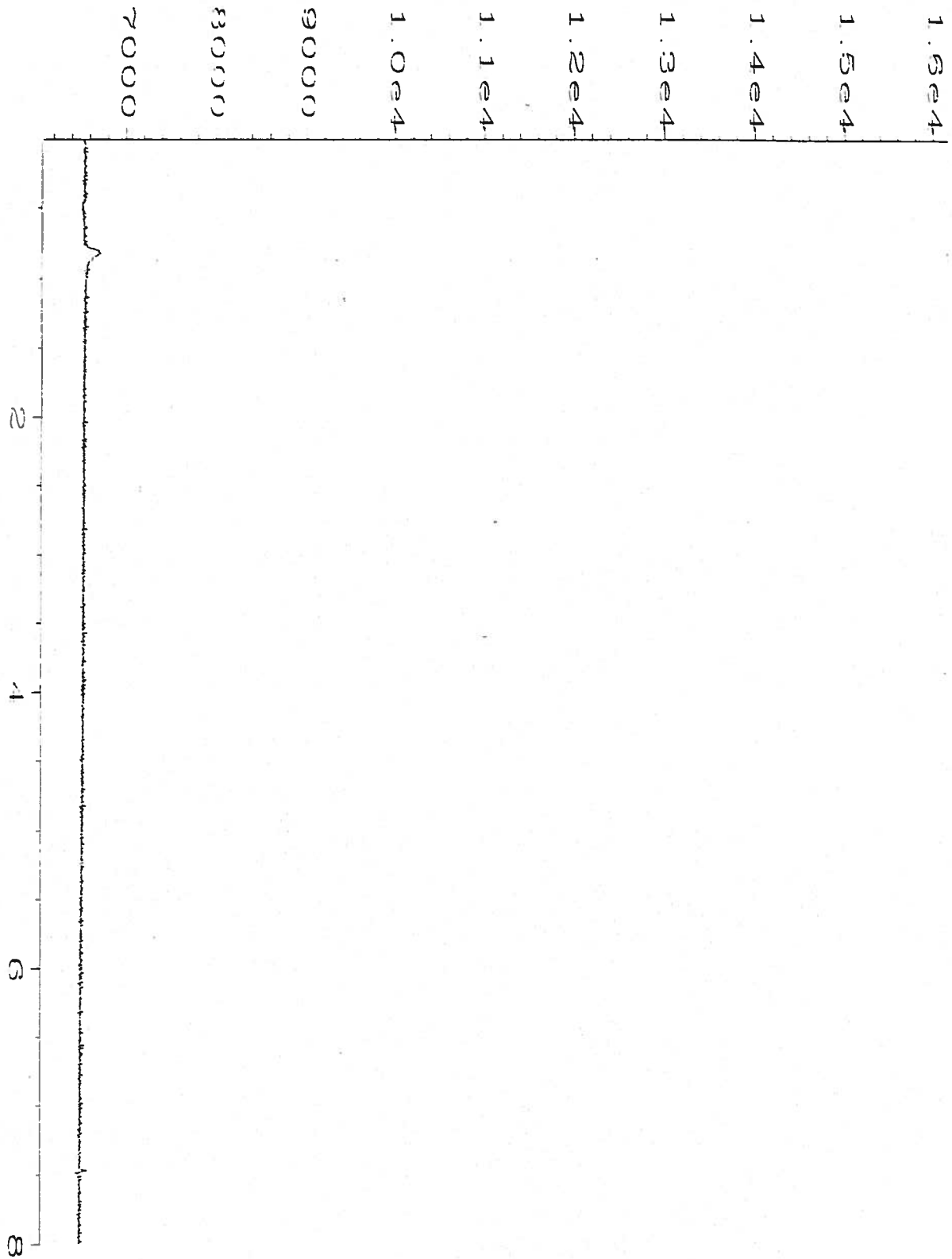
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N/A = Not Available/Not Applicable.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0621\010R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 10
Instrument	: ALGA	Injection Number	: 1
Sample Name	: GB062199	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 21 Jun 99 12:40 PM	Analysis Method	: GAS0621.MTH
Report Created on:	23 Jun 99 11:28 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MBLK METHETH		

Displaced 4ml of distilled water in 43ml vial with Helium.

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062199 EPA Method No. : RSKSOP-175M
Date Prepared : 6/21/99 Matrix : Water
Date Analyzed : 6/21/99 Method Blank : GB062199
E.A. LCS Source No. : 1719 Lab File No. : GAS0621009

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	355	71	64-90
Ethene Gas	500	0	261	52	37-58
Ethane Gas	500	0	344	69	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

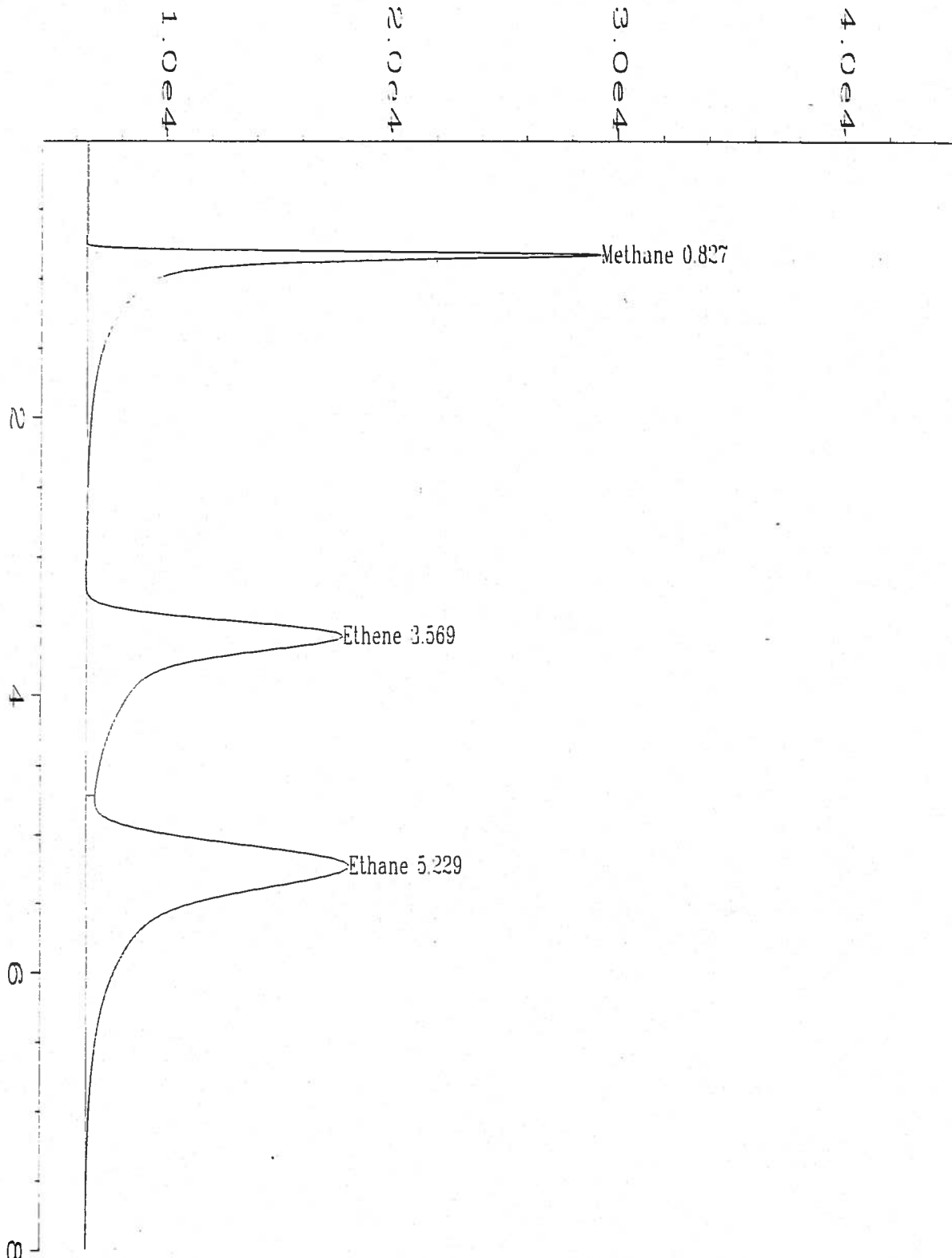
* = Values outside of QC limits.
NA = Not analyzed/not available.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0621\009R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : LCS062199
 Run Time Bar Code:
 Acquired on : 21 Jun 99 12:25 PM
 Report Created on: 23 Jun 99 11:27 AM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : LCS METHETH
 Displaced 4ml of distilled water in 43ml vial with 1%

Page Number : 1
 Vial Number : 9
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: GAS.MTH
 Analysis Method : GAS0621.MTH
 Sample Amount : 0
 ISTD Amount :

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/14/99
Date Reported: 07/06/99

Attn: Robyn Rice

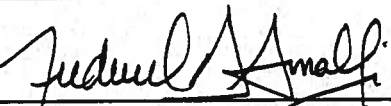
Sample Type: Water
Sample Date: 06/14/99
Sample Time: 07:10

Client ID: PIF00874
AC&T Lab No.: BE05758

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	3.9	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

CHAIN OF CUSTODY FORM

Quote # _____ Page 1 of 2

Client Name/Address: <i>Del Mar Analytical</i>			Project/PO Number: <i>10079</i>			Analysis Required												Special Instructions	
Project Manager: <i>John Smith</i>			Phone Number: <i>714-444-1111</i>			<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>		
Sampler: <i>M. Jones</i>			Fax Number: <i>714-444-2222</i>																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives														
<i>Env 1#</i>	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
	<i>A</i>	<i>100ml</i>	<i>1</i>	<i>10/10/04</i>	<i>None</i>														
Relinquished By: <i>M. Jones</i>			Date /Time: <i>10/10/04</i>			Received by: <i>J. Smith</i>			Date /Time: <i>10/10/04</i>			Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <u> </u>							
Relinquished By: <i>M. Jones</i>			Date /Time: <i>10/10/04</i>			Received by: <i>J. Smith</i>			Date /Time: <i>10/10/04</i>			Sample Integrity: (Check) intact _____ on ice _____							
Relinquished By: <i>M. Jones</i>			Date /Time: <i>10/10/04</i>			Received in Lab by: <i>J. Smith</i>			Date /Time: <i>10/10/04</i>			Sample Integrity: (Check) intact _____ on ice _____							

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote # _____ Page _____ of _____

Client Name/Address:			Project/PO Number:			Analysis Required											
Project Manager:			Phone Number:														
Sampler:			Fax Number:														
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives											Special Instructions	
Relinquished By: _____			Date /Time: _____			Received by: _____			Date /Time: _____			Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____ Sample Integrity: (Check) intact _____ on ice _____					
Relinquished By: _____			Date /Time: _____			Received by: _____			Date /Time: _____								
Relinquished By: _____			Date /Time: _____			Received in Lab by: _____			Date /Time: _____								

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



Del Mar Analytical

1352 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 18525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-0443
 9484 Chesapeake Dr., Suite 303, San Diego, CA 92123 (619) 435-9996 FAX (619) 435-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

WEST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieber

Client Project ID: 6699030 / Estes Landfill

Report Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-23, 1999
 Analyzed: Jun 15-23, 1999
 Reported: Jun 25-29, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00876	EW-11-GW- (6-14-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270C, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00877	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: The 8082 duplicate LCS recovered below current control limits, but individual sample surrogate recoveries are acceptable. The 8270C RPD values for four spiked compounds in the LCS and LCSD are above the current control limits, but individual recoveries are acceptable. All other analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

RR

Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 570-4667 FAX (909) 570-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-1843
 4484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 2830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	µg/L	(ppb)	µg/L (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
ndrin.....	0.10	.....	N.D.
ndrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	77%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-1667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9889
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):
Decachlorobiphenyl (30-130)..... 83%



Del Mar Analytical

3852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16825 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-0844 FAX (818) 770-1843
 4884 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9680
 1830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	5.9	Vinyl chloride.....	2.0	12
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	100%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	96%

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Del Mar Analytical

ST Environmental
426 N. 44th St., Suite 110
Phoenix, AZ 85008
Attention: John Miehler

Client Project ID: Estes Landfill
Sample Descript: Water, Trip Blank
Lab Number: PIF00877

3852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
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484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

Sampled: Jun 14, 1999
Received: Jun 14, 1999
Extracted: Jun 17, 1999
Analyzed: Jun 17, 1999
Reported: Jun 25, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

 R.R.
Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	100%
Toluene-d8 (75-140).....	97%
4-Bromofluorobenzene (75-135).....	99%

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Del Mar Analytical

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 29, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzydine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	57%
Phenol-d6 (40-115).....	56%
2,4,6-Tribromophenol (40-140)	74%
Nitrobenzene-d5 (35-120).....	65%
2-Fluorobiphenyl (30-150).....	64%
Terphenyl-d14 (45-150).....	112%



ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

1852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1220
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 484 Chesapeake Dr., Suite 205, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 1830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-8043 FAX (480) 785-0851

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	0.12	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	2.2	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	0.99	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	0.061	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.21	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

 R.R.

Robyn Rice
 Project Manager



3852 Allon Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: Estes Landfill
 Sample Descript: Water, EW-11-GW-(6-14-99)
 Lab Number: PIF00876

Sampled: Jun 14, 1999
 Received: Jun 14, 1999
 Extracted: Jun 15-22, 1999
 Analyzed: Jun 15-22, 1999
 Reported: Jun 29, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	190	N.A.	06/21/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	190	N.A.	06/21/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	22	N.A.	06/15/99
Chloride.....	EPA 300.0	50***	96	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	0.98	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Nitrate/Nitrite-N.....	Calculation	0.10	0.98	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	76	N.A.	06/15/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	5.0	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	1.8	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)			µg/L (ppb)
Aldrin.....	0.10		N.D.
alpha-BHC.....	0.10		N.D.
beta-BHC.....	0.10		N.D.
delta-BHC.....	0.25		N.D.
gamma-BHC (Lindane).....	0.10		N.D.
Chlordane.....	2.0		N.D.
4,4'-DDD.....	0.10		N.D.
4,4'-DDE.....	0.10		N.D.
4,4'-DDT.....	0.10		N.D.
Dieldrin.....	0.10		N.D.
Endosulfan I.....	0.10		N.D.
Endosulfan II.....	0.10		N.D.
Endosulfan sulfate.....	0.50		N.D.
Endrin.....	0.10		N.D.
Endrin aldehyde.....	0.10		N.D.
Heptachlor.....	0.10		N.D.
Heptachlor epoxide.....	0.10		N.D.
Methoxychlor.....	0.10		N.D.
Toxaphene.....	4.0		N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	95%

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 29, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)			µg/L (ppb)
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	84%

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PIF00876.QST <11 of 16>

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 25, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 29, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzdine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

D.R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	73%
Phenol-d6 (40-115).....	76%
2,4,6-Tribromophenol (40-140).....	94%
Nitrobenzene-d5 (35-120).....	88%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	122%

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 17-18, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 17-23, 1999
 Analyzed: Jun 17-23, 1999
 Reported: Jun 25, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/17/99	06/17/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 15-22, 1999
 Analyzed: Jun 15-22, 1999
 Reported: Jun 29, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/15/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/15/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/22/99	06/22/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/21/99	06/21/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
DDE	0	0.500	0.381	0.409	76%	82%	7%	40	55-125
DDD	0	0.500	0.394	0.413	79%	83%	5%	20	60-130
DDT	0	0.500	0.434	0.470	87%	94%	8%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

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GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #19

Associated Samples: PIF00876

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	140
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	132

- The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.
- The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

GC CALIBRATION CHECK CRITERIA

Method: 8081A
 QC Batches: F17 #5

Associated Samples: PIF00876

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
D-BHC	1	135
Endosulfan Sulfate	1	118
Methoxychlor	1	118
Endrin Ketone	1	130

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/17/99
 Sample #: LCS/LCSD*
 Batch #: IF16PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	3.38	2.12	85%	53%	46%	≤ 50	60-140%
AR 1260	0	4.0	3.34	1.30	84%	33%	88%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... See Case Narrative.



Del Mar Analytical

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9830 South 31st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

GC CALIBRATION CHECK CRITERIA

Method: 8082
QC Batches: F16 #39, #52

Associated Samples: PIF00876

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
#39 1016	1	117
#52 1016	1	122
#52 1260	1	133

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00874
 Batch #: IF17011W

Acceptance Limits

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %
Vinyl Chloride	0.0	25	28.9	28.2	116%	113%	2%
1,1-Dichloroethene	0.0	25	28.8	27.7	115%	111%	3.9%
1,1-Dichloroethane	0.0	25	27.1	26.9	108%	108%	0.7%
Chloroform	0.0	25	27.8	27.7	111%	111%	0.4%
1,2-Dichloroethane	0.0	25	28.3	28.4	113%	114%	0.4%
Benzene	0.0	25	27.1	27.0	108%	108%	0.4%
Trichloroethene	0.0	25	28.2	28.6	113%	114%	1.4%
Toluene	0.0	25	27.5	27.5	110%	110%	0.0%
Tetrachloroethene	0.0	25	28.3	28.3	113%	113%	0.0%
Chlorobenzene	0.0	25	27.0	27.0	108%	108%	0.0%

RPD %	PR1/PR2 %
≤ 20	50-128
≤ 20	69-119
≤ 20	69-113
≤ 20	23-191
≤ 20	61-122
≤ 20	80-115
≤ 20	60-142
≤ 20	69-136
≤ 20	49-155
≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/21/99
 Sample #: LCS/LCSD*
 Batch #: IF18SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	RPD	PR1/PR2
	ppb	ppb	ppb	ppb	%	%	%	%	%
Phenol	0.1	50	33	40	66%	80%	19%	15	40-110
2-Chlorophenol	0.0	50	30	37	60%	74%	21%	15	40-110
1,4-Dichlorobenzene	0.0	50	23	26	46%	52%	12%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	41	44	82%	88%	7%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	28	31	56%	62%	10%	15	45-110
Chloro-3-methylphenol	0.0	50	37	43	74%	86%	15%	15	50-115
Acenaphthene	0.1	50	38	39	76%	78%	3%	15	45-120
2,4-Dinitrotoluene	0.0	50	41	44	82%	88%	7%	15	55-120
4-Nitrophenol	0.0	50	30	34	60%	68%	13%	30	45-120
Pentachlorophenol	0.0	50	33	39	66%	78%	17%	15	50-125
Pyrene	0.1	50	47	50	94%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... The RPD exceeded Del Mar Analytical control limits.
 All QA/QC recoveries, however, were within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
INSTRUMENT: ICP
MATRIX: Water

Date: 6/18/99
Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.09	106%	109%	2.8%	108%
Barium	0.286	1.0	1.26	1.28	97%	99%	1.6%	98%
Cadmium	0.377	1.0	1.35	1.38	97%	100%	2.2%	99%
Chromium	0.444	1.0	1.44	1.48	100%	104%	2.7%	102%
Iron	4.27	10.0	14.4	14.6	101%	103%	1.4%	102%
Lead	24.4	1.0	25.1	25.6	70%	120%	2.0%	95%
Manganese	0.359	1.0	1.34	1.35	98%	99%	0.7%	99%
Nickel	5.36	1.0	6.29	6.40	93%	104%	1.7%	99%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: $< \text{ or } = 20\%$
 MS/MSD: 70-130%

QA/QC Criteria: All QA/QC was within acceptance limits.



Del Mar Analytical

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 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-0867 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-1844
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-0990 FAX (619) 505-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Copper	167	1.0	174	176	*	*	1.1%	*

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD/2)) \times 100$
- Acceptance Limits RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See LCS for batch validation.

Del Mar Analytical (AZ0426)



Del Mar Analytical

3852 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Coolby Dr., Suite A, Cerritos, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1344 FAX (818) 770-1343
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-0596 FAX (619) 505-0689
 9130 South 16th St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

LCS DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

DATE: 6/21/99

Analyte	St	LCS	PR
	ppm	ppm	%
Copper	1.0	0.966	97%

Definition of Terms:

- St. Standard Concentration
- LCS. Standard Result
- PR. Percent Recovery of LCS; $(LCS/St) \times 100$
- Acceptance Limits LCS: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00751	0.0620	1.0	1.16	1.10	110%	104%	5%
Thallium	200.9	06/23/99	PIF00751	0	1.0	1.08	1.13	108%	113%	5%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00745

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.08	1.15	108%	115%	6.3%	112%
Barium	0.0666	1.0	1.02	1.05	95%	98%	2.9%	97%
Cadmium	0	1.0	0.980	1.00	98%	100%	2.0%	99%
Chromium	0	1.0	0.964	1.00	96%	100%	3.7%	98%
Copper	0	1.0	0.974	1.00	97%	100%	2.6%	99%
Iron	0	10.0	9.83	10.0	98%	100%	1.7%	99%
Lead	0	1.0	0.957	0.992	96%	99%	3.6%	97%
Manganese	0	1.0	0.982	1.01	98%	101%	2.8%	100%
Nickel	0	1.0	0.949	0.967	95%	97%	1.9%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/18/99	PIF00745	0	0.040	0.0402	0.0419	101%	105%	4%
Thallium	200.9	06/21/99	PIF00745	0	0.020	0.0197	0.0200	99%	100%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/17/99
 Sample #: PIF00745
 Batch #: IF17HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00497	0.00493	99%	99%	0.8%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC was within acceptance limit.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QC DATA REPORT

DATE: 6/15/99
 PIF00874 PIF00874

EPA METHOD
 Instrument: 300
 Matrix: DIONEX-IC
 WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.370	100	96.8	94.8	96%	94%	2.1%	95%
Chloride	90.4	200	267	261	88%	85%	2.3%	87%
Nitrite-N	0.00	30	28.4	27.2	95%	91%	4.3%	93%
Nitrate-N	0.486	90	85.8	83.4	95%	92%	2.8%	93%
OrthoPhos-P	0.00	194	183	177	94%	91%	3.3%	93%
Sulfate	50.6	400	434	422	96%	93%	2.8%	94%
Bromide	0.00	400	370	352	93%	88%	5.0%	90%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $(MS-R1) / SP \times 100$
- PR2..... Percent Recovery of MSD; $(MSD-R1) / SP \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$

Del Mar Analytical

MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Sulfide	0	1.0	0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

R1..... Result of Sample Analysis
 Sp..... Spike Concentration added to sample
 MS..... Matrix Spike Result
 MSD..... Matrix Spike Duplicate Result
 PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
 PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
 RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
 Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: CIF00872
 Batch #: IF22TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
Total Kjeldahl Nitrogen	8.1	10.0	17.0	17.0	89%	89%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/21/99
 Sample #: IF02585
 Batch #: IF21CO1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Total Organic Carbon	0.0	5.0	4.9	4.8	98%	96%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



June 25, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30509

Dear Ms. Rice:

One water sample for Project Number 'PIF00876.QST' was received June 16, 1999, in good condition. Written results are being provided on this June 25, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00876	80177w	06/14/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00876.QST

Sample ID: PIF00876

Sample Collection Date: 6/14/99

ARF: 30509

APPL ID AP80177

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
EPA 8141	Surrogate: Tributylphosphate	81.4	60-150	%	6/17/99	6/22/99
EPA 8141	Surrogate: Triphenylphosphate	89.6	76-140	%	6/17/99	6/22/99

Run #: 57
Instrument: NPD03
Sequence: 990621
Dilution Factor: 1
Initials: RLB

Printed: 6/23/99 1:19:49 PM

EPA 8151 Herbicides

Del Mar Analytical
10 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice
Project: PIF00876.QST
Sample ID: PIF00876
Sample Collection Date: 6/14/99

ARF: 30509
APPL ID AP80177
QCG: \$8151-990618A-17257

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
EPA 8151	Surrogate Recovery	101	61-120	%	6/18/99	6/23/99

Run #: 59
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/24/99 10:10:35 AM

Laboratory Control Spike Recovery

EPA 8141

APPL ID: 990617W-80083 LCS - 17226

Batch ID: \$8141W-990617A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
Diazinon	2.5	1.76	70.4	57-130
Disulfoton	2.5	2.15	86.0	47-117
Ethion	2.5	2.37	94.8	65-134
Methyl Parathion	2.5	3.07	123	55-164
Phorate	2.5	2.51	100 #	22-96
Stirophos	2.5	3.24	130 #	68-128
Surrogate: Tributylphosphate	5.0	4.66	93.2	60-150
Surrogate: Triphenylphosphate	5.0	5.08	102	76-140

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/17/99
Analysis Date :	6/22/99
Instrument :	NPD03
Run :	47
Analyst :	RLB

Matrix Spike Recoveries

EPA 8141

APPL ID: 990617W-80078 MS/MSD - 17232
 Batch ID: S814SM-990617A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	ND	1.88	1.79	75.2	71.6	57-130	4.9	21
Disulfoton	2.5	ND	2.24	2.02	89.6	80.8	47-117	10.3	22
Ethion	2.5	ND	2.45	2.39	98.0	95.6	65-134	2.6	20
Parathion, methyl	2.5	ND	3.19	3.14	128	126	55-164	1.6	24
Phorate	2.5	ND	2.58	2.54	103 #	102 #	22-96	1.6	24
Stirophos	2.5	ND	3.39	3.24	136 #	130 #	68-128	4.6	25
<hr style="border-top: 1px dashed black;"/>									
Surrogate: Tributylphosphate	5.0	NA	4.76	4.63	95.2	92.6	60-150		
Surrogate: Triphenylphosphate	5.0	NA	5.20	5.11	104	102	76-140		

= Recovery is outside QC limits.

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/17/99	6/17/99
Analysis Date :	6/22/99	6/22/99
Instrument :	NPD03	NPD03
Run :	48	49
Analyst :	RLB	

Method Blank

EPA 8141

Blank Name/QCG: 990617W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/17/99	6/22/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Def	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/17/99	6/22/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	EPN	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Malathion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Merphos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/17/99	6/22/99
BLANK	Naled	Not detected	2.5	ug/L	6/17/99	6/22/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Phorate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Prowl	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tepp	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/17/99	6/22/99
BLANK	Surrogate: Tributylphosphate	96.4	60-150	%	6/17/99	6/22/99
BLANK	Surrogate: Triphenylphosphate	110	76-140	%	6/17/99	6/22/99

Run #: 46
Instrument: NPD03
Sequence: 990621
Initials: RLB

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990618W - 17257

Batch ID: S8151-990618A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
BLANK	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Surrogate recovery	105	61-120	%	6/18/99	6/23/99

Run #: 55
Instrument: ECD01
Sequence: 990621
Initials: KW

Printed: 6/24/99 10:16:43 AM

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990618W-80179 LCS/LCSD - 17257

Batch ID: S8151-990618A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.866	0.908	86.6	90.8	53-134	4.7	32
2,4,5-TP	1.00	0.747	0.820	74.7	82.0	60-118	9.3	24
2,4-D	1.00	1.08	1.17	108	117	44-155	8.0	15
Dicamba	1.00	0.891	0.979	89.1	97.9	48-102	9.4	24
Dichlorprop (2,4-DP)	1.00	0.687	0.749	68.7	74.9	37-146	8.6	18
Dinoseb (DNBP)	1.00	1.09	0.834	109	83.4	73-173	26.6	31
Surrogate: 2,4-DCAA	3.00	3.15	3.35	105	112	61-120		

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/18/99	6/18/99
Analysis Date :	6/23/99	6/23/99
Instrument :	ECD01	ECD01
Run :	56	57
Analyst :	KW	



June 30, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2900
Client Project: PIF00876.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 17 degrees C.

This report contains a total of 14 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

16-Jun 09:56 am

Report To: Robyn Rice

Client Project ID: PIF00876.QST

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2900-01A	PIF00876	Methane, Ethane, Ethene		Water	2	14-Jun-1999	16-Jun-1999	30-Jun-1999	28-Jun-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

KB

13

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00876	Client Project ID.	: PIF00876.QST
Lab Sample Number	: 99-2900-01	Lab Work Order	: 99-2900
Date Sampled	: 6/14/99	Dilution Factor	: 1.00
Date Received	: 6/16/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/28/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629009

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 67.4 F	Saturation	Meth	0
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0
Head space created	: 4 ml	in Head Space		
Methane Area	: 0 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
P Reporting Limit.
NA = Not Available/Not Applicable.

Note

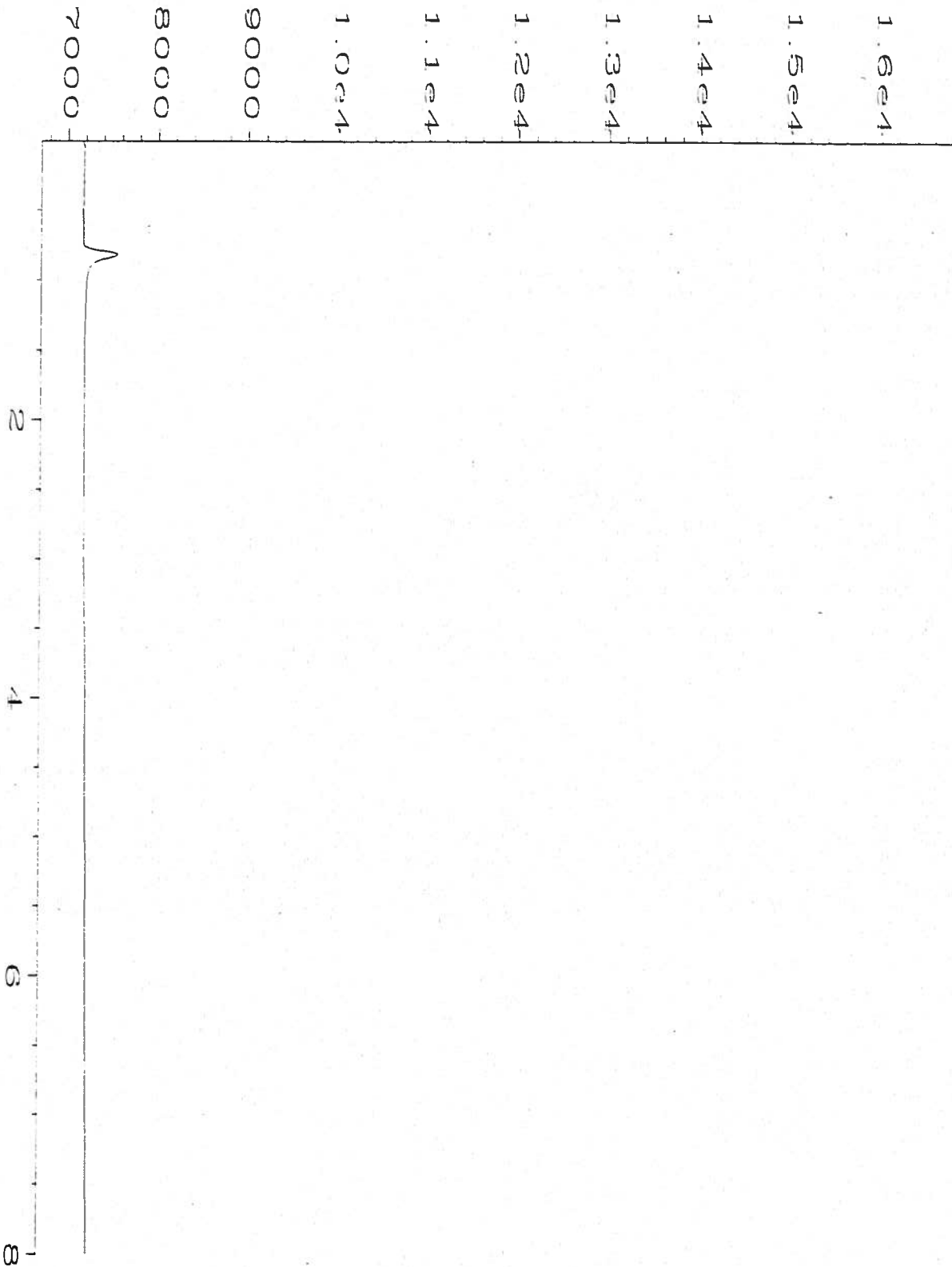
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\009R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 9
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2900-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:50 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:38 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: CAMP METHUEN		

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00876	Client Project ID.	: PIF00876.QST
Lab Sample Number	: 99-2900-01DUP	Lab Work Order	: 99-2900
Date Sampled	: 6/14/99	Dilution Factor	: 1.00
Date Received	: 6/16/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/28/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629010

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 67.4 F	Saturation	Meth	0
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0
Head space created	: 4 ml	in Head Space		
Methane Area	: 0 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- R = Reporting Limit.
- N = Not Available/Not Applicable.

Note

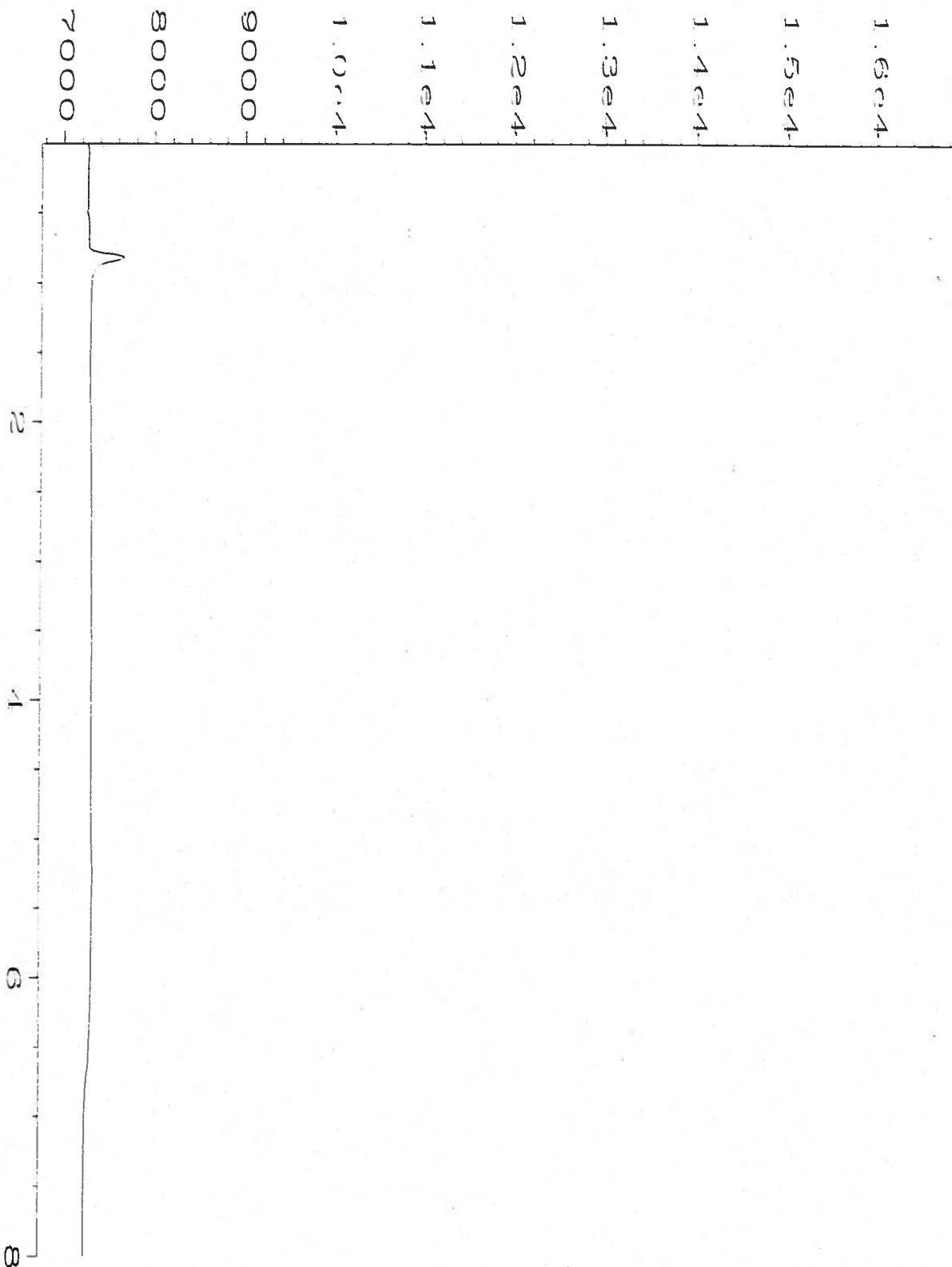
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\010R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 10
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2900-01ADUP	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:59 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:38 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number	: GB062999	Client Project ID.	: PIF00876.QST
Date Extracted/Prepared	: 6/29/99	Lab Work Order	: 99-2900
Date Analyzed	: 6/29/99	Dilution Factor	: 1.00
		Method	: RSKSOP-175
		Matrix	: Water
		Lab File No.	: GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

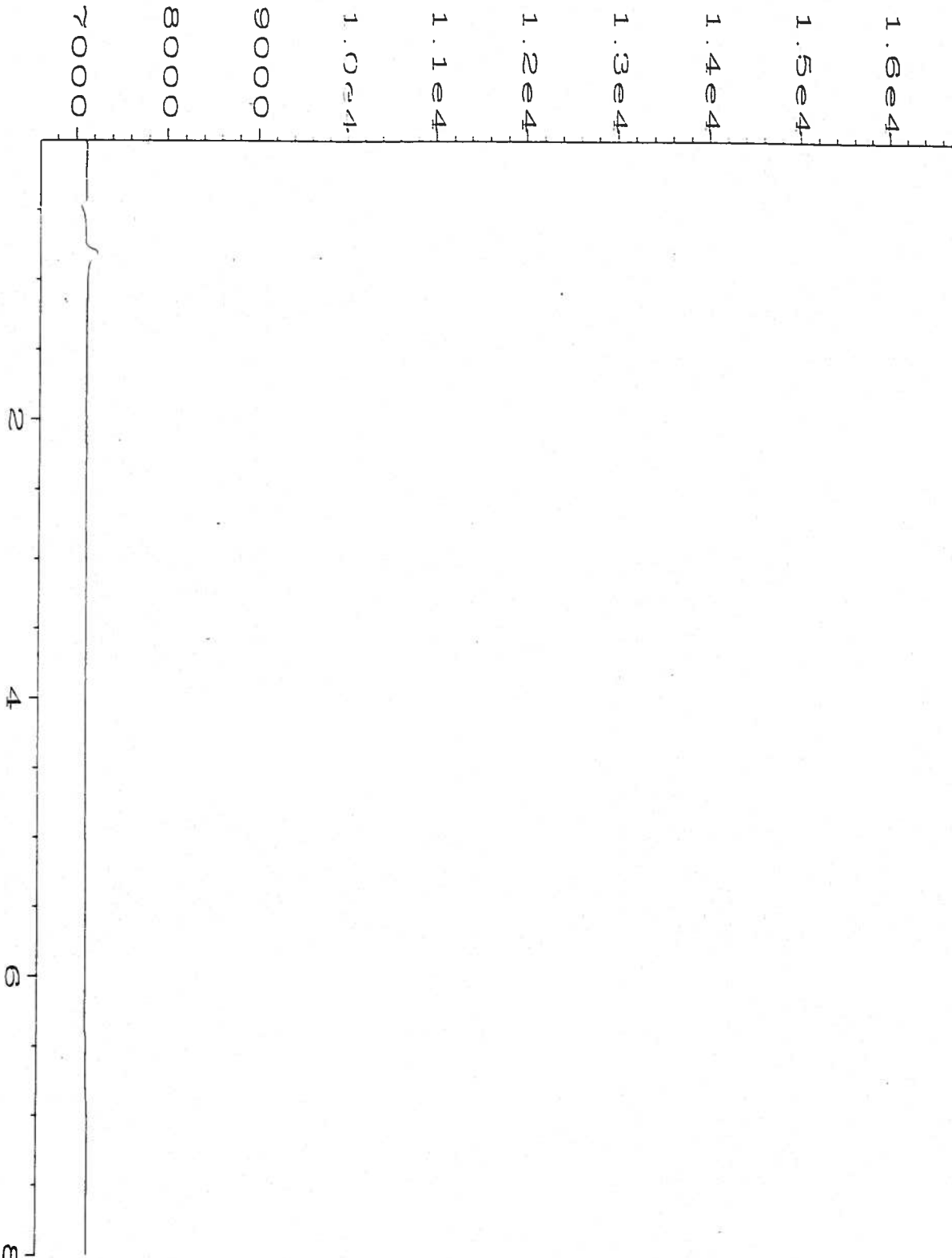
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
R = Reporting Limit.
NA = Not Available/Not Applicable.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D
 Operator : Leanne Hackney Page Number : 1
 Instrument : ALGA Vial Number : 8
 Sample Name : GB062999 Injection Number : 1
 Run Time Bar Code: Sequence Line : 1
 Acquired on : 29 Jun 99 01:28 PM Instrument Method: GAS.MTH
 Report Created on: 30 Jun 99 12:38 PM Analysis Method : GAS0629.MTH
 Last Recalib on : 21 JUN 99 11:25 AM Sample Amount : 0
 Multiplier : 1 ISTD Amount :
 Sample Info : MBLK METHETH
 Displayed as 1 of 10

Evergreen Analytical, Inc.
 4036 Youngfield, Wheat Ridge, CO 80033
 (303) 425-6021

RSK-175M Gas Method
Methane, Ethane, Ethene Gas Matrix Spike / Matrix Spike Duplicate Report

Client Sample No.	: PIF00876	Client Project No.	: PIF00876.QST
Lab Sample No.	: 99-2900-01	Lab Work Order	: 99-2900
Date Sampled	: 6/14/99	EPA Method No.	: RSKSOP-175M
Date Received	: 6/16/99	Matrix	: Water
Date Prepared	: 6/28/99	Method Blank	: GB062999
Date Analyzed	: 6/29/99	Lab File No's.	: GAS0629026,027
E.A. MS/MSD Spike Source No.	: 1719		

Compound	Spike Added (ug)	Sample ** Concentration (ug)	MS Concentration (ug)	MS %REC	QC Limits %REC
Methane Gas	500	0	375	75	47-88
Ethene Gas	500	0	238	48	29-53
Ethane Gas	500	0	344	69	41-77


Compound	Spike Added (ug)	MSD Concentration (ug)	MSD %REC	RPD	QC Limits	
					RPD	%REC
Methane Gas	500	364	73	3.0	0-16.4	47-88
Ethene Gas	500	232	46	2.6	0-26.4	29-53
Ethane Gas	500	336	67	2.4	0-26.3	41-77

RPD: 0 out of (3) outside limits.
 Spike Recovery: 0 out of (6) outside limits.


Notes

* = Values outside of QC limits.
 ** = Sample concentration reported at DF=10.
 NA = Not analyzed/not available

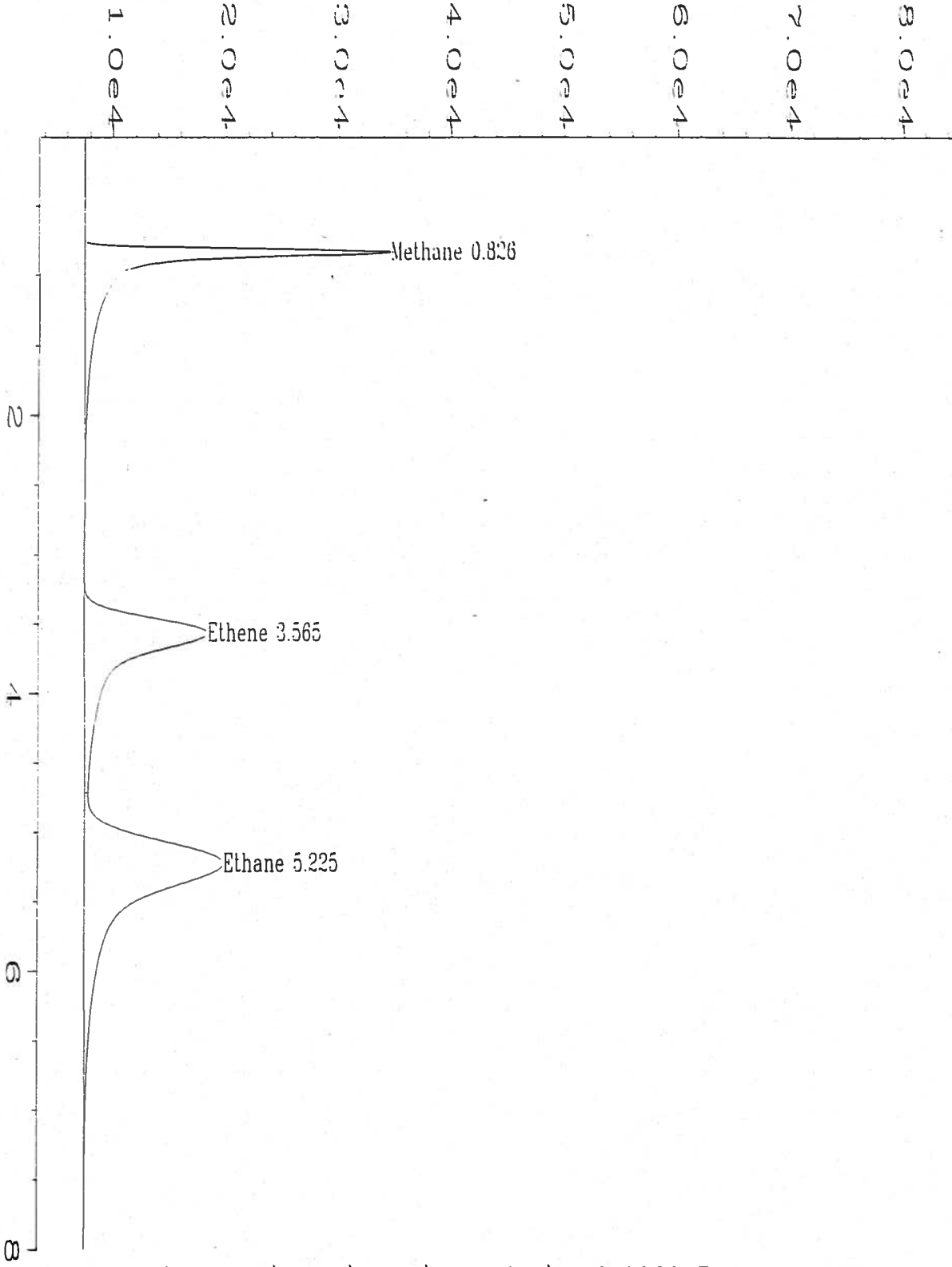
Note: The Spike was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug. Sample injected at DF=10.



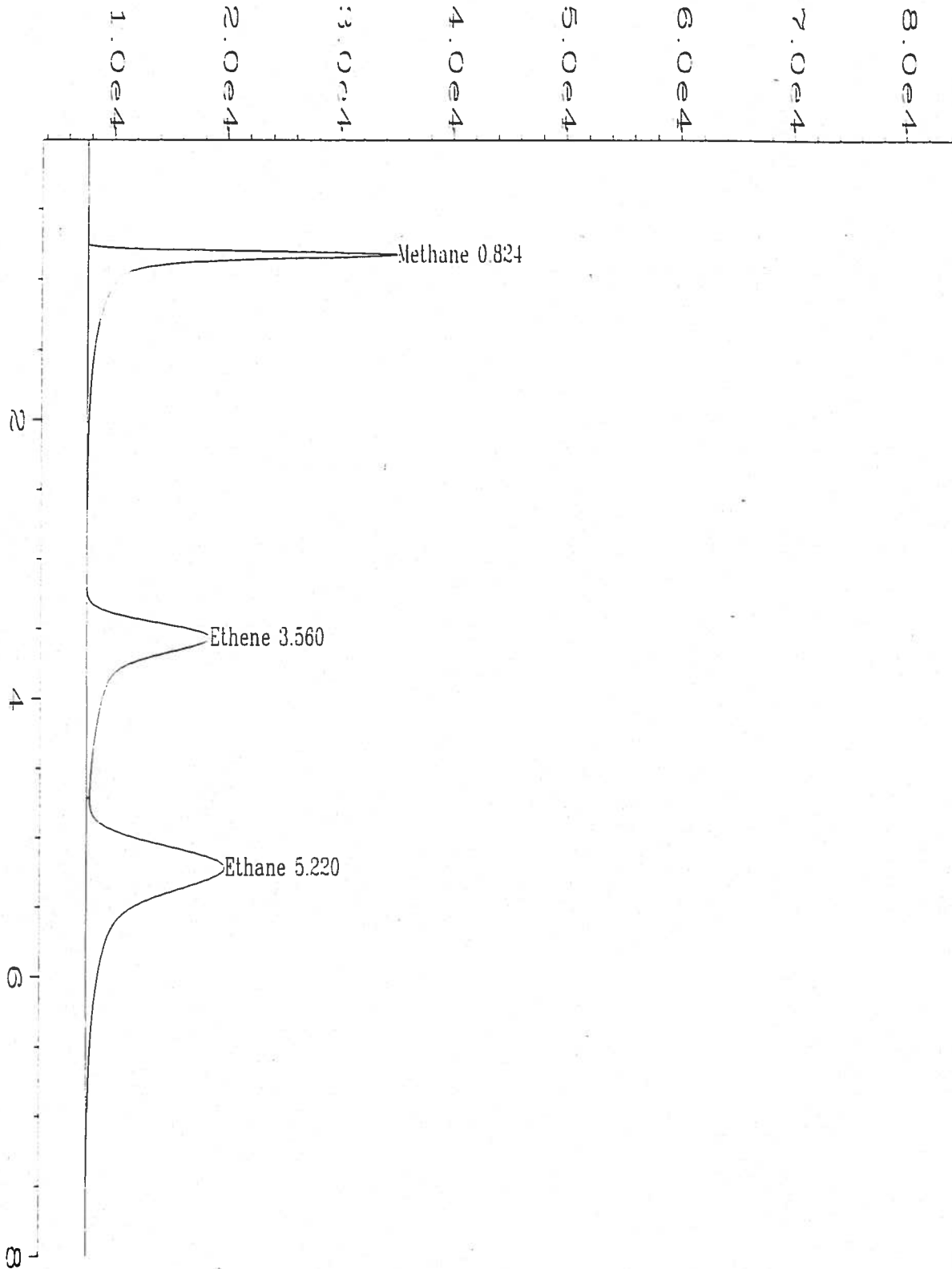
 Analyst



 Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\026R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 26
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2900-01AMS	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 09:06 PM	Analysis Method	: GAS0629..MTH
Report Created on:	30 Jun 99 12:41 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MS METHETH		



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\027R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 27
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2900-01AMSD	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 09:16 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:41 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MCD METHETHY		

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007


Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

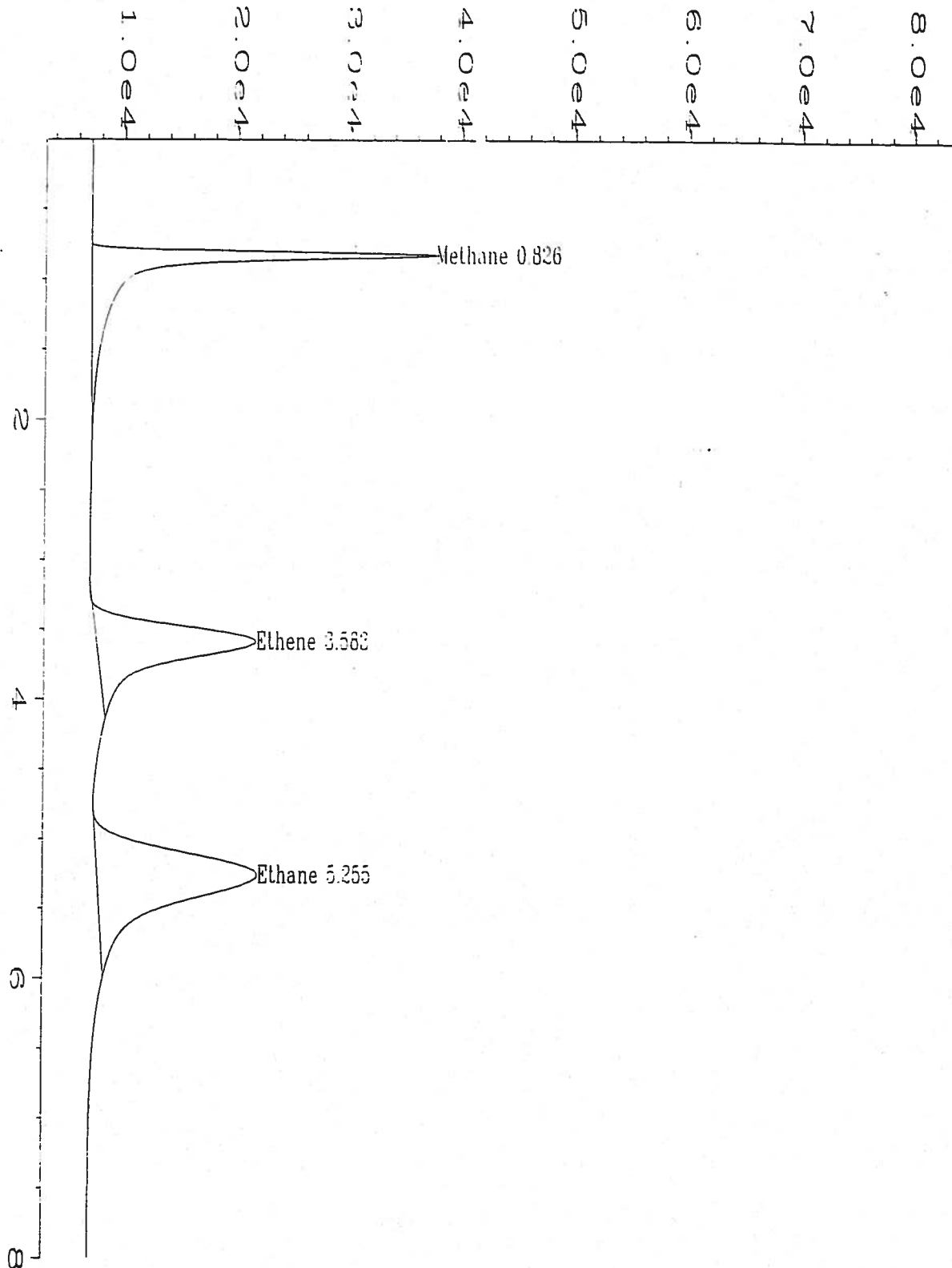
* = Values outside of QC limits.
NA = Not analyzed/not available.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 7
Instrument	: ALGA	Injection Number	: 1
Sample Name	: LCS062999	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:16 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 09:46 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: LCS METHETH		



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/14/99
Date Reported: 07/06/99

Attn: Robyn Rice


Sample Type: Water
Sample Date: 06/14/99
Sample Time: 11:00

Client ID: PIF00876
AC&T Lab No.: BE05759

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	1.3	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

CHAIN OF CUSTODY FORM

Client Name/Address: 257 Environmental Inc.
1280 Alton Ave.
San Diego, CA 92106

Project/PO Number: 10/10/11

Subject Manager: Salim Alsharif

Phone Number: (619) 244-1192

Facsimile: (619) 244-2300

Sampler: M. Barlow

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required										Special Instructions							
						1	2	3	4	5	6	7	8	9	10		11	12					
10-10-11 (10/11/11)	AQ	100ml	2	10/11/11	1100	*																	
	AQ	100ml	1	10/11/11	1100		*																
	AQ	100ml	1	10/11/11	1100			*															
	AQ	100ml	3	10/11/11	1100				*														
	AQ	100ml	1	10/11/11	1100					*													
	AQ	100ml	1	10/11/11	1100						*												
	AQ	100ml	1	10/11/11	1100							*											
	AQ	100ml	1	10/11/11	1100								*										
	AQ	100ml	1	10/11/11	1100									*									
Site Blank	AQ	100ml	1	10/11/11	1100										*								

Relinquished By: <u>[Signature]</u>	Date /Time: <u>10/11/11</u>	Received by: <u>[Signature]</u>	Date /Time: <u>10/11/11</u>	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <u> </u>
Relinquished By: <u>[Signature]</u>	Date /Time: <u>10/11/11</u>	Received by: <u>[Signature]</u>	Date /Time: <u>10/11/11</u>	
Relinquished By: <u>[Signature]</u>	Date /Time: <u>10/11/11</u>	Received in Lab by: <u>[Signature]</u>	Date /Time: <u>10/11/11</u>		Sample Integrity: (Check) intact _____ on ice _____

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote # _____ Page 1 of 2

Client Name/Address: 2571 ... 126 N ... PHOENIX AZ 85008	Project/PO Number: 1561's ...	Analysis Required									
Project Manager: John ...	Phone Number: (602) 244-...	[Faint handwritten notes in analysis columns]									
Supplier: M ...	Fax Number: (602) 244-...										

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Special Instructions									
↓	Air	11	2	1/11/00											
	Air	11	2	1/11/00											
	Air	11	2	1/11/00											
	Air	11	2	1/11/00											
	Air	11	1	1/11/00											

Relinquished By:	Date /Time:	Received by:	Date /Time:	Turnaround Time: (Check)
				same day _____ 72 hours _____
Relinquished By:	Date /Time:	Received by:	Date /Time:	24 hours _____ 5 days _____
				48 hours _____ normal _____
Relinquished By:	Date /Time:	Received in Lab by:	Date /Time:	Sample Integrity: (Check)
				intact _____ on ice _____

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Report Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 16-28, 1999
 Analyzed: Jun 16-28, 1999
 Reported: Jun 30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00940	EW-4-GW- (6-15-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00941	Trip Blank	Water	8260B
PIF00942	EW-22-GW- (6-15-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00943	Trip Blank	Water	8260B

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

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PIF00940.QST <1 of 34>

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 16-28, 1999
 Analyzed: Jun 16-28, 1999
 Reported: Jun 30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF00944	EW-8-GW- (6-15-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF00945	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.


PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: For method 8082, the surrogate recovered low in the method blank, but the individual sample surrogate recoveries are acceptable. The 8270C RPD values for four spiked compounds in the LCS and LCSD are above the current control limits, but individual recoveries are acceptable. All other analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



3852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1220
 1014 E. Coolby Dr., Suite A, Colton, CA 92324 (909) 370-4607 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-1844
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 1830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	54%
Decachlorobiphenyl (30-130).....	65%

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 16825 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-8344 FAX (818) 779-8343
 9484 Chesapeake Dr., Suite 303, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	53%
Decachlorobiphenyl (30-130).....	66%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	56%
Decachlorobiphenyl (30-130).....	70%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	58%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Del Mar Analytical
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)			µg/L (ppb)
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	60%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recovers (Accept Limits):	
Decachlorobiphenyl (30-130).....	63%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-0344 FAX (818) 779-0343
 9484 Chesapeake Dr., Suite 309, San Diego, CA 92123 (619) 405-0596 FAX (619) 405-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	5.3	Vinyl chloride.....	2.0	2.2
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.
 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	100%
Toluene-d8 (75-140).....	97%
4-Bromofluorobenzene (75-135).....	96%

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Del Mar Analytical

2852 Allen Ave., Irvine, CA 92606 (949) 361-1022 FAX (949) 361-1228
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 3484 Chesapeake Dr., Suite 805 San Diego, CA 92123 (619) 525-8996 FAX (619) 525-9689
 9830 South 81st St., Suite B-120 Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

Del Mar Analytical
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00941

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	99%
4-Bromofluorobenzene (75-135).....	97%

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Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	4.8	Vinyl chloride.....	2.0	2.7
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	96%

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Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF00943

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	96%

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Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	84%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	93%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 305-0996 FAX (619) 305-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, Trip Blank
 Lab Number: PIF00945

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	89%
Toluene-d8 (75-140).....	101%
4-Bromofluorobenzene (75-135).....	100%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzydine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	300	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	61%
Phenol-d6 (40-115).....	60%
2,4,6-Tribromophenol (40-140)	90%
Nitrobenzene-d5 (35-120).....	64%
2-Fluorobiphenyl (30-150).....	71%
Terphenyl-d14 (45-150).....	104%



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 955-0043 FAX (480) 955-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	63%
Phenol-d6 (40-115).....	68%
2,4,6-Tribromophenol (40-140)	98%
Nitrobenzene-d5 (35-120).....	72%
2-Fluorobiphenyl (30-150).....	73%
Terphenyl-d14 (45-150).....	107%



Del Mar Analytical

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 9830 South 31st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	83%
Phenol-d6 (40-115).....	80%
2,4,6-Tribromophenol (40-140)	84%
Nitrobenzene-d5 (35-120).....	85%
2-Fluorobiphenyl (30-150).....	84%
Terphenyl-d14 (45-150).....	115%



ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

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 9484 Chesapeake Dr., Suite 809, San Diego, CA 92123 (619) 505-9898 FAX (619) 505-9889
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 21-23, 1999
 Analyzed: Jun 21-23, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/23/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	0.13	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	1.1	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/21/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite 13-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18-21, 1999
 Analyzed: Jun 19-25, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/19/99
Barium.....	EPA 200.7	0.010	0.054	06/18/99	06/19/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/19/99
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	06/19/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/19/99
Iron.....	EPA 200.7	0.50	0.60	06/18/99	06/19/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/19/99
Manganese.....	EPA 200.7	0.050	0.053	06/18/99	06/19/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/19/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 761-1022 FAX (949) 261-1228
 1014 E. Canby Dr., Suite A, Colton, CA 92324 (909) 370-9667 FAX (909) 370-1046
 16525 Sherman Way, Suite C 11, Van Nuys, CA 92406 (818) 770-1944 FAX (818) 770-1943
 4484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 18-21, 1999
 Analyzed: Jun 18-25, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Barium.....	EPA 200.7	0.010	0.016	06/18/99	06/18/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/18/99
Chromium.....	EPA 200.7	0.010	0.092	06/18/99	06/18/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/21/99
Iron.....	EPA 200.7	0.50	1.5	06/18/99	06/18/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/18/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 16525 Sherman Way, Suite C-11, Van Nuys, CA 91408 (818) 779-1344 FAX (818) 779-1144
 9484 Chesapeake Dr., Suite 205, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.13	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	1.1	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

Sample was filtered in the laboratory prior to analysis.
 Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1528
 10147 Cooley Dr., Suite A, Colton, CA 92324 (909) 570-4667 FAX (909) 570-1046
 16625 Sherman Way, Suite C-11, Van Nuys, CA 91416 (818) 779-1844 FAX (818) 779-1843
 1484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite 13-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mierher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.054	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.060	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999

3852 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1728
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 4414 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 405-9998 FAX (619) 405-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.013	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	0.079	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-4-GW-(6-15-99)
 Lab Number: PIF00940

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 16-23, 1999
 Analyzed: Jun 16-23, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	370	N.A.	06/23/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	370	N.A.	06/23/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	51	N.A.	06/16/99
Chloride.....	EPA 300.0	50***	170	N.A.	06/16/99
Nitrate-N.....	EPA 300.0	0.10	4.2	N.A.	06/16/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/16/99
Nitrate/Nitrite-N.....	Calculation	0.10	4.2	N.A.	06/16/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	100	N.A.	06/16/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	1.8	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	1.3	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-22-GW-(6-15-99)
 Lab Number: PIF00942

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 16-23, 1999
 Analyzed: Jun 16-23, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	290	N.A.	06/23/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	290	N.A.	06/23/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	27	N.A.	06/16/99
Chloride.....	EPA 300.0	50***	130	N.A.	06/16/99
Nitrate-N.....	EPA 300.0	0.10	2.1	N.A.	06/16/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/16/99
Nitrate/Nitrite-N.....	Calculation	0.10	2.1	N.A.	06/16/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	5.0***	69	N.A.	06/16/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.2	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	1.6	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-8-GW-(6-15-99)
 Lab Number: PIF00944

Sampled: Jun 15, 1999
 Received: Jun 15, 1999
 Extracted: Jun 16-23, 1999
 Analyzed: Jun 16-23, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	110	N.A.	06/23/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	100	N.A.	06/23/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	N.D.	N.A.	06/16/99
Chloride.....	EPA 300.0	5.0***	98	N.A.	06/16/99
Nitrate-N.....	EPA 300.0	0.10	0.38	N.A.	06/16/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/16/99
Nitrate/Nitrite-N.....	Calculation	0.10	0.38	N.A.	06/16/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	28	N.A.	06/16/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	1.7	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	68%
Decachlorobiphenyl (30-130).....	30%

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PIF00940.QST <27 of 34>



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-1043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit μg/L (ppb)	Sample Result μg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

*See Corrective Action Report.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	25%*

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17, 1999
 Analyzed: Jun 17, 1999
 Reported: Jun 30, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	97%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	79%
Toluene-d8 (75-140).....	87%
4-Bromofluorobenzene (75-135).....	85%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 21, 1999
 Reported: Jun 30, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

 R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	73%
Phenol-d6 (40-115).....	76%
2,4,6-Tribromophenol (40-140)	94%
Nitrobenzene-d5 (35-120).....	88%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	122%

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18-21, 1999
 Analyzed: Jun 18-25, 1999
 Reported: Jun 30, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	Jun 23-24, 1999
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 18-22, 1999
Barium.....	EPA 200.7	0.010	N.D.	06/18/99	Jun 18-22, 1999
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	Jun 18-22, 1999
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	Jun 18-22, 1999
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	Jun 19-22, 1999
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	Jun 18-22, 1999
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 18-22, 1999
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 18-22, 1999
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 18-22, 1999
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	Jun 21-25, 1999

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.R.
 Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	Jun 23-25, 1999

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 16-23, 1999
 Analyzed: Jun 16-23, 1999
 Reported: Jun 30, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/16/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/16/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/16/99
Phosphorus*	EPA 365.3 Mod.	0.050	N.D.	06/18/99	06/18/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/16/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/16/99
Total Kjeldahl Nitrogen**	SM4500-N-O,C	0.50	N.D.	06/23/99	06/23/99
Total Organic Carbon*	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/19/99
 Sample #: LCS/LCSD*
 Batch #: IF18PE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
DDE	0	0.500	0.361	0.336	72%	67%	7%	40	55-125
DDD	0	0.500	0.409	0.359	82%	72%	13%	20	60-130
DDT	0	0.500	0.450	0.389	90%	78%	15%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Method Blank

EPA 8141

Blank Name/QCG: 990621W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
BLANK	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Prowi	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Suffotep	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Surrogate: Tributylphosphate	85.1	60-150	%	6/21/99	6/28/99
BLANK	Surrogate: Triphenylphosphate	87.8	76-140	%	6/21/99	6/28/99

Run #: 93
Instrument: NPD03
Sequence: 990625
Initials: RLB

Laboratory Control Spike Recoveries

EPA 8141

APPL ID 990621W-80233 LCS/LCSD - 17371

Batch ID: \$8141W-990621A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	1.83	2.14	73.2	85.6	57-130	15.6	21
Disulfoton	2.5	2.32	2.85	92.8	114	47-117	20.5	22
Ethion	2.5	2.88	3.31	115	132	65-134	13.9	20
Methyl Parathion	2.5	2.64	3.08	106	123	55-164	15.4	24
Phorate	2.5	2.22	2.65	88.8	106 #	22-96	17.7	24
Stirophos	2.5	2.57	2.84	103	114	68-128	10.0	25
<hr style="border-top: 1px dashed black;"/>								
Surrogate: Tributylphosphate	5.0	5.25	5.96	105	119	60-150		
Surrogate: Triphenylphosphate	5.0	5.34	6.13	107	123	76-140		

= Recovery is outside QC limits.

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/28/99	6/28/99
Instrument :	NPD03	NPD03
Run :	94	95
Analyst :	RLB	--

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990618W - 17257
Batch ID: \$8151-990618A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/23/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/23/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/23/99
BLANK	MCPA	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	MCPP	Not detected	100	ug/L	6/18/99	6/23/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/23/99
BLANK	Surrogate recovery	105	61-120	%	6/18/99	6/23/99

Run #: 55
Instrument: ECD01
Sequence: 990621
Initials: KW

Printed: 6/24/99 10:16:44 AM

Laboratory Control Spike Recoveries
EPA 8151 Herbicides

PL ID: 990618W-80179 LCS/LCSD - 17257
Batch ID: \$8151-990618A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.866	0.908	86.6	90.8	53-134	4.7	32
2,4,5-TP	1.00	0.747	0.820	74.7	82.0	60-118	9.3	24
2,4-D	1.00	1.08	1.17	108	117	44-155	8.0	15
Dicamba	1.00	0.891	0.979	89.1	97.9	48-102	9.4	24
Dichlorprop (2,4-DP)	1.00	0.687	0.749	68.7	74.9	37-146	8.6	18
Dinoseb (DNBP)	1.00	1.09	0.834	109	83.4	73-173	26.6	31

Surrogate: 2,4-DCAA	3.00	3.15	3.35	105	112	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/18/99	6/18/99
Analysis Date :	6/23/99	6/23/99
Instrument :	ECD01	ECD01
Run :	56	57
Analyst :	KW	- -

Matrix Spike Recovery
EPA 8151 Herbicides

PL ID: 990618W-80179 MS - 17257
Batch ID: \$8151-990618A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

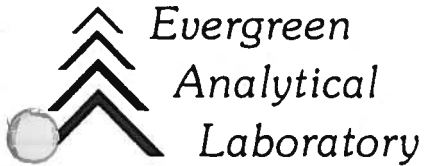
Compound Name	Spike Level ug/L	Matrix Result ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	ND	0.842	84.2	53-134
2,4,5-TP	1.00	ND	0.762	76.2	60-118
2,4-D	1.00	ND	0.983	98.3	44-155
Dicamba	1.00	ND	0.765	76.5	48-102
Dichlorprop (2,4-DP)	1.00	ND	0.577	57.7	37-146
Dinoseb (DNBP)	1.00	ND	0.613	61.3 #	73-173
Surrogate: 2,4-DCAA	3.00	NA	3.38	113	61-120

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/18/99
Analysis Date :	6/23/99
Instrument :	ECD01
Run :	58
Analyst :	KW

Printed: 6/24/99 10:19:58 AM



July 01, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2929
Client Project: PIF00940.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 4 degrees C.

This report contains a total of 11 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "Carl Smits", written over a horizontal line.

for: Carl Smits
V.P. Q.A.

WORK ORDER Summary

17-Jun 09:50 am

Report To: Robyn Rice

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: PIF00940.QST

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2929-01A	PIF00940	Methane, Ethane, Ethene		Water	2	15-Jun-1999	17-Jun-1999	1-Jul-1999	29-Jun-1999
99-2929-02A	PIF00942	Methane, Ethane, Ethene						1-Jul-1999	29-Jun-1999
99-2929-03A	PIF00944	Methane, Ethane, Ethene						1-Jul-1999	29-Jun-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

PHB

2

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00940	Client Project ID.	: PIF00940.QST
Lab Sample Number	: 99-2929-01	Lab Work Order	: 99-2929
Date Sampled	: 6/15/99	Dilution Factor	: 1.00
Date Received	: 6/17/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629013

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.0045	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025


Temperature	: <u>65.9</u> F	Saturation	Meth	: <u>0.001067621</u>
Amount Injected	: <u>0.5</u> ml	Concentration		
Total Volume of Sample	: <u>43</u> ml	Concentration	Meth	: <u>0.003402901</u>
Head space created	: <u>4</u> ml	in Head Space		
Methane Area	: <u>24.827</u> ug	Saturation	Etha	: <u>0</u>
Ethane Area	: <u>0</u> ug	Concentration		
Ethene Area	: <u>0</u> ug	Concentration	Etha	: <u>0</u>
Atomic weight(Methane)	: <u>16</u> g	in Head Space		
Atomic weight(Ethane)	: <u>30</u> g	Saturation	Ethe	: <u>0</u>
Atomic weight(Ethene)	: <u>28</u> g	Concentration		
		Concentration	Ethe	: <u>0</u>
		in Head Space		

Qualifiers


E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
NA = Not Available/Not Applicable.

Note

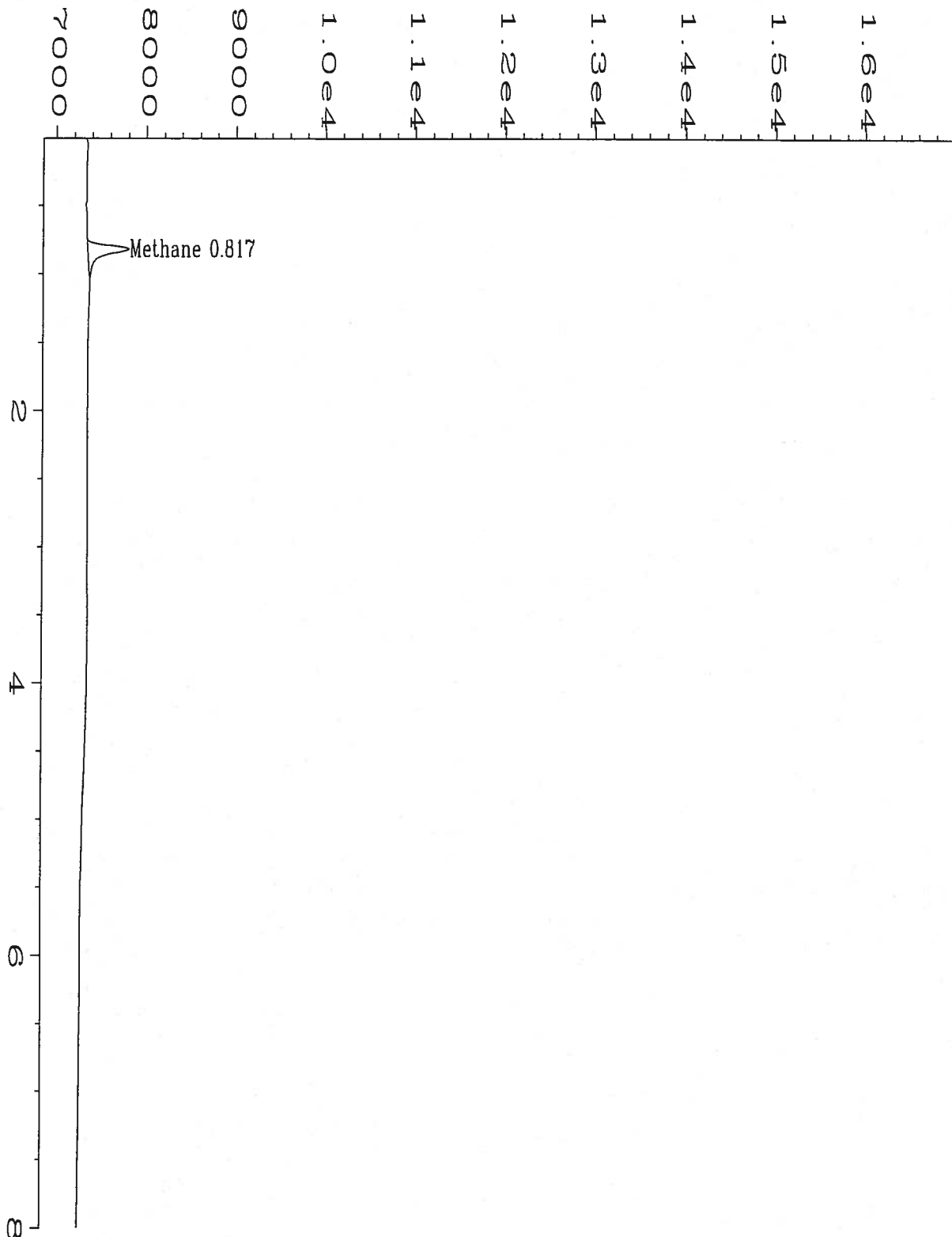
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\013R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 13
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2929-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 02:27 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:39 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	: PIF00940		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00942	Client Project ID.	: PIF00940.QST
Lab Sample Number	: 99-2929-02	Lab Work Order	: 99-2929
Date Sampled	: 6/15/99	Dilution Factor	: 1.00
Date Received	: 6/17/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629014

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 65.3 F	Saturation	Meth	0
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0
Head space created	: 4 ml	in Head Space		
Methane Area	: 0 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 NA = Not Available/Not Applicable.

Note

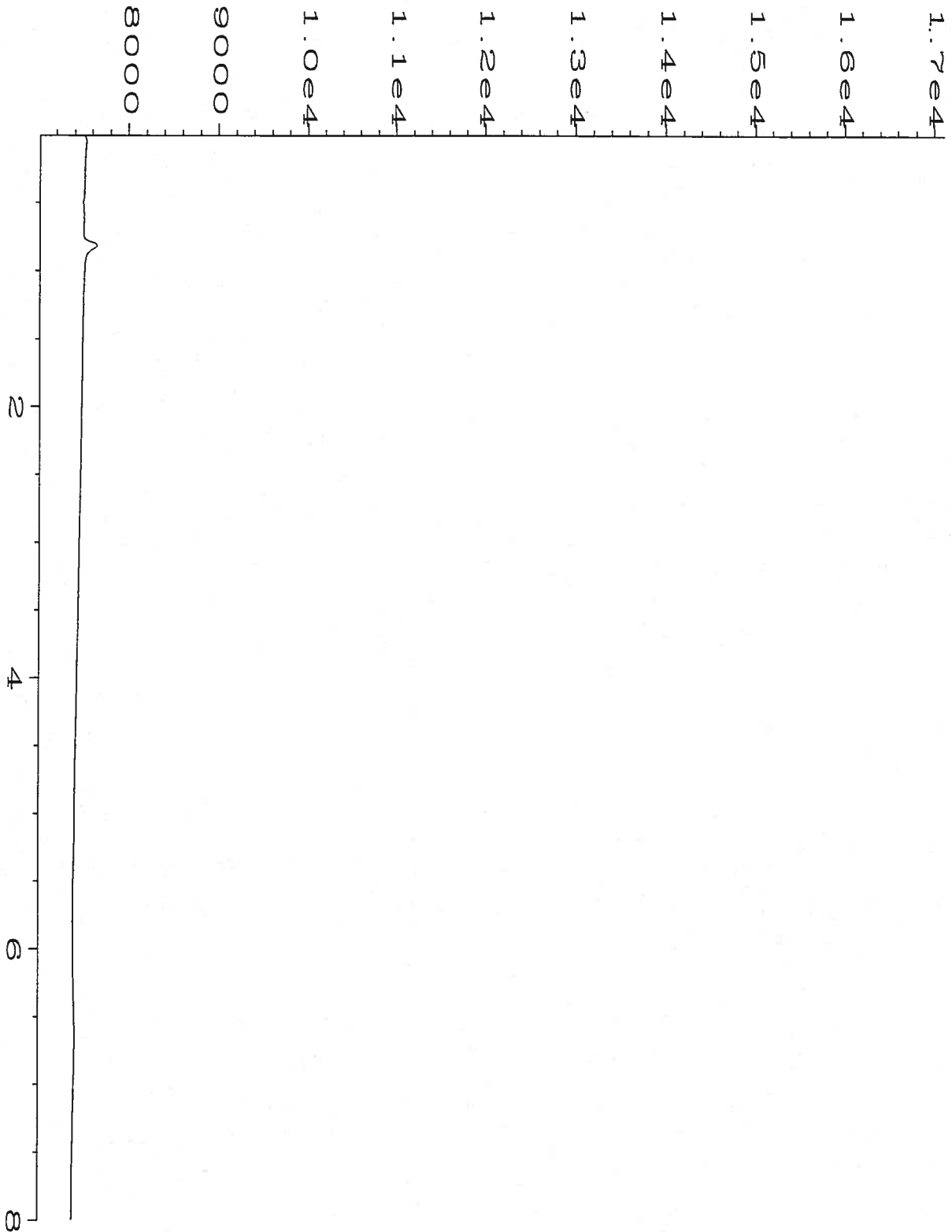
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\014R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 14
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2929-02A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: GAS.MTH
Acquired on	: 29 Jun 99 03:38 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:39 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	: PIF00942		

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF00944	Client Project ID.	: PIF00940.QST
Lab Sample Number	: 99-2929-03	Lab Work Order	: 99-2929
Date Sampled	: 6/15/99	Dilution Factor	: 1.00
Date Received	: 6/17/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629015

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.0052	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025


Temperature	: 65.8 F	Saturation	Meth	0.001242039
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.003959589
Head space created	: 4 ml	in Head Space		
Methane Area	: 28.883 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 NA = Not Available/Not Applicable.

Note

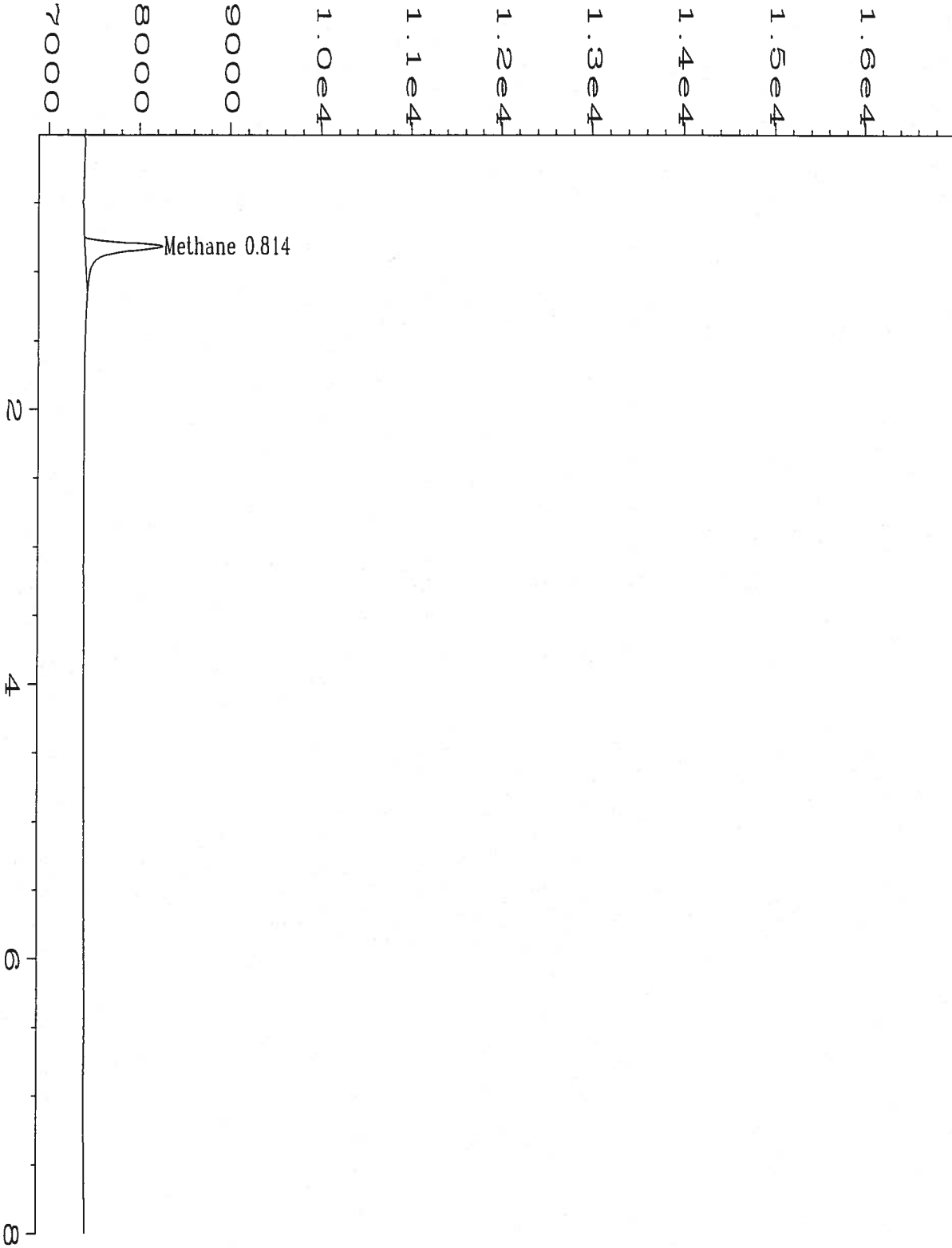
Pressure calculated at sea level.



 Analyst



 Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\015R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 15
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2929-03A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 03:47 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:39 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	: PIF00944		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062999 Client Project ID. : PIF00940.QST
Date Extracted/Prepared : 6/29/99 Lab Work Order : 99-2929
Date Analyzed : 6/29/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

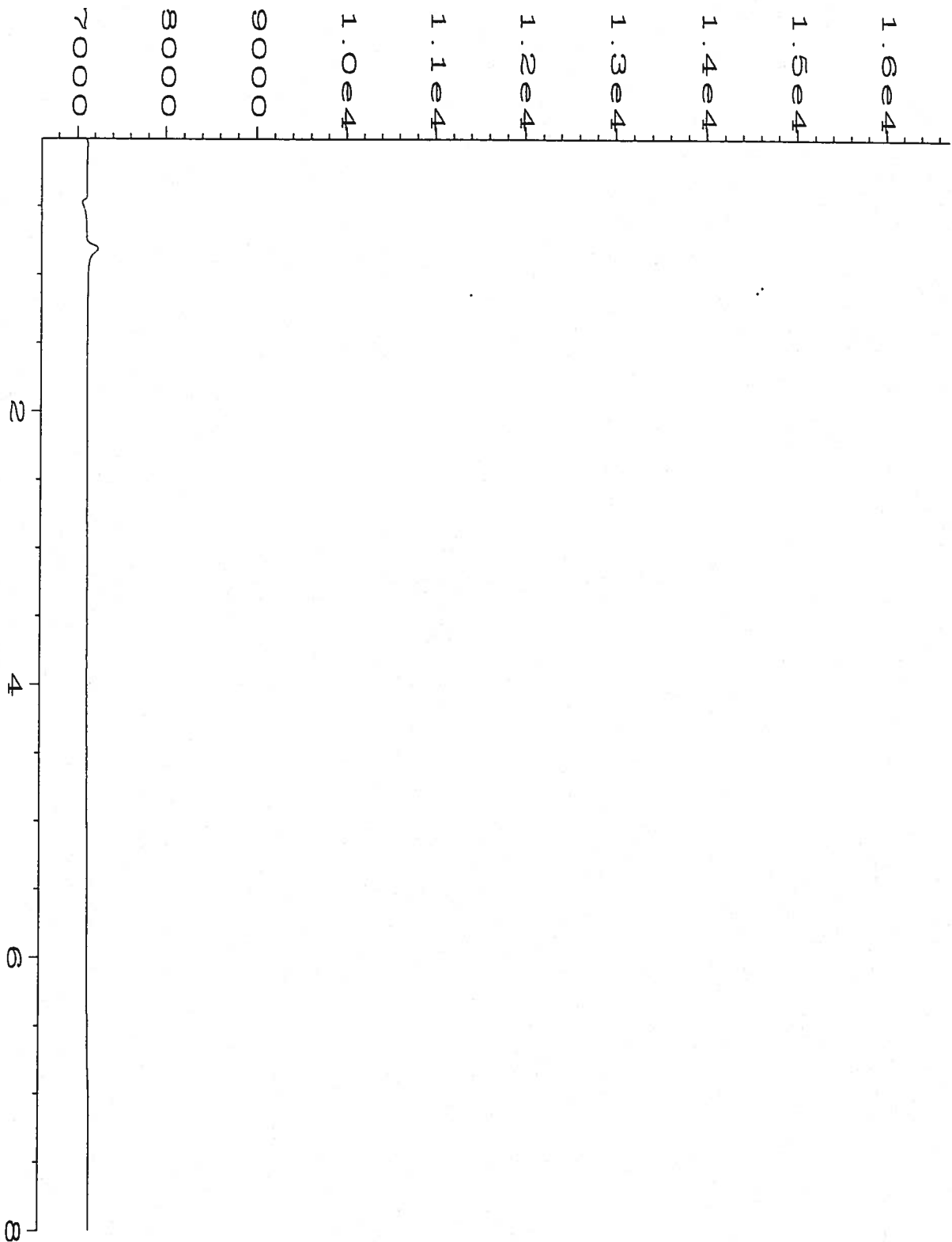
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
NA = Not Available/Not Applicable.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 8
Instrument	: ALGA	Injection Number	: 1
Sample Name	: GB062999	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:28 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:38 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MBLK METHETH		

Displaced 4ml of distilled water in 43ml vial with Helium,

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/16/99
Date Reported: 07/06/99

Attn: Robyn Rice

Sample Type: Water
Sample Date: See C.O.C.
Sample Time: See C.O.C.

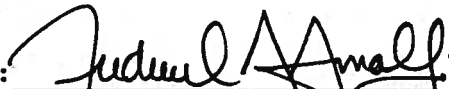
RESULTS

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF00940	BE05946						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	1.3	mg/L		07/01/99	07/01/99		415.1

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF00942	BE05947						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	2.9	mg/L		07/01/99	07/01/99		415.1

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF00944	BE05948						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	0.2	mg/L		07/01/99	07/01/99		415.1

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

CHAIN OF CUSTODY FORM

Quote #: _____ Page 1 of 6

Client Name/Address: QST Environmental Inc 426 N. 44th Street Phoenix, AZ 85008						Project/PO Number: 6671031 Estes Landfill						Analysis Required														
Project Manager: John Michler						Phone Number: (602) 244-1192						MSL Sup (75)	Vocs (E200)	Fac (E15)	Tot Dissolved (A15)	Cation Anion (A15)	4500 (50)	Total Hard (A15)	6010B + II	Mercury 7470 (Total)	Dissolved Metals (6010E)	Mercury 7470 (Dissolved)	Sulfide (B14)	TKNT Total Phosphorus		Special Instructions
Sampler: N. Barlick						Fax Number: (602) 244-9250																				
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives																					
EW-4-GW (UEP)	AQ	clear vial	2	6/15/99	HeCl	X																				
	AQ	clear vial	2	6/17/1040	HeCl		X																			
	AQ	Amber vial	3	6/15/1040	HeCl			X																		
	AQ	Amber vial	3	6/17/1040	HeCl				X																	
	AQ	Sealed Amber	1	6/15/99						X																
	AQ	Sealed Poly	1	6/15/99	HNO ₃								X	X												
	AQ	Sealed Poly	1	6/15/99												X	X									
	AQ	Sealed Poly	1	6/15/99	Zinc + Al + Oil															X						
	AQ	Sealed Poly	1	6/15/99	H ₂ SO ₄																	X				
Trip blank	AQ	clear vial	1		HeCl		X																			

Relinquished By: <u>Matt Luitel</u>	Date /Time: <u>6/15/99 3:50</u>	Received by: <u>[Signature]</u>	Date /Time: <u>[Signature]</u>	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <u>X</u>
Relinquished By: <u>[Signature]</u>	Date /Time: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date /Time: <u>[Signature]</u>	
Relinquished By: _____	Date /Time: _____	Received in Lab by: <u>[Signature]</u>	Date /Time: <u>[Signature]</u>	
Sample Integrity: (Check) intact _____ on ice _____				

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 2 of 6

Client Name/Address: QST Environmental Inc. 426 N. 44th Street Phoenix, AZ 85008	Project/PO Number: 6679031 Estes Landfill	Analysis Required Chlorinated HCB (815) SVOCs (8276) Organochlorine Pesticides (8081) Pesticides (8082) Organophosphorus Pesticides (814) Chlordane etc. Bui. P. Total PCBs Aqueous SIB
-------------------------------------------------------------------------------------------	-------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Project Manager: John Mitchell Sampler: M. Garlick	Phone Number: (602) 244-1192 Fax Number: (602) 244-9280
----------------------------------------------------------	------------------------------------------------------------------

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required										Special Instructions		
						Chlorinated HCB (815)	SVOCs (8276)	Organochlorine Pesticides (8081)	Pesticides (8082)	Organophosphorus Pesticides (814)	Chlordane etc. Bui. P.	Total PCBs	Aqueous SIB					
EW-4-GW-(6/15/99) ↓ ↓ ↓	AQ	Amber	2	6/15/99/1040		X												
	AQ	Amber	2	6/15/99/1040			X											
	AQ	Amber	2	6/15/99/1040				X	X									
	AQ	Amber	2	6/15/99/1040						X								
	AQ	Amber	1	6/15/99/1040							X	X						

Relinquished By: <u>Matthew Garlick</u> Date /Time: <u>6/15/99 3:50</u>	Received by: <u>[Signature]</u> Date /Time: <u>6/15/99</u>	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <input checked="" type="checkbox"/>
Relinquished By: <u>[Signature]</u> Date /Time: <u>6/15/99</u>	Received by: <u>[Signature]</u> Date /Time: <u>6/15/99</u>	Sample Integrity: (Check) intact <input checked="" type="checkbox"/> on ice _____

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 3 of 6

Client Name/Address: QST Environmental Inc. 426 N. 4th Street Phoenix, AZ 85005		Project/PO Number: 6699031 Estes Landfill		Analysis Required													Special Instructions
Project Manager: John Michler		Phone Number: (602) 244-1192		TKN 125	VOCL 0260	TOC (GIS)	TOC Dissolved (AIS)	Cadmium 4500	TTHM 6010 B + I	Mercury 5445 (Total)	Dissolved Pb 6016	Mercury 7175 (Dissolved)	Sulfide (G14)	TKN + Total proteins			
Sampler: M. OARLIK		Fax Number: (602) 244-9280															
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives												
Ew-22-6W (6/15/00)	AQ	Clear Voa	2	6/15/00	Hold	X											
	AQ	Clear Voa	2	6/15/00	Hold		X										
	AQ	Amber Voa	3	6/15/00	Hold			X									
	AQ	Amber Voa	3	6/15/00	Hold				X								
	AQ	500ml Amber	81	6/15/00					X								
	AQ	500ml Amber	1	6/15/00	Hold					X							
	AQ	500ml poly	1	6/15/00							X						
	AQ	500ml poly	1	6/15/00	2.051 NaOH							X					
Trip blank	AQ	500ml poly	1	6/15/00	Hold		X							X			
Relinquished By: Matthew Oarlik		Date /Time: 6/15/00 3:50		Received by: [Signature]		Date /Time: 6/15/00		Turnaround Time: (Check)									
Relinquished By: [Signature]		Date /Time: 6/15/00		Received by: [Signature]		Date /Time: 6/15/00		same day _____ 72 hours _____									
Relinquished By: [Signature]		Date /Time: 6/15/00		Received in Lab by: [Signature]		Date /Time: 6/15/00		24 hours _____ 5 days _____									
Relinquished By: [Signature]		Date /Time: 6/15/00		Received in Lab by: [Signature]		Date /Time: 6/15/00		48 hours _____ normal <input checked="" type="checkbox"/>									
Relinquished By: [Signature]		Date /Time: 6/15/00		Received in Lab by: [Signature]		Date /Time: 6/15/00		Sample Integrity: (Check)									
Relinquished By: [Signature]		Date /Time: 6/15/00		Received in Lab by: [Signature]		Date /Time: 6/15/00		intact <input checked="" type="checkbox"/> on ice <input checked="" type="checkbox"/>									

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 4 of 6

Client Name/Address:
 QST Environmental Inc.
 426 N. 44th Street
 PHX, AZ 85009

Project/PO Number:
 6677031
 ESKS Landfill

Project Manager:
 John Mierha

Phone Number:
 (602) 244-1112

Sampler: M. GAZLICK

Fax Number:
 (602) 244-7228

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Analysis Required										Special Instructions						
						Chromat Metc	SPEC'S	ORGANIC/INORGANIC	PCB'S	ORGANOPHOSPHORUS	PEST.	CHLORIDE, etc.	TOTAL + SIBAR	ALKALINITY								
EW-22-6w-(6/15/77)	AQ	1L Amber	2	4/15/77/0700		X																
	AQ	1L Amber	2	4/15/77/0700			X															
	AQ	1L Amber	2	4/15/77/0700				X	X													
	AQ	1L Amber	2	4/15/77/0700						X												
	AQ	1L poly	1	4/15/77/0700							X	X										

Relinquished By: <u>Matthew E. Dzelick</u> Date /Time: <u>4/15/77 3:50</u>	Received by: <u>[Signature]</u> Date /Time: <u>[Signature]</u>	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <u>X</u>
Relinquished By: <u>[Signature]</u> Date /Time: <u>16/77</u>	Received by: <u>[Signature]</u> Date /Time: <u>[Signature]</u>	Sample Integrity: (Check) intact _____ on ice <u>X</u>
Relinquished By: _____ Date /Time: _____	Received in Lab by: <u>[Signature]</u> Date /Time: <u>16/77</u>	

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days. COC-GB

CHAIN OF CUSTODY FORM

Quote #: _____ Page 5 of 6

Client Name/Address: QST Environmental Inc 426 N 74th Street Phoenix AZ 85008		Project/PO Number: 6097031		Analysis Required												
Project Manager: John Mance		Phone Number: 602 244-1772		RSK SOP (75)	VOCs (8266)	TOC (4151)	TOC (4151) Dissolved	Calcium Oxide 4500 SID	TOTAL METALS (ARISE + EII)	MERCURY (7472) (TOTAL)	DISSOLVED METALS (2010B)	MERCURY (7472) (DISSOLVED)	Sulfide (2146)	TKN + TOTAL Phosphorus	Special Instructions	
Sampler: M Gurlek		Fax Number: (602) 244-7280		Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives							
EW-8-GW (6/15/11)		AQ	Clear Vial	1	6/15/11	1500	HCl		X							
		AQ	Clear Vial	2	6/15/11	1500	HCl		X							
		AQ	Amber Vial	3	6/15/11	1500	HCl		X							
		AQ	Amber Vial	3	6/15/11	1500	HCl		X							
		AQ	200 ml poly	1	6/15/11	1500				X						
		AQ	200 ml poly	1	6/15/11	1500	HNO3			X		X				
		AQ	200 ml poly	1	6/15/11	1500					X	X				
		AQ	200 ml poly	1	6/15/11	1500	H2SO4						X			
Trip blank		AQ	Vial	1	6/15/11	1500	HCl		X							
Relinquished By: <u>Matthew E. Dulek</u>		Date /Time: <u>6/15/11</u>		Received by: <u>[Signature]</u>		Date /Time: <u>[Signature]</u>		Turnaround Time: (Check)								
Relinquished By: _____		Date /Time: _____		Received by: _____		Date /Time: _____		same day _____ 72 hours _____				24 hours _____ 5 days _____				
Relinquished By: _____		Date /Time: _____		Received in Lab by: _____		Date /Time: _____		48 hours _____ normal <u>X</u>				Sample Integrity: (Check)				
								intact _____ on ice _____								

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 6 of 6

Client Name/Address: QST Environmental Inc. 426 N. 44th Street Phoenix, AZ 85008		Project/PO Number: 2699331 Estes Landfill		Analysis Required												
Project Manager: John Minder		Phone Number: (602) 244-1192		SVOCs (20.70) Oil/grease/liquids Pest (2009) PCBs (2018) Organic Compounds Pest. (2017) 2100000000 300 & TOTAL + BICAP Alkalinity 310.1												
Sampler: M. GARLICK		Fax Number: (602) 244-9280														
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	SVOCs (20.70)	Oil/grease/liquids	Pest (2009)	PCBs (2018)	Organic Compounds	Pest. (2017)	2100000000	300 &	TOTAL + BICAP	Alkalinity 310.1	Special Instructions
EW-8-GW-(6/15/17)	ACQ	1L Amber	2	6/15/17/1500		X										
		1L Amber	2	6/15/17/1500		X										
		1L Amber	2	6/15/17/1500			X	X								
		1L Amber	2	6/15/17/1500						X						
		1L Poly	1	6/15/17/1500								X	X			
Relinquished By: <u>Michael J. Garlick</u>		Date /Time: <u>6/15/17</u>		Received by: <u>[Signature]</u>		Date /Time: <u>6/15/17</u>		Turnaround Time: (Check)				same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <u>X</u>				
Relinquished By: <u>[Signature]</u>		Date /Time: <u>6/15/17</u>		Received by: <u>[Signature]</u>		Date /Time: <u>6/15/17</u>		Sample Integrity: (Check)				intact _____ on ice _____				
Relinquished By: _____		Date /Time: _____		Received in Lab by: _____		Date /Time: _____										

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/19/99
 Sample #: LCS/LCSD*
 Batch #: IF18PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	2.96	2.75	74%	69%	7%	≤ 50	60-140%
AR 1260	0	4.0	3.24	3.18	81%	80%	2%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/17/99
 Sample #: PIF00874
 Batch #: IF17011W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD %	PR1/PR2 %
Vinyl Chloride	0.0	25	28.9	28.2	116%	113%	2%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	28.8	27.7	115%	111%	3.9%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	27.1	26.9	108%	108%	0.7%	≤ 20	69-113
Chloroform	0.0	25	27.8	27.7	111%	111%	0.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	28.3	28.4	113%	114%	0.4%	≤ 20	61-122
Benzene	0.0	25	27.1	27.0	108%	108%	0.4%	≤ 20	80-115
Trichloroethene	0.0	25	28.2	28.6	113%	114%	1.4%	≤ 20	60-142
Toluene	0.0	25	27.5	27.5	110%	110%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	28.3	28.3	113%	113%	0.0%	≤ 20	49-155
Chlorobenzene	0.0	25	27.0	27.0	108%	108%	0.0%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/18/99
 Sample #: PIF01090
 Batch #: IF18021W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD %	PR1/PR2 %
Vinyl Chloride	0.0	25	24.0	24.8	96%	99%	3%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	24.0	24.2	96%	97%	0.8%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	24.7	23.6	99%	94%	4.6%	≤ 20	69-113
Chloroform	2.8	25	27.7	26.5	100%	95%	4.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.4	24.7	102%	99%	2.8%	≤ 20	61-122
Benzene	0.0	25	24.4	24.1	98%	96%	1.2%	≤ 20	80-115
Trichloroethene	0.0	25	24.6	24.2	98%	97%	1.6%	≤ 20	60-142
Toluene	0.0	25	24.4	24.4	98%	98%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.3	24.1	97%	96%	0.8%	≤ 20	49-155
Chlorobenzene	0.0	25	23.7	23.8	95%	95%	0.4%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/21/99
 Sample #: LCS/LCSD*
 Batch #: IF18SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	RPD	PR1/PR2
	ppb	ppb	ppb	ppb	%	%	%	%	%
Phenol	0.1	50	33	40	66%	80%	19%	15	40-110
2-Chlorophenol	0.0	50	30	37	60%	74%	21%	15	40-110
1,4-Dichlorobenzene	0.0	50	23	26	46%	52%	12%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	41	44	82%	88%	7%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	28	31	56%	62%	10%	15	45-110
4-Chloro-3-methylphenol	0.0	50	37	43	74%	86%	15%	15	50-115
benaphthene	0.1	50	38	39	76%	78%	3%	15	45-120
2,4-Dinitrotoluene	0.0	50	41	44	82%	88%	7%	15	55-120
4-Nitrophenol	0.0	50	30	34	60%	68%	13%	30	45-120
Pentachlorophenol	0.0	50	33	39	66%	78%	17%	15	50-125
Pyrene	0.1	50	47	50	94%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... The RPD exceeded Del Mar Analytical control limits.
 All QA/QC recoveries, however, were within acceptance limits.



BS/BSD DATA REPORT

METHOD: 200.7
INSTRUMENT: ICP
MATRIX: Water

Date: 6/21/99
Sample #: PIF00940

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.02	1.22	102%	122%	17.9%	112%
Barium	0.129	1.0	0.990	1.21	86%	108%	20.0%	97%
Cadmium	0	1.0	0.881	1.08	88%	108%	20.3%	98%
Chromium	0	1.0	0.875	1.03	88%	103%	16.3%	95%
Copper	0	1.0	0.907	1.10	91%	110%	19.2%	100%
Iron	0	10.0	8.81	10.7	88%	107%	19.4%	98%
Lead	0	1.0	0.853	1.02	85%	102%	17.8%	94%
Manganese	1.09	1.0	1.88	2.30	79%	121%	20.1%	100%
Nickel	0	1.0	0.869	1.06	87%	106%	19.8%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.

Del Mar Analytical (AZ0426)



CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/21/99

Analyte	St	CCV	PR
	ppm	ppm	%
Arsenic	1.0	1.08	108%
Barium	1.0	0.967	97%
Manganese	1.0	0.983	98%

Definition of Terms:

- St. Standard Concentration
- CCV. Continuing Calibration Verification
- PR. Percent Recovery of CCV; $(CCV/St) \times 100$
- Acceptance Limits CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00940	0	0.040	0.0449	0.0458	112%	115%	2%
Antimony	200.9	06/24/99	PIF01296	0	0.040	0.0426	0.0422	107%	106%	1%
Thallium	200.9	06/21/99	PIF00940	0	0.020	0.0211	0.0207	106%	104%	2%
Thallium	200.9	06/23/99	PIF01296	0	0.020	0.0230	0.0227	115%	114%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 7470A
 Matrix: TCLP Extract
 Instrument: N/A

Date: 06/21/99
 Sample #: PIF00961
 Batch #: IF21HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00507	0.00500	101%	100%	1%	≤ 20	85-115%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: PIF01004
 Batch #: IF22HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Mercury	0	0.00500	0.00489	0.00483	98%	97%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limit.



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/28/99
 Sample #: PIF01296

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.03	106%	103%	2.9%	105%
Barium	0	1.0	1.01	1.03	101%	103%	2.0%	102%
Cadmium	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Chromium	0	1.0	0.997	1.00	100%	100%	0.3%	100%
Copper	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Iron	0.564	10.0	10.8	11.0	102%	104%	1.8%	103%
Lead	0	1.0	0.995	1.00	100%	100%	0.5%	100%
Manganese	0	1.0	1.02	1.04	102%	104%	1.9%	103%
Nickel	0	1.0	1.00	1.01	100%	101%	1.0%	101%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/24/99	PIF00411	0	1.0	0.889	0.937	89%	94%	5%
Thallium	200.9	06/25/99	PIF00411	0	1.0	0.957	0.974	96%	97%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
INSTRUMENT: ICP
MATRIX: Water

Date: 6/18/99
Sample #: PIF00411

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	0.909	0.963	91%	96%	5.8%	94%
Barium	0.0636	1.0	0.898	0.960	83%	90%	6.7%	87%
Cadmium	0	1.0	0.850	0.906	85%	91%	6.4%	88%
Chromium	0	1.0	0.861	0.925	86%	93%	7.2%	89%
Copper	0.0637	1.0	0.970	1.02	91%	96%	5.0%	93%
Iron	0.397	10.0	9.14	9.83	87%	94%	7.3%	91%
Lead	0	1.0	0.840	0.891	84%	89%	5.9%	87%
Manganese	0	1.0	0.869	0.916	87%	92%	5.3%	89%
Nickel	0	1.0	0.824	0.884	82%	88%	7.0%	85%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: $\leq 20\%$
 MS/MSD: 70-130%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/18/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.09	106%	109%	2.8%	108%
Barium	0.286	1.0	1.26	1.28	97%	99%	1.6%	98%
Cadmium	0.377	1.0	1.35	1.38	97%	100%	2.2%	99%
Chromium	0.444	1.0	1.44	1.48	100%	104%	2.7%	102%
Iron	4.27	10.0	14.4	14.6	101%	103%	1.4%	102%
Lead	24.4	1.0	25.1	25.6	70%	120%	2.0%	95%
Manganese	0.359	1.0	1.34	1.35	98%	99%	0.7%	99%
Nickel	5.36	1.0	6.29	6.40	93%	104%	1.7%	99%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00751

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Copper	167	1.0	174	176	*	*	1.1%	*

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See LCS for batch validation.



LCS DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

DATE: 6/21/99

Analyte	St	LCS	PR
	ppm	ppm	%
Copper	1.0	0.966	97%

Definition of Terms:

- St. Standard Concentration
- LCS. Standard Result
- PR. Percent Recovery of LCS; $(LCS/St) \times 100$
- Acceptance Limits LCS: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1844 FAX (818) 779-1843
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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QC DATA REPORT

DATE: 6/16/99
 SAMPLE # PIF00917

EPA METHOD
 Instrument:
 Matrix:

300
 DIONEX-IC
 WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.830	100	96.7	91.4	96%	91%	5.6%	93%
Chloride	1040	200	1200	1160	80%	60%	3.4%	70%
Nitrite-N	0.00	30	27.4	25.9	91%	86%	5.6%	89%
Nitrate-N	11.3	90	95.3	88.9	93%	86%	6.9%	90%
OrthoPhos-P	0.00	194	175	166	90%	86%	5.3%	88%
Sulfate	978	400	1340	1290	91%	78%	3.8%	84%
Bromide	9.69	400	375	352	91%	86%	6.3%	88%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; (MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) X 100

Del Mar Analytical

*The MS/MSD recoveries and/or RPD were outside acceptance limits due to sample matrix effects. See LCS for batch validation.



Del Mar Analytical

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 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044

(949) 261-1022 FAX (949) 261-1228
 (909) 370-4667 FAX (909) 370-1046
 (818) 779-1844 FAX (818) 779-1843
 (619) 505-9596 FAX (619) 505-9689
 (480) 785-0043 FAX (480) 785-0851

LCS DATA REPORT

EPA METHOD: IC

DATE: 6/16/99

Analyte	St	R1	PR
	ppm	ppm	%
Fluoride	1.0	0.983	98%
Chloride	2.0	1.88	94%
Nitrite-N	0.30	0.298	99%
Nitrate-N	0.90	0.881	98%
Phosphate	1.94	1.85	95%
Sulfate	4.0	3.95	99%

Definition of Terms:

- Standard Concentration
- R1..... Standard Result
- PR..... Percent Recovery of R1; $(R1/St) \times 100$

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: SM4500-S-C,D
 Matrix: Water
 Instrument: N/A

Date: 06/16/99
 Sample #: PIF00745
 Batch #: IF16ST1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Sulfide	0	1.0	0.927	0.949	93%	95%	2%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits
- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/18/99
 Sample #: IF01356
 Batch #: IF18PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Phosphorus	0	1.00	1.00	0.970	100%	97%	3%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits
- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: IF02514
 Batch #: IF22CO1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Total Organic Carbon	0.0	5.0	4.8	4.8	96%	96%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/23/99
 Sample #: CIF01063
 Batch #: IF23TK2W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Total Kjeldahl Nitrogen	6.7	10.0	16.0	16.0	93%	93%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

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 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

GC CALIBRATION CHECK CRITERIA

Method: 8081A
 Mid-Point: F19 #15

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
D-BHC	1	122
Endrin Ketone	1	117

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result.
 All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result.
 An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



June 30, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30522

Dear Ms. Rice:

Three water samples for Project Number 'PIF00940.QST' were received June 17, 1999, in good condition. Written results are being provided on this June 30, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF00940	80233w	06/15/99
Water	PIF00942	80234w	06/15/99
Water	PIF00944	80235w	06/15/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Del Mar Analytical
830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00940.QST

Sample ID: PIF00940

Sample Collection Date: 6/15/99

ARF: 30522

APPL ID AP80233

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/29/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/29/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Surrogate: Tributylphosphate	95.0	60-150	%	6/21/99	6/29/99
EPA 8141	Surrogate: Triphenylphosphate	96.4	76-140	%	6/21/99	6/29/99

Run #: 106
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

Printed: 6/29/99 10:14:27 AM

EPA 8141

Del Mar Analytical
830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF00940.QST

Sample ID: PIF00942

Sample Collection Date: 6/15/99

ARF: 30522

APPL ID AP80234

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/29/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/29/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Surrogate: Tributylphosphate	94.2	60-150	%	6/21/99	6/29/99
EPA 8141	Surrogate: Triphenylphosphate	98.9	76-140	%	6/21/99	6/29/99

Run #: 107
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

Printed: 6/29/99 10:14:27 AM

EPA 8141

Del Mar Analytical
830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice
Project: PIF00940.QST

ARF: 30522

Sample ID: PIF00944

APPL ID AP80235

Sample Collection Date: 6/15/99

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/29/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/29/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Surrogate: Tributylphosphate	83.3	60-150	%	6/21/99	6/29/99
EPA 8141	Surrogate: Triphenylphosphate	85.9	76-140	%	6/21/99	6/29/99

Run # 108
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

Printed: 6/29/99 10:14:27 AM

EPA 8151 Herbicides

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

Attn: Robyn Rice
Project: PIF00940.QST
Sample ID: PIF00940
Sample Collection Date: 6/15/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 30522
APPL ID AP80233
QCG: \$8151-990618A-17257

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/24/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Surrogate Recovery	100	61-120	%	6/18/99	6/24/99

Run #: 66
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/24/99 10:10:36 AM

EPA 8151 Herbicides

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice
Project: PIF00940.QST
Sample ID: PIF00942
Sample Collection Date: 6/15/99

ARF: 30522
APPL ID AP80234
QCG: \$8151-990618A-17257

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/24/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Surrogate Recovery	94.7	61-120	%	6/18/99	6/24/99

Run #: 67
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/24/99 10:10:36 AM

EPA 8151 Herbicides

Del Mar Analytical
330 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice
Project: PIF00940.QST
Sample ID: PIF00944
Sample Collection Date: 6/15/99

ARF: 30522
APPL ID AP80235
QCG: \$8151-990618A-17257

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/18/99	6/24/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/18/99	6/24/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/18/99	6/24/99
EPA 8151	MCPA	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	MCPP	Not detected	100	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/18/99	6/24/99
EPA 8151	Surrogate Recovery	94.4	61-120	%	6/18/99	6/24/99

Run #: 68
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/24/99 10:10:36 AM



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 16-28, 1999
 Analyzed: Jun 16-28, 1999
 Reported: Jun 29-30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF01002	EW-5-GW- (6-16-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01003	Trip Blank	Water	8260B
PIF01004	EW-30-GW- (6-16-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01005	Trip Blank	Water	8260B

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

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PIF01002.QST <1 of 33>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 16-28, 1999
 Analyzed: Jun 16-28, 1999
 Reported: Jun 29-30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF01006	EW-31-GW- (6-16-99)	Water	8151. 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01007	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

RR
 Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	65%
Decachlorobiphenyl (30-130).....	88%

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999

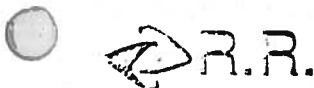
ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	81%
Decachlorobiphenyl (30-130).....	45%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 26, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	59%
Decachlorobiphenyl (30-130).....	110%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (800) 735-0043 FAX (480) 735-0851

ST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	90%

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 4444 Chesapeake Dr., Suite 605 San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 3930 South 19th St., Suite 1120 Phoenix, AZ 85034 (480) 935-0043 FAX (480) 935-0851

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	41%

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 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 405-0506 FAX (619) 505-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

Surrogate Standard Recovers (Accept Limits):	
Decachlorobiphenyl (30-130).....	88%

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 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	2.5	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	26	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	26	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	120	Vinyl chloride.....	10	230(D)
trans-1,2-Dichloroethene.....	2.0	2.9	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

D= Analytes reported as N.D. were not present at or above the reporting limit. Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	82%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	93%

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, Trip Blank
 Lab Number: PIF01003

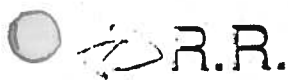
Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	83%
Toluene-d8 (75-140).....	93%
4-Bromofluorobenzene (75-135).....	89%

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QST Environmental
 126 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

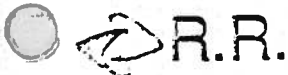
Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	5.2	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	4.1	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	4.0	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	85%
Toluene-d8 (75-140).....	99%
4-Bromofluorobenzene (75-135).....	96%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF01005

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	92%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	92%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	2.5	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene....	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	22	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	25	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	110	Vinyl chloride.....	10	270(D)
trans-1,2-Dichloroethene.....	2.0	2.7	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

D= Analytes reported as N.D. were not present at or above the reporting limit. Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	90%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	91%

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PIF01002.QST <13 of 33>



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 9830 South 31st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 785-0851

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, Trip Blank
 Lab Number: PIF01007

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	93%
Toluene-d8 (75-140).....	94%
4-Bromofluorobenzene (75-135).....	92%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene..	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine..	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	21	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	66%
Phenol-d6 (40-115).....	67%
2,4,6-Tribromophenol (40-140)	94%
Nitrobenzene-d5 (35-120).....	72%
2-Fluorobiphenyl (30-150).....	82%
Terphenyl-d14 (45-150).....	101%

AT Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	62%
Phenol-d6 (40-115).....	63%
2,4,6-Tribromophenol (40-140)	83%
Nitrobenzene-d5 (35-120).....	69%
2-Fluorobiphenyl (30-150).....	75%
Terphenyl-d14 (45-150).....	107%



Robyn Rice
 Project Manager

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzenidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene..	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine..	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	22	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	60%
Phenol-d6 (40-115).....	63%
2,4,6-Tribromophenol (40-140)	95%
Nitrobenzene-d5 (35-120).....	70%
2-Fluorobiphenyl (30-150).....	79%
Terphenyl-d14 (45-150).....	113%



Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 3484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 525-9596 FAX (619) 505-9609
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 21-24, 1999
 Analyzed: Jun 21-24, 1999
 Reported: Jun 29, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	0.61	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	3.3	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/21/99	06/21/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager



2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Colton Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 18525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 4484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 405-9596 FAX (619) 405-9889
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 29, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF01002.QST <19 of 33>



2852 Altan Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 16528 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 3484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9690
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 29, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	0.61	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	3.3	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16526 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-4889
 9850 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 29, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.61	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	0.029	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	3.4	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 29, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 29, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.61	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	3.3	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-5-GW-(6-16-99)
 Lab Number: PIF01002

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 16-25, 1999
 Analyzed: Jun 16-25, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	430	N.A.	06/23/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	430	N.A.	06/23/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	55	N.A.	06/16/99
Chloride.....	EPA 300.0	50***	140	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/17/99
Nitrate/Nitrite-N.....	Calculation	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	70	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	6.7	06/23/99	06/23/99
Total Organic Carbon*.....	EPA 415.1	1.0	4.2	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-30-GW-(6-16-99)
 Lab Number: PIF01004

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 16-28, 1999
 Analyzed: Jun 16-28, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO ₃).....	SM2320B	5.0	N.D.	N.A.	06/24/99
Bicarbonate Alkalinity (CaCO ₃)...	SM2320B	5.0	N.D.	N.A.	06/24/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	1.6	N.A.	06/16/99
Chloride.....	EPA 300.0	0.50	3.1	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrate/Nitrite-N.....	Calculation	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**	SM4500-N-O,C	0.50	3.4	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-31-GW-(6-16-99)
 Lab Number: PIF01006

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 16-28, 1999
 Analyzed: Jun 16-28, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO ₃).....	SM2320B	5.0	430	N.A.	06/23/99
Bicarbonate Alkalinity (CaCO ₃)...	SM2320B	5.0	430	N.A.	06/23/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	95	N.A.	06/16/99
Chloride.....	EPA 300.0	50***	150	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/17/99
Nitrate/Nitrite-N.....	Calculation	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	69	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	9.5	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	4.3	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	74%
Decachlorobiphenyl (30-130).....	54%

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	57%

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ST Environmental
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 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

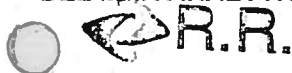
Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	79%
Toluene-d8 (75-140).....	87%
4-Bromofluorobenzene (75-135).....	85%

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	70%
Phenol-d6 (40-115).....	75%
2,4,6-Tribromophenol (40-140)	89%
Nitrobenzene-d5 (35-120).....	74%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	110%



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 29, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	Jun 21-22, 1999	Jun 21-22, 1999
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

ST Environmental
 126 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 29, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 17-28, 1999
 Analyzed: Jun 17-28, 1999
 Reported: Jun 30, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	Jun 23-28, 1999	Jun 23-28, 1999
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/25/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.351	0.426	70%	85%	19%	40	55-125
DDD	0	0.500	0.392	0.471	78%	94%	18%	20	60-130
DDT	0	0.500	0.390	0.494	78%	99%	24%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/23/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	2.38	2.42	60%	61%	2%	≤ 50	60-140%
AR 1260	0	4.0	3.24	3.26	81%	82%	1%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/18/99
 Sample #: PIF01090
 Batch #: IF18021W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	24.0	24.8	96%	99%	3%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	24.0	24.2	96%	97%	0.8%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	24.7	23.6	99%	94%	4.6%	≤ 20	69-113
Chloroform	2.8	25	27.7	26.5	100%	95%	4.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.4	24.7	102%	99%	2.8%	≤ 20	61-122
Benzene	0.0	25	24.4	24.1	98%	96%	1.2%	≤ 20	80-115
Trichloroethene	0.0	25	24.6	24.2	98%	97%	1.6%	≤ 20	60-142
Toluene	0.0	25	24.4	24.4	98%	98%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.3	24.1	97%	96%	0.8%	≤ 20	49-155
Chlorobenzene	0.0	25	23.7	23.8	95%	95%	0.4%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/24/99
 Sample #: LCS/LCSD*
 Batch #: IF21SE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
Phenol	0.0	50	36	36	72%	72%	0%	15	40-110
2-Chlorophenol	0.0	50	38	39	76%	78%	3%	15	40-110
1,4-Dichlorobenzene	0.0	50	29	29	58%	58%	0%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	43	43	86%	86%	0%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	31	30	62%	60%	3%	15	45-110
4-Chloro-3-methylphenol	0.0	50	45	43	90%	86%	5%	15	50-115
acenaphthene	0.0	50	44	42	88%	84%	5%	15	45-120
2,4-Dinitrotoluene	0.0	50	50	47	100%	94%	6%	15	55-120
4-Nitrophenol	0.1	50	40	38	80%	76%	5%	30	45-120
Pentachlorophenol	0.0	50	51	52	102%	104%	2%	15	50-125
Pyrene	0.0	50	53	50	106%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)

This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00940

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.02	1.22	102%	122%	17.9%	112%
Barium	0.129	1.0	0.990	1.21	86%	108%	20.0%	97%
Cadmium	0	1.0	0.881	1.08	88%	108%	20.3%	98%
Chromium	0	1.0	0.875	1.03	88%	103%	16.3%	95%
Copper	0	1.0	0.907	1.10	91%	110%	19.2%	100%
Iron	0	10.0	8.81	10.7	88%	107%	19.4%	98%
Lead	0	1.0	0.853	1.02	85%	102%	17.8%	94%
Manganese	1.09	1.0	1.88	2.30	79%	121%	20.1%	100%
Nickel	0	1.0	0.869	1.06	87%	106%	19.8%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: $< \text{ or } = 20\%$
 MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.

Del Mar Analytical (AZ0426)



CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/21/99

<u>Analyte</u>	<u>St</u>	<u>CCV</u>	<u>PR</u>
	ppm	ppm	%
Arsenic	1.0	1.08	108%
Barium	1.0	0.967	97%
Manganese	1.0	0.983	98%

Definition of Terms:

St. Standard Concentration

CCV. Continuing Calibration Verification

PR. Percent Recovery of CCV; $(CCV/St) \times 100$

Acceptance Limits CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/28/99
 Sample #: PIF01296

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.03	106%	103%	2.9%	105%
Barium	0	1.0	1.01	1.03	101%	103%	2.0%	102%
Cadmium	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Chromium	0	1.0	0.997	1.00	100%	100%	0.3%	100%
Copper	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Iron	0.564	10.0	10.8	11.0	102%	104%	1.8%	103%
Lead	0	1.0	0.995	1.00	100%	100%	0.5%	100%
Manganese	0	1.0	1.02	1.04	102%	104%	1.9%	103%
Nickel	0	1.0	1.00	1.01	100%	101%	1.0%	101%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00940	0	0.040	0.0449	0.0458	112%	115%	2%
Antimony	200.9	06/24/99	PIF01296	0	0.040	0.0426	0.0422	107%	106%	1%
Thallium	200.9	06/21/99	PIF00940	0	0.020	0.0211	0.0207	106%	104%	2%
Thallium	200.9	06/23/99	PIF01296	0	0.020	0.0230	0.0227	115%	114%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 7470A
 Matrix: TCLP Extract
 Instrument: N/A

Date: 06/21/99
 Sample #: PIF00961
 Batch #: IF21HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00507	0.00500	101%	100%	1%	≤ 20	85-115%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: PIF01004
 Batch #: IF22HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00489	0.00483	98%	97%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limit.



QC DATA REPORT

DATE: 6/17/99
 SAMPLE # PIF01076

EPA METHOD
 Instrument:
 Matrix: 300
 DIONEX-IC
 WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.561	100	91.6	87.8	91%	87%	4.2%	89%
Chloride	4.12	200	177	168	86%	82%	5.2%	84%
Nitrite-N	0.175	30	26.6	25.9	88%	86%	2.7%	87%
Nitrate-N	0.365	90	81.8	76.9	90%	85%	6.2%	88%
OrthoPhos-P	0.00	194	170	163	88%	84%	4.2%	86%
Sulfate	23.7	400	386	364	91%	85%	5.9%	88%
Bromide	0.00	400	346	328	87%	82%	5.3%	84%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2)) X 100

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/25/99
 Sample #: IF02515
 Batch #: IF25PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Phosphorus	0	1.0	0.809	0.809	81%	81%	0%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/23/99
 Sample #: CIF01063
 Batch #: IF23TK2W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Kjeldahl Nitrogen	6.7	10.0	16.0	16.0	93%	93%	0%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/28/99
 Sample #: CIF01323
 Batch #: IF28TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Kjeldahl Nitrogen	2.2	10.0	11.0	12.0	88%	98%	9%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

LCS DATA REPORT

EPA METHOD: SM 4500-S-C,D

DATE: 6/21/99

Analyte	St	R1	PR
	ppm	ppm	%
Sulfide	1.0	1.15	115%

Definition of Terms:

- St. Standard Concentration
- R1..... Standard Result
- PR..... Percent Recovery of R1; (R1/St) X 100

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: IF02514
 Batch #: IF22CO1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.0	5.0	4.8	4.8	96%	96%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



June 30, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30532

Dear Ms. Rice:

Three water samples for Project Number 'PIF01002.QST' were received June 18, 1999, in good condition. Written results are being provided on this June 30, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF01002	80277w	06/16/99
Water	PIF01004	80278w	06/16/99
Water	PIF01006	80279w	06/16/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01002.QST

Sample ID: PIF01002

Sample Collection Date: 6/16/99

ARF: 30532

APPL ID AP80277

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Surrogate: Tributylphosphate	106	60-150	%	6/21/99	6/28/99
EPA 8141	Surrogate: Triphenylphosphate	108	76-140	%	6/21/99	6/28/99

Run #: 96
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

Printed: 6/29/99 10:14:27 AM

EPA 8141

Del Mar Analytical
830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01002.QST

Sample ID: PIF01004

Sample Collection Date: 6/16/99

ARF: 30532

APPL ID AP80278

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Prowi	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Surrogate: Tributylphosphate	102	60-150	%	6/21/99	6/28/99
EPA 8141	Surrogate: Triphenylphosphate	106	76-140	%	6/21/99	6/28/99

Run # 97
Instrument: NPD03
Sequence 990625
Dilution Factor: 1
Initials: RLB

EPA 8151 Herbicides

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

Attn: Robyn Rice
Project: PIF01002.QST
Sample ID: PIF01002
Sample Collection Date: 6/16/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 30532
APPL ID AP80277
QCG: \$8151-990621A-17380

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/21/99	6/25/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/21/99	6/25/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/25/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/21/99	6/25/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/25/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/25/99
EPA 8151	MCPA	Not detected	100	ug/L	6/21/99	6/25/99
EPA 8151	MCPP	Not detected	100	ug/L	6/21/99	6/25/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/25/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/25/99
EPA 8151	Surrogate Recovery	104	61-120	%	6/21/99	6/25/99

Run #: 105
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/29/99 1:02:18 PM

EPA 8151 Herbicides

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

Attn: Robyn Rice
Project: PIF01002.QST
Sample ID: PIF01004
Sample Collection Date: 6/16/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 30532
APPL ID AP80278
QCG: \$8151-990621A-17380

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/21/99	6/25/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/21/99	6/25/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/25/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/21/99	6/25/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/25/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/25/99
EPA 8151	MCPA	Not detected	100	ug/L	6/21/99	6/25/99
EPA 8151	MCPP	Not detected	100	ug/L	6/21/99	6/25/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/25/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/25/99
EPA 8151	Surrogate Recovery	108	61-120	%	6/21/99	6/25/99

Run #: 106
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/29/99 1:02:18 PM

EPA 8151 Herbicides

Del Mar Analytical
30 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01002.QST

Sample ID: PIF01006

Sample Collection Date: 6/16/99

ARF: 30532

APPL ID AP80279

QCG: \$8151-990621A-17380

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/28/99
EPA 8151	MCPA	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	MCPP	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Surrogate Recovery	103	61-120	%	6/21/99	6/28/99

Run #: 110
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/29/99 1:02:18 PM

Method Blank
EPA 8141

Blank Name/QCG: 990621W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
BLANK	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Prowl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Surrogate: Tributylphosphate	85.1	60-150	%	6/21/99	6/28/99
BLANK	Surrogate: Triphenylphosphate	87.8	76-140	%	6/21/99	6/28/99

Run #: 93
Instrument: NPD03
Sequence: 990625
Initials: RLB

Laboratory Control Spike Recoveries

EPA 8141

APPL ID 990621W-80233 LCS/LCSD - 17371

Batch ID: S8141W-990621A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	1.83	2.14	73.2	85.6	57-130	15.6	21
Disulfoton	2.5	2.32	2.85	92.8	114	47-117	20.5	22
Ethion	2.5	2.88	3.31	115	132	65-134	13.9	20
Methyl Parathion	2.5	2.64	3.08	106	123	55-164	15.4	24
Phorate	2.5	2.22	2.65	88.8	106 #	22-96	17.7	24
Stirophos	2.5	2.57	2.84	103	114	68-128	10.0	25

Surrogate: Tributylphosphate	5.0	5.25	5.96	105	119	60-150		
Surrogate: Triphenylphosphate	5.0	5.34	6.13	107	123	76-140		

= Recovery is outside QC limits.

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/28/99	6/28/99
Instrument :	NPD03	NPD03
Run :	94	95
Analyst :	RLB	

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990621W - 17380
Batch ID: \$8151-990621A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/21/99	6/25/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/21/99	6/25/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/25/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/25/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/25/99
BLANK	MCPA	Not detected	100	ug/L	6/21/99	6/25/99
BLANK	MCPP	Not detected	100	ug/L	6/21/99	6/25/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	Surrogate recovery	100	61-120	%	6/21/99	6/25/99

Run #: 97
Instrument: ECD01
Sequence: 990621
Initials: KW

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990621W-80277 LCS/LCSD - 17380
 Batch ID: \$8151-990621A

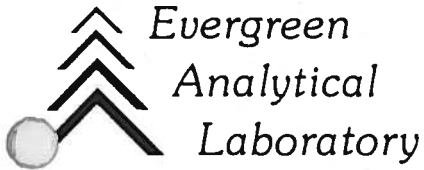
APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.844	0.884	84.4	88.4	53-134	4.6	32
2,4,5-TP	1.00	0.777	0.804	77.7	80.4	60-118	3.4	24
2,4-D	1.00	1.06	1.12	106	112	44-155	5.5	15
Dicamba	1.00	0.903	0.902	90.3	90.2	48-102	0.11	24
Dichlorprop (2,4-DP)	1.00	0.721	0.743	72.1	74.3	37-146	3.0	18
Dinoseb (DNBP)	1.00	0.867	0.907	86.7	90.7	73-173	4.5	31

Surrogate: 2,4-DCAA	3.00	3.15	3.25	105	108	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/25/99	6/25/99
Instrument :	ECD01	ECD01
Run :	98	99
Analyst :	KW	



July 02, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2976
Client Project: PIF01002.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 12 degrees C.

This report contains a total of 13 pages including the cover letter.


SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,


Carl Smits
V.P. Q.A.

WORK ORDER Summary

18-Jun 01:37 pm

Report To: Robyn Rice

Client Project ID: PIF01002.QST

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2976-01A	PIF01002	Methane, Ethane, Ethene		Water	2	16-Jun-1999	18-Jun-1999	2-Jul-1999	30-Jun-1999
99-2976-02A	PIF01004	Methane, Ethane, Ethene						2-Jul-1999	30-Jun-1999
99-2976-03A	PIF01006	Methane, Ethane, Ethene						2-Jul-1999	30-Jun-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

DRB

BB

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01002	Client Project ID.	: PIF1002.QST
Lab Sample Number	: 99-2976-01	Lab Work Order	: 99-2976
Date Sampled	: 6/16/99	Dilution Factor	: 1.00
Date Received	: 6/18/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629019

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.24	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	0.011	0.0025


Temperature	: <u>67.6</u> F	Saturation	Meth	: <u>0.058510342</u>
Amount Injected	: <u>0.5</u> ml	Concentration		
Total Volume of Sample	: <u>43</u> ml	Concentration	Meth	: <u>0.185892387</u>
Head space created	: <u>4</u> ml	in Head Space		
Methane Area	: <u>1360.629</u> ug	Saturation	Etha	: <u>0</u>
Ethane Area	: <u>0</u> ug	Concentration		
Ethene Area	: <u>22.051</u> ug	Concentration	Etha	: <u>0</u>
Atomic weight(Methane)	: <u>16</u> g	in Head Space		
Atomic weight(Ethane)	: <u>30</u> g	Saturation	Ethe	: <u>0.006011799</u>
Atomic weight(Ethene)	: <u>28</u> g	Concentration		
		Concentration	Ethe	: <u>0.005272156</u>
		in Head Space		

Qualifiers

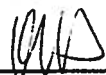
E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 NA = Not Available/Not Applicable.

Note

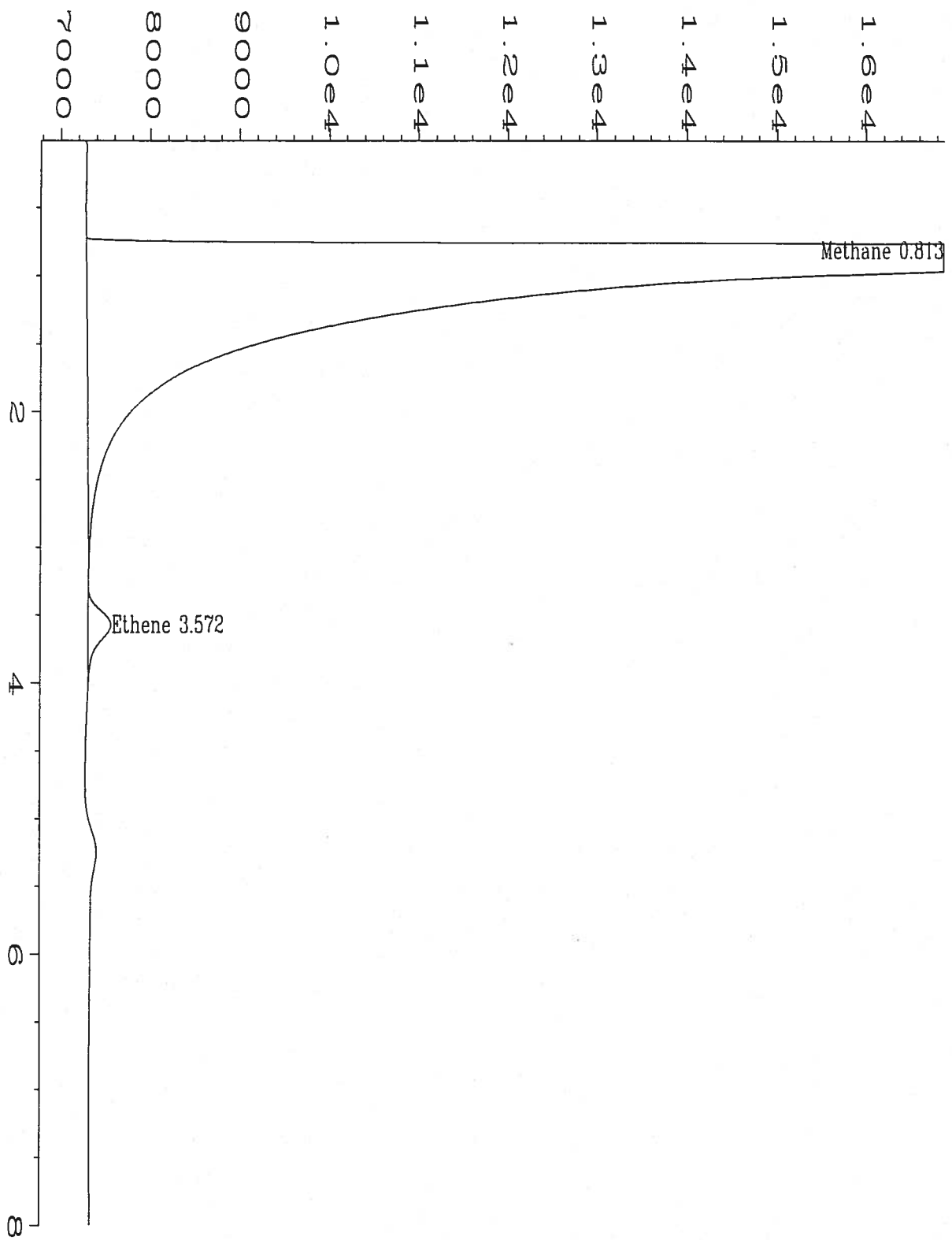
Pressure calculated at sea level.



 Analyst



 Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\019R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 19
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2976-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 04:42 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:40 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	PIF01002		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01004	Client Project ID.	: PIF1002.QST
Lab Sample Number	: 99-2976-02	Lab Work Order	: 99-2976
Date Sampled	: 6/16/99	Dilution Factor	: 1.00
Date Received	: 6/18/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629020

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025


Temperature	: 69 F	Saturation	Meth	0
Amount Injected	: 0.5 ml	Concentration	Meth	0
Total Volume of Sample	: 43 ml	Concentration	Meth	0
Head space created	: 4 ml	in Head Space		
Methane Area	: 0 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers


E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 NA = Not Available/Not Applicable.

Note

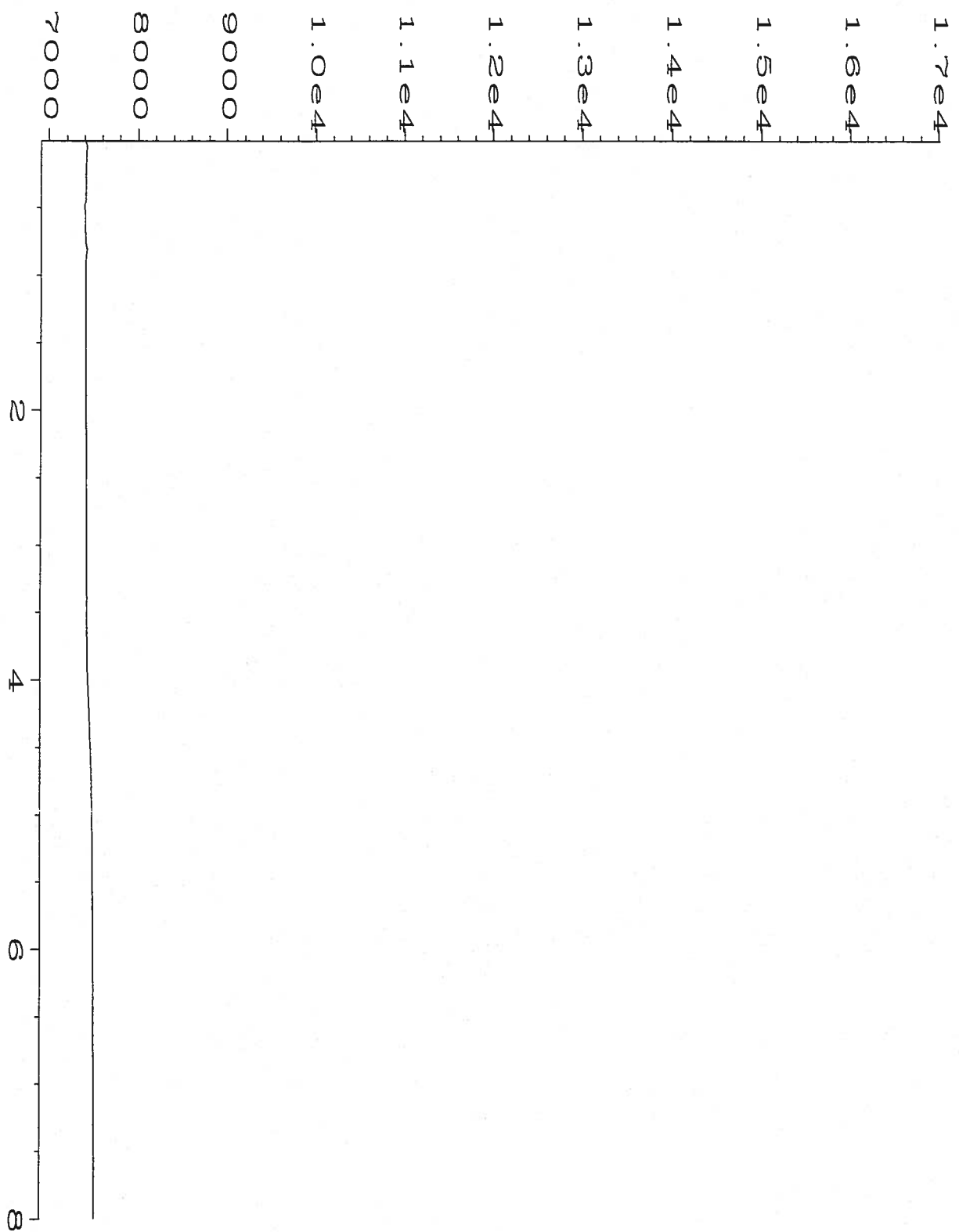
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\020R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 20
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2976-02A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 08:04 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:40 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	: PIF01004		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01006	Client Project ID.	: PIF1002.QST
Lab Sample Number	: 99-2976-03	Lab Work Order	: 99-2976
Date Sampled	: 6/16/99	Dilution Factor	: 1.00
Date Received	: 6/18/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629021

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.31	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	0.012	0.0025


Temperature	: <u>67.6 F</u>	Saturation	Meth	: <u>0.074122328</u>
Amount Injected	: <u>0.5 ml</u>	Concentration		
Total Volume of Sample	: <u>43 ml</u>	Concentration	Meth	: <u>0.235493009</u>
Head space created	: <u>4 ml</u>	in Head Space		
Methane Area	: <u>1723.678 ug</u>	Saturation	Etha	: <u>0</u>
Ethane Area	: <u>0 ug</u>	Concentration		
Ethene Area	: <u>22.785 ug</u>	Concentration	Etha	: <u>0</u>
Atomic weight(Methane)	: <u>16 g</u>	in Head Space		
Atomic weight(Ethane)	: <u>30 g</u>	Saturation	Ethe	: <u>0.006211911</u>
Atomic weight(Ethene)	: <u>28 g</u>	Concentration		
		Concentration	Ethe	: <u>0.005447647</u>
		in Head Space		

Qualifiers

- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- RL = Reporting Limit.
- NA = Not Available/Not Applicable.

Note

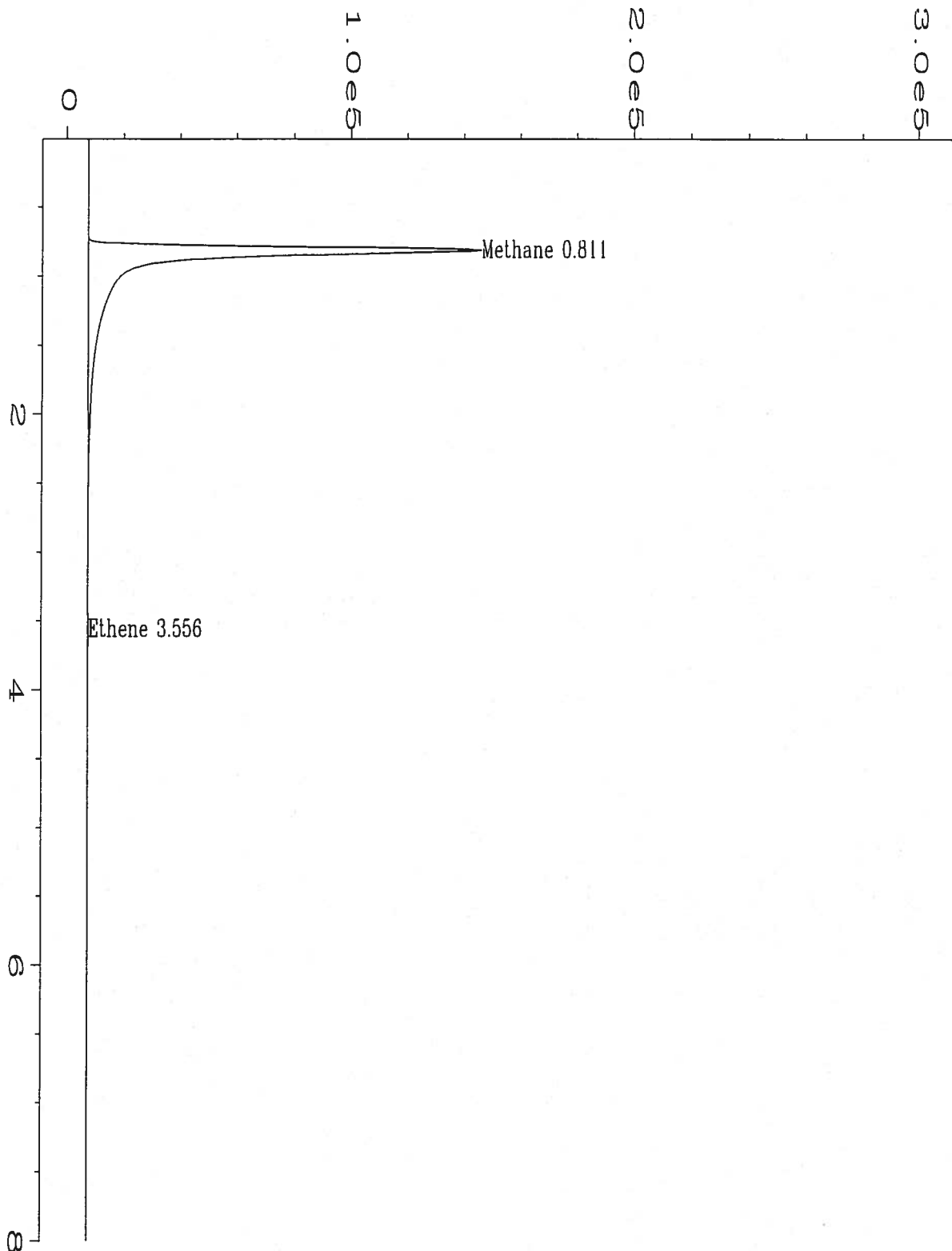
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\021R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 21
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2976-03A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 08:14 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:40 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	: PIF01006		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021


Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062999 Client Project ID. : PIF1002.QST
Date Extracted/Prepared : 6/29/99 Lab Work Order : 99-2976
Date Analyzed : 6/29/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0629008


Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

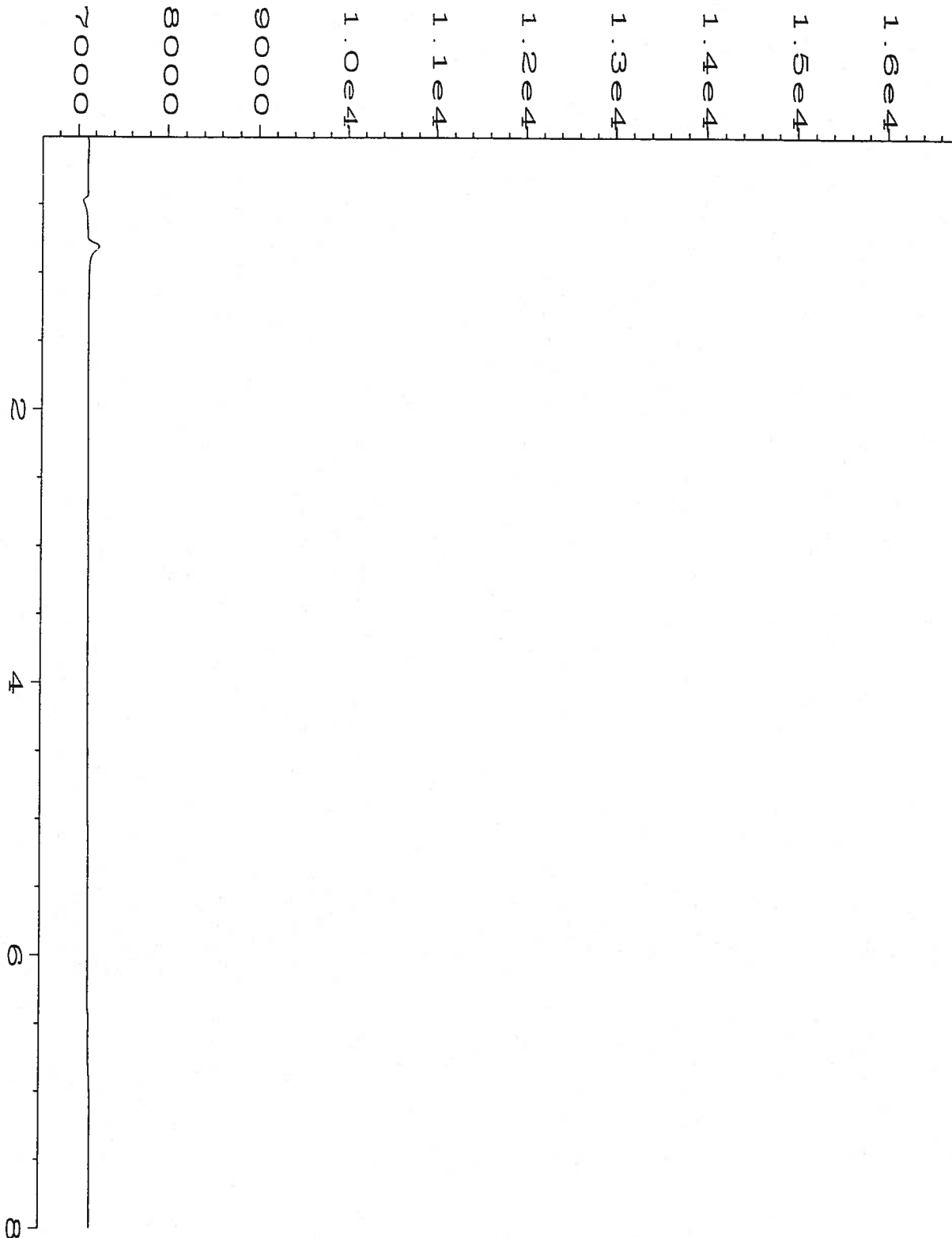
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
NA = Not Available/Not Applicable.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 8
Instrument	: ALGA	Injection Number	: 1
Sample Name	: GB062999	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:28 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:38 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MBLK METHETH		

Displaced 4ml of distilled water in 43ml vial with Helium,

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83


Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.


Notes

* = Values outside of QC limits.

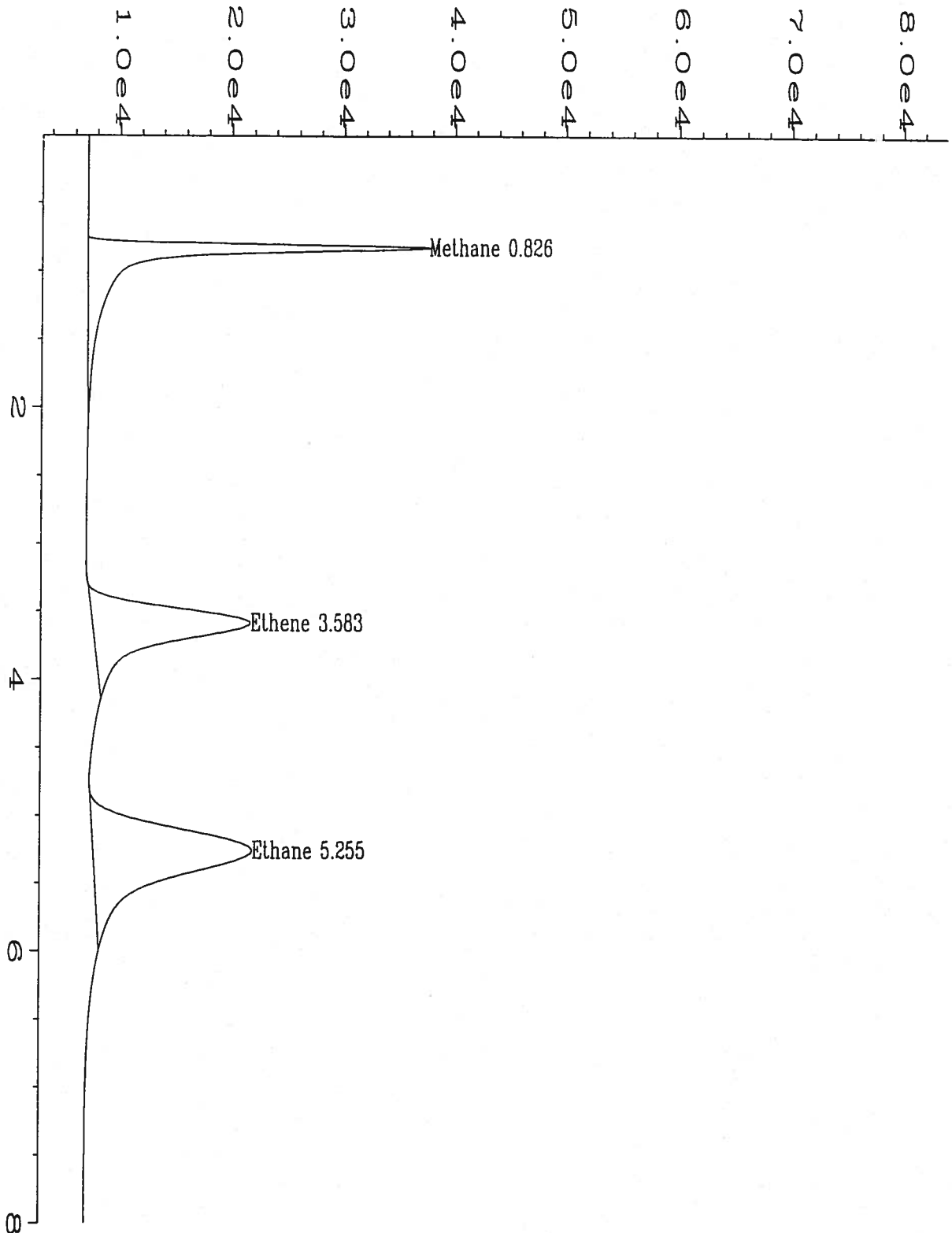
NA = Not analyzed/not available.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 7
Instrument	: ALGA	Injection Number	: 1
Sample Name	: LCS062999	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: GAS.MTH
Acquired on	: 29 Jun 99 01:16 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 09:46 AM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: LCS METHETH		
	Displaced 4ml of distilled water in 43ml vial with 1%		

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (480) 921-8044 • FAX: (480) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/16/99
Date Reported: 07/06/99

Attn: Robyn Rice

Sample Type: Water
Sample Date: See C.O.C.
Sample Time: See C.O.C.

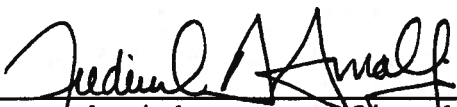
RESULTS

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
F01002	BE06224						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	3.7	mg/L		07/01/99	07/01/99		415.1

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF01004	BE06225						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	0.3	mg/L		07/01/99	07/01/99		415.1

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF01006	BE06226						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	3.9	mg/L		07/01/99	07/01/99		415.1

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

CHAIN OF CUSTODY FORM

Quote #: _____ Page 1 of 6

Client Name/Address: QST Environmental Inc. 426 N. HIGH STREET Phoenix, AZ 85008			Project/PO Number: 6699031 Estes Landfill			Analysis Required													
Project Manager: John Mizer			Phone Number: (602) 436-1192			SR: 305 MSY	VOCs (E260)	TOC (4.5)	TOC (Dissolved)	Sulfide	Sulfide	Total Solids	VOCs (E260)	Mercury (E70)	Mercury (Dissolved)	Sulfide	TKN + TSS	pH of Material	Special Instructions
Sampler:			Fax Number: (602) 436-9286																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives														
EW-5-GW-(4/6/99)	AQ	100ml Vials	2	4/14/10 30	HCl	X													
	AQ	100ml Vials	2	"/10/10	HCl		X												
	AQ	100ml Vials	3	"/10/10	HCl			X											
	AQ	100ml Vials	3	"/10/10	HCl				X										
	AQ	500ml Amber	1	"/10/10						X									
	AQ	500ml poly	1	"/10/10	HNO3						X	X							
	AQ	500ml poly	1	"/10/10									X	X					
	AQ	500ml poly	1	"/10/10	Zinc H NaOH										X				
	AQ	500ml poly	1	"/10/10	H2SO4											X			
	Trip blank	AQ	100ml Vials	1	"/10/10			X											
Relinquished By: Matthew E Dulick			Date /Time: 6/16/99 15:30			Received by: [Signature]			Date /Time: [Signature]			Turnaround Time: (Check)							
Relinquished By: John Mizer			Date /Time: 5/16/99 14:35			Received by: [Signature]			Date /Time: [Signature]			same day _____ 72 hours _____							
Relinquished By: _____			Date /Time: _____			Received in Lab by: [Signature]			Date /Time: 6/16/99 14:35			24 hours _____ 5 days _____							
Relinquished By: _____			Date /Time: _____			Received in Lab by: _____			Date /Time: _____			48 hours _____ normal <input checked="" type="checkbox"/>							
Relinquished By: _____			Date /Time: _____			Received in Lab by: _____			Date /Time: _____			Sample Integrity: (Check)							
Relinquished By: _____			Date /Time: _____			Received in Lab by: _____			Date /Time: _____			intact <input checked="" type="checkbox"/> on ice <input checked="" type="checkbox"/>							

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page _____ of _____

Client Name/Address: OST Environmental Inc. 426 N. 44th St. Phoenix, AZ 85008		Project/PO Number: 6699031 F-SLES Landfill		Analysis Required													
Project Manager: John Misher		Phone Number: (602) 244-1192		RSK SUP 1M5 VOCs 8200 TOL 415.1 DISSOLV TOL 415.1 CHLOR. URETHANE 1500 S.D TOL. URETHANE GOLD B + II Total Mercury 4470 DISSOLV METALS GOLD B DISSOLV METALS 4470 Sulfide 8146 TRK + Total Phosphorus													
Sampler: M. Garlick		Fax Number: (602) 244-9780															
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives												Special Instructions
EW-30-GW-(6.15.99)	AQ	CLEAR VOA	2	6.15.99 08:10	HCL	X											
	AQ	CLEAR VOA	2	6.15.99 08:10	HCL		X										
	AQ	AMBER VOA	2	6.15.99 08:10	HCL			X									
	AQ	AMBER VOA	2	6.15.99 08:10	HCL				X								
	AQ	SEC. AMBER	1	6.15.99 08:10					X								
	AQ	SEC. POLY	1	6.15.99 08:10	HNO ₃					X	X						
	AQ	SEC. POLY	1	6.15.99 08:10							X	X					
	AQ	SEC. ALL	1	6.15.99 08:10	Zinc NAOH									X			
EW-30-GW-(6.15.99)	AQ	SEC. ALL	1	6.15.99 08:10	H ₂ SO ₄											X	
TRIP BLANK	AQ	CLEAR VOA	1	6.15.99 08:10			X										
Relinquished By: Matthew E. Lutz (6/17/99) 15:30		Date /Time:		Received by:				Date /Time:				Turnaround Time: (Check)					
Relinquished By: John Misher (6/17/99) 14:30		Date /Time:		Received by:				Date /Time:				24 hours _____ 5 days _____ 48 hours _____ normal <input checked="" type="checkbox"/>					
Relinquished By:		Date /Time:		Received in Lab by:				Date /Time:				Sample Integrity: (Check)					
				72				6/17/99 14:35				intact <input checked="" type="checkbox"/> on ice <input checked="" type="checkbox"/>					

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 5 of 6

Client Name/Address: QST Environmental Inc. 406 N. 44th St. Phoenix, AZ 85008			Project/PO Number: 6699031 Estes Landfill			Analysis Required														
Project Manager: John Mizer			Phone Number: (602) 244-1192			VOLs 9260 106 415.1 415.1 DISSOLVED TOC CAPRIOLIC ACID HSD S.D. TOXIC METALS COLO B + Fc II Total Mercury MHTG PISSAQU METALS COLO B SURFACE CHLORIDE 2016 MHTG TRIN Total Phosphorus Sulfide BHC														
Sampler: Mizz Garlick			Fax Number: (602) 244-9280																	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Special Instructions														
EW-31-GW-(6-16-99)	AQ	CLEAR VOA	2	6/16/99 10:35	HCL	X														
	AQ	CLEAR VOA	2	11/10/35	HCL		X													
	AQ	AMBER VOA	3	11/10/35	HCL			X												
	AQ	AMBER VOA	3	11/10/35	HCL				X											
	AQ	500ml AMBER	1	11/10/35						X										
	AQ	500ml poly	1	11/10/35	HNO ₃						X	X								
	AQ	500ml poly	1	11/10/35									X	X						
	AQ	500ml poly	1	11/10/35	Zinc NaOH														X	
	EW-31-GW-(6-16-99)	AQ	500ml poly	1	11/10/35	H ₂ SO ₄													X	
	TRIP BLANK	AQ	CLEAR VOA	1	11/10/35			X												

Relinquished By: Matthew E. Dinkel	Date /Time: 6/16/99 11:30	Received by: John Mizer	Date /Time: 6/16/99 11:30	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <u>X</u>
Relinquished By: John Mizer	Date /Time: 6/16/99 14:35	Received by:	Date /Time:	
Relinquished By:	Date /Time:	Received in Lab by: JK	Date /Time: 6/16/99 14:35		Sample Integrity: (Check) intact X on ice X

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days. COC-GB



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 17-28, 1999
 Analyzed: Jun 17-28, 1999
 Reported: Jun 29-30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF01040	EW-19-GW- (6-16-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01041	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)		
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	56%
Decachlorobiphenyl (30-130).....	85%

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PIF01040.QST <2 of 16>



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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	82%

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	11
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	31	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	94%
Toluene-d8 (75-140).....	93%
4-Bromofluorobenzene (75-135).....	90%

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, Trip Blank
 Lab Number: PIF01041

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	96%
Toluene-d8 (75-140).....	94%
4-Bromofluorobenzene (75-135).....	93%

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

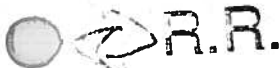
Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)
DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	55%
Phenol-d6 (40-115).....	56%
2,4,6-Tribromophenol (40-140)	75%
Nitrobenzene-d5 (35-120).....	61%
2-Fluorobiphenyl (30-150).....	67%
Terphenyl-d14 (45-150).....	100%



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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 29, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	0.067	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	0.064	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 29, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.083	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.080	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

2852 Allon Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-19-GW-(6-16-99)
 Lab Number: PIF01040

Sampled: Jun 16, 1999
 Received: Jun 16, 1999
 Extracted: Jun 17-28, 1999
 Analyzed: Jun 17-28, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO ₃).....	SM2320B	5.0	290	N.A.	06/23/99
Bicarbonate Alkalinity (CaCO ₃)...	SM2320B	5.0	290	N.A.	06/23/99
Carbon Dioxide.....	SM4500-CO ₂ -C	1.0	31	N.A.	06/17/99
Chloride.....	EPA 300.0	50***	160	N.A.	06/28/99
Nitrate-N.....	EPA 300.0	0.10	5.4	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrate/Nitrite-N.....	Calculation	0.10	5.4	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	86	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	3.9	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		µg/L (ppb)
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	74%
Decachlorobiphenyl (30-130).....	54%

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ST Environmental
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 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	57%

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ST Environmental
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 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

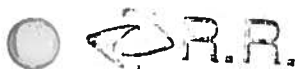
Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 29, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	79%
Toluene-d8 (75-140).....	87%
4-Bromofluorobenzene (75-135).....	85%

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Del Mar Analytical

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieber

Method Blank

Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzdine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	70%
Phenol-d6 (40-115).....	75%
2,4,6-Tribromophenol (40-140)	89%
Nitrobenzene-d5 (35-120).....	74%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	110%

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

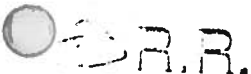
Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 29, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

OT Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 29, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 17-28, 1999
 Analyzed: Jun 17-28, 1999
 Reported: Jun 30, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/28/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Sulfide.....	SM4500-S-C.D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O.C	0.50	N.D.	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/25/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.351	0.426	70%	85%	19%	40	55-125
DDD	0	0.500	0.392	0.471	78%	94%	18%	20	60-130
DDT	0	0.500	0.390	0.494	78%	99%	24%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/23/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	2.38	2.42	60%	61%	2%	≤ 50	60-140%
AR 1260	0	4.0	3.24	3.26	81%	82%	1%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/18/99
 Sample #: PIF01090
 Batch #: IF18021W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Vinyl Chloride	0.0	25	24.0	24.8	96%	99%	3%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	24.0	24.2	96%	97%	0.8%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	24.7	23.6	99%	94%	4.6%	≤ 20	69-113
Chloroform	2.8	25	27.7	26.5	100%	95%	4.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.4	24.7	102%	99%	2.8%	≤ 20	61-122
Benzene	0.0	25	24.4	24.1	98%	96%	1.2%	≤ 20	80-115
Trichloroethene	0.0	25	24.6	24.2	98%	97%	1.6%	≤ 20	60-142
Toluene	0.0	25	24.4	24.4	98%	98%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.3	24.1	97%	96%	0.8%	≤ 20	49-155
Chlorobenzene	0.0	25	23.7	23.8	95%	95%	0.4%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/24/99
 Sample #: LCS/LCSD*
 Batch #: IF21SE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Phenol	0.0	50	36	36	72%	72%	0%	15	40-110
2-Chlorophenol	0.0	50	38	39	76%	78%	3%	15	40-110
1,4-Dichlorobenzene	0.0	50	29	29	58%	58%	0%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	43	43	86%	86%	0%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	31	30	62%	60%	3%	15	45-110
4-Chloro-3-methylphenol	0.0	50	45	43	90%	86%	5%	15	50-115
Benaphthene	0.0	50	44	42	88%	84%	5%	15	45-120
2,4-Dinitrotoluene	0.0	50	50	47	100%	94%	6%	15	55-120
4-Nitrophenol	0.1	50	40	38	80%	76%	5%	30	45-120
Pentachlorophenol	0.0	50	51	52	102%	104%	2%	15	50-125
Pyrene	0.0	50	53	50	106%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



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BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00940

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.02	1.22	102%	122%	17.9%	112%
Barium	0.129	1.0	0.990	1.21	86%	108%	20.0%	97%
Cadmium	0	1.0	0.881	1.08	88%	108%	20.3%	98%
Chromium	0	1.0	0.875	1.03	88%	103%	16.3%	95%
Copper	0	1.0	0.907	1.10	91%	110%	19.2%	100%
Iron	0	10.0	8.81	10.7	88%	107%	19.4%	98%
Lead	0	1.0	0.853	1.02	85%	102%	17.8%	94%
Manganese	1.09	1.0	1.88	2.30	79%	121%	20.1%	100%
Nickel	0	1.0	0.869	1.06	87%	106%	19.8%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: $< \text{ or } = 20\%$
MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.

Del Mar Analytical (AZ0426)



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CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/21/99

Analyte	St	CCV	PR
	ppm	ppm	%
Arsenic	1.0	1.08	108%
Barium	1.0	0.967	97%
Manganese	1.0	0.983	98%

Definition of Terms:

St. Standard Concentration

CCV. Continuing Calibration Verification

PR. Percent Recovery of CCV; $(CCV/St) \times 100$

Acceptance Limits CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: PIF01004
 Batch #: IF22HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
								RPD	PR1/PR2
	ppm	ppm	ppm	ppm	%	%	%	%	%
Mercury	0	0.00500	0.00489	0.00483	98%	97%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC was within acceptance limit.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00940	0	0.040	0.0449	0.0458	112%	115%	2%
Antimony	200.9	06/24/99	PIF01296	0	0.040	0.0426	0.0422	107%	106%	1%
Thallium	200.9	06/21/99	PIF00940	0	0.020	0.0211	0.0207	106%	104%	2%
Thallium	200.9	06/23/99	PIF01296	0	0.020	0.0230	0.0227	115%	114%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



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BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/28/99
 Sample #: PIF01296

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.03	106%	103%	2.9%	105%
Barium	0	1.0	1.01	1.03	101%	103%	2.0%	102%
Cadmium	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Chromium	0	1.0	0.997	1.00	100%	100%	0.3%	100%
Copper	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Iron	0.564	10.0	10.8	11.0	102%	104%	1.8%	103%
Lead	0	1.0	0.995	1.00	100%	100%	0.5%	100%
Manganese	0	1.0	1.02	1.04	102%	104%	1.9%	103%
Nickel	0	1.0	1.00	1.01	100%	101%	1.0%	101%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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QC DATA REPORT

DATE: 6/28/99
 SAMPLE # PIF01823

EPA METHOD 300
 Instrument: DIONEX-IC
 Matrix: WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.627	100	77.2	77.7	77%	77%	0.6%	77%
Chloride	196	200	358	325	81%	65%	9.7%	73%
Nitrite-N	0.00	30	22.7	22.3	76%	74%	1.8%	75%
Nitrate-N	9.44	90	74.9	74.6	73%	72%	0.4%	73%
OrthoPhos-P	0.00	194	117	117	60%	60%	0.0%	60%
Sulfate	591	400	828	820	59%	57%	1.0%	58%
Bromide	0.00	400	294	295	74%	74%	0.3%	74%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $(MS-R1) / SP \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP \times 100)$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$

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*The MS/MSD recoveries and/or the RPD were outside of acceptance limits due to sample matrix effects. See LCS for batch validation.



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LCS DATA REPORT

EPA METHOD: IC

DATE: 6/29/99

Analyte	St	R1	PR
	ppm	ppm	%
Fluoride	1.0	1.00	100%
Chloride	2.0	1.90	95%
Nitrite-N	0.30	0.298	99%
Nitrate-N	0.90	0.876	97%
Phosphate	1.94	1.70	88%
Sulfate	4.0	3.69	92%

Definition of Terms:

- Standard Concentration
- R1..... Standard Result
- PR..... Percent Recovery of R1; (R1/St) X 100

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



Del Mar Analytical

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QC DATA REPORT

DATE: 6/17/99
 SAMPLE # PIF01076

EPA METHOD 300
 Instrument: DIONEX-IC
 Matrix: WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.561	100	91.6	87.8	91%	87%	4.2%	89%
Chloride	4.12	200	177	168	86%	82%	5.2%	84%
Nitrite-N	0.175	30	26.6	25.9	88%	86%	2.7%	87%
Nitrate-N	0.365	90	81.8	76.9	90%	85%	6.2%	88%
OrthoPhos-P	0.00	194	170	163	88%	84%	4.2%	86%
Sulfate	23.7	400	386	364	91%	85%	5.9%	88%
Bromide	0.00	400	346	328	87%	82%	5.3%	84%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; (MS-R1) / SP X 100
- PR2..... Percent Recovery of MSD; ((MSD-R1) / SP X 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2)) X 100

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LGS DATA REPORT

EPA METHOD: SM 4500-S-C,D

DATE: 6/21/99

Analyte	St	R1	PR
	ppm	ppm	%
Sulfide	1.0	1.15	115%

Definition of Terms:

- St. Standard Concentration
- R1. Standard Result
- PR. Percent Recovery of R1; $(R1/St) \times 100$

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/28/99
 Sample #: CIF01323
 Batch #: IF28TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Kjeldahl Nitrogen	2.2	10.0	11.0	12.0	88%	98%	9%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



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MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/25/99
 Sample #: IF02515
 Batch #: IF25PS1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
								RPD	PR1/PR2
	ppm	ppm	ppm	ppm	%	%	%	%	%
Phosphorus	0	1.0	0.809	0.809	81%	81%	0%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: IF02514
 Batch #: IF22CO1W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>RPD</u>	<u>PR1/PR2</u>
	ppm	ppm	ppm	ppm	%	%	%	%	%
Total Organic Carbon	0.0	5.0	4.8	4.8	96%	96%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

352 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C 11, Van Nuys, CA 92406 (818) 770-1844 FAX (818) 770-1843
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

GC CALIBRATION CHECK CRITERIA

Method: 8081A
 Mid-Point: F25 #45

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

Compound	Footnote	% Recovery in Calibration Check
D-BHC	1	120
Endosulfan Sulfate	1	120
Endrin Ketone	1	117

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.



June 30, 1999

Del Mar Analytical
9830 South 51st Street, Suite B-120
Phoenix, Arizona 85044
Attn: Robyn Rice

Report of Laboratory Results: ARF number: 30533

Dear Ms. Rice:

One water sample for Project Number 'PIF01040.QST' was received June 18, 1999, in good condition. Written results are being provided on this June 30, 1999, for the requested analyses. All holding times were met. No unusual problems or complications were encountered with this sample set.

Sample Table

Sample Description	Del Mar ID	APPL Inc. ID	Sample Date
Water	PIF01040	80280w	06/16/99

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

Sincerely,

Mike Ray, Laboratory Director
APPL, Inc.

MR/mr
Enclosure
cc: File

EPA 8141

I Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01040.QST

ARF: 30533

Sample ID: PIF01040

APPL ID AP80280

Sample Collection Date: 6/16/99

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
EPA 8141	Boistar	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8141	Surrogate: Tributylphosphate	95.4	60-150	%	6/21/99	6/28/99
EPA 8141	Surrogate: Triphenylphosphate	96.1	76-140	%	6/21/99	6/28/99

Run #: 103
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

EPA 8151 Herbicides

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice
Project: PIF01040.QST
Sample ID: PIF01040
Sample Collection Date: 6/16/99

ARF: 30533
APPL ID AP80280
QCG: S8151-990621A-17380

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/28/99
EPA 8151	MCPA	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	MCPP	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Surrogate Recovery	99.8	61-120	%	6/21/99	6/28/99

Run #: 111
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Method Blank
EPA 8141

Blank Name/QCG: 990621W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
BLANK	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Prowl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Surrogate: Tributylphosphate	85.1	60-150	%	6/21/99	6/28/99
BLANK	Surrogate: Triphenylphosphate	87.8	76-140	%	6/21/99	6/28/99

Run #: 93
Instrument: NPD03
Sequence: 990625
Initials: RLB

Laboratory Control Spike Recoveries

EPA 8141

APPL ID 990621W-80233 LCS/LCSD - 17371

Batch ID: S8141W-990621A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	1.93	2.14	73.2	95.6	57-130	15.6	21
Disulfoton	2.5	2.32	2.95	92.8	114	47-117	20.5	22
Ethion	2.5	2.98	3.31	115	132	65-134	13.9	20
Methyl Parathion	2.5	2.64	3.08	106	123	55-164	15.4	24
Phorate	2.5	2.22	2.65	88.8	106 #	22-96	17.7	24
Strofos	2.5	2.57	2.94	103	114	68-128	10.0	25
<hr style="border-top: 1px dashed black;"/>								
Surrogate: Tributylphosphate	5.0	5.25	5.96	105	119	60-150		
Surrogate: Triphenylphosphate	5.0	5.34	6.13	107	123	76-140		
<hr style="border-top: 1px dashed black;"/>								

= Recovery is outside QC limits.

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/28/99	6/28/99
Instrument :	NPD03	NPD03
Run :	94	95
Analyst :	RLB	

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990621W - 17380
Batch ID: S8151-990621A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/21/99	6/25/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/21/99	6/25/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/25/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/25/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/25/99
BLANK	MCPA	Not detected	100	ug/L	6/21/99	6/25/99
BLANK	MCPP	Not detected	100	ug/L	6/21/99	6/25/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	Surrogate recovery	100	61-120	%	6/21/99	6/25/99

Run #: 97
Instrument: ECD01
Sequence: 990621
Initials: KW

Laboratory Control Spike Recoveries
EPA 8151 Herbicides

APPL ID: 990621W-80277 LCS/LCSD - 17380
 Batch ID: \$8151-990621A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.844	0.884	84.4	88.4	53-134	4.6	32
2,4,5-TP	1.00	0.777	0.804	77.7	80.4	60-118	3.4	24
2,4-D	1.00	1.06	1.12	106	112	44-155	5.5	15
Dicamba	1.00	0.903	0.902	90.3	90.2	48-102	0.11	24
Dichlorprop (2,4-DP)	1.00	0.721	0.743	72.1	74.3	37-146	3.0	18
Dinoseb (DNBP)	1.00	0.867	0.907	86.7	90.7	73-173	4.5	31

Surrogate: 2,4-DCAA	3.00	3.15	3.25	105	108	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/25/99	6/25/99
Instrument :	ECD01	ECD01
Run :	98	99
Analyst :	KW	

Matrix Spike Recovery

EPA 8151 Herbicides

APPL ID: 990621W-80277 MS - 17380
 Batch ID: \$8151-990621A

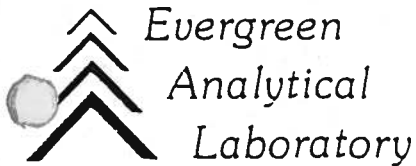
APPL Inc..
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Level ug/L	Matrix Result ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	ND	0.848	84.8	53-134
2,4,5-TP	1.00	ND	0.783	78.3	60-118
2,4-D	1.00	ND	0.981	98.1	44-155
Dicamba	1.00	ND	1.02	102	48-102
Dichlorprop (2,4-DP)	1.00	ND	0.584	58.4	37-146
Dinoseb (DNBP)	1.00	ND	0.707	70.7 ‡	73-173
<hr style="border-top: 1px dashed black;"/>					
Surrogate: 2,4-DCAA	3.00	NA	3.31	110	61-120

‡ = Recovery is outside QC limits.

Comments: _____

Primary	SPK
Extraction Date :	6/21/99
Analysis Date :	6/25/99
Instrument :	ECD01
Run :	101
Analyst :	KW



July 02, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-2977
Client Project: PIF01040.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 12 degrees C.

This report contains a total of 9 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

18-Jun 01:38 pm

Report To: Robyn Rice

Client Project ID: PIF01040.QST

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2977-01A	PIF01040	Methane, Ethane, Ethene		Water	2	16-Jun-1999	18-Jun-1999	2-Jul-1999	30-Jun-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

Handwritten initials: RB

Handwritten mark: B

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number : PIF01040	Client Project ID. : PIF01040.QST
Lab Sample Number : 99-2977-01	Lab Work Order : 99-2977
Date Sampled : 6/16/99	Dilution Factor : 1.00
Date Received : 6/18/99	Method : RSKSOP-175M
Date Extracted/Prepared : 6/29/99	Matrix : Water
Date Analyzed : 6/29/99	Lab File No. : GAS0629022

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.0065	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 69 F	Saturation	Meth	0.001560558
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.00494489
Head space created	: 4 ml	in Head Space		
Methane Area	: 36.29 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

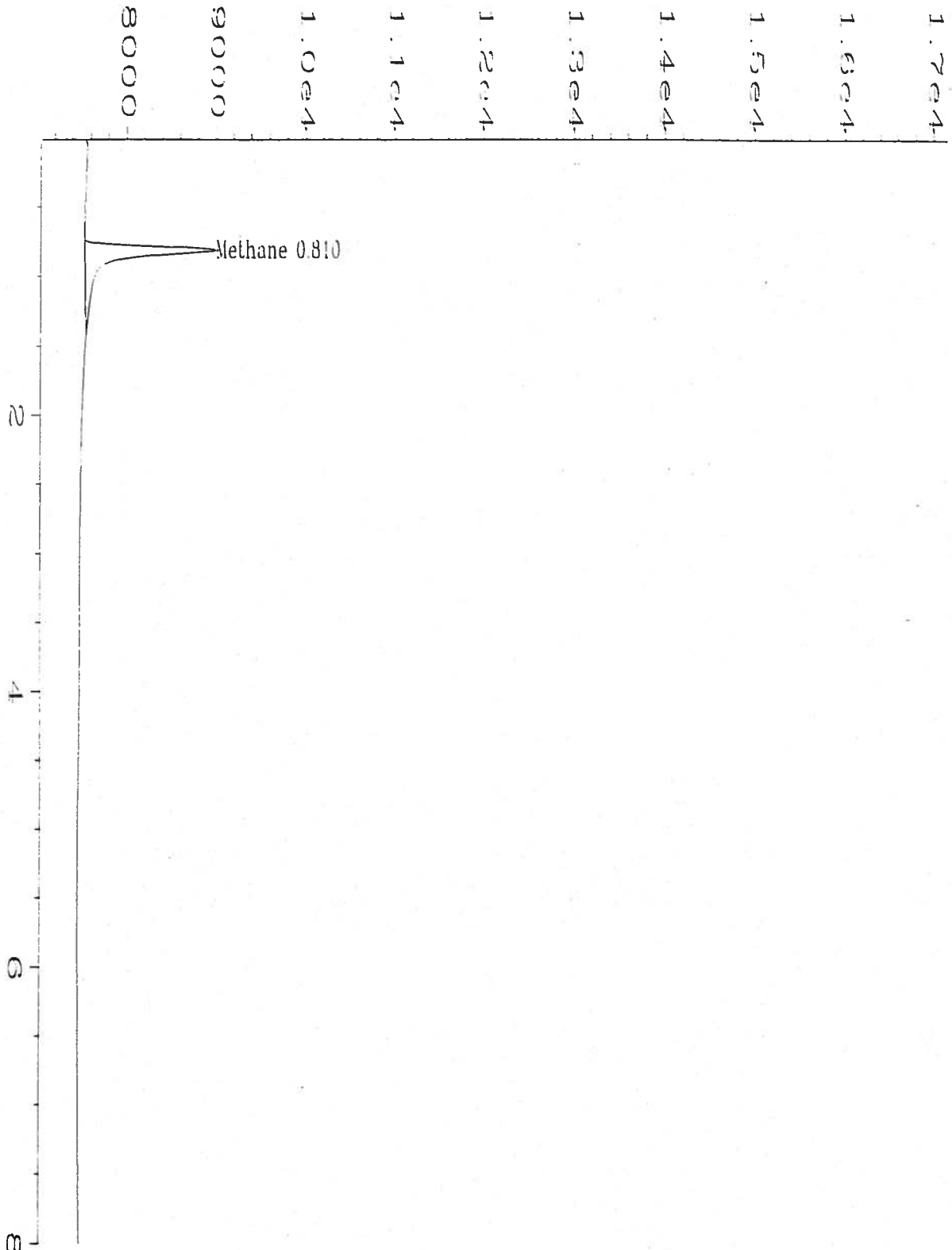
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N = Not Available/Not Applicable.

Note

Pressure calculated at sea level.

Analyst

Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\022R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 22
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2977-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 08:24 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:40 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062999 Client Project ID. : PIF01040.QST
Date Extracted/Prepared : 6/29/99 Lab Work Order : 99-2977
Date Analyzed : 6/29/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

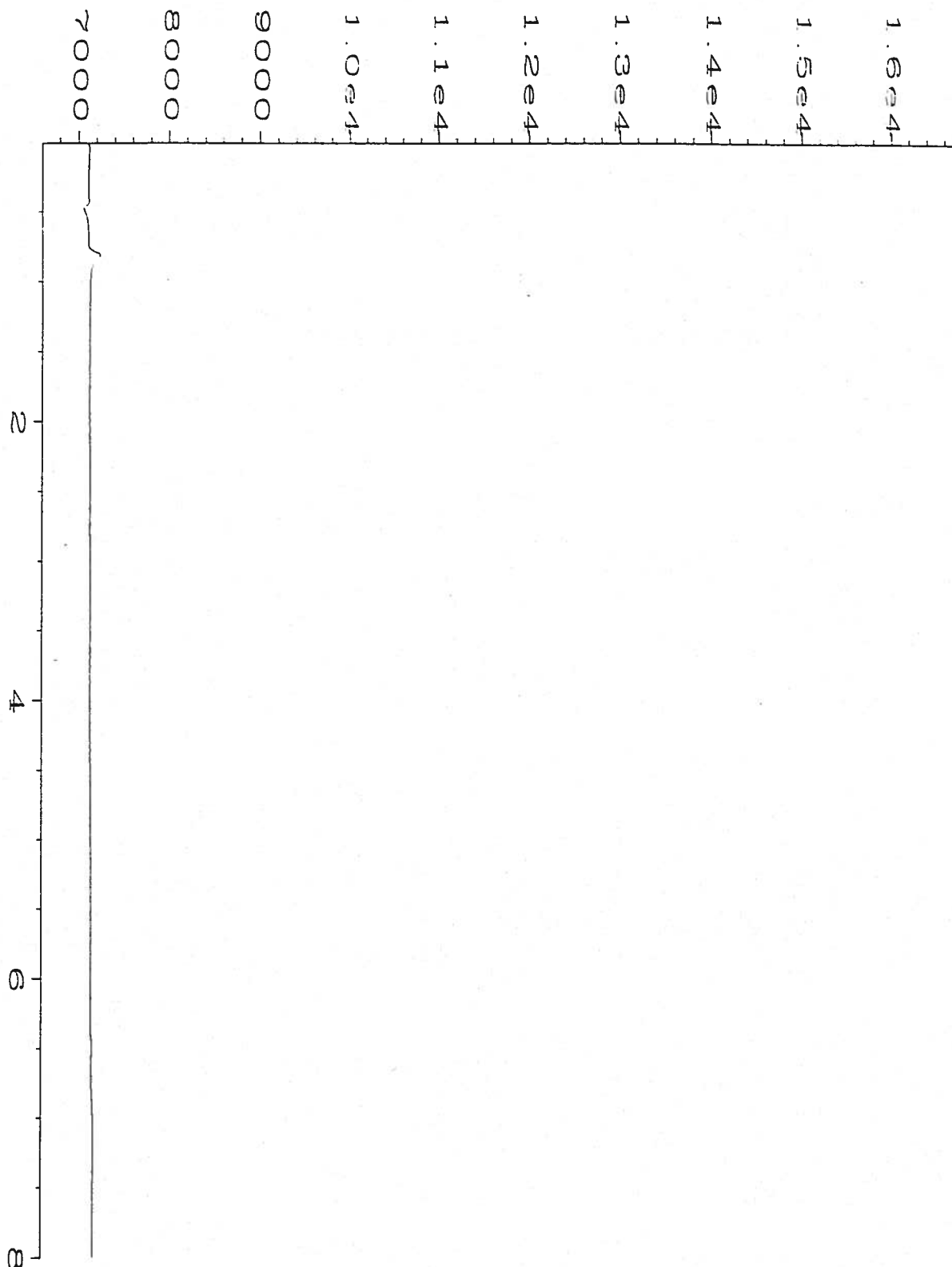
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
R = Reporting Limit.
NA = Not Available/Not Applicable.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : GB062999
 Run Time Bar Code:
 Acquired on : 29 Jun 99 01:28 PM
 Report Created on: 30 Jun 99 12:38 PM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : MBLK METHETH
 Displaced 4ml of distilled water in 43ml vial with Helium,

Page Number : 1
 Vial Number : 8
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: GAS.MTH
 Analysis Method : GAS0629.MTH
 Sample Amount : 0
 ISTD Amount :

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

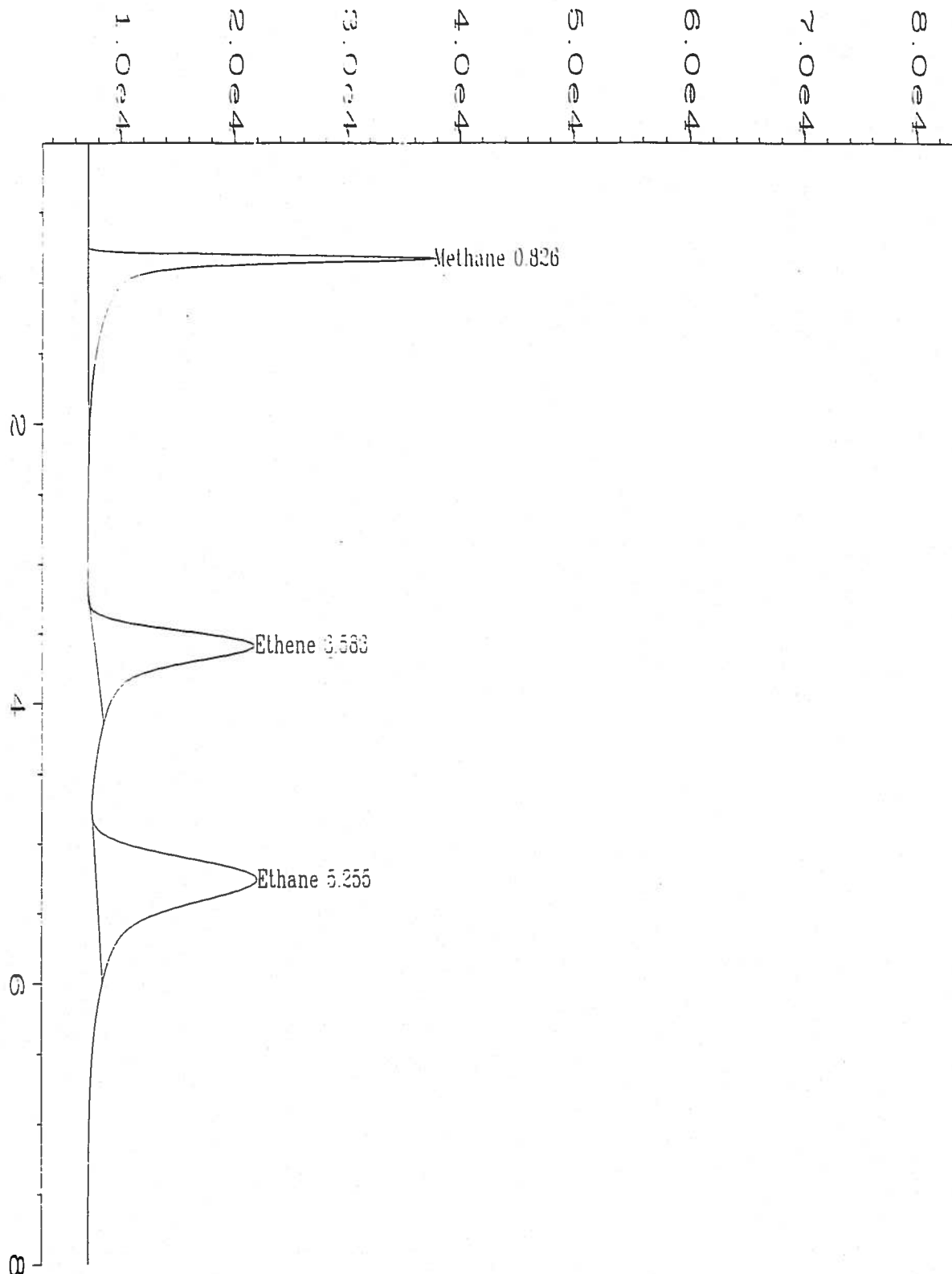
* = Values outside of QC limits.
NA = Not analyzed/not available.



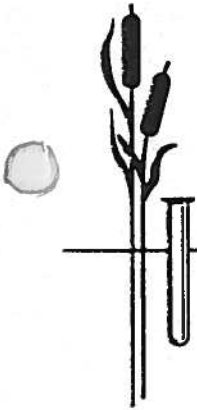
Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D
 Operator : Leanne Hackney Page Number : 1
 Instrument : ALGA Vial Number : 7
 Sample Name : LCS062999 Injection Number : 1
 Run Time Bar Code: Sequence Line : 1
 Acquired on : 29 Jun 99 01:16 PM Instrument Method: GAS.MTH
 Report Created on: 30 Jun 99 09:46 AM Analysis Method : GAS0629.MTH
 Last Recalib on : 21 JUN 99 11:25 AM Sample Amount : 0
 Multiplier : 1 ISTD Amount :
 Sample Info : LCS METHETH
 Displaced 4ml of distilled water in 43ml vial with 1%



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/17/99
Date Reported: 07/06/99

Attn: Robyn Rice

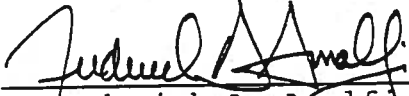
Sample Type: Water
Sample Date: 06/16/99
Sample Time: 13:30

Client ID: PIF01040
AC&T Lab No.: BE06297

RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/01/99	07/01/99	415.1	3.6	mg/L	

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/01/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	104	104

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-05164	0.9	0.9	0.0
BE-05507	1.8	1.7	5.7
BE-05948	0.2	0.2	0.0

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

CHAIN OF CUSTODY FORM

 Quote # _____ Page 1 of 2

Client Name/Address: 325 E. ... 126 N. ... Phoenix, AZ 85008		Project/PO Number: 0671031 (other .../11)		Analysis Required									
Project Manager: John ...		Phone Number: (602) 279-1111		(Handwritten notes in columns: 1. 10/25/00, 2. 10/25/00, 3. 10/25/00, 4. 10/25/00, 5. 10/25/00, 6. 10/25/00, 7. 10/25/00, 8. 10/25/00, 9. 10/25/00, 10. 10/25/00, 11. 10/25/00, 12. 10/25/00)									
Sampler: M ...		Fax Number: (602) 279-1111											

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754
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Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 795-0851

QST Environmental
 5 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF01088

Sampled: Jun 16-17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 17-30, 1999
 Analyzed: Jun 17-30, 1999
 Reported: Jun 30, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF01088	EW-26-GW- (6-16-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01089	Trip Blank	Water	8260B
PIF01090	EW-32-GW- (6-17-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01091	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-26-GW-(6-16-99)
 Lab Number: PIF01088

Sampled: Jun 16, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	62%
Decachlorobiphenyl (30-130).....	56%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

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 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 405-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-32-GW-(6-17-99)
 Lab Number: PIF01090

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	59%
Decachlorobiphenyl (30-130).....	53%

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 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental 26 N. 44th St., Suite 110 Phoenix, AZ 85008 Attention: John Mieher	Client Project ID: 6699031 / Estes Landfill Sample Descript: Water, EW-26-GW-(6-16-99) Lab Number: PIF01088	Sampled: Jun 16, 1999 Received: Jun 17, 1999 Extracted: Jun 22, 1999 Analyzed: Jun 23, 1999 Reported: Jun 30, 1999
----------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	52%

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 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-32-GW-(6-17-99)
 Lab Number: PIF01090

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	49%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 1484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 3830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-26-GW-(6-16-99)
 Lab Number: PIF01088

Sampled: Jun 16, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 23, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	15	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.
 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	92%
4-Bromofluorobenzene (75-135).....	93%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
426 N. 44th St., Suite 110
Phoenix, AZ 85008
Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
Sample Descript: Water, Trip Blank
Lab Number: PIF01089

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1328
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

Sampled: Jun 16, 1999
Received: Jun 17, 1999
Extracted: Jun 18, 1999
Analyzed: Jun 18, 1999
Reported: Jun 23, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	99%
Toluene-d8 (75-140).....	89%
4-Bromofluorobenzene (75-135).....	93%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

PIF01088.QST <7 of 24>

Del Mar Analytical

Environmental
426 N. 44th St., Suite 110
Phoenix, AZ 85008
Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
Sample Descript: Water, EW-32-GW-(6-17-99)
Lab Number: PIF01090

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1220
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1944 FAX (818) 779-1843
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-0689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Sampled: Jun 17, 1999
Received: Jun 17, 1999
Extracted: Jun 18, 1999
Analyzed: Jun 18, 1999
Reported: Jun 23, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	4.0	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	2.8	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	3.7	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	98%
Toluene-d8 (75-140).....	91%
4-Bromofluorobenzene (75-135).....	94%

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PIF01088.QST <8 of 24>



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-0667 FAX (909) 370-1046
 16525 Shorman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, Trip Blank
 Lab Number: PIF01091

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 23, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	89%
Toluene-d8 (75-140).....	97%
4-Bromofluorobenzene (75-135).....	98%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-26-GW-(6-16-99)
 Lab Number: PIF01088

3852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 4414 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 305-9596 FAX (619) 305-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Sampled: Jun 16, 1999
 Received: Jun 17, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol.....	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	69%
Phenol-d6 (40-115).....	67%
2,4,6-Tribromophenol (40-140)	82%
Nitrobenzene-d5 (35-120).....	74%
2-Fluorobiphenyl (30-150).....	76%
Terphenyl-d14 (45-150).....	106%

Del Mar Analytical

QST Environmental
426 N. 44th St., Suite 110
Phoenix, AZ 85008
Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-32-GW-(6-17-99)
Lab Number: PIF01090

2852 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-0228
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16525 Sherman Way, Suite C 11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
3484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

Sampled: Jun 17, 1999
Received: Jun 17, 1999
Extracted: Jun 21, 1999
Analyzed: Jun 24, 1999
Reported: Jun 30, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	66%
Phenol-d6 (40-115).....	65%
2,4,6-Tribromophenol (40-140)	86%
Nitrobenzene-d5 (35-120).....	72%
2-Fluorobiphenyl (30-150).....	78%
Terphenyl-d14 (45-150).....	105%



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-26-GW-(6-16-99)
 Lab Number: PIF01088

Sampled: Jun 16, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18-22, 1999
 Analyzed: Jun 19-25, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	06/19/99
Barium.....	EPA 200.7	0.010	0.12	06/18/99	06/19/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	06/19/99
Chromium.....	EPA 200.7	0.010	0.017	06/18/99	06/19/99
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	06/19/99
Iron.....	EPA 200.7	0.50	0.85	06/18/99	06/19/99
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	06/19/99
Manganese.....	EPA 200.7	0.050	0.060	06/18/99	06/19/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	06/19/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-32-GW-(6-17-99)
 Lab Number: PIF01090

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF01088.QST <13 of 24>



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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-26-GW-(6-16-99)
 Lab Number: PIF01088

Sampled: Jun 16, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.082	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	0.11	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 9830 South 91st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-32-GW-(6-17-99)
 Lab Number: PIF01090

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



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AT Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-26-GW-(6-16-99)
 Lab Number: PIF01088

Sampled: Jun 16, 1999
 Received: Jun 17, 1999
 Extracted: Jun 17-28, 1999
 Analyzed: Jun 17-28, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	220	N.A.	06/28/99
Bicarbonate Alkalinity (CaCO3)..	SM2320B	5.0	220	N.A.	06/28/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	3.9	N.A.	06/17/99
Chloride.....	EPA 300.0	50***	230	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	4.2	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/17/99
Nitrate/Nitrite-N.....	Calculation	0.10	4.2	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	0.070	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	85	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	0.28	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.8	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-32-GW-(6-17-99)
 Lab Number: PIF01090

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 17-30, 1999
 Analyzed: Jun 17-30, 1999
 Reported: Jun 30, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	N.D.	N.A.	06/30/99
Bicarbonate Alkalinity (CaCO3)..	SM2320B	5.0	N.D.	N.A.	06/30/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	N.D.	N.A.	06/17/99
Chloride.....	EPA 300.0	0.50	3.2	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrate/Nitrite-N.....	Calculation	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	5.0	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jun 30, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	74%
Decachlorobiphenyl (30-130).....	54%

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Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jun 30, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	57%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 23, 1999
 Matrix: Water

Method Blank

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	79%
Toluene-d8 (75-140).....	87%
4-Bromofluorobenzene (75-135).....	85%

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Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jun 30, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

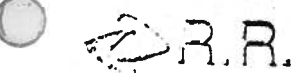
Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	70%
Phenol-d6 (40-115).....	75%
2,4,6-Tribromophenol (40-140)	89%
Nitrobenzene-d5 (35-120).....	74%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	110%



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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18-22, 1999
 Analyzed: Jun 19-25, 1999
 Reported: Jun 30, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/18/99	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 19-22, 1999
Barium.....	EPA 200.7	0.010	N.D.	06/18/99	Jun 19-22, 1999
Cadmium.....	EPA 200.7	0.0050	N.D.	06/18/99	Jun 19-22, 1999
Chromium.....	EPA 200.7	0.010	N.D.	06/18/99	Jun 19-22, 1999
Copper.....	EPA 200.7	0.020	N.D.	06/18/99	Jun 19-22, 1999
Iron.....	EPA 200.7	0.50	N.D.	06/18/99	Jun 19-22, 1999
Lead.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 19-22, 1999
Manganese.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 19-22, 1999
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	06/18/99	Jun 19-22, 1999
Thallium.....	EPA 200.9	0.0020	N.D.	06/18/99	Jun 23-25, 1999

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.M.R.

Robyn Rice
 Project Manager

Del Mar Analytical

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QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

QST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 17-28, 1999
 Analyzed: Jun 17-28, 1999
 Reported: Jun 30, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/17/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/17/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/25/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.351	0.426	70%	85%	19%	40	55-125
DDD	0	0.500	0.392	0.471	78%	94%	18%	20	60-130
DDT	0	0.500	0.390	0.494	78%	99%	24%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/23/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
AR 1016	0	4.0	2.38	2.42	60%	61%	2%	≤ 50	60-140%
AR 1260	0	4.0	3.24	3.26	81%	82%	1%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/18/99
 Sample #: PIF01090
 Batch #: IF18021W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	24.0	24.8	96%	99%	3%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	24.0	24.2	96%	97%	0.8%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	24.7	23.6	99%	94%	4.6%	≤ 20	69-113
Chloroform	2.8	25	27.7	26.5	100%	95%	4.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.4	24.7	102%	99%	2.8%	≤ 20	61-122
Benzene	0.0	25	24.4	24.1	98%	96%	1.2%	≤ 20	80-115
Trichloroethene	0.0	25	24.6	24.2	98%	97%	1.6%	≤ 20	60-142
Toluene	0.0	25	24.4	24.4	98%	98%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.3	24.1	97%	96%	0.8%	≤ 20	49-155
Chlorobenzene	0.0	25	23.7	23.8	95%	95%	0.4%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

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MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/24/99
 Sample #: LCS/LCSD*
 Batch #: IF21SE1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Phenol	0.0	50	36	36	72%	72%	0%	15	40-110
2-Chlorophenol	0.0	50	38	39	76%	78%	3%	15	40-110
1,4-Dichlorobenzene	0.0	50	29	29	58%	58%	0%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	43	43	86%	86%	0%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	31	30	62%	60%	3%	15	45-110
Chloro-3-methylphenol	0.0	50	45	43	90%	86%	5%	15	50-115
Acenaphthene	0.0	50	44	42	88%	84%	5%	15	45-120
2,4-Dinitrotoluene	0.0	50	50	47	100%	94%	6%	15	55-120
4-Nitrophenol	0.1	50	40	38	80%	76%	5%	30	45-120
Pentachlorophenol	0.0	50	51	52	102%	104%	2%	15	50-125
Pyrene	0.0	50	53	50	106%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/24/99	PIF00411	0	1.0	0.889	0.937	89%	94%	5%
Thallium	200.9	06/25/99	PIF00411	0	1.0	0.957	0.974	96%	97%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: PIF01004
 Batch #: IF22HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00489	0.00483	98%	97%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC was within acceptance limit.



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00940

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.02	1.22	102%	122%	17.9%	112%
Barium	0.129	1.0	0.990	1.21	86%	108%	20.0%	97%
Cadmium	0	1.0	0.881	1.08	88%	108%	20.3%	98%
Chromium	0	1.0	0.875	1.03	88%	103%	16.3%	95%
Copper	0	1.0	0.907	1.10	91%	110%	19.2%	100%
Iron	0	10.0	8.81	10.7	88%	107%	19.4%	98%
Lead	0	1.0	0.853	1.02	85%	102%	17.8%	94%
Manganese	1.09	1.0	1.88	2.30	79%	121%	20.1%	100%
Nickel	0	1.0	0.869	1.06	87%	106%	19.8%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: $< \text{ or } = 20\%$
 MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 770-1844 FAX (818) 770-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/21/99

Analyte	St	CCV	PR
	ppm	ppm	%
Arsenic	1.0	1.08	108%
Barium	1.0	0.967	97%
Manganese	1.0	0.983	98%

Definition of Terms:

- St. Standard Concentration
- CCV. Continuing Calibration Verification
- PR. Percent Recovery of CCV; $(CCV/St) \times 100$
- Acceptance Limits CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00940	0	0.040	0.0449	0.0458	112%	115%	2%
Antimony	200.9	06/24/99	PIF01296	0	0.040	0.0426	0.0422	107%	106%	1%
Thallium	200.9	06/21/99	PIF00940	0	0.020	0.0211	0.0207	106%	104%	2%
Thallium	200.9	06/23/99	PIF01296	0	0.020	0.0230	0.0227	115%	114%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/28/99
 Sample #: PIF01296

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.03	106%	103%	2.9%	105%
Barium	0	1.0	1.01	1.03	101%	103%	2.0%	102%
Cadmium	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Chromium	0	1.0	0.997	1.00	100%	100%	0.3%	100%
Copper	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Iron	0.564	10.0	10.8	11.0	102%	104%	1.8%	103%
Lead	0	1.0	0.995	1.00	100%	100%	0.5%	100%
Manganese	0	1.0	1.02	1.04	102%	104%	1.9%	103%
Nickel	0	1.0	1.00	1.01	100%	101%	1.0%	101%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: $< \text{ or } = 20\%$
 MS/MSD: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 735-0851

QC DATA REPORT

DATE: 6/17/99
 SAMPLE # PIF01076

EPA METHOD 300
 Instrument: DIONEX-IC
 Matrix: WATER

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Fluoride	0.561	100	91.6	87.8	91%	87%	4.2%	89%
Chloride	4.12	200	177	168	86%	82%	5.2%	84%
Nitrite-N	0.175	30	26.6	25.9	88%	86%	2.7%	87%
Nitrate-N	0.365	90	81.8	76.9	90%	85%	6.2%	88%
OrthoPhos-P	0.00	194	170	163	88%	84%	4.2%	86%
Sulfate	23.7	400	386	364	91%	85%	5.9%	88%
Bromide	0.00	400	346	328	87%	82%	5.3%	84%

DF= 100

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $(MS-R1) / SP \times 100$
- PR2..... Percent Recovery of MSD; $(MSD-R1) / SP \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD/2)) \times 100$

Del Mar Analytical



LCS DATA REPORT

EPA METHOD: SM 4500-S-C,D

DATE: 6/21/99

<u>Analyte</u>	<u>St</u> ppm	<u>R1</u> ppm	<u>PR</u> %
Sulfide	1.0	1.15	115%

Definition of Terms:

St...... Standard Concentration

R1...... Standard Result

PR...... Percent Recovery of R1; $(R1/St) \times 100$

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/25/99
 Sample #: IF02515
 Batch #: IF25PS1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Phosphorus	0	1.0	0.809	0.809	81%	81%	0%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: IF02514
 Batch #: IF22CO1W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.0	5.0	4.8	4.8	96%	96%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).

MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/28/99
 Sample #: CIF01323
 Batch #: IF28TK1W

Analyte								<u>Acceptance Limits</u>	
	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>RPD</u>	<u>PR1/PR2</u>
	ppm	ppm	ppm	ppm	%	%	%	%	%
Total Kjeldahl Nitrogen	2.2	10.0	11.0	12.0	88%	98%	9%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
 Sp..... Spike Concentration added to sample
 MS..... Matrix Spike Result
 MSD..... Matrix Spike Duplicate Result
 PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
 PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
 RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
 Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



GC CALIBRATION CHECK CRITERIA

Method: 8081A
 Mid-Point: F25 #45

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within $\pm 15\%$ from the true value ($\pm 20\%$ for the light gases) for each individual compound or the average % recovery of all compounds in the calibration check solution must be within $\pm 15\%$ recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside of the $\pm 15\%$ criteria, however the average % recovery of all compounds in the calibration check solution was within $\pm 15\%$, thus meeting the overall calibration check criteria.

<u>Compound</u>	<u>Footnote</u>	<u>% Recovery in Calibration Check</u>
D-BHC	1	120
Endosulfan Sulfate	1	120
Endrin Ketone	1	117

¹ The calibration demonstrated a high bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible high bias in the result. All samples that were ND for this compound were unaffected and reported unqualified.

² The calibration demonstrated a low bias for this compound. Any sample with a positive result for this compound was flagged to indicate a possible low bias in the result. An additional check sample at the reporting limit was analyzed. All samples less than the amount found in the reporting limit check sample for this compound were unaffected and reported, unqualified, as ND.

EPA 8141

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01088.QST

Sample ID: PIF01088

Sample Collection Date: 6/16/99

ARF: 30534

APPL ID AP80281

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/29/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/29/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Surrogate: Tributylphosphate	85.4	60-150	%	6/21/99	6/29/99
EPA 8141	Surrogate: Triphenylphosphate	84.3	76-140	%	6/21/99	6/29/99

Run #: 104
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

EPA 8141

Al Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01088.QST

Sample ID: PIF01090

Sample Collection Date: 6/17/99

ARF: 30534

APPL ID AP80282

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/29/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Def	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/29/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/29/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/29/99
EPA 8141	Surrogate: Tributylphosphate	114	60-150	%	6/21/99	6/29/99
EPA 8141	Surrogate: Triphenylphosphate	115	76-140	%	6/21/99	6/29/99

Run #: 105
Instrument: NPD03
Sequence: 990625
Dilution Factor: 1
Initials: RLB

EPA 8151 Herbicides

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01088.QST

Sample ID: PIF01088

Sample Collection Date: 6/16/99

ARF: 30534

APPL ID AP80281

QCG: \$8151-990621A-17380

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/28/99
EPA 8151	MCPA	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	MCPP	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Surrogate Recovery	99.2	61-120	%	6/21/99	6/28/99

Run #: 112
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/29/99 1:02:19 PM

EPA 8151 Herbicides

Mar Analytical
3030 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01088.QST

Sample ID: PIF01090

Sample Collection Date: 6/17/99

ARF: 30534

APPL ID AP80282

QCG: \$8151-990621A-17380

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/28/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/28/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/28/99
EPA 8151	MCPA	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	MCPP	Not detected	100	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/28/99
EPA 8151	Surrogate Recovery	94.3	61-120	%	6/21/99	6/28/99

Run #: 113
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/29/99 1:02:19 PM

Method Blank

EPA 8141

Blank Name/QCG: 990621W -
Batch ID:

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/21/99	6/28/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Def	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/21/99	6/28/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	EPN	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Malathion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Merphos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/21/99	6/28/99
BLANK	Naled	Not detected	2.5	ug/L	6/21/99	6/28/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Phorate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Prowl	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tepp	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/21/99	6/28/99
BLANK	Surrogate: Tributylphosphate	85.1	60-150	%	6/21/99	6/28/99
BLANK	Surrogate: Triphenylphosphate	87.8	76-140	%	6/21/99	6/28/99

Run #: 93
Instrument: NPD03
Sequence: 990625
Initials: RLB

Laboratory Control Spike Recoveries

EPA 8141

APPL ID 990621W-80233 LCS/LCSD - 17371

Batch ID: \$8141W-990621A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.5	1.83	2.14	73.2	85.6	57-130	15.6	21
Disulfoton	2.5	2.32	2.85	92.8	114	47-117	20.5	22
Ethion	2.5	2.88	3.31	115	132	65-134	13.9	20
Methyl Parathion	2.5	2.64	3.08	106	123	55-164	15.4	24
Phorate	2.5	2.22	2.65	88.8	106 #	22-96	17.7	24
Stirophos	2.5	2.57	2.84	103	114	68-128	10.0	25

Surrogate: Tributylphosphate	5.0	5.25	5.96	105	119	60-150		
Surrogate: Triphenylphosphate	5.0	5.34	6.13	107	123	76-140		

= Recovery is outside QC limits.

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/28/99	6/28/99
Instrument :	NPD03	NPD03
Run :	94	95
Analyst :	RLB	--

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990621W - 17380
Batch ID: \$8151-990621A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/21/99	6/25/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/21/99	6/25/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/21/99	6/25/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/21/99	6/25/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/21/99	6/25/99
BLANK	MCPA	Not detected	100	ug/L	6/21/99	6/25/99
BLANK	MCPP	Not detected	100	ug/L	6/21/99	6/25/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/21/99	6/25/99
BLANK	Surrogate recovery	100	61-120	%	6/21/99	6/25/99

Run #: 97
Instrument: ECD01
Sequence: 990621
Initials: KW

Printed: 6/29/99 1:02:29 PM

Laboratory Control Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990621W-80277 LCS/LCSD - 17380
 Batch ID: \$8151-990621A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	0.844	0.884	84.4	88.4	53-134	4.6	32
2,4,5-TP	1.00	0.777	0.804	77.7	80.4	60-118	3.4	24
2,4-D	1.00	1.06	1.12	106	112	44-155	5.5	15
Dicamba	1.00	0.903	0.902	90.3	90.2	48-102	0.11	24
Dichlorprop (2,4-DP)	1.00	0.721	0.743	72.1	74.3	37-146	3.0	18
Dinoseb (DNBP)	1.00	0.867	0.907	86.7	90.7	73-173	4.5	31

Surrogate: 2,4-DCAA	3.00	3.15	3.25	105	108	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	6/21/99	6/21/99
Analysis Date :	6/25/99	6/25/99
Instrument :	ECD01	ECD01
Run :	98	99
Analyst :	KW	

Matrix Spike Recovery
EPA 8151 Herbicides

APPL ID: 990621W-80277 MS - 17380

Batch ID: \$8151-990621A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	Matrix Result ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	ND	0.848	84.8	53-134
2,4,5-TP	1.00	ND	0.783	78.3	60-118
2,4-D	1.00	ND	0.981	98.1	44-155
Dicamba	1.00	ND	1.02	102	48-102
Dichlorprop (2,4-DP)	1.00	ND	0.584	58.4	37-146
Dinoseb (DNBP)	1.00	ND	0.707	70.7 #	73-173
Surrogate: 2,4-DCAA	3.00	NA	3.31	110	61-120

= Recovery is outside QC limits.

Comments:

Primary	SPK
Extraction Date :	6/21/99
Analysis Date :	6/25/99
Instrument :	ECD01
Run :	101
Analyst :	KW

Printed: 6/29/99 1:04:31 PM

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/17/99
Date Reported: 07/14/99

Attn: Robyn Rice

Sample Type: Water
Sample Date: See C.O.C.
Sample Time: See C.O.C.

RESULTS

Client ID
P01088

Laboratory ID
BE06385

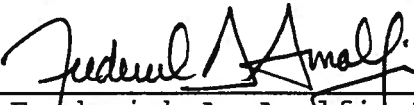
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>	<u>Analysis Method</u>
Dissolved Organic Carbon	1.2	mg/L	0.1	07/12/99	07/12/99	415.1

Client ID
PIF01090

Laboratory ID
BE06386

<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>	<u>Analysis Method</u>
Dissolved Organic Carbon	1.3	mg/L	0.1	07/12/99	07/12/99	415.1

Reviewed by:



Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER:	<u>DOC</u>	UNITS:	<u>mg/L</u>
METHOD NO.:	<u>EPA 415.1</u>	ANALYST:	<u>CJC</u>
ANALYSIS DATE:	<u>07/12/99</u>	PREPARED BY:	<u>CJC</u>

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	107	107

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-06385	1.3	1.3	0.0
BE-05736	2.1	2.1	0.0
BE-07237	0.2	0.1	66.7
BE-07247	0.9	0.9	0.0
BE-05735	2.5	2.6	3.9
BE-07147	7.0	7.1	1.4

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

WORK ORDER Summary

18-Jun 01:35 pm

Report To: Robyn Rice

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Client Project ID: PIF01088.QST

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-2975-01A	PIF01088	Methane, Ethane, Ethene		Water	2	16-Jun-1999	18-Jun-1999	2-Jul-1999	30-Jun-1999
99-2975-02A	PIF01090	Methane, Ethane, Ethene				17-Jun-1999		2-Jul-1999	1-Jul-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

RAB

23

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01088	Client Project ID.	: PIF01088.QST
Lab Sample Number	: 99-2975-01	Lab Work Order	: 99-2975
Date Sampled	: 6/16/99	Dilution Factor	: 1.00
Date Received	: 6/18/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629016

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.0047	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025


Temperature	: 65.5 F	Saturation	Meth	0.001117633
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.003565022
Head space created	: 4 ml	in Head Space		
Methane Area	: 25.99 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers


E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 NA = Not Available/Not Applicable.

Note

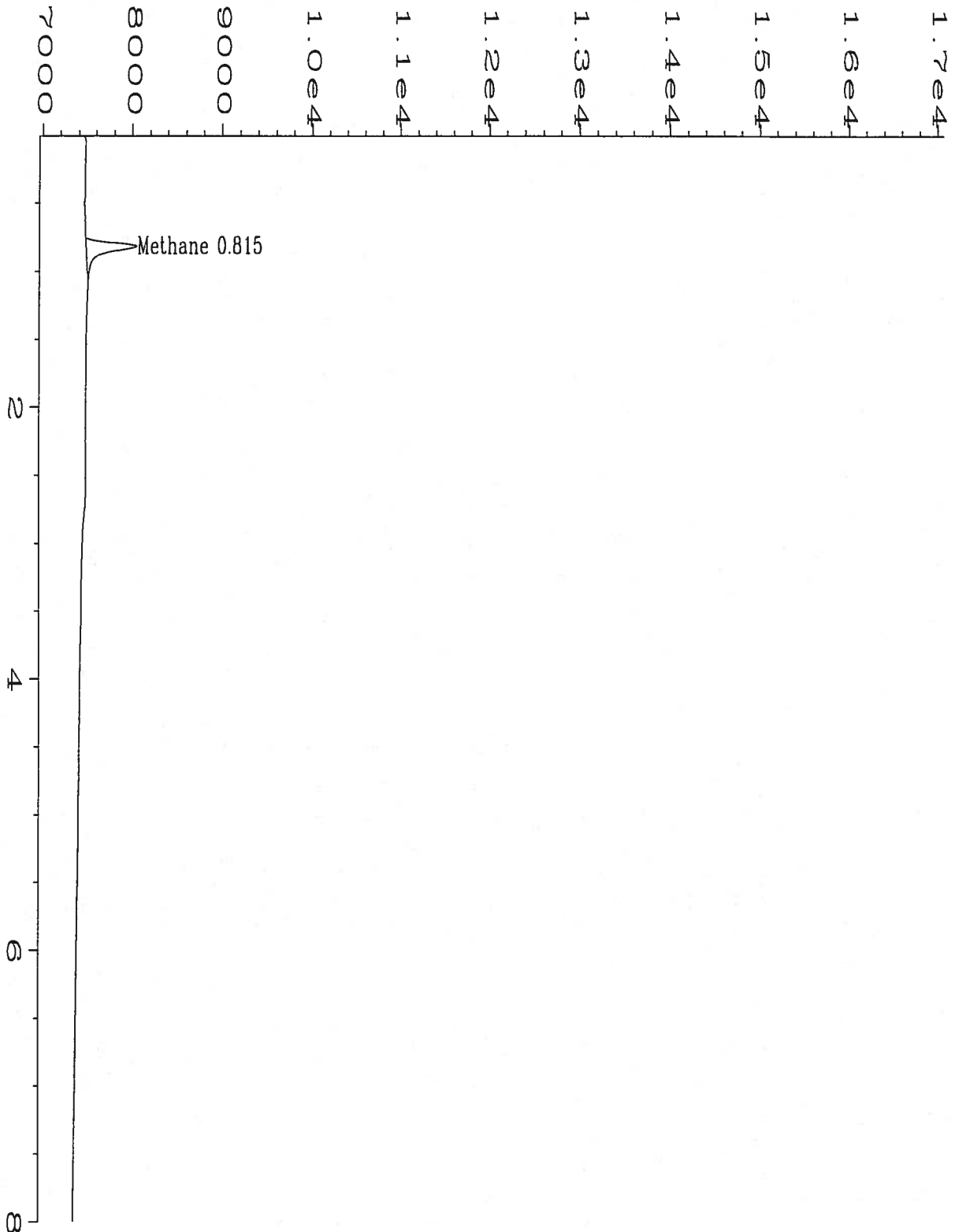
Pressure calculated at sea level.



 Analyst



 Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\016R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 16
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2975-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 03:59 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:39 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	PIF01088		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01090	Client Project ID.	: PIF01088.QST
Lab Sample Number	: 99-2975-02	Lab Work Order	: 99-2975
Date Sampled	: 6/17/99	Dilution Factor	: 1.00
Date Received	: 6/18/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629018

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 65.9 F	Saturation	Meth	0
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0
Head space created	: 4 ml	in Head Space		
Methane Area	: 0 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 NA = Not Available/Not Applicable.

Note

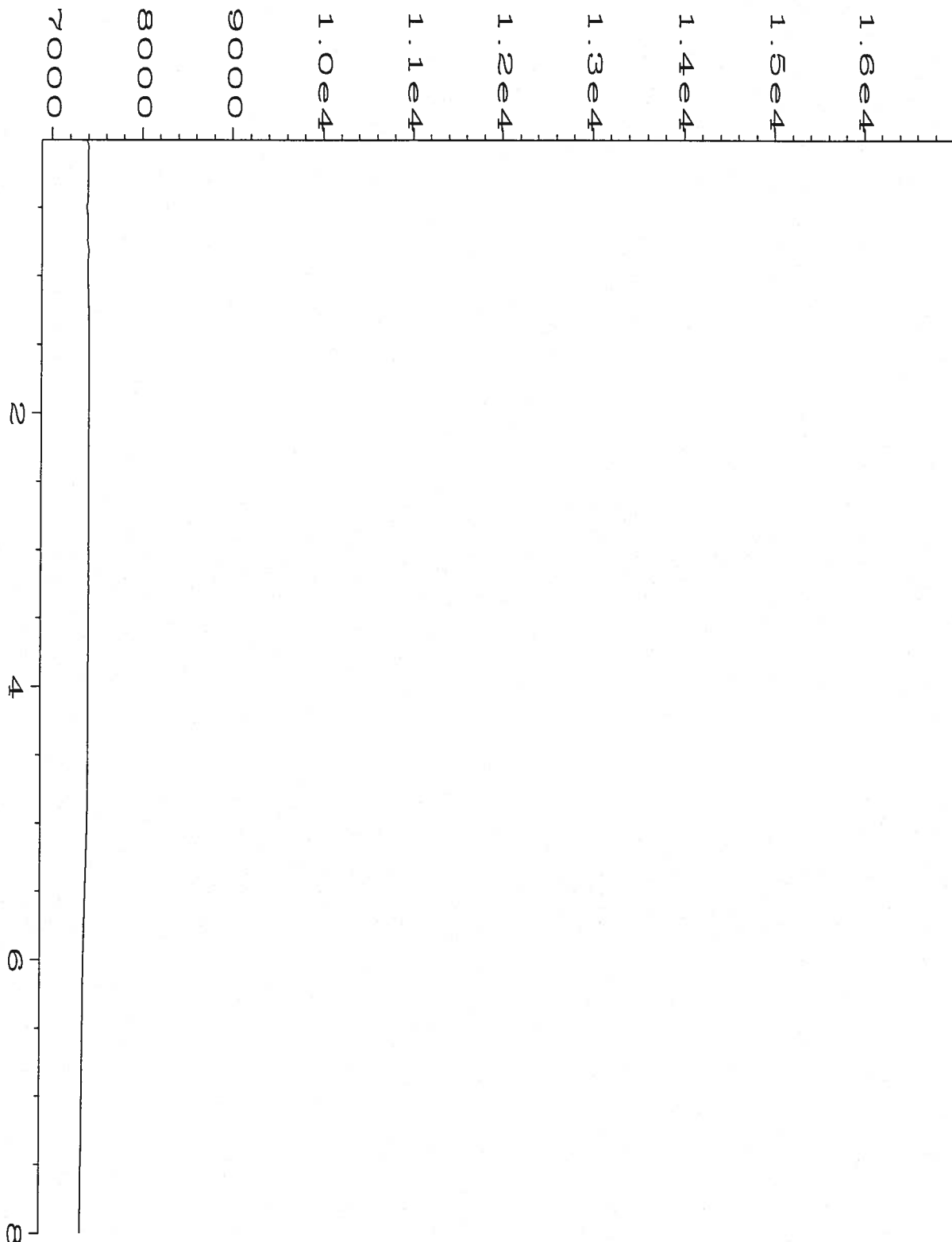
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\018R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 18
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-2975-02A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 04:25 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:40 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	PIF01090		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number	: GB062999	Client Project ID.	: PIF01088.QST
Date Extracted/Prepared	: 6/29/99	Lab Work Order	: 99-2975
Date Analyzed	: 6/29/99	Dilution Factor	: 1.00
		Method	: RSKSOP-175
		Matrix	: Water
		Lab File No.	: GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

E = Extrapolated value.

U = Compound analyzed for, but not detected.

B = Compound also found in the blank.

RL = Reporting Limit.

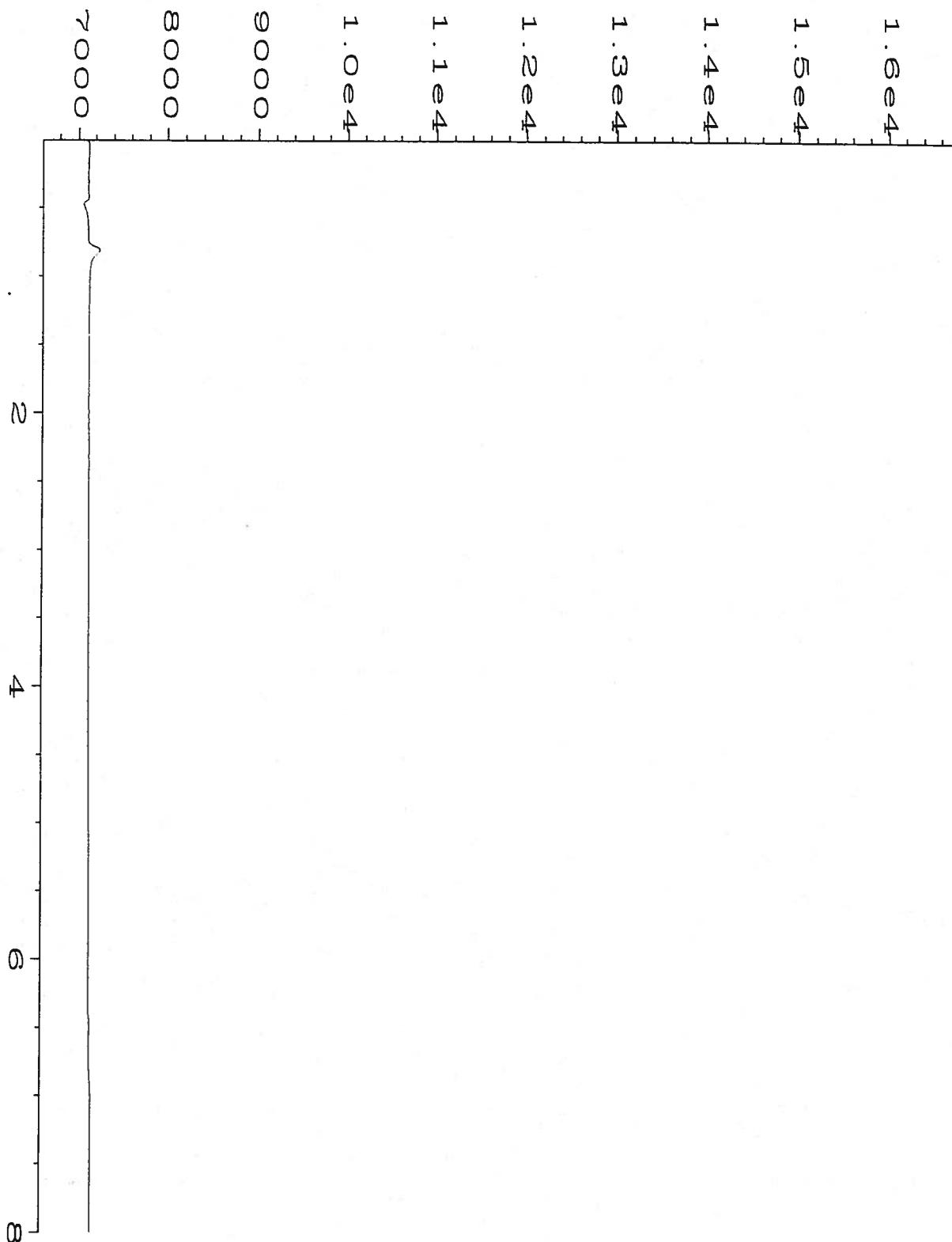
NA = Not Available/Not Applicable.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 8
Instrument	: ALGA	Injection Number	: 1
Sample Name	: GB062999	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 01:28 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:38 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: MBLK METHETH		

Displaced 4ml of distilled water in 43ml vial with Helium,

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

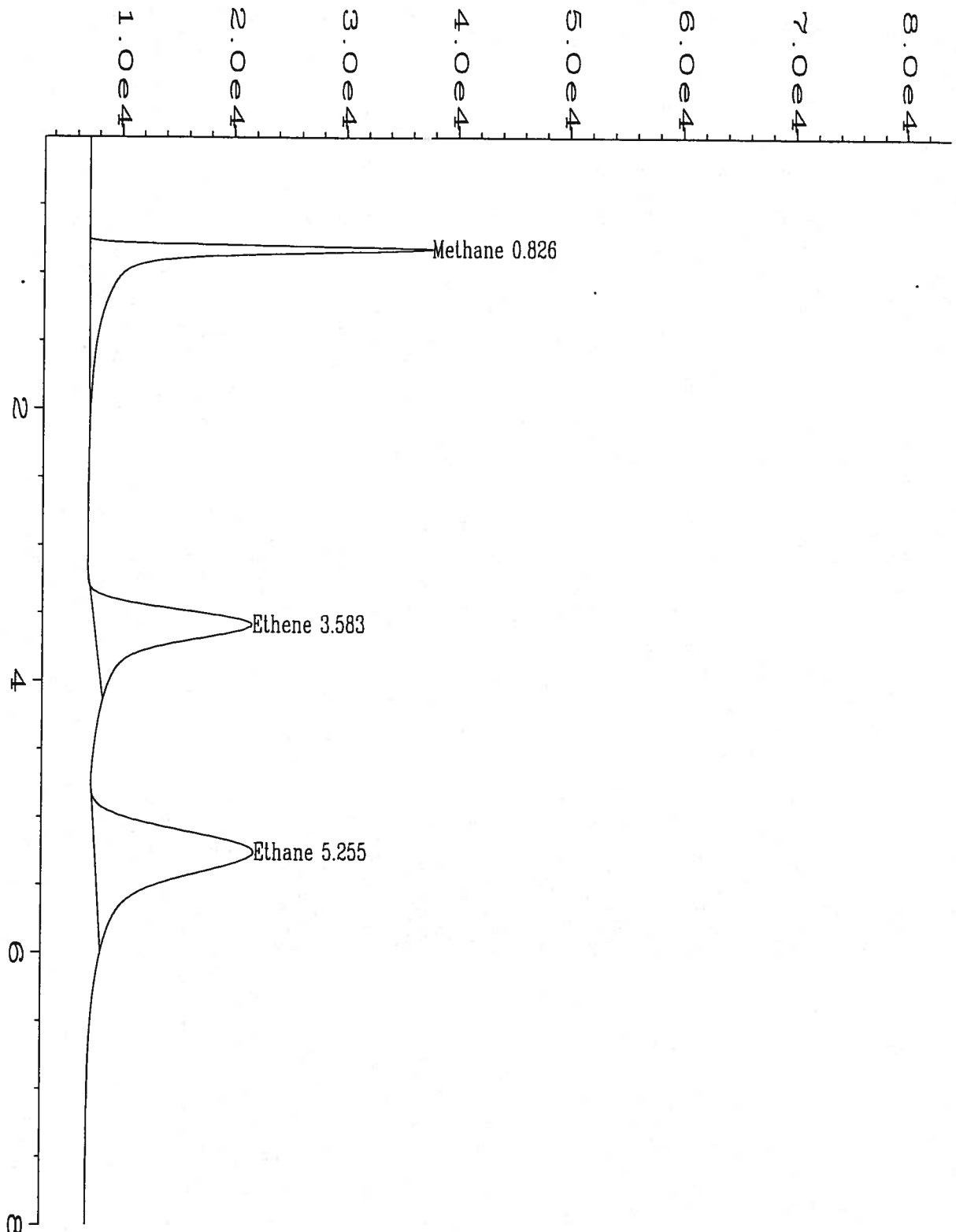
* = Values outside of QC limits.
NA = Not analyzed/not available.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : LCS062999
 Run Time Bar Code:
 Acquired on : 29 Jun 99 01:16 PM
 Report Created on: 30 Jun 99 09:46 AM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : LCS METHETH
 Displaced 4ml of distilled water in 43ml vial with 1%

Page Number : 1
 Vial Number : 7
 Injection Number : 1
 Sequence Line : 1
 Instrument Method: GAS.MTH
 Analysis Method : GAS0629.MTH
 Sample Amount : 0
 ISTD Amount :

CHAIN OF CUSTODY FORM

Quote #: _____ Page 31 of 4

Client Name/Address: QST Environmental Inc, 426 N. 44th Street Phoenix AZ 85007			Project/PO Number: 6699031 ESTES Landfill			Analysis Required													
Project Manager: John Mierke			Phone Number: (602) 244-1192			RSK sep 175	Voc's (206)	TOC (15.1)	TOC (15.1)	TOC (15.1)	Cationic Amide 4500 SUP	TOTAL METALS SILICA + FILL	Mercury (Total)	Distilled water (Total)	TOC's	Pesticides (Dissolved)	Sulfides (8.96)	TKN + TOTAL Phosphorus	Special Instructions
Sampler: M. GARLICK			Fax Number: (602) 244-7280																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives														
EW-26-GW (VIA)	Air	Clear Vials	2	6/17/10	HCl	X													
	Air	Clear Vials	2	"/11/10	HCl		X												
	Air	Amber Vials	3	"/11/10	HCl			X											
	Air	Amber Vials	3	"/11/10	HCl				X										
	Air	500ml Amber	1	"/11/10						X									
	Air	500ml Poly	1	"/11/10	HNO3						X	X							
	Air	500ml Poly	1	"/11/10									X	X					
	Air	500ml Poly	1	"/11/10	2. not used											X			
	Air	500ml Poly	1	"/11/10	HySog												X		
Trip Blank	Air	Clear Vial	1	"/11/10	HCl		X												

Relinquished By: [Signature]	Date /Time: 9/10	Received by: [Signature]	Date /Time: 9/10	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal <input checked="" type="checkbox"/>
Relinquished By: [Signature]	Date /Time: 6/17/10	Received by: [Signature]	Date /Time: 6/17/10	Sample Integrity: (Check) intact _____ on ice <input checked="" type="checkbox"/>

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 2 of 4

Client Name/Address: <u>QST Environmental Inc</u> <u>426 N 44th Street</u> <u>Phoenix, AZ 85008</u>		Project/PO Number: <u>6699031</u> <u>Fisher</u>		Analysis Required																									
Project Manager: <u>John Misher</u>		Phone Number: <u>602) 244-1172</u>		<table border="1"> <tr> <td>CALIC H2O (815)</td> <td>SWCS (827)</td> <td>ORP (808)</td> <td>PCB'S (808)</td> <td>ORP (814)</td> <td>PCB'S (814)</td> <td>CHLORIDE (300)</td> <td>TOTAL ALKALINITY (310)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										CALIC H2O (815)	SWCS (827)	ORP (808)	PCB'S (808)	ORP (814)	PCB'S (814)	CHLORIDE (300)	TOTAL ALKALINITY (310)								
CALIC H2O (815)	SWCS (827)	ORP (808)	PCB'S (808)	ORP (814)	PCB'S (814)	CHLORIDE (300)	TOTAL ALKALINITY (310)																						
Sampler: <u>M. Garlick</u>		Fax Number: <u>(602) 244-7280</u>																											
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	CALIC H2O (815)	SWCS (827)	ORP (808)	PCB'S (808)	ORP (814)	PCB'S (814)	CHLORIDE (300)	TOTAL ALKALINITY (310)	Special Instructions															
<u>EW-26-GW-(4/16/11)</u>	<u>AQ</u>	<u>1L Amber</u>	<u>2</u>	<u>6/16/11 10:10</u>	<u>/</u>	<u>X</u>																							
	<u>AQ</u>	<u>1L Amber</u>	<u>2</u>	<u>4/17/11</u>	<u>/</u>		<u>X</u>																						
	<u>AQ</u>	<u>1L Amber</u>	<u>2</u>	<u>4/17/11</u>	<u>/</u>			<u>X</u>	<u>X</u>																				
	<u>AQ</u>	<u>1L Amber</u>	<u>2</u>	<u>4/17/11</u>	<u>/</u>					<u>X</u>																			
	<u>AQ</u>	<u>1L Poly</u>	<u>1</u>	<u>4/17/11</u>	<u>/</u>						<u>X</u>	<u>X</u>																	
Relinquished By: <u>Matthew E. Misher</u>		Date /Time: <u>6/16/11 9:10</u>		Received by: <u>John Misher</u>		Date /Time: <u>6/16/11 9:10</u>		Turnaround Time: (Check)		same day _____		72 hours _____																	
Relinquished By: <u>John Misher</u>		Date /Time: <u>6/17/11 09:55</u>		Received by:		Date /Time:		24 hours _____		5 days _____		48 hours _____		normal <u>X</u>															
Relinquished By:		Date /Time:		Received in Lab by: <u>Christina Reed</u>		Date /Time: <u>6/17/11 09:55</u>		Sample Integrity: (Check)		intact <u>X</u>		on ice <u>X</u>																	

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

Quote #: _____ Page 3 of 4

Client Name/Address: QST Environmental Inc. 406 N. 44th Street Phoenix, AZ 85008		Project/PO Number: 669031 Estes Landfill		Analysis Required																	
Project Manager: John Meher		Phone Number: (602) 244-1192		VOL'S 9560 TOL 415.1 Carbon Disoxide 4500 S.F. 701 ppm 1 1001 Fe II + Mercury (Total) 6000 Mercury (Dissolved) 5000 TKN + Total Nitrogen																	
Sampler: Matthew Gulick		Fax Number: (602) 244-9286																			
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservatives	Special Instructions															
EW-32-GW-(6/17/99)	ADQ	CLEAR VOA	2	06/17/99 7:50	HCL	X															
		CLEAR VOA	2	06/17/99 7:50	HCL		X														
		ADQ VH	3	06/17/99 7:50	HCL			X		X											
		ADQ VOA	3	06/17/99 7:50	HCL																
		Sec'd ADQ	1	06/17/99 7:50	/				X												
EW-32-GW-(6/17/99)		Sec'd ADQ	1	06/17/99 7:50	HNO ₃					X	X										
		Sec'd ADQ	1	06/17/99 7:50	/							X	X								
		Eq'val ADQ	1	06/17/99 7:50	Zinc (CH ₃ COO) Null												X				
EW-32-GW-(6/17/99)		Sec'd ADQ	1	06/17/99 7:50	H ₂ SO ₄														X		
TRIP BLANK		CLEAR VOA		06/17/99	HCL		X														
Relinquished By: Matthew E. Gulick		Date /Time: 6/17/99 9:10		Received by: [Signature]		Date /Time: 6/17/99 10:00		Turnaround Time: (Check)													
Relinquished By: [Signature]		Date /Time: 6/17/99 09:55		Received by: [Signature]		Date /Time: 6/17/99 10:00		same day _____ 72 hours _____				24 hours _____ 5 days _____									
Relinquished By: [Signature]		Date /Time: 6/17/99 09:55		Received in Lab by: [Signature]		Date /Time: 6/17/99 10:00		48 hours _____ normal <input checked="" type="checkbox"/>				Sample Integrity: (Check)									
								intact <input checked="" type="checkbox"/> on ice <input checked="" type="checkbox"/>													

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.



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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031

Report Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18-29, 1999
 Analyzed: Jun 18-29, 1999
 Reported: 6/30-7/1, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF01201	EW-33-GW- (6-17-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01202	Trip Blank	Water	8260B
PIF01203	EW-15-GW- (6-17-99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01204	Trip Blank	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager



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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 26, 1999
 Reported: Jul 1, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit		Sample Result
	µg/L (ppb)		
Aldrin.....	0.10	.....	N.D.
alpha-BHC.....	0.10	.....	N.D.
beta-BHC.....	0.10	.....	N.D.
delta-BHC.....	0.25	.....	N.D.
gamma-BHC (Lindane).....	0.10	.....	N.D.
Chlordane.....	2.0	.....	N.D.
4,4'-DDD.....	0.10	.....	N.D.
4,4'-DDE.....	0.10	.....	N.D.
4,4'-DDT.....	0.10	.....	N.D.
Dieldrin.....	0.10	.....	N.D.
Endosulfan I.....	0.10	.....	N.D.
Endosulfan II.....	0.10	.....	N.D.
Endosulfan sulfate.....	0.50	.....	N.D.
Endrin.....	0.10	.....	N.D.
Endrin aldehyde.....	0.10	.....	N.D.
Heptachlor.....	0.10	.....	N.D.
Heptachlor epoxide.....	0.10	.....	N.D.
Methoxychlor.....	0.10	.....	N.D.
Toxaphene.....	4.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	48%
Decachlorobiphenyl (30-130).....	88%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 26, 1999
 Reported: Jul 1, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit	Sample Result
	µg/L (ppb)	µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	61%
Decachlorobiphenyl (30-130).....	97%

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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit		Sample Result
	$\mu\text{g/L}$ (ppb)		
Aroclor 1016.....	1.0	.....	N.D.
Aroclor 1221.....	1.0	.....	N.D.
Aroclor 1232.....	1.0	.....	N.D.
Aroclor 1242.....	1.0	.....	N.D.
Aroclor 1248.....	1.0	.....	N.D.
Aroclor 1254.....	1.0	.....	N.D.
Aroclor 1260.....	1.0	.....	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	72%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	92%

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PIF01201.QST <5 of 24>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 16 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	6.1	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	18	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	160	Vinyl chloride.....	2.0	120
trans-1,2-Dichloroethene.....	2.0	3.3	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	89%
Toluene-d8 (75-140).....	101%
4-Bromofluorobenzene (75-135).....	99%

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 1830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

QST Environmental
 16 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, Trip Blank
 Lab Number: PIF01202

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	91%
Toluene-d8 (75-140).....	100%
4-Bromofluorobenzene (75-135).....	99%

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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	5.6	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	16	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	120	Vinyl chloride.....	2.0	100
trans-1,2-Dichloroethene.....	2.0	2.8	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.
 Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	89%
Toluene-d8 (75-140).....	100%
4-Bromofluorobenzene (75-135).....	99%

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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, Trip Blank
 Lab Number: PIF01204

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 19, 1999
 Analyzed: Jun 19, 1999
 Reported: Jun 30, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	89%
Toluene-d8 (75-140).....	98%
4-Bromofluorobenzene (75-135).....	101%

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0143 FAX (480) 785-0851

ST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031
 Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	16	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	55%
Phenol-d6 (40-115).....	54%
2,4,6-Tribromophenol (40-140)	82%
Nitrobenzene-d5 (35-120).....	60%
2-Fluorobiphenyl (30-150).....	70%
Terphenyl-d14 (45-150).....	97%



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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	15	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	59%
Phenol-d6 (40-115).....	62%
2,4,6-Tribromophenol (40-140)	86%
Nitrobenzene-d5 (35-120).....	68%
2-Fluorobiphenyl (30-150).....	78%
Terphenyl-d14 (45-150).....	-102%



Del Mar Analytical

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031

Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22-24, 1999
 Analyzed: Jun 22-24, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic.....	EPA 200.7	0.050	N.D.(C)	N.A.	06/22/99
Barium.....	EPA 200.7	0.010	0.063	N.A.	06/22/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/22/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/22/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/22/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/22/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/22/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

C= Continuing Calibration verification recovery was above the method control limits; Data not impacted.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 23-29, 1999
 Analyzed: Jun 23-29, 1999
 Reported: Jun 30, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	06/29/99
Arsenic.....	EPA 200.7	0.050	N.D.	N.A.	06/24/99
Barium.....	EPA 200.7	0.010	0.058	N.A.	06/24/99
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	06/24/99
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	06/24/99
Copper.....	EPA 200.7	0.020	N.D.	N.A.	06/24/99
Iron.....	EPA 200.7	0.50	N.D.	N.A.	06/24/99
Lead.....	EPA 200.7	0.050	N.D.	N.A.	06/24/99
Manganese.....	EPA 200.7	0.050	0.051	N.A.	06/24/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/23/99	06/23/99
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	06/24/99
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.R.

Robyn Rice
 Project Manager



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QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22-28, 1999
 Analyzed: Jun 22-28, 1999
 Reported: Jun 30, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/24/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.067	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 22-29, 1999
 Analyzed: Jun 22-29, 1999
 Reported: Jun 30, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/29/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.059	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.053	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-33-GW-(6-17-99)
 Lab Number: PIF01201

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18-28, 1999
 Analyzed: Jun 18-28, 1999
 Reported: Jul 1, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	290	N.A.	06/28/99
Bicarbonate Alkalinity (CaCO3)...	SM2320B	5.0	290	N.A.	06/28/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	17	N.A.	06/18/99
Chloride.....	EPA 300.0	50***	220	N.A.	06/18/99
Nitrate-N.....	EPA 300.0	0.10	1.5	N.A.	06/18/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/18/99
Nitrate/Nitrite-N.....	Calculation	0.10	1.5	N.A.	06/18/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	73	N.A.	06/18/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.8	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager



Del Mar Analytical

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 1830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 395-0043 FAX (480) 395-0051

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031
 Sample Descript: Water, EW-15-GW-(6-17-99)
 Lab Number: PIF01203

Sampled: Jun 17, 1999
 Received: Jun 17, 1999
 Extracted: Jun 18-28, 1999
 Analyzed: Jun 18-28, 1999
 Reported: Jul 1, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	280	N.A.	06/28/99
Bicarbonate Alkalinity (CaCO3)..	SM2320B	5.0	280	N.A.	06/28/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	9.7	N.A.	06/18/99
Chloride.....	EPA 300.0	50***	210	N.A.	06/18/99
Nitrate-N.....	EPA 300.0	0.10	1.1	N.A.	06/18/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/18/99
Nitrate/Nitrite-N.....	Calculation	0.10	1.1	N.A.	06/18/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	73	N.A.	06/18/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	2.2	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 25, 1999
 Reported: Jul 1, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	74%
Decachlorobiphenyl (30-130).....	54%

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ST Environmental
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 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jul 1, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	57%

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 18, 1999
 Analyzed: Jun 18, 1999
 Reported: Jun 30, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	79%
Toluene-d8 (75-140).....	87%
4-Bromofluorobenzene (75-135).....	85%

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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mierher

Method Blank

Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine

Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	70%
Phenol-d6 (40-115).....	75%
2,4,6-Tribromophenol (40-140)	89%
Nitrobenzene-d5 (35-120).....	74%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	-110%

Robyn Rice
 Project Manager

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22-29, 1999
 Analyzed: Jun 22-29, 1999
 Reported: Jun 30, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	N.A.	Jun 24-29, 1999
Arsenic.....	EPA 200.7	0.050	N.D.	N.A.	Jun 22-24, 1999
Barium.....	EPA 200.7	0.010	N.D.	N.A.	Jun 22-24, 1999
Cadmium.....	EPA 200.7	0.0050	N.D.	N.A.	Jun 22-24, 1999
Chromium.....	EPA 200.7	0.010	N.D.	N.A.	Jun 22-24, 1999
Copper.....	EPA 200.7	0.020	N.D.	N.A.	Jun 22-24, 1999
Iron.....	EPA 200.7	0.50	N.D.	N.A.	Jun 22-24, 1999
Lead.....	EPA 200.7	0.050	N.D.	N.A.	Jun 22-24, 1999
Manganese.....	EPA 200.7	0.050	N.D.	N.A.	Jun 22-24, 1999
Mercury.....	EPA 245.1	0.00020	N.D.	Jun 22-23, 1999	Jun 22-23, 1999
Nickel.....	EPA 200.7	0.050	N.D.	N.A.	Jun 22-24, 1999
Thallium.....	EPA 200.9	0.0020	N.D.	N.A.	06/23/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
Project Manager

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22-29, 1999
 Analyzed: Jun 22-29, 1999
 Reported: Jun 30, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	Jun 24-29, 1999
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/22/99	06/22/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager

QST Environmental
 6 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 18-28, 1999
 Analyzed: Jun 18-28, 1999
 Reported: Jul 1, 1999
 Matrix: Water

LABORATORY ANALYSIS

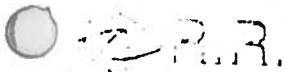
Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/18/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/18/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/18/99
Phosphorus*	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/18/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**	SM4500-N-O,C	0.50	N.D.	06/28/99	06/28/99
Total Organic Carbon*	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/25/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
DDE	0	0.500	0.351	0.426	70%	85%	19%	40	55-125
DDD	0	0.500	0.392	0.471	78%	94%	18%	20	60-130
DDT	0	0.500	0.390	0.494	78%	99%	24%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/23/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
AR 1016	0	4.0	2.38	2.42	60%	61%	2%	≤ 50	60-140%
AR 1260	0	4.0	3.24	3.26	81%	82%	1%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/18/99
 Sample #: PIF01090
 Batch #: IF18021W

Acceptance Limits

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	24.0	24.8	96%	99%	3%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	24.0	24.2	96%	97%	0.8%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	24.7	23.6	99%	94%	4.6%	≤ 20	69-113
Chloroform	2.8	25	27.7	26.5	100%	95%	4.4%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	25.4	24.7	102%	99%	2.8%	≤ 20	61-122
Benzene	0.0	25	24.4	24.1	98%	96%	1.2%	≤ 20	80-115
Trichloroethene	0.0	25	24.6	24.2	98%	97%	1.6%	≤ 20	60-142
Toluene	0.0	25	24.4	24.4	98%	98%	0.0%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.3	24.1	97%	96%	0.8%	≤ 20	49-155
Chlorobenzene	0.0	25	23.7	23.8	95%	95%	0.4%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270
 Matrix: Water
 Instrument: GCMS

Date: 06/24/99
 Sample #: LCS/LCSD*
 Batch #: IF21SE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
Phenol	0.0	50	36	36	72%	72%	0%	15	40-110
2-Chlorophenol	0.0	50	38	39	76%	78%	3%	15	40-110
1,4-Dichlorobenzene	0.0	50	29	29	58%	58%	0%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	43	43	86%	86%	0%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	31	30	62%	60%	3%	15	44-110
4-Chloro-3-methylphenol	0.0	50	45	43	90%	86%	5%	20	50-115
Benaphthene	0.0	50	44	42	88%	84%	5%	15	50-115
2,4-Dinitrotoluene	0.0	50	50	47	100%	94%	6%	15	55-120
4-Nitrophenol	0.1	50	40	38	80%	76%	5%	15	45-120
Pentachlorophenol	0.0	50	51	52	102%	104%	2%	20	50-125
Pyrene	0.0	50	53	50	106%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

VQC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

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 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 405-9596 FAX (619) 405-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 385-0043 FAX (480) 385-0051

BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/21/99
 Sample #: PIF00940

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.02	1.22	102%	122%	17.9%	112%
Barium	0.129	1.0	0.990	1.21	86%	108%	20.0%	97%
Cadmium	0	1.0	0.881	1.08	88%	108%	20.3%	98%
Chromium	0	1.0	0.875	1.03	88%	103%	16.3%	95%
Copper	0	1.0	0.907	1.10	91%	110%	19.2%	100%
Iron	0	10.0	8.81	10.7	88%	107%	19.4%	98%
Lead	0	1.0	0.853	1.02	85%	102%	17.8%	94%
Manganese	1.09	1.0	1.88	2.30	79%	121%	20.1%	100%
Nickel	0	1.0	0.869	1.06	87%	106%	19.8%	96%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD; ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2) X 100
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.

Del Mar Analytical (AZ0426)



CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/21/99

Analyte	St	CCV	PR
	ppm	ppm	%
Arsenic	1.0	1.08	108%
Barium	1.0	0.967	97%
Manganese	1.0	0.983	98%

Definition of Terms:

- St**..... Standard Concentration
- CCV**..... Continuing Calibration Verification
- PR**..... Percent Recovery of CCV; $(CCV/St) \times 100$
- Acceptance Limits** CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/23/99	PIF00940	0	0.040	0.0449	0.0458	112%	115%	2%
Antimony	200.9	06/24/99	PIF01296	0	0.040	0.0426	0.0422	107%	106%	1%
Thallium	200.9	06/21/99	PIF00940	0	0.020	0.0211	0.0207	106%	104%	2%
Thallium	200.9	06/23/99	PIF01296	0	0.020	0.0230	0.0227	115%	114%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/23/99
 Sample #: PIF00940

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	0.966	1.17	97%	117%	19.1%	107%
Barium	0.134	1.0	0.999	1.28	87%	115%	24.7%	101%
Cadmium	0	1.0	0.886	1.14	89%	114%	25.1%	101%
Chromium	0	1.0	0.884	1.12	88%	112%	23.6%	100%
Copper	0	1.0	0.890	1.16	89%	116%	26.3%	103%
Iron	0	10.0	8.86	11.4	89%	114%	25.1%	101%
Lead	0	1.0	0.867	1.11	87%	111%	24.6%	99%
Manganese	1.12	1.0	1.91	2.36	79%	124%	21.1%	102%
Nickel	0	1.0	0.858	1.10	86%	110%	24.7%	98%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; $((BS-R1) / SP) \times 100$
- PR2..... Percent Recovery of BSD; $((BSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: $< \text{or} = 20\%$
 MS/MSD: 85-115%

QA/QC Criteria: The BS/BSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See CCV for batch validation.



CCV DATA REPORT

METHOD: METALS
INSTRUMENT: ICP
MATRIX: WATER

DATE: 6/23/99

Analyte	St	CCV	PR
	ppm	ppm	%
Arsenic	1.0	1.00	100%
Copper	1.0	0.932	93%
Manganese	1.0	0.977	98%

Definition of Terms:

St. Standard Concentration

CCV. Continuing Calibration Verification

PR. Percent Recovery of CCV; $(CCV/St) \times 100$

Acceptance Limits CCV: 90-110%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

EPA Method: 245.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: PIF01004
 Batch #: IF22HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00489	0.00483	98%	97%	1.2%	≤ 20	70-130%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC was within acceptance limit.



MS/MSD DATA REPORT

EPA Method: 7470A
 Matrix: TCLP Extract
 Instrument: N/A

Date: 06/23/99
 Sample #: PIF01203
 Batch #: IF23HG1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
Mercury	0	0.00500	0.00475	0.00468	95%	94%	1%	≤ 20	85-115%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

2852 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Coolby Dr., Suite A, Colton, CA 92324 (909) 370-6667 FAX (909) 370-1046
 18525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
 9404 Chesapeake Dr., Suite 305, San Diego, CA 92123 (619) 405-9596 FAX (619) 405-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0851

LCS DATA REPORT

EPA METHOD: SM 4500-S-C,D

DATE: 6/21/99

Analyte	St	R1	PR
	ppm	ppm	%
Sulfide	1.0	1.15	115%

Definition of Terms:

- St..... Standard Concentration
- R1..... Standard Result
- PR..... Percent Recovery of R1; (R1/St) X 100

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: 300.0
 Matrix: Water
 Instrument: IC

Date: 06/18/99
 Sample #: PIF01096
 Batch #: N/A

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Fluoride	0.460	100	99.2	96.3	99%	96%	3.0%	≤ 20	80-120
Chloride	221	200	407	397	93%	88%	2.5%	≤ 20	80-120
Nitrate-N	0	30	28.1	26.8	94%	89%	4.7%	≤ 20	80-120
Nitrite-N	0	90	87.7	83.5	97%	93%	4.9%	≤ 20	80-120
OrthoPhos-P	3.06	194	187	182	95%	92%	2.7%	≤ 20	80-120
Sulfate-SO4	104	400	480	455	94%	88%	5.3%	≤ 20	80-120
Bromide	0	400	376	355	94%	89%	5.7%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/28/99
 Sample #: CIF01323
 Batch #: IF28TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Total Kjeldahl Nitrogen	2.2	10.0	11.0	12.0	88%	98%	9%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: IF02514
 Batch #: IF22CO1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Total Organic Carbon	0.0	5.0	4.8	4.8	96%	96%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/25/99
 Sample #: IF02515
 Batch #: IF25PS1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Phosphorus	0	1.0	0.809	0.809	81%	81%	0%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits

- QA/QC Criteria..... All QA/QC was within acceptance limits.

EPA 8141

Del Mar Analytical
100 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01201.QST

Sample ID: PIF01201

Sample Collection Date: 6/17/99

ARF: 30552

APPL ID AP80405

QCG: \$8141W-990622A-17510

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/22/99	7/7/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/22/99	7/7/99
EPA 8141	Def	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/22/99	7/7/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/22/99	7/7/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/22/99	7/7/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/22/99	7/7/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/22/99	7/7/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Surrogate: Tributylphosphate	66.0	60-150	%	6/22/99	7/7/99
EPA 8141	Surrogate: Triphenylphosphate	66.8 #	76-140	%	6/22/99	7/7/99

Recovery is outside QC limits.

Run #: 39
Instrument: NPD03
Sequence: 990706
Dilution Factor: 1
Initials: DG

Printed: 7/9/99 4:32:17 PM

EPA 8141

Del Mar Analytical
10 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01201.QST

Sample ID: PIF01203

Sample Collection Date: 6/17/99

ARF: 30552

APPL ID AP80406

QCG: \$8141W-990624A-17509

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinphosmethyl	Not detected	5.0	ug/L	6/24/99	7/2/99
EPA 8141	Bolstar	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/24/99	7/2/99
EPA 8141	Def	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/24/99	7/2/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/24/99	7/2/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/24/99	7/2/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Merphos	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/24/99	7/2/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/24/99	7/2/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Prowl	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/24/99	7/2/99
EPA 8141	Surrogate: Tributylphosphate	76.6	60-150	%	6/24/99	7/2/99
EPA 8141	Surrogate: Triphenylphosphate	80.2	76-140	%	6/24/99	7/2/99

Run #: 46
Instrument: NPD03
Sequence: 990701
Dilution Factor: 1
Initials: DG

Printed: 7/7/99 3:05:05 PM

EPA 8151 Herbicides

Del Mar Analytical
9 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01201.QST

Sample ID: PIF01201

Sample Collection Date: 6/17/99

ARF: 30552

APPL ID AP80405

QCG: \$8151-990623A-17413

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/23/99	6/29/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/23/99	6/29/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/23/99	6/29/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/23/99	6/29/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/23/99	6/29/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/23/99	6/29/99
EPA 8151	MCPA	Not detected	100	ug/L	6/23/99	6/29/99
EPA 8151	MCPP	Not detected	100	ug/L	6/23/99	6/29/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/23/99	6/29/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/23/99	6/29/99
EPA 8151	Surrogate Recovery	117	61-120	%	6/23/99	6/29/99

Run #: 168
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/30/99 10:50:05 AM

EPA 8151 Herbicides

Del Mar Analytical
10 South 51st. St., Ste B-120
Phoenix, AZ 85044

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Robyn Rice

Project: PIF01201.QST

Sample ID: PIF01203

Sample Collection Date: 6/17/99

ARF: 30552

APPL ID AP80406

QCG: S8151-990623A-17413

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/23/99	6/30/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/23/99	6/30/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/23/99	6/30/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/23/99	6/30/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/23/99	6/30/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/23/99	6/30/99
EPA 8151	MCPA	Not detected	100	ug/L	6/23/99	6/30/99
EPA 8151	MCPP	Not detected	100	ug/L	6/23/99	6/30/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/23/99	6/30/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/23/99	6/30/99
EPA 8151	Surrogate Recovery	117	61-120	%	6/23/99	6/30/99

Run #: 169
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/30/99 10:50:05 AM

Method Blank

EPA 8141

Blank Name/QCG: 990624W - 17509
 Batch ID: S8141W-990624A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/24/99	7/2/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/24/99	7/2/99
BLANK	Def	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/24/99	7/2/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/24/99	7/2/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	EPN	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Ethion	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/24/99	7/2/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Malathion	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Merphos	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/24/99	7/2/99
BLANK	Naled	Not detected	2.5	ug/L	6/24/99	7/2/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Phorate	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Prowl	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Tepp	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/24/99	7/2/99
BLANK	Surrogate: Tributylphosphate	83.9	60-150	%	6/24/99	7/2/99
BLANK	Surrogate: Triphenylphosphate	89.2	76-140	%	6/24/99	7/2/99

Run #: 26
Instrument: NPD03
Sequence: 990701
Initials: DG

Laboratory Control Spike Recoveries

EPA 8141

APPL ID 990624W-30371 LCS - 17500

Batch ID: S814PR-990624A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
Diazinon	2.50	1.51	1.46	60.4	58.4	57-130	3.4	21
Disulfoton	2.50	1.48	1.57	59.2	62.8	47-117	5.9	22
Ethion	2.50	2.09	1.95	83.6	78.0	65-134	6.9	20
Methyl Parathion	2.50	2.44	2.33	97.6	93.2	55-164	4.6	24
Phorate	2.50	1.78	1.84	71.2	73.6	22-96	3.3	24
Stirophos	2.50	2.49	2.27	99.6	90.8	68-128	9.2	25

Surrogate: Tributylphosphate	5.00	3.89	3.71	77.8	74.2	60-150		
Surrogate: Triphenylphosphate	5.00	4.17	3.99	83.4	79.8	76-140		

Comments: _____

<u>Primary</u>	<u>SPK</u>	<u>DUP</u>
Extraction Date :	6/24/99	6/24/99
Analysis Date :	6/24/99	6/24/99
Instrument :	NPD03	NPD03
Run :	27	28
Analyst :	OG	

Method Blank

EPA 8141

Blank Name/QCG: 990622W - 17510
 Batch ID: S8141W-990622A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/22/99	7/7/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Coumaphos	Not detected	1.0	ug/L	6/22/99	7/7/99
BLANK	Def	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/22/99	7/7/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/22/99	7/7/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	EPN	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Ethion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/22/99	7/7/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Malathion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Merphos	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/22/99	7/7/99
BLANK	Naled	Not detected	2.5	ug/L	6/22/99	7/7/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Phorate	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Prowl	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Sulfotep	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Tepp	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Surrogate: Tributylphosphate	60.4	60-150	%	6/22/99	7/7/99
BLANK	Surrogate: Triphenylphosphate	60.8#	76-140	%	6/22/99	7/7/99

* Recovery is outside QC limits.

Run #: 35
Instrument: NPD03
Sequence: 990706
Initials: DG

Matrix / Control Spike Recoveries

ORGANOPHOSPHORUS PESTICIDES

APPL, Inc.
4203 West Swift Avenue
Fresno, CA 93722

EPA Method #: 8141
APPL Sample #: 990622AW LCS/LCSD
Date/Initials: 7/9/99 DAG
Extraction Date: 6/22/99
Matrix Type: Water
Units: ug/L

Compound Name (Limits = See below)	Spike Level	Matrix Results	Spike Results	Spk % Recovery	Spk Dup Results	Spk Dup % Recovery	%RPD (See below)
Phorate	2.33	0.00	1.59	68.2	1.36	58.4	16
Diazinon	1.67	0.00	1.38	82.6	1.26	75.4	9.1
Disulfoton	2.27	0.00	1.51	66.5	1.33	58.6	13
Methyl parathion	2.38	0.00	1.76	73.9	1.58	66.4	11
Stirophos	2.28	0.00	1.80	78.9	1.69	74.1	6.3
Ethion	2.21	0.00	1.87	84.6	1.75	79.2	6.6

Surrogate (see below)	Spike Level	Matrix Results	Spike Results	Spk % Recovery	Spk Dup Results	Spk Dup % Recovery
Tributyl phosphate	5.00	*****	3.57	71.4	3.25	65.0
Triphenyl phosphate	5.00	*****	3.65	73.0 #	3.40	68.0 #

	Primary Column		Secondary Column	
	Spike	Spk Dup	Spike	Spk Dup
Analysis Date:	7/9/99	7/9/99		
Analysis Time:	2:43 AM	3:21 AM		
Instrument:	NPD03B	NPD03B		
Column:	DB-5	DB-5		
Sample/Vial #:	706099	706101		
Extraction Ratio:	10/1000	10/1000		
Dilution Factor:	1	1		

Comments: Spike level values taken from direct injection of spk mix (NPD03 706058.D)
out of 5 limits

	Soil	Water	Soil RPD	Water RPD
Phorate	26-98	22-96	21	24
Diazinon	61-139	57-130	24	21
Disulfoton	14-131	47-117	26	22
Meth Parathion	63-153	55-164	19	24
Stirophos	58-140	68-128	21	25
Ethion	66-131	65-134	36	20
Tributyl phosphate	51-154	60-150	NA	NA
Triphenyl phosphate	63-151	76-140	NA	NA

Method Blank
EPA 8151 Herbicides

Blank Name/QCG: 990623W - 17413
Batch ID: \$8151-990623A

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	2,4-D	Not detected	0.50	ug/L	6/23/99	6/29/99
BLANK	Dalapon	Not detected	1.0	ug/L	6/23/99	6/29/99
BLANK	2,4-DB	Not detected	1.0	ug/L	6/23/99	6/29/99
BLANK	Dicamba	Not detected	0.10	ug/L	6/23/99	6/29/99
BLANK	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/23/99	6/29/99
BLANK	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/23/99	6/29/99
BLANK	MCPA	Not detected	100	ug/L	6/23/99	6/29/99
BLANK	MCPP	Not detected	100	ug/L	6/23/99	6/29/99
BLANK	2,4,5-T	Not detected	0.10	ug/L	6/23/99	6/29/99
BLANK	2,4,5-TP	Not detected	0.10	ug/L	6/23/99	6/29/99
BLANK	Surrogate recovery	112	61-120	%	6/23/99	6/29/99

Run #: 146
Instrument: ECD01
Sequence: 990621
Initials: KW

Printed: 6/30/99 10:50:24 AM

Laboratory Control Spike Recovery
EPA 8151 Herbicides

APPL ID: 990623W-80369 LCS - 17413

Batch ID: S8151-990623A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2,4,5-T	1.00	0.950	95.0	53-134
2,4,5-TP	1.00	0.897	89.7	60-118
2,4-D	1.00	1.18	118	44-155
Dicamba	1.00	0.927	92.7	48-102
Dichlorprop (2,4-DP)	1.00	0.818	81.8	37-146
Dinoseb (DNBP)	1.00	1.01	101	73-173
Surrogate: 2,4-DCAA	3.00	3.57	119	61-120

Comments: _____

Primary	SPK
Extraction Date :	6/23/99
Analysis Date :	6/29/99
Instrument :	ECD01
Run :	149
Analyst :	KW

Matrix Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990623W-80369 MS/MSD - 17413

Batch ID: S8151-990623A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	ND	0.997	1.03	99.7	103	53-134	3.3	32
2,4,5-TP	1.00	ND	0.936	0.976	93.6	97.6	60-118	4.2	24
2,4-D	1.00	ND	1.18	1.23	118	123	44-155	4.1	15
Dicamba	1.00	ND	0.906	0.958	90.6	95.8	48-102	5.6	24
Dichlorprop (2,4-DP)	1.00	ND	0.842	0.884	84.2	88.4	37-146	4.9	18
Dinoseb (DNBP)	1.00	ND	1.04	1.11	104	111	73-173	6.5	31
Surrogate: 2,4-DCAA	3.00	NA	3.41	3.53	114	118	61-120		

Comments:

Primary	SPK	DUP
Extraction Date :	6/23/99	6/23/99
Analysis Date :	6/29/99	6/29/99
Instrument :	ECD01	ECD01
Run :	150	151
Analyst :	KW	

AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/18/99

Date Reported: 07/14/99

Attn: Robyn Rice

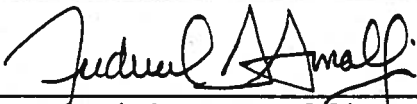
Sample Type: Water
Sample Date: See C.O.C.
Sample Time: See C.O.C.

RESULTS

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF01201	BE06395						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	1.3	mg/L	0.1	07/12/99	07/12/99		415.1

<u>Client ID</u>	<u>Laboratory ID</u>						<u>Analysis Method</u>
PIF01203	BE06396						
<u>Parameter</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>	<u>Start Date</u>	<u>End Date</u>		
Dissolved Organic Carbon	1.3	mg/L	0.1	07/12/99	07/12/99		415.1

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.

AQUATIC CONSULTING TESTING, INC.

QUALITY CONTROL REPORT

PARAMETER: DOC UNITS: mg/L
METHOD NO.: EPA 415.1 ANALYST: CJC
ANALYSIS DATE: 07/12/99 PREPARED BY: CJC

QUALITY CONTROL SAMPLE

<u>Theoretical Value</u>	<u>Analytical Value</u>	<u>Acceptance Range</u>
100	107	107

DUPLICATE SAMPLE

<u>Lab I.D.</u>	<u>Result 1</u>	<u>Result 2</u>	<u>% RPD</u>
BE-06385	1.3	1.3	0.0
BE-05736	2.1	2.1	0.0
BE-07237	0.2	0.1	66.7
BE-07247	0.9	0.9	0.0
BE-05735	2.5	2.6	3.9
BE-07147	7.0	7.1	1.4

SPIKED SAMPLE

<u>Lab I.D.</u>	<u>Sample Result</u>	<u>Spike Result</u>	<u>Amount Spiked</u>	<u>% Recovery</u>
n/a	---	---	---	---

WORK ORDER Summary

23-Jun 09:48 am

Report To: Robyn Rice

Client Project ID: PIF01201.QST

Del Mar Analytical
9830 S. 51st St., Suite B120
Phoenix, AZ 85044

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-3035-01A	PIF01201	Methane, Ethane, Ethene		Water	2	17-Jun-1999	23-Jun-1999	8-Jul-1999	1-Jul-1999
99-3035-02A	PIF01203	Methane, Ethane, Ethene						8-Jul-1999	1-Jul-1999

= Special list. See sample comments or test information.
HT = Holding Time expiration date.

AKB

12

EVERGREEN ANALYTICAL, INC.
 4036 Youngfield St. Wheat Ridge, CO 80033
 (303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01201	Client Project ID.	: PIF01201.QST
Lab Sample Number	: 99-3035-01	Lab Work Order	: 99-3035
Date Sampled	: 6/17/99	Dilution Factor	: 1.00
Date Received	: 6/23/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629024

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.041	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Temperature	: 66.5 F	Saturation	Meth	0.009753207
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.031051592
Head space created	: 4 ml	in Head Space		
Methane Area	: 226.806 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 0 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers

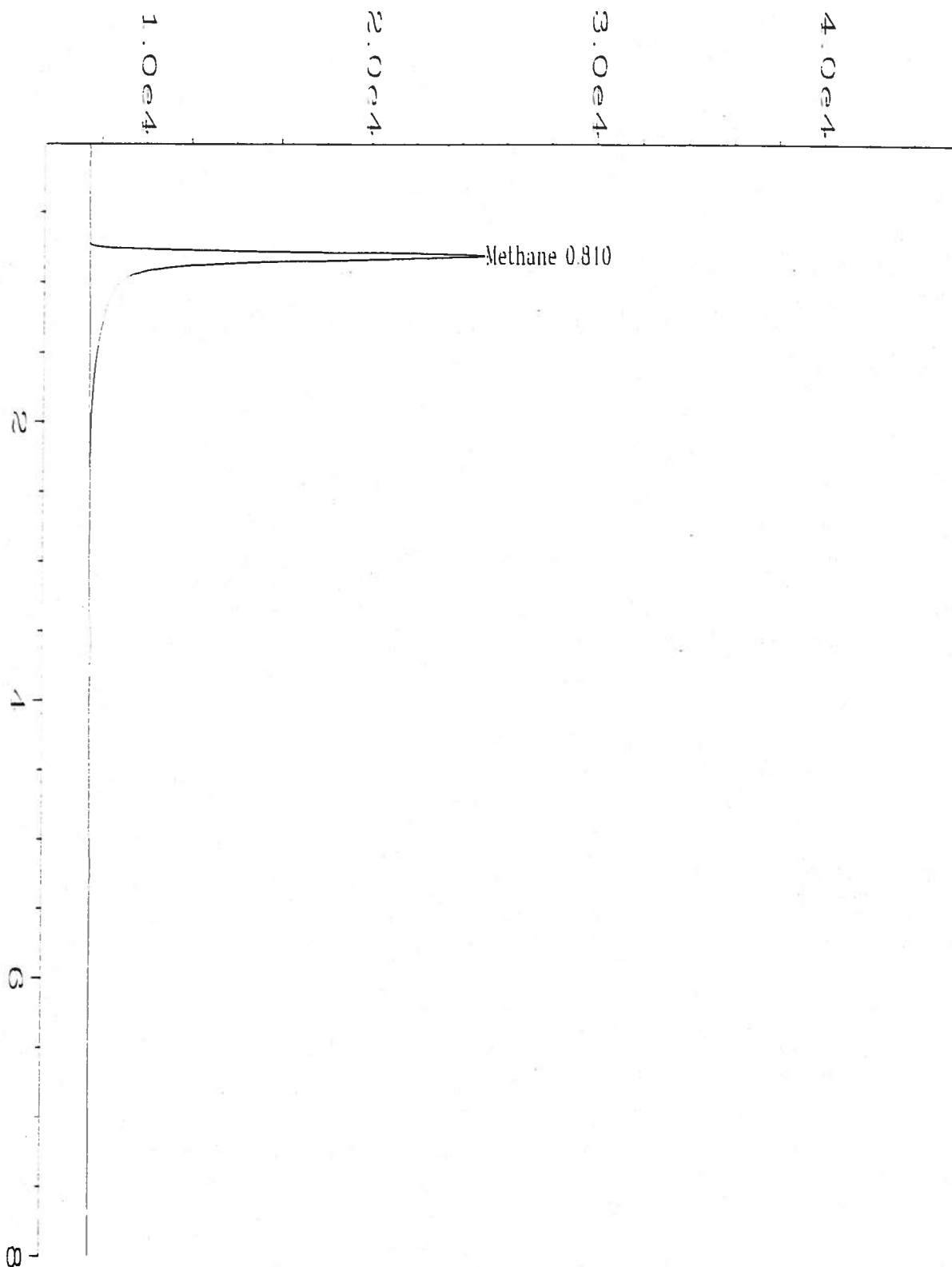
E = Extrapolated value.
 U = Compound analyzed for, but not detected.
 B = Compound also found in the blank.
 RL = Reporting Limit.
 N/A = Not Available/Not Applicable.

Note

Pressure calculated at sea level.


 Analyst


 Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\024R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 24
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-3035-01A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 08:47 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:40 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	PIF01201		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01203	Client Project ID.	: PIF01201.QST
Lab Sample Number	: 99-3035-02	Lab Work Order	: 99-3035
Date Sampled	: 6/17/99	Dilution Factor	: 1.00
Date Received	: 6/23/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629025

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.038	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	0.011	0.0025

Temperature	: 66.7 F	Saturation	Meth	0.009040184
Amount Injected	: 0.5 ml	Concentration		
Total Volume of Sample	: 43 ml	Concentration	Meth	0.028770576
Head space created	: 4 ml	in Head Space		
Methane Area	: 210.225 ug	Saturation	Etha	0
Ethane Area	: 0 ug	Concentration		
Ethene Area	: 20.554 ug	Concentration	Etha	0
Atomic weight(Methane)	: 16 g	in Head Space		
Atomic weight(Ethane)	: 30 g	Saturation	Ethe	0.005603669
Atomic weight(Ethene)	: 28 g	Concentration		
		Concentration	Ethe	0.004922646
		in Head Space		

Qualifiers


E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N/A = Not Available/Not Applicable.

Note

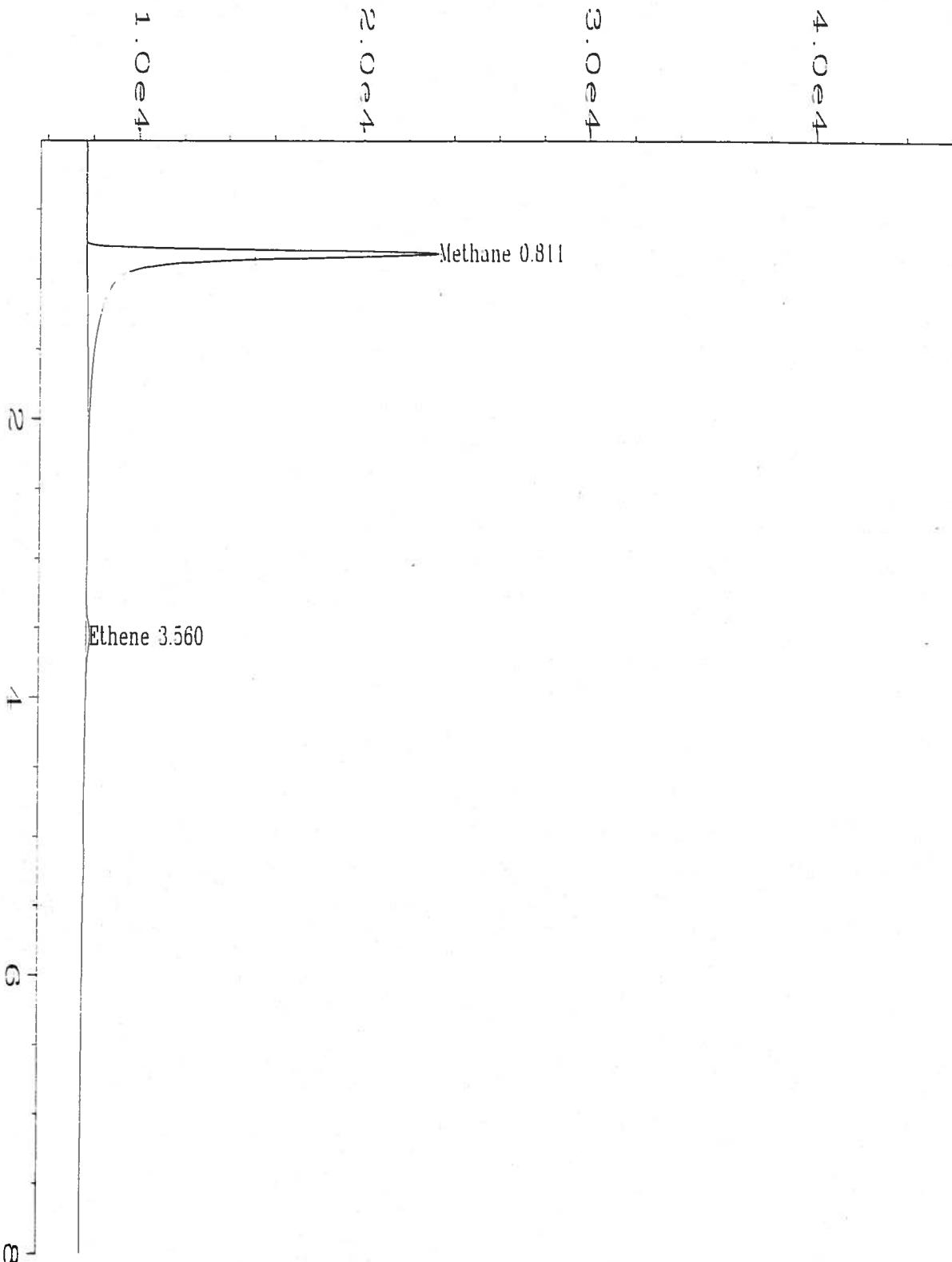
Pressure calculated at sea level.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\025R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 25
Instrument	: ALGA	Injection Number	: 1
Sample Name	: 99-3035-02A	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	GAS.MTH
Acquired on	: 29 Jun 99 08:57 PM	Analysis Method	: GAS0629.MTH
Report Created on:	30 Jun 99 12:41 PM	Sample Amount	: 0
Last Recalib on	: 21 JUN 99 11:25 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SAMP METHETH		
	DTF01203		

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number	: GB062999	Client Project ID.	: PIF01201.QST
Date Extracted/Prepared	: 6/29/99	Lab Work Order	: 99-3035
Date Analyzed	: 6/29/99	Dilution Factor	: 1.00
		Method	: RSKSOP-175
		Matrix	: Water
		Lab File No.	: GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

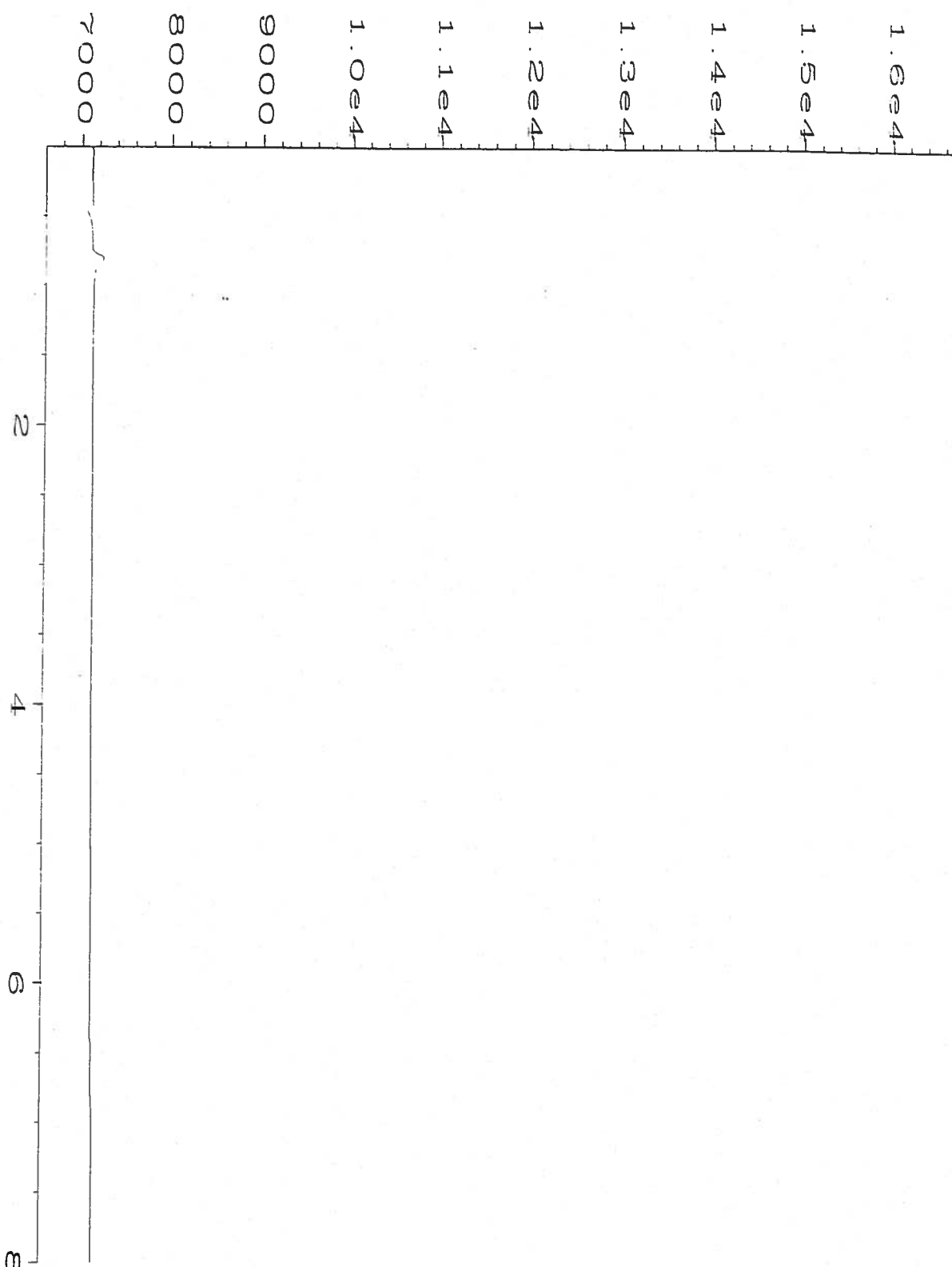
E = Extrapolated value.
U = Compound analyzed for, but not detected.
B = Compound also found in the blank.
RL = Reporting Limit.
N/A = Not Available/Not Applicable.



Analyst



Approved



Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D
 Operator : Leanne Hackney
 Instrument : ALGA
 Sample Name : GB062999
 Run Time Bar Code:
 Acquired on : 29 Jun 99 01:28 PM
 Report Created on: 30 Jun 99 12:38 PM
 Last Recalib on : 21 JUN 99 11:25 AM
 Multiplier : 1
 Sample Info : MBLK METHETH
 Displaced 4ml of distilled water in 43ml vial with Helium,

Page Number	: 1
Vial Number	: 8
Injection Number	: 1
Sequence Line	: 1
Instrument Method	: GAS.MTH
Analysis Method	: GAS0629.MTH
Sample Amount	: 0
ISTD Amount	:

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

* = Values outside of QC limits.

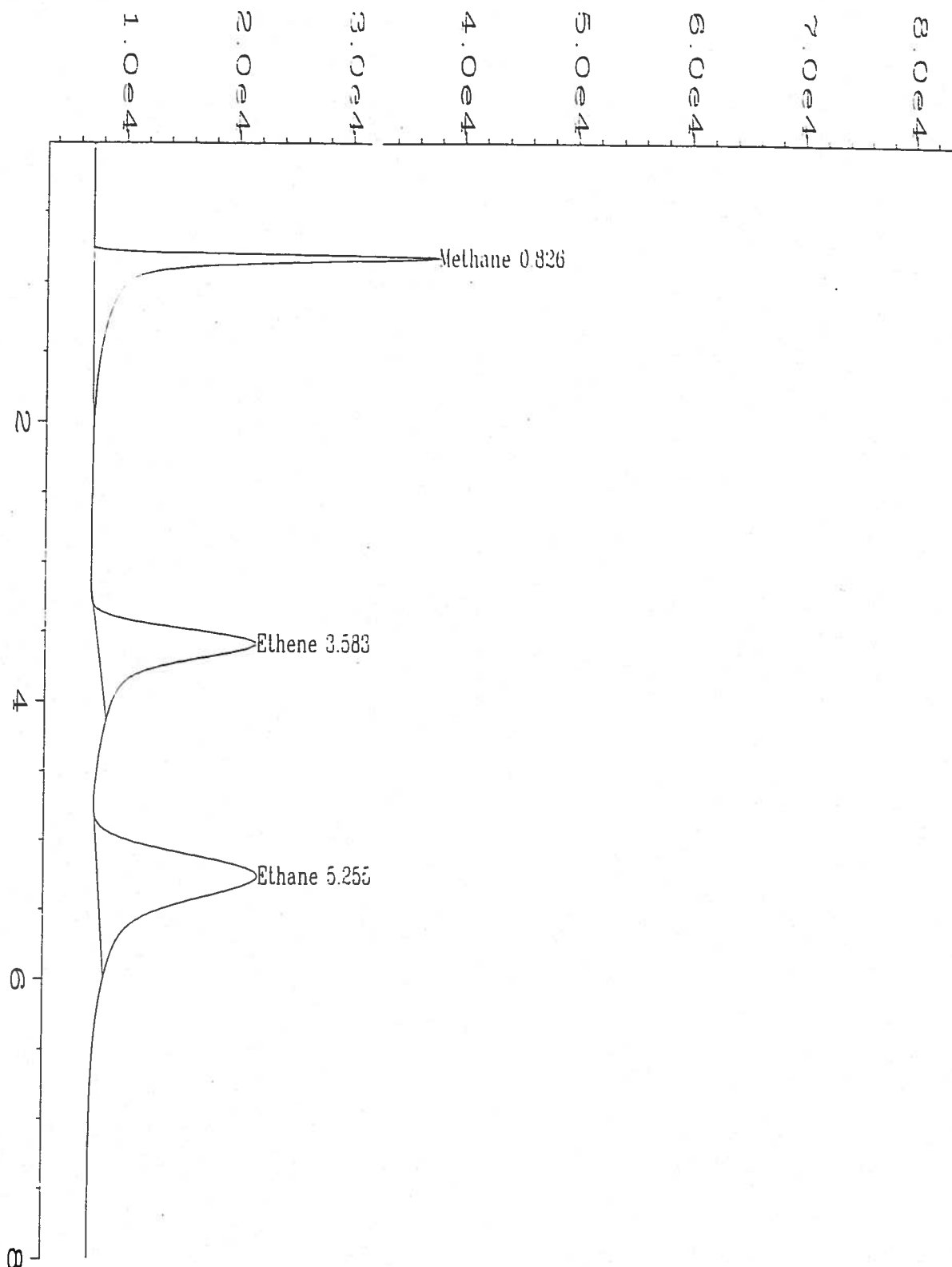
NA = Not analyzed/not available.



Analyst



Approved



Data File Name	: C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D	Page Number	: 1
Operator	: Leanne Hackney	Vial Number	: 7
Instrument	: ALGA	Injection Number	: 1
Sample Name	: LCS062999	Sequence Line	: 1
Acquired on	: 29 Jun 99 01:16 PM	Instrument Method	: GAS.MTH
Report Created on	: 30 Jun 99 09:46 AM	Analysis Method	: GAS0629.MTH
Last Recalib on	: 21 JUN 99 11:25 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:
Sample Info	: LCS METHETH		

Displaced 4ml of distilled water in 43ml vial with 1%



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 726 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Report Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 18-30, 1999
 Analyzed: Jun 18-30, 1999
 Reported: Jul 1, 1999

CASE NARRATIVE

LABORATORY NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	ANALYSES
PIF01217	EW-PZ1-GW- (6/17/99)	Water	8151, 300.0, SM2320B, RSKSOP-175M, 415.1, SM4500-S-C,D, SM4500-N-O,C, 365.3, SM4500-CO2-C, 8260B, 8270, 200.7, 200.9, 245.1, 8081A, 8082, 8141A & SM4500-O,G
PIF01218	Trip Blank	Water	8260B
PIF01219	EW-34-GW- (6/17/99)	Water	8260B

SAMPLE RECEIPT: Samples were received intact, on ice, and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

PROBLEMS ENCOUNTERED: No problems were encountered during sample analysis.

QA/QC CRITERIA: All Analyses met method criteria.

OBSERVATIONS: No significant observations were made.

SUBCONTRACTED: Analysis for 8151 & 8141A was completed at APPL Inc., (AZ0474).
 Analysis for Methane, Ethane & Ethene was completed at Evergreen Analytical Labs.
 Analysis for DOC was completed at Aquatic Consulting & Testing, Inc. (AZ0003).
 Results attached.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)


 Robyn Rice
 Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A. Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 26, 1999
 Reported: Jul 1, 1999

ORGANOCHLORINE PESTICIDES by GC (EPA 3510/8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	65%
Decachlorobiphenyl (30-130).....	53%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

2852 Allon Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
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ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	44%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 23, 1999
 Analyzed: Jun 23, 1999
 Reported: Jul 1, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	100	N.D.	1,3-Dichloropropane.....	10	N.D.
Benzene.....	10	N.D.	2,2-Dichloropropane.....	10	N.D.
Bromobenzene.....	25	N.D.	1,1-Dichloropropene.....	10	N.D.
Bromochloromethane.....	25	N.D.	cis-1,3-Dichloropropene.....	10	N.D.
Bromodichloromethane.....	10	N.D.	trans-1,3-Dichloropropene...	10	N.D.
Bromoform.....	25	N.D.	Ethylbenzene.....	10	N.D.
Bromomethane.....	25	N.D.	Hexachlorobutadiene.....	25	N.D.
2-Butanone (MEK).....	50	N.D.	2-Hexanone.....	50	N.D.
n-Butylbenzene.....	25	N.D.	Iodomethane.....	10	N.D.
sec-Butylbenzene.....	25	N.D.	Isopropylbenzene.....	10	N.D.
tert-Butylbenzene.....	25	N.D.	p-Isopropyltoluene.....	10	N.D.
Carbon Disulfide.....	25	N.D.	Methylene chloride.....	50	N.D.
Carbon tetrachloride.....	25	N.D.	4-Methyl-2-pentanone (MIBK).....	50	N.D.
Chlorobenzene.....	10	N.D.	Methyl-tert-butyl ether (MTBE).....	25	N.D.
Chloroethane.....	25	N.D.	Naphthalene.....	25	N.D.
2-Chloroethyl vinyl ether.....	25	N.D.	n-Propylbenzene.....	10	N.D.
Chloroform.....	10	N.D.	Styrene.....	10	N.D.
Chloromethane.....	25	N.D.	1,1,1,2-Tetrachloroethane....	25	N.D.
2-Chlorotoluene.....	25	N.D.	1,1,2-Tetrachloroethane....	10	N.D.
4-Chlorotoluene.....	25	N.D.	Tetrachloroethene.....	10	N.D.
Dibromochloromethane.....	10	N.D.	Toluene.....	10	N.D.
1,2-Dibromo-3-chloropropane....	25	N.D.	1,2,3-Trichlorobenzene.....	25	N.D.
1,2-Dibromoethane (EDB).....	10	N.D.	1,2,4-Trichlorobenzene.....	25	N.D.
Dibromomethane.....	10	N.D.	1,1,1-Trichloroethane.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,1,2-Trichloroethane.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Trichloroethene.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Trichlorofluoromethane.....	25	N.D.
Dichlorodifluoromethane.....	25	N.D.	1,2,3-Trichloropropane.....	50	N.D.
1,1-Dichloroethane.....	10	N.D.	1,2,4-Trimethylbenzene.....	10	N.D.
1,2-Dichloroethane.....	10	N.D.	1,3,5-Trimethylbenzene.....	10	N.D.
1,1-Dichloroethene.....	25	N.D.	Vinyl acetate.....	25	N.D.
cis-1,2-Dichloroethene.....	10	240	Vinyl chloride.....	10	45
trans-1,2-Dichloroethene.....	10	N.D.	Xylenes (Total).....	50	N.D.
1,2-Dichloropropane.....	10	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit. Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised by a factor of 5.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	92%
Toluene-d8 (75-140).....	95%
4-Bromofluorobenzene (75-135).....	93%

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PIF01217.QST <4 of 18>



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, Trip Blank
 Lab Number: PIF01218

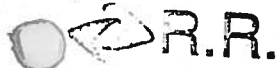
Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 22, 1999
 Reported: Jul 1, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	90%
Toluene-d8 (75-140).....	99%
4-Bromofluorobenzene (75-135).....	99%

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PIF01217.QST <5 of 18>

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-34-GW-(6-/17/99)
 Lab Number: PIF01219

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 22, 1999
 Analyzed: Jun 22, 1999
 Reported: Jul 1, 1999

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	8.3	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	8.1	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	6.7	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	91%
Toluene-d8 (75-140).....	101%
4-Bromofluorobenzene (75-135).....	101%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benzidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	63%
Phenol-d6 (40-115).....	61%
2,4,6-Tribromophenol (40-140)	78%
Nitrobenzene-d5 (35-120).....	68%
2-Fluorobiphenyl (30-150).....	74%
Terphenyl-d14 (45-150).....	103%



Del Mar Analytical

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 16525 Sherman Way, Suite C-11, Van Nuys, CA 92406 (818) 779-1844 FAX (818) 779-1843
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 23, 1999
 Analyzed: Jun 24-30, 1999
 Reported: Jul 1, 1999

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/23/99	06/29/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/23/99	06/24/99
Barium.....	EPA 200.7	0.010	0.16	06/23/99	06/24/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/23/99	06/24/99
Chromium.....	EPA 200.7	0.010	N.D.	06/23/99	06/24/99
Copper.....	EPA 200.7	0.020	0.51	06/23/99	06/24/99
Iron.....	EPA 200.7	0.50	4.1	06/23/99	06/24/99
Lead.....	EPA 200.7	0.050	N.D.	06/23/99	06/24/99
Manganese.....	EPA 200.7	0.050	0.38	06/23/99	06/24/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/23/99	06/23/99
Nickel.....	EPA 200.7	0.050	0.44	06/23/99	06/24/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/23/99	06/30/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

 R.R.

Robyn Rice
 Project Manager

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Del Mar Analytical

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 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill

Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 23-30, 1999
 Analyzed: Jun 23-30, 1999
 Reported: Jul 1, 1999

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/30/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	0.13	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	0.17	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/23/99	06/23/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Sample was filtered in the laboratory prior to analysis.

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

J.R.

Robyn Rice
 Project Manager



2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Client Project ID: 6699031 / Estes Landfill
 Sample Descript: Water, EW-PZ1-GW-(6-/17/99)
 Lab Number: PIF01217

Sampled: Jun 17, 1999
 Received: Jun 18, 1999
 Extracted: Jun 18-28, 1999
 Analyzed: Jun 18-28, 1999
 Reported: Jul 1, 1999

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Alkalinity (CaCO3).....	SM2320B	5.0	310	N.A.	06/28/99
Bicarbonate Alkalinity (CaCO3)..	SM2320B	5.0	310	N.A.	06/28/99
Carbon Dioxide.....	SM4500-CO2-C	1.0	26	N.A.	06/18/99
Chloride.....	EPA 300.0	50***	150	N.A.	06/18/99
Nitrate-N.....	EPA 300.0	0.10	3.0	N.A.	06/18/99
Nitrite-N.....	EPA 300.0	1.0***	N.D.	N.A.	06/18/99
Nitrate/Nitrite-N.....	Calculation	0.10	3.0	N.A.	06/18/99
Phosphorus*.....	EPA 365.3	0.050	0.13	06/25/99	06/25/99
Sulfate.....	EPA 300.0	5.0***	88	N.A.	06/18/99
Sulfide.....	SM4500-S-C,D	0.10	0.13	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	3.4	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	1.0	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit. ***Due to matrix effects and/or other factors, the sample required dilution. Reporting limits for this sample have been raised.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

R.R.

Robyn Rice
 Project Manager

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PIF01217.QST <10 of 18>



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 26, 1999
 Reported: Jul 1, 1999
 Matrix: Water

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aldrin.....	0.10	N.D.
alpha-BHC.....	0.10	N.D.
beta-BHC.....	0.10	N.D.
delta-BHC.....	0.25	N.D.
gamma-BHC (Lindane).....	0.10	N.D.
Chlordane.....	2.0	N.D.
4,4'-DDD.....	0.10	N.D.
4,4'-DDE.....	0.10	N.D.
4,4'-DDT.....	0.10	N.D.
Dieldrin.....	0.10	N.D.
Endosulfan I.....	0.10	N.D.
Endosulfan II.....	0.10	N.D.
Endosulfan sulfate.....	0.50	N.D.
Endrin.....	0.10	N.D.
Endrin aldehyde.....	0.10	N.D.
Heptachlor.....	0.10	N.D.
Heptachlor epoxide.....	0.10	N.D.
Methoxychlor.....	0.10	N.D.
Toxaphene.....	4.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Tetrachloro-m-xylene (30-130).....	74%
Decachlorobiphenyl (30-130).....	54%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 23, 1999
 Reported: Jul 1, 1999
 Matrix: Water

POLYCHLORINATED BIPHENYLS by GC (EPA 3510/8082)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Aroclor 1016.....	1.0	N.D.
Aroclor 1221.....	1.0	N.D.
Aroclor 1232.....	1.0	N.D.
Aroclor 1242.....	1.0	N.D.
Aroclor 1248.....	1.0	N.D.
Aroclor 1254.....	1.0	N.D.
Aroclor 1260.....	1.0	N.D.

Analysis completed at Del Mar Analytical-Irvine (AZ0428)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept Limits):	
Decachlorobiphenyl (30-130).....	57%

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ST Environmental
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 Phoenix, AZ 85008
 Attention: John Mierher

Method Blank

Extracted: Jun 22, 1999
 Analyzed: Jun 22, 1999
 Reported: Jul 1, 1999
 Matrix: Water

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane...	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane...	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane.....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	88%
Toluene-d8 (75-140).....	103%
4-Bromofluorobenzene (75-135).....	100%

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ST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Extracted: Jun 23, 1999
 Analyzed: Jun 23, 1999
 Reported: Jul 1, 1999
 Matrix: Water

Method Blank

VOLATILE ORGANICS by GC/MS (EPA 8260B)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acetone.....	20	N.D.	1,3-Dichloropropane.....	2.0	N.D.
Benzene.....	2.0	N.D.	2,2-Dichloropropane.....	2.0	N.D.
Bromobenzene.....	5.0	N.D.	1,1-Dichloropropene.....	2.0	N.D.
Bromochloromethane.....	5.0	N.D.	cis-1,3-Dichloropropene.....	2.0	N.D.
Bromodichloromethane.....	2.0	N.D.	trans-1,3-Dichloropropene...	2.0	N.D.
Bromoform.....	5.0	N.D.	Ethylbenzene.....	2.0	N.D.
Bromomethane.....	5.0	N.D.	Hexachlorobutadiene.....	5.0	N.D.
2-Butanone (MEK).....	10	N.D.	2-Hexanone.....	10	N.D.
n-Butylbenzene.....	5.0	N.D.	Iodomethane.....	2.0	N.D.
sec-Butylbenzene.....	5.0	N.D.	Isopropylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	5.0	N.D.	p-Isopropyltoluene.....	2.0	N.D.
Carbon Disulfide.....	5.0	N.D.	Methylene chloride.....	10	N.D.
Carbon tetrachloride.....	5.0	N.D.	4-Methyl-2-pentanone (MIBK).....	10	N.D.
Chlorobenzene.....	2.0	N.D.	Methyl-tert-butyl ether (MTBE).....	5.0	N.D.
Chloroethane.....	5.0	N.D.	Naphthalene.....	5.0	N.D.
2-Chloroethyl vinyl ether.....	5.0	N.D.	n-Propylbenzene.....	2.0	N.D.
Chloroform.....	2.0	N.D.	Styrene.....	2.0	N.D.
Chloromethane.....	5.0	N.D.	1,1,1,2-Tetrachloroethane....	5.0	N.D.
2-Chlorotoluene.....	5.0	N.D.	1,1,2,2-Tetrachloroethane....	2.0	N.D.
4-Chlorotoluene.....	5.0	N.D.	Tetrachloroethene.....	2.0	N.D.
Dibromochloromethane.....	2.0	N.D.	Toluene.....	2.0	N.D.
1,2-Dibromo-3-chloropropane....	5.0	N.D.	1,2,3-Trichlorobenzene.....	5.0	N.D.
1,2-Dibromoethane (EDB).....	2.0	N.D.	1,2,4-Trichlorobenzene.....	5.0	N.D.
Dibromomethane.....	2.0	N.D.	1,1,1-Trichloroethane.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.	1,1,2-Trichloroethane.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.	Trichloroethene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.	Trichlorofluoromethane.....	5.0	N.D.
Dichlorodifluoromethane.....	5.0	N.D.	1,2,3-Trichloropropane.....	10	N.D.
1,1-Dichloroethane.....	2.0	N.D.	1,2,4-Trimethylbenzene.....	2.0	N.D.
1,2-Dichloroethane.....	2.0	N.D.	1,3,5-Trimethylbenzene.....	2.0	N.D.
1,1-Dichloroethene.....	5.0	N.D.	Vinyl acetate.....	5.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.	Vinyl chloride.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.	Xylenes (Total).....	10	N.D.
1,2-Dichloropropane.....	2.0	N.D.			

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
Dibromofluoromethane (70-160).....	93%
Toluene-d8 (75-140).....	87%
4-Bromofluorobenzene (75-135).....	89%

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 21, 1999
 Analyzed: Jun 24, 1999
 Reported: Jul 1, 1999
 Matrix: Water

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)	Analyte	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
Acenaphthene.....	10	N.D.	Dimethyl phthalate.....	10	N.D.
Acenaphthylene.....	10	N.D.	4,6-Dinitro-2-methylphenol...	40	N.D.
Aniline.....	10	N.D.	2,4-Dinitrophenol.....	100	N.D.
Anthracene.....	10	N.D.	2,4-Dinitrotoluene.....	10	N.D.
Azobenzene*.....	20	N.D.	2,6-Dinitrotoluene.....	10	N.D.
Benidine.....	100	N.D.	Di-N-octyl phthalate.....	40	N.D.
Benzoic Acid.....	100	N.D.	Fluoranthene.....	10	N.D.
Benzo(a)anthracene.....	10	N.D.	Fluorene.....	10	N.D.
Benzo(b)fluoranthene.....	10	N.D.	Hexachlorobenzene.....	10	N.D.
Benzo(k)fluoranthene.....	10	N.D.	Hexachlorobutadiene.....	10	N.D.
Benzo(g,h,i)perylene.....	10	N.D.	Hexachlorocyclopentadiene.....	40	N.D.
Benzo(a)pyrene.....	10	N.D.	Hexachloroethane.....	10	N.D.
Benzyl alcohol.....	20	N.D.	Indeno(1,2,3-cd)pyrene.....	20	N.D.
Bis(2-chloroethoxy)methane.....	10	N.D.	Isophorone.....	10	N.D.
Bis(2-chloroethyl)ether.....	10	N.D.	2-Methylnaphthalene.....	10	N.D.
Bis(2-chloroisopropyl)ether.....	10	N.D.	2-Methylphenol.....	10	N.D.
Bis(2-ethylhexyl)phthalate.....	100	N.D.	4-Methylphenol.....	10	N.D.
4-Bromophenyl phenyl ether.....	10	N.D.	Naphthalene.....	10	N.D.
Butyl benzyl phthalate.....	20	N.D.	2-Nitroaniline.....	20	N.D.
4-Chloroaniline.....	10	N.D.	3-Nitroaniline.....	20	N.D.
2-Chloronaphthalene.....	10	N.D.	4-Nitroaniline.....	100	N.D.
4-Chloro-3-methylphenol.....	20	N.D.	Nitrobenzene.....	40	N.D.
2-Chlorophenol.....	10	N.D.	2-Nitrophenol.....	10	N.D.
4-Chlorophenyl phenyl ether.....	10	N.D.	4-Nitrophenol.....	100	N.D.
Chrysene.....	10	N.D.	N-Nitrosodiphenylamine.....	10	N.D.
Dibenz(a,h)anthracene.....	20	N.D.	N-Nitroso-di-N-propylamine.....	10	N.D.
Dibenzofuran.....	10	N.D.	Pentachlorophenol.....	40	N.D.
Di-N-butyl phthalate.....	20	N.D.	Phenanthrene.....	10	N.D.
1,3-Dichlorobenzene.....	10	N.D.	Phenol.....	10	N.D.
1,4-Dichlorobenzene.....	10	N.D.	Pyrene.....	10	N.D.
1,2-Dichlorobenzene.....	10	N.D.	1,2,4-Trichlorobenzene.....	10	N.D.
3,3-Dichlorobenzidine.....	40	N.D.	2,4,5-Trichlorophenol.....	20	N.D.
2,4-Dichlorophenol.....	10	N.D.	2,4,6-Trichlorophenol.....	20	N.D.
Diethyl phthalate.....	10	N.D.			
2,4-Dimethylphenol.....	20	N.D.			

*Azobenzene is a breakdown product of 1,2-Diphenylhydrazine
 Analytes reported as N.D. were not present at or above the reporting limit.

Analysis completed at Del Mar Analytical-IRVINE (AZ0428)
DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

Surrogate Standard Recoveries (Accept. Limits):	
2-Fluorophenol (40-110).....	70%
Phenol-d6 (40-115).....	75%
2,4,6-Tribromophenol (40-140)	89%
Nitrobenzene-d5 (35-120).....	74%
2-Fluorobiphenyl (30-150).....	87%
Terphenyl-d14 (45-150).....	110%



Del Mar Analytical

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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

ST Environmental
 426 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Mieher

Method Blank

Extracted: Jun 23, 1999
 Analyzed: Jun 24-30, 1999
 Reported: Jul 1, 1999
 Matrix: Water

TOTAL RECOVERABLE METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony.....	EPA 200.9	0.0040	N.D.	06/23/99	06/29/99
Arsenic.....	EPA 200.7	0.050	N.D.	06/23/99	06/24/99
Barium.....	EPA 200.7	0.010	N.D.	06/23/99	06/24/99
Cadmium.....	EPA 200.7	0.0050	N.D.	06/23/99	06/24/99
Chromium.....	EPA 200.7	0.010	N.D.	06/23/99	06/24/99
Copper.....	EPA 200.7	0.020	N.D.	06/23/99	06/24/99
Iron.....	EPA 200.7	0.50	N.D.	06/23/99	06/24/99
Lead.....	EPA 200.7	0.050	N.D.	06/23/99	06/24/99
Manganese.....	EPA 200.7	0.050	N.D.	06/23/99	06/24/99
Mercury.....	EPA 245.1	0.00020	N.D.	06/23/99	06/23/99
Nickel.....	EPA 200.7	0.050	N.D.	06/23/99	06/24/99
Thallium.....	EPA 200.9	0.0020	N.D.	06/23/99	06/30/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)

 R.R.

Robyn Rice
 Project Manager

OST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 23-30, 1999
 Analyzed: Jun 23-30, 1999
 Reported: Jul 1, 1999
 Matrix: Water

DISSOLVED METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Antimony, Dissolved.....	EPA 200.9	0.0040	N.D.	N.A.	06/30/99
Arsenic, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Barium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Cadmium, Dissolved.....	EPA 200.7	0.0050	N.D.	N.A.	06/28/99
Chromium, Dissolved.....	EPA 200.7	0.010	N.D.	N.A.	06/28/99
Copper, Dissolved.....	EPA 200.7	0.020	N.D.	N.A.	06/28/99
Iron, Dissolved.....	EPA 200.7	0.50	N.D.	N.A.	06/28/99
Lead, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Manganese, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Mercury, Dissolved.....	EPA 245.1	0.00020	N.D.	06/23/99	06/23/99
Nickel, Dissolved.....	EPA 200.7	0.050	N.D.	N.A.	06/28/99
Thallium, Dissolved.....	EPA 200.9	0.0020	N.D.	N.A.	06/25/99

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager

QST Environmental
 26 N. 44th St., Suite 110
 Phoenix, AZ 85008
 Attention: John Miehler

Method Blank

Extracted: Jun 18-28, 1999
 Analyzed: Jun 18-28, 1999
 Reported: Jul 1, 1999
 Matrix: Water

LABORATORY ANALYSIS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Result mg/L (ppm)	Date Extracted	Date Analyzed
Chloride.....	EPA 300.0	0.50	N.D.	N.A.	06/18/99
Nitrate-N.....	EPA 300.0	0.10	N.D.	N.A.	06/18/99
Nitrite-N.....	EPA 300.0	0.10	N.D.	N.A.	06/18/99
Phosphorus*.....	EPA 365.3	0.050	N.D.	06/25/99	06/25/99
Sulfate.....	EPA 300.0	0.50	N.D.	N.A.	06/18/99
Sulfide.....	SM4500-S-C,D	0.10	N.D.	N.A.	06/21/99
Total Kjeldahl Nitrogen**.....	SM4500-N-O,C	0.50	N.D.	06/28/99	06/28/99
Total Organic Carbon*.....	EPA 415.1	1.0	N.D.	06/22/99	06/22/99

*Analysis was completed at Del Mar Analytical-Irvine (AZ0428)

**Analysis was completed at Del Mar Analytical-Colton (AZ0062)

Analytes reported as N.D. were not present at or above the reporting limit.

DEL MAR ANALYTICAL, PHOENIX (AZ0426)



Robyn Rice
 Project Manager



MS/MSD DATA REPORT

EPA Method: 8081A
 Matrix: Water
 Instrument: GC

Date: 6/25/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	R1 ppb	Sp ppb	MS ppb	MSD ppb	PR1 %	PR2 %	RPD %	Acceptance Limits	
								RPD %	PR1/PR2 %
DDE	0	0.500	0.351	0.426	70%	85%	19%	40	55-125
DDD	0	0.500	0.392	0.471	78%	94%	18%	20	60-130
DDT	0	0.500	0.390	0.494	78%	99%	24%	20	55-145

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



MS/MSD DATA REPORT

EPA Method: 8082 (PCB's only)
 Matrix: Water
 Instrument: GC

Date: 6/23/99
 Sample #: LCS/LCSD*
 Batch #: IF22PE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
AR 1016	0	4.0	2.38	2.42	60%	61%	2%	≤ 50	60-140%
AR 1260	0	4.0	3.24	3.26	81%	82%	1%	≤ 50	60-140%

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).

MS/MSD DATA REPORT

EPA Method: 8260B
 Matrix: Water
 Instrument: GCMS

Date: 06/22/99
 Sample #: PIF01297
 Batch #: IF22021W

Acceptance Limits

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppb	ppb	ppb	ppb	%	%	%	<u>RPD</u>	<u>PR1/PR2</u>
								%	%
Vinyl Chloride	0.0	25	24.1	24.6	96%	98%	2%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	24.9	25.5	100%	102%	2.4%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	24.3	25.4	97%	102%	4.4%	≤ 20	69-113
Chloroform	1.6	25	25.9	26.6	97%	100%	2.7%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	24.7	26.4	99%	106%	6.7%	≤ 20	61-122
Benzene	0.0	25	23.4	24.4	94%	98%	4.2%	≤ 20	80-115
Trichloroethene	0.0	25	23.0	24.1	92%	96%	4.7%	≤ 20	60-142
Toluene	0.0	25	23.5	24.6	94%	98%	4.6%	≤ 20	69-136
Tetrachloroethene	0.0	25	23.6	24.5	94%	98%	3.7%	≤ 20	49-155
Chlorobenzene	0.0	25	22.7	23.6	91%	94%	3.9%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



BS/BSD DATA REPORT

EPA Method: 8260B
 Bench: Water
 Instrument: GCMS

Date: 06/24/99
 Sample #: Blank
 Batch #: IF23022W

Acceptance Limits

Analyte	R1	Sp	BS	BSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
								%	%
Vinyl Chloride	0.0	25	22.3	22.2	89%	89%	0%	≤ 20	50-128
1,1-Dichloroethene	0.0	25	22.8	23.1	91%	92%	1.3%	≤ 20	69-119
1,1-Dichloroethane	0.0	25	22.0	21.8	88%	87%	0.9%	≤ 20	69-113
Chloroform	0.0	25	22.1	22.1	88%	88%	0.0%	≤ 20	23-191
1,2-Dichloroethane	0.0	25	23.6	24.0	94%	96%	1.7%	≤ 20	61-122
Benzene	0.0	25	23.2	23.8	93%	95%	2.6%	≤ 20	80-115
1,2-Dichloroethene	0.0	25	23.4	24.1	94%	96%	2.9%	≤ 20	60-142
Toluene	0.0	25	22.9	24.1	92%	96%	5.1%	≤ 20	69-136
Tetrachloroethene	0.0	25	24.3	25.6	97%	102%	5.2%	≤ 20	49-155
Chlorobenzene	0.0	25	23.4	24.3	94%	97%	3.8%	≤ 20	72-121

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS; ((BS-R1)/SP) x 100
- PR2..... Percent Recovery of BSD; ((BSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((BS-BSD)/(BS+BSD)/2) x 100
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

EPA Method: 8270C
 Matrix: Water
 Instrument: GCMS

Date: 06/24/99
 Sample #: LCS/LCSD*
 Batch #: IF21SE1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppb	ppb	ppb	ppb	%	%	%	RPD	PR1/PR2
Phenol	0.0	50	36	36	72%	72%	0%	15	40-110
2-Chlorophenol	0.0	50	38	39	76%	78%	3%	15	40-110
1,4-Dichlorobenzene	0.0	50	29	29	58%	58%	0%	15	35-110
N-Nitroso-di-n-propylamine	0.0	50	43	43	86%	86%	0%	20	45-120
1,2,4-Trichlorobenzene	0.0	50	31	30	62%	60%	3%	15	45-110
4-Chloro-3-methylphenol	0.0	50	45	43	90%	86%	5%	15	50-115
acenaphthene	0.0	50	44	42	88%	84%	5%	15	45-120
2,4-Dinitrotoluene	0.0	50	50	47	100%	94%	6%	15	55-120
4-Nitrophenol	0.1	50	40	38	80%	76%	5%	30	45-120
Pentachlorophenol	0.0	50	51	52	102%	104%	2%	15	50-125
Pyrene	0.0	50	53	50	106%	100%	6%	25	70-120

*LCS/LCSD performed in lieu of MS/MSD due to insufficient amount of sample provided.

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC was within acceptance limits.



MS/MSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 6/23/99
 Sample #: PIF01217

Analyte	R1	SP	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%

Arsenic	0	1.0	0.958	1.01	96%	101%	5.3%	98%
Barium	0.159	1.0	1.05	1.10	89%	94%	4.7%	92%
Cadmium	0	1.0	0.897	0.939	90%	94%	4.6%	92%
Chromium	0	1.0	0.898	0.948	90%	95%	5.4%	92%
Copper	0.505	1.0	0.937	0.981	43%	48%	4.6%	45%
Iron	4.10	10.0	13.9	14.1	98%	100%	1.4%	99%
Lead	0	1.0	0.882	0.922	88%	92%	4.4%	90%
Manganese	0.380	1.0	1.31	1.33	93%	95%	1.5%	94%
Nickel	0.441	1.0	0.875	0.921	43%	48%	5.1%	46%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference; $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits RPD: < or = 20%
 MS/MSD: 70-130%

QA/QC Criteria: The MS/MSD recoveries and/or RPD were outside of acceptance limits due to sample matrix effects. See LCS for batch validation.

Del Mar Analytical (AZ0426)



Del Mar Analytical

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 1714 E. Valley Dr. Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 173 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 770-1844 FAX (818) 770-1843
 4247 Sandlake Dr. Suite 803, San Diego, CA 92123 (619) 405-9596 FAX (619) 405-9689
 1414 S. Main Street, Suite B-10, Phoenix, AZ 85044 (800) 785-0043 FAX (602) 715-0851

LCS DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

DATE: 6/23/99

Analyte	St	LCS	PR
	ppm	ppm	%
Copper	1.0	0.948	95%
Nickel	1.0	0.931	93%

Definition of Terms:

- St. Standard Concentration
- LCS. Standard Result
- PR. Percent Recovery of LCS: $(LCS/St) \times 100$
- Acceptance Limits LCS: 85-115%

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical (AZ0426)



MS/MSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	MS ppm	MSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/29/99	PIF01217	0	1.0	1.04	1.06	104%	106%	2%
Thallium	200.9	06/30/99	PIF01217	0	1.0	0.968	0.986	97%	99%	2%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS: $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD: $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference: $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- MS/MSD: 70-130%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.

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Methane 1.310

Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\023R0101.D
Operator : Leanne Hackney
Instrument : ALGA
Sample Name : 99-3036-01A
Run Time Bar Code:
Acquired on : 29 Jun 99 08:36 PM
Report Created on: 30 Jun 99 12:40 PM
Last Recalib on : 21 JUN 99 11:25 AM
Multiplier : 1
Sample Info : SAMP METHETH

Page Number : 1
Vial Number : 23
Injection Number : 1
Sequence Line : 1
Instrument Method: GAS.MTH
Analysis Method : GAS0629.MTH
Sample Amount : 0
ISTD Amount :

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form
Method Blank Report

Method Blank Number : GB062999 Client Project ID. : PIF01217.QST
Date Extracted/Prepared : 6/29/99 Lab Work Order : 99-3036
Date Analyzed : 6/29/99 Dilution Factor : 1.00
Method : RSKSOP-175
Matrix : Water
Lab File No. : GAS0629008

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	U	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025

Qualifiers

- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- RL = Reporting Limit.
- NA = Not Available/Not Applicable.



Analyst



Approved

000000
 000000
 000000
 1.0000
 1.1000
 1.2000
 1.3000
 1.4000
 1.5000
 1.6000

Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\008R0101.D
 Operator : Leanne Hackney Page Number : 1
 Instrument : ALGA Vial Number : 8
 Sample Name : EB062999 Injection Number : 1
 Retention Time Bar Code: Sequence Line : 1
 Acquired on : 19 Jun 99 11:23 PM Instrument Method: GAS.MTH
 Report Created on: 30 Jun 99 12:33 PM Analysis Method : GAS0629.MTH
 Last Recalib on : 21 JUN 99 11:25 AM Sample Amount : 0
 Multiplier : 1 ISTD Amount :
 Sample Info : MBLK METHETH
 Displaced 4ml of distilled water in 43ml vial with Helium,

Evergreen Analytical, Inc.
4036 Youngfield, Wheat Ridge, CO 80033
(303) 425-6021

RSKSOP-175M Gas Method
Methane, Ethane, Ethene LCS Report Form

LCS No. : LCS062999 EPA Method No. : RSKSOP-175M
Date Prepared : 6/29/99 Matrix : Water
Date Analyzed : 6/29/99 Method Blank : GB062999
E.A. LCS Source No. : 1719 Lab File No. : GAS0629007

Compound	Spike Added (ug)	Method Blank Concentration (ug)	LCS Concentration (ug)	LCS %REC	QC Limits %REC
Methane Gas	500	0	405	81	64-90
Ethene Gas	500	0	246	49	37-58
Ethane Gas	500	0	321	64	53-83

Spike Recovery: 0 out of (3) outside limits.

Note: The LCS was made by taking the sample and displacing 4ml of headspace with a 1% methane, ethane, ethene gas and shaking the VOA for 5 minutes. Then injecting 50 ul from the headspace into the GC resulting in a theoretical concentration of 500 ug.

Notes

* = Values outside of QC limits.
NA = Not analyzed/not available.



Analyst



Approved

1.001
1.002
1.003
1.004
1.005
1.006
1.007
1.008

Ethane 6.055

Ethane 6.055

Ethane 6.055

Data File Name : C:\HPCHEM\ALGA\DATA\GAS0629\007R0101.D
Operator : Leanne Hackney
Instrument : ALGA
Sample Name : LCS062999
Run Time Bar Code:
Acquired on : 29 Jun 99 11:15 PM
Report Created on: 30 Jun 99 09:46 AM
Last Recalib on : 21 JUN 99 11:25 AM
Multiplier : 1
Sample Info : LCS METHETH
Displaced 4ml of distilled water in 43ml vial with 1%

Page Number : 1
Vial Number : 7
Injection Number : 1
Sequence Line : 1
Instrument Method: GAS.MTH
Analysis Method : GAS0629.MTH
Sample Amount : 0
ISTD Amount :



Del Mar Analytical

1352 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1120
 1114 E. Colony Dr., Suite A, Colton, CA 92321 (909) 370-4667 FAX (909) 370-1046
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 164 Chesapeake Dr., Suite 605, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9491
 1330 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0451

MS/MSD DATA REPORT

EPA Method: 7470A
 Matrix: TCLP Extract
 Instrument: N/A

Date: 06/23/99
 Sample #: PIF01203
 Batch #: IF23HG1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Mercury	0	0.00500	0.00475	0.00468	95%	94%	1%	≤ 20	85-115%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS; $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD; $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference: $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Statistically determined on an annual basis.
- QA/QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

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 644 Chesapeake Dr. Suite 105, San Diego, CA 92127 (619) 405-0898 FAX (619) 405-0433
 1000 South St. Suite 101, Phoenix, AZ 85014 (602) 785-0043 FAX (602) 785-0361

BS/BSD DATA REPORT

METHOD: 200.7
 INSTRUMENT: ICP
 MATRIX: Water

Date: 5/28/99
 Sample #: PIF01296

Analyte	R1	SP	BS	BSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Arsenic	0	1.0	1.06	1.03	106%	103%	2.9%	105%
Barium	0	1.0	1.01	1.03	101%	103%	2.0%	102%
Cadmium	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Chromium	0	1.0	0.997	1.00	100%	100%	0.3%	100%
Copper	0	1.0	1.03	1.05	103%	105%	1.9%	104%
Iron	0.564	10.0	10.8	11.0	102%	104%	1.8%	103%
Lead	0	1.0	0.995	1.00	100%	100%	0.5%	100%
Manganese	0	1.0	1.02	1.04	102%	104%	1.9%	103%
Nickel	0	1.0	1.00	1.01	100%	101%	1.0%	101%

Definition of terms:

- R1..... Result of Sample Analysis
- SP..... Spike Concentration Added to Sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS: ((BS-R1) / SP) X 100
- PR2..... Percent Recovery of BSD: ((BSD-R1) / SP) X 100
- RPD..... Relative Percent Difference: ((BS-BSD)/(BS+BSD)/2)) X 100
- Acceptance Limits..... RPD: < or = 20%
 MS/MSD: 85-115%
- QA/QC CRITERIA: All QA/QC was within acceptance limits.



BS/BSD DATA REPORT

Matrix: Water
 Instrument: GFAA

Analyte	EPA Method	DATE	SAMPLE	R1 ppm	Sp ppm	BS ppm	BSD ppm	PR1 %	PR2 %	RPD %
Antimony	200.9	06/24/99	PIF01296	0	0.040	0.0426	0.0422	107%	106%	1%
Thallium	200.9	06/23/99	PIF01296	0	0.020	0.0230	0.0227	115%	114%	1%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- BS..... Bench Spike Result
- BSD..... Bench Spike Duplicate Result
- PR1..... Percent Recovery of BS: $((BS-R1)/SP) \times 100$
- PR2..... Percent Recovery of BSD: $((BSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference: $((BS-BSD)/(BS+BSD)/2) \times 100$
- Acceptance Limits..... RPD: < or = 20%
- BS/BSD: 85-115%

QA/QC Criteria: All QA/QC criteria was within acceptance limits.



Del Mar Analytical

352 Allen Way, Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1023
 1111 E. Tuley Dr., Suite A, Vista, CA 92084 (909) 470-4667 FAX (909) 470-1046
 425 Sherman Way, Suite 101, San Juan Capistrano, CA 92675 (949) 279-1844 FAX (949) 279-1844
 144 Chesapeake Dr., Suite 205, San Diego, CA 92103 (619) 405-0506 FAX (619) 405-0505
 470 South St. East, Suite B-120, Phoenix, AZ 85044 (602) 995-0043 FAX (602) 995-0851

MS/MSD DATA REPORT

EPA Method: 300.0
 Matrix: Water
 Instrument: IC

Date: 06/18/99
 Sample #: PIF01096
 Batch #: N/A

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Fluoride	0.460	100	99.2	96.3	99%	96%	3.0%	≤ 20	80-120
Chloride	221	200	407	397	93%	88%	2.5%	≤ 20	80-120
Nitrate-N	0	30	28.1	26.8	94%	89%	4.7%	≤ 20	80-120
Nitrite-N	0	90	87.7	83.5	97%	93%	4.9%	≤ 20	80-120
OrthoPhos-P	3.06	194	187	182	95%	92%	2.7%	≤ 20	80-120
Sulfate-SO4	104	400	480	455	94%	88%	5.3%	≤ 20	80-120
Bromide	0	400	376	355	94%	89%	5.7%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS: ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD: ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference: ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Based on Method Acceptance Limits

QA/QC Criteria..... All QA/QC was within acceptance limits.



Del Mar Analytical

3852 Allen Ave. Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1220
 114 E. Colony Dr., Suite A, Colton, CA 92324 (909) 370-4867 FAX (909) 370-1036
 1025 Sherman Way, Suite C-11, San Luis, CA 92406 (818) 770-1844 FAX (818) 770-1844
 1644 Chesapeake Dr., Suite 800, San Diego, CA 92123 (619) 505-9596 FAX (619) 505-9699
 1430 South 51st St., Suite B-111, Phoenix, AZ 85044 (800) 785-0043 FAX (480) 785-0851

LCS DATA REPORT

EPA METHOD: SM 4500-S-C.D

DATE: 6/21/99

Analyte

St

R1

PR

ppm

ppm

%

Sulfide

1.0	1.15	115%
-----	------	------

Definition of Terms:

St..... Standard Concentration

R1..... Standard Result

PR..... Percent Recovery of R1: (R1/St) X 100

QA/QC CRITERIA: All QA/QC was within acceptance limits.

Del Mar Analytical



MS/MSD DATA REPORT

EPA Method: SM4500-NOC
 Matrix: Water
 Instrument: N/A

Date: 06/28/99
 Sample #: CIF01323
 Batch #: IF28TK1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Total Kjeldahl Nitrogen	2.2	10.0	11.0	12.0	88%	98%	9%	≤ 20	55-125%

Definition of Terms

- R1..... Result of Sample Analysis
 Sp..... Spike Concentration added to sample
 MS..... Matrix Spike Result
 MSD..... Matrix Spike Duplicate Result
 PR1..... Percent Recovery of MS: $((MS-R1)/SP) \times 100$
 PR2..... Percent Recovery of MSD: $((MSD-R1)/SP) \times 100$
 RPD..... Relative Percent Difference: $((MS-MSD)/(MS+MSD)/2) \times 100$
 Acceptance Limits..... Statistically determined on an annual basis.

QA/QC Criteria..... All QA/QC criteria was within acceptance limits.



Del Mar Analytical

2352 Allen Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1023
 1714 E. Cooley Dr., Suite A, Citton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 125 Sherman Way, Suite C 11, San Nobs, CA 92406 (714) 779-1844 FAX (714) 779-1844
 204 S. Bascom Ave., Suite 805, San Diego, CA 92103 (619) 505-9596 FAX (619) 435-9689
 890 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

MS/MSD DATA REPORT

EPA Method: 415.1
 Matrix: Water
 Instrument: N/A

Date: 06/22/99
 Sample #: IF02514
 Batch #: IF22CO1W

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	Acceptance Limits	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
								%	%
Total Organic Carbon	0.0	5.0	4.8	4.8	96%	96%	0%	≤ 20	80-120%

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS: ((MS-R1)/SP) x 100
- PR2..... Percent Recovery of MSD; ((MSD-R1)/SP) x 100
- RPD..... Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2) x 100
- Acceptance Limits..... Based on Method Acceptance Limits
- QA/QC Criteria..... All QA/QC criteria was within acceptance limits.

Del Mar Analytical (AZ0426) This analysis was performed at Del Mar Analytical-Irvine (AZ0428).



Del Mar Analytical

352 Alton Ave. Irvine, CA 92606 (949) 261-1228 FAX (949) 261-1228
 1111 E. Coleby Dr. Suite A, Colton, CA 92321 (909) 370-8667 FAX (909) 370-8146
 217 Freeman Way, Suite 1011, San Diego, CA 92106 (619) 476-0944 FAX (619) 476-0944
 10400 La Mesa Blvd. Suite 300, San Diego, CA 92123 (619) 405-9596 FAX (619) 405-9689
 1000 South St. Suite 3-100, Phoenix, AZ 85014 (480) 385-0043 FAX (480) 385-0851

MS/MSD DATA REPORT

EPA Method: 365.3
 Matrix: Water
 Instrument: N/A

Date: 06/25/99
 Sample #: F02515
 Batch #: IF25PS1W

Analyte	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	RPD	PR1/PR2
Phosphorus	0	1.0	0.809	0.809	81%	81%	0%	≤ 20	80-120

Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS: $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD: $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference: $((MS-MSD)/(MS+MSD)/2) \times 100$
- Acceptance Limits..... Based on Method Acceptance Limits
- QA/QC Criteria..... All QA/QC was within acceptance limits.

EPA 8141

Del Mar Analytical
 30 South 51st. St., Ste B-120
 Phoenix, AZ 85044

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Attn: Robyn Rice
 Project: PIF01217.QST
 Sample ID: PIF01217
 Sample Collection Date: 6/17/99

ARF: 30551
 APPL ID AP80404
 CCG: S8141W-990622A-17510

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8141	Azinomsmethyl	Not detected	5.0	ug/L	6/22/99	7/7/99
EPA 8141	Boistar	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Chlorpyrifos	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Coumaphos	Not detected	1.0	ug/L	6/22/99	7/7/99
EPA 8141	Def	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Demeton-s	Not detected	1.0	ug/L	6/22/99	7/7/99
EPA 8141	Diazinon	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Dichlorvos	Not detected	1.0	ug/L	6/22/99	7/7/99
EPA 8141	Dimethoate	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Disulfoton	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	EPN	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Ethion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Ethoprop	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Fensulfothion	Not detected	2.5	ug/L	6/22/99	7/7/99
EPA 8141	Fenthion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Malathion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Meronos	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Mevinphos	Not detected	3.5	ug/L	6/22/99	7/7/99
EPA 8141	Naled	Not detected	2.5	ug/L	6/22/99	7/7/99
EPA 8141	Parathion, ethyl	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Parathion, methyl	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Phorate	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Prowi	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Ronnel	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Stirophos	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Sulfotep	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Tepp	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Tokuthion	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Trichloronate	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Trifluralin	Not detected	0.50	ug/L	6/22/99	7/7/99
EPA 8141	Surrogate: Tributylphosonate	69.2	30-150	%	6/22/99	7/7/99
EPA 8141	Surrogate: Triphenylphosonate	69.9 #	76-140	%	6/22/99	7/7/99

Recovery is outside QC limits.

Run #: 38
 Instrument: NPD03
 Sequence: 990706
 Dilution Factor: 1
 Initials: DG

Printed: 7/9/99 4:21:56 PM

EPA 8151 Herbicides

Mar Analytical
9830 South 51st. St., Ste B-120
Phoenix, AZ 85044

Attn: Robyn Rice
Project: PIF01217.QST
Sample ID: PIF01217
Sample Collection Date: 6/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 30551
APPL ID AP80404
QCG: S8151-990623A-17413

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4-D	Not detected	0.50	ug/L	6/23/99	6/29/99
EPA 8151	Dalapon	Not detected	1.0	ug/L	6/23/99	6/29/99
EPA 8151	2,4-DB	Not detected	1.0	ug/L	6/23/99	6/29/99
EPA 8151	Dicamba	Not detected	0.10	ug/L	6/23/99	6/29/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	0.50	ug/L	6/23/99	6/29/99
EPA 8151	Dinoseb (DNBP)	Not detected	0.25	ug/L	6/23/99	6/29/99
EPA 8151	MCPA	Not detected	100	ug/L	6/23/99	6/29/99
EPA 8151	MCPP	Not detected	100	ug/L	6/23/99	6/29/99
EPA 8151	2,4,5-T	Not detected	0.10	ug/L	6/23/99	6/29/99
EPA 8151	2,4,5-TP	Not detected	0.10	ug/L	6/23/99	6/29/99
EPA 8151	Surrogate Recovery	114	51-120	%	6/23/99	6/29/99

Run #: 167
Instrument: ECD01
Sequence: 990621
Dilution Factor: 1
Initials: KW

Printed: 6/30/99 10:50:05 AM

Method Blank

EPA 8141

Blank Name/QCG: 990622W - 17510
 Batch ID: S8141W-990622A

APPL Inc.
 4203 West Swift Avenue
 Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Azinphosmethyl	Not detected	5.0	ug/L	6/22/99	7/7/99
BLANK	Bolstar	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Chlorpyrifos	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Coumaonos	Not detected	1.0	ug/L	6/22/99	7/7/99
BLANK	Def	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Demeton-s	Not detected	1.0	ug/L	6/22/99	7/7/99
BLANK	Diazinon	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Dichlorvos	Not detected	1.0	ug/L	6/22/99	7/7/99
BLANK	Dimethoate	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Disulfoton	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	EPN	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Ethion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Ethoprop	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Fensulfothion	Not detected	2.5	ug/L	6/22/99	7/7/99
BLANK	Fenthion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Malathion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Merphos	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Mevinphos	Not detected	3.5	ug/L	6/22/99	7/7/99
BLANK	Naled	Not detected	2.5	ug/L	6/22/99	7/7/99
BLANK	Parathion, ethyl	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Parathion, methyl	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Phorate	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Prowi	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Ronnel	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Stirophos	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Sulfoteo	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Tepp	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Tokuthion	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Trichloronate	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Trifluralin	Not detected	0.50	ug/L	6/22/99	7/7/99
BLANK	Surrogate: Tributylphosphonate	60.4	30-150	%	6/22/99	7/7/99
BLANK	Surrogate: Triphenylphosphonate	60.8#	75-140	%	6/22/99	7/7/99

Recovery is outside QC limits.

Run #: 35
 Instrument: NPD03
 Sequence: 990706
 Initials: DG

Printed: 7/9/99 4:27:41 PM

Matrix / Control Spike Recoveries

ORGANOPHOSPHORUS PESTICIDES

APPL, Inc.
4203 West Swift Avenue
Fresno, CA 93722

EPA Method #: 8141
APPL Sample #: 990622AW LCS/LCSD
Date/Initials: 7/9/99 DAG
Extraction Date: 6/22/99
Matrix Type: Water
Units: ug/L

Compound Name (Limits = See below)	Spike Level	Matrx Results	Spike Results	Spk % Recovery	Spk Dup Results	Sok Dup % Recovery	%RPD (See below)
Phorate	2.33	0.00	1.59	68.2	1.36	58.4	16
Diazinon	1.67	0.00	1.38	82.6	1.26	75.4	9.1
Disulfoton	2.27	0.00	1.51	66.5	1.33	58.6	13
Methyl parathion	2.38	0.00	1.76	73.9	1.58	66.4	11
Stirophos	2.28	0.00	1.80	78.9	1.69	74.1	6.3
Ethion	2.21	0.00	1.87	84.6	1.75	79.2	6.6

Surrogate (see below)	Spike Level	Matrx Results	Spike Results	Spk % Recovery	Spk Dup Results	Sok Dup % Recovery
Tributyl phosphite	5.00	*****	3.57	71.4	3.25	65.0
Triphenyl phosphite	5.00	*****	3.65	73.0 #	3.40	68.0 #

	Primary Column	
	Spike	Sok Dup
Analysis Date:	7/9/99	7/9/99
Analysis Time:	2:43 AM	3:21 AM
Instrument:	NPD03B	NPD03B
Column:	DB-5	DB-5
Sample/Vial #:	706099	706101
Extraction Ratio:	10/1000	10/1000
Dilution Factor:	1	1

Secondary Column	
Spike	Sok Dup

Comments: Spike level values taken from direct injection of sok mix (NPD03 706058.D)
IF NOT UG/L LIMITS

	Soil	Water	Soil RPD	Water RPD
Phorate	26-98	22-96	21	24
Diazinon	61-139	57-130	24	21
Disulfoton	14-131	47-117	26	22
Meth Parathion	63-153	55-164	19	24
Stirophos	58-140	68-128	21	25
Ethion	66-131	65-134	36	20
Tributyl phosphite	51-154	60-150	NA	NA
Triphenyl phosphite	63-151	76-140	NA	NA

Matrix Spike Recoveries

EPA 8151 Herbicides

APPL ID: 990623W-80369 MS/MSD - 17413

Batch ID: S8151-990623A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2,4,5-T	1.00	ND	0.997	1.03	99.7	103	53-134	3.3	32
2,4,5-TP	1.00	ND	0.936	0.975	93.6	97.6	30-118	4.2	24
2,4-D	1.00	ND	1.18	1.23	118	123	44-155	4.1	15
Dicamba	1.00	ND	0.906	0.958	90.6	95.8	48-102	5.5	24
Dichloroprop (2,4-DP)	1.00	ND	0.342	0.384	34.2	38.4	37-146	4.9	13
Dinoseb (DNBP)	1.00	ND	1.04	1.11	104	111	73-173	6.5	31
Surrogate: 2,4-DCAA	3.00	NA	3.41	3.53	114	118	61-120		

Comments: _____

Primary	SPK	DUP
Extraction Date :	5/23/99	6/23/99
Analysis Date :	6/29/99	6/29/99
Instrument :	ECD01	ECD01
Run :	150	151
Analyst :	KW	



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (602) 921-8044 • FAX: (602) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Del Mar Analytical
9830 S. 51st Street
Suite B120
Phoenix, AZ 85044

Date Submitted: 06/18/99
Date Reported: 07/14/99

Attn: Robyn Rice

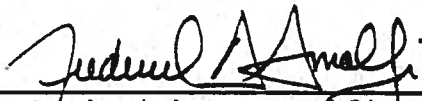
Sample Type: Water
Sample Date: 06/17/99
Sample Time: 16:50

Client ID: PIF01217
AC&T Lab No.: BE06440

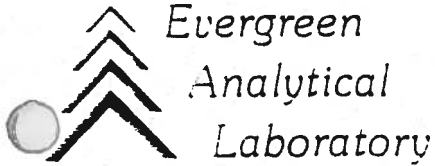
RESULTS

<u>Parameter</u>	<u>Analysis Start Date</u>	<u>Analysis End Date</u>	<u>Method No.</u>	<u>Result</u>	<u>Unit</u>	<u>MDL</u>
Dissolved Organic Carbon	07/12/99	07/12/99	415.1	1.4	mg/L	0.1

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

bma.



July 08, 1999

ROBYN RICE
DEL MAR ANALYTICAL
9830 S. 51ST ST., SUITE B120
PHOENIX, AZ 85044

Lab Work Order: 99-3036
Client Project: PIF01217.QST

Dear Robyn Rice:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The enclosed data have been reviewed for quality assurance. If you have any questions concerning the reported information, please contact me.

Yes	No	NA*	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The samples received in good condition within EPA holding times.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Custody seals present. Seal intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples preserved to acceptable pH levels.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samples analyzed within holding times per the analytical method.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A case narrative explaining analytical anomalies is attached.

NA*=not applicable

The temperature of the sample(s) upon arrival was 18 degrees C.

This report contains a total of 7 pages including the cover letter.

SAMPLE DISPOSAL: Except for high level mercury (>260 ppm) samples, EAL will dispose of all samples one month from the date of this letter. If you want samples returned, please advise us by mail or fax as soon as possible.

RECORDS RETENTION: A copy of this project report and supporting data will be retained for a period of five years. If you want the project file sent to you after the five year period, please return a copy of this letter.

The invoice for this work will be mailed to your Accounts Payable department shortly.

Thank you for using the services of Evergreen Analytical.

Sincerely,

A handwritten signature in cursive script that reads "Carl Smits".

Carl Smits
V.P. Q.A.

WORK ORDER Summary

23-Jun 09:49 am

Report To: Robyn Rice

Client Project ID: PIF01217.QST

Del Mar Analytical
9830 S 51st St, Suite B120
Phoenix, AZ 85044

Phone: (602) 785-0043
FAX: (602) 785-0851

Comments:

QC Level: Laboratory Standard QC

Sample ID	Client Sample ID	Analysis	#	Matrix	Loc	Collection	Received	Due	HT
99-3036-013	PIF01217	Methane, Ethane, Ethene		Water	2	17-Jun-1999	23-Jun-1999	8-Jul-1999	1-Jul-1999

- Special list. See sample comments or test information.
HT - Holding Time expiration date.

AKB

EVERGREEN ANALYTICAL, INC.
4036 Youngfield St. Wheat Ridge, CO 80033
(303) 425-6021

Methane, Ethane, Ethene Report Form

Client Sample Number	: PIF01217	Client Project ID.	: PIF01217.QST
Lab Sample Number	: 99-3036-01	Lab Work Order	: 99-3036
Date Sampled	: 6/17/99	Dilution Factor	: 1.00
Date Received	: 6/23/99	Method	: RSKSOP-175M
Date Extracted/Prepared	: 6/29/99	Matrix	: Water
Date Analyzed	: 6/29/99	Lab File No.	: GAS0629023

Compound Name	Cas Number	Sample Concentration mg/L	RL mg/L
Methane	74-82-8	0.014	0.0012
Ethane	74-84-0	U	0.0021
Ethene	74-85-1	U	0.0025


Temperature	66.6 F	Saturation	Meth	0.003345072
Amount Injected	0.5 ml	Concentration		
Total Volume of Sample	43 ml	Concentration	Meth	0.010647787
Head space created	4 ml	in Head Space		
Methane Area	77.788 ug	Saturation	Etha	0
Ethane Area	0 ug	Concentration		
Ethene Area	0 ug	Concentration	Etha	0
Atomic weight(Methane)	16 g	in Head Space		
Atomic weight(Ethane)	30 g	Saturation	Ethe	0
Atomic weight(Ethene)	28 g	Concentration		
		Concentration	Ethe	0
		in Head Space		

Qualifiers


- E = Extrapolated value.
- U = Compound analyzed for, but not detected.
- B = Compound also found in the blank.
- L = Reporting Limit.
- NA = Not Available/Not Applicable.

Note

Pressure calculated at sea level.



 Analyst



 Approved