

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 20-Jul-11

CLIENT: MACTEC	Client Sample ID: M-114
Lab Order: 118889	Collection Date: 7/12/2011 11:00:00 AM
Project: MTA Westside, 4953-10-1561	Matrix: GROUNDWATER
Lab ID: 118889-003A	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS2_110713A	QC Batch: Q11VW129	PrepDate:	Analyst: SLL
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Compound	Result	PQL	Qual	Units	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Dibromochloromethane	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Dibromomethane	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Dichlorodifluoromethane	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Ethylbenzene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Hexachlorobutadiene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Isopropylbenzene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
m,p-Xylene	ND	1.0		µg/L	1	7/13/2011 11:43 AM
Methylene chloride	ND	1.0		µg/L	1	7/13/2011 11:43 AM
n-Butylbenzene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
n-Propylbenzene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Naphthalene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
o-Xylene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
sec-Butylbenzene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Styrene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
tert-Butylbenzene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Tetrachloroethene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Toluene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Trichloroethene	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Trichlorofluoromethane	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Vinyl chloride	ND	0.50		µg/L	1	7/13/2011 11:43 AM
Hexane	ND	1.0		µg/L	1	7/13/2011 11:43 AM
Surr: 1,2-Dichloroethane-d4	80.5	70-130		%REC	1	7/13/2011 11:43 AM
Surr: 4-Bromofluorobenzene	89.6	70-130		%REC	1	7/13/2011 11:43 AM
Surr: Dibromofluoromethane	88.9	70-130		%REC	1	7/13/2011 11:43 AM
Surr: Toluene-d8	90.4	70-130		%REC	1	7/13/2011 11:43 AM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



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ANALYTICAL RESULTS

Print Date: 20-Jul-11

CLIENT: MACTEC	Client Sample ID: M-114
Lab Order: 118889	Collection Date: 7/12/2011 11:00:00 AM
Project: MTA Westside, 4953-10-1561	Matrix: GROUNDWATER
Lab ID: 118889-003B	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED GASES IN WATER

RSK175

RunID: GC18_110713A	QC Batch: Z11A033	PrepDate:	Analyst: DMP
Methane	160	1.0 ug/L	7/13/2011 11:31 AM

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
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	DO Surrogate Diluted Out	





Advanced Technology Laboratories

Date: 20-Jul-11

CLIENT: MACTEC
Work Order: 118889
Project: MTA Westside, 4953-10-1561

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP+HEX_LL

Sample ID: Q110713LCS1	SampType: LCS	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: LCSW	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208309						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	18.690	0.50	20.00	0	93.5	70	130				
Benzene	39.110	0.50	40.00	0	97.8	70	130				
Chlorobenzene	20.320	0.50	20.00	0	102	70	130				
Toluene	40.520	0.50	40.00	0	101	70	130				
Trichloroethene	20.040	0.50	20.00	0	100	70	130				
Surr: 1,2-Dichloroethane-d4	21.510		25.00		86.0	70	130				
Surr: 4-Bromofluorobenzene	22.870		25.00		91.5	70	130				
Surr: Dibromofluoromethane	23.720		25.00		94.9	70	130				
Surr: Toluene-d8	23.840		25.00		95.4	70	130				

Sample ID: Q110713MB3MS	SampType: MS	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: ZZZZZZ	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208310						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	18.030	0.50	20.00	0	90.2	70	130				
Benzene	38.180	0.50	40.00	0	95.4	70	130				
Chlorobenzene	20.150	0.50	20.00	0	101	70	130				
Toluene	39.620	0.50	40.00	0	99.0	70	130				
Trichloroethene	19.070	0.50	20.00	0	95.4	70	130				
Surr: 1,2-Dichloroethane-d4	20.880		25.00		83.5	70	130				
Surr: 4-Bromofluorobenzene	22.320		25.00		89.3	70	130				
Surr: Dibromofluoromethane	23.190		25.00		92.8	70	130				
Surr: Toluene-d8	23.190		25.00		92.8	70	130				

Sample ID: Q110713MB3MSD	SampType: MSD	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: ZZZZZZ	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208311						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- | | | |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out | Calculations are based on raw values | |



CLIENT: MACTEC
Work Order: 118889
Project: MTA Westside, 4953-10-1561

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP+HEX_LL

Sample ID: Q110713MB3MSD	SampType: MSD	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: ZZZZZ	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208311						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17.730	0.50	20.00	0	88.6	70	130	18.03	1.68	20	
Benzene	40.250	0.50	40.00	0	101	70	130	38.18	5.28	20	
Chlorobenzene	21.630	0.50	20.00	0	108	70	130	20.15	7.08	20	
Toluene	41.680	0.50	40.00	0	104	70	130	39.62	5.07	20	
Trichloroethene	19.590	0.50	20.00	0	98.0	70	130	19.07	2.69	20	
Surr: 1,2-Dichloroethane-d4	21.400		25.00		85.6	70	130		0	0	
Surr: 4-Bromofluorobenzene	24.350		25.00		97.4	70	130		0	0	
Surr: Dibromofluoromethane	24.310		25.00		97.2	70	130		0	0	
Surr: Toluene-d8	24.950		25.00		99.8	70	130		0	0	

Sample ID: Q110713MB3	SampType: MBLK	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: PBW	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208312						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.50									
1,1,1-Trichloroethane	ND	0.50									
1,1,2,2-Tetrachloroethane	ND	0.50									
1,1,2-Trichloroethane	ND	0.50									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.50									
1,1-Dichloropropene	ND	0.50									
1,2,3-Trichlorobenzene	ND	0.50									
1,2,3-Trichloropropane	ND	0.50									
1,2,4-Trichlorobenzene	ND	0.50									
1,2,4-Trimethylbenzene	ND	0.50									
1,2-Dibromo-3-chloropropane	ND	0.50									
1,2-Dibromoethane	ND	0.50									
1,2-Dichlorobenzene	ND	0.50									
1,2-Dichloroethane	ND	0.50									
1,2-Dichloropropane	ND	0.50									

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CLIENT: MACTEC
Work Order: 118889
Project: MTA Westside, 4953-10-1561

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP+HEX_LL

Sample ID: Q110713MB3	SampType: MBLK	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: PBW	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208312						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	0.50									
1,3-Dichlorobenzene	ND	0.50									
1,3-Dichloropropane	ND	0.50									
1,4-Dichlorobenzene	ND	0.50									
2,2-Dichloropropane	ND	0.50									
2-Chlorotoluene	ND	0.50									
4-Chlorotoluene	ND	0.50									
4-Isopropyltoluene	ND	0.50									
Benzene	ND	0.50									
Bromobenzene	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	ND	0.50									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	0.50									
Chloroethane	ND	0.50									
Chloroform	ND	0.50									
Chloromethane	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
Dibromochloromethane	ND	0.50									
Dibromomethane	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
Ethylbenzene	ND	0.50									
Hexachlorobutadiene	ND	0.50									
Isopropylbenzene	ND	0.50									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	1.0									
n-Butylbenzene	ND	0.50									
n-Propylbenzene	ND	0.50									

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Work Order: 118889
Project: MTA Westside, 4953-10-1561

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP+HEX_LL

Sample ID: Q110713MB3	SampType: MBLK	TestCode: 8260_WP+HE	Units: µg/L	Prep Date:	RunNo: 134946						
Client ID: PBW	Batch ID: Q11VW129	TestNo: EPA 8260B		Analysis Date: 7/13/2011	SeqNo: 2208312						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50									
o-Xylene	ND	0.50									
sec-Butylbenzene	ND	0.50									
Styrene	ND	0.50									
tert-Butylbenzene	ND	0.50									
Tetrachloroethene	ND	0.50									
Toluene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
Trichloroethene	ND	0.50									
Trichlorofluoromethane	ND	0.50									
Vinyl chloride	ND	0.50									
Hexane	ND	1.0									
Surr: 1,2-Dichloroethane-d4	21.630		25.00		86.5	70	130				
Surr: 4-Bromofluorobenzene	22.760		25.00		91.0	70	130				
Surr: Dibromofluoromethane	23.980		25.00		95.9	70	130				
Surr: Toluene-d8	22.590		25.00		90.4	70	130				

Qualifiers:

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CLIENT: MACTEC
Work Order: 118889
Project: MTA Westside, 4953-10-1561

ANALYTICAL QC SUMMARY REPORT

TestCode: D1946

Sample ID: MB-Z11A033	SampType: MBLK	TestCode: D1946	Units: ppmv	Prep Date:	RunNo: 135030						
Client ID: ZZZZZ	Batch ID: Z11A033	TestNo: ASTM D1946		Analysis Date: 7/13/2011	SeqNo: 2209806						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 10

Sample ID: LCS-Z11A033	SampType: LCS	TestCode: D1946	Units: ppmv	Prep Date:	RunNo: 135030						
Client ID: ZZZZZ	Batch ID: Z11A033	TestNo: ASTM D1946		Analysis Date: 7/13/2011	SeqNo: 2209807						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1054.387 10 1000 0 105 70 130

Sample ID: LCSD-Z11A033	SampType: LCSD	TestCode: D1946	Units: ppmv	Prep Date:	RunNo: 135030						
Client ID: ZZZZZ	Batch ID: Z11A033	TestNo: ASTM D1946		Analysis Date: 7/13/2011	SeqNo: 2209811						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1102.597 10 1000 0 110 70 130 1054 4.47 20

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CLIENT: MACTEC
Work Order: 118889
Project: MTA Westside, 4953-10-1561

ANALYTICAL QC SUMMARY REPORT

TestCode: RSK175_ATL

Sample ID: MB-Z11A033	SampType: MBLK	TestCode: RSK175_ATL	Units: ug/L	Prep Date:	RunNo: 135030						
Client ID: PBW	Batch ID: Z11A033	TestNo: RSK175		Analysis Date: 7/13/2011	SeqNo: 2209812						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 1.0

Sample ID: LCS-Z11A033	SampType: LCS	TestCode: RSK175_ATL	Units: ug/L	Prep Date:	RunNo: 135030						
Client ID: LCSW	Batch ID: Z11A033	TestNo: RSK175		Analysis Date: 7/13/2011	SeqNo: 2209813						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 101.960 1.0 98.00 0 104 70 130

Sample ID: LCSD-Z11A033	SampType: LCSD	TestCode: RSK175_ATL	Units: ug/L	Prep Date:	RunNo: 135030						
Client ID: LCSS02	Batch ID: Z11A033	TestNo: RSK175		Analysis Date: 7/13/2011	SeqNo: 2209815						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 106.620 1.0 98.00 0 109 70 130 102.0 4.47 20

Qualifiers:

- | | | |
|---|--|--|
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| DO Surrogate Diluted Out | Calculations are based on raw values | |

July 21, 2011

Advanced Technology Laboratories
ATTN: Rachele Arada
3275 Walnut Ave.
Signal Hill, CA 90755



ADE-1461
EPA Methods TO-3,
TO14A, TO15 SIM & Scan,
ASTM D1946



FL Cert E8784/LA Cert 04140
EPA Methods TO3, TO14A, TO15, 25C/3C,
RSK-175

TX Cert T104704450-09-TX
EPA Methods TO14A, TO15

LABORATORY TEST RESULTS

Project Reference: 118889
Lab Number: C071303-01

Enclosed are results for sample(s) received 7/13/11 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Sample analyses were performed within method performance criteria, and meet all requirements of the NELAC Standards.
- All results are reported without qualifications unless otherwise noted.
- The enclosed results relate only to the sample(s).

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Johnson'.

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.