

GW - 55

MONITORING REPORTS

DATE:

1998

BioTECH REMEDIATION INC.

710 East 20th Street, Suite 400 • Farmington, NM 87401 • (505) 632-3365 • Fax (505) 632-9850

**ANNUAL GROUNDWATER MONITORING REPORT
THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO
2 OF 2**

RECEIVED

APR 05 1999

**ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION**

prepared for the

NEW MEXICO OIL CONSERVATION DIVISION

Mr. Will Olsen, Project Manager, Santa Fe Office

and

Mr. Denny Foust, Aztec Office

March 19, 1999

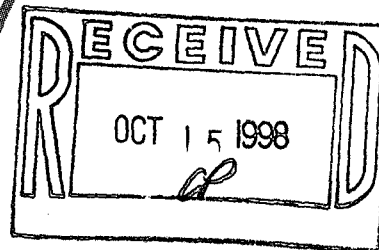
OFF: (505) 325-5667



LAB: (505) 325-1556

October 08, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery

Order No.: 9809060

Dear Terry Griffin,

On Site Technologies, LTD. received 9 samples on 9/23/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "D Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.

Project: Thriftway Refinery

Lab Order: 9809060

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client: BioTech Remediation, Inc.
Work Order: 9809060
Lab ID: 9809060-01A **Matrix:** AQUEOUS
Project: Thriftway Refinery

Client Sample Info: Thriftway Refinery
Client Sample ID: Field Blank #2
Collection Date: 9/22/98 9:10:00 AM
COC Record: 5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	9/28/98
Benzene	ND	1		µg/L	1	9/28/98
Toluene	ND	1		µg/L	1	9/28/98
Ethylbenzene	ND	1		µg/L	1	9/28/98
m,p-Xylene	ND	2		µg/L	1	9/28/98
o-Xylene	ND	1		µg/L	1	9/28/98

Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	Travel Blank
Lab ID:	9809060-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 9:00:00 AM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	9/28/98
Benzene	ND	1		µg/L	1	9/28/98
Toluene	ND	1		µg/L	1	9/28/98
Ethylbenzene	ND	1		µg/L	1	9/28/98
m,p-Xylene	ND	2		µg/L	1	9/28/98
o-Xylene	ND	1		µg/L	1	9/28/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

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E - Value above quantitation range

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Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-6
Lab ID:	9809060-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 1:45:00 PM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	47	1		µg/L	1	10/2/98
Benzene	8.5	1		µg/L	1	10/2/98
Toluene	1.8	1		µg/L	1	10/2/98
Ethylbenzene	4.5	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	3.6	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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R - RPD outside accepted recovery limits

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-9
Lab ID:	9809060-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 11:34:00 AM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	19	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-10
Lab ID:	9809060-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 10:37:00 AM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	10/5/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-11
Lab ID:	9809060-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 9:55:00 AM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	10/5/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

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R - RPD outside accepted recovery limits

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ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-18
Lab ID:	9809060-07A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 3:42:00 PM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	74	1		µg/L	1	10/5/98
Benzene	76	1		µg/L	1	10/2/98
Toluene	3.6	1		µg/L	1	10/2/98
Ethylbenzene	12	1		µg/L	1	10/2/98
m,p-Xylene	2.5	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

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ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-19
Lab ID:	9809060-08A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 3:00:00 PM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	46	1		µg/L	1	10/5/98
Benzene	13	1		µg/L	1	10/5/98
Toluene	2.2	1		µg/L	1	10/5/98
Ethylbenzene	31	1		µg/L	1	10/5/98
m,p-Xylene	46	2		µg/L	1	10/5/98
o-Xylene	ND	1		µg/L	1	10/5/98

Qualifiers:

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ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
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Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809060	Client Sample ID:	MW-20
Lab ID:	9809060-09A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/22/98 2:30:00 PM
		COC Record:	5565

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	60	1		µg/L	1	10/5/98
Benzene	2.6	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	5.8	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980928	Test Code: SW8020A	Units: µg/L	Analysis Date: 9/28/98	Prep Date:
Client ID: 9809060	Run ID: GC-1_980928B			SeqNo: 6930	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.036	1			J
Ethylbenzene	.0731	1			J
m,p-Xylene	.3054	2			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.1783	1			J
Toluene	.1852	1			J

Sample ID: MB1	Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809060	Run ID: GC-1_981002A			SeqNo: 7285	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1808	1			J
Ethylbenzene	.0659	1			J
m,p-Xylene	.1632	2			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.4715	1			J
Toluene	.2248	1			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:
Client ID:	9809060	Run ID: GC-1_981005A		SeqNo: 7318	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	.045	1			
Ethylbenzene	ND	1			
m,p-Xylene	ND	2			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	1			
Toluene	.0848	1			
				LowLimit	HighLimit
				RPD Ref Val	RPD Limit
					Qual

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

Date: 08-Oct-98

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809060-08AMS		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:		
Client ID: MW-19		9809060		Run ID: GC-1_981002A				SeqNo: 7286				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		408.9	10	400	16.9	98.0%	56	128				
Ethylbenzene		446.3	10	400	36.09	102.6%	78	107				
m,p-Xylene		859.2	20	800	52.48	100.8%	67	118				
Methyl tert-Butyl Ether		347.9	10	400	0	87.0%	70	130				
o-Xylene		411.2	10	400	5.683	101.4%	78	107				
Toluene		412.5	10	400	8.916	100.9%	74	116				

Sample ID: 9809060-08AMSD		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: MW-19		9809060		Run ID: GC-1_981002A				SeqNo: 7288			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	379.9	10	400	16.9	90.8%	56	128	408.9	7.4%	12	
Ethylbenzene	414.5	10	400	36.09	94.6%	78	107	446.3	7.4%	11	
m,p-Xylene	798	20	800	52.48	93.2%	67	118	859.2	7.4%	10	
Methyl tert-Butyl Ether	327.8	10	400	0	81.9%	70	130	347.9	6.0%	15	
o-Xylene	382.3	10	400	5.683	94.2%	78	107	411.2	7.3%	14	
Toluene	382.4	10	400	8.916	93.4%	74	116	412.5	7.6%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809063-04AMS Batch ID: GC-1_981002 Test Code: SW8020A Units: µg/L Analysis Date: 10/2/98 Prep Date:
 Client ID: 9809060 Run ID: GC-1_981002A SeqNo: 7287

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2819	20	800	2032	98.3%	56	128				
Ethylbenzene	1417	20	800	612.7	100.6%	78	107				
m,p-Xylene	2439	40	1600	851.9	99.2%	67	118				
Methyl tert-Butyl Ether	722.6	20	800	134	73.6%	70	130				
o-Xylene	1023	20	800	273.3	93.7%	78	107				
Toluene	832.1	20	800	40.49	99.0%	74	116				

Sample ID: 9809063-04AMSD Batch ID: GC-1_981002 Test Code: SW8020A Units: µg/L Analysis Date: 10/2/98 Prep Date:
 Client ID: 9809060 Run ID: GC-1_981002A SeqNo: 7289

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2733	20	800	2032	87.6%	56	128	2819	3.1%	12	
Ethylbenzene	1394	20	800	612.7	97.6%	78	107	1417	1.7%	11	
m,p-Xylene	2406	40	1600	851.9	97.1%	67	118	2439	1.4%	10	
Methyl tert-Butyl Ether	715	20	800	134	72.6%	70	130	722.6	1.1%	15	
o-Xylene	1018	20	800	273.3	93.0%	78	107	1023	0.5%	14	
Toluene	819	20	800	40.49	97.3%	74	116	832.1	1.6%	14	

Sample ID: 9809063-06AMS Batch ID: GC-1_981005 Test Code: SW8020A Units: µg/L Analysis Date: 10/5/98 Prep Date:
 Client ID: 9809060 Run ID: GC-1_981005A SeqNo: 7319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1445	10	400	1007	109.5%	56	128				
Ethylbenzene	1268	10	400	812.1	114.0%	78	107				
m,p-Xylene	983.7	20	800	150.6	104.1%	67	118				
Methyl tert-Butyl Ether	415.3	10	400	86.91	82.1%	70	130				
o-Xylene	490.4	10	400	97.51	98.2%	78	107				
Toluene	509	10	400	90.15	104.7%	74	116				

✓ Lcs
 10/10/98

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: 9809063-06AMSD		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID:		9809060		Run ID: GC-1_981005A				SeqNo: 7320			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1360	10	400	1007	88.1%	56	128	1445	6.1%	12	
Ethylbenzene	1168	10	400	812.1	88.9%	78	107	1268	8.2%	11	
m,p-Xylene	898	20	800	150.6	93.4%	67	118	983.7	9.1%	10	
Methyl tert-Butyl Ether	403.8	10	400	86.91	79.2%	70	130	415.3	2.8%	15	
o-Xylene	463.9	10	400	97.51	91.6%	78	107	490.4	5.6%	14	
Toluene	473.3	10	400	90.15	95.8%	74	116	509	7.3%	14	

Qualifiers:
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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

Date: 08-Oct-98

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980928	Test Code: SW8020A	Units: µg/L	Analysis Date: 9/28/98	Prep Date:						
Client ID:	9809060	Run ID: GC-1_980928B		SeqNo: 6929							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.17	1	40	0.036	100.3%	56	128				
Ethylbenzene	41.37	1	40	0.0731	103.2%	78	107				
m,m,p-Xylene	82.82	2	80	0.3054	103.1%	67	118				
Methyl tert-Butyl Ether	35.8	1	40	0	89.5%	70	130				
o-Xylene	40.99	1	40	0.1783	102.0%	78	107				
Toluene	40.33	1	40	0.1852	100.4%	74	116				

Sample ID: LCS WATER	Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98	Prep Date:						
Client ID:	9809060	Run ID: GC-1_981002A		SeqNo: 7284							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.48	1	40	0.1808	98.3%	56	128				
Ethylbenzene	39.46	1	40	0.0659	98.5%	78	107				
m,p-Xylene	79.01	2	80	0.1632	98.6%	67	118				
Methyl tert-Butyl Ether	39.56	1	40	0	98.9%	70	130				
o-Xylene	40.15	1	40	0.4715	99.2%	78	107				
Toluene	39.67	1	40	0.2248	98.6%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:
Client ID: 9809060	Run ID: GC-1_981005A	PQL	SPK value	SeqNo: 7317	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	40.27	1	40	0.045	100.6%
Ethylbenzene	41.28	1	40	0	103.2%
m,p-Xylene	81.47	2	80	0	101.8%
Methyl tert-Butyl Ether	36.37	1	40	0	90.9%
o-Xylene	40.64	1	40	0	101.6%
Toluene	40.08	1	40	0.0848	100.0%
				LowLimit	HighLimit
				56	128
				78	107
				67	118
				70	130
				78	107
				74	116
				RPDLimit	Qual

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

Date: 08-Oct-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_980928		Test Code: SW8020A		Units: µg/L		Analysis Date: 9/28/98		Prep Date:	
Client ID:		9809060		Run ID:		GC-1_980928B		SeqNo: 6928			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.94	1	20	0	109.7%	85	115				
Ethylbenzene	22.96	1	20	0	114.8%	85	115				
m,p-Xylene	45.53	2	40	0	113.8%	85	115				
Methyl tert-Butyl Ether	19.36	1	20	0	96.8%	85	115				
o-Xylene	22.31	1	20	0	111.6%	85	115				
Toluene	22.23	1	20	0	111.1%	85	115				
1,4-Difluorobenzene	91.6	0	100	0	91.6%	70	130				
4-Bromochlorobenzene	99.61	0	100	0	99.6%	70	130				
Fluorobenzene	90.91	0	100	0	90.9%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_980928		Test Code: SW8020A		Units: µg/L		Analysis Date: 9/28/98		Prep Date:	
Client ID:		9809060		Run ID:		GC-1_980928B		SeqNo: 6925			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.73	1	40	0	106.8%	85	115				
Ethylbenzene	43.96	1	40	0	109.9%	85	115				
m,p-Xylene	87.76	2	80	0	109.7%	85	115				
Methyl tert-Butyl Ether	35.43	1	40	0	88.6%	85	115				
o-Xylene	43.53	1	40	0	108.8%	85	115				
Toluene	43.11	1	40	0	107.8%	85	115				
1,4-Difluorobenzene	91.68	0	100	0	91.7%	70	130				
4-Bromochlorobenzene	97.03	0	100	0	97.0%	70	130				
Fluorobenzene	91.05	0	100	0	91.1%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981002A		SeqNo: 7281							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.42	1	20	0	107.1%	85	115				
Ethylbenzene	21.25	1	20	0	106.3%	85	115				
m,p-Xylene	42.25	2	40	0	105.6%	85	115				
Methyl tert-Butyl Ether	20.93	1	20	0	104.7%	85	115				
o-Xylene	21.71	1	20	0	108.5%	85	115				
Toluene	21.6	1	20	0	108.0%	85	115				
1,4-Difluorobenzene	91.32	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	98.14	0	100	0	98.1%	70	130				
Fluorobenzene	90.02	0	100	0	90.0%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981002A		SeqNo: 7282							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.43	1	20	0	102.1%	85	115				
Ethylbenzene	21.01	1	20	0	105.1%	85	115				
m,p-Xylene	41.13	2	40	0	102.8%	85	115				
Methyl tert-Butyl Ether	18.88	1	20	0	94.4%	85	115				
o-Xylene	20.86	1	20	0	104.3%	85	115				
Toluene	20.7	1	20	0	103.5%	85	115				
1,4-Difluorobenzene	90.69	0	100	0	90.7%	70	130				
4-Bromochlorobenzene	95.3	0	100	0	95.3%	70	130				
Fluorobenzene	90.06	0	100	0	90.1%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981002A		SeqNo: 7283							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.78	1	40	0	94.5%	85	115				
Ethylbenzene	40.19	1	40	0	100.5%	85	115				
m,p-Xylene	79.18	2	80	0	99.0%	85	115				
o-Xylene	39.27	1	40	0	98.2%	85	115				
Toluene	39.41	1	40	0	98.5%	85	115				
1,4-Difluorobenzene	90.11	0	100	0	90.1%	70	130				
4-Bromochlorobenzene	76.24	0	100	0	76.2%	70	130				
Fluorobenzene	88.39	0	100	0	88.4%	70	130				

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981005A		SeqNo: 7310							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.59	1	20	0	103.0%	85	115				
Ethylbenzene	21.17	1	20	0	105.9%	85	115				
m,p-Xylene	41.4	2	40	0	103.5%	85	115				
Methyl tert-Butyl Ether	19.69	1	20	0	98.4%	85	115				
o-Xylene	20.9	1	20	0	104.5%	85	115				
Toluene	20.68	1	20	0	103.4%	85	115				
1,4-Difluorobenzene	91.25	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	98.67	0	100	0	98.7%	70	130				
Fluorobenzene	89.98	0	100	0	90.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0606/07 Batch ID: GC-1_981005 Test Code: SW8020A Units: µg/L Analysis Date: 10/5/98 Prep Date:

Client ID: 9809060 Run ID: GC-1_981005A SeqNo: 7311

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.37	1	20	0	101.9%	85	115				
Ethylbenzene	20.95	1	20	0	104.8%	85	115				
m,p-Xylene	41.04	2	40	0	102.6%	85	115				
Methyl tert-Butyl Ether	19.97	1	20	0	99.9%	85	115				
o-Xylene	20.79	1	20	0	104.0%	85	115				
Toluene	20.49	1	20	0	102.4%	85	115				
1,4-Difluorobenzene	91.26	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	99.5	0	100	0	99.5%	70	130				
Fluorobenzene	89.66	0	100	0	89.7%	70	130				

Sample ID: CCV3 QC0606/07 Batch ID: GC-1_981005 Test Code: SW8020A Units: µg/L Analysis Date: 10/5/98 Prep Date:

Client ID: 9809060 Run ID: GC-1_981005A SeqNo: 7312

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.52	1	20	0	102.6%	85	115				
Ethylbenzene	21.07	1	20	0	105.4%	85	115				
m,p-Xylene	41.62	2	40	0	104.0%	85	115				
Methyl tert-Butyl Ether	16.94	1	20	0	84.7%	85	115				
o-Xylene	21.32	1	20	0	106.6%	85	115				
Toluene	21.15	1	20	0	105.7%	85	115				
1,4-Difluorobenzene	90.25	0	100	0	90.3%	70	130				
4-Bromochlorobenzene	87.72	0	100	0	87.7%	70	130				
Fluorobenzene	88.84	0	100	0	88.8%	70	130				

SVT-11111111
CCV3 10/6/98
10

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV4 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981005A		SeqNo: 7313							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.02	1	20	0	100.1%	85	115				
Ethylbenzene	20.55	1	20	0	102.8%	85	115				
m,p-Xylene	40.87	2	40	0	102.2%	85	115				
Methyl tert-Butyl Ether	17.77	1	20	0	88.9%	85	115				
o-Xylene	21.11	1	20	0	105.5%	85	115				
Toluene	20.74	1	20	0	103.7%	85	115				
1,4-Difluorobenzene	90.75	0	100	0	90.7%	70	130				
4-Bromochlorobenzene	85.14	0	100	0	85.1%	70	130				
Fluorobenzene	88.9	0	100	0	88.9%	70	130				

Sample ID: CCV5 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981005A		SeqNo: 7321							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.79	1	20	0	99.0%	85	115				
Ethylbenzene	20.81	1	20	0	104.1%	85	115				
m,p-Xylene	40.81	2	40	0	102.0%	85	115				
o-Xylene	20.56	1	20	0	102.8%	85	115				
Toluene	20.34	1	20	0	101.7%	85	115				
1,4-Difluorobenzene	90.49	0	100	0	90.5%	70	130				
4-Bromochlorobenzene	87.07	0	100	0	87.1%	70	130				
Fluorobenzene	88.88	0	100	0	88.9%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV6 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981005A						SeqNo: 7314			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.42	1	20	0	102.1%	85	115				
Ethylbenzene	22.58	1	20	0	112.9%	85	115				
m,p-Xylene	44.24	2	40	0	110.6%	85	115				
o-Xylene	21.04	1	20	0	105.2%	85	115				
Toluene	21.69	1	20	0	108.5%	85	115				
1,4-Difluorobenzene	88.39	0	100	0	88.4%	70	130				
4-Bromochlorobenzene	62.52	0	100	0	62.5%	70	130				S
Fluorobenzene	86.17	0	100	0	86.2%	70	130				

Sample ID: CCV7 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981005A						SeqNo: 7315			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.27	1	20	0	101.4%	85	115				
Ethylbenzene	21.91	1	20	0	109.5%	85	115				
m,p-Xylene	42.63	2	40	0	106.6%	85	115				
o-Xylene	21.01	1	20	0	105.1%	85	115				
Toluene	21.37	1	20	0	106.9%	85	115				
1,4-Difluorobenzene	89.71	0	100	0	89.7%	70	130				
4-Bromochlorobenzene	65.83	0	100	0	65.8%	70	130				S
Fluorobenzene	88.41	0	100	0	88.4%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV8 QC0606/07		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: 9809060		Run ID: GC-1_981005A		PQL		SPK value		SeqNo: 7316		HighLimit	
Analyte	Result	QOL		SPK Ref Val		%REC		LowLimit		RPD Ref Val	
Benzene	19.98	1		20		0		85		115	
Ethylbenzene	21.29	1		20		0		85		115	
m,p-Xylene	41.58	2		40		0		85		115	
o-Xylene	21.11	1		20		0		85		115	
Toluene	20.86	1		20		0		85		115	
1,4-Difluorobenzene	90.22	0		100		0		70		130	
4-Bromochlorobenzene	83.45	0		100		0		70		130	
Fluorobenzene	89.08	0		100		0		70		130	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9809060

Project: Thriftway Refinery

Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9809046-01A	101	94.7	102					
9809049-01A	92.3	97.9	91.1					
9809058-01A	92.1	97.4	91.1					
9809058-02A	92.2	97.4	91.2					
9809058-03A	90.9	101	90.4					
9809058-04A	91.9	101	90.7					
9809058-05A	92.4	100	90.5					
9809058-06A	91.2	100	90.6					
9809058-07A	91.2	97.8	90.9					
9809060-01A	92	97.2	91.5					
9809060-02A	92.1	96.6	91.2					
9809060-03A	88.7	96.3	88.5					
9809060-04A	91.8	97.2	90.4					
9809060-05A	91.4	99.2	89.9					
9809060-06A	91.2	89.8	90					
9809060-07A	91.2	89.3	88.2					
9809060-08A	89	87.1	87.2					
9809060-08AMS	91.2	79.4	90.1					
9809060-08AMSD	89.5	79.2	88					
9809060-09A	87	84.5	85.7					
9809063-01A	92	99	90.9					
9809063-02A	92.1	100	90.7					
9809063-03A	90.9	92.5	90					
9809063-04A	86.4	84.1	86					
9809063-04AMS	87.5	77.4	86.9					
9809063-04AMSD	87.2	78.2	86.8					
9809063-05A	84.4	87.3	85.6					

Acronym

Surrogate

QC Limits

14FBZ = 1,4-Difluorobenzene
4BCBZ = 4-Bromochlorobenzene
FLBZ = Fluorobenzene

70-130
70-130
70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9809060
Project: Thriftway Refinery
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9809063-06A	98.9	91.6	96.3					
9809063-06AMS	101	91	97.4					
9809063-06AMSD	99.7	93.7	96.8					
9809064-01A	90.6	100	90.3					
9809073-01A	90.4	63 *	87.9					
9809074-02A	82.9	62.5 *	81.3					
9809074-03A	83.4	61.8 *	82.2					
9809074-04A	90.7	88.5	88.8					
9809074-05A	90.5	74.3	88.4					
9809075-01A	90.6	86.3	88.8					
9809075-02A	89.2	71.2	86.6					
9809075-03A	89.3	62.6 *	86.1					
9809075-04A	88.5	56.7 *	86.1					
9809075-05A	87.5	53.5 *	84.2					
CCV1 QC0606/07	91.2	98.7	90					
CCV2 QC0606/07	91.3	99.5	89.7					
CCV3 QC0606/07	90.2	87.7	88.8					
CCV4 QC0606/07	90.7	85.1	88.9					
CCV5 QC0606/07	90.5	87.1	88.9					
CCV6 QC0606/07	88.4	62.5 *	86.2					
CCV7 QC0606/07	89.7	65.8 *	88.4					
CCV8 QC0606/07	90.2	83.4	89.1					
LCS WATER	90.7	98.4	89.6					
MB1	91.3	98.6	90.1					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

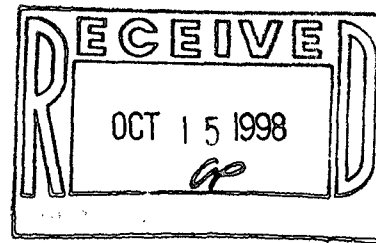
* Surrogate recovery outside acceptance limits

OFF: (505) 325-5667



LAB: (505) 325-1556

October 08, 1998



Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery Site 810

Order No.: 9809058

Dear Terry Griffin,

On Site Technologies, LTD. received 7 samples on 9/22/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Site 810
Lab Order: 9809058

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	Travel Blank
Lab ID:	9809058-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/18/98 4:00:00 PM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	9/28/98
Benzene	ND	1		µg/L	1	9/28/98
Toluene	ND	1		µg/L	1	9/28/98
Ethylbenzene	ND	1		µg/L	1	9/28/98
m,p-Xylene	ND	2		µg/L	1	9/28/98
o-Xylene	ND	1		µg/L	1	9/28/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	Field Blank
Lab ID:	9809058-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/21/98 10:00:00 AM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	9/28/98
Benzene	ND	1		µg/L	1	9/28/98
Toluene	ND	1		µg/L	1	9/28/98
Ethylbenzene	ND	1		µg/L	1	9/28/98
m,p-Xylene	ND	2		µg/L	1	9/28/98
o-Xylene	ND	1		µg/L	1	9/28/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	MW-5
Lab ID:	9809058-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/21/98 2:40:00 PM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	56	1		µg/L	1	10/2/98
Benzene	11	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	MW-13
Lab ID:	9809058-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/21/98 12:08:00 PM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	MW-15
Lab ID:	9809058-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/21/98 11:20:00 AM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	MW-21
Lab ID:	9809058-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/21/98 3:25:00 PM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	91	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809058	Client Sample ID:	MW-22
Lab ID:	9809058-07A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Site 810	Collection Date:	9/21/98 4:03:00 PM
		COC Record:	5564

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	28	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980928	Test Code: SW8020A	Units: µg/L	Analysis Date: 9/28/98	Prep Date:						
Client ID:	9809058	Run ID: GC-1_980928B		SeqNo: 6930							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.036	1									J
Ethylbenzene	.0731	1									J
m,p-Xylene	.3054	2									J
Methyl tert-Butyl Ether	ND	1									J
o-Xylene	.1783	1									J
Toluene	.1852	1									J

Sample ID: MB1	Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98	Prep Date:						
Client ID:	9809058	Run ID: GC-1_981002A		SeqNo: 7285							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1808	1									J
Ethylbenzene	.0659	1									J
m,p-Xylene	.1632	2									J
Methyl tert-Butyl Ether	ND	1									J
o-Xylene	.4715	1									J
Toluene	.2248	1									J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810

Date: 08-Oct-98

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809060-08AMS		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:		
Client ID:		9809058		Run ID: GC-1_981002A				SeqNo: 7286				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		408.9	10	400	16.9	98.0%	56	128				
Ethylbenzene		446.3	10	400	36.09	102.6%	78	107				
m,p-Xylene		859.2	20	800	52.48	100.8%	67	118				
Methyl tert-Butyl Ether		347.9	10	400	0	87.0%	70	130				
o-Xylene		411.2	10	400	5.683	101.4%	78	107				
Toluene		412.5	10	400	8.916	100.9%	74	116				

Sample ID: 9809060-08AMSD		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809058		Run ID: GC-1_981002A				SeqNo: 7288			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	379.9	10	400	16.9	90.8%	56	128	408.9	7.4%	12	
Ethylbenzene	414.5	10	400	36.09	94.6%	78	107	446.3	7.4%	11	
m,p-Xylene	798	20	800	52.48	93.2%	67	118	859.2	7.4%	10	
Methyl tert-Butyl Ether	327.8	10	400	0	81.9%	70	130	347.9	6.0%	15	
o-Xylene	382.3	10	400	5.683	94.2%	78	107	411.2	7.3%	14	
Toluene	382.4	10	400	8.916	93.4%	74	116	412.5	7.6%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809058

Project: Thriftway Refinery Site 810

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809063-04AMS		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809058		Run ID: GC-1_981002A		SeqNo: 7287							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2819	20	800	2032	98.3%	56	128				
Ethylbenzene	1417	20	800	612.7	100.6%	78	107				
m,p-Xylene	2439	40	1600	851.9	99.2%	67	118				
Methyl tert-Butyl Ether	722.6	20	800	134	73.6%	70	130				
o-Xylene	1023	20	800	273.3	93.7%	78	107				
Toluene	832.1	20	800	40.49	99.0%	74	116				

Sample ID: 9809063-04AMSD		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809058		Run ID: GC-1_981002A		SeqNo: 7289							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2733	20	800	2032	87.6%	56	128	2819	3.1%	12	
Ethylbenzene	1394	20	800	612.7	97.6%	78	107	1417	1.7%	11	
m,p-Xylene	2406	40	1600	851.9	97.1%	67	118	2439	1.4%	10	
Methyl tert-Butyl Ether	715	20	800	134	72.6%	70	130	722.6	1.1%	15	
o-Xylene	1018	20	800	273.3	93.0%	78	107	1023	0.5%	14	
Toluene	819	20	800	40.49	97.3%	74	116	832.1	1.6%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980928		Test Code: SW8020A		Units: µg/L		Analysis Date: 9/28/98		Prep Date:	
Client ID: 9809058		Run ID: GC-1_980928B						SeqNo: 6929			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.17	1	40	0.036	100.3%	56	128				
Ethylbenzene	41.37	1	40	0.0731	103.2%	78	107				
m,p-Xylene	82.82	2	80	0.3054	103.1%	67	118				
Methyl tert-Butyl Ether	35.8	1	40	0	89.5%	70	130				
o-Xylene	40.99	1	40	0.1783	102.0%	78	107				
Toluene	40.33	1	40	0.1852	100.4%	74	116				

Sample ID: LCS WATER		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809058		Run ID:		GC-1_981002A		SeqNo: 7284			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.48	1	40	0.1808	98.3%	56	128				
Ethylbenzene	39.46	1	40	0.0659	98.5%	78	107				
m,p-Xylene	79.01	2	80	0.1632	98.6%	67	118				
Methyl tert-Butyl Ether	39.56	1	40	0	98.9%	70	130				
o-Xylene	40.15	1	40	0.4715	99.2%	78	107				
Toluene	39.67	1	40	0.2248	98.6%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_980928	Test Code: SW8020A	Units: µg/L		Analysis Date: 9/28/98			Prep Date:			
Client ID: 9809058		Run ID: GC-1_980928B	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	21.94	1	20	0	0	109.7%	85	115				
Ethylbenzene	22.96	1	20	0	0	114.8%	85	115				
m,p-Xylene	45.53	2	40	0	0	113.8%	85	115				
Methyl tert-Butyl Ether	19.36	1	20	0	0	96.8%	85	115				
o-Xylene	22.31	1	20	0	0	111.6%	85	115				
Toluene	22.23	1	20	0	0	111.1%	85	115				
1,4-Difluorobenzene	91.6	0	100	0	0	91.6%	70	130				
4-Bromochlorobenzene	99.61	0	100	0	0	99.6%	70	130				
Fluorobenzene	90.91	0	100	0	0	90.9%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_980928		Test Code: SW8020A		Units: µg/L		Analysis Date: 9/28/98			Prep Date:		
Client ID:		9809058		Run ID:		GC-1_980928B		SeqNo: 6925					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Benzene	42.73	1	40	0	106.8%	85	115						
Ethylbenzene	43.96	1	40	0	109.9%	85	115						
m,p-Xylene	87.76	2	80	0	109.7%	85	115						
Methyl tert-Butyl Ether	35.43	1	40	0	88.6%	85	115						
o-Xylene	43.53	1	40	0	108.8%	85	115						
Toluene	43.11	1	40	0	107.8%	85	115						
1,4-Difluorobenzene	91.68	0	100	0	91.7%	70	130						
4-Bromochlorobenzene	97.03	0	100	0	97.0%	70	130						
Fluorobenzene	91.05	0	100	0	91.1%	70	130						

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809058		Run ID: GC-1_981002A		SeqNo: 7281							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.42	1	20	0	107.1%	85	115				
Ethylbenzene	21.25	1	20	0	106.3%	85	115				
m,p-Xylene	42.25	2	40	0	105.6%	85	115				
Methyl tert-Butyl Ether	20.93	1	20	0	104.7%	85	115				
o-Xylene	21.71	1	20	0	108.5%	85	115				
Toluene	21.6	1	20	0	108.0%	85	115				
1,4-Difluorobenzene	91.32	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	98.14	0	100	0	98.1%	70	130				
Fluorobenzene	90.02	0	100	0	90.0%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: 9809058		Run ID: GC-1_981002A		SeqNo: 7282							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.43	1	20	0	102.1%	85	115				
Ethylbenzene	21.01	1	20	0	105.1%	85	115				
m,p-Xylene	41.13	2	40	0	102.8%	85	115				
Methyl tert-Butyl Ether	18.88	1	20	0	94.4%	85	115				
o-Xylene	20.86	1	20	0	104.3%	85	115				
Toluene	20.7	1	20	0	103.5%	85	115				
1,4-Difluorobenzene	90.69	0	100	0	90.7%	70	130				
4-Bromochlorobenzene	95.3	0	100	0	95.3%	70	130				
Fluorobenzene	90.06	0	100	0	90.1%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809058

Project: Thriftway Refinery Site 810

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07	Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98	Prep Date:
Client ID: 9809058	Run ID: GC-1_981002A	PQL	SPK value	SeqNo: 7283	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	37.78	1	40	0	94.5%
Ethylbenzene	40.19	1	40	0	100.5%
m,p-Xylene	79.18	2	80	0	99.0%
o-Xylene	39.27	1	40	0	98.2%
Toluene	39.41	1	40	0	98.5%
1,4-Difluorobenzene	90.11	0	100	0	90.1%
4-Bromochlorobenzene	76.24	0	100	0	76.2%
Fluorobenzene	88.39	0	100	0	88.4%
				LowLimit	HighLimit
				85	115
				85	115
				85	115
				85	115
				85	115
				70	130
				70	130
				70	130
				RPDLimit	Qual

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9809046-01A	101	94.7	102					
9809049-01A	92.3	97.9	91.1					
9809058-01A	92.1	97.4	91.1					
9809058-02A	92.2	97.4	91.2					
9809058-03A	90.9	101	90.4					
9809058-04A	91.9	101	90.7					
9809058-05A	92.4	100	90.5					
9809058-06A	91.2	100	90.6					
9809058-07A	91.2	97.8	90.9					
9809060-01A	92	97.2	91.5					
9809060-02A	92.1	96.6	91.2					
9809060-03A	88.7	96.3	88.5					
9809060-04A	91.8	97.2	90.4					
9809060-05A	90.8	94.5	90.1					
9809060-06A	91.3	93.5	89.8					
9809060-07A	91.4	89.4	88.5					
9809060-08AMS	91.2	79.4	90.1					
9809060-08AMSD	89.5	79.2	88					
9809060-09A	87.4	86.7	87.1					
9809063-01A	92	99	90.9					
9809063-02A	92.1	100	90.7					
9809063-03A	91.4	85.6	90.4					
9809063-04A	87.4	77.7	86.9					
9809063-04AMS	87.5	77.4	86.9					
9809063-04AMSD	87.2	78.2	86.8					
9809063-05A	89	77.8	88.2					
9809063-06A	93.2	78.6	90.9					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9809058
Project: Thriftway Refinery Site 810
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9809064-01A	90.6	100	90.3					
CCV1 QC0606/07	91.3	98.1	90					
CCV2 QC0606/07	90.7	95.3	90					
CCV3 QC0606/07	90.1	76.2	88.4					
LCS WATER	90.9	98.6	89.9					
MB1	90.3	94.9	89.2					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

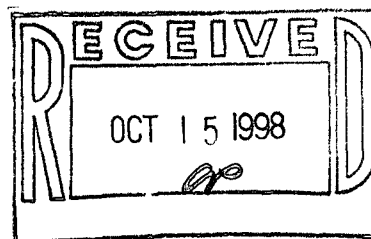
* Surrogate recovery outside acceptance limits

OFF: (505) 325-5667



LAB: (505) 325-1556

October 08, 1998



Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery

Order No.: 9809063

Dear Terry Griffin,

On Site Technologies, LTD. received 6 samples on 9/24/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.

Project: Thriftway Refinery

Lab Order: 9809063

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809063	Client Sample ID:	Travel Blank
Lab ID:	9809063-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/23/98 9:00:00 AM
		COC Record:	5566

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	1.2	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809063	Client Sample ID:	Field Blank
Lab ID:	9809063-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/23/98 9:40:00 AM
		COC Record:	5566

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	10/2/98
Benzene	ND	1		µg/L	1	10/2/98
Toluene	1.2	1		µg/L	1	10/2/98
Ethylbenzene	ND	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809063	Client Sample ID:	MW-1
Lab ID:	9809063-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/23/98 10:45:00 AM
		COC Record:	5566

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	71	1		µg/L	1	10/5/98
Benzene	15	1		µg/L	1	10/2/98
Toluene	ND	1		µg/L	1	10/2/98
Ethylbenzene	1.8	1		µg/L	1	10/2/98
m,p-Xylene	ND	2		µg/L	1	10/2/98
o-Xylene	ND	1		µg/L	1	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809063	Client Sample ID:	MW-2
Lab ID:	9809063-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/23/98 10:15:00 AM
		COC Record:	5566

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	150	10		µg/L	10	10/5/98
Benzene	2000	20		µg/L	20	10/2/98
Toluene	40	20		µg/L	20	10/2/98
Ethylbenzene	610	20		µg/L	20	10/2/98
m,p-Xylene	850	40		µg/L	20	10/2/98
o-Xylene	270	20		µg/L	20	10/2/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809063	Client Sample ID:	QC Sample MW-2
Lab ID:	9809063-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/23/98 10:15:00 AM
		COC Record:	5566

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	160	10		µg/L	10	10/5/98
Benzene	2000	20		µg/L	20	10/2/98
Toluene	42	10		µg/L	10	10/5/98
Ethylbenzene	630	20		µg/L	20	10/2/98
m,p-Xylene	1000	40		µg/L	20	10/2/98
o-Xylene	280	20		µg/L	20	10/2/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 08-Oct-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9809063	Client Sample ID:	MW-14
Lab ID:	9809063-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	9/23/98 11:30:00 AM
		COC Record:	5566

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	87	10		µg/L	10	10/5/98
Benzene	950	20		µg/L	20	10/2/98
Toluene	91	20		µg/L	20	10/2/98
Ethylbenzene	780	20		µg/L	20	10/2/98
m,p-Xylene	180	40		µg/L	20	10/2/98
o-Xylene	76	20		µg/L	20	10/2/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98	Prep Date:						
Client ID:	9809063	Run ID: GC-1_981002A		SeqNo: 7285							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1808	1									J
Ethylbenzene	.0659	1									J
m,p-Xylene	.1632	2									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.4715	1									J
Toluene	.2248	1									J

Sample ID: MB1	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98		Prep Date:					
Client ID:	9809063	Run ID: GC-1_981005A		SeqNo: 7318							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.045	1									J
Ethylbenzene	ND	1									
m,p-Xylene	ND	2									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	1									
Toluene	.0848	1									J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9809063
Project: Thriftway Refinery

Date: 08-Oct-98

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809060-08AMS		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809063		Run ID:		GC-1_981002A		SeqNo: 7286			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	408.9	10	400	16.9	98.0%	56	128				
Ethylbenzene	446.3	10	400	36.09	102.6%	78	107				
m,p-Xylene	859.2	20	800	52.48	100.8%	67	118				
Methyl tert-Butyl Ether	347.9	10	400	0	87.0%	70	130				
o-Xylene	411.2	10	400	5.683	101.4%	78	107				
Toluene	412.5	10	400	8.916	100.9%	74	116				

Sample ID: 9809060-08AMSD		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID:		9809063		Run ID:		GC-1_981002A		SeqNo: 7288			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	379.9	10	400	16.9	90.8%	56	128	408.9	7.4%	12	
Ethylbenzene	414.5	10	400	36.09	94.6%	78	107	446.3	7.4%	11	
m,p-Xylene	798	20	800	52.48	93.2%	67	118	859.2	7.4%	10	
Methyl tert-Butyl Ether	327.8	10	400	0	81.9%	70	130	347.9	6.0%	15	
o-Xylene	382.3	10	400	5.683	94.2%	78	107	411.2	7.3%	14	
Toluene	382.4	10	400	8.916	93.4%	74	116	412.5	7.6%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9809063
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809063-04AMS		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: MW-2		9809063		Run ID: GC-1_981002A				SeqNo: 7287			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2819	20	800	2032	98.3%	56	128				
Ethylbenzene	1417	20	800	612.7	100.6%	78	107				
m,p-Xylene	2439	40	1600	851.9	99.2%	67	118				
Methyl tert-Butyl Ether	722.6	20	800	134	73.6%	70	130				
o-Xylene	1023	20	800	273.3	93.7%	78	107				
Toluene	832.1	20	800	40.49	99.0%	74	116				

Sample ID: 9809063-04AMS		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98		Prep Date:	
Client ID: MW-2		9809063		Run ID: GC-1_981002A				SeqNo: 7289			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2733	20	800	2032	87.6%	56	128	2819	3.1%	12	
Ethylbenzene	1394	20	800	612.7	97.6%	78	107	1417	1.7%	11	
m,p-Xylene	2406	40	1600	851.9	97.1%	67	118	2439	1.4%	10	
Methyl tert-Butyl Ether	715	20	800	134	72.6%	70	130	722.6	1.1%	15	
o-Xylene	1018	20	800	273.3	93.0%	78	107	1023	0.5%	14	
Toluene	819	20	800	40.49	97.3%	74	116	832.1	1.6%	14	

Sample ID: 9809063-06AMS		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: MW-14		9809063		Run ID: GC-1_981005A				SeqNo: 7319			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1445	10	400	1007	109.5%	56	128				
Ethylbenzene	1268	10	400	812.1	114.0%	78	107				
m,p-Xylene	983.7	20	800	150.6	104.1%	67	118				
Methyl tert-Butyl Ether	415.3	10	400	86.91	82.1%	70	130				
o-Xylene	490.4	10	400	97.51	98.2%	78	107				
Toluene	509	10	400	90.15	104.7%	74	116				

✓
10/6/98
10/6/98

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 9809063-06AMSD		Batch ID: GC-1_981005		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/5/98		Prep Date:	
Client ID: MW-14		9809063		Run ID: GC-1_981005A				SeqNo: 7320			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1360	10	400	1007	88.1%	56	128	1445	6.1%	12	
Ethylbenzene	1168	10	400	812.1	88.9%	78	107	1268	8.2%	11	
m,p-Xylene	898	20	800	150.6	93.4%	67	118	983.7	9.1%	10	
Methyl tert-Butyl Ether	403.8	10	400	86.91	79.2%	70	130	415.3	2.8%	15	
o-Xylene	463.9	10	400	97.51	91.6%	78	107	490.4	5.6%	14	
Toluene	473.3	10	400	90.15	95.8%	74	116	509	7.3%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9809063
Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98				Prep Date:		
Client ID:		9809063	Run ID: GC-1_981002A		SeqNo: 7284						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.48	1	40	0.1808	98.3%	56	128				
Ethylbenzene	39.46	1	40	0.0659	98.5%	78	107				
m,p-Xylene	79.01	2	80	0.1632	98.6%	67	118				
Methyl tert-Butyl Ether	39.56	1	40	0	98.9%	70	130				
o-Xylene	40.15	1	40	0.4715	99.2%	78	107				
Toluene	39.67	1	40	0.2248	98.6%	74	116				

Sample ID: LCS WATER		Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98		Prep Date:				
Client ID:		9809063	Run ID: GC-1_981005A		SeqNo: 7317						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.27	1	40	0.045	100.6%	56	128				
Ethylbenzene	41.28	1	40	0	103.2%	78	107				
m,p-Xylene	81.47	2	80	0	101.8%	67	118				
Methyl tert-Butyl Ether	36.37	1	40	0	90.9%	70	130				
o-Xylene	40.64	1	40	0	101.6%	78	107				
Toluene	40.08	1	40	0.0848	100.0%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9809063
Project: Thriftway Refinery

Date: 08-Oct-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981002	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/2/98			Prep Date:			
Client ID:		9809063	Run ID: GC-1_981002A		SeqNo: 7281						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.42	1	20	0	107.1%	85	115				
Ethylbenzene	21.25	1	20	0	106.3%	85	115				
m,p-Xylene	42.25	2	40	0	105.6%	85	115				
Methyl tert-Butyl Ether	20.93	1	20	0	104.7%	85	115				
o-Xylene	21.71	1	20	0	108.5%	85	115				
Toluene	21.6	1	20	0	108.0%	85	115				
1,4-Difluorobenzene	91.32	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	98.14	0	100	0	98.1%	70	130				
Fluorobenzene	90.02	0	100	0	90.0%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981002		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/2/98			Prep Date:		
Client ID:		9809063		Run ID: GC-1_981002A				SeqNo: 7282					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Benzene	20.43	1	20	0	102.1%	85	115						
Ethylbenzene	21.01	1	20	0	105.1%	85	115						
m,p-Xylene	41.13	2	40	0	102.8%	85	115						
Methyl tert-Butyl Ether	18.88	1	20	0	94.4%	85	115						
o-Xylene	20.86	1	20	0	104.3%	85	115						
Toluene	20.7	1	20	0	103.5%	85	115						
1,4-Difluorobenzene	90.69	0	100	0	90.7%	70	130						
4-Bromochlorobenzene	95.3	0	100	0	95.3%	70	130						
Fluorobenzene	90.06	0	100	0	90.1%	70	130						

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07 Batch ID: GC-1_981002 Test Code: SW8020A Units: µg/L Analysis Date: 10/2/98 Prep Date:
Client ID: 9809063 Run ID: GC-1_981002A SeqNo: 7283

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.78	1	40	0	94.5%	85	115				
Ethylbenzene	40.19	1	40	0	100.5%	85	115				
m,p-Xylene	79.18	2	80	0	99.0%	85	115				
o-Xylene	39.27	1	40	0	98.2%	85	115				
Toluene	39.41	1	40	0	98.5%	85	115				
1,4-Difluorobenzene	90.11	0	100	0	90.1%	70	130				
4-Bromochlorobenzene	76.24	0	100	0	76.2%	70	130				
Fluorobenzene	88.39	0	100	0	88.4%	70	130				

Sample ID: CCV1 QC0606/07 Batch ID: GC-1_981005 Test Code: SW8020A Units: µg/L Analysis Date: 10/5/98 Prep Date:
Client ID: 9809063 Run ID: GC-1_981005A SeqNo: 7310

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.59	1	20	0	103.0%	85	115				
Ethylbenzene	21.17	1	20	0	105.9%	85	115				
m,p-Xylene	41.4	2	40	0	103.5%	85	115				
Methyl tert-Butyl Ether	19.69	1	20	0	98.4%	85	115				
o-Xylene	20.9	1	20	0	104.5%	85	115				
Toluene	20.68	1	20	0	103.4%	85	115				
1,4-Difluorobenzene	91.25	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	98.67	0	100	0	98.7%	70	130				
Fluorobenzene	89.98	0	100	0	90.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:						
Client ID: 9809063	Run ID: GC-1_981005A			SeqNo: 7311							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	20.37	1	20	0	101.9%	85	115				
Ethylbenzene	20.95	1	20	0	104.8%	85	115				
m,p-Xylene	41.04	2	40	0	102.6%	85	115				
Methyl tert-Butyl Ether	19.97	1	20	0	99.9%	85	115				
o-Xylene	20.79	1	20	0	104.0%	85	115				
Toluene	20.49	1	20	0	102.4%	85	115				
1,4-Difluorobenzene	91.26	0	100	0	91.3%	70	130				
4-Bromochlorobenzene	99.5	0	100	0	99.5%	70	130				
Fluorobenzene	89.66	0	100	0	89.7%	70	130				

Sample ID: CCV3 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:						
Client ID:	9809063	Run ID: GC-1_981005A		SeqNo: 7312							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	20.52	1	20	0	102.6%	85	115				
Ethylbenzene	21.07	1	20	0	105.4%	85	115				
m,p-Xylene	41.62	2	40	0	104.0%	85	115				
Methyl tert-Butyl Ether	16.94	1	20	0	84.7%	85	115				
o-Xylene	21.32	1	20	0	106.6%	85	115				
Toluene	21.15	1	20	0	105.7%	85	115				
1,4-Difluorobenzene	90.25	0	100	0	90.3%	70	130				
4-Bromochlorobenzene	87.72	0	100	0	87.7%	70	130				
Fluorobenzene	88.84	0	100	0	88.8%	70	130				

SV FINISHED
CCV 10/16/98
WPD

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV4 QC0606/07		Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L		Analysis Date: 10/5/98		Prep Date:		
Client ID:		9809063	Run ID:	GC-1_981005A		SeqNo:	7313			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit	Qual
Benzene	20.02	1	20	0	100.1%	85	115			
Ethylbenzene	20.55	1	20	0	102.8%	85	115			
m,p-Xylene	40.87	2	40	0	102.2%	85	115			
Methyl tert-Butyl Ether	17.77	1	20	0	88.9%	85	115			
o-Xylene	21.11	1	20	0	105.5%	85	115			
Toluene	20.74	1	20	0	103.7%	85	115			
1,4-Difluorobenzene	90.75	0	100	0	90.7%	70	130			
4-Bromochlorobenzene	85.14	0	100	0	85.1%	70	130			
Fluorobenzene	88.9	0	100	0	88.9%	70	130			

Sample ID: CCV5 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98		Prep Date:					
Client ID: 9809063	Run ID: GC-1_981005A			SeqNo: 7321							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.79	1	20	0	99.0%	85	115				
Ethylbenzene	20.81	1	20	0	104.1%	85	115				
m,p-Xylene	40.81	2	40	0	102.0%	85	115				
o-Xylene	20.56	1	20	0	102.8%	85	115				
Toluene	20.34	1	20	0	101.7%	85	115				
1,4-Difluorobenzene	90.49	0	100	0	90.5%	70	130				
4-Bromochlorobenzene	87.07	0	100	0	87.1%	70	130				
Fluorobenzene	88.88	0	100	0	88.9%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV6 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:
Client ID: 9809063	Run ID: GC-1_981005A	PQL	SPK value	SeqNo: 7314	
Analyte	Result		SPK Ref Val	LowLimit	HighLimit
Benzene	20.42	1	20	85	115
Ethylbenzene	22.58	1	20	85	115
m,p-Xylene	44.24	2	40	85	115
o-Xylene	21.04	1	20	85	115
Toluene	21.69	1	20	85	115
1,4-Difluorobenzene	88.39	0	100	70	130
4-Bromochlorobenzene	62.52	0	100	70	130
Fluorobenzene	86.17	0	100	70	130
				%REC	%RPD
				102.1%	
				112.9%	
				110.6%	
				105.2%	
				108.5%	
				88.4%	
				62.5%	
				86.2%	
					Qual
					S

Sample ID: CCV7 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:
Client ID: 9809063	Run ID: GC-1_981005A	PQL	SPK value	SeqNo: 7315	
Analyte	Result		SPK Ref Val	LowLimit	HighLimit
Benzene	20.27	1	20	85	115
Ethylbenzene	21.91	1	20	85	115
m,p-Xylene	42.63	2	40	85	115
o-Xylene	21.01	1	20	85	115
Toluene	21.37	1	20	85	115
1,4-Difluorobenzene	89.71	0	100	70	130
4-Bromochlorobenzene	65.83	0	100	70	130
Fluorobenzene	88.41	0	100	70	130
				%REC	%RPD
				101.4%	
				109.5%	
				106.6%	
				105.1%	
				106.9%	
				89.7%	
				65.8%	
				88.4%	
					Qual
					S

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV8 QC0606/07	Batch ID: GC-1_981005	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/5/98	Prep Date:
Client ID: 9809063	Run ID: GC-1_981005A	PQL	SPK value	SPK Ref Val	SeqNo: 7316
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	19.98	1	20	0	99.9%
Ethylbenzene	21.29	1	20	0	106.4%
m,p-Xylene	41.58	2	40	0	104.0%
o-Xylene	21.11	1	20	0	105.5%
Toluene	20.86	1	20	0	104.3%
1,4-Difluorobenzene	90.22	0	100	0	90.2%
4-Bromochlorobenzene	83.45	0	100	0	83.4%
Fluorobenzene	89.08	0	100	0	89.1%
					LowLimit
					HighLimit
					RPD Ref Val
					%RPD
					RPDLimit
					Qual

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 08-Oct-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9809063

Project: Thriftway Refinery

Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9809058-03A	90.9	101	90.4					
9809058-04A	91.9	101	90.7					
9809058-05A	92.4	100	90.5					
9809058-06A	91.2	100	90.6					
9809058-07A	91.2	97.8	90.9					
9809060-03A	88.7	96.3	88.5					
9809060-04A	91.8	97.2	90.4					
9809060-05A	91.4	99.2	89.9					
9809060-06A	91.2	89.8	90					
9809060-07A	91.2	89.3	88.2					
9809060-08A	89	87.1	87.2					
9809060-08AMS	91.2	79.4	90.1					
9809060-08AMSD	89.5	79.2	88					
9809060-09A	87	84.5	85.7					
9809063-01A	92	99	90.9					
9809063-02A	92.1	100	90.7					
9809063-03A	90.9	92.5	90					
9809063-04A	86.4	84.1	86					
9809063-04AMS	87.5	77.4	86.9					
9809063-04AMSD	87.2	78.2	86.8					
9809063-05A	84.4	87.3	85.6					
9809063-06A	98.9	91.6	96.3					
9809063-06AMS	101	91	97.4					
9809063-06AMSD	99.7	93.7	96.8					
9809064-01A	90.6	100	90.3					
9809073-01A	90.4	63 *	87.9					
9809074-02A	82.9	62.5 *	81.3					

Acronym

Surrogate

QC Limits

14FBZ = 1,4-Difluorobenzene
 4BCBZ = 4-Bromochlorobenzene
 FLBZ = Fluorobenzene

70-130
 70-130
 70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9809063
Project: Thriftway Refinery
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9809074-03A	83.4	61.8 *	82.2					
9809074-04A	90.7	88.5	88.8					
9809074-05A	90.5	74.3	88.4					
9809075-01A	90.6	86.3	88.8					
9809075-02A	89.2	71.2	86.6					
9809075-03A	89.3	62.6 *	86.1					
9809075-04A	88.5	56.7 *	86.1					
9809075-05A	87.5	53.5 *	84.2					
CCV1 QC0606/07	91.2	98.7	90					
CCV2 QC0606/07	91.3	99.5	89.7					
CCV3 QC0606/07	90.2	87.7	88.8					
CCV4 QC0606/07	90.7	85.1	88.9					
CCV5 QC0606/07	90.5	87.1	88.9					
CCV6 QC0606/07	88.4	62.5 *	86.2					
CCV7 QC0606/07	89.7	65.8 *	88.4					
CCV8 QC0606/07	90.2	83.4	89.1					
LCS WATER	90.7	98.4	89.6					
MBI	91.3	98.6	90.1					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CHAIN OF CUSTODY RECORD

5556

ON SITE

TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 9/24/98

Page 1 of 1

Purchase Order No.: B98-499		Job No.	
Name: Same		Title	
Company: Same		Company: BioTech Remediation, Inc.	
Address:		Mailing Address: 710 E. 20th St, Suite 400	
City, State, Zip		City, State, Zip: Farmington, NM 87401	
Telephone No.		Telefax No.	
SEND INVOICE TO		RESULTS TO	
Sampling Location: Thattaway Refinery 626 Rd. 5500 Bloomfield, NM 87413		ANALYSIS REQUESTED	
Sampler: Ken Sinks		Number of Containers	
SAMPLE IDENTIFICATION		LAB ID	
SAMPLE DATE TIME		PRES.	
Travel Blank		9/23 0900 H ₂ O H ₂ O	
Field Blank		0940	
MW-1		1045	
MW-2		1015	
QC Sample - MW-2		1015	
MW-141		1130	
Relinquished by: Ken Sinks		Date/Time: 9/24/98 0832	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Method of Shipment:		10 Working Days	
Authorized by: Ken Sinks		Date: 9/24/98	
(Client Signature Must Accompany Request)		Special Instructions:	
Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client			

OFF: (505) 325-5667



LAB: (505) 325-1556

August 13, 1998

DO NOT FILE
ROSS' COPY



Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery

Order No.: 9807036

Dear Terry Griffin,

On Site Technologies, LTD. received 6 samples on 7/14/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

- BTEX (SW8020A)
- CORROSIVITY by pH (SW9045B)
- Diesel Range Organics (SW8015)
- Gasoline Range Organics (SW8015)
- ICP METALS-RCRA, Total (SW6010A)
- SEMIVOLATILE ORGANICS (SW8270A)
- TPH, T/R Soil (E418.1)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "D Cox".
David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery
Lab Order: 9807036

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Aug-98

Client: BioTech Remediation, Inc.
Work Order: 9807036
Lab ID: 9807036-01A **Matrix:** SOIL
Project: Thriftway Refinery

Client Sample Info: Fire Water Pond
Client Sample ID: Sample #1
Collection Date: 7/13/98 3:00:00 PM
COC Record: 5177

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL	E418.1					Analyst: HR
Petroleum Hydrocarbons, T/R	49	24		mg/Kg	1	7/21/98
DIESEL RANGE ORGANICS	SW8015					Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/20/98
GASOLINE RANGE ORGANICS	SW8015					Analyst: DC
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	7/21/98
BTEX	SW8020A					Analyst: DC
Methyl tert-Butyl Ether	ND	10		µg/Kg	1	7/16/98
Benzene	ND	1		µg/Kg	1	7/16/98
Toluene	ND	2		µg/Kg	1	7/16/98
Ethylbenzene	ND	1		µg/Kg	1	7/16/98
m,p-Xylene	ND	2		µg/Kg	1	7/16/98
o-Xylene	ND	1		µg/Kg	1	7/16/98

Qualifiers:
 PQL - Practical Quantitation Limit
 ND - Not Detected at Practical Quantitation Limit
 J - Analyte detected below Practical Quantitation Limit
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range
 Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Aug-98

Client: BioTech Remediation, Inc.
Work Order: 9807036
Lab ID: 9807036-02A **Matrix:** SOIL
Project: Thriftway Refinery

Client Sample Info: Fire Water Pond
Client Sample ID: Sample #2
Collection Date: 7/13/98 3:28:00 PM
COC Record: 5177

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL		E418.1				Analyst: HR
Petroleum Hydrocarbons, T/R	ND	24		mg/Kg	1	7/21/98
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/20/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	7/21/98
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	10		µg/Kg	1	7/16/98
Benzene	ND	1		µg/Kg	1	7/16/98
Toluene	ND	2		µg/Kg	1	7/16/98
Ethylbenzene	ND	1		µg/Kg	1	7/16/98
m,p-Xylene	ND	2		µg/Kg	1	7/16/98
o-Xylene	ND	1		µg/Kg	1	7/16/98

Qualifiers:
 PQL - Practical Quantitation Limit
 ND - Not Detected at Practical Quantitation Limit
 J - Analyte detected below Practical Quantitation Limit
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range
 Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Aug-98

Client: BioTech Remediation, Inc.**Client Sample Info:** Fire Water Pond**Work Order:** 9807036**Client Sample ID:** Sample #3**Lab ID:** 9807036-03A **Matrix:** SOIL**Collection Date:** 7/13/98 3:45:00 PM**Project:** Thriftway Refinery**COC Record:** 5177

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL		E418.1				Analyst: HR
Petroleum Hydrocarbons, T/R	31	26		mg/Kg	1	7/21/98
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/21/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	7/21/98
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	10		µg/Kg	1	7/16/98
Benzene	ND	1		µg/Kg	1	7/16/98
Toluene	ND	2		µg/Kg	1	7/16/98
Ethylbenzene	ND	1		µg/Kg	1	7/16/98
m,p-Xylene	ND	2		µg/Kg	1	7/16/98
o-Xylene	ND	1		µg/Kg	1	7/16/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT**Date:** 13-Aug-98

Client: BioTech Remediation, Inc.
Work Order: 9807036
Lab ID: 9807036-04A **Matrix:** SOIL
Project: Thriftway Refinery

Client Sample Info: Fire Water Pond
Client Sample ID: Sample #4
Collection Date: 7/13/98 4:12:00 PM
COC Record: 5177

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL		E418.1				Analyst: HR
Petroleum Hydrocarbons, T/R	67	24		mg/Kg	1	7/21/98
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/21/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	7/21/98
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	10		µg/Kg	1	7/16/98
Benzene	ND	1		µg/Kg	1	7/16/98
Toluene	ND	2		µg/Kg	1	7/16/98
Ethylbenzene	ND	1		µg/Kg	1	7/16/98
m,p-Xylene	ND	2		µg/Kg	1	7/16/98
o-Xylene	ND	1		µg/Kg	1	7/16/98

Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Aug-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Fire Water Pond
Work Order:	9807036	Client Sample ID:	Sample #5
Lab ID:	9807036-05A	Matrix:	SOIL
Project:	Thriftway Refinery	Collection Date:	7/13/98 4:30:00 PM
		COC Record:	5177

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL		E418.1				Analyst: HR
Petroleum Hydrocarbons, T/R	ND	24		mg/Kg	1	7/21/98
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/21/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	7/21/98
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	10		µg/Kg	1	7/16/98
Benzene	ND	1		µg/Kg	1	7/16/98
Toluene	ND	2		µg/Kg	1	7/16/98
Ethylbenzene	ND	1		µg/Kg	1	7/16/98
m,p-Xylene	ND	2		µg/Kg	1	7/16/98
o-Xylene	ND	1		µg/Kg	1	7/16/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Aug-98

Client: BioTech Remediation, Inc.
Work Order: 9807036
Lab ID: 9807036-06A **Matrix:** SOIL
Project: Thriftway Refinery

Client Sample Info: Fire Water Pond
Client Sample ID: Sample #6
Collection Date: 7/13/98 4:55:00 PM
COC Record: 5177

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, T/R SOIL		E418.1				Analyst: HR
Petroleum Hydrocarbons, T/R	2900	260		mg/Kg	10	7/21/98
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	260	25		mg/Kg	1	7/21/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	7/21/98
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	20		µg/Kg	2	7/16/98
Benzene	ND	2		µg/Kg	2	7/16/98
Toluene	ND	4		µg/Kg	2	7/16/98
Ethylbenzene	ND	2		µg/Kg	2	7/16/98
m,p-Xylene	ND	4		µg/Kg	2	7/16/98
o-Xylene	ND	2		µg/Kg	2	7/16/98

Qualifiers: PQL - Practical Quantitation Limit
 ND - Not Detected at Practical Quantitation Limit
 J - Analyte detected below Practical Quantitation Limit
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range
 Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB-34	Batch ID: 34	Test Code: E418.1	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98
Client ID:	9807036	Run ID: TPH 1_980721B		SeqNo: 4790	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	ND				
					26

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Date: 13-Aug-98

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9807036-01AD	Batch ID: 34	Test Code: E418.1	Units: mg/Kg	Analysis Date	7/21/98	Prep Date: 7/21/98
Client ID: Sample #1	9807036	Run ID: TPH 1_980721B		SeqNo:	4799	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	%RPD
Petroleum Hydrocarbons, T/R	44.12	24	0	0	0.0%	10.5%
						16

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9807036
Project: Thriftway Refinery

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: 9807036-03AMS	Batch ID: 34	Test Code: E418.1	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98
Client ID: Sample #3	9807036	Run ID: TPH 1_980721B		SeqNo: 4800	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	872.5	24	852.9	31	98.7% 80 120

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS-34	Batch ID: 34	Test Code: E418.1	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98
Client ID:	9807036	Run ID: TPH 1_980721B		SeqNo: 4792	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Petroleum Hydrocarbons, T/R	895	25	870	0	102.9%
					89
					111
					RPDLimit
					Qual

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9807036
Project: Thriftway Refinery

Date: 13-Aug-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1	Batch ID: 34	Test Code: E418.1	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID:	9807036	Run ID: TPH 1_980721B		SeqNo: 4791	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	136	25	130	0	104.6% 80 120
Sample ID: CCV2	Batch ID: 34	Test Code: E418.1	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID:	9807036	Run ID: TPH 1_980721B		SeqNo: 4801	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	135	25	130	0	103.8% 80 120

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/20/98	Prep Date: 7/20/98
Client ID:	9807036	Run ID: GC-2_980720A		SeqNo: 4802	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28					
	ND				25

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9807036
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9807040-04AD	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98						
Client ID:	9807036	Run ID: GC-2_980720A		SeqNo: 4826							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	56.56	25	0	0	0.0%	0	0	50.26	11.8%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9807041-03AMS	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98
Client ID: 9807036	Run ID: GC-2_980720A	PQL	SPK value	SeqNo: 4825	
Analyte	Result	%REC	SPK Ref Val	LowLimit	HighLimit
T/R Hydrocarbons: C10-C28	434.3	86.5%	0	70	130

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS Soil	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/20/98	Prep Date: 7/20/98						
Client ID: 9807036	Run ID: GC-2_980720A			SeqNo: 4804							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	452.1	25	502	0	90.1%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9807036
Project: Thriftway Refinery

Date: 13-Aug-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0602	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/20/98	Prep Date:
Client ID: 9807036	Run ID: GC-2_980720A	PQL	SPK value	SeqNo: 4803	
Analyte	Result	SPK	SPK Ref Val	LowLimit HighLimit	%REC RPD Ref Val RPDLimit Qual
T/R Hydrocarbons: C10-C28	531.4	25	502	0	105.9% 85 115
Sample ID: CCV2 QC0602	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/20/98	Prep Date:
Client ID: 9807036	Run ID: GC-2_980720A	PQL	SPK value	SeqNo: 4827	
Analyte	Result	SPK	SPK Ref Val	LowLimit HighLimit	%REC RPD Ref Val RPDLimit Qual
T/R Hydrocarbons: C10-C28	516.2	25	502	0	102.8% 85 115
Sample ID: CCV3 QC0602	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID: 9807036	Run ID: GC-2_980720A	PQL	SPK value	SeqNo: 4828	
Analyte	Result	SPK	SPK Ref Val	LowLimit HighLimit	%REC RPD Ref Val RPDLimit Qual
T/R Hydrocarbons: C10-C28	545.6	25	502	0	108.7% 85 115
Sample ID: CCV4 QC0602	Batch ID: GC-2_980720	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID: 9807036	Run ID: GC-2_980720A	PQL	SPK value	SeqNo: 4829	
Analyte	Result	SPK	SPK Ref Val	LowLimit HighLimit	%REC RPD Ref Val RPDLimit Qual
T/R Hydrocarbons: C10-C28	547.8	25	502	0	109.1% 85 115

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
1 of 1

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9807036
Project: Thriftway Refinery

QC SUMMARY REPORT
Method Blank

Sample ID: MB1	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98
Client ID:	9807036	Run ID: GC-1_980721A		SeqNo: 4830	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	.0718		0.18		J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
 Work Order: 9807036
 Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9807036-02AMS		Batch ID: GC-1_980721		Test Code: SW8015		Units: mg/Kg		Analysis Date 7/21/98		Prep Date: 7/21/98	
Client ID: Sample #2		9807036		Run ID: GC-1_980721A				SeqNo: 4844			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10		1.7		0.18		1.801		0		94.4% 52 123	

Sample ID: 9807036-02AMSD		Batch ID: GC-1_980721		Test Code: SW8015		Units: mg/Kg		Analysis Date 7/21/98		Prep Date: 7/21/98	
Client ID: Sample #2		9807036		Run ID: GC-1_980721A				SeqNo: 4845			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10		1.665		0.18		1.801		0		92.5% 52 123 1.7 2.0% 14	

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS Soil	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date: 7/21/98
Client ID:	9807036	Run ID: GC-1_980721A		SeqNo: 4832	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
T/R Hydrocarbons: C6-C10	2.007	0.18	1.801	0.0718	107.5%
				LowLimit	HighLimit
				52	123
				%RPD	RPDLimit
					Qual

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
 Work Order: 9807036
 Project: Thriftway Refinery

Date: 13-Aug-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0593	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID: 9807036	Run ID: GC-1_980721A	PQL	SPK value	SeqNo: 4831	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit

T/R Hydrocarbons: C6-C10	2.03	0.18	1.801	0	112.7%	85	115
Trifluorotoluene	.0895	0	0.09	0	99.4%	70	130

Sample ID: CCV2 QC0593	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID: 9807036	Run ID: GC-1_980721A	PQL	SPK value	SeqNo: 4846	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit

T/R Hydrocarbons: C6-C10	2.103	0.18	1.801	0	116.8%	85	115
Trifluorotoluene	.09	0	0.09	0	100.0%	70	130

Sample ID: CCV3 QC0593	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/21/98	Prep Date:
Client ID: 9807036	Run ID: GC-1_980721A	PQL	SPK value	SeqNo: 4847	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit

T/R Hydrocarbons: C6-C10	2.056	0.18	1.801	0	114.1%	85	115
Trifluorotoluene	.0951	0	0.09	0	105.7%	70	130

Sample ID: CCV4 QC0593	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date 7/22/98	Prep Date:
Client ID: 9807036	Run ID: GC-1_980721A	PQL	SPK value	SeqNo: 4848	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit

T/R Hydrocarbons: C6-C10	1.602	0.18	1.801	0	89.0%	85	115
Trifluorotoluene	.0781	0	0.09	0	86.8%	70	130

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 QC0593	Batch ID: GC-1_980721	Test Code: SW8015	Units: mg/Kg	Analysis Date: 7/22/98	Prep Date:
Client ID: 9807036	Run ID: GC-1_980721A	PQL	SPK value	SeqNo: 4849	
Analyte	Result	%REC	LowLimit	HighLimit	RPD Ref Val
T/R Hydrocarbons: C6-C10	1.942	107.8%	0	85	115
Trifluorotoluene	.0871	96.8%	0	70	130

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
 Work Order: 9807036
 Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980716	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/16/98	Prep Date:
Client ID:	9807036	Run ID: GC-1_980716A		SeqNo: 4630	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	ND	1			
Ethylbenzene	ND	1			
m,p-Xylene	ND	2			
Methyl tert-Butyl Ether	ND	10			
o-Xylene	ND	1			
Toluene	ND	2			

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9807036-02AMS		Batch ID: GC-1_980716		Test Code: SW8020A		Units: µg/Kg		Analysis Date 7/16/98		Prep Date:	
Client ID: Sample #2		Run ID: 9807036		QC-1_980716A				SeqNo: 4631			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	63.18	1	60	0	105.3%	71	116				
Ethylbenzene	64.12	1	60	0	106.9%	68	120				
m,p-Xylene	122.5	2	120	0	102.1%	60	121				
Methyl tert-Butyl Ether	59.34	10	60	0	98.9%	70	130				
o-Xylene	63.89	1	60	0	106.5%	69	124				
Toluene	63.75	2	60	0	106.3%	62	128				

Sample ID: 9807036-02AMSD		Batch ID: GC-1_980716		Test Code: SW8020A		Units: µg/Kg		Analysis Date 7/16/98		Prep Date:		
Client ID: Sample #2		Run ID: 9807036		GC-1_980716A				SeqNo: 4632				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		60.86	1	60	0	101.4%	71	116	63.18	3.7%	15	
Ethylbenzene		61.62	1	60	0	102.7%	68	120	64.12	4.0%	15	
m,p-Xylene		117.4	2	120	0	97.9%	60	121	122.5	4.2%	15	
Methyl tert-Butyl Ether		57.67	10	60	0	96.1%	70	130	59.34	2.9%	15	
o-Xylene		61.47	1	60	0	102.4%	69	124	63.89	3.9%	15	
Toluene		61.37	2	60	0	102.3%	62	128	63.75	3.8%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS SOIL	Batch ID: GC-1_980716	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/16/98		Prep Date:					
Client ID:	9807036	Run ID:	GC-1_980716A	SeqNo:	4629						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	65.14	1	60	0	108.6%	71	116				
Ethylbenzene	64.95	1	60	0	108.2%	68	120				
m,p-Xylene	126.3	2	120	0	105.2%	60	121				
Methyl tert-Butyl Ether	60.79	10	60	0	101.3%	70	130				
o-Xylene	66.55	1	60	0	110.9%	69	124				
Toluene	64.34	2	60	0	107.2%	62	128				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9807036
Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_980716	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/16/98	Prep Date:				
Client ID:	Run ID:	PQL	SPK value	SeqNo:					
Analyte	Result			LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	65.4	1	60		85	115			
Ethylbenzene	66.32	1	60		85	115			
m,p-Xylene	127.9	2	120		85	115			
Methyl tert-Butyl Ether	69.47	10	60		85	115			
o-Xylene	67.11	1	60		85	115			
Toluene	65.84	2	60		85	115			
1,4-Difluorobenzene	90.43	0	90		70	130			
4-Bromochlorobenzene	97.63	0	90		68	131			
Fluorobenzene	89.27	0	90		70	130			

SV 6/12/98
WZ 8/12/98

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_980716	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/16/98	Prep Date:						
Client ID:	9807036	Run ID: GC-1_980716A		SeqNo: 4626							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	60.5	1	60	0	100.8%	85	115				
Ethylbenzene	63.04	1	60	0	105.1%	85	115				
m,p-Xylene	118.6	2	120	0	98.9%	85	115				
Methyl tert-Butyl Ether	62.65	10	60	0	104.4%	85	115				
o-Xylene	62.12	1	60	0	103.5%	85	115				
Toluene	61.48	2	60	0	102.5%	85	115				
1,4-Difluorobenzene	90.41	0	90	0	100.5%	70	130				
4-Bromochlorobenzene	104.5	0	90	0	116.1%	68	131				
Fluorobenzene	89.31	0	90	0	99.2%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_980716	Test Code: SW8020A	Units: µg/Kg	Analysis Date 7/16/98		Prep Date:	
Client ID: 9807036		Run ID: GC-1_980716A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte		Result					RPD Ref Val	%RPD
								RPDLimit
								Qual
Benzene		64.6	1	60	0	107.7%	85	115
Ethylbenzene		66.09	1	60	0	110.2%	85	115
m,p-Xylene		127.1	2	120	0	105.9%	85	115
Methyl tert-Butyl Ether		67.19	10	60	0	112.0%	85	115
o-Xylene		66.43	1	60	0	110.7%	85	115
Toluene		65.75	2	60	0	109.6%	85	115
1,4-Difluorobenzene		90.63	0	90	0	100.7%	70	130
4-Bromochlorobenzene		97.21	0	90	0	108.0%	68	131
Fluorobenzene		89.45	0	90	0	99.4%	70	130

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 13-Aug-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9807036

Project: Thriftway Refinery

Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9807016-02A	102	126	101					
9807016-03A	104	185 *	101					
9807023-02A	101	119	101					
9807036-01A	103	118	103					
9807036-02A	103	118	103					
9807036-02AMS	100	101	99					
9807036-02AMSD	100	99.3	98.8					
9807036-03A	102	111	102					
9807036-04A	101	105	100					
9807036-05A	102	114	102					
9807036-06A	102	113	101					
CCV1 QC0606/07	100	108	99.2					
CCV2 QC0606/07	100	116	99.2					
CCV3 QC0606/07	101	108	99.4					
LCS SOIL	100	101	98.3					
MB1	103	117	102					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	68-131
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

On Site Technologies, LTD.

612 E. Murray Drive
Farmington, NM 87401
(505) 325-2432

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Subcontractor:

Mountain States Analytical, Inc.
1645 West 2200 South

TEL: (800) 973-6724
FAX: (801) 972-6278

Salt Lake City, UT 84119

Acct #:

14-Jul-98

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests		
				SW6010A	SW8270A	SW9045B
9807036-01B	Soil	7/13/98 3:00:00 PM	4OZG	1	1	1
9807036-02B	Soil	7/13/98 3:28:00 PM	4OZG	1	1	1
9807036-03B	Soil	7/13/98 3:45:00 PM	4OZG	1	1	1
9807036-04B	Soil	7/13/98 4:12:00 PM	4OZG	1	1	1
9807036-05B	Soil	7/13/98 4:30:00 PM	4OZG	1	1	1
9807036-06B	Soil	7/13/98 4:55:00 PM	4OZG	1	1	1

Comments:

Please analyze six (6) soil samples for RCRA Metals, pH and Semi-Volatiles (to include Polynuclear Aromatic Hydrocarbons).

Relinquished by:

[Signature]

Relinquished by:

Date/Time

7/15/98 1600

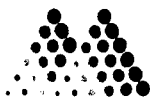
Received by:

[Signature]

Date/Time

07/16/98
1030

RECEIVED AUG 12 1998



Mountain States Analytical, Inc.

The Quality Solution

August 6, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Soil Samples
MSAI Group: 23234

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

9807036-01B	9807036-02B	9807036-03B
9807036-04B	9807036-05B	9807036-06B

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the associated invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

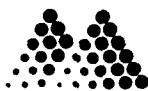
Rolf E. Larsen
Project Manager

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Corporate Office
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e-mail: service@msailabs.com

Southwest States Region
6223 Bayonne, Spring, Texas 77389
281-320-2842 • FAX 281-320-0989
e-mail: gbrewer@msailabs.com

MEMBER
ACIL



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Soil Samples

MSAI Sample: 83146
MSAI Group: 23234
Date Reported: 08/06/98
Discard Date: 09/05/98
Date Submitted: 07/16/98
Date Sampled: 07/13/98
Collected by:
Purchase Order:
Project No.:

Sample ID: 9807036-01B
Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #1 ⁽¹²⁾

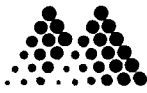
Test Analysis	Results as Received	Units	Limit of Quantitation
0390I Flame/ICP Prep, sw, 3050A Method: SW-846 3050A	Batch. s437		
0408 Mercury Prep CVAA, sw, 7471A Method: SW-846 7471A	Batch. s031		
13000 Metals by ICP, 6010A, s/sw Method: SW-846 6010A			
Arsenic	U	mg/kg	18
Barium	99.6	mg/kg	1.5
Cadmium	U	mg/kg	2.00
Chromium	5.42	mg/kg	5.00
Lead	U	mg/kg	25
Selenium	U	mg/kg	30
Silver	U	mg/kg	2.00
1522 Mercury by CVAA, sw, 7471A Method: SW-846 7471A	U	mg/kg	0.37
0394 pH, sw, 9045C Method: SW-846 9045C	7.24	Std. Units	0.05
1198 Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
Acenaphthene	U	ug/kg	330
Acenaphthylene	U	ug/kg	330
Anthracene	U	ug/kg	330
Benzidine	U	ug/kg	1,800
Benz(a)anthracene	U	ug/kg	330
Benzo(a)pyrene	U	ug/kg	830
Benzo(b)fluoranthene	U	ug/kg	330
Benzo(ghi)perylene	U	ug/kg	330

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Mountain States Analytical, Inc.

Page 3

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83146

MSAI Group: 23234

Sample ID: 9807036-01B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	1,2,4-Trichlorobenzene	U	ug/kg	330
	2-Chlorophenol	U	ug/kg	830
	2,4-Dichlorophenol	U	ug/kg	830
	2,4-Dimethylphenol	U	ug/kg	830
	4,6-Dinitro-2-methylphenol	U	ug/kg	830
	2,4-Dinitrophenol	U	ug/kg	830
	2-Nitrophenol	U	ug/kg	830
	4-Nitrophenol	U	ug/kg	830
	4-Chloro-3-methylphenol	U	ug/kg	830
	Pentachlorophenol	U	ug/kg	830
	Phenol	U	ug/kg	830
	2,4,6-Trichlorophenol	U	ug/kg	830
	2-Methylphenol (o-Cresol)	U	ug/kg	830
3005	SVOA Extraction, s/sw Method: SW-846 3550A	Complete	ug/kg	

U - Not detected at the Method Detection Limit.
J - Compound Detected below the Limit of Quantitation.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

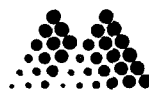
Rolf E. Larsen
Project Manager

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Mountain States Analytical, Inc.

Page 2

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83146

MSAI Group: 23234

Sample ID: 9807036-01B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Benzo(k)fluoranthene	U	ug/kg	330
	bis(2-Chloroethoxy)methane	U	ug/kg	330
	bis(2-Chloroethyl)ether	U	ug/kg	330
	bis(2-Chloroisopropyl)ether	U	ug/kg	330
	bis(2-Ethylhexyl)phthalate	U	ug/kg	330
	4-Bromophenyl-phenyl ether	U	ug/kg	330
	Butylbenzyl phthalate	U	ug/kg	830
	2-Chloronaphthalene	U	ug/kg	330
	4-Chlorophenyl-phenyl ether	U	ug/kg	330
	Chrysene	U	ug/kg	330
	Dibenz(a,h)anthracene	U	ug/kg	330
	1,2-Dichlorobenzene	U	ug/kg	330
	1,3-Dichlorobenzene	U	ug/kg	330
	1,4-Dichlorobenzene	U	ug/kg	330
	3,3'-Dichlorobenzidine	U	ug/kg	330
	Diethyl phthalate	U	ug/kg	330
	Dimethyl phthalate	U	ug/kg	330
	Di-N-butyl phthalate	U	ug/kg	830
	2,4-Dinitrotoluene	U	ug/kg	330
	2,6-Dinitrotoluene	U	ug/kg	330
	Di-N-octyl phthalate	141 J	ug/kg	330
	1,2-Diphenylhydrazine	U	ug/kg	330
	Fluoranthene	U	ug/kg	330
	Fluorene	U	ug/kg	330
	Hexachlorobenzene	U	ug/kg	330
	Hexachlorobutadiene	U	ug/kg	330
	Hexachlorocyclopentadiene	U	ug/kg	330
	Hexachloroethane	U	ug/kg	330
	Indeno(1,2,3-cd)pyrene	U	ug/kg	330
	Isophorone	U	ug/kg	330
	Naphthalene	U	ug/kg	330
	Nitrobenzene	U	ug/kg	330
	N-Nitrosodimethylamine	U	ug/kg	330
	N-Nitrosodi-N-propylamine	U	ug/kg	330
	N-Nitrosodiphenylamine	U	ug/kg	330
	Phenanthrene	U	ug/kg	330
	Pyrene	U	ug/kg	330

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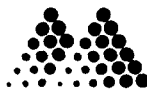
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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Soil Samples

MSAI Sample: 83147
MSAI Group: 23234
Date Reported: 08/06/98
Discard Date: 09/05/98
Date Submitted: 07/16/98
Date Sampled: 07/13/98
Collected by:
Purchase Order:
Project No.:

Sample ID: 9807036-02B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #2 ^(U)

Test	Analysis	Results as Received	Units	Limit of Quantitation
0390I	Flame/ICP Prep, sw, 3050A Method: SW-846 3050A	Batch. s437		
0408	Mercury Prep CVAA, sw, 7471A Method: SW-846 7471A	Batch. s031		
13000	Metals by ICP, 6010A, s/sw Method: SW-846 6010A			
	Arsenic	U	mg/kg	18
	Barium	100	mg/kg	1.5
	Cadmium	U	mg/kg	2.00
	Chromium	4 B	mg/kg	5.00
	Lead	U	mg/kg	25
	Selenium	U	mg/kg	30
	Silver	U	mg/kg	2.00
1522	Mercury by CVAA, sw, 7471A Method: SW-846 7471A	U	mg/kg	0.37
0394	pH, sw, 9045C Method: SW-846 9045C	7.38	Std. Units	0.05
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Acenaphthene	U	ug/kg	330
	Acenaphthylene	U	ug/kg	330
	Anthracene	U	ug/kg	330
	Benididine	U	ug/kg	1,800
	Benz(a)anthracene	U	ug/kg	330
	Benzo(a)pyrene	U	ug/kg	830
	Benzo(b)fluoranthene	U	ug/kg	330
	Benzo(ghi)perylene	U	ug/kg	330

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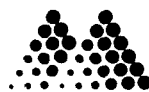
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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

Page 2

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83147

MSAI Group: 23234

Sample ID: 9807036-02B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, SW Method: SW-846 8270A			
	Benzo(k)fluoranthene	U	ug/kg	330
	bis(2-Chloroethoxy)methane	U	ug/kg	330
	bis(2-Chloroethyl)ether	U	ug/kg	330
	bis(2-Chloroisopropyl)ether	U	ug/kg	330
	bis(2-Ethylhexyl)phthalate	165 J	ug/kg	330
	4-Bromophenyl-phenyl ether	U	ug/kg	330
	Butylbenzyl phthalate	U	ug/kg	830
	2-Chloronaphthalene	U	ug/kg	330
	4-Chlorophenyl-phenyl ether	U	ug/kg	330
	Chrysene	U	ug/kg	330
	Dibenz(a,h)anthracene	U	ug/kg	330
	1,2-Dichlorobenzene	U	ug/kg	330
	1,3-Dichlorobenzene	U	ug/kg	330
	1,4-Dichlorobenzene	U	ug/kg	330
	3,3'-Dichlorobenzidine	U	ug/kg	330
	Diethyl phthalate	U	ug/kg	330
	Dimethyl phthalate	U	ug/kg	330
	Di-N-butyl phthalate	U	ug/kg	830
	2,4-Dinitrotoluene	U	ug/kg	330
	2,6-Dinitrotoluene	U	ug/kg	330
	Di-N-octyl phthalate	U	ug/kg	330
	1,2-Diphenylhydrazine	U	ug/kg	330
	Fluoranthene	U	ug/kg	330
	Fluorene	U	ug/kg	330
	Hexachlorobenzene	U	ug/kg	330
	Hexachlorobutadiene	U	ug/kg	330
	Hexachlorocyclopentadiene	U	ug/kg	330
	Hexachloroethane	U	ug/kg	330
	Indeno(1,2,3-cd)pyrene	U	ug/kg	330
	Isophorone	U	ug/kg	330
	Naphthalene	U	ug/kg	330
	Nitrobenzene	U	ug/kg	330
	N-Nitrosodimethylamine	U	ug/kg	330
	N-Nitrosodi-N-propylamine	U	ug/kg	330
	N-Nitrosodiphenylamine	U	ug/kg	330
	Phenanthrene	U	ug/kg	330
	Pyrene	U	ug/kg	330

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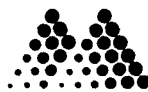
Corporate Office

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Mountain States Analytical, Inc.

Page 3

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83147

MSAI Group: 23234

Sample ID: 9807036-02B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	1,2,4-Trichlorobenzene	U	ug/kg	330
	2-Chlorophenol	U	ug/kg	830
	2,4-Dichlorophenol	U	ug/kg	830
	2,4-Dimethylphenol	U	ug/kg	830
	4,6-Dinitro-2-methylphenol	U	ug/kg	830
	2,4-Dinitrophenol	U	ug/kg	830
	2-Nitrophenol	U	ug/kg	830
	4-Nitrophenol	U	ug/kg	830
	4-Chloro-3-methylphenol	U	ug/kg	830
	Pentachlorophenol	U	ug/kg	830
	Phenol	U	ug/kg	830
	2,4,6-Trichlorophenol	U	ug/kg	830
	2-Methylphenol (o-Cresol)	U	ug/kg	830
3005	SVOA Extraction, s/sw Method: SW-846 3550A	Complete	ug/kg	

U - Not detected at the Method Detection Limit.

J - Compound Detected below the Limit of Quantitation.

B - Detected, below limit of quantitation but above the method detection limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Soil Samples

MSAI Sample: 83148
MSAI Group: 23234
Date Reported: 08/06/98
Discard Date: 09/05/98
Date Submitted: 07/16/98
Date Sampled: 07/13/98
Collected by:
Purchase Order:
Project No.:

Sample ID: 9807036-03B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #3 (nc)

Test	Analysis	Results as Received	Units	Limit of Quantitation
0390I	Flame/ICP Prep, sw, 3050A Method: SW-846 3050A	Batch. s437		
0408	Mercury Prep CVAA, sw, 7471A Method: SW-846 7471A	Batch. s031		
13000	Metals by ICP, 6010A, s/sw Method: SW-846 6010A			
	Arsenic	U	mg/kg	18
	Barium	87.0	mg/kg	1.5
	Cadmium	U	mg/kg	2.00
	Chromium	3 B	mg/kg	5.00
	Lead	U	mg/kg	25
	Selenium	U	mg/kg	30
	Silver	2.82	mg/kg	2.00
1522	Mercury by CVAA, sw, 7471A Method: SW-846 7471A	U	mg/kg	0.37
0394	pH, sw, 9045C Method: SW-846 9045C	7.07	Std. Units	0.05
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Acenaphthene	U	ug/kg	330
	Acenaphthylene	U	ug/kg	330
	Anthracene	U	ug/kg	330
	Benzidine	U	ug/kg	1,800
	Benz(a)anthracene	U	ug/kg	330
	Benzo(a)pyrene	U	ug/kg	830
	Benzo(b)fluoranthene	U	ug/kg	330
	Benzo(ghi)perylene	U	ug/kg	330

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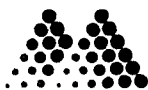
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Page 2

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83148

MSAI Group: 23234

Sample ID: 9807036-03B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Benzo(k)fluoranthene	U	ug/kg	330
	bis(2-Chloroethoxy)methane	U	ug/kg	330
	bis(2-Chloroethyl)ether	U	ug/kg	330
	bis(2-Chloroisopropyl)ether	U	ug/kg	330
	bis(2-Ethylhexyl)phthalate	U	ug/kg	330
	4-Bromophenyl-phenyl ether	U	ug/kg	330
	Butylbenzyl phthalate	U	ug/kg	830
	2-Chloronaphthalene	U	ug/kg	330
	4-Chlorophenyl-phenyl ether	U	ug/kg	330
	Chrysene	U	ug/kg	330
	Dibenz(a,h)anthracene	U	ug/kg	330
	1,2-Dichlorobenzene	U	ug/kg	330
	1,3-Dichlorobenzene	U	ug/kg	330
	1,4-Dichlorobenzene	U	ug/kg	330
	3,3'-Dichlorobenzidine	U	ug/kg	330
	Diethyl phthalate	U	ug/kg	330
	Dimethyl phthalate	U	ug/kg	330
	Di-N-butyl phthalate	U	ug/kg	830
	2,4-Dinitrotoluene	U	ug/kg	330
	2,6-Dinitrotoluene	U	ug/kg	330
	Di-N-octyl phthalate	154 J	ug/kg	330
	1,2-Diphenylhydrazine	U	ug/kg	330
	Fluoranthene	U	ug/kg	330
	Fluorene	U	ug/kg	330
	Hexachlorobenzene	U	ug/kg	330
	Hexachlorobutadiene	U	ug/kg	330
	Hexachlorocyclopentadiene	U	ug/kg	330
	Hexachloroethane	U	ug/kg	330
	Indeno(1,2,3-cd)pyrene	U	ug/kg	330
	Isophorone	U	ug/kg	330
	Naphthalene	U	ug/kg	330
	Nitrobenzene	U	ug/kg	330
	N-Nitrosodimethylamine	U	ug/kg	330
	N-Nitrosodi-N-propylamine	U	ug/kg	330
	N-Nitrosodiphenylamine	U	ug/kg	330
	Phenanthrene	U	ug/kg	330
	Pyrene	U	ug/kg	330

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Mountain States Analytical, Inc.

Page 3

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83148

MSAI Group: 23234

Sample ID: 9807036-03B

Test Analysis	Results as Received	Units	Limit of Quantitation
1198 Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
1,2,4-Trichlorobenzene	U	ug/kg	330
2-Chlorophenol	U	ug/kg	830
2,4-Dichlorophenol	U	ug/kg	830
2,4-Dimethylphenol	U	ug/kg	830
4,6-Dinitro-2-methylphenol	U	ug/kg	830
2,4-Dinitrophenol	U	ug/kg	830
2-Nitrophenol	U	ug/kg	830
4-Nitrophenol	U	ug/kg	830
4-Chloro-3-methylphenol	U	ug/kg	830
Pentachlorophenol	U	ug/kg	830
Phenol	U	ug/kg	830
2,4,6-Trichlorophenol	U	ug/kg	830
2-Methylphenol (o-Cresol)	U	ug/kg	830
3005 SVOA Extraction, s/sw Method: SW-846 3550A	Complete	ug/kg	

U - Not detected at the Method Detection Limit.

J - Compound Detected below the Limit of Quantitation.

B - Detected, below limit of quantitation but above the method detection limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

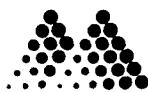
Rolf E. Larsen
Project Manager

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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Soil Samples

MSAI Sample: 83149
MSAI Group: 23234
Date Reported: 08/06/98
Discard Date: 09/05/98
Date Submitted: 07/16/98
Date Sampled: 07/13/98
Collected by:
Purchase Order:
Project No.:

Sample ID: 9807036-04B

Matrix: Soil

Thriftway Refinery Fire Water Pond Sample #4 *me*

Test	Analysis	Results as Received	Units	Limit of Quantitation
0390I	Flame/ICP Prep, sw, 3050A Method: SW-846 3050A	Batch. s437		
0408	Mercury Prep CVAA, sw, 7471A Method: SW-846 7471A	Batch. s031		
13000	Metals by ICP, 6010A, s/sw Method: SW-846 6010A			
	Arsenic	U	mg/kg	18
	Barium	108	mg/kg	1.5
	Cadmium	U	mg/kg	2.00
	Chromium	4 B	mg/kg	5.00
	Lead	U	mg/kg	25
	Selenium	U	mg/kg	30
	Silver	U	mg/kg	2.00
1522	Mercury by CVAA, sw, 7471A Method: SW-846 7471A	U	mg/kg	0.37
0394	pH, sw, 9045C Method: SW-846 9045C	8.33	Std. Units	0.05
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Acenaphthene	U	ug/kg	330
	Acenaphthylene	U	ug/kg	330
	Anthracene	U	ug/kg	330
	Benidine	U	ug/kg	1,800
	Benz(a)anthracene	U	ug/kg	330
	Benzo(a)pyrene	U	ug/kg	830
	Benzo(b)fluoranthene	U	ug/kg	330
	Benzo(ghi)perylene	U	ug/kg	330

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Page 2

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83149

MSAI Group: 23234

Sample ID: 9807036-04B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Benzo(k)fluoranthene	U	ug/kg	330
	bis(2-Chloroethoxy)methane	U	ug/kg	330
	bis(2-Chloroethyl)ether	U	ug/kg	330
	bis(2-Chloroisopropyl)ether	U	ug/kg	330
	bis(2-Ethylhexyl)phthalate	U	ug/kg	330
	4-Bromophenyl-phenyl ether	U	ug/kg	330
	Butylbenzyl phthalate	U	ug/kg	830
	2-Chloronaphthalene	U	ug/kg	330
	4-Chlorophenyl-phenyl ether	U	ug/kg	330
	Chrysene	U	ug/kg	330
	Dibenz(a,h)anthracene	U	ug/kg	330
	1,2-Dichlorobenzene	U	ug/kg	330
	1,3-Dichlorobenzene	U	ug/kg	330
	1,4-Dichlorobenzene	U	ug/kg	330
	3,3'-Dichlorobenzidine	U	ug/kg	330
	Diethyl phthalate	U	ug/kg	330
	Dimethyl phthalate	U	ug/kg	330
	Di-N-butyl phthalate	U	ug/kg	830
	2,4-Dinitrotoluene	U	ug/kg	330
	2,6-Dinitrotoluene	U	ug/kg	330
	Di-N-octyl phthalate	U	ug/kg	330
	1,2-Diphenylhydrazine	U	ug/kg	330
	Fluoranthene	U	ug/kg	330
	Fluorene	U	ug/kg	330
	Hexachlorobenzene	U	ug/kg	330
	Hexachlorobutadiene	U	ug/kg	330
	Hexachlorocyclopentadiene	U	ug/kg	330
	Hexachloroethane	U	ug/kg	330
	Indeno(1,2,3-cd)pyrene	U	ug/kg	330
	Isophorone	U	ug/kg	330
	Naphthalene	U	ug/kg	330
	Nitrobenzene	U	ug/kg	330
	N-Nitrosodimethylamine	U	ug/kg	330
	N-Nitrosodi-N-propylamine	U	ug/kg	330
	N-Nitrosodiphenylamine	U	ug/kg	330
	Phenanthrene	U	ug/kg	330
	Pyrene	U	ug/kg	330

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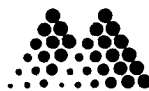
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Mountain States Analytical, Inc.

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On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83149

MSAI Group: 23234

Sample ID: 9807036-04B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	1,2,4-Trichlorobenzene	U	ug/kg	330
	2-Chlorophenol	U	ug/kg	830
	2,4-Dichlorophenol	U	ug/kg	830
	2,4-Dimethylphenol	U	ug/kg	830
	4,6-Dinitro-2-methylphenol	U	ug/kg	830
	2,4-Dinitrophenol	U	ug/kg	830
	2-Nitrophenol	U	ug/kg	830
	4-Nitrophenol	U	ug/kg	830
	4-Chloro-3-methylphenol	U	ug/kg	830
	Pentachlorophenol	U	ug/kg	830
	Phenol	U	ug/kg	830
	2,4,6-Trichlorophenol	U	ug/kg	830
	2-Methylphenol (o-Cresol)	U	ug/kg	830
3005	SVOA Extraction, s/sw Method: SW-846 3550A	Complete	ug/kg	

U - Not detected at the Method Detection Limit.

J - Compound Detected below the Limit of Quantitation.

B - Detected, below limit of quantitation but above the method detection limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

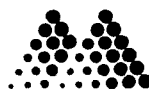
Rolf E. Larsen
Project Manager

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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Soil Samples

Sample ID: 9807036-05B

Matrix: Soil

MSAI Sample: 83150
MSAI Group: 23234
Date Reported: 08/06/98
Discard Date: 09/05/98
Date Submitted: 07/16/98
Date Sampled: 07/13/98
Collected by:
Purchase Order:
Project No.:

Thriftway Refinery Fire Water Pond Sample #5 (12)

Test	Analysis	Results as Received	Units	Limit of Quantitation
0390I	Flame/ICP Prep, sw, 3050A Method: SW-846 3050A	Batch. s437		
0408	Mercury Prep CVAA, sw, 7471A Method: SW-846 7471A	Batch. s031		
13000	Metals by ICP, 6010A, s/sw Method: SW-846 6010A			
	Arsenic	U	mg/kg	18
	Barium	88.3	mg/kg	1.5
	Cadmium	U	mg/kg	2.00
	Chromium	4 B	mg/kg	5.00
	Lead	6 B	mg/kg	25
	Selenium	U	mg/kg	30
	Silver	0.6 B	mg/kg	2.00
1522	Mercury by CVAA, sw, 7471A Method: SW-846 7471A	U	mg/kg	0.37
0394	pH, sw, 9045C Method: SW-846 9045C	8.00	Std. Units	0.05
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Acenaphthene	U	ug/kg	330
	Acenaphthylene	U	ug/kg	330
	Anthracene	U	ug/kg	330
	Benidine	U	ug/kg	1,800
	Benz(a)anthracene	U	ug/kg	330
	Benzo(a)pyrene	U	ug/kg	830
	Benzo(b)fluoranthene	U	ug/kg	330
	Benzo(ghi)perylene	U	ug/kg	330

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Page 2

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The Quality Solution

MSAI Sample: 83150

MSAI Group: 23234

Sample ID: 9807036-05B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Benzo(k)fluoranthene	U	ug/kg	330
	bis(2-Chloroethoxy)methane	U	ug/kg	330
	bis(2-Chloroethyl)ether	U	ug/kg	330
	bis(2-Chloroisopropyl)ether	U	ug/kg	330
	bis(2-Ethylhexyl)phthalate	U	ug/kg	330
	4-Bromophenyl-phenyl ether	U	ug/kg	330
	Butylbenzyl phthalate	U	ug/kg	830
	2-Chloronaphthalene	U	ug/kg	330
	4-Chlorophenyl-phenyl ether	U	ug/kg	330
	Chrysene	U	ug/kg	330
	Dibenz(a,h)anthracene	U	ug/kg	330
	1,2-Dichlorobenzene	U	ug/kg	330
	1,3-Dichlorobenzene	U	ug/kg	330
	1,4-Dichlorobenzene	U	ug/kg	330
	3,3'-Dichlorobenzidine	U	ug/kg	330
	Diethyl phthalate	U	ug/kg	330
	Dimethyl phthalate	U	ug/kg	330
	Di-N-butyl phthalate	U	ug/kg	830
	2,4-Dinitrotoluene	U	ug/kg	330
	2,6-Dinitrotoluene	U	ug/kg	330
	Di-N-octyl phthalate	U	ug/kg	330
	1,2-Diphenylhydrazine	U	ug/kg	330
	Fluoranthene	U	ug/kg	330
	Fluorene	U	ug/kg	330
	Hexachlorobenzene	U	ug/kg	330
	Hexachlorobutadiene	U	ug/kg	330
	Hexachlorocyclopentadiene	U	ug/kg	330
	Hexachloroethane	U	ug/kg	330
	Indeno(1,2,3-cd)pyrene	U	ug/kg	330
	Isophorone	U	ug/kg	330
	Naphthalene	U	ug/kg	330
	Nitrobenzene	U	ug/kg	330
	N-Nitrosodimethylamine	U	ug/kg	330
	N-Nitrosodi-N-propylamine	U	ug/kg	330
	N-Nitrosodiphenylamine	U	ug/kg	330
	Phenanthrene	U	ug/kg	330
	Pyrene	U	ug/kg	330

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The Quality Solution

MSAI Sample: 83150

MSAI Group: 23234

Sample ID: 9807036-05B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	1,2,4-Trichlorobenzene	U	ug/kg	330
	2-Chlorophenol	U	ug/kg	830
	2,4-Dichlorophenol	U	ug/kg	830
	2,4-Dimethylphenol	U	ug/kg	830
	4,6-Dinitro-2-methylphenol	U	ug/kg	830
	2,4-Dinitrophenol	U	ug/kg	830
	2-Nitrophenol	U	ug/kg	830
	4-Nitrophenol	U	ug/kg	830
	4-Chloro-3-methylphenol	U	ug/kg	830
	Pentachlorophenol	U	ug/kg	830
	Phenol	U	ug/kg	830
	2,4,6-Trichlorophenol	U	ug/kg	830
	2-Methylphenol (o-Cresol)	U	ug/kg	830
3005	SVOA Extraction, s/sw Method: SW-846 3550A	Complete	ug/kg	

U - Not detected at the Method Detection Limit.

J - Compound Detected below the Limit of Quantitation.

B - Detected, below limit of quantitation but above the method detection limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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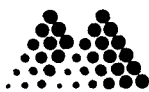
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Soil Samples

Sample ID: 9807036-06B

Matrix: Soil

MSAI Sample: 83151
MSAI Group: 23234
Date Reported: 08/06/98
Discard Date: 09/05/98
Date Submitted: 07/16/98
Date Sampled: 07/13/98
Collected by:
Purchase Order:
Project No.:

Thriftway Refinery Fire Water Pond Sample #6

Test	Analysis	Results as Received	Units	Limit of Quantitation
0390I	Flame/ICP Prep, sw, 3050A Method: SW-846 3050A	Batch. s437		
0408	Mercury Prep CVAA, sw, 7471A Method: SW-846 7471A	Batch. s031		
13000	Metals by ICP, 6010A, s/sw Method: SW-846 6010A			
	Arsenic	U	mg/kg	18
	Barium	100	mg/kg	1.5
	Cadmium	U	mg/kg	2.00
	Chromium	5.07	mg/kg	5.00
	Lead	6 B	mg/kg	25
	Selenium	U	mg/kg	30
	Silver	U	mg/kg	2.00
1522	Mercury by CVAA, sw, 7471A Method: SW-846 7471A	0.088 B	mg/kg	0.37
0394	pH, sw, 9045C Method: SW-846 9045C	7.95	Std. Units	0.05
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Acenaphthene	U	ug/kg	(1) 1,700
	Acenaphthylene	U	ug/kg	1,700
	Anthracene	U	ug/kg	1,700
	Benidine	U	ug/kg	9,000
	Benz(a)anthracene	371 J	ug/kg	1,700
	Benzo(a)pyrene	350 J	ug/kg	4,200
	Benzo(b)fluoranthene	176 J	ug/kg	1,700
	Benzo(ghi)perylene	U	ug/kg	1,700

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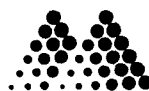
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Mountain States Analytical, Inc.

Page 2

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83151

MSAI Group: 23234

Sample ID: 9807036-06B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	Benzo(k)fluoranthene	U	ug/kg	1,700
	bis(2-Chloroethoxy)methane	U	ug/kg	1,700
	bis(2-Chloroethyl)ether	U	ug/kg	1,700
	bis(2-Chloroisopropyl)ether	U	ug/kg	1,700
	bis(2-Ethylhexyl)phthalate	U	ug/kg	1,700
	4-Bromophenyl-phenyl ether	U	ug/kg	1,700
	Butylbenzyl phthalate	U	ug/kg	4,200
	2-Chloronaphthalene	U	ug/kg	1,700
	4-Chlorophenyl-phenyl ether	U	ug/kg	1,700
	Chrysene	1,300 J	ug/kg	1,700
	Dibenz(a,h)anthracene	U	ug/kg	1,700
	1,2-Dichlorobenzene	U	ug/kg	1,700
	1,3-Dichlorobenzene	U	ug/kg	1,700
	1,4-Dichlorobenzene	U	ug/kg	1,700
	3,3'-Dichlorobenzidine	U	ug/kg	1,700
	Diethyl phthalate	U	ug/kg	1,700
	Dimethyl phthalate	U	ug/kg	1,700
	Di-N-butyl phthalate	U	ug/kg	4,200
	2,4-Dinitrotoluene	U	ug/kg	1,700
	2,6-Dinitrotoluene	U	ug/kg	1,700
	Di-N-octyl phthalate	U	ug/kg	1,700
	1,2-Diphenylhydrazine	U	ug/kg	1,700
	Fluoranthene	U	ug/kg	1,700
	Fluorene	U	ug/kg	1,700
	Hexachlorobenzene	U	ug/kg	1,700
	Hexachlorobutadiene	U	ug/kg	1,700
	Hexachlorocyclopentadiene	U	ug/kg	1,700
	Hexachloroethane	U	ug/kg	1,700
	Indeno(1,2,3-cd)pyrene	U	ug/kg	1,700
	Isophorone	U	ug/kg	1,700
	Naphthalene	U	ug/kg	1,700
	Nitrobenzene	U	ug/kg	1,700
	N-Nitrosodimethylamine	U	ug/kg	1,700
	N-Nitrosodi-N-propylamine	U	ug/kg	1,700
	N-Nitrosodiphenylamine	U	ug/kg	1,700
	Phenanthrene	U	ug/kg	1,700
	Pyrene	888 J	ug/kg	1,700

10
Years of
Quality
Service

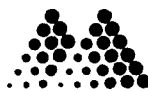
Corporate Office

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Mountain States Analytical, Inc.

Page 3

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 83151

MSAI Group: 23234

Sample ID: 9807036-06B

Test	Analysis	Results as Received	Units	Limit of Quantitation
1198	Semi-VOA, PPL, 8270A, sw Method: SW-846 8270A			
	1,2,4-Trichlorobenzene	U	ug/kg	1,700
	2-Chlorophenol	U	ug/kg	4,200
	2,4-Dichlorophenol	U	ug/kg	4,200
	2,4-Dimethylphenol	U	ug/kg	4,200
	4,6-Dinitro-2-methylphenol	U	ug/kg	4,200
	2,4-Dinitrophenol	U	ug/kg	4,200
	2-Nitrophenol	U	ug/kg	4,200
	4-Nitrophenol	U	ug/kg	4,200
	4-Chloro-3-methylphenol	U	ug/kg	4,200
	Pentachlorophenol	U	ug/kg	4,200
	Phenol	U	ug/kg	4,200
	2,4,6-Trichlorophenol	U	ug/kg	4,200
	2-Methylphenol (o-Cresol)	U	ug/kg	4,200
3005	SVOA Extraction, s/sw Method: SW-846 3550A	Complete	ug/kg	

- (1) Sample 83151 was diluted by a factor of five due to the dark color and high viscosity of the sample extract. The LOQs were adjusted accordingly.

U - Not detected at the Method Detection Limit.
J - Compound Detected below the Limit of Quantitation.
B - Detected, below limit of quantitation but above the method detection limit.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

10
Years of
Quality
Service

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MEMBER
ACIL

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

08/06/98

15:50:46

Group: 23234

Analysis Batch Number: 1522 -07/23/98-107 -1

Test Identification : 1522 -Mercury by CVAA, sw, 7471A

Sequence : 1522 -1

Number of Samples : 8

Batch Data-Date/Time : 07/23/98 / 16:44:33

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBS1-031	Mercury	ND	0.1000

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
23173-82928	Mercury	0.4150	10.2470	10.0260	-53.3(2k)	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
23173-82928	Mercury	0.4150	10.2470	10.0210	-54.5(2k)	80.0	120.0	0.0	20.0

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION	
23173-82928	Mercury	10.2470	10.0360	2.1	20.0	10.00	

						QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER	
LCSS-031	Mercury	2.9230	3.2300	90.5	47.9	182.3	

						QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER	
ICV-	Mercury	3.0000	3.0690	102.3	90.0	110.0	
CCV--2	Mercury	5.0000	5.1170	102.3	80.0	120.0	
CCV--3	Mercury	5.0000	5.0100	100.2	80.0	120.0	
CCV--4	Mercury	5.0000	4.9560	99.1	80.0	120.0	
CCV--5	Mercury	5.0000	4.9580	99.2	80.0	120.0	

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	ND	0.1000
CCB-	Mercury	ND	0.1000
CCB-	Mercury	ND	0.1000
CCB-	Mercury	ND	0.1000
CCB-	Mercury	ND	0.1000

----- Result Footnotes -----
(2k) - Sample concentration >4X spk added. Serial dilution was recovered within 10% limits.

Groups & Samples

23138-82845 23173-82928 23234-83146 23234-83147 23234-83148 23234-83149 23234-83150 23234-83151

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBS1-437	Aluminum	0.0744(XX)	0.0500
	Arsenic	ND	0.0300
	Barium	0.0012	0.0030
	Beryllium	0.0003	0.0003
	Calcium	0.1327	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0025	0.0100
	Copper	0.0105(1d)	0.0100
	Nickel	0.0117	0.0200
	Lead	ND	0.0400
	Antimony	0.0593	0.1000
	Selenium	0.0068	0.0700
	Thallium	0.0537	0.1000
	Vanadium	0.0010	0.0030
	Zinc	0.0446(XX)	0.0250
PBS2-437-2	Aluminum	0.0882(XX)	0.0500
	Arsenic	ND	0.0300
	Barium	0.0011	0.0030
	Beryllium	0.0002	0.0003
	Calcium	0.1030	0.4000
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Copper	0.0054	0.0100
	Nickel	ND	0.0200
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	0.0042	0.0700
	Thallium	0.0136	0.1000
	Vanadium	ND	0.0030
	Zinc	0.0579(XX)	0.0250

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
23226-83123	Aluminum	200.0000	3291.2910	3555.4119	132.1(XX)	80.0	120.0
	Arsenic	200.0000	6.0750	188.1901	91.1	80.0	120.0
	Barium	200.0000	57.0710	233.6000	88.3	80.0	120.0
	Beryllium	5.0000	0.7790	5.2218	88.9	80.0	120.0
	Calcium	100.0000	26666.8060	25066.5525	***** (B)	80.0	120.0
	Cadmium	5.0000	1.1490	6.3307	103.6	80.0	120.0
	Chromium	20.0000	112.8210	120.0010	35.9(2h)	80.0	120.0
	Copper	25.0000	68.1610	103.7446	142.3(2c)	80.0	120.0
	Nickel	50.0000	25.0670	75.3495	100.6	80.0	120.0
	Lead	50.0000	4398.7710	4174.8555	-447.8(2h)	80.0	120.0
	Antimony	100.0000	9.1780	62.9426	53.8(2c)	80.0	120.0
	Selenium	200.0000	7.9620	182.2733	87.2	80.0	120.0
	Thallium	200.0000	-1.5310	175.5624	88.5	80.0	120.0
	Vanadium	50.0000	35.4570	83.1723	95.4	80.0	120.0
	Zinc	50.0000	230.2700	228.8188	-2.9(XX)	80.0	120.0

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS		RPD #	LIMIT
						LOWER	UPPER		
23226-83123	Aluminum	200.0000	3291.2910	3862.3210	285.5(XX)	80.0	120.0	8.3	20.0
	Arsenic	200.0000	6.0750	196.5010	95.2	80.0	120.0	4.3	20.0
	Barium	200.0000	57.0710	252.6320	97.8	80.0	120.0	7.8	20.0
	Beryllium	5.0000	0.7790	5.5790	96.0	80.0	120.0	6.6	20.0
	Calcium	100.0000	26666.8060	27264.2240	597.4(8)	80.0	120.0	8.4	20.0
	Cadmium	5.0000	1.1490	7.1630	120.3(8)	80.0	120.0	12.3	20.0
	Chromium	20.0000	112.8210	169.2590	282.2(2h)	80.0	120.0	34.1(2h)	20.0
	Copper	25.0000	68.1610	98.2970	120.5(2c)	80.0	120.0	5.4	20.0
	Nickel	50.0000	25.0670	68.1240	86.1	80.0	120.0	10.1	20.0
	Lead	50.0000	4398.7710	6786.3540	4775.2(2h)	80.0	120.0	47.6(2h)	20.0
	Antimony	100.0000	9.1780	83.2250	74.0(2c)	80.0	120.0	27.8(2c)	20.0
	Selenium	200.0000	7.9620	199.9810	96.0	80.0	120.0	9.3	20.0
	Thallium	200.0000	-1.5310	182.3660	91.9	80.0	120.0	3.8	20.0
	Vanadium	50.0000	35.4570	82.5240	94.1	80.0	120.0	0.8	20.0
	Zinc	50.0000	230.2700	273.3000	86.1	80.0	120.0	17.7	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
23226-83123	Aluminum	3291.2910	2405.6390	31.1(XX)	20.0	1.00
	Arsenic	6.0750	6.5960	8.2	20.0	1.00
	Barium	57.0710	38.5960	38.6(8)	20.0	1.00
	Beryllium	0.7790	0.5320	37.7(8)	20.0	1.00
	Calcium	26666.8060	19559.3580	30.8(8)	20.0	1.00
	Cadmium	1.1490	0.9690	17.0	20.0	1.00
	Chromium	112.8210	84.1050	29.2(8)	20.0	1.00
	Copper	68.1610	38.7500	55.0(8)	20.0	1.00
	Nickel	25.0670	13.3860	60.8(8)	20.0	1.00
	Lead	4398.7710	3909.5440	11.8	20.0	1.00
	Antimony	0.0918	0.0793	14.6	20.0	1.00
	Selenium	0.0796	0.0433	59.1(5a)	20.0	1.00
	Thallium	-1.5310	0.0000	200.0(5a)	20.0	1.00
	Vanadium	35.4570	23.5600	40.3(8)	20.0	1.00
	Zinc	230.2700	162.4730	34.5(8)	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
LCSW-437	Aluminum	2.1454	2.0000	107.3	80.0	120.0
	Arsenic	1.9373	2.0000	96.9	80.0	120.0
	Barium	1.9797	2.0000	99.0	80.0	120.0
	Beryllium	0.0494	0.0500	98.8	80.0	120.0
	Calcium	2.3125	2.0000	115.6	80.0	120.0
	Cadmium	0.0483	0.0500	96.7	80.0	120.0
	Chromium	0.2048	0.2000	102.4	80.0	120.0
	Copper	0.2492	0.2500	99.7	80.0	120.0
	Nickel	0.4997	0.5000	99.9	80.0	120.0
	Lead	0.4874	0.5000	97.5	80.0	120.0
	Antimony	0.9542	9.0000	10.6	0.0	200.0
	Selenium	1.9440	19.9000	9.8	4.2	196.0
	Thallium	2.0383	2.4200	84.2	19.0	180.0

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data/Date/Time : 08/03/98 / 11:35:11

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
LCSW-437	Vanadium	0.5044	0.5000	100.9	80.0	120.0
	Zinc	0.6006	0.5000	120.1(XX)	80.0	120.0
LCSS-437-2	Aluminum	17134.5257	15333.0000	111.7	75.3	124.7
	Arsenic	8.4307	6.9100	122.0	44.9	154.8
	Barium	1318.1654	852.9000	154.6	11.4	188.5
	Beryllium	0.7723	0.6100	126.6	24.6	175.4
	Calcium	130204.7871	119477.0000	109.0	81.0	119.0
	Cadmium	15.8654	13.7000	115.8	78.8	121.2
	Chromium	47.3277	41.3000	114.6	72.6	127.1
	Copper	543.8594	465.4000	116.9	82.1	118.0
	Nickel	29.5960	26.0000	113.8	65.0	135.4
	Lead	100.6109	89.2000	112.8	70.5	128.9
	Antimony	0.0000	9.0000	0.0	0.0	200.0
	Selenium	39.3584	19.9000	197.8(H)	4.2	196.0
	Thallium	3.0852	2.4200	127.5	19.0	180.0
	Vanadium	121.9366	108.7000	112.2	79.9	119.6
	Zinc	739.0624	625.2000	118.2	74.9	125.2

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS	
					LOWER	UPPER
ICV-	Aluminum	20.0000	21.0755	105.4	90.0	110.0
	Arsenic	1.6000	1.6239	101.5	90.0	110.0
	Barium	4.0000	3.9908	99.8	90.0	110.0
	Beryllium	0.4000	0.4049	101.2	90.0	110.0
	Calcium	40.0000	41.4178	103.5	90.0	110.0
	Cadmium	4.0000	4.0595	101.5	90.0	110.0
	Chromium	4.0000	4.1212	103.0	90.0	110.0
	Copper	4.0000	3.9994	100.0	90.0	110.0
	Nickel	8.0000	8.1416	101.8	90.0	110.0
	Lead	20.0000	20.0298	100.1	90.0	110.0
	Antimony	4.0000	4.2052	105.1	90.0	110.0
	Selenium	1.6000	1.6147	100.9	90.0	110.0
	Thallium	4.0000	4.0146	100.4	90.0	110.0
	Vanadium	1.6000	1.6112	100.7	90.0	110.0
	Zinc	4.0000	4.0621	101.6	90.0	110.0
CCV1--2	Aluminum	20.0000	21.2107	106.1	90.0	110.0
	Arsenic	1.6000	1.6439	102.7	90.0	110.0
	Barium	4.0000	3.9882	99.7	90.0	110.0
	Beryllium	0.4000	0.4082	102.1	90.0	110.0
	Calcium	40.0000	41.6332	104.1	90.0	110.0
	Cadmium	4.0000	4.0918	102.3	90.0	110.0
	Chromium	4.0000	4.1618	104.0	90.0	110.0
	Copper	4.0000	4.0169	100.4	90.0	110.0
	Nickel	8.0000	8.2356	102.9	90.0	110.0
	Lead	20.0000	20.2579	101.3	90.0	110.0
	Antimony	4.0000	4.1534	103.8	90.0	110.0
	Selenium	1.6000	1.6684	104.3	90.0	110.0
	Thallium	4.0000	4.1328	103.3	90.0	110.0
	Vanadium	1.6000	1.6218	101.4	90.0	110.0

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

		QC LIMITS				
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
CCV1--2	Zinc	4.0000	4.0870	102.2	90.0	110.0
CCV2--3	Aluminum	20.0000	21.1617	105.8	90.0	110.0
	Arsenic	1.6000	1.6390	102.4	90.0	110.0
	Barium	4.0000	3.9916	99.8	90.0	110.0
	Beryllium	0.4000	0.4090	102.3	90.0	110.0
	Calcium	40.0000	41.4805	103.7	90.0	110.0
	Cadmium	4.0000	4.1021	102.6	90.0	110.0
	Chromium	4.0000	4.1718	104.3	90.0	110.0
	Copper	4.0000	4.0214	100.5	90.0	110.0
	Nickel	8.0000	8.2570	103.2	90.0	110.0
	Lead	20.0000	20.1816	100.9	90.0	110.0
	Antimony	4.0000	4.1811	104.5	90.0	110.0
	Selenium	1.6000	1.6624	103.9	90.0	110.0
	Thallium	4.0000	4.1251	103.1	90.0	110.0
	Vanadium	1.6000	1.6198	101.2	90.0	110.0
	Zinc	4.0000	4.0894	102.2	90.0	110.0
CCV3--4	Aluminum	20.0000	20.9995	105.0	90.0	110.0
	Arsenic	1.6000	1.6589	103.7	90.0	110.0
	Barium	4.0000	3.9816	99.5	90.0	110.0
	Beryllium	0.4000	0.4066	101.6	90.0	110.0
	Calcium	40.0000	41.4434	103.6	90.0	110.0
	Cadmium	4.0000	4.0896	102.2	90.0	110.0
	Chromium	4.0000	4.1508	103.8	90.0	110.0
	Copper	4.0000	4.0015	100.0	90.0	110.0
	Nickel	8.0000	8.2065	102.6	90.0	110.0
	Lead	20.0000	20.2384	101.2	90.0	110.0
	Antimony	4.0000	4.1708	104.3	90.0	110.0
	Selenium	1.6000	1.6541	103.4	90.0	110.0
	Thallium	4.0000	4.0475	101.2	90.0	110.0
	Vanadium	1.6000	1.6171	101.1	90.0	110.0
	Zinc	4.0000	4.0849	102.1	90.0	110.0
CCV4--5	Aluminum	20.0000	21.0120	105.1	90.0	110.0
	Arsenic	1.6000	1.6341	102.1	90.0	110.0
	Barium	4.0000	3.9876	99.7	90.0	110.0
	Beryllium	0.4000	0.4049	101.2	90.0	110.0
	Calcium	40.0000	41.1435	102.9	90.0	110.0
	Cadmium	4.0000	4.0724	101.8	90.0	110.0
	Chromium	4.0000	4.1409	103.5	90.0	110.0
	Copper	4.0000	3.9992	100.0	90.0	110.0
	Nickel	8.0000	8.1682	102.1	90.0	110.0
	Lead	20.0000	20.1946	101.0	90.0	110.0
	Antimony	4.0000	4.2274	105.7	90.0	110.0
	Selenium	1.6000	1.6740	104.6	90.0	110.0
	Thallium	4.0000	4.1161	102.9	90.0	110.0
	Vanadium	1.6000	1.6107	100.7	90.0	110.0
	Zinc	4.0000	4.0740	101.8	90.0	110.0

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Aluminum	0.0147	0.0500
	Arsenic	0.0055	0.0300
	Barium	0.0001	0.0030
	Beryllium	0.0002	0.0002
	Calcium	0.0178	0.4000
	Cadmium	0.0007	0.0040
	Chromium	0.0006	0.0100
	Copper	0.0026	0.0100
	Nickel	ND	0.0200
	Lead	ND	0.0400
	Antimony	0.0163	0.1000
	Selenium	0.0534	0.0700
	Thallium	ND	0.1000
	Vanadium	0.0003	0.0030
	Zinc	ND	0.0250
CCB1-	Aluminum	0.0176	0.0500
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Beryllium	0.0001	0.0002
	Calcium	0.0172	0.4000
	Cadmium	0.0004	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	ND	0.0200
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	0.0162	0.0700
	Thallium	0.0159	0.1000
	Vanadium	ND	0.0030
	Zinc	ND	0.0250
CCB2-	Aluminum	0.0170	0.0500
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Beryllium	0.0001	0.0002
	Calcium	0.0266	0.4000
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	ND	0.0200
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	0.0009	0.0700
	Thallium	ND	0.1000
	Vanadium	ND	0.0030
	Zinc	ND	0.0250
CCB2-	Aluminum	0.0177	0.0500
	Arsenic	ND	0.0300
	Barium	0.0001	0.0030
	Beryllium	0.0001	0.0002
	Calcium	0.0279	0.4000

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB2-	Cadmium	0.0001	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	0.0013	0.0200
	Lead	ND	0.0400
	Antimony	0.0052	0.1000
	Selenium	0.0199	0.0700
	Thallium	0.0050	0.1000
	Vanadium	0.0004	0.0030
	Zinc	ND	0.0250
CCB3-	Aluminum	0.0109	0.0500
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Beryllium	0.0001	0.0002
	Calcium	0.0207	0.4000
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	ND	0.0200
	Lead	0.0038	0.0400
	Antimony	ND	0.1000
	Selenium	ND	0.0700
CCB4-	Thallium	0.0185	0.1000
	Vanadium	0.0001	0.0030
	Zinc	ND	0.0250
	Aluminum	0.0196	0.0500
	Arsenic	0.0040	0.0300
	Barium	0.0002	0.0030
	Beryllium	0.0001	0.0002
	Calcium	0.0454	0.4000
	Cadmium	0.0009	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Nickel	0.0005	0.0200
	Lead	ND	0.0400
	Antimony	0.0053	0.1000
	Selenium	0.0111	0.0700
	Thallium	ND	0.1000
	Vanadium	ND	0.0030
	Zinc	ND	0.0250

----- Result Footnotes -----

(XX) - Analyte was not reported from this run

(1d) - The preparation blank concentration is less than 5% of the regulatory limit

(B) - Nonhomogeneous sample

(2h) - Sample concentration >4X spk added. PDS was recovered within limits.

(2c) - Spike result outside limits. PDS is within acceptance limits.

(5a) - Duplicates not evaluated: Results are <10x detection limit

(H) - LCS reference value below LOQ

Analysis Batch Number: ICPSO-07/30/98-118 -3

Test Identification : ICPSO-*Metal Soils by ICP

Sequence : DATA211

Number of Samples : 14

Batch Data-Date/Time : 08/03/98 / 11:35:11

Groups & Samples

23225-83115	23226-83123	23234-83146	23234-83147	23234-83148	23234-83149	23234-83150	23234-83151
23256-83260	23256-83261	23259-83275	23259-83276	23259-83277	23259-83278		

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting07/27/98
09:13:56
Group: 23234

Analysis Batch Number: 0394 -07/22/98-147 -1

Test Identification : 0394 -pH, sw, 9045C

Sequence :

Number of Samples : 7

Batch Data-Date/Time : 07/23/98 / 12:44:00

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
23234-83146	pH of soil slurry	7.2400	7.2100	0.4	1.4	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
LCS-1	pH of soil slurry	3.9600	4.0000	99.0	97.1	104.1
LCS-2	pH of soil slurry	4.0200	4.0000	100.5	97.1	104.1

Groups & Samples

23234-83146	23234-83147	23234-83148	23234-83149	23234-83150	23234-83151
-------------	-------------	-------------	-------------	-------------	-------------

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix: (soil/water) SOIL

Lab Sample ID: 980722SB

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: X4210

Level: (low/med) LOW

Date Received: _____

% Moisture: 0 decanted: (Y/N) N

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/27/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----	Phenol	830	U
111-44-4-----	bis(2-Chloroethyl) ether	330	U
95-57-8-----	2-Chlorophenol	830	U
541-73-1-----	1,3-Dichlorobenzene	330	U
106-46-7-----	1,4-Dichlorobenzene	330	U
95-50-1-----	1,2-Dichlorobenzene	330	U
95-48-7-----	2-Methylphenol (o-Cresol)	830	U
108-60-1-----	bis(2-Chloroisopropyl) ether	330	U
621-64-7-----	N-Nitrosodi-N-propylamine	330	U
67-72-1-----	Hexachloroethane	330	U
98-95-3-----	Nitrobenzene	330	U
78-59-1-----	Isophorone	330	U
105-67-9-----	2,4-Dimethylphenol	830	U
88-75-5-----	2-Nitrophenol	830	U
111-91-1-----	bis(2-Chloroethoxy) methane	330	U
120-83-2-----	2,4-Dichlorophenol	830	U
120-82-1-----	1,2,4-Trichlorobenzene	330	U
91-20-3-----	Naphthalene	330	U
87-68-3-----	Hexachlorobutadiene	330	U
59-50-7-----	4-Chloro-3-methylphenol	830	U
77-47-4-----	Hexachlorocyclopentadiene	670	U
88-06-2-----	2,4,6-Trichlorophenol	830	U
95-95-4-----	2,4,5-Trichlorophenol	830	U
91-58-7-----	2-Chloronaphthalene	330	U
131-11-3-----	Dimethyl phthalate	330	U
606-20-2-----	2,6-Dinitrotoluene	330	U
208-96-8-----	Acenaphthylene	330	U
51-28-5-----	2,4-Dinitrophenol	830	U
83-32-9-----	Acenaphthene	330	U
100-02-7-----	4-Nitrophenol	830	U
121-14-2-----	2,4-Dinitrotoluene	330	U
84-66-2-----	Diethyl phthalate	330	U
7005-72-3-----	4-Chlorophenyl-phenyl ether	330	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix: (soil/water) SOIL

Lab Sample ID: 980722SB

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: X4210

Level: (low/med) LOW

Date Received: _____

% Moisture: 0 decanted: (Y/N) N

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/27/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

86-73-7-----	Fluorene	330	U
534-52-1-----	4,6-Dinitro-2-methylphenol	830	U
86-30-6-----	N-Nitrosodiphenylamine(1)	330	U
101-55-3-----	4-Bromophenyl-phenyl ether	330	U
118-74-1-----	Hexachlorobenzene	330	U
87-86-5-----	Pentachlorophenol	830	U
85-01-8-----	Phenanthrene	330	U
120-12-7-----	Anthracene	330	U
84-74-2-----	Di-N-butylphthalate	330	U
206-44-0-----	Fluoranthene	330	U
129-00-0-----	Pyrene	330	U
85-68-7-----	Butylbenzyl phthalate	330	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	330	U
91-94-1-----	3,3'-Dichlorobenzidine	330	U
56-55-3-----	Benz(a)anthracene	330	U
218-01-9-----	Chrysene	330	U
117-84-0-----	Di-N-octyl phthalate	330	U
205-99-2-----	Benzo(b)fluoranthene	330	U
207-08-9-----	Benzo(k)fluoranthene	330	U
50-32-8-----	Benzo(a)pyrene	330	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	330	U
53-70-3-----	Dibenz(a,h)anthracene	330	U
191-24-2-----	Benzo(ghi)perylene	330	U
122-66-7-----	1,2-Diphenylhydrazine	330	U
92-87-5-----	Benzidine	3300	U
10595-95-6-----	N-Nitrosomethylethylamine	330	U

(1) - Cannot be separated from Diphenylamine

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980728C

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	MAPEP98S5	71	79	66	72	78	85			0
02	REPLICATE1	76	82	68	74	87	90			0
03	01B	69	80	60	71	74	99			0
04	02B	73	82	63	73	81	100			0
05	03B	72	83	63	73	89	100			0
06	04B	70	81	60	71	87	96			0
07	05B	64	74	55	63	80	85			0
08	06B	76	87	66	79	88	97			0
09										
10										
11										
12										
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30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (25-121)
 S2 (PHL) = Phenol-d6 (24-113)
 S3 (NBZ) = Nitrobenzene-d5 (23-120)
 S4 (FBP) = 2-Fluorobiphenyl (30-115)
 S5 (TBP) = 2,4,6-Tribromophenol (19-122)
 S6 (TPH) = Terphenyl-d14 (18-137)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

3D
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix Spike - EPA Sample No.: M2138

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	3330	4960	7910	88	5-112
2-Chlorophenol	3330	240	2700	74	23-134
1,4-Dichlorobenzene	3330	205	2600	72	20-124
N-Nitrosodi-N-propylami	3330	296	3060	83	1-230
1,2,4-Trichlorobenzene	3330	231	2820	78	44-142
4-Chloro-3-methylphenol	3330	558	3070	75	22-147
Acenaphthene	3330	478	3170	81	47-145
4-Nitrophenol	3330	482	1800	40	1-132
2,4-Dinitrotoluene	3330	493	3060	77	39-139
Pentachlorophenol	3330	417	1340	28	14-176
Pyrene	3330	648	3390	82	52-115

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	3330	9630	140*	46*	42	5-112
2-Chlorophenol	3330	2640	72	3	40	23-134
1,4-Dichlorobenzene	3330	2670	74	3	28	20-124
N-Nitrosodi-N-propylami	3330	2870	77	8	38	1-230
1,2,4-Trichlorobenzene	3330	2980	82	5	28	44-142
4-Chloro-3-methylphenol	3330	2960	72	4	42	22-147
Acenaphthene	3330	3280	84	4	31	47-145
4-Nitrophenol	3330	1840	41	2	50	1-132
2,4-Dinitrotoluene	3330	3100	78	1	38	39-139
Pentachlorophenol	3330	1280	26	7	50	14-176
Pyrene	3330	3310	80	2	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 11 outside limits

Spike Recovery: 1 out of 22 outside limits

COMMENTS:

FORM 3
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980727C

Matrix Spike - Sample No.: SBLK

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Phenol	3330	0.00	2420	73	5-112
2-Chlorophenol	3330	0.00	2290	69	23-134
1,4-Dichlorobenzene	3330	0.00	2240	67	20-124
N-Nitrosodi-N-propylami	3330	0.00	2550	76	1-230
1,2,4-Trichlorobenzene	3330	0.00	2390	72	44-142
4-Chloro-3-methylphenol	3330	0.00	2430	73	22-147
Acenaphthene	3330	0.00	2590	78	47-145
4-Nitrophenol	3330	0.00	2630	79	1-132
2,4-Dinitrotoluene	3330	0.00	2510	75	39-139
Pentachlorophenol	3330	0.00	2210	66	14-176
Pyrene	3330	0.00	2690	81	52-115

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 11 outside limits

COMMENTS:

ON SITE

CHAIN OF CUSTODY RECORD

5177

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 7/14/93

Page 1 of 1

Purchase Order No.: <u>Q78-333</u>		Job No.	
Name <u>State</u>		Title	
Company		Company <u>Biotech Remediation</u>	
Address		Mailing Address <u>7106 20th St, Suite 400</u>	
City, State, Zip		City, State, Zip <u>Farmington, NM 87401</u>	
Telephone No.		Telephone No. <u>327-6965</u>	
Telefax No.		Telefax No.	
SEND INVOICE TO		RESULTS TO	
Sampling Location: <u>Therapy Refinery Fire Water Pond</u> <u>620 Rd 5500</u> <u>Blountfield, NM 87413</u>		ANALYSIS REQUESTED	
Sampler: <u>Ken Smith</u>		Number of Containers	
SAMPLE IDENTIFICATION		LAB ID	
SAMPLE	DATE	TIME	PRES.
Sample #1	7/13	1500	soil
Sample #2		1523	
Sample #3		1545	
Sample #4		1612	
Sample #5		1630	
Sample #6		1655	
Relinquished by: <u>Ken Smith</u>		Date/Time <u>7/14/93 0830</u>	
Relinquished by:		Date/Time	
Relinquished by:		Date/Time	
Method of Shipment:		Rush	
Authorized by: <u>Ken Smith</u>		Date <u>7/14/93</u>	
(Client Signature Must Accompany Request)		Special Instructions:	
Distribution: White On Site Yellow LAB Pink Sampler Gold Standard Client		24-48 Hours	
10 Working Days		Date/Time	

OFF: (505) 325-5667



LAB: (505) 325-1556

July 20, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery

Order No.: 9806071

Dear Terry Griffin,

On Site Technologies, LTD. received 3 samples on 6/17/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

BTEX (SW8020A)
Diesel Range Organics (SW8015)
Gasoline Range Organics (SW8015)
TPH, Water (E418.1)

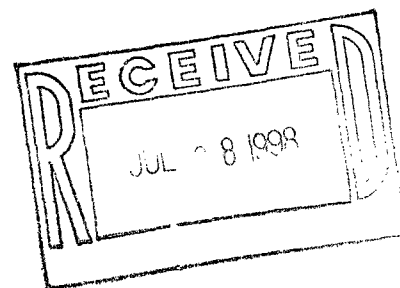
There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to be "D. Cox", written in a cursive style.

David Cox



OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Project: Thriftway Refinery

Lab Order: 9806071

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition. Methods for Chemical Analysis of Water and Wastes, EPA-600, March 1993.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Air Stripper Effluent
Lab ID:	9806071-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 2:45:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS						Analyst: DC
T/R Hydrocarbons: C6-C10	900	180		µg/L	1	6/24/98
BTEX						Analyst: HR
Benzene	160	0.5		µg/L	1	6/26/98
Toluene	80	0.5		µg/L	1	6/26/98
Ethylbenzene	66	0.5		µg/L	1	6/26/98
m,p-Xylene	110	1		µg/L	1	6/26/98
o-Xylene	42	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Air Stripper Effluent
Lab ID:	9806071-01B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 2:45:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, WATER		E418.1				Analyst: HR
Petroleum Hydrocarbons, T/R	ND		5	mg/L	1	6/24/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Air Stripper Effluent
Lab ID:	9806071-01C	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 2:45:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	ND	0.25		mg/L	1	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Air Stripper Influent
Lab ID:	9806071-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 3:05:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	8000	1800		µg/L	10	6/25/98
BTEX		SW8020A				Analyst: HR
Benzene	1500	5		µg/L	10	6/26/98
Toluene	750	5		µg/L	10	6/26/98
Ethylbenzene	580	5		µg/L	10	6/26/98
m,p-Xylene	990	10		µg/L	10	6/26/98
o-Xylene	360	5		µg/L	10	6/26/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Air Stripper Influent
Lab ID:	9806071-02B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 3:05:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, WATER	E418.1					Analyst: HR
Petroleum Hydrocarbons, T/R	5.2	5		mg/L	1	6/24/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Air Stripper Influent
Lab ID:	9806071-02C	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 3:05:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	1.00	0.25		mg/L	1	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806071	Client Sample ID:	Travel Blank
Lab ID:	9806071-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/17/98 2:00:00 PM
		COC Record:	5153

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS						
		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	ND	180		µg/L	1	6/24/98
BTEX		SW8020A				Analyst: HR
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT
Sample Duplicate

Sample ID: 9806071-01CD	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98
Client ID: Air Stripper Effluent	9806071	Run ID: GC-2_980715A		SeqNo: 4698	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
T/R Hydrocarbons: C10-C28	.3609	0.25	0	0	0.0%
				HighLimit	LowLimit
				0	0
				RPD Ref Val	%RPD
				0.21	52.9%
				RPD Limit	Qual
				20	R/LCSD

10/7/20/76

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
1 of 1

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS-31	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98
Client ID:	9806071	Run ID: GC-2_980715A		SeqNo: 4696	
Analyte	Result	PQL	SPK value	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	4.757	0.25	5.02	94.8%	70 130

Sample ID: LCSD	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98
Client ID:	9806071	Run ID: GC-2_980715A		SeqNo: 4705	
Analyte	Result	PQL	SPK value	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	4.874	0.25	5.02	97.1%	70 130 4.757 2.4%

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV CCV1 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID: 9806071	Run ID: GC-2_980715A	PQL	SPK value	SeqNo: 4695	
Analyte	Result	QCL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	5.43	0.25	5.02	0 108.2% 85 115	
Sample ID: CCV CCV2 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID: 9806071	Run ID: GC-2_980715A	PQL	SPK value	SeqNo: 4706	
Analyte	Result	QCL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	5.37	0.25	5.02	0 107.0% 85 115	
Sample ID: CCV CCV3 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID: 9806071	Run ID: GC-2_980715A	PQL	SPK value	SeqNo: 4707	
Analyte	Result	QCL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	5.72	0.25	5.02	0 113.9% 85 115	
Sample ID: CCV CCV4 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID: 9806071	Run ID: GC-2_980715A	PQL	SPK value	SeqNo: 4708	
Analyte	Result	QCL	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	4.96	0.25	5.02	0 98.8% 85 115	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID: 9806071	Run ID: GC-1_980624B			SeqNo: 3550	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10					
	ND				180

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806071-02AMS	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID: Air Stripper Influe	9806071	Run ID: GC-1_980624B		SeqNo: 3563	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	194500	18000	180100	8508	103.3% 70 130
Sample ID: 9806071-02AMSD	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID: Air Stripper Influe	9806071	Run ID: GC-1_980624B		SeqNo: 3564	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	189600	18000	180100	8508	100.6% 70 130 194500 2.6% 15

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

1 of 1

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS Water	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:						
Client ID:	9806071	Run ID: GC-1_980624B		SeqNo: 3552							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10											
	1900	180	1801	0	105.5%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID: 9806071	Run ID: GC-1_980624B			SeqNo: 3551	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1932	180	1801	0	107.3% 85 115
Trifluorotoluene	92.53	0	100	0	92.5% 70 130
Sample ID: CCV2 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID: 9806071	Run ID: GC-1_980624B			SeqNo: 3565	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1899	180	1801	0	105.4% 85 115
Trifluorotoluene	90.64	0	100	0	90.6% 70 130
Sample ID: CCV3 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/25/98	Prep Date:
Client ID: 9806071	Run ID: GC-1_980624B			SeqNo: 3566	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1932	180	1801	0	107.3% 85 115
Trifluorotoluene	91.06	0	100	0	91.1% 70 130
Sample ID: CCV4 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/25/98	Prep Date:
Client ID: 9806071	Run ID: GC-1_980624B			SeqNo: 3567	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1995	180	1801	0	110.8% 85 115
Trifluorotoluene	93.14	0	100	0	93.1% 70 130

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980626	Test Code: SW8020A	Units: µg/L	Analysis Date 6/26/98	Prep Date:						
Client ID:	9806071	Run ID: GC-1_980626B		SeqNo: 3712							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0354	0.5									J
Ethylbenzene	.1588	0.5									J
m,p-Xylene	.2269	1									J
Methyl tert-Butyl Ether	ND	1									J
o-Xylene	.1206	0.5									J
Toluene	.0987	0.5									J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806071-02AMS		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:	
Client ID: Air Stripper Influe		9806071		Run ID: GC-1_980626B				SeqNo: 3713			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1885	5	400	1500	96.3%	56	128				
Ethylbenzene	982.6	5	400	580	100.7%	78	107				
m,p-Xylene	1771	10	800	990	97.6%	67	118				
Methyl tert-Butyl Ether	478.9	10	400	32	111.7%	70	130				
o-Xylene	743.7	5	400	360	95.9%	78	107				
Toluene	1144	5	400	750	98.5%	74	116				

Sample ID: 9806071-02AMSD		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:	
Client ID: Air Stripper Influe		9806071		Run ID: GC-1_980626B				SeqNo: 3714			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1808	5	400	1500	76.9%	56	128	1885	4.2%	12	
Ethylbenzene	941.9	5	400	580	90.5%	78	107	982.6	4.2%	11	
m,p-Xylene	1700	10	800	990	88.7%	67	118	1771	4.1%	10	
Methyl tert-Butyl Ether	471.3	10	400	32	109.8%	70	130	478.9	1.6%	15	
o-Xylene	715	5	400	360	88.8%	78	107	743.7	3.9%	14	
Toluene	1098	5	400	750	86.9%	74	116	1144	4.1%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980626	Test Code: SW8020A	Units: µg/L	Analysis Date 6/26/98		Prep Date:				
Client ID:		9806071	Run ID: GC-1_980626B		SeqNo: 3711						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.07	0.5	40	0.0354	102.6%	56	128				
Ethylbenzene	42.06	0.5	40	0.1588	104.7%	78	107				
m,p-Xylene	80.77	1	80	0.2269	100.7%	67	118				
Methyl tert-Butyl Ether	44.05	1	40	0	110.1%	70	130				
o-Xylene	41.54	0.5	40	0.1206	103.6%	78	107				
Toluene	41.33	0.5	40	0.0987	103.1%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:	
Client ID: 9806071		Run ID: GC-1_980626B		PQL		SPK value		SeqNo: 3708			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.54	0.5	20	0	107.7%	85	115				
Ethylbenzene	22.08	0.5	20	0	110.4%	85	115				
m,p-Xylene	42.12	1	40	0	105.3%	85	115				
Methyl tert-Butyl Ether	23.75	1	20	0	118.7%	85	115				S
o-Xylene	21.73	0.5	20	0	108.7%	85	115				
Toluene	21.67	0.5	20	0	108.4%	85	115				
1,4-Difluorobenzene	93.05	0	100	0	93.1%	70	130				
4-Bromochlorobenzene	84.53	0	100	0	84.5%	70	130				
Fluorobenzene	92.92	0	100	0	92.9%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:	
Client ID: 9806071		Run ID: GC-1_980626B		PQL		SPK value		SeqNo: 3709			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.22	0.5	20	0	101.1%	85	115				
Ethylbenzene	21.22	0.5	20	0	106.1%	85	115				
m,p-Xylene	39.72	1	40	0	99.3%	85	115				
Methyl tert-Butyl Ether	17.62	1	20	0	88.1%	85	115				
o-Xylene	20.36	0.5	20	0	101.8%	85	115				
Toluene	20.4	0.5	20	0	102.0%	85	115				
1,4-Difluorobenzene	92.57	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	72.38	0	100	0	72.4%	70	130				
Fluorobenzene	92.38	0	100	0	92.4%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98				Prep Date:	
Client ID:		9806071		Run ID:		GC-1_980626B		SeqNo: 3710					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene		20.34	0.5	20	0	101.7%	85	115					
Ethylbenzene		20.56	0.5	20	0	102.8%	85	115					
m,p-Xylene		39.15	1	40	0	97.9%	85	115					
Methyl tert-Butyl Ether		20.77	1	20	0	103.9%	85	115					
o-Xylene		20.52	0.5	20	0	102.6%	85	115					
Toluene		20.41	0.5	20	0	102.1%	85	115					
1,4-Difluorobenzene		92.79	0	100	0	92.8%	70	130					
4-Bromochlorobenzene		83.34	0	100	0	83.3%	70	130					
Fluorobenzene		92.67	0	100	0	92.7%	70	130					

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806071-01A	94.8	74.1	92.4					
9806071-02A	97	72.1	95.4					
9806071-02AMS	97.7	73.6	95.2					
9806071-02AMSD	97.4	74.2	95.2					
9806071-03A	93.3	86.9	93.4					
9806082-01A	87.9	71.3	93.8					
9806082-02A	89.8	66.1 *	95.3					
9806083-01A	92.9	68.7 *	92.8					
9806083-02A	92.8	72.2	92.3					
9806084-01A	92.4	60.3 *	91.9					
9806084-02A	92.9	69.3 *	92.5					
9806084-03A	92.9	69.9 *	92.5					
9806095-01A	93.5	87.5	93.4					
9806095-02A	93.4	84.6	93.1					
9806095-03A	92.8	71.3	92.9					
9806095-04A	93.4	70.3	93.1					
9806095-05A	91.5	52.7 *	91.1					
9806095-06A	89.8	47.2 *	89.7					
9806095-07A	79	71.7	84.4					
9806095-09A	91.9	73.3	91.9					
9806095-10A	92.7	70.2	92.7					
CCV1 QC0529/30	93	84.5	92.9					
CCV2 QC0529/30	92.6	72.4	92.4					
CCV3 QC0529/30	92.8	83.3	92.7					
LCS WATER	92.6	85.7	92.6					
MBI	93.1	88.4	92.6					

Acronym

Surrogate

QC Limits

14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB-19	Batch ID: 19	Test Code: E418.1	Units: mg/L	Analysis Date 6/24/98	Prep Date: 6/23/98
Client ID:	9806071	Run ID: TPH 1_980624A		SeqNo: 3417	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	ND				5

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806071
Project: Thriftway Refinery

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS-19	Batch ID: 19	Test Code: E418.1	Units: mg/L	Analysis Date 6/24/98	Prep Date: 6/23/98
Client ID:	9806071	Run ID: TPH 1_980624A		SeqNo: 3419	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	7.45	5	8.3	0	89.8% 80 120

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV1	Batch ID: 19	Test Code: E418.1	Units: mg/L	Analysis Date 6/24/98	Prep Date:
Client ID:	9806071	Run ID: TPH 1_980624A		SeqNo: 3418	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	126	25	124	0	101.6% 80 120
Sample ID: CCV2	Batch ID: 19	Test Code: E418.1	Units: mg/L	Analysis Date 6/24/98	Prep Date:
Client ID:	9806071	Run ID: TPH 1_980624A		SeqNo: 3423	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Petroleum Hydrocarbons, T/R	126	25	124	0	101.6% 80 120

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806071

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB-31	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98
Client ID:	9806071	Run ID: GC-2_980715A		SeqNo: 4694	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28					
	ND				0.25

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

24-48 Hours	10 Working Days	Special Instructions:

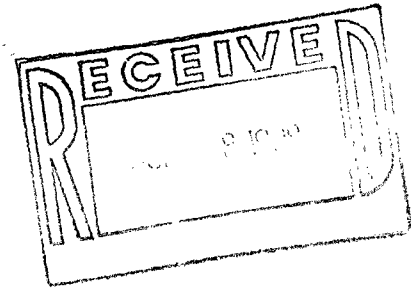
OFF: (505) 325-5667



LAB: (505) 325-1556

July 20, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery

Order No.: 9806091

Dear Terry Griffin,

On Site Technologies, LTD. received 5 samples on 6/23/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Diesel Range Organics (SW8015)
Gasoline Range Organics (SW8015)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Project: Thriftway Refinery

Lab Order: 9806091

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	MW-2
Lab ID:	9806091-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 3:50:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	6000	1800		µg/L	10	6/25/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	MW-2
Lab ID:	9806091-01B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 3:50:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	74	0.5		mg/L	2	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	MW-12
Lab ID:	9806091-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 11:15:00 AM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	920	180		µg/L	1	6/25/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	MW-12
Lab ID:	9806091-02B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 11:15:00 AM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS						Analyst: DC
T/R Hydrocarbons: C10-C28	250	2.5		mg/L	10	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Sur: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	RW-24
Lab ID:	9806091-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 2:20:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	8300	3600		µg/L	20	6/24/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	RW-24
Lab ID:	9806091-03B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 2:20:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	300		2.5	mg/L	10	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Sur: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	RW-25
Lab ID:	9806091-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 1:30:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	7000	3600		µg/L	20	6/24/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	RW-25
Lab ID:	9806091-04B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 1:30:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	140	1.3		mg/L	5	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	RW-26
Lab ID:	9806091-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 3:05:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	11000	3600		µg/L	20	6/24/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 20-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806091	Client Sample ID:	RW-26
Lab ID:	9806091-05B	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/22/98 3:05:00 PM
		COC Record:	5159

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	18	0.25		mg/L	1	7/15/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806091

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB-31	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4694	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28					
		ND	0.25		

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806091

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9806071-01CD	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4698	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
T/R Hydrocarbons: C10-C28	.3609	0.25	0	0	0.0%
				HighLimit	RPDLimit
				0	20
				0.21	52.9%
				0	R ✓

LC SP
02/7/20/20

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9806091
Project: Thriftway Refinery

Date: 20-Jul-98

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS-31	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98						
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4696							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	4.757	0.25	5.02	0	94.8%	70	130				

Sample ID: LCSD	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date: 6/23/98						
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4705							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	4.874	0.25	5.02	0	97.1%	70	130	4.757	2.4%		22/68 R-100 7/15/98

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
 Work Order: 9806091
 Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV CCV1 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4695	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	5.43	0.25	5.02	0	108.2% 85 115
Sample ID: CCV CCV2 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4706	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	5.37	0.25	5.02	0	107.0% 85 115
Sample ID: CCV CCV3 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4707	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	5.72	0.25	5.02	0	113.9% 85 115
Sample ID: CCV CCV4 QC06	Batch ID: 31	Test Code: SW8015	Units: mg/L	Analysis Date 7/15/98	Prep Date:
Client ID:	9806091	Run ID: GC-2_980715A		SeqNo: 4708	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	4.96	0.25	5.02	0	98.8% 85 115

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806091

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3550	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10 ND 180					

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806091

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806071-02AMS	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:						
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3563							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	194500	18000	180100	8508	103.3%	70	130				

Sample ID: 9806071-02AMSD	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:						
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3564							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	189600	18000	180100	8508	100.6%	70	130	194500	2.6%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806091

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS Water	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID: 9806091	Run ID: GC-1_980624B			SeqNo: 3552	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1900	180	1801	0	105.5% 70 130

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Jul-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806091
Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3551	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1932	180	1801	0	107.3% 85 115
Trifluorotoluene	92.53	0	100	0	92.5% 70 130
Sample ID: CCV2 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/24/98	Prep Date:
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3565	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1899	180	1801	0	105.4% 85 115
Trifluorotoluene	90.64	0	100	0	90.6% 70 130
Sample ID: CCV3 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/25/98	Prep Date:
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3566	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1932	180	1801	0	107.3% 85 115
Trifluorotoluene	91.06	0	100	0	91.1% 70 130
Sample ID: CCV4 QC0593	Batch ID: GC-1_980624	Test Code: SW8015	Units: µg/L	Analysis Date 6/25/98	Prep Date:
Client ID:	9806091	Run ID: GC-1_980624B		SeqNo: 3567	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1995	180	1801	0	110.8% 85 115
Trifluorotoluene	93.14	0	100	0	93.1% 70 130

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

OFF: (505) 325-5667



LAB: (505) 325-1556

July 01, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery

Order No.: 9806095

Dear Terry Griffin,

On Site Technologies, LTD. received 10 samples on 6/24/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox", written in a cursive style.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Project: Thriftway Refinery

Lab Order: 9806095

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	Travel Blank
Lab ID:	9806095-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 9:00:00 AM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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July 01, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery

Order No.: 9806097

Dear Terry Griffin,

On Site Technologies, LTD. received 15 samples on 6/25/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to be "David Cox", written in a cursive style.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Project: Thriftway Refinery

Lab Order: 9806097

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Analytical Comments for METHOD BTEX_W, SAMPLE 9806097-14A: The reported value for MTBE should be considered an estimate. Non-compliance CCV in batch. Sample could not be re-analyzed for confirmation due to only one (1) VOA vial being submitted for analysis. Analytical Comments for METHOD BTEX_W, SAMPLE 9806097-15A: The two (2) VOA vials submitted for analysis had headspace greater than 0.25 inches.

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-1
Lab ID:	9806097-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 12:05:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX						Analyst: DC
		SW8020A				
Methyl tert-Butyl Ether	59	1		µg/L	1	6/29/98
Benzene	14	0.5		µg/L	1	6/29/98
Toluene	ND	0.5		µg/L	1	6/29/98
Ethylbenzene	1.4	0.5		µg/L	1	6/29/98
m,p-Xylene	1.8	1		µg/L	1	6/29/98
o-Xylene	ND	0.5		µg/L	1	6/29/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-3
Lab ID:	9806097-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 3:59:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	200	1		µg/L	1	6/27/98
Benzene	120	0.5		µg/L	1	6/27/98
Toluene	ND	0.5		µg/L	1	6/27/98
Ethylbenzene	8.2	0.5		µg/L	1	6/27/98
m,p-Xylene	ND	1		µg/L	1	6/27/98
o-Xylene	ND	0.5		µg/L	1	6/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-5
Lab ID:	9806097-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 10:40:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX						Analyst: HR
		SW8020A				
Methyl tert-Butyl Ether	56	1		µg/L	1	6/27/98
Benzene	10	0.5		µg/L	1	6/27/98
Toluene	ND	0.5		µg/L	1	6/27/98
Ethylbenzene	0.6	0.5		µg/L	1	6/27/98
m,p-Xylene	ND	1		µg/L	1	6/27/98
o-Xylene	ND	0.5		µg/L	1	6/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-6
Lab ID:	9806097-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 3:25:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	36	1		µg/L	1	6/27/98
Benzene	20	0.5		µg/L	1	6/27/98
Toluene	4.8	0.5		µg/L	1	6/27/98
Ethylbenzene	3.3	0.5		µg/L	1	6/27/98
m,p-Xylene	ND	1		µg/L	1	6/27/98
o-Xylene	ND	0.5		µg/L	1	6/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-7
Lab ID:	9806097-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 2:50:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	240	2.5		µg/L	5	6/29/98
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	190	1		µg/L	1	6/27/98
Toluene	1.1	0.5		µg/L	1	6/27/98
Ethylbenzene	44	0.5		µg/L	1	6/27/98
m,p-Xylene	89	1		µg/L	1	6/27/98
o-Xylene	8.4	0.5		µg/L	1	6/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-14
Lab ID:	9806097-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 5:00:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	89	10		µg/L	10	6/29/98
Benzene	2000	25		µg/L	50	6/29/98
Toluene	150	5		µg/L	10	6/29/98
Ethylbenzene	1100	5		µg/L	10	6/29/98
m,p-Xylene	190	10		µg/L	10	6/29/98
o-Xylene	170	5		µg/L	10	6/29/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-16
Lab ID:	9806097-07A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 5:17:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/29/98
Benzene	ND	0.5		µg/L	1	6/29/98
Toluene	ND	0.5		µg/L	1	6/29/98
Ethylbenzene	ND	0.5		µg/L	1	6/29/98
m,p-Xylene	ND	1		µg/L	1	6/29/98
o-Xylene	ND	0.5		µg/L	1	6/29/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-18
Lab ID:	9806097-08A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 4:35:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	60	1		µg/L	1	6/29/98
Benzene	150	0.5		µg/L	1	6/29/98
Toluene	0.8	0.5		µg/L	1	6/29/98
Ethylbenzene	13	0.5		µg/L	1	6/29/98
m,p-Xylene	2.1	1		µg/L	1	6/29/98
o-Xylene	ND	0.5		µg/L	1	6/29/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-29
Lab ID:	9806097-09A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 5:10:00 PM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	850	10		µg/L	10	6/29/98
Benzene	850	5		µg/L	10	6/29/98
Toluene	500	5		µg/L	10	6/29/98
Ethylbenzene	280	5		µg/L	10	6/29/98
m,p-Xylene	1200	10		µg/L	10	6/29/98
o-Xylene	230	5		µg/L	10	6/29/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	Travel Blank
Lab ID:	9806097-10A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/24/98 9:00:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: HR		
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/27/98
Benzene	ND	0.5		µg/L	1	6/27/98
Toluene	ND	0.5		µg/L	1	6/27/98
Ethylbenzene	ND	0.5		µg/L	1	6/27/98
m,p-Xylene	ND	1		µg/L	1	6/27/98
o-Xylene	ND	0.5		µg/L	1	6/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	Travel Blank
Lab ID:	9806097-11A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/25/98 9:20:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/27/98
Benzene	ND	0.5		µg/L	1	6/27/98
Toluene	ND	0.5		µg/L	1	6/27/98
Ethylbenzene	ND	0.5		µg/L	1	6/27/98
m,p-Xylene	ND	1		µg/L	1	6/27/98
o-Xylene	ND	0.5		µg/L	1	6/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-24
Lab ID:	9806097-12A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/25/98 9:35:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	82	10		µg/L	10	6/29/98
Benzene	590	5		µg/L	10	6/29/98
Toluene	88	5		µg/L	10	6/29/98
Ethylbenzene	120	5		µg/L	10	6/29/98
m,p-Xylene	590	10		µg/L	10	6/29/98
o-Xylene	130	5		µg/L	10	6/29/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-24 Duplicate
Lab ID:	9806097-13A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/25/98 10:58:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	84	10		µg/L	10	6/29/98
Benzene	640	5		µg/L	10	6/29/98
Toluene	65	5		µg/L	10	6/29/98
Ethylbenzene	130	5		µg/L	10	6/29/98
m,p-Xylene	660	10		µg/L	10	6/29/98
o-Xylene	160	5		µg/L	10	6/29/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	MW-25
Lab ID:	9806097-14A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/25/98 9:50:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	3.2	1		µg/L	1	6/27/98
Benzene	32	0.5		µg/L	1	6/27/98
Toluene	58	0.5		µg/L	1	6/27/98
Ethylbenzene	8.5	0.5		µg/L	1	6/27/98
m,p-Xylene	63	1		µg/L	1	6/27/98
o-Xylene	28	0.5		µg/L	1	6/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806097	Client Sample ID:	T-13-3
Lab ID:	9806097-15A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/25/98 11:30:00 AM
		COC Record:	6113

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	670	20		µg/L	20	6/29/98
Benzene	3300	10		µg/L	20	6/29/98
Toluene	150	10		µg/L	20	6/29/98
Ethylbenzene	220	10		µg/L	20	6/29/98
m,p-Xylene	400	20		µg/L	20	6/29/98
o-Xylene	110	10		µg/L	20	6/29/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-9
Lab ID:	9806095-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 2:00:00 PM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	11	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-10
Lab ID:	9806095-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 11:54:00 AM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-11
Lab ID:	9806095-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 11:12:00 AM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: HR		
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-13
Lab ID:	9806095-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 2:49:00 PM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-15
Lab ID:	9806095-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 10:15:00 AM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-19
Lab ID:	9806095-07A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 3:45:00 PM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX						Analyst: HR
		SW8020A				
Methyl tert-Butyl Ether	130	1		µg/L	1	6/26/98
Benzene	60	0.5		µg/L	1	6/26/98
Toluene	7	0.5		µg/L	1	6/26/98
Ethylbenzene	280	2.5		µg/L	5	6/27/98
m,p-Xylene	340	5		µg/L	5	6/27/98
o-Xylene	1.9	0.5		µg/L	1	6/26/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-20
Lab ID:	9806095-08A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 5:40:00 PM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	91	1		µg/L	1	6/27/98
Benzene	4.8	0.5		µg/L	1	6/27/98
Toluene	7.5	0.5		µg/L	1	6/27/98
Ethylbenzene	7	0.5		µg/L	1	6/27/98
m,p-Xylene	3.1	1		µg/L	1	6/27/98
o-Xylene	0.5	0.5		µg/L	1	6/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-21
Lab ID:	9806095-09A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 5:05:00 PM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	80	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	1.8	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	0.5	0.5		µg/L	1	6/26/98

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Jul-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806095	Client Sample ID:	MW-22
Lab ID:	9806095-10A	Matrix:	AQUEOUS
Project:	Thriftway Refinery	Collection Date:	6/23/98 4:35:00 PM
		COC Record:	5255

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Methyl tert-Butyl Ether	24	1		µg/L	1	6/26/98
Benzene	ND	0.5		µg/L	1	6/26/98
Toluene	ND	0.5		µg/L	1	6/26/98
Ethylbenzene	ND	0.5		µg/L	1	6/26/98
m,p-Xylene	ND	1		µg/L	1	6/26/98
o-Xylene	ND	0.5		µg/L	1	6/26/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies,

Sample Receipt Checklist

Client Name **BIO1001**

Date and Time Receive

6/25/98

Work Order Number **9806097**

Received by **DC**

Checklist completed by

[Signature]
Signature

6/25/98
Date

Reviewed by

Initials *[Signature]*

Date **6/25/98**

Matrix: Aqueous

Carrier name: Ken Sinks

Shipping container/cooler in good condition?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☒	No ☐	Not Present ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☒
Water - pH acceptable upon receipt?	Yes ☒	No ☐	

Adjusted?

Checked by

Any No and/or NA (not applicable) response must be detailed in the comments section be

Client contacted **BIOTECH**

Date contacted: **6/25/98**

Person contacted **KEN SINKS**

Contacted by: **(DC)**

Regarding: **9806097-15A HEADSPACE IN VOA'A**

Comments:

9806097-15A HAS HEADSPACE GREATER THAN 0.25 INCHES^{cc}. SPOKE W/ KEN SINKS REGARDING, SAID SAMPLE EFFERVESCED UPON SAMPLING AND TO ANALYZE W/ FLAG.

Corrective Action

EXPLAINED TO KEN THAT IF HE ENCOUNTERED THIS PROBLEM AGAIN THAT HE SHOULD SAMPLE IN BOTTLE WITH OUT HCl AND NOTE ON COC FOR HOLDING TIME REQUIREMENTS (7 DAYS FOR VOLATILES W/ OUT HCl AND STILL KEPT @ 4°C).

9806097-15A WILL BE FLAGGED FOR NON-COMPLIANCE IN CASE NARRATIVE. (DC) 6/25/98

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806083-02AMS		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:												
Client ID:		9806097		Run ID:		GC-1_980627A		SeqNo: 3731														
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual
Benzene		1226		5		400		860.6		91.4%		56		128								
Ethylbenzene		485.2		5		400		91.26		98.5%		78		107								
m,p-Xylene		1347		10		800		604.6		92.8%		67		118								
Methyl tert-Butyl Ether		438.5		10		400		4.133		108.6%		70		130								
o-Xylene		509.2		5		400		136.4		93.2%		78		107								
Toluene		1905		5		400		1541		90.8%		74		116								

Sample ID: 9806083-02AMSD		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:	
Client ID: 9806097		Run ID: GC-1_980627A		PQL		SPK value		SeqNo: 3732			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1279	5	400	860.6	104.6%	56	128	1226	4.2%	12	
Ethylbenzene	506.8	5	400	91.26	103.9%	78	107	485.2	4.4%	11	
m,p-Xylene	1406	10	800	604.6	100.1%	67	118	1347	4.3%	10	
Methyl tert-Butyl Ether	446.3	10	400	4.133	110.5%	70	130	438.5	1.8%	15	
o-Xylene	530.5	5	400	136.4	98.5%	78	107	509.2	4.1%	14	
Toluene	1988	5	400	1541	111.7%	74	116	1905	4.3%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806108-01AMS		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806097		Run ID:		GC-1_980629A		SeqNo: 3790			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	804	10	800	9.574	99.3%	56	128				
Ethylbenzene	799.9	10	800	5.584	99.3%	78	107				
m,p-Xylene	1558	20	1600	35.42	95.2%	67	118				
Methyl tert-Butyl Ether	815.6	20	800	1.918	101.7%	70	130				
o-Xylene	811.5	10	800	30.23	97.7%	78	107				
Toluene	806.7	10	800	7.356	99.9%	74	116				

Sample ID: 9806108-01AMSD		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806097		Run ID:		GC-1_980629A		SeqNo: 3791			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	801.9	10	800	9.574	99.0%	56	128	804	0.3%	12	
Ethylbenzene	828.2	10	800	5.584	102.8%	78	107	799.9	3.5%	11	
m,p-Xylene	1599	20	1600	35.42	97.7%	67	118	1558	2.6%	10	
Methyl tert-Butyl Ether	793.5	20	800	1.918	99.0%	70	130	815.6	2.7%	15	
o-Xylene	810	10	800	30.23	97.5%	78	107	811.5	0.2%	14	
Toluene	805.6	10	800	7.356	99.8%	74	116	806.7	0.1%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980627	Test Code: SW8020A	Units: µg/L	Analysis Date 6/27/98		Prep Date:				
Client ID:	9806097	Run ID:	GC-1_980627A		SeqNo:	3729					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.59	0.5	40	0.0979	101.2%	56	128				
Ethylbenzene	41.49	0.5	40	0.1101	103.5%	78	107				
m,p-Xylene	79.6	1	80	0.2866	99.1%	67	118				
Methyl tert-Butyl Ether	45.06	1	40	0	112.6%	70	130				
o-Xylene	41.17	0.5	40	0.0998	102.7%	78	107				
Toluene	40.8	0.5	40	0.2004	101.5%	74	116				

Sample ID: LCS WATER	Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L	Analysis Date 6/29/98	Prep Date:						
Client ID:	9806097	Run ID: GC-1_980629A		SeqNo: 3788							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.9	0.5	40	0.0605	102.1%	56	128				
Ethylbenzene	41.34	0.5	40	0	103.4%	78	107				
m,p-Xylene	79.94	1	80	0	99.9%	67	118				
Methyl tert-Butyl Ether	39.65	1	40	0	99.1%	70	130				
o-Xylene	41.28	0.5	40	0	103.2%	78	107				
Toluene	41.14	0.5	40	0.0959	102.6%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980627	Test Code: SW8020A	Units: µg/L	Analysis Date 6/27/98		Prep Date:
Client ID: 9806097		Run ID: GC-1_980627A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 3726
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Benzene	20.17	0.5	20	0	100.9%	85	115
Ethylbenzene	20.46	0.5	20	0	102.3%	85	115
m,p-Xylene	38.97	1	40	0	97.4%	85	115
Methyl tert-Butyl Ether	22.36	1	20	0	111.8%	85	115
o-Xylene	20.33	0.5	20	0	101.7%	85	115
Toluene	20.3	0.5	20	0	101.5%	85	115
1,4-Difluorobenzene	92.77	0	100	0	92.8%	70	130
4-Bromochlorobenzene	85.37	0	100	0	85.4%	70	130
Fluorobenzene	92.66	0	100	0	92.7%	70	130

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980627	Test Code: SW8020A	Units: µg/L	Analysis Date 6/27/98		Prep Date:
Client ID: 9806097		Run ID: GC-1_980627A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 3727
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Benzene	19.14	0.5	20	0	95.7%	85	115
Ethylbenzene	20.22	0.5	20	0	101.1%	85	115
m,p-Xylene	37.86	1	40	0	94.7%	85	115
Methyl tert-Butyl Ether	19.15	1	20	0	95.7%	85	115
o-Xylene	19.46	0.5	20	0	97.3%	85	115
Toluene	19.42	0.5	20	0	97.1%	85	115
1,4-Difluorobenzene	92.31	0	100	0	92.3%	70	130
4-Bromochlorobenzene	79.07	0	100	0	79.1%	70	130
Fluorobenzene	92.28	0	100	0	92.3%	70	130

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:	
Client ID: 9806097		Run ID: GC-1_980627A		PQL		SPK value		SeqNo: 3728			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.32	0.5	20	0	101.6%	85	115				
Ethylbenzene	20.49	0.5	20	0	102.4%	85	115				
m,p-Xylene	38.9	1	40	0	97.2%	85	115				
o-Xylene	20.71	0.5	20	0	103.5%	85	115				
Toluene	20.51	0.5	20	0	102.5%	85	115				
1,4-Difluorobenzene	91.81	0	100	0	91.8%	70	130				
4-Bromochlorobenzene	87.88	0	100	0	87.9%	70	130				
Fluorobenzene	91.82	0	100	0	91.8%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID: 9806097		Run ID: GC-1_980629A		PQL		SPK value		SeqNo: 3783			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.81	0.5	20	0	109.0%	85	115				
Ethylbenzene	22.74	0.5	20	0	113.7%	85	115				
m,p-Xylene	43.02	1	40	0	107.6%	85	115				
Methyl tert-Butyl Ether	21.12	1	20	0	105.6%	85	115				
o-Xylene	21.94	0.5	20	0	109.7%	85	115				
Toluene	21.92	0.5	20	0	109.6%	85	115				
1,4-Difluorobenzene	92.74	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	78.19	0	100	0	78.2%	70	130				
Fluorobenzene	92.95	0	100	0	93.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID:		9806097		Run ID: GC-1_980629A				SeqNo: 3784			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115				
Ethylbenzene	20.86	0.5	20	0	104.3%	85	115				
m,p-Xylene	39.92	1	40	0	99.8%	85	115				
Methyl tert-Butyl Ether	21.44	1	20	0	107.2%	85	115				
o-Xylene	21.96	0.5	20	0	109.8%	85	115				
Toluene	20.91	0.5	20	0	104.6%	85	115				
1,4-Difluorobenzene	93.16	0	100	0	93.2%	70	130				
4-Bromochlorobenzene	82.4	0	100	0	82.4%	70	130				
Fluorobenzene	92.45	0	100	0	92.5%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980629	Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:		
Client ID:		9806097	Run ID:	GC-1_980629A			SeqNo:	3785			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.4	0.5	40	0	101.0%	85	115				
Ethylbenzene	41.74	0.5	40	0	104.3%	85	115				
m,p-Xylene	79.6	1	80	0	99.5%	85	115				
Methyl tert-Butyl Ether	38.21	1	40	0	95.5%	85	115				
o-Xylene	40.66	0.5	40	0	101.7%	85	115				
Toluene	40.64	0.5	40	0	101.6%	85	115				
1,4-Difluorobenzene	91.47	0	100	0	91.5%	70	130				
4-Bromochlorobenzene	76.37	0	100	0	76.4%	70	130				
Fluorobenzene	92.11	0	100	0	92.1%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID: 9806097		Run ID: GC-1_980629A		SeqNo: 3786							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.71	0.5	20	0	103.5%	85	115				
Ethylbenzene	21.81	0.5	20	0	109.1%	85	115				
m,p-Xylene	41.38	1	40	0	103.4%	85	115				
o-Xylene	20.98	0.5	20	0	104.9%	85	115				
Toluene	20.99	0.5	20	0	105.0%	85	115				
1,4-Difluorobenzene	91.74	0	100	0	91.7%	70	130				
4-Bromochlorobenzene	69.12	0	100	0	69.1%	70	130				S
Fluorobenzene	92.31	0	100	0	92.3%	70	130				

Sample ID: CCV5 QC0529/30		Batch ID: GC-1_980629		Test Code: SW8020A		Units: µg/L		Analysis Date 6/29/98		Prep Date:	
Client ID: 9806097		Run ID: GC-1_980629A		SeqNo: 3787							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.56	0.5	20	0	102.8%	85	115				
Ethylbenzene	20.99	0.5	20	0	105.0%	85	115				
m,p-Xylene	40.25	1	40	0	100.6%	85	115				
o-Xylene	20.86	0.5	20	0	104.3%	85	115				
Toluene	20.94	0.5	20	0	104.7%	85	115				
1,4-Difluorobenzene	91.64	0	100	0	91.6%	70	130				
4-Bromochlorobenzene	67.61	0	100	0	67.6%	70	130				S
Fluorobenzene	91.88	0	100	0	91.9%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806083-02AMS	89.8	84.2	90.9					
9806083-02AMSD	90.3	84	90.7					
9806095-08A	89.5	83.7	89.5					
9806097-01A	90.6	60 *	90.8					
9806097-02A	91.1	90	91.5					
9806097-03A	92.2	82.2	92.3					
9806097-04A	90.9	80.2	90.6					
9806097-05A	0 *	79.3	53.4 *					
9806097-06A	91.5	54.3 *	90.3					
9806097-07A	92.5	77.5	92.7					
9806097-08A	90.2	55.1 *	90.5					
9806097-09A	89.3	81.5	90.4					
9806097-10A	93.4	86.2	93.1					
9806097-11A	93.2	85.6	93.5					
9806097-12A	90.8	83.3	91.3					
9806097-13A	90.8	82.6	91.5					
9806097-14A	91	125	91.1					
9806097-15A	92.6	81.8	91.9					
9806108-01A	91.3	70.4	91.7					
9806108-01AMS	92.2	84.3	92.7					
9806108-01AMSD	92.1	80	92.5					
9806108-02A	91.1	60 *	91.1					
9806108-03A	91	54.8 *	90.3					
9806109-01A	91.5	68.4 *	92.7					
9806115-01A	87	76.1	89.4					
CCV1 QC0529/30	92.7	78.2	93					
CCV2 QC0529/30	93.2	82.4	92.4					

Acronym

Surrogate

QC Limits

14FBZ

= 1,4-Difluorobenzene

70-130

4BCBZ

= 4-Bromochlorobenzene

70-130

FLBZ

= Fluorobenzene

70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9806097
Project: Thriftway Refinery
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
CCV3 QC0529/30	91.5	76.4	92.1					
CCV4 QC0529/30	91.7	69.1 *	92.3					
CCV5 QC0529/30	91.6	67.6 *	91.9					
LCS WATER	92.4	78.2	92.3					
MBI	93.2	72.5	93					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806097

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980627	Test Code: SW8020A	Units: µg/L	Analysis Date 6/27/98	Prep Date:
Client ID:	9806097	Run ID: GC-1_980627A		SeqNo: 3730	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0979	0.5			J
Ethylbenzene	.1101	0.5			J
m,p-Xylene	.2866	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.0998	0.5			J
Toluene	.2004	0.5			J

Sample ID: MB1	Batch ID: GC-1_980629	Test Code: SW8020A	Units: µg/L	Analysis Date 6/29/98	Prep Date:
Client ID:	9806097	Run ID: GC-1_980629A		SeqNo: 3789	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0605	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	ND	1			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0959	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CHAIN OF CUSTODY RECORD

6113

ON SITE

Page 1 of 2

6/25/98

Date:

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

TECHNOLOGIES, LTD.

Purchase Order No.: 598-347		Job No.		Name: Texas Gr. Hdr		Title:	
SEND INVOICE TO		Name: Same		Company: Biotech Remediation, Inc		Mailing Address: 710 E. 20th St, Suite 400	
		Address:		City, State, Zip: Farmington, NM 87401		Telephone No.: 327-4965	
		City, State, Zip:		Telefax No.:			
Sampling Location: Thru. Atway Refinery				ANALYSIS REQUESTED			
626 Rd 5500							
Blossm field, NM 87403							
Sampler: Ken Sinks							
SAMPLE IDENTIFICATION		SAMPLE DATE		MATRIX		PRES.	
MW-1		6/27 1205		H2O		H2O and	
MW-3		1559					
MW-5		1040					
MW-6		1525					
MW-7		1450					
MW-14		1700					
MW-16		1717					
MW-18		1635					
MW-29		1710					
Travel Blank		0900					
Travel Blank		6/25 0920					
MW-24		6/25 0935					
Relinquished by: Ken Sinks		Date/Time: 6/25/98 1517		Received by: DEA		Date/Time: 6/25/98 1517	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Method of Shipment:		Rush		24-48 Hours		10 Working Days	
Authorized by: Ken Sinks		Date: 6/25/98		Special Instructions:			
Client Signature Must Accompany Request)							

CHAIN OF CUSTODY RECORD

ON SITE

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806095

Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980626	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/26/98	Prep Date:
Client ID:	9806095	Run ID: GC-1_980626B		SeqNo: 3712	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0354	0.5			J
Ethylbenzene	.1588	0.5			J
m,p-Xylene	.2269	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.1206	0.5			J
Toluene	.0987	0.5			J

Sample ID: MB1	Batch ID: GC-1_980627	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/27/98	Prep Date:
Client ID:	9806095	Run ID: GC-1_980627A		SeqNo: 3730	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0979	0.5			J
Ethylbenzene	.1101	0.5			J
m,p-Xylene	.2866	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.0998	0.5			J
Toluene	.2004	0.5			J

Qualifiers:

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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806095

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806071-02AMS		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:			
Client ID: 9806095		Run ID: GC-1_980626B		PQL		SPK value		SeqNo: 3713					
Analyte	Result			PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1885			5	400	1500	96.3%	56	128				
Ethylbenzene	982.6			5	400	580	100.7%	78	107				
m,p-Xylene	1771			10	800	990	97.6%	67	118				
Methyl tert-Butyl Ether	478.9			10	400	32	111.7%	70	130				
o-Xylene	743.7			5	400	360	95.9%	78	107				
Toluene	1144			5	400	750	98.5%	74	116				

Sample ID: 9806071-02AMSD		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:	
Client ID: 9806095		Run ID: GC-1_980626B		PQL		SPK value		SeqNo: 3714			
Analyte	Result										
Benzene	1808	5	400	1500	76.9%	56	128	1885	4.2%	12	
Ethylbenzene	941.9	5	400	580	90.5%	78	107	982.6	4.2%	11	
m,p-Xylene	1700	10	800	990	88.7%	67	118	1771	4.1%	10	
Methyl tert-Butyl Ether	471.3	10	400	32	109.8%	70	130	478.9	1.6%	15	
o-Xylene	715	5	400	360	88.8%	78	107	743.7	3.9%	14	
Toluene	1098	5	400	750	86.9%	74	116	1144	4.1%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9806095
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806083-02AMS		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:	
Client ID: 9806095		Run ID: GC-1_980627A		SeqNo: 3731							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1226	5	400	860.6	91.4%	56	128				
Ethylbenzene	485.2	5	400	91.26	98.5%	78	107				
m,p-Xylene	1347	10	800	604.6	92.8%	67	118				
Methyl tert-Butyl Ether	438.5	10	400	4.133	108.6%	70	130				
o-Xylene	509.2	5	400	136.4	93.2%	78	107				
Toluene	1905	5	400	1541	90.8%	74	116				

Sample ID: 9806083-02AMSD		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:	
Client ID: 9806095		Run ID: GC-1_980627A		SeqNo: 3732							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1279	5	400	860.6	104.6%	56	128	1226	4.2%	12	
Ethylbenzene	506.8	5	400	91.26	103.9%	78	107	485.2	4.4%	11	
m,p-Xylene	1406	10	800	604.6	100.1%	67	118	1347	4.3%	10	
Methyl tert-Butyl Ether	446.3	10	400	4.133	110.5%	70	130	438.5	1.8%	15	
o-Xylene	530.5	5	400	136.4	98.5%	78	107	509.2	4.1%	14	
Toluene	1988	5	400	1541	111.7%	74	116	1905	4.3%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9806095
Project: Thriftway Refinery

Date: 01-Jul-98

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980626	Test Code: SW8020A	Units: µg/L	Analysis Date 6/26/98	Prep Date:
Client ID: 9806095	Run ID: GC-1_980626B	PQL	SPK value	SeqNo: 3711	
Analyte	Result	QQL	SPK Ref Val	LowLimit	HighLimit
Benzene	41.07	0.5	0.0354	56	128
Ethylbenzene	42.06	0.5	0.1588	78	107
m,p-Xylene	80.77	1	0.2269	67	118
Methyl tert-Butyl Ether	44.05	1	0	70	130
o-Xylene	41.54	0.5	0.1206	78	107
Toluene	41.33	0.5	0.0987	74	116
				%REC	RPD Ref Val
				102.6%	
				104.7%	
				100.7%	
				110.1%	
				103.6%	
				103.1%	
				%RPD	RPDLimit
					Qual

Sample ID: LCS WATER	Batch ID: GC-1_980627	Test Code: SW8020A	Units: µg/L	Analysis Date 6/27/98	Prep Date:
Client ID: 9806095	Run ID: GC-1_980627A	PQL	SPK value	SeqNo: 3729	
Analyte	Result	QQL	SPK Ref Val	LowLimit	HighLimit
Benzene	40.59	0.5	0.0979	56	128
Ethylbenzene	41.49	0.5	0.1101	78	107
m,p-Xylene	79.6	1	0.2866	67	118
Methyl tert-Butyl Ether	45.06	1	0	70	130
o-Xylene	41.17	0.5	0.0998	78	107
Toluene	40.8	0.5	0.2004	74	116
				%REC	RPD Ref Val
				101.2%	
				103.5%	
				99.1%	
				112.6%	
				102.7%	
				101.5%	
				%RPD	RPDLimit
					Qual

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806095

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/26/98		Prep Date:	
Client ID: 9806095		Run ID:		GC-1_980626B				SeqNo: 3708			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.54	0.5	20	0	107.7%	85	115				
Ethylbenzene	22.08	0.5	20	0	110.4%	85	115				
m,p-Xylene	42.12	1	40	0	105.3%	85	115				
Methyl tert-Butyl Ether	23.75	1	20	0	118.7%	85	115				
o-Xylene	21.73	0.5	20	0	108.7%	85	115				
Toluene	21.67	0.5	20	0	108.4%	85	115				
1,4-Difluorobenzene	93.05	0	100	0	93.1%	70	130				
4-Bromochlorobenzene	84.53	0	100	0	84.5%	70	130				
Fluorobenzene	92.92	0	100	0	92.9%	70	130				

SV
CONFIRMED
CCV1/CCV2
9.8.2.20

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/26/98		Prep Date:	
Client ID: 9806095		Run ID:		GC-1_980626B				SeqNo: 3709			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.22	0.5	20	0	101.1%	85	115				
Ethylbenzene	21.22	0.5	20	0	106.1%	85	115				
m,p-Xylene	39.72	1	40	0	99.3%	85	115				
Methyl tert-Butyl Ether	17.62	1	20	0	88.1%	85	115				
o-Xylene	20.36	0.5	20	0	101.8%	85	115				
Toluene	20.4	0.5	20	0	102.0%	85	115				
1,4-Difluorobenzene	92.57	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	72.38	0	100	0	72.4%	70	130				
Fluorobenzene	92.38	0	100	0	92.4%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806095

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980626		Test Code: SW8020A		Units: µg/L		Analysis Date 6/26/98		Prep Date:	
Client ID: 9806095		Run ID: GC-1_980626B		PQL		SPK value		SeqNo: 3710			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.34	0.5	20	0	101.7%	85	115				
Ethylbenzene	20.56	0.5	20	0	102.8%	85	115				
m,p-Xylene	39.15	1	40	0	97.9%	85	115				
Methyl tert-Butyl Ether	20.77	1	20	0	103.9%	85	115				
o-Xylene	20.52	0.5	20	0	102.6%	85	115				
Toluene	20.41	0.5	20	0	102.1%	85	115				
1,4-Difluorobenzene	92.79	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	83.34	0	100	0	83.3%	70	130				
Fluorobenzene	92.67	0	100	0	92.7%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:	
Client ID: 9806095		Run ID: GC-1_980627A		PQL		SPK value		SeqNo: 3726			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.17	0.5	20	0	100.9%	85	115				
Ethylbenzene	20.46	0.5	20	0	102.3%	85	115				
m,p-Xylene	38.97	1	40	0	97.4%	85	115				
Methyl tert-Butyl Ether	22.36	1	20	0	111.8%	85	115				
o-Xylene	20.33	0.5	20	0	101.7%	85	115				
Toluene	20.3	0.5	20	0	101.5%	85	115				
1,4-Difluorobenzene	92.77	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	85.37	0	100	0	85.4%	70	130				
Fluorobenzene	92.66	0	100	0	92.7%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806095

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:	
Client ID: 9806095		Run ID: GC-1_980627A						SeqNo: 3727			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.14	0.5	20	0	95.7%	85	115				
Ethylbenzene	20.22	0.5	20	0	101.1%	85	115				
m,p-Xylene	37.86	1	40	0	94.7%	85	115				
Methyl tert-Butyl Ether	19.15	1	20	0	95.7%	85	115				
o-Xylene	19.46	0.5	20	0	97.3%	85	115				
Toluene	19.42	0.5	20	0	97.1%	85	115				
1,4-Difluorobenzene	92.31	0	100	0	92.3%	70	130				
4-Bromochlorobenzene	79.07	0	100	0	79.1%	70	130				
Fluorobenzene	92.28	0	100	0	92.3%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980627		Test Code: SW8020A		Units: µg/L		Analysis Date 6/27/98		Prep Date:		
Client ID:		9806095		Run ID:		GC-1_980627A		SeqNo: 3728				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		20.32	0.5	20	0	101.6%	85	115				
Ethylbenzene		20.49	0.5	20	0	102.4%	85	115				
m,p-Xylene		38.9	1	40	0	97.2%	85	115				
o-Xylene		20.71	0.5	20	0	103.5%	85	115				
Toluene		20.51	0.5	20	0	102.5%	85	115				
1,4-Difluorobenzene		91.81	0	100	0	91.8%	70	130				
4-Bromochlorobenzene		87.88	0	100	0	87.9%	70	130				
Fluorobenzene		91.82	0	100	0	91.8%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Jul-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806095

Project: Thriftway Refinery

Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806071-01A	94.8	74.1	92.4					
9806071-02A	97	72.1	95.4					
9806071-02AMS	97.7	73.6	95.2					
9806071-02AMSD	97.4	74.2	95.2					
9806071-03A	93.3	86.9	93.4					
9806082-01A	87.9	71.3	93.8					
9806082-02A	89.8	66.1 *	95.3					
9806083-01A	92.9	68.7 *	92.8					
9806083-02A	92.8	72.2	92.3					
9806083-02AMS	89.8	84.2	90.9					
9806083-02AMSD	90.3	84	90.7					
9806084-01A	92.4	60.3 *	91.9					
9806084-02A	92.9	69.3 *	92.5					
9806084-03A	92.9	69.9 *	92.5					
9806095-01A	93.5	87.5	93.4					
9806095-02A	93.4	84.6	93.1					
9806095-03A	92.8	71.3	92.9					
9806095-04A	93.4	70.3	93.1					
9806095-05A	91.5	52.7 *	91.1					
9806095-06A	89.8	47.2 *	89.7					
9806095-07A	79	71.7	84.4					
9806095-08A	89.5	83.7	89.5					
9806095-09A	91.9	73.3	91.9					
9806095-10A	92.7	70.2	92.7					
9806097-02A	91.1	90	91.5					
9806097-03A	92.2	82.2	92.3					
9806097-04A	90.9	80.2	90.6					

Acronym

Surrogate

QC Limits

14FBZ

= 1,4-Difluorobenzene

70-130

4BCBZ

= 4-Bromochlorobenzene

70-130

FLBZ

= Fluorobenzene

70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9806095
Project: Thriftway Refinery
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806097-05A	0 *	79.3	53.4 *					
9806097-08A	92.9	84.1	91.1					
9806097-10A	93.4	86.2	93.1					
9806097-11A	93.2	85.6	93.5					
CCV1 QC0529/30	92.8	85.4	92.7					
CCV2 QC0529/30	92.3	79.1	92.3					
CCV3 QC0529/30	91.8	87.9	91.8					
LCS WATER	92.2	85.6	92.5					
MB1	93	83.9	93.2					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

ON SITE

CHAIN OF CUSTODY RECORD

Page 1 of 1

Date: 6/24/98

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: B98-347		Job No.	
Name: Same		Title:	
Company: Same		Company: BioTech Remediation, Inc	
Address:		Mailing Address: 210 E. 20th St, Suite 400	
City, State, Zip:		City, State, Zip: Farmington, NM 87401	
Telephone No.:		Telephone No.: 505-322-4965	
Telefax No.:		Telefax No.:	
Sampling Location: Thattway Refinery 626 Rd. 5500 Bloomfield, NM 87401		ANALYSIS REQUESTED	
Sampler: Ken Sinks		LAB ID	
SEND INVOICE TO		RESULTS TO	
Number of Containers		REPORT TO	
SAMPLE IDENTIFICATION		SAMPLE DATE	
TIME		MATRIX	
PRES.		DATE	
Travel Blank		6/23 0900 H2O ga	
MW-9		1400	
MW-10		1158	
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MW-12		1449	
MW-13		1015	
MW-14		1585	
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MW-16		1705	
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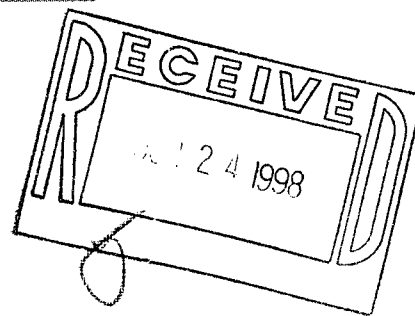
OFF: (505) 325-5667



LAB: (505) 325-1556

June 18, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Air Stripper

Order No.: 9806052

Dear Terry Griffin,

On Site Technologies, LTD. received 3 samples on 6/12/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 18-Jun-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Air Stripper
Lab Order: 9806052

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806052	Client Sample ID:	Stripper Effluent
Lab ID:	9806052-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	6/11/98 5:22:00 PM
		COC Record:	5144

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX						
		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	17	1		µg/L	1	6/16/98
Benzene	120	0.5		µg/L	1	6/16/98
Toluene	61	0.5		µg/L	1	6/16/98
Ethylbenzene	50	0.5		µg/L	1	6/16/98
m,p-Xylene	94	1		µg/L	1	6/16/98
o-Xylene	38	0.5		µg/L	1	6/16/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client: BioTech Remediation, Inc.
Work Order: 9806052
Lab ID: 9806052-02A **Matrix:** AQUEOUS
Project: Thriftway Refinery Air Stripper

Client Sample Info: Thriftway Refinery
Client Sample ID: Stripper Influent
Collection Date: 6/11/98 5:27:00 PM
COC Record: 5144

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	22	20		µg/L	20	6/16/98
Benzene	1000	10		µg/L	20	6/16/98
Toluene	510	10		µg/L	20	6/16/98
Ethylbenzene	400	10		µg/L	20	6/16/98
m,p-Xylene	740	20		µg/L	20	6/16/98
o-Xylene	240	10		µg/L	20	6/16/98

Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Jun-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806052	Client Sample ID:	Travel Blank
Lab ID:	9806052-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	6/11/98 4:30:00 PM
		COC Record:	5144

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/16/98
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 18-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806052
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID:	9806052	Run ID:	GC-1_980616A	SeqNo: 3136	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0478	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.1193	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0988	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806052
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806052-02AMS		Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98		Prep Date:				
Client ID: Stripper Influent	9806052	Run ID: GC-1_980616A			SeqNo: 3137						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1823	10	800	1021	100.3%	56	128				
Ethylbenzene	1178	10	800	404.6	96.7%	78	107				
m,p-Xylene	2263	20	1600	739.2	95.2%	67	118				
Methyl tert-Butyl Ether	776.8	20	800	22.28	94.3%	70	130				
o-Xylene	1042	10	800	243.9	99.8%	78	107				
Toluene	1298	10	800	507.9	98.8%	74	116				

Sample ID: 9806052-02AMSD		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: Stripper Influent		9806052		Run ID: GC-1_980616A				SeqNo: 3138			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1771	10	800	1021	93.8%	56	128	1823	2.9%	12	
Ethylbenzene	1146	10	800	404.6	92.7%	78	107	1178	2.7%	11	
m,p-Xylene	2188	20	1600	739.2	90.6%	67	118	2263	3.3%	10	
Methyl tert-Butyl Ether	760.7	20	800	22.28	92.3%	70	130	776.8	2.1%	15	
o-Xylene	1026	10	800	243.9	97.8%	78	107	1042	1.5%	14	
Toluene	1264	10	800	507.9	94.5%	74	116	1298	2.7%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.

Work Order: 9806052

Project: Thriftway Refinery Air Stripper

Date: 18-Jun-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:						
Client ID: 9806052	Run ID: GC-1_980616A	PQL	SPK value	SeqNo: 3132							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.71	0.5	20	0	108.5%	85	115				
Ethylbenzene	22.4	0.5	20	0	112.0%	85	115				
m,p-Xylene	42.29	1	40	0	105.7%	85	115				
Methyl tert-Butyl Ether	23.12	1	20	0	115.6%✓	85	115				
o-Xylene	21.74	0.5	20	0	108.7%	85	115				
Toluene	21.52	0.5	20	0	107.6%	85	115				
1,4-Difluorobenzene	93.47	0	100	0	93.5%	70	130				
4-Bromochlorobenzene	85.45	0	100	0	85.4%	70	130				
Fluorobenzene	93.66	0	100	0	93.7%	70	130				

S

6/16

S 6/16/98

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID:		9806052		Run ID:		GC-1_980616A		SeqNo: 3133			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.3	0.5	20	0	106.5%	85	115				
m,p-Xylene	39.94	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	21.29	1	20	0	106.5%	85	115				
o-Xylene	21.45	0.5	20	0	107.2%	85	115				
Toluene	20.47	0.5	20	0	102.3%	85	115				
1,4-Difluorobenzene	93.62	0	100	0	93.6%	70	130				
4-Bromochlorobenzene	83.56	0	100	0	83.6%	70	130				
Fluorobenzene	93.34	0	100	0	93.3%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806052

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98		Prep Date:					
Client ID: 9806052		Run ID: GC-1_980616A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	40.28		0.5	40	0	100.7%	85	115				
Ethylbenzene	40.18		0.5	40	0	100.5%	85	115				
m,p-Xylene	77.38		1	80	0	96.7%	85	115				
Methyl tert-Butyl Ether	37.36		1	40	0	93.4%	85	115				
o-Xylene	40.35		0.5	40	0	100.9%	85	115				
Toluene	40.24		0.5	40	0	100.6%	85	115				
1,4-Difluorobenzene	92.6		0	100	0	92.6%	70	130				
4-Bromochlorobenzene	80.3		0	100	0	80.3%	70	130				
Fluorobenzene	93.09		0	100	0	93.1%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806052
Project: Thriftway Refinery Air Stripper
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806014-03A	92.3	86.2	93					
9806014-04A	91.9	86.7	92.8					
9806014-05A	92	86.3	93.2					
9806043-03A	93.3	84	94.6					
9806043-04A	93.2	82.9	94.6					
9806044-03A	93.8	86.5	94					
9806044-04A	92.3	85.8	95.6					
9806044-05A	93.3	86.1	94.2					
9806045-01A	90.2	84.9	91.2					
9806052-01A	90.4	83.2	90.4					
9806052-02A	92.4	75.5	93.2					
9806052-02AMS	91.9	86.3	92.5					
9806052-02AMSD	92.4	85.4	92.6					
9806052-03A	93.5	85.8	94.6					
9806053-01A	99.2	103	125					
9806053-02A	93.4	82.8	94.1					
9806053-03A	93.5	82.4	94.1					
9806054-01A	93.3	82.3	94.3					
9806054-02A	93.6	81.9	94					
9806055-01A	94	81.1	93.8					
9806055-02A	91.8	81.8	93.8					
9806058-01A	93.8	85.9	94.1					
9806058-02A	97.8	82.9	93.9					
9806063-01A	94.8	84	94.4					
9806063-02A	93.6	87.3	94.6					
CCV1 QC0529/30	93.5	85.4	93.7					
CCV2 QC0529/30	93.6	83.6	93.3					

Acronym

Surrogate

QC Limits

14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9806052
Project: Thriftway Refinery Air Stripper
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
CCV3 QC0529/30	92.6	80.3	93.1					
LCS WATER	93.8	85.4	93.7					
MB1	93.6	84.4	94.4					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

[illegible]

Distribution:	White - On Site	Yellow - LAB	Pink	Sampler	Goldenrod	Client
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TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

LAB: (505) 325-5667 • FAX: (505) 325-6256

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

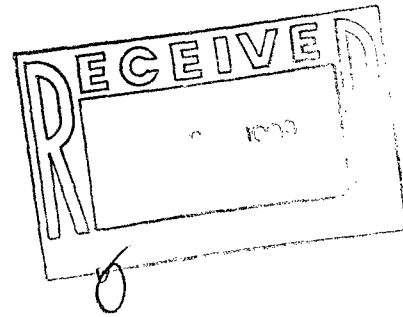
OFF: (505) 325-5667



LAB: (505) 325-1556

June 22, 1998

Ross Kennemer
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Air Stripper

Order No.: 9806058

Dear Ross Kennemer,

On Site Technologies, LTD. received 2 samples on 6/15/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Air Stripper
Lab Order: 9806058

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Jun-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806058	Client Sample ID:	Travel Blank
Lab ID:	9806058-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	6/12/98 9:00:00 AM
		COC Record:	5150

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/16/98
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Jun-98

Client: BioTech Remediation, Inc.
Work Order: 9806058
Lab ID: 9806058-02A **Matrix:** AQUEOUS
Project: Thriftway Refinery Air Stripper

Client Sample Info: Thriftway Refinery
Client Sample ID: Stripper Effluent
Collection Date: 6/12/98 10:30:00 AM
COC Record: 5150

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	19	1		µg/L	1	6/16/98
Benzene	240	2.5		µg/L	5	6/17/98
Toluene	100	0.5		µg/L	1	6/16/98
Ethylbenzene	110	0.5		µg/L	1	6/16/98
m,p-Xylene	150	1		µg/L	1	6/16/98
o-Xylene	49	0.5		µg/L	1	6/16/98

Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper

Date: 22-Jun-98

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID:	9806058	Run ID: GC-1_980616A		SeqNo: 3136	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0478	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.1193	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0988	0.5			J

Sample ID: MB1	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:
Client ID:	9806058	Run ID: GC-1_980617A		SeqNo: 3179	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0648	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.2322	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0819	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806052-02AMS	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID: 9806058	Run ID: GC-1_980616A	PQL	SPK value	SeqNo: 3137	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit
Benzene	1823	10	800	1021	128
Ethylbenzene	1178	10	800	404.6	107
m,p-Xylene	2263	20	1600	739.2	118
Methyl tert-Butyl Ether	776.8	20	800	22.28	130
o-Xylene	1042	10	800	243.9	107
Toluene	1298	10	800	507.9	116
				%REC	RPDLimit
				100.3%	2.9%
				96.7%	2.7%
				95.2%	3.3%
				94.3%	2.1%
				99.8%	1.5%
				98.8%	2.7%

Sample ID: 9806052-02AMS	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID: 9806058	Run ID: GC-1_980616A	PQL	SPK value	SeqNo: 3138	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit
Benzene	1771	10	800	1021	128
Ethylbenzene	1146	10	800	404.6	107
m,p-Xylene	2188	20	1600	739.2	118
Methyl tert-Butyl Ether	760.7	20	800	22.28	130
o-Xylene	1026	10	800	243.9	107
Toluene	1264	10	800	507.9	116
				%REC	RPDLimit
				93.8%	2.9%
				92.7%	2.7%
				90.6%	3.3%
				92.3%	2.1%
				97.8%	1.5%
				94.5%	2.7%

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806053-01AMS		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID:		9806058		Run ID:		GC-1_980617A		SeqNo: 3180			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	429.5	5	400	36.48	98.3%	56	128				
Ethylbenzene	701.9	5	400	321.6	95.1%	78	107				
m,p-Xylene	3739	10	800	2933	100.6%	67	118				
Methyl tert-Butyl Ether	434.7	10	400	5.234	107.4%	70	130				
o-Xylene	390	5	400	3.084	96.7%	78	107				
Toluene	401.2	5	400	15.91	96.3%	74	116				

Sample ID: 9806053-01AMSD		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID:		9806058		Run ID:		GC-1_980617A		SeqNo: 3181			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	445.6	5	400	36.48	102.3%	56	128	429.5	3.7%	12	
Ethylbenzene	732.2	5	400	321.6	102.7%	78	107	701.9	4.2%	11	
m,p-Xylene	3903	10	800	2933	121.2%	67	118	3739	4.3%	10	
Methyl tert-Butyl Ether	448.3	10	400	5.234	110.8%	70	130	434.7	3.1%	15	
o-Xylene	419.7	5	400	3.084	104.1%	78	107	390	7.3%	14	
Toluene	415.6	5	400	15.91	99.9%	74	116	401.2	3.5%	14	

S ✓
CONFIDENTIAL
6/17/98
JL

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID: 9806058	Run ID: GC-1_980616A	PQL	SPK value	SeqNo: 3135	
Analyte	Result	SPK value	SPK Ref Val	LowLimit	HighLimit
Benzene	41.01	0.5	0.0478	56	128
Ethylbenzene	41.79	0.5	0	78	107
m,p-Xylene	79.51	1	0.1193	67	118
Methyl tert-Butyl Ether	44.96	1	0	70	130
o-Xylene	40.79	0.5	0	78	107
Toluene	40.42	0.5	0.0988	74	116
				%REC	RPD Ref Val
				102.4%	
				104.5%	
				99.2%	
				112.4%	
				102.0%	
				100.8%	
				%RPD	RPDLimit
					Qual

Sample ID: LCS WATER	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:
Client ID: 9806058	Run ID: GC-1_980617A	PQL	SPK value	SeqNo: 3178	
Analyte	Result	SPK value	SPK Ref Val	LowLimit	HighLimit
Benzene	40.22	0.5	0.0648	56	128
Ethylbenzene	40.16	0.5	0	78	107
m,p-Xylene	77.22	1	0.2322	67	118
Methyl tert-Butyl Ether	40.63	1	0	70	130
o-Xylene	39.94	0.5	0	78	107
Toluene	39.73	0.5	0.0819	74	116
				%REC	RPD Ref Val
				100.4%	
				100.4%	
				96.2%	
				101.6%	
				99.8%	
				99.1%	
				%RPD	RPDLimit
					Qual

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806058

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98			Prep Date:			
Client ID: 9806058		Run ID: GC-1_980616A				SeqNo: 3132					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.71	0.5	20	0	108.5%	85	115				
Ethylbenzene	22.4	0.5	20	0	112.0%	85	115				
m,p-Xylene	42.29	1	40	0	105.7%	85	115				
Methyl tert-Butyl Ether	23.12	1	20	0	115.6%	85	115				S
o-Xylene	21.74	0.5	20	0	108.7%	85	115				
Toluene	21.52	0.5	20	0	107.6%	85	115				
1,4-Difluorobenzene	93.47	0	100	0	93.5%	70	130				
4-Bromochlorobenzene	85.45	0	100	0	85.4%	70	130				
Fluorobenzene	93.66	0	100	0	93.7%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98				Prep Date:		
Client ID: 9806058		Run ID: GC-1_980616A			SeqNo: 3133						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.3	0.5	20	0	106.5%	85	115				
m,p-Xylene	39.94	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	21.29	1	20	0	106.5%	85	115				
o-Xylene	21.45	0.5	20	0	107.2%	85	115				
Toluene	20.47	0.5	20	0	102.3%	85	115				
1,4-Difluorobenzene	93.62	0	100	0	93.6%	70	130				
4-Bromochlorobenzene	83.56	0	100	0	83.6%	70	130				
Fluorobenzene	93.34	0	100	0	93.3%	70	130				

Qualifiers:

NID - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806058		Run ID: GC-1_980616A		PQL		SPK value		SeqNo: 3134			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.28	0.5	40	0	100.7%	85	115				
Ethylbenzene	40.18	0.5	40	0	100.5%	85	115				
m,p-Xylene	77.38	1	80	0	96.7%	85	115				
Methyl tert-Butyl Ether	37.36	1	40	0	93.4%	85	115				
o-Xylene	40.35	0.5	40	0	100.9%	85	115				
Toluene	40.24	0.5	40	0	100.6%	85	115				
1,4-Difluorobenzene	92.6	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	80.3	0	100	0	80.3%	70	130				
Fluorobenzene	93.09	0	100	0	93.1%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID: 9806058		Run ID: GC-1_980617A		PQL		SPK value		SeqNo: 3175			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115				
Ethylbenzene	21.03	0.5	20	0	105.2%	85	115				
m,p-Xylene	40.25	1	40	0	100.6%	85	115				
Methyl tert-Butyl Ether	20.4	1	20	0	102.0%	85	115				
o-Xylene	20.74	0.5	20	0	103.7%	85	115				
Toluene	20.64	0.5	20	0	103.2%	85	115				
1,4-Difluorobenzene	94.02	0	100	0	94.0%	70	130				
4-Bromochlorobenzene	80.22	0	100	0	80.2%	70	130				
Fluorobenzene	93.82	0	100	0	93.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Continuing Calibration Verification Standard

CLIENT: BioTech Remediation, Inc.
 Work Order: 9806058
 Project: Thriftway Refinery Air Stripper

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID:		9806058		Run ID:		GC-1_980617A		SeqNo:		3176	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.14	0.5	40	0	100.4%	85	115				
Ethylbenzene	41.08	0.5	40	0	102.7%	85	115				
m,p-Xylene	77.94	1	80	0	97.4%	85	115				
Methyl tert-Butyl Ether	42.36	1	40	0	105.9%	85	115				
o-Xylene	39.57	0.5	40	0	98.9%	85	115				
Toluene	39.74	0.5	40	0	99.3%	85	115				
1,4-Difluorobenzene	92.73	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	72.28	0	100	0	72.3%	70	130				
Fluorobenzene	93.22	0	100	0	93.2%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID:		9806058		Run ID:		GC-1_980617A		SeqNo: 3177			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.2	0.5	20	0	101.0%	85	115				
Ethylbenzene	21.06	0.5	20	0	105.3%	85	115				
m,p-Xylene	39.89	1	40	0	99.7%	85	115				
Methyl tert-Butyl Ether	21.56	1	20	0	107.8%	85	115				
o-Xylene	20.24	0.5	20	0	101.2%	85	115				
Toluene	20.28	0.5	20	0	101.4%	85	115				
1,4-Difluorobenzene	92.87	0	100	0	92.9%	70	130				
4-Bromochlorobenzene	72.41	0	100	0	72.4%	70	130				
Fluorobenzene	93.3	0	100	0	93.3%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806014-03A	92.3	86.2	93					
9806014-04A	91.9	86.7	92.8					
9806014-05A	92	86.3	93.2					
9806043-03A	93.3	84	94.6					
9806043-04A	93.2	82.9	94.6					
9806044-03A	93.8	86.5	94					
9806044-04A	92.3	85.8	95.6					
9806044-05A	93.3	86.1	94.2					
9806045-01A	90.2	84.9	91.2					
9806052-01A	90.4	83.2	90.4					
9806052-02A	92.4	75.5	93.2					
9806052-02AMS	91.9	86.3	92.5					
9806052-02AMSD	92.4	85.4	92.6					
9806052-03A	93.5	85.8	94.6					
9806053-01A	94.8	74.8	97.2					
9806053-01AMS	94.6	75	96.4					
9806053-01AMSD	94.6	76.7	96.4					
9806053-02A	93.4	82.8	94.1					
9806053-03A	93.5	82.4	94.1					
9806054-01A	93.3	82.3	94.3					
9806054-02A	93.6	81.9	94					
9806055-01A	94	81.1	93.8					
9806055-02A	91.8	81.8	93.8					
9806057-01A	93.6	84.3	94.2					
9806057-02A	87.9	72.6	90.7					
9806057-03A	93.4	81.6	93.8					
9806057-04A	93.4	78.8	94.6					

Acronym

Surrogate

QC Limits

14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9806058
Project: Thriftway Refinery Air Stripper
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806057-05A	93.3	80.1	94.4					
9806058-01A	93.8	85.9	94.1					
9806058-02A	92.2	74.3	92.7					
9806059-02A	93.5	81.1	94.2					
9806059-03A	93.2	82.6	94.4					
9806059-04A	93.4	82.8	94.3					
9806059-05A	93.2	83.6	94.4					
9806059-09A	92.7	78.3	94.2					
9806059-10A	93.3	75.6	94.3					
9806059-11A	93.3	72.9	93.6					
9806063-01A	92.1	75.8	93.2					
9806063-02A	93.6	87.3	94.6					
CCV1 QC0529/30	94	80.2	93.8					
CCV2 QC0529/30	92.7	72.3	93.2					
CCV3 QC0529/30	92.9	72.4	93.3					
LCS WATER	92.8	77.7	93.5					
MB1	93.9	73.6	94.5					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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[illegible]

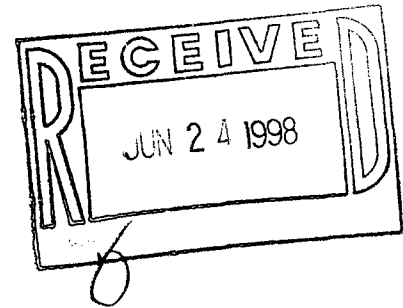
OFF: (505) 325-5667



LAB: (505) 325-1556

June 22, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Air Stripper

Order No.: 9806063

Dear Terry Griffin,

On Site Technologies, LTD. received 2 samples on 6/16/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Air Stripper
Lab Order: 9806063

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Jun-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806063	Client Sample ID:	Stripper Effluent
Lab ID:	9806063-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	6/15/98 4:15:00 PM
		COC Record:	5152

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	28	1		µg/L	1	6/16/98
Benzene	190	2.5		µg/L	5	6/17/98
Toluene	88	0.5		µg/L	1	6/16/98
Ethylbenzene	78	0.5		µg/L	1	6/16/98
m,p-Xylene	120	1		µg/L	1	6/16/98
o-Xylene	44	0.5		µg/L	1	6/16/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

CLIENT: BioTech Remediation, Inc.

Work Order: 9806063

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806063		Run ID: GC-1_980616A		PQL		SPK value		SeqNo: 3134			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.28	0.5	40	0	100.7%	85	115				
Ethylbenzene	40.18	0.5	40	0	100.5%	85	115				
m,p-Xylene	77.38	1	80	0	96.7%	85	115				
Methyl tert-Butyl Ether	37.36	1	40	0	93.4%	85	115				
o-Xylene	40.35	0.5	40	0	100.9%	85	115				
Toluene	40.24	0.5	40	0	100.6%	85	115				
1,4-Difluorobenzene	92.6	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	80.3	0	100	0	80.3%	70	130				
Fluorobenzene	93.09	0	100	0	93.1%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID: 9806063		Run ID: GC-1_980617A		PQL		SPK value		SeqNo: 3175			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115				
Ethylbenzene	21.03	0.5	20	0	105.2%	85	115				
m,p-Xylene	40.25	1	40	0	100.6%	85	115				
Methyl tert-Butyl Ether	20.4	1	20	0	102.0%	85	115				
o-Xylene	20.74	0.5	20	0	103.7%	85	115				
Toluene	20.64	0.5	20	0	103.2%	85	115				
1,4-Difluorobenzene	94.02	0	100	0	94.0%	70	130				
4-Bromochlorobenzene	80.22	0	100	0	80.2%	70	130				
Fluorobenzene	93.82	0	100	0	93.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9806063

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:			
Client ID: 9806063		Run ID: GC-1_980617A		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Benzene	40.14		0.5		40	0	100.4%	85	115				
Ethylbenzene	41.08		0.5		40	0	102.7%	85	115				
m,p-Xylene	77.94		1		80	0	97.4%	85	115				
Methyl tert-Butyl Ether	42.36		1		40	0	105.9%	85	115				
o-Xylene	39.57		0.5		40	0	98.9%	85	115				
Toluene	39.74		0.5		40	0	99.3%	85	115				
1,4-Difluorobenzene	92.73		0		100	0	92.7%	70	130				
4-Bromochlorobenzene	72.28		0		100	0	72.3%	70	130				
Fluorobenzene	93.22		0		100	0	93.2%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L		Analysis Date: 6/17/98		Prep Date:					
Client ID:	9806063	Run ID:	GC-1_980617A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Benzene	20.2		0.5		20	0	101.0%	85	115				
Ethylbenzene	21.06		0.5		20	0	105.3%	85	115				
m,p-Xylene	39.89		1		40	0	99.7%	85	115				
Methyl tert-Butyl Ether	21.56		1		20	0	107.8%	85	115				
o-Xylene	20.24		0.5		20	0	101.2%	85	115				
Toluene	20.28		0.5		20	0	101.4%	85	115				
1,4-Difluorobenzene	92.87		0		100	0	92.9%	70	130				
4-Bromochlorobenzene	72.41		0		100	0	72.4%	70	130				
Fluorobenzene	93.3		0		100	0	93.3%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806063
Project: Thriftway Refinery Air Stripper
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806014-03A	92.3	86.2	93					
9806014-04A	91.9	86.7	92.8					
9806014-05A	92	86.3	93.2					
9806043-03A	93.3	84	94.6					
9806043-04A	93.2	82.9	94.6					
9806044-03A	93.8	86.5	94					
9806044-04A	92.3	85.8	95.6					
9806044-05A	93.3	86.1	94.2					
9806045-01A	90.2	84.9	91.2					
9806052-01A	90.4	83.2	90.4					
9806052-02A	92.4	75.5	93.2					
9806052-02AMS	91.9	86.3	92.5					
9806052-02AMSD	92.4	85.4	92.6					
9806052-03A	93.5	85.8	94.6					
9806053-01A	94.8	74.8	97.2					
9806053-01AMS	94.6	75	96.4					
9806053-01AMSD	94.6	76.7	96.4					
9806053-02A	93.4	82.8	94.1					
9806053-03A	93.5	82.4	94.1					
9806054-01A	93.3	82.3	94.3					
9806054-02A	93.6	81.9	94					
9806055-01A	94	81.1	93.8					
9806055-02A	91.8	81.8	93.8					
9806057-01A	93.6	84.3	94.2					
9806057-02A	87.9	72.6	90.7					
9806057-03A	93.4	81.6	93.8					
9806057-04A	93.4	78.8	94.6					

Acronym

Surrogate

QC Limits

14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9806063
Project: Thriftway Refinery Air Stripper
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806057-05A	93.3	80.1	94.4					
9806058-01A	93.8	85.9	94.1					
9806058-02A	92.2	74.3	92.7					
9806059-02A	93.5	81.1	94.2					
9806059-03A	93.2	82.6	94.4					
9806059-04A	93.4	82.8	94.3					
9806059-05A	93.2	83.6	94.4					
9806059-09A	92.7	78.3	94.2					
9806059-10A	93.3	75.6	94.3					
9806059-11A	93.3	72.9	93.6					
9806063-01A	92.1	75.8	93.2					
9806063-02A	93.6	87.3	94.6					
CCV1 QC0529/30	94	80.2	93.8					
CCV2 QC0529/30	92.7	72.3	93.2					
CCV3 QC0529/30	92.9	72.4	93.3					
LCS WATER	92.8	77.7	93.5					
MB1	93.9	73.6	94.5					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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CHAIN OF CUSTODY RECORD

[illegible]

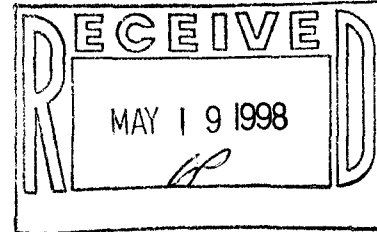
Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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OFF: (505) 325-5667



LAB: (505) 325-1556

May 15, 1998



Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery Bloomfield, NM

Order No.: 9805024

Dear Terry Griffin,

On Site Technologies, LTD. received 2 samples on 5/11/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to be "D. Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 15-May-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Bloomfield, NM
Lab Order: 9805024

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9805024	Client Sample ID:	Air Stripper Effluent
Lab ID:	9805024-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Bloomfield, NM	Collection Date:	5/11/98 10:23:00 AM
		COC Record:	6141

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	20	1		µg/L	1	5/13/98
Benzene	200	2.5		µg/L	5	5/13/98
Toluene	130	0.5		µg/L	1	5/13/98
Ethylbenzene	80	0.5		µg/L	1	5/13/98
m,p-Xylene	150	1		µg/L	1	5/13/98
o-Xylene	70	0.5		µg/L	1	5/13/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 2

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 15-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9805024	Client Sample ID:	Travel Blank
Lab ID:	9805024-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Bloomfield, NM	Collection Date:	5/11/98 9:30:00 AM
		COC Record:	6141

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A			Analyst: DC	
Methyl tert-Butyl Ether	ND	1		µg/L	1	5/13/98
Benzene	ND	0.5		µg/L	1	5/13/98
Toluene	1.2	0.5		µg/L	1	5/13/98
Ethylbenzene	ND	0.5		µg/L	1	5/13/98
m,p-Xylene	ND	1		µg/L	1	5/13/98
o-Xylene	ND	0.5		µg/L	1	5/13/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 15-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9805024
Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980513	Test Code: SW8020A	Units: µg/L	Analysis Date 5/13/98	Prep Date:
Client ID:	9805024	Run ID: GC-1_980513B		SeqNo: 1853	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0367	0.5			J
Ethylbenzene	ND	0.5			J
m,p-Xylene	.1311	1			J
Methyl tert-Butyl Ether	.0434	1			J
o-Xylene	.0743	0.5			J
Toluene	.1502	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 15-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9805024
Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9805022-01AMS			Batch ID: GC-1_980513	Test Code: SW8020A	Units: µg/L	Analysis Date 5/13/98		Prep Date:			
Client ID:		9805024	Run ID:	GC-1_980513B		SeqNo:	1854				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	353.1	2.5	200	160	96.6%	56	128				
Ethylbenzene	442.1	2.5	200	250	96.1%	78	107				
m,p-Xylene	1047	5	400	660	96.7%	67	118				
Methyl tert-Butyl Ether	157.9	5	200	2	78.0%	70	130				
o-Xylene	221	2.5	200	18	101.5%	78	107				
Toluene	216.5	2.5	200	14	101.3%	74	116				

Sample ID: 9805022-01AMSD		Batch ID: GC-1_980513	Test Code: SW8020A	Units: µg/L	Analysis Date 5/13/98		Prep Date:				
Client ID:		9805024	Run ID:	GC-1_980513B	SeqNo: 1855						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	348.7	2.5	200	160	94.4%	56	128	353.1	1.3%	12	
Ethylbenzene	437.8	2.5	200	250	93.9%	78	107	442.1	1.0%	11	
m,p-Xylene	1036	5	400	660	94.0%	67	118	1047	1.0%	10	
Methyl tert-Butyl Ether	158	5	200	2	78.0%	70	130	157.9	0.1%	15	
o-Xylene	219	2.5	200	18	100.5%	78	107	221	0.9%	14	
Toluene	214.4	2.5	200	14	100.2%	74	116	216.5	1.0%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 15-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9805024

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: GC-1_980513	Test Code: SW8020A	Units: µg/L	Analysis Date: 5/13/98	Prep Date:
Client ID: 9805024	Run ID: 980513B	PQL	SPK value	SeqNo: 1852	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	42.67	0.5	40	0.0367	106.6%
Ethylbenzene	42.8	0.5	40	0	107.0%
m,p-Xylene	82.02	1	80	0.1311	102.4%
Methyl tert-Butyl Ether	35.92	1	40	0.0434	89.7%
o-Xylene	42.66	0.5	40	0.0743	106.5%
Toluene	43.1	0.5	40	0.1502	107.4%
				LowLimit	HighLimit
				56	128
				78	107
				67	118
				70	130
				78	107
				74	116
				%RPD	RPDLimit
					Qual

③ ✓
AT Control
LIM IT
5/15/98
WR 5/15/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

1 of 1

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9805024
Project: Thriftway Refinery Bloomfield, NM

Date: 15-May-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980513	Test Code: SW8020A	Units: µg/L	Analysis Date 5/13/98		Prep Date:	
Client ID: 9805024		Run ID: GC-1_980513B	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	21.59		0.5	20	0	108.0%	85	115
Ethylbenzene	21.88		0.5	20	0	109.4%	85	115
m,p-Xylene	41.63		1	40	0	104.1%	85	115
Methyl tert-Butyl Ether	18.44		1	20	0	92.2%	85	115
o-Xylene	22.13		0.5	20	0	110.7%	85	115
Toluene	22.96		0.5	20	0	114.8%	85	115
1,4-Difluorobenzene	93.01		0	100	0	93.0%	70	130
4-Bromochlorobenzene	92.5		0	100	0	92.5%	70	130
Fluorobenzene	93.45		0	100	0	93.5%	70	130

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980513	Test Code: SW8020A	Units: µg/L	Analysis Date 5/13/98		Prep Date:	
Client ID: 9805024		Run ID: GC-1_980513B	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	21.63		0.5	20	0	108.2%	85	115
Ethylbenzene	21.96		0.5	20	0	109.8%	85	115
m,p-Xylene	41.77		1	40	0	104.4%	85	115
Methyl tert-Butyl Ether	17.1		1	20	0	85.5%	85	115
o-Xylene	22.2		0.5	20	0	111.0%	85	115
Toluene	22.87		0.5	20	0	114.4%	85	115
1,4-Difluorobenzene	92.77		0	100	0	92.8%	70	130
4-Bromochlorobenzene	90.26		0	100	0	90.3%	70	130
Fluorobenzene	93.11		0	100	0	93.1%	70	130

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9805024
Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980513		Test Code: SW8020A		Units: µg/L		Analysis Date 5/13/98		Prep Date:	
Client ID:		9805024		Run ID: GC-1_980513B				SeqNo: 1849			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.08	0.5	20	0	100.4%	85	115				
Ethylbenzene	20.57	0.5	20	0	102.8%	85	115				
m,p-Xylene	39.18	1	40	0	98.0%	85	115				
o-Xylene	20.47	0.5	20	0	102.3%	85	115				
Toluene	20.47	0.5	20	0	102.4%	85	115				
1,4-Difluorobenzene	92.76	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	89.53	0	100	0	89.5%	70	130				
Fluorobenzene	93.2	0	100	0	93.2%	70	130				

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980513		Test Code: SW8020A		Units: µg/L		Analysis Date 5/13/98		Prep Date:		
Client ID:		9805024		Run ID:		GC-1_980513B		SeqNo: 1850				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		19.65	0.5	20	0	98.2%	85	115				
Ethylbenzene		20	0.5	20	0	100.0%	85	115				
m,p-Xylene		38.15	1	40	0	95.4%	85	115				
o-Xylene		19.89	0.5	20	0	99.4%	85	115				
Toluene		19.9	0.5	20	0	99.5%	85	115				
1,4-Difluorobenzene		93.12	0	100	0	93.1%	70	130				
4-Bromochlorobenzene		88.92	0	100	0	88.9%	70	130				
Fluorobenzene		93.42	0	100	0	93.4%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9805024

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 QC0529/30		Batch ID: GC-1_980513		Test Code: SW8020A		Units: µg/L		Analysis Date 5/13/98		Prep Date:	
Client ID: 9805024		Run ID: GC-1_980513B						SeqNo: 1851			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.76	0.5	20	0	108.8%	85	115				
Ethylbenzene	22.06	0.5	20	0	110.3%	85	115				
m,p-Xylene	41.96	1	40	0	104.9%	85	115				
o-Xylene	22.01	0.5	20	0	110.0%	85	115				
Toluene	22.51	0.5	20	0	112.5%	85	115				
1,4-Difluorobenzene	93	0	100	0	93.0%	70	130				
4-Bromochlorobenzene	90.2	0	100	0	90.2%	70	130				
Fluorobenzene	93.48	0	100	0	93.5%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 15-May-98

CLIENT: BioTech Remediation, Inc.
 Work Order: 9805024
 Project: Thriftway Refinery Bloomfield, N
 Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9805022-01A	97.3	90.3	94.7					
9805022-01AMS	93.7	91.8	91.8					
9805022-01AMSD	93.7	92.1	91.8					
9805022-02A	93.8	93.2	94					
9805022-03A	94.2	92.5	93.8					
9805022-04A	93.2	92.8	94					
9805022-05A	93.5	92.6	94					
9805022-06A	93.4	92.6	93.8					
9805022-07A	93.2	91	93.6					
9805024-01A	91.8	91.2	92.2					
9805024-02A	93.4	92.9	93.9					
9805033-01A	93	91.5	94					
9805033-02A	93.4	90.9	93.5					
9805033-03A	93.4	89.6	93.7					
9805033-04A	87.7	88.8	89.9					
9805033-05A	88.4	87.4	90.1					
9805034-01A	93.1	89.4	93.6					
CCV1 QC0529/30	93	92.5	93.4					
CCV2 QC0529/30	92.8	90.2	93.1					
CCV3 QC0529/30	92.8	89.5	93.2					
CCV4 QC0529/30	93.1	88.9	93.4					
CCV5 QC0529/30	93	90.2	93.5					
LCS	92.4	92.6	93.1					
MB1	93.4	92.6	93.8					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CHAIN OF CUSTODY RECORD

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client

CHAIN OF CUSTODY RECORD

6141

ON SITE

Date: 5/11/98 Page 1 of 1

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: B48-258		Job No.	
Name: Same		Title:	
Company:		Company: BioTech Remediation, Inc.	
Address:		Mailing Address: 710 E 20th Street, Suite 401	
City, State, Zip:		City, State, Zip: Farmington, NM 87401	
Telephone No.:		Telefax No.:	
Sampling Location: Thriftway Refinery Air Strips adjacent 626 Rd 5500 Bloomfield, NM		ANALYSIS REQUESTED	
Sampler: Ken Sunk		LAB ID	
SAMPLE IDENTIFICATION		LAB ID	
EFFLUENT		8050741-01A	
TRACEL		1 - 03A	
REPORT TO		RESULTS TO	
Number of Containers		Number of Containers	
DATE		DATE	
TIME		TIME	
MATRIX		PRES.	
5/11/98 10:23		H2O HCL	
0930		- -	
Date/Time		Date/Time	
5/11/98 12:05		5/11/98 12:05	
Date/Time		Date/Time	
Date/Time		Date/Time	
Date/Time		Date/Time	
Relinquished by: Ken Sunk		Received by: [Signature]	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Method of Shipment:		Special Instructions:	
Authorized by: [Signature]		10 Working Days	
(Client Signature Must Accompany Request)		24-48 Hours	
Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client		Rush	

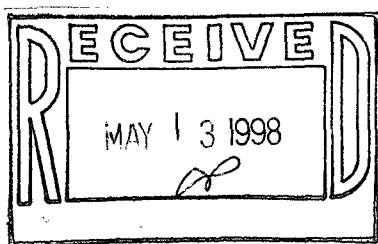
OFF: (505) 325-5667



LAB: (505) 325-1556

May 11, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Bloomfield, NM

Order No.: 9804057

Dear Terry Griffin,

On Site Technologies, LTD. received 3 samples on 4/29/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "D Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Bloomfield, NM
Lab Order: 9804057

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 11-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804057	Client Sample ID:	Travel Blank
Lab ID:	9804057-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Bloomfield, NM	Collection Date:	4/29/98 10:00:00 AM
		COC Record:	6137

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	5/7/98
Benzene	ND	0.5		µg/L	1	5/7/98
Toluene	1.9	0.5		µg/L	1	5/7/98
Ethylbenzene	ND	0.5		µg/L	1	5/7/98
m,p-Xylene	ND	1		µg/L	1	5/7/98
o-Xylene	ND	0.5		µg/L	1	5/7/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 11-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804057	Client Sample ID:	MW-7
Lab ID:	9804057-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Bloomfield, NM	Collection Date:	4/29/98 10:45:00 AM
		COC Record:	6137

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	160	20		µg/L	20	5/7/98
Benzene	1800	10		µg/L	20	5/7/98
Toluene	110	10		µg/L	20	5/7/98
Ethylbenzene	340	10		µg/L	20	5/7/98
m,p-Xylene	1200	20		µg/L	20	5/7/98
o-Xylene	99	10		µg/L	20	5/7/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 11-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804057	Client Sample ID:	Air Stripper Effluent
Lab ID:	9804057-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Bloomfield, NM	Collection Date:	4/29/98 2:00:00 PM
		COC Record:	6137

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	43	1		µg/L	1	5/7/98
Benzene	380	2.5		µg/L	5	5/7/98
Toluene	180	0.5		µg/L	1	5/7/98
Ethylbenzene	140	0.5		µg/L	1	5/7/98
m,p-Xylene	210	1		µg/L	1	5/7/98
o-Xylene	79	0.5		µg/L	1	5/7/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804057

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:
Client ID: 9804057	Run ID: GC-1_980507A			SeqNo: 1678	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0604	0.5			J
Ethylbenzene	.0824	0.5			J
m,p-Xylene	.2996	1			J
Methyl tert-Butyl Ether	.0751	1			J
o-Xylene	.1208	0.5			J
Toluene	.173	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804057

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9804054-01AMS	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:						
Client ID:	9804057	Run ID: GC-1_980507A		SeqNo: 1679							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	8323	50	4000	3999	108.1%	56	128				S ✓
Ethylbenzene	5411	50	4000	995.8	110.4%	78	107				S ✓
m,p-Xylene	28750	100	8000	14760	174.9%	67	118				S ✓
Methyl tert-Butyl Ether	3732	100	4000	18.23	92.9%	70	130				S ✓
o-Xylene	9129	50	4000	3818	132.8%	78	107				S ✓
Toluene	18610	50	4000	12990	140.7%	74	116				S ✓

Sample ID: 9804054-01AMSD		Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:					
Client ID: 9804057		Run ID: GC-1_980507A			SeqNo: 1680						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7975	50	4000	3999	99.4%	56	128	8323	4.3%	12	
Ethylbenzene	5198	50	4000	995.8	105.1%	78	107	5411	4.0%	11	
m,p-Xylene	27560	100	8000	14760	160.1%	67	118	28750	4.2%	10	S
Methyl tert-Butyl Ether	3664	100	4000	18.23	91.1%	70	130	3732	1.9%	15	✓
o-Xylene	8811	50	4000	3818	124.8%	78	107	9129	3.5%	14	S
Toluene	17820	50	4000	12990	120.7%	74	116	18610	4.4%	14	S

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804057

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:		9804057		Run ID: GC-1_980507A				SeqNo: 1677			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.28	0.5	40	0.0604	105.6%	56	128				
Ethylbenzene	42.69	0.5	40	0.0824	106.5%	78	107				
m,p-Xylene	82.27	1	80	0.2996	102.5%	67	118				
Methyl tert-Butyl Ether	38.02	1	40	0.0751	94.9%	70	130				
o-Xylene	42.5	0.5	40	0.1208	105.9%	78	107				
Toluene	42.21	0.5	40	0.173	105.1%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804057

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:		9804057		Run ID:		GC-1_980507A		SeqNo: 1672			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.26	0.5	20	0	106.3%	85	115				
Ethylbenzene	21.65	0.5	20	0	108.3%	85	115				
m,p-Xylene	41.55	1	40	0	103.9%	85	115				
Methyl tert-Butyl Ether	19.41	1	20	0	97.0%	85	115				
o-Xylene	21.46	0.5	20	0	107.3%	85	115				
Toluene	21.37	0.5	20	0	106.8%	85	115				
1,4-Difluorobenzene	92.8	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	89.27	0	100	0	89.3%	70	130				
Fluorobenzene	92.92	0	100	0	92.9%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L		Analysis Date 5/7/98		Prep Date:					
Client ID:		Run ID:	GC-1_980507A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Benzene	20.82		0.5	20	0		104.1%	85	115				
Ethylbenzene	21.2		0.5	20	0		106.0%	85	115				
m,p-Xylene	40.61		1	40	0		101.5%	85	115				
Methyl tert-Butyl Ether	18.49		1	20	0		92.4%	85	115				
o-Xylene	21.2		0.5	20	0		106.0%	85	115				
Toluene	20.97		0.5	20	0		104.9%	85	115				
1,4-Difluorobenzene	92.53		0	100	0		92.5%	70	130				
4-Bromochlorobenzene	90.18		0	100	0		90.2%	70	130				
Fluorobenzene	92.97		0	100	0		93.0%	70	130				

Qualifiers: NID - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9804057

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:		
Client ID:		9804057		Run ID:		GC-1_980507A		SeqNo: 1674				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		21.24	0.5	20	0	106.2%	85	115				
Ethylbenzene		21.5	0.5	20	0	107.5%	85	115				
m,p-Xylene		41.01	1	40	0	102.5%	85	115				
Methyl tert-Butyl Ether		17.96	1	20	0	89.8%	85	115				
o-Xylene		22.72	0.5	20	0	113.6%	85	115				
Toluene		21.47	0.5	20	0	107.3%	85	115				
1,4-Difluorobenzene		92.47	0	100	0	92.5%	70	130				
4-Bromochlorobenzene		88.18	0	100	0	88.2%	70	130				
Fluorobenzene		92.84	0	100	0	92.8%	70	130				

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:		
Client ID:		9804057		Run ID:		GC-1_980507A		SeqNo: 1675				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		20.82	0.5	20	0	104.1%	85	115				
Ethylbenzene		21.86	0.5	20	0	109.3%	85	115				
m,p-Xylene		41.02	1	40	0	102.6%	85	115				
Methyl tert-Butyl Ether		18.32	1	20	0	91.6%	85	115				
o-Xylene		21.68	0.5	20	0	108.4%	85	115				
Toluene		21.03	0.5	20	0	105.1%	85	115				
1,4-Difluorobenzene		92.66	0	100	0	92.7%	70	130				
4-Bromochlorobenzene		88.98	0	100	0	89.0%	70	130				
Fluorobenzene		92.65	0	100	0	92.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9804057
Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV5 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:		9804057		Run ID:		GC-1_980507A		SeqNo: 1676			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.54	0.5	20	0	102.7%	85	115				
Ethylbenzene	20.93	0.5	20	0	104.6%	85	115				
m,p-Xylene	40.5	1	40	0	101.2%	85	115				
Methyl tert-Butyl Ether	17.55	1	20	0	87.8%	85	115				
o-Xylene	20.6	0.5	20	0	103.0%	85	115				
Toluene	21.34	0.5	20	0	106.7%	85	115				
1,4-Difluorobenzene	91.93	0	100	0	91.9%	70	130				
4-Bromochlorobenzene	88.69	0	100	0	88.7%	70	130				
Fluorobenzene	92.03	0	100	0	92.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9804057
Project: Thriftway Refinery Bloomfield, N
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9804051-01A	89.6	85	90.3					
9804051-02A	89.5	84.7	89.6					
9804052-01A	90.3	88	91.7					
9804053-01A	78	80	80.4					
9804054-01A	91.5	89.1	92.8					
9804054-01AMS	91.5	91.3	93.3					
9804054-01AMSD	90	89.2	91.1					
9804055-01A	81.8	77.1	87.9					
9804055-02A	85.9	83.4	88.5					
9804056-01A	85.8	85.3	86.6					
9804057-01A	93.4	88.7	93.7					
9804057-02A	90.2	88.6	91.3					
9804057-03A	91.2	88.6	91.7					
9805003-01A	93.1	88.8	93.5					
9805003-02A	90.7	88.8	91.6					
CCV1 QC0529/30	92.8	89.3	92.9					
CCV2 QC0529/30	92.5	90.2	93					
CCV3 QC0529/30	92.5	88.2	92.8					
CCV4 QC0529/30	92.7	89	92.6					
CCV5 QC0529/30	91.9	88.7	92					
LCS WATER	92.5	89.2	92.5					
MB1	93.1	86.4	93.6					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Distribution: White -- On Site	Yellow - I AB	Pink	Goldenrod	Client

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Name	Terry Griffin	Title
Company	BioTech Remediation, Inc	
Mailing Address	710 E. 20 th St. Suite 400	
City, State, Zip	Farmington, NM 87401	
Telephone No.	505-327-4965	Telefax No.

ANALYSIS REQUESTED

0217
M734

SAMPLE IDENTIFICATION

SAMPLE	MATRIX	PRES.

Travel Book

mw-7

Air Str. from Effluent

Relinquished by:

Date/Time 7/12/10

Received by:

Relinquished by:

Date/Time

Received by:

Relinquished by:

Date/Time

Received by:

Method of Shipment:

24-48 Hours

10 Working Days

Special Instructions:

Authorized by:

[Signature]
(Client Signature Must Accompany Request)

Date:

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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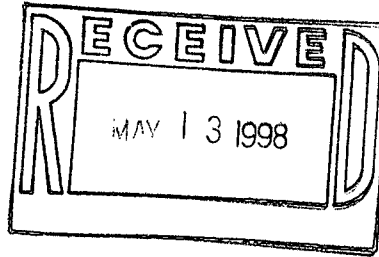
OFF: (505) 325-5667



LAB: (505) 325-1556

May 11, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Bloomfield, NM

Order No.: 9805003

Dear Terry Griffin,

On Site Technologies, LTD. received 2 samples on 5/1/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Bloomfield, NM
Lab Order: 9805003

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 11-May-98

Client: BioTech Remediation, Inc.
Work Order: 9805003
Lab ID: 9805003-01A **Matrix:** AQUEOUS
Project: Thriftway Refinery Bloomfield, NM

Client Sample Info: Thriftway Refinery
Client Sample ID: Travel Blank
Collection Date: 5/1/98 10:00:00 AM
COC Record: 6959

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	5/7/98
Benzene	ND	0.5		µg/L	1	5/7/98
Toluene	1	0.5		µg/L	1	5/7/98
Ethylbenzene	ND	0.5		µg/L	1	5/7/98
m,p-Xylene	ND	1		µg/L	1	5/7/98
o-Xylene	ND	0.5		µg/L	1	5/7/98

Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 11-May-98

Client: BioTech Remediation, Inc.
Work Order: 9805003
Lab ID: 9805003-02A **Matrix:** AQUEOUS
Project: Thriftway Refinery Bloomfield, NM

Client Sample Info: Thriftway Refinery
Client Sample ID: Stripper Effluent
Collection Date: 5/1/98 10:23:00 AM
COC Record: 6959

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	36	1		µg/L	1	5/7/98
Benzene	310	2.5		µg/L	5	5/7/98
Toluene	200	2.5		µg/L	5	5/7/98
Ethylbenzene	120	0.5		µg/L	1	5/7/98
m,p-Xylene	210	1		µg/L	1	5/7/98
o-Xylene	84	0.5		µg/L	1	5/7/98

Qualifiers:
PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
SURT - Surrogate

1 of 1

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9805003

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:
Client ID: 9805003	Run ID: GC-1_980507A			SeqNo: 1678	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0604	0.5			J
Ethylbenzene	.0824	0.5			J
m,p-Xylene	.2996	1			J
Methyl tert-Butyl Ether	.0751	1			J
o-Xylene	.1208	0.5			J
Toluene	.173	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9805003
Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9804054-01AMS	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:						
Client ID:	9805003	Run ID: GC-1_980507A		SeqNo: 1679							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	8323	50	4000	3999	108.1%	56	128				S
Ethylbenzene	5411	50	4000	995.8	110.4%	78	107				S
m,p-Xylene	28750	100	8000	14760	174.9%	67	118				S
Methyl tert-Butyl Ether	3732	100	4000	18.23	92.9%	70	130				S
o-Xylene	9129	50	4000	3818	132.8%	78	107				S
Toluene	18610	50	4000	12990	140.7%	74	116				S

✓ IFI REVIEWED
 5/11/98
 5/11/98
 5/11/98

Sample ID: 9804054-01AMSD			Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:			9805003		Run ID: GC-1_980507A				SeqNo: 1680			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	7975	50	4000	3999	99.4%	56	128	8323	4.3%	12	S ✓	
Ethylbenzene	5198	50	4000	995.8	105.1%	78	107	5411	4.0%	11		
m,p-Xylene	27560	100	8000	14760	160.1%	67	118	28750	4.2%	10		
Methyl tert-Butyl Ether	3664	100	4000	18.23	91.1%	70	130	3732	1.9%	15	S ✓	
o-Xylene	8811	50	4000	3818	124.8%	78	107	9129	3.5%	14		
Toluene	17820	50	4000	12990	120.7%	74	116	18610	4.4%	14	S ✓	

✓ IFI REVIEWED
 5/11/98
 5/11/98
 5/11/98

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9805003
Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:					
Client ID:		9805003	Run ID: GC-1_980507A		SeqNo: 1677						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.28	0.5	40	0.0604	105.6%	56	128				
Ethylbenzene	42.69	0.5	40	0.0824	106.5%	78	107				
m,p-Xylene	82.27	1	80	0.2996	102.5%	67	118				
Methyl tert-Butyl Ether	38.02	1	40	0.0751	94.9%	70	130				
o-Xylene	42.5	0.5	40	0.1208	105.9%	78	107				
Toluene	42.21	0.5	40	0.173	105.1%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9805003

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:		
Client ID:		9805003		Run ID:		GC-1_980507A		SeqNo: 1672				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		21.26	0.5	20	0	106.3%	85	115				
Ethylbenzene		21.65	0.5	20	0	108.3%	85	115				
m,p-Xylene		41.55	1	40	0	103.9%	85	115				
Methyl tert-Butyl Ether		19.41	1	20	0	97.0%	85	115				
o-Xylene		21.46	0.5	20	0	107.3%	85	115				
Toluene		21.37	0.5	20	0	106.8%	85	115				
1,4-Difluorobenzene		92.8	0	100	0	92.8%	70	130				
4-Bromochlorobenzene		89.27	0	100	0	89.3%	70	130				
Fluorobenzene		92.92	0	100	0	92.9%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:		9805003		Run ID:		GC-1_980507A		SeqNo: 1673			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.82	0.5	20	0	104.1%	85	115				
Ethylbenzene	21.2	0.5	20	0	106.0%	85	115				
m,p-Xylene	40.61	1	40	0	101.5%	85	115				
Methyl tert-Butyl Ether	18.49	1	20	0	92.4%	85	115				
o-Xylene	21.2	0.5	20	0	106.0%	85	115				
Toluene	20.97	0.5	20	0	104.9%	85	115				
1,4-Difluorobenzene	92.53	0	100	0	92.5%	70	130				
4-Bromochlorobenzene	90.18	0	100	0	90.2%	70	130				
Fluorobenzene	92.97	0	100	0	93.0%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9805003

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980507		Test Code: SW8020A		Units: µg/L		Analysis Date 5/7/98		Prep Date:	
Client ID:		9805003		Run ID: GC-1_980507A				SeqNo: 1674			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.24	0.5	20	0	106.2%	85	115				
Ethylbenzene	21.5	0.5	20	0	107.5%	85	115				
m,p-Xylene	41.01	1	40	0	102.5%	85	115				
Methyl tert-Butyl Ether	17.96	1	20	0	89.8%	85	115				
o-Xylene	22.72	0.5	20	0	113.6%	85	115				
Toluene	21.47	0.5	20	0	107.3%	85	115				
1,4-Difluorobenzene	92.47	0	100	0	92.5%	70	130				
4-Bromochlorobenzene	88.18	0	100	0	88.2%	70	130				
Fluorobenzene	92.84	0	100	0	92.8%	70	130				

Sample ID: CCV4 QC0529/30	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98		Prep Date:					
Client ID:	9805003	Run ID:	GC-1_980507A	SeqNo:	1675						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.82	0.5	20	0	104.1%	85	115				
Ethylbenzene	21.86	0.5	20	0	109.3%	85	115				
m,p-Xylene	41.02	1	40	0	102.6%	85	115				
Methyl tert-Butyl Ether	18.32	1	20	0	91.6%	85	115				
o-Xylene	21.68	0.5	20	0	108.4%	85	115				
Toluene	21.03	0.5	20	0	105.1%	85	115				
1,4-Difluorobenzene	92.66	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	88.98	0	100	0	89.0%	70	130				
Fluorobenzene	92.65	0	100	0	92.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9805003

Project: Thriftway Refinery Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 QC0529/30	Batch ID: GC-1_980507	Test Code: SW8020A	Units: µg/L	Analysis Date 5/7/98	Prep Date:						
Client ID: 9805003	Run ID: GC-1_980507A			SeqNo: 1676							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.54	0.5	20	0	102.7%	85	115				
Ethylbenzene	20.93	0.5	20	0	104.6%	85	115				
m,p-Xylene	40.5	1	40	0	101.2%	85	115				
Methyl tert-Butyl Ether	17.55	1	20	0	87.8%	85	115				
o-Xylene	20.6	0.5	20	0	103.0%	85	115				
Toluene	21.34	0.5	20	0	106.7%	85	115				
1,4-Difluorobenzene	91.93	0	100	0	91.9%	70	130				
4-Bromochlorobenzene	88.69	0	100	0	88.7%	70	130				
Fluorobenzene	92.03	0	100	0	92.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9805003
Project: Thriftway Refinery Bloomfield, N
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9804051-01A	89.6	85	90.3					
9804051-02A	89.5	84.7	89.6					
9804052-01A	90.3	88	91.7					
9804053-01A	78	80	80.4					
9804054-01A	91.5	89.1	92.8					
9804054-01AMS	91.5	91.3	93.3					
9804054-01AMSD	90	89.2	91.1					
9804055-01A	81.8	77.1	87.9					
9804055-02A	85.9	83.4	88.5					
9804056-01A	85.8	85.3	86.6					
9804057-01A	93.4	88.7	93.7					
9804057-02A	90.2	88.6	91.3					
9804057-03A	91.2	88.6	91.7					
9805003-01A	93.1	88.8	93.5					
9805003-02A	90.7	88.8	91.6					
CCV1 QC0529/30	92.8	89.3	92.9					
CCV2 QC0529/30	92.5	90.2	93					
CCV3 QC0529/30	92.5	88.2	92.8					
CCV4 QC0529/30	92.7	89	92.6					
CCV5 QC0529/30	91.9	88.7	92					
LCS WATER	92.5	89.2	92.5					
MB1	93.1	86.4	93.6					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

of

Distribution:	White -- On Site	Yellow -- LAB	Pink -- Sampler	Goldenrod -- Client
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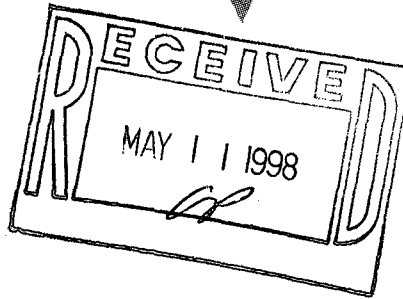
OFF: (505) 325-5667



LAB: (505) 325-1556

May 06, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery; Bloomfield, NM

Order No.: 9804047

Dear Terry Griffin,

On Site Technologies, LTD. received 11 samples on 4/29/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read 'D Cox'.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 06-May-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery; Bloomfield, NM
Lab Order: 9804047

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Jun-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9806063	Client Sample ID:	Travel Blank
Lab ID:	9806063-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	6/15/98 3:00:00 PM
		COC Record:	5152

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	6/16/98
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9806063

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID:	9806063	Run ID: GC-1_980616A		SeqNo: 3136	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0478	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.1193	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0988	0.5			J

Sample ID: MB1	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:
Client ID:	9806063	Run ID: GC-1_980617A		SeqNo: 3179	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0648	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.2322	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0819	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806063
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806052-02AMS		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:		
Client ID:		9806063		Run ID:		GC-1_980616A		SeqNo: 3137				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		1823	10	800	1021	100.3%	56	128				
Ethylbenzene		1178	10	800	404.6	96.7%	78	107				
m,p-Xylene		2263	20	1600	739.2	95.2%	67	118				
Methyl tert-Butyl Ether		776.8	20	800	22.28	94.3%	70	130				
o-Xylene		1042	10	800	243.9	99.8%	78	107				
Toluene		1298	10	800	507.9	98.8%	74	116				

Sample ID: 9806052-02AMSD		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806063		Run ID: GC-1_980616A						SeqNo: 3138			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1771	10	800	1021	93.8%	56	128	1823	2.9%	12	
Ethylbenzene	1146	10	800	404.6	92.7%	78	107	1178	2.7%	11	
m,p-Xylene	2188	20	1600	739.2	90.6%	67	118	2263	3.3%	10	
Methyl tert-Butyl Ether	760.7	20	800	22.28	92.3%	70	130	776.8	2.1%	15	
o-Xylene	1026	10	800	243.9	97.8%	78	107	1042	1.5%	14	
Toluene	1264	10	800	507.9	94.5%	74	116	1298	2.7%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9806063
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806053-01AMS	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:						
Client ID: 9806063	Run ID: GC-1_980617A			SeqNo: 3180							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	429.5	5	400	36.48	98.3%	56	128				
Ethylbenzene	701.9	5	400	321.6	95.1%	78	107				
m,p-Xylene	3739	10	800	2933	100.6%	67	118				
Methyl tert-Butyl Ether	434.7	10	400	5.234	107.4%	70	130				
o-Xylene	390	5	400	3.084	96.7%	78	107				
Toluene	401.2	5	400	15.91	96.3%	74	116				

Sample ID: 9806053-01AMSD	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:						
Client ID: 9806063	Run ID: GC-1_980617A			SeqNo: 3181							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	445.6	5	400	36.48	102.3%	56	128	429.5	3.7%	12	
Ethylbenzene	732.2	5	400	321.6	102.7%	78	107	701.9	4.2%	11	
m,p-Xylene	3903	10	800	2933	121.2%	67	118	3739	4.3%	10	✓
Methyl tert-Butyl Ether	448.3	10	400	5.234	110.8%	70	130	434.7	3.1%	15	CONFIRM
o-Xylene	419.7	5	400	3.084	104.1%	78	107	390	7.3%	14	CS
Toluene	415.6	5	400	15.91	99.9%	74	116	401.2	3.5%	14	6

✓
CONFIRMATION
LC 5/12/98
WD 6/12/98
DKL 6/22/98

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806063
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID: 9806063	Run ID: GC-1_980616A	PQL	SPK value	SeqNo: 3135	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	41.01	0.5	40	0.0478	102.4% 56 128
Ethylbenzene	41.79	0.5	40	0	104.5% 78 107
m,p-Xylene	79.51	1	80	0.1193	99.2% 67 118
Methyl tert-Butyl Ether	44.96	1	40	0	112.4% 70 130
o-Xylene	40.79	0.5	40	0	102.0% 78 107
Toluene	40.42	0.5	40	0.0988	100.8% 74 116

Sample ID: LCS WATER	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:
Client ID: 9806063	Run ID: GC-1_980617A	PQL	SPK value	SeqNo: 3178	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	40.22	0.5	40	0.0648	100.4% 56 128
Ethylbenzene	40.16	0.5	40	0	100.4% 78 107
m,p-Xylene	77.22	1	80	0.2322	96.2% 67 118
Methyl tert-Butyl Ether	40.63	1	40	0	101.6% 70 130
o-Xylene	39.94	0.5	40	0	99.8% 78 107
Toluene	39.73	0.5	40	0.0819	99.1% 74 116

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9806063
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98			Prep Date:			
Client ID: 9806063		Run ID:	GC-1_980616A		SeqNo: 3132						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.71	0.5	20	0	108.5%	85	115				
Ethylbenzene	22.4	0.5	20	0	112.0%	85	115				
m,p-Xylene	42.29	1	40	0	105.7%	85	115				
Methyl tert-Butyl Ether	23.12	1	20	0	115.6%	85	115				S
o-Xylene	21.74	0.5	20	0	108.7%	85	115				
Toluene	21.52	0.5	20	0	107.6%	85	115				
1,4-Difluorobenzene	93.47	0	100	0	93.5%	70	130				
4-Bromochlorobenzene	85.45	0	100	0	85.4%	70	130				
Fluorobenzene	93.66	0	100	0	93.7%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID:		9806063	Run ID:	GC-1_980616A	SeqNo: 3133						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.3	0.5	20	0	106.5%	85	115				
m,p-Xylene	39.94	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	21.29	1	20	0	106.5%	85	115				
o-Xylene	21.45	0.5	20	0	107.2%	85	115				
Toluene	20.47	0.5	20	0	102.3%	85	115				
1,4-Difluorobenzene	93.62	0	100	0	93.6%	70	130				
4-Bromochlorobenzene	83.56	0	100	0	83.6%	70	130				
Fluorobenzene	93.34	0	100	0	93.3%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	Travel Blank
Lab ID:	9804047-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 9:30:00 AM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	ND	1		µg/L	1	5/1/98
Benzene	ND	0.5		µg/L	1	5/1/98
Toluene	1.8	0.5		µg/L	1	5/1/98
Ethylbenzene	ND	0.5		µg/L	1	5/1/98
m,p-Xylene	ND	1		µg/L	1	5/1/98
o-Xylene	ND	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	Air Stripper Influent
Lab ID:	9804047-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 4:55:00 PM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	70	20		µg/L	20	5/1/98
Benzene	1800	10		µg/L	20	5/1/98
Toluene	810	10		µg/L	20	5/1/98
Ethylbenzene	650	10		µg/L	20	5/1/98
m,p-Xylene	970	20		µg/L	20	5/1/98
o-Xylene	350	10		µg/L	20	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	Air Stripper Effluent
Lab ID:	9804047-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 5:02:00 PM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	42	10		µg/L	10	5/1/98
Benzene	770	5		µg/L	10	5/1/98
Toluene	350	5		µg/L	10	5/1/98
Ethylbenzene	280	5		µg/L	10	5/1/98
m,p-Xylene	420	10		µg/L	10	5/1/98
o-Xylene	160	5		µg/L	10	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-1
Lab ID:	9804047-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 4:40:00 PM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	79	1		µg/L	1	5/1/98
Benzene	58	0.5		µg/L	1	5/1/98
Toluene	2.8	0.5		µg/L	1	5/1/98
Ethylbenzene	4.9	0.5		µg/L	1	5/1/98
m,p-Xylene	18	1		µg/L	1	5/1/98
o-Xylene	3.1	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-8
Lab ID:	9804047-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 11:50:00 AM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	42	1		µg/L	1	5/1/98
Benzene	3.6	0.5		µg/L	1	5/1/98
Toluene	0.6	0.5		µg/L	1	5/1/98
Ethylbenzene	0.6	0.5		µg/L	1	5/1/98
m,p-Xylene	ND	1		µg/L	1	5/1/98
o-Xylene	ND	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-9
Lab ID:	9804047-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 11:15:00 AM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	6.1	1		µg/L	1	5/1/98
Benzene	ND	0.5		µg/L	1	5/1/98
Toluene	ND	0.5		µg/L	1	5/1/98
Ethylbenzene	ND	0.5		µg/L	1	5/1/98
m,p-Xylene	ND	1		µg/L	1	5/1/98
o-Xylene	ND	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-10
Lab ID:	9804047-07A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 10:35:00 AM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	5/1/98
Benzene	ND	0.5		µg/L	1	5/1/98
Toluene	ND	0.5		µg/L	1	5/1/98
Ethylbenzene	ND	0.5		µg/L	1	5/1/98
m,p-Xylene	ND	1		µg/L	1	5/1/98
o-Xylene	ND	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surrogate - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-11
Lab ID:	9804047-08A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 10:00:00 AM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	5/1/98
Benzene	ND	0.5		µg/L	1	5/1/98
Toluene	ND	0.5		µg/L	1	5/1/98
Ethylbenzene	ND	0.5		µg/L	1	5/1/98
m,p-Xylene	ND	1		µg/L	1	5/1/98
o-Xylene	ND	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-14
Lab ID:	9804047-09A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 4:02:00 PM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	69	10		µg/L	10	5/1/98
Benzene	2900	10		µg/L	20	5/1/98
Toluene	800	5		µg/L	10	5/1/98
Ethylbenzene	1100	5		µg/L	10	5/1/98
m,p-Xylene	1300	10		µg/L	10	5/1/98
o-Xylene	640	5		µg/L	10	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-18
Lab ID:	9804047-10A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 3:15:00 PM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	56	1		µg/L	1	5/1/98
Benzene	68	0.5		µg/L	1	5/1/98
Toluene	3.9	0.5		µg/L	1	5/1/98
Ethylbenzene	6.8	0.5		µg/L	1	5/1/98
m,p-Xylene	1.6	1		µg/L	1	5/1/98
o-Xylene	0.6	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Sur: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 06-May-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804047	Client Sample ID:	MW-19
Lab ID:	9804047-11A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/28/98 2:35:00 PM
		COC Record:	6956

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX						Analyst: DC
		SW8020A				
Methyl tert-Butyl Ether	98	1		µg/L	1	5/1/98
Benzene	44	0.5		µg/L	1	5/1/98
Toluene	3.4	0.5		µg/L	1	5/1/98
Ethylbenzene	190	0.5		µg/L	1	5/1/98
m,p-Xylene	280	1		µg/L	1	5/1/98
o-Xylene	0.8	0.5		µg/L	1	5/1/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 06-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804047

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 4/29/98	Prep Date:
Client ID:	9804047	Run ID: GC-1_980429A		SeqNo: 1372	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1373	0.5			J
Ethylbenzene	.0759	0.5			J
m,p-Xylene	.1933	1			J
Methyl tert-Butyl Ether	.0551	1			J
o-Xylene	.0856	0.5			J
Toluene	.204	0.5			J

Sample ID: MB2	Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 5/1/98	Prep Date:
Client ID:	9804047	Run ID: GC-1_980429A		SeqNo: 1375	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0481	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	ND	1			
Methyl tert-Butyl Ether	.1126	1			J
o-Xylene	ND	0.5			
Toluene	.1319	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9804047

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB3	Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 5/1/98	Prep Date:						
Client ID:	9804047	Run ID: GC-1_980429A		SeqNo: 1376							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0539		0.5								J
Ethylbenzene	ND		0.5								
m,p-Xylene	ND		1								
Methyl tert-Butyl Ether	.1231		1								J
o-Xylene	ND		0.5								
Toluene	.1444		0.5								J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 06-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804047

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9804033-02AMS		Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 4/29/98		Prep Date:	
Client ID: 9804047		Run ID: GC-1_980429A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte		Result						
Benzene		452.1	5	400	35.09	104.3%	56	128
Ethylbenzene		432.2	5	400	6.712	106.4%	78	107
m,p-Xylene		827.6	10	800	7.998	102.4%	67	118
Methyl tert-Butyl Ether		1539	10	400	1067	117.9%	70	130
o-Xylene		426.6	5	400	2.844	105.9%	78	107
Toluene		424	5	400	4.333	104.9%	74	116

Sample ID: 9804033-02AMSD		Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 4/29/98		Prep Date:	
Client ID: 9804047		Run ID: GC-1_980429A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte		Result						
Benzene		438.6	5	400	35.09	100.9%	56	128
Ethylbenzene		419.3	5	400	6.712	103.1%	78	107
m,p-Xylene		802.9	10	800	7.998	99.4%	67	118
Methyl tert-Butyl Ether		1555	10	400	1067	121.9%	70	130
o-Xylene		415.7	5	400	2.844	103.2%	78	107
Toluene		410.5	5	400	4.333	101.5%	74	116

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 06-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804047

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980429		Test Code: SW8020A		Units: µg/L		Analysis Date 4/29/98		Prep Date:	
Client ID:		9804047		Run ID: GC-1_980429A				SeqNo: 1371			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.62	0.5	40	0.0481	101.4%	56	128				
Ethylbenzene	41.72	0.5	40	0	104.3%	78	107				
m,p-Xylene	80.19	1	80	0	100.2%	67	118				
Methyl tert-Butyl Ether	35.36	1	40	0.1126	88.1%	70	130				
o-Xylene	41.42	0.5	40	0	103.5%	78	107				
Toluene	41.07	0.5	40	0.1319	102.4%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 06-May-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804047

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30	Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 4/29/98	Prep Date:						
Client ID:	9804047	Run ID: GC-1_980429A		SeqNo: 1361							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.57	0.5	20	0	112.8%	85	115				S ✓ CONFIRM CCV NR (25) 5/6/98
Ethylbenzene	23.04	0.5	20	0	115.2%	85	115				
m,p-Xylene	43.86	1	40	0	109.7%	85	115				
Methyl tert-Butyl Ether	22.84	1	20	0	114.2%	85	115				
o-Xylene	22.92	0.5	20	0	114.6%	85	115				
Toluene	22.88	0.5	20	0	114.4%	85	115				
1,4-Difluorobenzene	92.38	0	100	0	92.4%	70	130				
4-Bromochlorobenzene	83.86	0	100	0	83.9%	70	130				
Fluorobenzene	93.15	0	100	0	93.1%	70	130				

S ✓
CONFIRMED
CC12
OK 5/6/98
5/6/98

Sample ID: CCV10 QC0529/30		Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 5/1/98		Prep Date:				
Client ID:		9804047	Run ID: GC-1_980429A		SeqNo: 1370						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.17	0.5	20	0	100.8%	85	115				
Ethylbenzene	20.67	0.5	20	0	103.4%	85	115				
m,p-Xylene	39.91	1	40	0	99.8%	85	115				
o-Xylene	20.31	0.5	20	0	101.6%	85	115				
Toluene	20.34	0.5	20	0	101.7%	85	115				
1,4-Difluorobenzene	93.55	0	100	0	93.5%	70	130				
4-Bromochlorobenzene	87.93	0	100	0	87.9%	70	130				
fluorobenzene	92.96	0	100	0	93.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9804047
Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980429		Test Code: SW8020A		Units: µg/L		Analysis Date 4/29/98		Prep Date:		
Client ID:		9804047		Run ID: GC-1_980429A				SeqNo: 1362				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		21.83	0.5	20	0	109.1%	85	115				
Ethylbenzene		22.29	0.5	20	0	111.5%	85	115				
m,p-Xylene		42.65	1	40	0	106.6%	85	115				
Methyl tert-Butyl Ether		19.06	1	20	0	95.3%	85	115				
o-Xylene		22.03	0.5	20	0	110.2%	85	115				
Toluene		22.02	0.5	20	0	110.1%	85	115				
1,4-Difluorobenzene		92.89	0	100	0	92.9%	70	130				
4-Bromochlorobenzene		84.4	0	100	0	84.4%	70	130				
Fluorobenzene		93.41	0	100	0	93.4%	70	130				

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980429		Test Code: SW8020A		Units: µg/L		Analysis Date 5/1/98		Prep Date:	
Client ID:		9804047		Run ID: GC-1_980429A				SeqNo: 1364			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.03	0.5	20	0	110.2%	85	115				
Ethylbenzene	22.35	0.5	20	0	111.7%	85	115				
m,p-Xylene	42.49	1	40	0	106.2%	85	115				
Methyl tert-Butyl Ether	20.74	1	20	0	103.7%	85	115				
o-Xylene	22.13	0.5	20	0	110.7%	85	115				
Toluene	22.01	0.5	20	0	110.0%	85	115				
1,4-Difluorobenzene	92.94	0	100	0	92.9%	70	130				
4-Bromochlorobenzene	93.17	0	100	0	93.2%	70	130				
Fluorobenzene	93.37	0	100	0	93.4%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9804047
Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV5 QC0529/30		Batch ID: GC-1_980429		Test Code: SW8020A		Units: µg/L		Analysis Date 5/1/98		Prep Date:		
Client ID:		9804047		Run ID: GC-1_980429A				SeqNo: 1365				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		22.23	0.5	20	0	111.2%	85	115				
Ethylbenzene		22.5	0.5	20	0	112.5%	85	115				
m,p-Xylene		42.86	1	40	0	107.2%	85	115				
Methyl tert-Butyl Ether		20.18	1	20	0	100.9%	85	115				
o-Xylene		22.22	0.5	20	0	111.1%	85	115				
Toluene		22.22	0.5	20	0	111.1%	85	115				
1,4-Difluorobenzene		92.78	0	100	0	92.8%	70	130				
4-Bromochlorobenzene		91.98	0	100	0	92.0%	70	130				
Fluorobenzene		93.39	0	100	0	93.4%	70	130				

Sample ID: CCV6 QC0529/30		Batch ID: GC-1_980429		Test Code: SW8020A		Units: µg/L		Analysis Date 5/1/98		Prep Date:	
Client ID:		9804047		Run ID:		GC-1_980429A		SeqNo: 1366			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.44	0.5	20	0	107.2%	85	115				
Ethylbenzene	21.81	0.5	20	0	109.1%	85	115				
m,p-Xylene	41.5	1	40	0	103.8%	85	115				
Methyl tert-Butyl Ether	18.84	1	20	0	94.2%	85	115				
o-Xylene	21.8	0.5	20	0	109.0%	85	115				
Toluene	21.67	0.5	20	0	108.4%	85	115				
1,4-Difluorobenzene	93.01	0	100	0	93.0%	70	130				
4-Bromochlorobenzene	89.65	0	100	0	89.7%	70	130				
Fluorobenzene	93.08	0	100	0	93.1%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9804047
Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV7 QC0529/30		Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 5/1/98		Prep Date:
Client ID: 9804047		Run ID: GC-1_980429A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 1367
Analyte	Result						LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	22.29		0.5	20	0	111.4%	85 115
Ethylbenzene	22.67		0.5	20	0	113.4%	85 115
m,p-Xylene	42.96		1	40	0	107.4%	85 115
Methyl tert-Butyl Ether	19.19		1	20	0	96.0%	85 115
o-Xylene	23.08		0.5	20	0	115.4%	85 115
Toluene	22.65		0.5	20	0	113.2%	85 115
1,4-Difluorobenzene	92.95		0	100	0	93.0%	70 130
4-Bromochlorobenzene	95.47		0	100	0	95.5%	70 130
Fluorobenzene	92.56		0	100	0	92.6%	70 130

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 CCVB
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Sample ID: CCV8 QC0529/30		Batch ID: GC-1_980429	Test Code: SW8020A	Units: µg/L	Analysis Date 5/1/98		Prep Date:
Client ID: 9804047		Run ID: GC-1_980429A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 1368
Analyte	Result						LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	20.97		0.5	20	0	104.9%	85 115
Ethylbenzene	21.42		0.5	20	0	107.1%	85 115
m,p-Xylene	40.78		1	40	0	101.9%	85 115
Methyl tert-Butyl Ether	18.79		1	20	0	94.0%	85 115
o-Xylene	21.4		0.5	20	0	107.0%	85 115
Toluene	21.2		0.5	20	0	106.0%	85 115
1,4-Difluorobenzene	93.36		0	100	0	93.4%	70 130
4-Bromochlorobenzene	91.55		0	100	0	91.5%	70 130
Fluorobenzene	92.74		0	100	0	92.7%	70 130

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9804047
Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV9 QC0529/30		Batch ID: GC-1_980429		Test Code: SW8020A		Units: µg/L		Analysis Date 5/1/98		Prep Date:	
Client ID:		9804047		Run ID: GC-1_980429A				SeqNo: 1369			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.82	0.5	20	0	104.1%	85	115				
Ethylbenzene	20.9	0.5	20	0	104.5%	85	115				
m,p-Xylene	39.98	1	40	0	100.0%	85	115				
o-Xylene	20.65	0.5	20	0	103.3%	85	115				
Toluene	20.62	0.5	20	0	103.1%	85	115				
1,4-Difluorobenzene	93.34	0	100	0	93.3%	70	130				
4-Bromochlorobenzene	84.67	0	100	0	84.7%	70	130				
Fluorobenzene	93.67	0	100	0	93.7%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

5 of 5

On Site Technologies, LTD.

Date: 06-May-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9804047
Project: Thriftway Refinery; Bloomfield, N
Test No: SW8021

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatile Organics

Sample ID	14FBZ	4BCBZ	FLBZ				
9804033-02A	92.6	86.8	93.7				
9804033-02AMS	91.9	87.2	92.6				
9804033-02AMSD	91.8	88	92.9				
9804046-01A	93	92	92.5				
9804046-02A	93.2	92	93.3				
9804046-03A	93.4	92.2	92.9				
9804046-04A	92.9	93	93.2				
9804047-01A	92.8	90.6	93.6				
9804047-02A	93.6	100	92.4				
9804047-03A	92.3	87.5	92.7				
9804047-04A	90.3	91.2	91.4				
9804047-05A	92.9	91.3	92.9				
9804047-06A	93.3	91.6	93.6				
9804047-07A	92.9	90.5	93.6				
9804047-08A	93	90.2	93.6				
9804047-09A	104	85.9	98.2				
9804047-10A	91	92.7	90.7				
9804047-11A	84.5	90.2	87.8				
CCV1 QC0529/30	92.4	83.9	93.1				
CCV10 QC0529/30	93.5	87.9	93				
CCV2 QC0529/30	92.9	84.4	93.4				
CCV4 QC0529/30	92.9	93.2	93.4				
CCV5 QC0529/30	92.8	92	93.4				
CCV6 QC0529/30	93	89.6	93.1				
CCV7 QC0529/30	93	95.5	92.6				
CCV8 QC0529/30	93.4	91.5	92.7				
CCV9 QC0529/30	93.3	84.7	93.7				

Acronym

Surrogate

QC Limits

14FBZ = 1,4-Difluorobenzene
 4BCBZ = 4-Bromochlorobenzene
 FLBZ = Fluorobenzene

70-130
 70-130
 70-130

* Surrogate recovery outside acceptance limits

CLIENT: BioTech Remediation, Inc.
Work Order: 9804047
Project: Thriftway Refinery; Bloomfield, N
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
LCS WATER	92.5	85.2	93					
MB1	92.9	81	93.8					
MB2	93.2	90.2	93.7					
MB3	93.2	91.8	93.7					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

ON SITE

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

CHAIN OF CUSTODY RECORD

6956

Date: 4/24/98

Page 1 of 1

Purchase Order No.: 1378-235		Job No.	
Name: Same	Title		
Company	Company BioTech Remediation, Inc.		
Address	Mailing Address 210 E. 20th		
City, State, Zip	City, State, Zip Farmington, NM 87401		
Telephone No. 505-327-4965		Telefax No.	
ANALYSIS REQUESTED			
REPORT TO RESULTS TO		Number of Containers	
Sampling Location: Thriftway Refinery 620 Rd 5500 Bloomfield, nm 87413			
Sampler: Ken Sinks The Sinks			
SAMPLE IDENTIFICATION		LAB ID	
DATE	SAMPLE TIME	MATRIX	PRES.
4/28	930	1420	gpc
7/128	1635		
4/28	1202		
	1642		
	1150		
	1115		
	1035		
	1000		
	1602		
	1515		
	1735		
Relinquished by: Ken Sinks		Date/Time 7/24/98 0840	
Relinquished by:		Date/Time	
Relinquished by:		Date/Time	
Method of Shipment:		Rush	
Authorized by: <i>Ken Sinks</i>		Date 4/24/98	
(Client Signature Must Accompany Request)			
Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client			

ON SITE

CHAIN OF CUSTODY RECORD

67556

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256Date: 4/29/98Page 1 of 1

Purchase Order No.: <u>B98-235</u>		Job No.		Name <u>Terry Griffin</u>		Title	
Name <u>Same</u>		Dept.		Company <u>Biotech Remediation, Inc</u>			
Address				Mailing Address <u>710 E. 20th</u>			
City, State, Zip				City, State, Zip <u>Farmington, NM 87401</u>			
Sampling Location: <u>Therattway Refinery</u> <u>626 rd 5500</u> <u>Bloomfield, nm 87413</u>				Telephone No. <u>505-327-4965</u>		Telefax No.	
Sampler: <u>Ken Sinks</u> <u>Ken Sinks</u>				ANALYSIS REQUESTED			
SEND INVOICE TO		REPORT RESULTS TO		Number of Containers			
SAMPLE IDENTIFICATION		SAMPLE DATE		TIME		MATRIX	
Travel Blank		4/28		930		H2O gas	
AIR STRIPPER Influent		4/28		1655		2	
AIR STRIPPER EFFLUENT		4/28		1702		2	
mw-1		1640				2	
mw-8		1150				1	
mw-9		1115				2	
mw-10		1035				2	
mw-11		1000				2	
mw-14		1602				2	
mw-18		1515				2	
mw-19		1435				2	
Relinquished by: <u>Ken Sinks</u>		Date/Time <u>4/29/98 0840</u>		Received by: <u>TL</u>		Date/Time <u>4/29/98 0840</u>	
Relinquished by:		Date/Time		Received by:		Date/Time	
Relinquished by:		Date/Time		Received by:		Date/Time	
Method of Shipment:		Rush		24-48 Hours		10 Working Days	
Authorized by: <u>Ken Sinks</u> (Client Signature Must Accompany Request)		Date <u>4/29/98</u>		Special Instructions:			

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

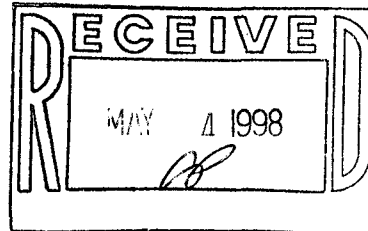
OFF: (505) 325-5667



LAB: (505) 325-1556

April 29, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery; Bloomfield, NM

Order No.: 9804040

Dear Terry Griffin,

On Site Technologies, LTD. received 4 samples on 4/27/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery; Bloomfield, NM
Lab Order: 9804040

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.
Analytical Comments for METHOD BTEX_W, SAMPLE 9804040-02A: Observed values exceeded Upper Quantitation Limit (Qualifier-E). Incapable of re-analysis with dilution due to only one (1) VOA vial being submitted for analysis.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT**Date:** 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804040	Client Sample ID:	Travel Blank
Lab ID:	9804040-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/24/98 3:00:00 PM
		COC Record:	6111

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	ND	1		µg/L	1	4/27/98
Benzene	ND	0.5		µg/L	1	4/27/98
Toluene	1.8	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	92.1	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	92.8	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	89.5	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT**Date:** 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804040	Client Sample ID:	Air Stripper Effluent
Lab ID:	9804040-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/24/98 5:15:00 PM
		COC Record:	6111

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	54	1		µg/L	1	4/27/98
Benzene	310	0.5	E	µg/L	1	4/27/98
Toluene	410	0.5	E	µg/L	1	4/27/98
Ethylbenzene	230	0.5	E	µg/L	1	4/27/98
m,p-Xylene	710	1	E	µg/L	1	4/27/98
o-Xylene	260	0.5	E	µg/L	1	4/27/98
Surr: Fluorobenzene	87.4	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	100.6	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	87.8	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804040	Client Sample ID:	MW-13
Lab ID:	9804040-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/24/98 4:45:00 PM
		COC Record:	6111

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	ND	1		µg/L	1	4/27/98
Benzene	ND	0.5		µg/L	1	4/27/98
Toluene	ND	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	91.9	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	92.7	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	88.0	70-130		%REC	1	4/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804040	Client Sample ID:	MW-15
Lab ID:	9804040-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/24/98 4:05:00 PM
		COC Record:	6111

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	ND	1		µg/L	1	4/27/98
Benzene	ND	0.5		µg/L	1	4/27/98
Toluene	ND	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	91.5	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	92.7	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	86.8	70-130		%REC	1	4/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804040

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980427	Test Code: SW8020A	Units: µg/L	Analysis Date 4/27/98	Prep Date:
Client ID: 9804040	Run ID: GC-1_980427A			SeqNo: 1287	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0643	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.2075	1			J
Methyl tert-Butyl Ether	.0509	1			J
o-Xylene	.1169	0.5			J
Toluene	.2233	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9804040
Project: Thriftway Refinery; Bloomfield, NM

Date: 29-Apr-98

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9804009-04AMS		Batch ID: GC-1_980427	Test Code: SW8020A	Units: µg/L	Analysis Date 4/27/98		SeqNo: 1288	Prep Date:	
Client ID: 9804040		Run ID: GC-1_980427A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val
Analyte	Result								
Benzene	10970		50	4000	6992	99.4%	56	128	
Ethylbenzene	4840		50	4000	717.9	103.0%	78	107	
m,p-Xylene	14320		100	8000	6297	100.3%	67	118	
Methyl tert-Butyl Ether	4371		100	4000	60.1	107.8%	70	130	
o-Xylene	5688		50	4000	1549	103.5%	78	107	
Toluene	15130		50	4000	11050	102.0%	74	116	

Sample ID: 9804009-04AMSD		Batch ID: GC-1_980427	Test Code: SW8020A	Units: µg/L	Analysis Date 4/27/98		SeqNo: 1289	Prep Date:	
Client ID: 9804040		Run ID: GC-1_980427A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val
Analyte	Result								
Benzene	10710		50	4000	6992	93.0%	56	128	10970
Ethylbenzene	4746		50	4000	717.9	100.7%	78	107	4840
m,p-Xylene	14040		100	8000	6297	96.7%	67	118	14320
Methyl tert-Butyl Ether	4129		100	4000	60.1	101.7%	70	130	4371
o-Xylene	5597		50	4000	1549	101.2%	78	107	5688
Toluene	14790		50	4000	11050	93.5%	74	116	15130

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804040

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID:		9804040		Run ID:		GC-1_980427A		SeqNo: 1286			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.31	0.5	40	0.0643	103.1%	56	128				
Ethylbenzene	41.29	0.5	40	0	103.2%	78	107				
m,p-Xylene	79.21	1	80	0.2075	98.8%	67	118				
Methyl tert-Butyl Ether	37.87	1	40	0.0509	94.5%	70	130				
o-Xylene	41.39	0.5	40	0.1169	103.2%	78	107				
Toluene	41.24	0.5	40	0.2233	102.5%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804040

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:		
Client ID:		9804040		Run ID:		GC-1_980427A		SeqNo: 1284				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		21.73	0.5	20	0	108.7%	85	115				
Ethylbenzene		21.93	0.5	20	0	109.7%	85	115				
m,p-Xylene		41.75	1	40	0	104.4%	85	115				
Methyl tert-Butyl Ether		19.76	1	20	0	98.8%	85	115				
o-Xylene		21.83	0.5	20	0	109.1%	85	115				
Toluene		21.79	0.5	20	0	109.0%	85	115				
1,4-Difluorobenzene		92.31	0	100	0	92.3%	70	130				
4-Bromochlorobenzene		89.18	0	100	0	89.2%	70	130				
Fluorobenzene		91.42	0	100	0	91.4%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID:		9804040		Run ID: GC-1_980427A				SeqNo: 1285			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.81	0.5	20	0	104.0%	85	115				
Ethylbenzene	20.94	0.5	20	0	104.7%	85	115				
m,p-Xylene	39.83	1	40	0	99.6%	85	115				
Methyl tert-Butyl Ether	18.99	1	20	0	95.0%	85	115				
o-Xylene	20.87	0.5	20	0	104.3%	85	115				
Toluene	20.9	0.5	20	0	104.5%	85	115				
1,4-Difluorobenzene	92.15	0	100	0	92.1%	70	130				
4-Bromochlorobenzene	90.38	0	100	0	90.4%	70	130				
Fluorobenzene	91.2	0	100	0	91.2%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9804040

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID:		9804040		Run ID:		GC-1_980427A		SeqNo: 1290			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.07	0.5	20	0	110.4%	85	115				
Ethylbenzene	22.54	0.5	20	0	112.7%	85	115				
m,p-Xylene	43.04	1	40	0	107.6%	85	115				
Methyl tert-Butyl Ether	19.31	1	20	0	96.6%	85	115				
o-Xylene	22.36	0.5	20	0	111.8%	85	115				
Toluene	22.52	0.5	20	0	112.6%	85	115				
1,4-Difluorobenzene	91.68	0	100	0	91.7%	70	130				
4-Bromochlorobenzene	117.5	0	100	0	117.5%	70	130				
Fluorobenzene	90.98	0	100	0	91.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

16

ON SITE

Date:

8/17

Page

of

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

Distribution:	White - On Site	Yellow ~ LAB	Pink -- Sampler	Goldenrod - Client
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TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: 098-235		Job No.		Name Terry G. Hoff		Title	
Name Sam		Company		Company BioTech Remediation Inc		Mailing Address 710 E. 20th St. Suite 400	
Address		City, State, Zip		City, State, Zip Farmington, NM 87401		Telephone No. 327-4965	
City, State, Zip		City, State, Zip		City, State, Zip		Telephone No.	
Sampling Location: Thrifty Refinery 626 Rd. 5500 Bloomfield, NM 87413		Number of Containers		ANALYSIS REQUESTED		LAB ID	
Sampler: Ken Sinks		SAMPLE IDENTIFICATION		SAMPLE DATE		SAMPLE TIME	
Travel Blank		MATRIX		PRES.		LAB ID	
A/C Stripped Effluent		4/24 1500		H2O		H2O	
MW-13		4/24 1715		1		1	
MW-15		4/24 1605		2		2	
4/24 1605		4/24 1605		2		2	
Relinquished by: Ken Sinks		Date/Time 4/22/98 0815		Received by: Heidi Rees		Date/Time 11/27/98 0915	
Relinquished by:		Date/Time		Received by:		Date/Time	
Relinquished by:		Date/Time		Received by:		Date/Time	
Method of Shipment:		Rush		24-48 Hours		10 Working Days	
Authorized by: Ken Sinks		Date		Special Instructions:			

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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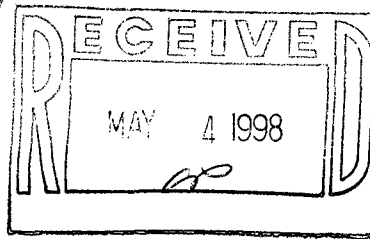
OFF: (505) 325-5667



LAB: (505) 325-1556

April 29, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery; Bloomfield, NM

Order No.: 9804041

Dear Terry Griffin,

On Site Technologies, LTD. received 7 samples on 4/27/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery; Bloomfield, NM
Lab Order: 9804041

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.
Analytical Comments for METHOD BTEX_W, SAMPLE 9804041-07A: Observed values exceeded Upper Quantitation Limit (Qualifier-E). Incapable of re-analysis with dilution due to only one (1) VOA vial being submitted for analysis.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	Travel Blank
Lab ID:	9804041-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 9:30:00 AM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	ND	1		µg/L	1	4/27/98
Benzene	ND	0.5		µg/L	1	4/27/98
Toluene	1.7	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	91.9	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	93.0	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	89.3	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	MW-5
Lab ID:	9804041-02A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 3:10:00 PM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	56	1		µg/L	1	4/27/98
Benzene	9.2	0.5		µg/L	1	4/27/98
Toluene	ND	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	91.3	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	91.8	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	88.1	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	MW-6
Lab ID:	9804041-03A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 3:50:00 PM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	3.7	1		µg/L	1	4/27/98
Benzene	6.3	0.5		µg/L	1	4/27/98
Toluene	0.6	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	91.3	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	91.2	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	86.2	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	MW-20
Lab ID:	9804041-04A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 10:50:00 AM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	83	1		µg/L	1	4/27/98
Benzene	6.8	0.5		µg/L	1	4/27/98
Toluene	9.4	0.5		µg/L	1	4/27/98
Ethylbenzene	18	0.5		µg/L	1	4/27/98
m,p-Xylene	19	1		µg/L	1	4/27/98
o-Xylene	1.1	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	85.5	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	88.6	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	83.0	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	MW-21
Lab ID:	9804041-05A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 11:45:00 AM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	49	1		µg/L	1	4/27/98
Benzene	2.1	0.5		µg/L	1	4/27/98
Toluene	1.4	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	86.6	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	90.3	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	83.1	70-130		%REC	1	4/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	MW-22
Lab ID:	9804041-06A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 2:15:00 PM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Methyl tert-Butyl Ether	18	1		µg/L	1	4/27/98
Benzene	ND	0.5		µg/L	1	4/27/98
Toluene	ND	0.5		µg/L	1	4/27/98
Ethylbenzene	ND	0.5		µg/L	1	4/27/98
m,p-Xylene	ND	1		µg/L	1	4/27/98
o-Xylene	ND	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	91.4	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	92.1	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	88.7	70-130		%REC	1	4/27/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-Apr-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9804041	Client Sample ID:	Air Stripper Effluent
Lab ID:	9804041-07A	Matrix:	AQUEOUS
Project:	Thriftway Refinery; Bloomfield, NM	Collection Date:	4/27/98 4:07:00 PM
		COC Record:	6954

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A		Analyst: DC		
Methyl tert-Butyl Ether	12	1		µg/L	1	4/27/98
Benzene	570	0.5	E	µg/L	1	4/27/98
Toluene	350	0.5	E	µg/L	1	4/27/98
Ethylbenzene	290	0.5	E	µg/L	1	4/27/98
m,p-Xylene	460	1	E	µg/L	1	4/27/98
o-Xylene	170	0.5		µg/L	1	4/27/98
Surr: Fluorobenzene	95.4	70-130		%REC	1	4/27/98
Surr: 1,4-Difluorobenzene	112.6	70-130		%REC	1	4/27/98
Surr: 4-Bromochlorobenzene	92.7	70-130		%REC	1	4/27/98

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804041

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980427	Test Code: SW8020A	Units: µg/L	Analysis Date 4/27/98	Prep Date:
Client ID: 9804041	Run ID: 980427A			SeqNo: 1287	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0643	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.2075	1			J
Methyl tert-Butyl Ether	.0509	1			J
o-Xylene	.1169	0.5			J
Toluene	.2233	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804041

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9804009-04AMS		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID:		9804041		Run ID:		GC-1_980427A		SeqNo: 1288			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	10970	50	4000	6992	99.4%	56	128				
Ethylbenzene	4840	50	4000	717.9	103.0%	78	107				
m,p-Xylene	14320	100	8000	6297	100.3%	67	118				
Methyl tert-Butyl Ether	4371	100	4000	60.1	107.8%	70	130				
o-Xylene	5688	50	4000	1549	103.5%	78	107				
Toluene	15130	50	4000	11050	102.0%	74	116				

Sample ID: 9804009-04AMSD		Batch ID: GC-1_980427	Test Code: SW8020A	Units: µg/L	Analysis Date 4/27/98				Prep Date:		
Client ID: 9804041		Run ID: GC-1_980427A			SeqNo: 1289						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	10710	50	4000	6992	93.0%	56	128	10970	2.3%	12	
Ethylbenzene	4746	50	4000	717.9	100.7%	78	107	4840	2.0%	11	
m,p-Xylene	14040	100	8000	6297	96.7%	67	118	14320	2.0%	10	
Methyl tert-Butyl Ether	4129	100	4000	60.1	101.7%	70	130	4371	5.7%	15	
o-Xylene	5597	50	4000	1549	101.2%	78	107	5688	1.6%	14	
Toluene	14790	50	4000	11050	93.5%	74	116	15130	2.3%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804041

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID:		9804041		Run ID:		GC-1_980427A		SeqNo: 1286			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.31	0.5	40	0.0643	103.1%	56	128				
Ethylbenzene	41.29	0.5	40	0	103.2%	78	107				
m,p-Xylene	79.21	1	80	0.2075	98.8%	67	118				
Methyl tert-Butyl Ether	37.87	1	40	0.0509	94.5%	70	130				
o-Xylene	41.39	0.5	40	0.1169	103.2%	78	107				
Toluene	41.24	0.5	40	0.2233	102.5%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 29-Apr-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9804041

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID: 9804041		Run ID: GC-1_980427A		PQL		SPK value		SeqNo: 1284			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.73	0.5	20	0	108.7%	85	115				
Ethylbenzene	21.93	0.5	20	0	109.7%	85	115				
m,p-Xylene	41.75	1	40	0	104.4%	85	115				
Methyl tert-Butyl Ether	19.76	1	20	0	98.8%	85	115				
o-Xylene	21.83	0.5	20	0	109.1%	85	115				
Toluene	21.79	0.5	20	0	109.0%	85	115				
1,4-Difluorobenzene	92.31	0	100	0	92.3%	70	130				
4-Bromochlorobenzene	89.18	0	100	0	89.2%	70	130				
Fluorobenzene	91.42	0	100	0	91.4%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID: 9804041		Run ID: GC-1_980427A		PQL		SPK value		SeqNo: 1285			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.81	0.5	20	0	104.0%	85	115				
Ethylbenzene	20.94	0.5	20	0	104.7%	85	115				
m,p-Xylene	39.83	1	40	0	99.6%	85	115				
Methyl tert-Butyl Ether	18.99	1	20	0	95.0%	85	115				
o-Xylene	20.87	0.5	20	0	104.3%	85	115				
Toluene	20.9	0.5	20	0	104.5%	85	115				
1,4-Difluorobenzene	92.15	0	100	0	92.1%	70	130				
4-Bromochlorobenzene	90.38	0	100	0	90.4%	70	130				
Fluorobenzene	91.2	0	100	0	91.2%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9804041

Project: Thriftway Refinery; Bloomfield, NM

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980427		Test Code: SW8020A		Units: µg/L		Analysis Date 4/27/98		Prep Date:	
Client ID: 9804041		Run ID: 9804041		GC-1_980427A				SeqNo: 1290			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.07	0.5	20	0	110.4%	85	115				
Ethylbenzene	22.54	0.5	20	0	112.7%	85	115				
m,p-Xylene	43.04	1	40	0	107.6%	85	115				
Methyl tert-Butyl Ether	19.31	1	20	0	96.6%	85	115				
o-Xylene	22.36	0.5	20	0	111.8%	85	115				
Toluene	22.52	0.5	20	0	112.6%	85	115				
1,4-Difluorobenzene	91.68	0	100	0	91.7%	70	130				
4-Bromochlorobenzene	117.5	0	100	0	117.5%	70	130				
Fluorobenzene	90.98	0	100	0	91.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

7969

ON SITE

Date: 4/20/98

Page

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: 890-235						Job No.	
Name Same		Company Same		Dept.			
Address							
City, State, Zip							
Sampling Location: Thriftway Restway 626 Rt. 5300 Bloomfield, NM 87413							
Sampler: Ken Sinks <i>Ken Sinks</i>							
SEND INVOICE TO		SAMPLE IDENTIFICATION		SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.
		Travel Blad		4/27	0930	H2O	REL COC
		MW-5			1510		
		MW-6			1530		
		MW-20			1050		
		MW-21			1145		
		MW-22			1415		
Air Stripper Effluent			✓	1607			
Relinquished by: <i>Ken Sinks</i>						Date/Time: 4/27/98	1640
Relinquished by:						Date/Time:	
Relinquished by:						Date/Time:	
Method of Shipment:						Rush	
Authorized by: <i>Ken Sinks</i>						Date: 4/27/98	
(Client Signature Must Accompany Request)							

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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CHAIN OF CUSTODY RECORD

6754

ON SITE

TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 4/27/98

Page 1 of 1

Purchase Order No.: 898-235		Job No.	
Name: Sam		Title	
Company: Sam		Company: BioTech Remediation, Inc	
Address:		Mailing Address: 710 E. 20th St. Suite 400	
City, State, Zip:		City, State, Zip: Farmington, NM 87401	
Telephone No.:		Telephone No.: 505-327-4965	
Telefax No.:		Telefax No.:	

SEND INVOICE TO				REPORT RESULTS TO			
Name: Terry Griffin				Title:			
Company: BioTech Remediation, Inc				Company: BioTech Remediation, Inc			
Mailing Address: 710 E. 20th St. Suite 400				Mailing Address: 710 E. 20th St. Suite 400			
City, State, Zip: Farmington, NM 87401				City, State, Zip: Farmington, NM 87401			
Telephone No.: 505-327-4965				Telephone No.: 505-327-4965			
Telefax No.:				Telefax No.:			

Sampling Location: Thruway Recovery 626 Rd. S500 Broomfield, NM 87413				ANALYSIS REQUESTED			
Sampler: Ken Smith Ken Smith				LAB ID			
SAMPLE IDENTIFICATION	SAMPLE		DATE	TIME	MATRIX	PRES.	LAB ID
	DATE	TIME					
Trench Blank	4/27	0930	4/27	0930	H2O	Red	9804041-01A
MW-5		1510		1510			-07A
MW-6		1530		1530			-07A
MW-20		1050		1050			-04A
MW-21		1145		1145			-05A
MW-22		1415		1415			-06A
Air Stripping Effluent		1607		1607			-07A

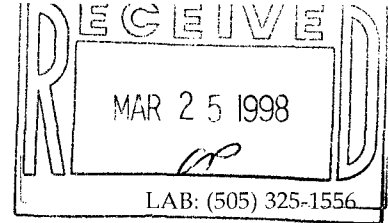
Relinquished by: Ken Smith	Date/Time: 4/27/98	Received by: DCS	Date/Time: 4/27/98 1610
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Method of Shipment:	Rush	24-48 Hours	10 Working Days	Special Instructions:
Authorized by: Ken Smith	Date: 4/27/98			

(Client Signature Must Accompany Request)

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

OFF: (505) 325-5667



March 18, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery Air Stripper

Order No.: 9803006

Dear Terry Griffin,

On Site Technologies, LTD. received 1 sample on 3/3/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,


David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Air Stripper
Lab Order: 9803006

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT**Date:** 18-Mar-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9803006	Client Sample ID:	Air Stripper Effluent
Lab ID:	9803006-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	3/3/98 9:06:00 AM
		COC#:	6885

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID		SW8021A		Analyst: DC		
Methyl tert-Butyl Ether	32	5		µg/L	5	3/6/98
Benzene	190	2.5		µg/L	5	3/6/98
Toluene	130	2.5		µg/L	5	3/6/98
Ethylbenzene	77	2.5		µg/L	5	3/6/98
m,p-Xylene	160	5		µg/L	5	3/6/98
o-Xylene	59	2.5		µg/L	5	3/6/98
Surr: Fluorobenzene	90.7	70-130		%REC	5	3/6/98
Surr: 1,4-Difluorobenzene	90.9	70-130		%REC	5	3/6/98
Surr: 4-Bromochlorobenzene	91.7	70-130		%REC	5	3/6/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803006
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT
Method Blank

Sample ID: MB1	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98	Prep Date:
Client ID:	9803006	Run ID:	GC-1_980306A	SeqNo: 814	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1423	0.5			J
Ethylbenzene	.106	0.5			J
m,p-Xylene	.2252	1			J
o-Xylene	.1162	0.5			J
Toluene	.0859	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9803006

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9803005-02AMS Batch ID: GC-1_980306 Test Code: SW8021A Units: µg/L Analysis Date: 3/6/98 Prep Date:
 Client ID: 9803006 Run ID: GC-1_980306A SeqNo: 815

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	502.3	5	400	93.74	102.1%	57	128				
Ethylbenzene	443.2	5	400	18.72	106.1%	78	107				
m,p-Xylene	840.9	10	800	33.49	100.9%	67	118				
o-Xylene	413.6	5	400	2.226	102.9%	78	107				
Toluene	425.6	5	400	15.73	102.5%	74	116				

Sample ID: 9803005-02AMSD Batch ID: GC-1_980306 Test Code: SW8021A Units: µg/L Analysis Date: 3/6/98 Prep Date:
 Client ID: 9803006 Run ID: GC-1_980306A SeqNo: 817

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	502.5	5	400	93.74	102.2%	57	128	502.3	0.0%	12	
Ethylbenzene	440.2	5	400	18.72	105.4%	78	107	443.2	0.7%	11	
m,p-Xylene	836.4	10	800	33.49	100.4%	67	118	840.9	0.5%	10	
o-Xylene	405.9	5	400	2.226	100.9%	78	107	413.6	1.9%	14	
Toluene	426.3	5	400	15.73	102.6%	74	116	425.6	0.2%	14	

Sample ID: 9803009-01AMS Batch ID: GC-1_980306 Test Code: SW8021A Units: µg/L Analysis Date: 3/6/98 Prep Date:
 Client ID: 9803006 Run ID: GC-1_980306A SeqNo: 816

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	379.9	2.5	200	179.2	100.3%	57	128				
Ethylbenzene	267.8	2.5	200	72.66	97.5%	78	107				
m,p-Xylene	546.3	5	400	165.5	95.2%	67	118				
o-Xylene	258.3	2.5	200	61.17	98.6%	78	107				
Toluene	321	2.5	200	126.7	97.2%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9803006**Project:** Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 9803009-01AMSD	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98				Prep Date:			
Client ID:	9803006	Run ID: GC-1_980306A		SeqNo: 818							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	366.3	2.5	200	179.2	93.5%	57	128	379.9	3.6%	12	
Ethylbenzene	258.5	2.5	200	72.66	92.9%	78	107	267.8	3.5%	11	
m,p-Xylene	527.6	5	400	165.5	90.5%	67	118	546.3	3.5%	10	
o-Xylene	250.3	2.5	200	61.17	94.5%	78	107	258.3	3.2%	14	
Toluene	310.1	2.5	200	126.7	91.7%	74	116	321	3.5%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803006
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98	Prep Date:
Client ID: 9803006	Run ID: GC-1_980306A	PQL	SPK value	SeqNo: 813	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	40.64	0.5	40	0.1423	101.3%
Ethylbenzene	41.55	0.5	40	0.106	103.6%
m,p-Xylene	79.12	1	80	0.2252	98.6%
o-Xylene	40.5	0.5	40	0.1162	101.0%
Toluene	40.3	0.5	40	0.0859	100.5%
				HighLimit	LowLimit
				114	84
				118	86
				150	50
				147	49
				120	87
				RPDLimit	%RPD

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9803006

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID:		9803006		Run ID:		GC-1_980306A		SeqNo: 809			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.8	0.5	20	0	109.0%	85	115		.		
Ethylbenzene	22.42	0.5	20	0	112.1%	85	115				
m,p-Xylene	42.28	1	40	0	105.7%	85	115				
o-Xylene	21.58	0.5	20	0	107.9%	85	115				
Toluene	21.56	0.5	20	0	107.8%	85	115				
1,4-Difluorobenzene	92.77	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	92.72	0	100	0	92.7%	70	130				
Fluorobenzene	91.51	0	100	0	91.5%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:				
Client ID: 9803006		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 810						
Analyte	Result					SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.29			0.5		20		0	106.5%	85	115			
Ethylbenzene	21.93			0.5		20		0	109.7%	85	115			
m,p-Xylene	41.51			1		40		0	103.8%	85	115			
o-Xylene	21.33			0.5		20		0	106.6%	85	115			
Toluene	21.11			0.5		20		0	105.5%	85	115			
1,4-Difluorobenzene	92.68			0		100		0	92.7%	70	130			
4-Bromochlorobenzene	92.7			0		100		0	92.7%	70	130			
Fluorobenzene	91.54			0		100		0	91.5%	70	130			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9803006
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803006		Run ID: GC-1_980306A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte		Result					RPD Ref Val	RPDLimit
Benzene		21.02	0.5	20	0	105.1%	85	115
Ethylbenzene		21.46	0.5	20	0	107.3%	85	115
m,p-Xylene		40.59	1	40	0	101.5%	85	115
o-Xylene		20.8	0.5	20	0	104.0%	85	115
Toluene		20.73	0.5	20	0	103.7%	85	115
1,4-Difluorobenzene		93.17	0	100	0	93.2%	70	130
4-Bromochlorobenzene		91.77	0	100	0	91.8%	70	130
Fluorobenzene		92.09	0	100	0	92.1%	70	130

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803006		Run ID: GC-1_980306A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte		Result					RPD Ref Val	RPDLimit
Benzene		20.55	0.5	20	0	102.8%	85	115
Ethylbenzene		21.26	0.5	20	0	106.3%	85	115
m,p-Xylene		39.7	1	40	0	99.2%	85	115
o-Xylene		20.47	0.5	20	0	102.3%	85	115
Toluene		20.47	0.5	20	0	102.4%	85	115
1,4-Difluorobenzene		93.03	0	100	0	93.0%	70	130
4-Bromochlorobenzene		91.11	0	100	0	91.1%	70	130
Fluorobenzene		91.82	0	100	0	91.8%	70	130

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ON SITE

CHAIN OF CUSTODY RECORD

5885

Date:

3/3/98

Page

1 of 1

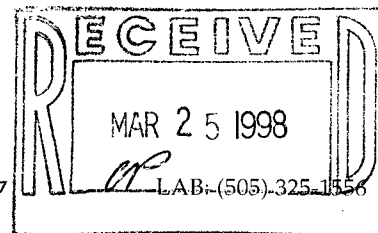
TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: B98-162		Job No.	
Name: Same		Title	
Company		Company: BioTech Remediation, Inc.	
Address		Mailing Address: 710 E. 20th St., Suite 400	
City, State, Zip		City, State, Zip: Farmington, NM 87401	
Telephone No.		Telephone No.: 327-4965	
Telefax No.		Telefax No.	
Sampling Location: Therftway Refining Air Stripper		ANALYSIS REQUESTED	
626 Rd. 5500			
Bloomfield, NM 87413			
Sampler: Ken Sinks			
SAMPLE IDENTIFICATION		LAB ID	
DATE		TIME	
3/3		0906	
H2O		H2O	
PRES.		H2O	
2		2	
REPORT RESULTS TO		Number of Containers	
Name: Terry Gaffin		Name	
Company: BioTech Remediation, Inc.		Company	
Mailing Address: 710 E. 20th St., Suite 400		Mailing Address	
City, State, Zip: Farmington, NM 87401		City, State, Zip	
Telephone No.: 327-4965		Telephone No.	
Telefax No.		Telefax No.	
Received by: Ken Sinks		Received by: Ken Sinks	
Date/Time: 3/3/98 1059		Date/Time: 3/3/98 1654	
Received by:		Received by:	
Date/Time:		Date/Time:	
Received by:		Received by:	
Date/Time:		Date/Time:	
Rush		Rush	
24-48 Hours		24-48 Hours	
10 Working Days		10 Working Days	
Special Instructions:		Special Instructions:	
Method of Shipment: Hand Delivered		Method of Shipment	
Authorized by: Ken Sinks		Authorized by	
Date: 3/3/98		Date	
(Client Signature Must Accompany Request)			

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

OFF: (505) 325-5667



March 18, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery

Order No.: 9803020

Dear Terry Griffin,

On Site Technologies, LTD. received 1 sample on 3/5/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to be "D Cox".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery
Lab Order: 9803020

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Mar-98

Client: BioTech Remediation, Inc.

Client Sample Info: Thriftway Refinery

Work Order: 9803020

Client Sample ID: Air Stripper Effluent

Lab ID: 9803020-01A **Matrix:** AQUEOUS

Collection Date: 3/5/98 12:08:00 PM

Project: Thriftway Refinery

COC#: 6893

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID			SW8021A		Analyst: DC	
Methyl tert-Butyl Ether	18	1		µg/L	1	3/6/98
Benzene	120	0.5		µg/L	1	3/6/98
Toluene	86	0.5		µg/L	1	3/6/98
Ethylbenzene	52	0.5		µg/L	1	3/6/98
m,p-Xylene	120	1		µg/L	1	3/6/98
o-Xylene	41	0.5		µg/L	1	3/6/98
Surr: Fluorobenzene	90.1	70-130		%REC	1	3/6/98
Surr: 1,4-Difluorobenzene	92.3	70-130		%REC	1	3/6/98
Surr: 4-Bromochlorobenzene	95.7	70-130		%REC	1	3/6/98

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803020
Project: Thriftway Refinery

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98	Prep Date:
Client ID:	9803020	Run ID:	GC-1_980306A	SeqNo: 814	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1423	0.5			J
Ethylbenzene	.106	0.5			J
m,p-Xylene	.2252	1			J
o-Xylene	.1162	0.5			J
Toluene	.0859	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803020
Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9803005-02AMS		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 815			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	502.3	5	400	93.74	102.1%	57	128				
Ethylbenzene	443.2	5	400	18.72	106.1%	78	107				
m,p-Xylene	840.9	10	800	33.49	100.9%	67	118				
o-Xylene	413.6	5	400	2.226	102.9%	78	107				
Toluene	425.6	5	400	15.73	102.5%	74	116				

Sample ID: 9803005-02AMSD		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 817			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	502.5	5	400	93.74	102.2%	57	128	502.3	0.0%	12	
Ethylbenzene	440.2	5	400	18.72	105.4%	78	107	443.2	0.7%	11	
m,p-Xylene	836.4	10	800	33.49	100.4%	67	118	840.9	0.5%	10	
o-Xylene	405.9	5	400	2.226	100.9%	78	107	413.6	1.9%	14	
Toluene	426.3	5	400	15.73	102.6%	74	116	425.6	0.2%	14	

Sample ID: 9803009-01AMS		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 816			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	379.9	2.5	200	179.2	100.3%	57	128				
Ethylbenzene	267.8	2.5	200	72.66	97.5%	78	107				
m,p-Xylene	546.3	5	400	165.5	95.2%	67	118				
o-Xylene	258.3	2.5	200	61.17	98.6%	78	107				
Toluene	321	2.5	200	126.7	97.2%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9803020

Project: Thriftway Refinery

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 9803009-01AMSD	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98	Prep Date:
Client ID: 9803020	Run ID: 9803020	PQL	SPK value	SeqNo: 818	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	366.3	2.5	200	179.2	93.5%
Ethylbenzene	258.5	2.5	200	72.66	92.9%
m,p-Xylene	527.6	5	400	165.5	90.5%
o-Xylene	250.3	2.5	200	61.17	94.5%
Toluene	310.1	2.5	200	126.7	91.7%
				RPD Ref Val	%RPD
				HighLimit	RPDLimit
				SeqNo: 818	Qual
				128	3.6%
				107	3.5%
				118	3.5%
				107	3.2%
				116	3.5%

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9803020

Project: Thriftway Refinery

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98	Prep Date:
Client ID: 9803020	Run ID: GC-1_980306A	PQL	SPK value	SeqNo: 813	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	40.64	0.5	40	0.1423	101.3% 84 114
Ethylbenzene	41.55	0.5	40	0.106	103.6% 86 118
m,p-Xylene	79.12	1	80	0.2252	98.6% 50 150
o-Xylene	40.5	0.5	40	0.1162	101.0% 49 147
Toluene	40.3	0.5	40	0.0859	100.5% 87 120

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9803020

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 809			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.8	0.5	20	0	109.0%	85	115				
Ethylbenzene	22.42	0.5	20	0	112.1%	85	115				
m,p-Xylene	42.28	1	40	0	105.7%	85	115				
o-Xylene	21.58	0.5	20	0	107.9%	85	115				
Toluene	21.56	0.5	20	0	107.8%	85	115				
1,4-Difluorobenzene	92.77	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	92.72	0	100	0	92.7%	70	130				
Fluorobenzene	91.51	0	100	0	91.5%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 810			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.29	0.5	20	0	106.5%	85	115				
Ethylbenzene	21.93	0.5	20	0	109.7%	85	115				
m,p-Xylene	41.51	1	40	0	103.8%	85	115				
o-Xylene	21.33	0.5	20	0	106.6%	85	115				
Toluene	21.11	0.5	20	0	105.5%	85	115				
1,4-Difluorobenzene	92.68	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	92.7	0	100	0	92.7%	70	130				
Fluorobenzene	91.54	0	100	0	91.5%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9803020

Project: Thriftway Refinery

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: 9803020		PQL		SPK value		SeqNo: 811			
Analyte	Result	QC-1_980306A		SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.02	0.5		20	105.1%	85	115				
Ethylbenzene	21.46	0.5		20	107.3%	85	115				
m,p-Xylene	40.59	1		40	101.5%	85	115				
o-Xylene	20.8	0.5		20	104.0%	85	115				
Toluene	20.73	0.5		20	103.7%	85	115				
1,4-Difluorobenzene	93.17	0		100	93.2%	70	130				
4-Bromochlorobenzene	91.77	0		100	91.8%	70	130				
Fluorobenzene	92.09	0		100	92.1%	70	130				

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803020		Run ID: 9803020		PQL		SPK value		SeqNo: 812			
Analyte	Result	GC-1_980306A		SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5		20	102.8%	85	115				
Ethylbenzene	21.26	0.5		20	106.3%	85	115				
m,p-Xylene	39.7	1		40	99.2%	85	115				
o-Xylene	20.47	0.5		20	102.3%	85	115				
Toluene	20.47	0.5		20	102.4%	85	115				
1,4-Difluorobenzene	93.03	0		100	93.0%	70	130				
4-Bromochlorobenzene	91.11	0		100	91.1%	70	130				
Fluorobenzene	91.82	0		100	91.8%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

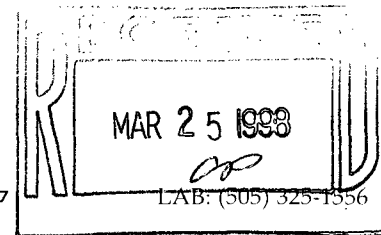
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
---------------	-----------------	--------------	----------------	--------------------

OFF: (505) 325-5667



March 18, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery Air Stripper

Order No.: 9803009

Dear Terry Griffin,

On Site Technologies, LTD. received 1 sample on 3/4/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,


David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Project: Thriftway Refinery Air Stripper
Lab Order: 9803009

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Mar-98

Client: BioTech Remediation, Inc.

Client Sample Info: Thriftway Refinery

Work Order: 9803009

Client Sample ID: Air Stripper Effluent

Lab ID: 9803009-01A Matrix: AQUEOUS

Collection Date: 3/4/98 11:30:00 AM

Project: Thriftway Refinery Air Stripper

COC#: 6887

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID			SW8021A			Analyst: DC
Methyl tert-Butyl Ether	24	5		µg/L	5	3/6/98
Benzene	180	2.5		µg/L	5	3/6/98
Toluene	130	2.5		µg/L	5	3/6/98
Ethylbenzene	73	2.5		µg/L	5	3/6/98
m,p-Xylene	160	5		µg/L	5	3/6/98
o-Xylene	61	2.5		µg/L	5	3/6/98
Surr: Fluorobenzene	91.3	70-130		%REC	5	3/6/98
Surr: 1,4-Difluorobenzene	91.4	70-130		%REC	5	3/6/98
Surr: 4-Bromochlorobenzene	92.0	70-130		%REC	5	3/6/98

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803009
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98	Prep Date:
Client ID: 9803009	Run ID: GC-1_980306A	PQL	SPK value	SeqNo: 814	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1423	0.5			J
Ethylbenzene	.106	0.5			J
m,p-Xylene	.2252	1			J
o-Xylene	.1162	0.5			J
Toluene	.0859	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803009
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9803005-02AMS		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803009		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 815			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	502.3	5	400	93.74	102.1%	57	128				
Ethylbenzene	443.2	5	400	18.72	106.1%	78	107				
m,p-Xylene	840.9	10	800	33.49	100.9%	67	118				
o-Xylene	413.6	5	400	2.226	102.9%	78	107				
Toluene	425.6	5	400	15.73	102.5%	74	116				

Sample ID: 9803005-02AMSD		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803009		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 817			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	502.5	5	400	93.74	102.2%	57	128	502.3	0.0%	12	
Ethylbenzene	440.2	5	400	18.72	105.4%	78	107	443.2	0.7%	11	
m,p-Xylene	836.4	10	800	33.49	100.4%	67	118	840.9	0.5%	10	
o-Xylene	405.9	5	400	2.226	100.9%	78	107	413.6	1.9%	14	
Toluene	426.3	5	400	15.73	102.6%	74	116	425.6	0.2%	14	

Sample ID: 9803009-01AMS		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: Air Stripper Effluent		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 816			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	379.9	2.5	200	179.2	100.3%	57	128				
Ethylbenzene	267.8	2.5	200	72.66	97.5%	78	107				
m,p-Xylene	546.3	5	400	165.5	95.2%	67	118				
o-Xylene	258.3	2.5	200	61.17	98.6%	78	107				
Toluene	321	2.5	200	126.7	97.2%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9803009
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 9803009-01AMSD		Batch ID: GC-1_980306	Test Code: SW8021A	Units: µg/L	Analysis Date: 3/6/98		Prep Date:				
Client ID: Air Stripper Effluent		9803009	Run ID: GC-1_980306A		SeqNo: 818						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	366.3	2.5	200	179.2	93.5%	57	128	379.9	3.6%	12	
Ethylbenzene	258.5	2.5	200	72.66	92.9%	78	107	267.8	3.5%	11	
m,p-Xylene	527.6	5	400	165.5	90.5%	67	118	546.3	3.5%	10	
o-Xylene	250.3	2.5	200	61.17	94.5%	78	107	258.3	3.2%	14	
Toluene	310.1	2.5	200	126.7	91.7%	74	116	321	3.5%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Date: 18-Mar-98

BioTech Remediation, Inc.

Laboratory Control Spike - generic

Prep Date:

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

On Site Technologies, LTD.

Date: 18-Mar-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9803009
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803009		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 809			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.8	0.5	20	0	109.0%	85	115				
Ethylbenzene	22.42	0.5	20	0	112.1%	85	115				
m,p-Xylene	42.28	1	40	0	105.7%	85	115				
o-Xylene	21.58	0.5	20	0	107.9%	85	115				
Toluene	21.56	0.5	20	0	107.8%	85	115				
1,4-Difluorobenzene	92.77	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	92.72	0	100	0	92.7%	70	130				
Fluorobenzene	91.51	0	100	0	91.5%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID: 9803009		Run ID: GC-1_980306A		PQL		SPK value		SeqNo: 810			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.29	0.5	20	0	106.5%	85	115				
Ethylbenzene	21.93	0.5	20	0	109.7%	85	115				
m,p-Xylene	41.51	1	40	0	103.8%	85	115				
o-Xylene	21.33	0.5	20	0	106.6%	85	115				
Toluene	21.11	0.5	20	0	105.5%	85	115				
1,4-Difluorobenzene	92.68	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	92.7	0	100	0	92.7%	70	130				
Fluorobenzene	91.54	0	100	0	91.5%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9803009
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID:		9803009		Run ID:		GC-1_980306A		SeqNo: 811			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.02	0.5	20	0	105.1%	85	115				
Ethylbenzene	21.46	0.5	20	0	107.3%	85	115				
m,p-Xylene	40.59	1	40	0	101.5%	85	115				
o-Xylene	20.8	0.5	20	0	104.0%	85	115				
Toluene	20.73	0.5	20	0	103.7%	85	115				
1,4-Difluorobenzene	93.17	0	100	0	93.2%	70	130				
4-Bromochlorobenzene	91.77	0	100	0	91.8%	70	130				
Fluorobenzene	92.09	0	100	0	92.1%	70	130				

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980306		Test Code: SW8021A		Units: µg/L		Analysis Date: 3/6/98		Prep Date:	
Client ID:		9803009		Run ID:		GC-1_980306A		SeqNo: 812			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.26	0.5	20	0	106.3%	85	115				
m,p-Xylene	39.7	1	40	0	99.2%	85	115				
o-Xylene	20.47	0.5	20	0	102.3%	85	115				
Toluene	20.47	0.5	20	0	102.4%	85	115				
1,4-Difluorobenzene	93.03	0	100	0	93.0%	70	130				
4-Bromochlorobenzene	91.11	0	100	0	91.1%	70	130				
Fluorobenzene	91.82	0	100	0	91.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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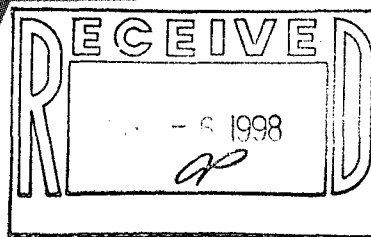
OFF: (505) 325-5667



LAB: (505) 325-1556

February 27, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Air Stripper

Order No.: 9802022

Dear Terry Griffin,

On Site Technologies, LTD. received 1 sample on 2/20/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Cox".
David Cox

SLO01

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT**Date:** 27-Feb-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery
Work Order:	9802022	Client Sample ID:	Air Stripper Effluent
Lab ID:	9802022-01A	Matrix:	WASTE WATER
Project:	Thriftway Refinery Air Stripper	Collection Date:	2/20/98 10:00:00 AM
		COC#:	6121

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID		SW8021A		Analyst: DC		
Methyl tert-Butyl Ether	5.6	1		µg/L	1	2/26/98
Benzene	83	0.5		µg/L	1	2/26/98
Toluene	96	0.5		µg/L	1	2/26/98
Ethylbenzene	46	0.5		µg/L	1	2/26/98
m,p-Xylene	160	1		µg/L	1	2/26/98
o-Xylene	49	0.5		µg/L	1	2/26/98
Surr: Fluorobenzene	102.3	70-130		%REC	1	2/26/98
Surr: 1,4-Difluorobenzene	104.9	70-130		%REC	1	2/26/98
Surr: 4-Bromochlorobenzene	96.9	70-130		%REC	1	2/26/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

1 of 1

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9802022

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:
Client ID:	9802022	Run ID: GC-1_980226A		SeqNo: 543	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1527	0.5			J
Ethylbenzene	.0551	0.5			J
m,p-Xylene	.1249	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.1071	0.5			J
Toluene	.1015	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.
Work Order: 9802022
Project: Thriftway Refinery Air Stripper

Date: 27-Feb-98

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9802020-02AMS		Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802022		Run ID: GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	400.7	5	5	400	4.221	99.1%	57	128
Ethylbenzene	448.1	5	5	400	17.86	107.6%	78	107
m,p-Xylene	1149	10	10	800	323.4	103.1%	67	118
Methyl tert-Butyl Ether	387.1	10	10	400	4.564	95.6%	70	130
o-Xylene	543.1	5	5	400	127.8	103.8%	78	107
Toluene	418.4	5	5	400	6.183	103.1%	74	116

SLS
2/27/98

Sample ID: 9802020-02AMSD		Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802022		Run ID: GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	387.2	5	5	400	4	95.8%	57	128
Ethylbenzene	431.9	5	5	400	18	103.5%	78	107
m,p-Xylene	1105	10	10	800	320	98.1%	67	118
Methyl tert-Butyl Ether	385.5	10	10	400	4	95.4%	70	130
o-Xylene	520.5	5	5	400	130	97.6%	78	107
Toluene	404.1	5	5	400	6.2	99.5%	74	116

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9802022
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98		Prep Date:				
Client ID:		9802022	Run ID:	GC-1_980226A	SeqNo: 542						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.83	0.5	40	0.1527	99.2%	84	114				
Ethylbenzene	43.26	0.5	40	0.0551	108.0%	86	118				
m,p-Xylene	82.61	1	80	0.1249	103.1%	50	150				
Methyl tert-Butyl Ether	38.14	1	40	0	95.4%	75	133				
o-Xylene	42.52	0.5	40	0.1071	106.0%	49	147				
Toluene	41.41	0.5	40	0.1015	103.3%	87	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: BioTech Remediation, Inc.

Work Order: 9802022

Project: Thriftway Refinery Air Stripper

Date: 27-Feb-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802022		Run ID: GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	20.68	0.5	0.5	20	0	103.4%	85	115
Ethylbenzene	22.35	0.5	0.5	20	0	111.8%	85	115
m,p-Xylene	42.25	1	1	40	0	105.6%	85	115
Methyl tert-Butyl Ether	19.43	1	1	20	0	97.2%	85	115
o-Xylene	21.7	0.5	0.5	20	0	108.5%	85	115
Toluene	21.35	0.5	0.5	20	0	106.8%	85	115
1,4-Difluorobenzene	99.8	0	0	100	0	99.8%	70	130
4-Bromochlorobenzene	91.98	0	0	100	0	92.0%	70	130
Fluorobenzene	98.2	0	0	100	0	98.2%	70	130

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802022		Run ID: GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	20.52	0.5	0.5	20	0	102.6%	85	115
Ethylbenzene	21.98	0.5	0.5	20	0	109.9%	85	115
m,p-Xylene	41.32	1	1	40	0	103.3%	85	115
Methyl tert-Butyl Ether	20.32	1	1	20	0	101.6%	85	115
o-Xylene	21.55	0.5	0.5	20	0	107.7%	85	115
Toluene	21.02	0.5	0.5	20	0	105.1%	85	115
1,4-Difluorobenzene	100.4	0	0	100	0	100.4%	70	130
4-Bromochlorobenzene	95.24	0	0	100	0	95.2%	70	130
Fluorobenzene	98.3	0	0	100	0	98.3%	70	130

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.
Work Order: 9802022
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID:		9802022		Run ID: GC-1_980226A				SeqNo: 540			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.49	0.5	20	0	102.5%	85	115				
Ethylbenzene	21.87	0.5	20	0	109.4%	85	115				
m,p-Xylene	41.1	1	40	0	102.7%	85	115				
Methyl tert-Butyl Ether	19.48	1	20	0	97.4%	85	115				
o-Xylene	21.36	0.5	20	0	106.8%	85	115				
Toluene	20.98	0.5	20	0	104.9%	85	115				
1,4-Difluorobenzene	99.39	0	100	0	99.4%	70	130				
4-Bromochlorobenzene	89.86	0	100	0	89.9%	70	130				
Fluorobenzene	97.94	0	100	0	97.9%	70	130				

Sample ID: CCV4 QC0529/30		Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98			Prep Date:			
Client ID:		9802022	Run ID: GC-1_980226A			SeqNo: 541					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.81	0.5	20	0	99.0%	85	115				
Ethylbenzene	21.33	0.5	20	0	106.6%	85	115				
m,p-Xylene	40.01	1	40	0	100.0%	85	115				
Methyl tert-Butyl Ether	20.28	1	20	0	101.4%	85	115				
o-Xylene	20.84	0.5	20	0	104.2%	85	115				
Toluene	20.32	0.5	20	0	101.6%	85	115				
1,4-Difluorobenzene	99.94	0	100	0	99.9%	70	130				
4-Bromochlorobenzene	90.7	0	100	0	90.7%	70	130				
Fluorobenzene	98.25	0	100	0	98.3%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

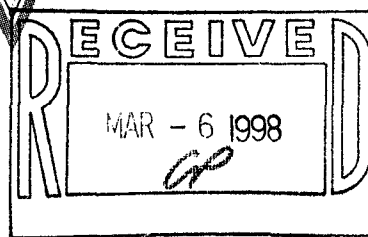
OFF: (505) 325-5667



LAB: (505) 325-1556

February 27, 1998

Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030



RE: Thriftway Refinery Air Stripper

Order No.: 9802029

Dear Terry Griffin,

On Site Technologies, LTD. received 1 sample on 2/23/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Cox".

David Cox

SLO01

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 27-Feb-98

Client: BioTech Remediation, Inc.

Client Sample Info: Thriftway Refinery

Work Order: 9802029

Client Sample ID: Air Stripper

Lab ID: 9802029-01A Matrix: AQUEOUS

Collection Date: 2/23/98 4:15:00 PM

Project: Thriftway Refinery Air Stripper

COC#: 6877

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID		SW8021A		Analyst: DC		
Methyl tert-Butyl Ether	13	1		µg/L	1	2/26/98
Benzene	200	0.5	E	µg/L	1	2/26/98
Toluene	160	0.5		µg/L	1	2/26/98
Ethylbenzene	81	0.5		µg/L	1	2/26/98
m,p-Xylene	220	1		µg/L	1	2/26/98
o-Xylene	69	0.5		µg/L	1	2/26/98
Surr: Fluorobenzene	98.6	70-130		%REC	1	2/26/98
Surr: 1,4-Difluorobenzene	105.3	70-130		%REC	1	2/26/98
Surr: 4-Bromochlorobenzene	91.6	70-130		%REC	1	2/26/98

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9802029
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT
Method Blank

Sample ID: MB1	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:
Client ID:	9802029	Run ID: GC-1_980226A		SeqNo: 543	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1527	0.5			J
Ethylbenzene	.0551	0.5			J
m,p-Xylene	.1249	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.1071	0.5			J
Toluene	.1015	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9802029

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9802020-02AMS		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802029		Run ID: GC-1_980226A		PQL		SPK value		SeqNo: 544			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	400.7	5	400	4.221	99.1%	57	128				
Ethylbenzene	448.1	5	400	17.86	107.6%	78	107				
m,p-Xylene	1149	10	800	323.4	103.1%	67	118				
Methyl tert-Butyl Ether	387.1	10	400	4.564	95.6%	70	130				
o-Xylene	543.1	5	400	127.8	103.8%	78	107				
Toluene	418.4	5	400	6.183	103.1%	74	116				

S 43 ✓
2/27/98

Sample ID: 9802020-02AMSD		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802029		Run ID: GC-1_980226A		PQL		SPK value		SeqNo: 545			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	387.2	5	400	4	95.8%	57	128	400.7	3.4%	12	
Ethylbenzene	431.9	5	400	18	103.5%	78	107	448.1	3.7%	11	
m,p-Xylene	1105	10	800	320	98.1%	67	118	1149	3.9%	10	
Methyl tert-Butyl Ether	385.5	10	400	4	95.4%	70	130	387.1	0.4%	20	
o-Xylene	520.5	5	400	130	97.6%	78	107	543.1	4.2%	14	
Toluene	404.1	5	400	6.2	99.5%	74	116	418.4	3.5%	14	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9802029

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:
Client ID: 9802029	Run ID: GC-1_980226A	PQL	SPK value	SeqNo: 542	
Analyte	Result	%REC	LowLimit	HighLimit	RPD Ref Val
Benzene	39.83	99.2%	84	114	
Ethylbenzene	43.26	108.0%	86	118	
m,p-Xylene	82.61	103.1%	50	150	
Methyl tert-Butyl Ether	38.14	95.4%	75	133	
o-Xylene	42.52	106.0%	49	147	
Toluene	41.41	103.3%	87	120	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9802029

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID:	CCV1 QC0529/30	Batch ID:	GC-1_980226	Test Code:	SW8021A	Units:	µg/L	Analysis Date:	2/26/98	Prep Date:
Client ID:	9802029	Run ID:	GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 538
Analyte	Result									
Benzene	20.68	0.5	20	0	103.4%	85	115			
Ethylbenzene	22.35	0.5	20	0	111.8%	85	115			
m,p-Xylene	42.25	1	40	0	105.6%	85	115			
Methyl tert-Butyl Ether	19.43	1	20	0	97.2%	85	115			
o-Xylene	21.7	0.5	20	0	108.5%	85	115			
Toluene	21.35	0.5	20	0	106.8%	85	115			
1,4-Difluorobenzene	99.8	0	100	0	99.8%	70	130			
4-Bromochlorobenzene	91.98	0	100	0	92.0%	70	130			
Fluorobenzene	98.2	0	100	0	98.2%	70	130			

Sample ID:	CCV2 QC0529/30	Batch ID:	GC-1_980226	Test Code:	SW8021A	Units:	µg/L	Analysis Date:	2/26/98	Prep Date:
Client ID:	9802029	Run ID:	GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 539
Analyte	Result									
Benzene	20.52	0.5	20	0	102.6%	85	115			
Ethylbenzene	21.98	0.5	20	0	109.9%	85	115			
m,p-Xylene	41.32	1	40	0	103.3%	85	115			
Methyl tert-Butyl Ether	20.32	1	20	0	101.6%	85	115			
o-Xylene	21.55	0.5	20	0	107.7%	85	115			
Toluene	21.02	0.5	20	0	105.1%	85	115			
1,4-Difluorobenzene	100.4	0	100	0	100.4%	70	130			
4-Bromochlorobenzene	95.24	0	100	0	95.2%	70	130			
Fluorobenzene	98.3	0	100	0	98.3%	70	130			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT
Continuing Calibration Verification Standard

CLIENT: BioTech Remediation, Inc.
Work Order: 9802029
Project: Thriftway Refinery Air Stripper

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802029		Run ID: GC-1_980226A						SeqNo: 540			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.49	0.5	20	0	102.5%	85	115				
Ethylbenzene	21.87	0.5	20	0	109.4%	85	115				
m,p-Xylene	41.1	1	40	0	102.7%	85	115				
Methyl tert-Butyl Ether	19.48	1	20	0	97.4%	85	115				
o-Xylene	21.36	0.5	20	0	106.8%	85	115				
Toluene	20.98	0.5	20	0	104.9%	85	115				
1,4-Difluorobenzene	99.39	0	100	0	99.4%	70	130				
4-Bromochlorobenzene	89.86	0	100	0	89.9%	70	130				
Fluorobenzene	97.94	0	100	0	97.9%	70	130				

Sample ID: CCV4 QC0529/30	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98		Prep Date:					
Client ID: 9802029	Run ID: GC-1_980226A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result										
Benzene	19.81	0.5	20	0	99.0%	85	115				
Ethylbenzene	21.33	0.5	20	0	106.6%	85	115				
m,p-Xylene	40.01	1	40	0	100.0%	85	115				
Methyl tert-Butyl Ether	20.28	1	20	0	101.4%	85	115				
o-Xylene	20.84	0.5	20	0	104.2%	85	115				
Toluene	20.32	0.5	20	0	101.6%	85	115				
1,4-Difluorobenzene	99.94	0	100	0	99.9%	70	130				
4-Bromochlorobenzene	90.7	0	100	0	90.7%	70	130				
Fluorobenzene	98.25	0	100	0	98.3%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN OF CUSTODY RECORD

6877

ON SITE

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 2/23/98

Page 1 of 1

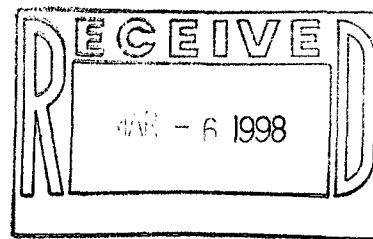
Purchase Order No.: 098-153		Job No.	
Name: Same		Title	
Company		BioTech Remediation, Inc.	
Address		710 E. 20th St. Suite 400	
City, State, Zip		Farmington, NM 87401	
Telephone No.		327-4965	
Telefax No.			
SEND INVOICE TO		ANALYSIS REQUESTED	
Sampling Location: The Highway between Air Stripper 626 Rd. 5500 Bloomfield, NM		Number of Containers	
Sampler: Ken Sinks		REPORT RESULTS TO	
SAMPLE IDENTIFICATION		LAB ID #	
DATE		2/23 1615	
TIME		H2O ycs 2	
DATE/TIME		2/23/98 1640	
MATRIX		H2O ycs 2	
PRES.			
Relinquished by: [Signature]		Received by: [Signature]	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Method of Shipment:		Rush	
Authorized by: [Signature]		Special Instructions:	
(Client Signature Must Accompany Request)		10 Working Days	
Date: 2/23/98		24-48 Hours	
Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client			

OFF: (505) 325-5667



LAB: (505) 325-1556

February 27, 1998



Terry Griffin
BioTech Remediation, Inc.
710 E. 20th, Suite 400
Farmington, NM 87401
TEL: (505) 632-3365
FAX (505) 632-0030

RE: Thriftway Refinery Air Stripper

Order No.: 9802019

Dear Terry Griffin,

On Site Technologies, LTD. received 1 sample on 2/19/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,


David Cox

SLO01

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 27-Feb-98

Client:	BioTech Remediation, Inc.	Client Sample Info:	Thriftway Refinery Bloomfield,
Work Order:	9802019	Client Sample ID:	Air Stripper Effluent
Lab ID:	9802019-01A	Matrix:	AQUEOUS
Project:	Thriftway Refinery Air Stripper	Collection Date:	2/19/98 10:00:00 AM
		COC#:	6118

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID		SW8021A		Analyst: DC		
Methyl tert-Butyl Ether	10	1		µg/L	1	2/26/98
Benzene	110	0.5		µg/L	1	2/26/98
Toluene	110	0.5		µg/L	1	2/26/98
Ethylbenzene	46	0.5		µg/L	1	2/26/98
m,p-Xylene	130	1		µg/L	1	2/26/98
o-Xylene	41	0.5		µg/L	1	2/26/98
Surr: Fluorobenzene	99.3	70-130		%REC	1	2/26/98
Surr: 1,4-Difluorobenzene	101.9	70-130		%REC	1	2/26/98
Surr: 4-Bromochlorobenzene	94.0	70-130		%REC	1	2/26/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.

Work Order: 9802019

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:
Client ID:	9802019	Run ID: GC-1_980226A		SeqNo: 543	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.1527	0.5			J
Ethylbenzene	.0551	0.5			J
m,p-Xylene	.1249	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.1071	0.5			J
Toluene	.1015	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9802019
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9802020-02AMS	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:						
Client ID:	9802019	Run ID: GC-1_980226A		SeqNo: 544							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	400.7	5	400	4.221	99.1%	57	128				S ✓ 6/2/98
Ethylbenzene	448.1	5	400	17.86	107.6%	78	107				
m,p-Xylene	1149	10	800	323.4	103.1%	67	118				
Methyl tert-Butyl Ether	387.1	10	400	4.564	95.6%	70	130				
o-Xylene	543.1	5	400	127.8	103.8%	78	107				
Toluene	418.4	5	400	6.183	103.1%	74	116				

S ✓
 02/27/98

Sample ID: 9802020-02AMSD		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID: 9802019		Run ID: GC-1_980226A		PQL		SPK value		SeqNo: 545			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	387.2	5	400	4	95.8%	57	128	400.7	3.4%	12	
Ethylbenzene	431.9	5	400	18	103.5%	78	107	448.1	3.7%	11	
m,p-Xylene	1105	10	800	320	98.1%	67	118	1149	3.9%	10	
Methyl tert-Butyl Ether	385.5	10	400	4	95.4%	70	130	387.1	0.4%	20	
o-Xylene	520.5	5	400	130	97.6%	78	107	543.1	4.2%	14	
Toluene	404.1	5	400	6.2	99.5%	74	116	418.4	3.5%	14	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9802019
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID:		9802019		Run ID:		GC-1_980226A		SeqNo: 542			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.83	0.5	40	0.1527	99.2%	84	114				
Ethylbenzene	43.26	0.5	40	0.0551	108.0%	86	118				
m,p-Xylene	82.61	1	80	0.1249	103.1%	50	150				
Methyl tert-Butyl Ether	38.14	1	40	0	95.4%	75	133				
o-Xylene	42.52	0.5	40	0.1071	106.0%	49	147				
Toluene	41.41	0.5	40	0.1015	103.3%	87	120				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 27-Feb-98

CLIENT: BioTech Remediation, Inc.
Work Order: 9802019
Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID:		9802019		Run ID:		GC-1_980226A		SeqNo: 538			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.68	0.5	20	0	103.4%	85	115				
Ethylbenzene	22.35	0.5	20	0	111.8%	85	115				
m,p-Xylene	42.25	1	40	0	105.6%	85	115				
Methyl tert-Butyl Ether	19.43	1	20	0	97.2%	85	115				
o-Xylene	21.7	0.5	20	0	108.5%	85	115				
Toluene	21.35	0.5	20	0	106.8%	85	115				
1,4-Difluorobenzene	99.8	0	100	0	99.8%	70	130				
4-Bromochlorobenzene	91.98	0	100	0	92.0%	70	130				
Fluorobenzene	98.2	0	100	0	98.2%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980226		Test Code: SW8021A		Units: µg/L		Analysis Date: 2/26/98		Prep Date:	
Client ID:		9802019		Run ID:		GC-1_980226A		SeqNo: 539			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.52	0.5	20	0	102.6%	85	115				
Ethylbenzene	21.98	0.5	20	0	109.9%	85	115				
m,p-Xylene	41.32	1	40	0	103.3%	85	115				
Methyl tert-Butyl Ether	20.32	1	20	0	101.6%	85	115				
o-Xylene	21.55	0.5	20	0	107.7%	85	115				
Toluene	21.02	0.5	20	0	105.1%	85	115				
1,4-Difluorobenzene	100.4	0	100	0	100.4%	70	130				
4-Bromochlorobenzene	95.24	0	100	0	95.2%	70	130				
Fluorobenzene	98.3	0	100	0	98.3%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: BioTech Remediation, Inc.

Work Order: 9802019

Project: Thriftway Refinery Air Stripper

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:
Client ID: 9802019	Run ID: GC-1_980226A	PQL	SPK value	SeqNo: 540	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC %RPD RPDLimit HighLimit RPD Ref Val Qual
Benzene	20.49	0.5	20	0	102.5% 115
Ethylbenzene	21.87	0.5	20	0	109.4% 115
m,p-Xylene	41.1	1	40	0	102.7% 115
Methyl tert-Butyl Ether	19.48	1	20	0	97.4% 115
o-Xylene	21.36	0.5	20	0	106.8% 115
Toluene	20.98	0.5	20	0	104.9% 115
1,4-Difluorobenzene	99.39	0	100	0	99.4% 130
4-Bromochlorobenzene	89.86	0	100	0	89.9% 130
Fluorobenzene	97.94	0	100	0	97.9% 130

Sample ID: CCV4 QC0529/30	Batch ID: GC-1_980226	Test Code: SW8021A	Units: µg/L	Analysis Date: 2/26/98	Prep Date:
Client ID: 9802019	Run ID: GC-1_980226A	PQL	SPK value	SeqNo: 541	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC %RPD RPDLimit HighLimit RPD Ref Val Qual
Benzene	19.81	0.5	20	0	99.0% 115
Ethylbenzene	21.33	0.5	20	0	106.6% 115
m,p-Xylene	40.01	1	40	0	100.0% 115
Methyl tert-Butyl Ether	20.28	1	20	0	101.4% 115
o-Xylene	20.84	0.5	20	0	104.2% 115
Toluene	20.32	0.5	20	0	101.6% 115
1,4-Difluorobenzene	99.94	0	100	0	99.9% 130
4-Bromochlorobenzene	90.7	0	100	0	90.7% 130
Fluorobenzene	98.25	0	100	0	98.3% 130

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

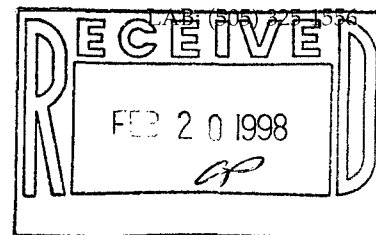
TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

OFF: (505) 325-5667



ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: 18-Feb-98
COC No.: 6857
Sample No.: 17510
Job No.: B98-137

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *812-Air Stripper; Outlet*

Sampled by: KS Date: 9-Feb-98 Time: 17:00

Analyzed by: DC Date: 13-Feb-98

Sample Matrix: *Liquid*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Methyl-t-Butyl Ether</i>	5.9	ug/L	1.0	ug/L
<i>Benzene</i>	77.5	ug/L	0.5	ug/L
<i>Toluene</i>	115.5	ug/L	0.5	ug/L
<i>Ethylbenzene</i>	47.1	ug/L	0.5	ug/L
<i>m,p-Xylene</i>	180.2	ug/L	1.0	ug/L
<i>o-Xylene</i>	53.9	ug/L	0.5	ug/L
	TOTAL	480.1	ug/L	

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved by: *[Signature]*
Date: *2/18/98*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *18-Feb-98*
COC No.: *6857*
Sample No.: *17511*
Job No.: *B98-137*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *812-Air Stripper; Inlet*
Sampled by: *KS* Date: *9-Feb-98* Time: *16:45*
Analyzed by: *DC* Date: *13-Feb-98*
Sample Matrix: *Liquid*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Methyl-t-Butyl Ether</i>	<i>37</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>Benzene</i>	<i>1761</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2542</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>963</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>3552</i>	<i>ug/L</i>	<i>20</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1079</i>	<i>ug/L</i>	<i>10</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>9935</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*
Date: *2/18/98*

