3R - <u>357</u>

GENERAL CORRESPONDENCE

YEAR(S): 204-1994



June 7, 2004

Mr. William Olson **Environmental Bureau** NM Energy, Minerals & Natural Resources Dept. 1220 South Saint Francis Drive Santa Fe, NM 87505

RE: Rio Bravo #1 (Formerly Templeton #1)

Dear Bill,

Attached I have included a synopsis of ground water test data found in files at Patina's Farmington office. Also included are data sent to me by Shawn Adams of Contract Environmental Services and the latest round of testing conducted in March of 2004. As one can surmise, over time some of the monitor wells may have been designated by different numbers, etc. I have done my best to summarize the information correctly.

RECEIVED

1011 1 1 2004

OIL CONSERVATION

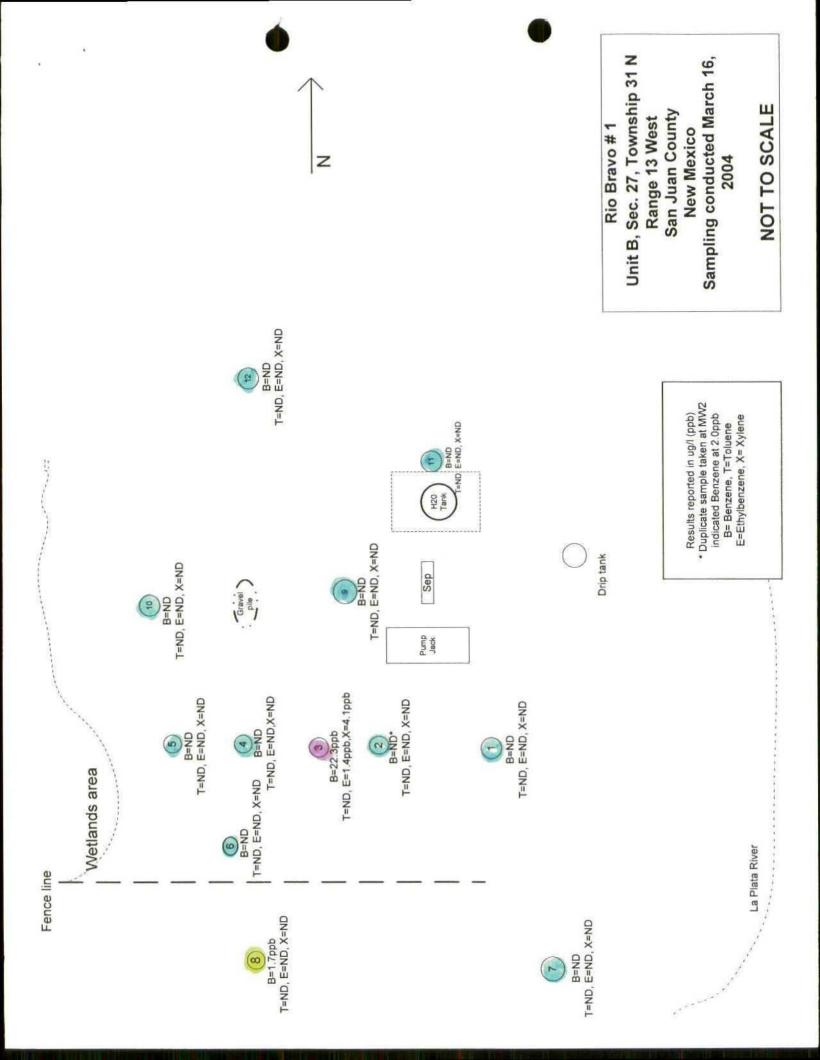
L.VISION

Based upon the latest laboratory data, I would like to propose that Monitor Wells 2 through 4 and well number 8 be put on a annual testing frequency until natural attenuation has run its course and the ground water has been remediated to meet water quality criteria. If you have any reservations regarding this proposal, please feel free to contact me.

Sincerely,

John Nussbaumer

1625 Broadwey, Suite 2000 Denver, CO 80202



Rio Bravo # 1 (Formally Templeton #1) Site Historical Ground Water Test Data

May, 1997*	Benzene	Toluene	Ethylbenzene	Xylene (s)
MW1	0.5	2.8	1.1	6.1
MW2	T62.1	64.6	306	4,136.6
MW3	(4,287.7)	110,634.6	7.97.9	18:566:17
MW4	•1,704.9	\$\$,9147,5×4x,	464.8	14,871

*Note: It is not certain that monitor wells mentioned in files prior to 2001 were numbered in the same sequence as those sampled from 2001. Also, excavation, air stripping of ground water and eventual air sparging were completed between 1997 and 2000. NOTE: All units are in Parts Per Billion (PPB)

June -July, 2000	Benzene	Toluene	Ethylbenzene	Xylene (s)
Temp-100 R1	2.7	ND	07	ND
Temp-101 R2	13000	32	50	190
Temp-102 R3	1.6	ND	10	20.9
Temp-103 R4	1.6	ND	10	20.9
Temp-104 R5	ND	ND	ND	ND
Temp-105 R6	ND	ND	ND	ND
Temp-106 R7	ND	ND	ND	ND
Temp-107 R8	ND	ND	ND	ND
Temp-108 R9	ND	ND	ND	ND
Temp-109 R10	ND	2	1.1	0.7
Temp-110 R11	ND	ND	ND	ND
Temp-111 R12	ND	ND	ND	ND

September, 2000	Benzene	Toluene	Ethylbenzene	Xylene (s)	
Temp-800 R2	1.0	ND	0.6	ND	
Temp-801 R3	160	1.9	14	60	
Temp-802 R4	0.9	ND	8.1	24.7	

December, 2000	ecember, 2000 Benzene Toluene		Ethylbenzene	Xylene (s)
Temp-200R1	ND	ND	1.2	ND
Temp-201R2	ND	ND	ND	ND
Temp-202R3	93	ND	4.8	4.8
Temp-203R4	ND	ND	1	7.2
Temp-204R10	ND	ND	ND	ND

February, 2001	Benzene	Toluene	Ethylbenzene	Xylene (s)
R1 MW	ND	ND	0.6	ND
R2 MW	ND	ND	ND	ND
R3 MW	100	ND	9.3	26.8
R4 MW	ND	ND	5	19
R10 MW	ND	ND	ND	ND

May, 2001	Benzene	Toluene	Ethylbenzene	Xylene (s)
Temp 900 #1	ND	ND	0.7	ND
Temp 901 #2	0.7	ND	ND	ND
Temp 902 #3	13010a	2.2	4.4	44
Temp 903 #4	ND	ND	3.8	10.6
Temp 904#5	ND	0.7	ND	ND

August, 2001	Benzene	Toluene	Ethylbenzene	Xylene (s)
Temp 100	ND	ND	0.6	1.9
Temp 101	1.8	ND	ND	ND
Temp 102	9.1	ND	1.8	2.7
Temp 103	ND	ND	7.6	6.4
Temp 104	ND	0.6	0.7	ND

March, 2004	Benzene	Toluene	Ethylbenzene	Xylene (s)
MW 1	ND	ND	ND	ND
MW 2	ND*	ND	ND	ND
MW 3	22:33	ND	1.4	4.1
MW 4	ND	ND	ND	ND
MW 5	ND	ND	ND	ND
MW 6	ND	ND	ND	ND
MW 7	ND	ND	ND	ND
MW 8	1.7	ND	ND	ND
MW 9	ND	ND	ND	ND
MW10	ND	ND	ND	ND
MW 11	ND	ND	ND	ND
MW 12	ND	ND	ND	ND

* Duplicate sample taken at this well indicated a concentration of benzene in water at 2.0ppb

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e-Hardcopy 2.0 Automated Report

03/30/04

Technical Report for

LT Environmental

Farmington

PAT0402

Accutest Job Number: T7101

Report to:

LT Environmental

ksiesser@ltenv.com

ATTN: Kyle Siesser

Total number of pages in report: 27



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

41.17

Ron Martino Laboratory Manager

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Sample Summary

LT Environmental

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HALL & ALLER

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Job No: T7101

Farmington Project No: PAT0402

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
T7101-1	03/16/04	09:10 KGS	03/17/04	AQ	Ground Water	MW01
T7101-2	03/16/04	09:15 KGS	03/17/04	AQ	Ground Water	.MW02
T7101-3	03/16/04	09:20 KGS	03/17/04	AQ	Ground Water	MW03
T7101-4	03/16/04	09:25 KGS	03/17/04	AQ	Ground Water	MW04
T7101-5	03/16/04	09:30 KGS	03/17/04	AQ	Ground Water	MW05
T7101-6	03/16/04	09:35 KGS	03/17/04	AQ	Ground Water	MW06
T7101-7	03/16/04	09:00 KGS	03/17/04	AQ	Ground Water	MW07
T7101-8	03/16/04	09:05 KGS	03/17/04	AQ	Ground Water	MW08
T7101-9	03/16/04	09:50 KGS	03/17/04	AQ	Ground Water	MW09
T7101-10	03/16/04	09:40 KGS	03/17/04	AQ	Ground Water	MW10
T7101-11	03/16/04	09:55 KGS	03/17/04	AQ	Ground Water	MW11
T7101-12	03/16/04	09:45 KGS	03/17/04	AQ	Ground Water	MW12
T7101-13	03/16/04	09:18 KGS	03/17/04	AQ	Ground Water	FARM02



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	Report of Analysis						
Client Sam Lab Sample Matrix: Method: Project:		Date Sampled: 03/16/04 Date Received: 03/17/04 Percent Solids: n/a					
Run #1 Run #2	File ID DF Z8259.D 1	Analyzed 03/27/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434
Run #1 Run #2	Purge Volume 5.0 ml						
Purgeable .	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2	Benzene	ND	2.0	1.0	ug/l		
108-88-3	Toluene	ND	2.0	1.0	ug/l		
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l		
1330-20-7	Xylene (total)	ND	6.0	2.0	ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits		
1868-53-7	Dibromofluoromethane	102%		80-1	124%		
17060-07-0	1,2-Dichloroethane-D4	103%		78-1	29%		

107%

127%

Report of Analysis

RL = Reporting Limit

2037-26-5

460-00-4

Toluene-D8

4-Bromofluorobenzene

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound





Client Sample ID:MW02Lab Sample ID:T7101-2Matrix:AQ - Ground WatMethod:SW846 8260BProject:Farmington		round Water 8260B	r		Date I	Sampled: Received nt Solids	: 03/17/04	
Run #1 Run #2	File 1D Z8260.D	DF 1	Analyzed 03/27/04	Ву ЈН	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Rec	overies	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoro 1,2-Dichloroet Toluene-D8 4-Bromofluoro	hane-D4	102% 104% 109% 121%		80-124% 78-129% 70-134% 86-139%			

ND = Not detected MDL - Method Detection Limit

- RL = Reporting Limit
- E = Indicates value exceeds calibration range
- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

Report of Analysis

R	ep	or	t c	of /	Ana	lysis	

Client Sam Lab Sampl Matrix: Method: Project:	e ID: T7101 AQ - SW84	MW03 T7101-3 AQ - Ground Water SW846 8260B Farmington				Date Sampled: 03/16/04 Date Received: 03/17/04 Percent Solids: n/a				
Run #1 Run #2	File ID Z8261.D	DF l	Analyzed 03/27/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434		
Run #1 Run #2	Purge Volum 5.0 ml	e								
Purgeable	Aromatics									
CAS No.	Compound		Result	RL	MDL	Units	Q			
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total		22.3 ND 1.4 4.1	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l] J			
CAS No.	Surrogate R	ecoveries	Run# 1	Run# 2	Lim	iits				

103%

104%

108%

123%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

1868-53-7

2037-26-5

460-00-4

17060-07-0

E = Indicates value exceeds calibration range

Dibromofluoromethane

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

J = Indicates an estimated value

80-124%

78-129%

70-134%

86-139%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound





			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:	e ID: T710 AQ - SW8		er		Date I	Sampled: Received: ht Solids:	: 03/17/04	
Run #1 Run #2	File ID Z8262.D	DF 1	Analyzed 03/27/04	Ву JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434
Run #1 Run #2	Purge Volum 5.0 ml	10						
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzen Xylene (tota		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate F	Recoveries	Run# 1	Run# 2	Lim	iits		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluc 1,2-Dichloro Toluene-D8 4-Bromofluc	oethane-D4	102% 103% 108% 125%		78-1 70-1	24% 29% 34% 39%		

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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1868-53-7

2037-26-5

460-00-4

17060-07-0

					-			
Client Sample Lab Sample Matrix: Method: Project:	e ID: T7101- AQ - C	-5 Ground Wa 5 8260B	ter		Date I	Sampled: Received: nt Solids:	: 03/17/04	
Run #1 Run #2	File ID Z8263.D	DF 1	Analyzed 03/27/04	Ву ЈН	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its		

101%

104%

111%

118%

Report of Analysis

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

Dibromofluoromethane

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

J = Indicates an estimated value

80-124%

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



								8			
Client Sam Lab Samp Matrix: Method: Project:	le ID: T710 AQ - SW8						Date Sampled:03/16/04Date Received:03/17/04Percent Solids:n/a				
Run #1 Run #2	File ID Z8264.D	DF 1	Analyzed 03/27/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434			
Run #1 Run #2	Purge Volum 5.0 ml	16									
Purgeable	Aromatics										
CAS No.	Compound		Result	RL	MDL	Units	Q				
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzen Xylene (tota		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l					
CAS No.	Surrogate F	Recoveries	Run# 1	Run# 2	2 Lim	its					

103%

106%

111%

118%

Report of Analysis

ND = Not detected MDL - Method Detection Limit

Dibromofluoromethane

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

RL = Reporting Limit

1868-53-7

2037-26-5

460-00-4

17060-07-0

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

80-124%

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



N

Report of Analysis	eport of Analysi	s
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Client Sam Lab Sampl Matrix: Method: Project:	e ID: T7101- AQ - C	.7 Ground Wate 5 8260B	er		Date I	Sampled: Received: nt Solids	: 03/17/04	
Run #1 Run #2	File ID Z8289. D	DF 1	Analyzed 03/29/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ435
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	nits		
1868-53-7	Dibromofluor	omethane	99%		80-1	24%		

98%

111%

120%

ND =	Not detected	MDL - Method Detection Limit

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

17060-07-0

2037-26-5

460-00-4

- RL = Reporting Limit
- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



17060-07-0

2037-26-5

460-00-4

Re	port	of	Analysis	
	POLU	~	I RANGEL J GAG	

Client Sam Lab Sampl Matrix: Method: Project:	e ID: T7101 AQ -	-8 Ground Wat 6 8260B	er		Date I	Sampled: Received: nt Solids:	: 03/17/04	
Run #1 Run #2	File ID Z8272.D	DF 1	Analyzed 03/27/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ434
Run #1 Run #2	Purge Volume 5.0 ml	e						
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total		1.7 ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l	J	
CAS No.	Surrogate R	ecoveries	Run# 1	Run# 2	Lim	its		
1868-53-7	Dibromofluo	romethane	93%		80-1	24%		

85%

108%

117%

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

E = Indicates value exceeds calibration range

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

J = Indicates an estimated value

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Client Sam Lab Sample Matrix: Method: Project:	e ID: T7101 AQ -	-9 Ground Wate 6 8260B	r		Date F	Sampled: Received nt Solids	: 03/17/04	
Run #1 Run #2	File ID Z8290.D	DF 1	Analyzed 03/29/04	Ву ЈН	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ435
Run #1 Run #2	Purge Volume 5.0 ml	e						
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate R	ecoveries	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluo 1,2-Dichloro Toluene-D8 4-Bromofluo	ethane-D4	98% 98% 114% 126%		78-1 70-1	24% 29% 34% 39%		

ND = Not detected MDL - Method Detection Limit

141

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

Report of Analysis

			1.							
Client Sam Lab Sampl Matrix: Method: Project:			Date S Date F Percer							
Run #1 Run #2	File ID Z8291.D	DF 1	Analyzed 03/29/04	Ву JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ435		
Run #1 Run #2	Purge Volume 5.0 ml									
Purgeable	Aromatics									
CAS No.	Compound		Result	RL	MDL	Units	Q			
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l				
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its				

98%

99%

111%

121%

Report of Analysis

ND = Not detectedMDL - Method Detection Limit RL = Reporting Limit

Dibromofluoromethane

1,2-Dichlorcethane-D4

4-Bromofluorobenzene

Toluene-D8

1868-53-7

2037-26-5

460-00-4

17060-07-0

E = Indicates value exceeds calibration range

J = Indicates an estimated value

80-124%

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

13 of 27 ACCUTEST.

Page 1 of 1

			Repor	rt of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	le ID: T7101-1	round Wate 8260B	г		Date F	Sampled: Received: nt Solids:	: 03/17/04	
Run #1 Run #2	File ID Z8292.D	DF 1	Analyzed 03/29/04	Ву JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ435
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Rec	overies	Run# 1	Run# 2	Lim	its		

99%

100%

113%

119%

1868-53-7

17060-07-0

2037-26-5

460-00-4

ND = Not detectedMDL - Method Detection Limit

Dibromofluoromethane

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

80-124%

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	e ID: T7101 AQ -	-12 Ground Wat 6 8260B	er	<u>, , , , , , , , , , , , , , , , ,</u>	Date F	Sampled: Received: nt Solids:	: 03/17/04	
Run #1 Run #2	File ID Z8293.D	DF 1	Analyzed 03/29/04	By JH	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VZ435
Run #1 Run #2	Purge Volume 5.0 ml	e						
Purgeable	Aromatics			_	_			
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total		ND ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate R	ecoveries	Run# 1	Run# 2	Lim	its		

100%

103%

111%

1i9%

ND = Not detectedMDL - Method Detection Limit

> 11.11

Dibromofluoromethane

4-Bromofiuorobenzene

17060-07-0 1,2-Dichloroethane-D4

Toluene-D8

RL = Reporting Limit

1868-53-7

2037-26-5

460-00-4

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

80-124%

78-129%

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	e ID: T71 AQ SW	RM02 01-13 - Ground Wate 846 8260B mington	er		Date 1	Sampled: Received nt Solids	: 03/17/04	
Run #1 Run #2	File ID Z8273.D	DF 1	Analyzed 03/27/04	Ву ЈН	Prep D n/a	Pate	Prep Batch n/a	Analytical Batch VZ434
Run #1 Run #2	Purge Volu 5.0 ml	me						
Purgeable	Aromatics							
CAS No.	Compound	i	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenze Xylene (tot		2.0 ND ND ND	2.0 2.0 2.0 6.0	1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate	Recoveries	Run# 1	Run# 2	Lin	nits		
1868-53-7 17060-07-0		uoromethane roethane-D4	92% 86%		-	124% 129%		

109%

117%

ND = Not detectedMDL - Method Detection Limit

TH

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RL = Reporting Limit

2037-26-5

460-00-4

Toluene-D8

4-Bromofluorobenzene

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

70-134%

86-139%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Misc.	Forms		an a	

Custody Documents and Other Forms

Includes the following where applicable:

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Chain of Custody





		CH	AIN O	FCI	JST	OD	Y	V					
			5 Harwin Drive,				FED-EX Tr	acking #		Bottie	Order Contr	ol#	
ACCUTEST.			TEL. 713-271-4 www.	700 FAX: 1 accutest.co		70	Accutest Q	uole #		Accul	iest Job #	-1	nt
Laboratories							anter Analishia				uninisi si si da	7	
pany Name		Project Name	Project Informa							Requested A	vialysis T		Matrix Codes DW - Drinking Water
pany Name LT Environmental		tar	mington	<u>~</u>									GW - Ground Water
" 4400 w 46th A	. 40.	Street US AV	JY 170	ว			0						WW - Water
		Cit.					-						SW - Surface Water
Denver State	E-mail	Project # Di -		/m	·		2						SO - Soil SL - Siudge
Hesiesser ksiessere	Henvicom	PATO	102				80						01-01
**303-433-9788		Fax* 303 - 4	33-143	a									LIQ - Other Liquid
pler's Name Kyle & Siessa	<u>ر</u>	Client Purchase Order #					ШX						AIR - Air
xutest Field ID / Point of Collection		Collection		Number of r	preserved Bot	ties	Ĩ						SOL - Other Solid WP - Wipe
mple #		Date Time Sampled By	Matrix bottles P	1 1	1 1 1 1	ē Š	00						LAB USE ONLY
MWOI		-16 04 0910 KGS				- *-	X	++				-+	
MWOZ		1 0915 1					\mathbf{x}						
MW03		0920					X						
MW04		0925					5						
MWOS		0930		\square			V						
MW06_		0935			TT		X						
MW07		0900					171						
MWOB		0905					X						
MWO9		0950					12						
MWID		V 0940 V	111				5						
Turneround Time (Business Days) 10 Day STANDARD Approved By: //				rable Informatic							nts / Remar		
10 Day STANDARD Approved By: 11 5 Day RUSH		Commercial *A*	L	EDD Format	·			Plea	ise fa	× (esult	stol	-15
3 Day EMERGENCY		Reduced Tier 1											
2 Day EMERGENCY		Full Tier 1					ŀ						
1 Day EMERGENCY							ŀ						
······		Commercial *A	" = Results Only										
ergency & Rush T/A data available VIA LabLink													
		Sample Custody must be docu	mented below each t	ime samples ch Reinquished		sion, includ	ling courier d	elivery.	Date Time.	Receiv			
Kol Susses	3-16-24 1	Fedex		2						2			
nquishe ().	Date Time Receive	nd by.		Relinquished	ζη.				Date Time:	Receiv	ed by		
nquished by.	Date Time Receive	Nby MIL	10.00	4 Custody Seal	#		5	Preserved where	appacable		A	2Pm	Ferro
	5-1+-04	THUT	INT	1					1	59		NC	· ·

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 T7101: Chain of Custody Page 1 of 3



ACCUTEST.	V	C		arwin Dri L. 713-271	ve, Ste	. 150, FAX	Houst ; 713-2		77036	FED-E>	Tracking					Order Co	sniroi #	1	101
Laboratories mpany Name <u>LT Environmental</u> tress 4400 w 46th Aug	Pr	rojeci Name treat	Fo	Project info	ste					0.0				Rec	uestad Ar	ałysis			Matrix Codes DW - Drinking Wate GW - Ground Water WW - Water
Denver sur Co A extension y le siesser Ksiesser	Boald Ci Boald Ci Henv, com		ington	4104	N Foð	M				BOBIB									SW - Surface Winhar SO - Soit SL - Skudge OI - Oit UQ - Other Liquid
ne# 303 - 433-9788 npler's Name Kyle G Siesser coutest Field ID / Point of Collection major #		303 Sent Purchase Orde	*#	<u>*1x 100000000000000000000000000000000000</u>	`		of preser	ved Bottle		RTEX									AIR - Air SOL - Other Sold WP - Wips
MWIL MWIZ FARMOZ	3-16	1-16 0955	Kos G Kas G	₩ 3 ¥ 3	2 3 7 3	Ŧ	¥ ¥			× × ×									
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Tumaround Time (Business Days) 10 Day STANDARD Approved By: / Date: 5 Day RUSH		Commen	Xel "B"	Data De	liverable	DO Form									Comme Fa			115	10 LIE
2 Dey EMERGENCY		C Full Tier		Results On	À														
ergency & Rush T/A data available V/A LabLink	Received I	" Fed ex		led below ea		samples Relinquisz Relinquisz Relinquisz	ned by	possessi	on, inclui	ding coun	er delive	v Ett	Date Te	nę.	Receive 2 Receive	nd by:			
Inquisitied by Date 14	3 Received I 5	by.				t Custody S	iezi #				Preser	ved where	e applicad	•		*		Cooler	Temp.

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T7101: Chain of Custody Page 2 of 3



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): nge. stódy	PRESERV. PH	1003,4,5,6 U. <2, >12,00	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,6 U. <2. >12, NA	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,6 U, <2, >12, NA	1,2,3,4,5,5 U, <2, >12, NA	1,2,3,4,5,6 U, <2, >12, NA			COOLER TEMP: COOLER TEMP:	Form: SM012										
-17-50 1000	INITIALS: AB	is circled, see variance for explanation): N Samples received within temp, range. N Sample received in proper containers. N Sample received with chain of custody. ters. on cooler.	VOLUME LOCATION	40m/ UREF					_		hot									EF: Encore Freezer : Other iments:		COOLER TEMP: 200	l Return to Client	
SAMPLE RECEIPT LOG DATE/TIME RECEIVED: <u>3-17-4</u>		If "N" is ciri 2. ON 6. ON 6. ON containers. vident on co	DATE SAMPLED MATRIX	3-16-04 GW		`			M M		EL MM	12 W	1							SUB: Subcontract EF: Enco 4: H2SO4 5: NAOH 6: Other Comments:		,]	Accutest disposal Hold	
Accutest.	TEnu.	tition/variance (Circle "Y" for yes and "N" for no. If "Y" is cir N Sample received in undamaged condition. 2. ON Sample received with proper pH. 4. ON N Sample volume sufficient for analysis. 6. ON N Chain of Custody matches sample IDs on containers. N Chain of Custody seal received intact and tamper evident on oc Oustody seal received intact and tamper evident on bo	DID BOTTLE#	5-										_			_		_	R: Volatile Refrig. 2: HCL 3: HNO3	Calland Alimning ha	od: Courier: Tracking#:	Method of sample disposal: (circle one) Accutest disposal	
	CLIENT: LT	Condition/Varian 1. CNN Sample 3. A CNS Sample 7. CNN Sample 8. Y CNS Custor 9. Y CUSTOR	SAMPLE or FIELD ID	1-13																LOCATION: WI: Walk-In V PRESERVATIVES: 1: None AH of water Franked events	pH of soils N/A	Delivery method: Courier. Tracking#:_	Method of samp	

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T7101: Chain of Custody Page 3 of 3



GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries

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• Matrix Spike and Duplicate Summaries





Method Blank Summary

Job Number:	T7101
Account:	LTENCODE LT Environmental
Project:	Farmington
r	

Sample VZ434-MB	File ID Z8258.D	DF 1	Analyzed 03/27/04	Ву JH	Prep Date n/a	Prep Batch n/a	Analytical Batch VZ434	

The QC reported here applies to the following samples:

Method: SW846 8260B

T7101-1, T7101-2, T7101-3, T7101-4, T7101-5, T7101-6, T7101-8, T7101-13

Q	Units	MDL	RL	Result	Compound	CAS No.
	ug/l	1.0	2.0	ND	Benzene	71-43-2
	ug/l	1.0	2.0	ND	Ethylbenzene	100-41-4
	ug/l	1.0	2.0	ND	Toluene	108-88-3
	ug/l	2.0	6.0	ND	Xylene (total)	1330-20-7
	ug/l ug/l	1.0 1.0	2.0 2.0	ND ND	Ethylbenzene Toluene	100-41-4 108-88-3

111 11 6 4

CAS No.	Surrogate Recoveries		Limits	
1868-53-7	Dibromofluoromethane	101%	80-124%	
17060-07-0	1,2-Dichloroethane-D4	100%	78-129%	
2037-26-5	Toluene-D8	108%	70-134%	
460-00-4	4-Bromofluorobenzene	121%	86-139%	

22 of 27

Method Blank Summary Job Number: T7101

Account: Project:			vironmental				
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ435-MB	Z8281.D	1	03/29/04	JĤ	n/a	n/a	VZ435

The QC reported here applies to the following samples:

T7101-7, T7101-9, T7101-10, T7101-11, T7101-12

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2	Benzene	ND	2.0	1.0	ug/l
100-41-4 108-88-3	Ethylbenzene Toluene	ND ND	2.0 2.0	1.0 1.0	ug/l ug/l
1330-20-7	Xylene (total)	ND	6.0	2.0	ug/l

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	80-124%
17060-07-0	1,2-Dichloroethane-D4	93%	78-129%
2037-26-5	Toluene-D8	112%	70-134%
460-00-4	4-Bromofluorobenzene	121%	86-139%

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Page 1 of 1

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Method: SW846 8260B



Blank Spike Summary Job Number: T7101

460-00-4

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Account: Project:	LTENCOD		vironmental				
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ434-BS	Z8257.D	1	03/27/04	JH	n/a	n/a	VZ434

The QC reported here applies to the following samples:

4-Bromofluorobenzene

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Method: SW846 8260B

T7101-1, T7101-2, T7101-3, T7101-4, T7101-5, T7101-6, T7101-8, T7101-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	20.4	82	70-116
100-41-4	Ethylbenzene	25	23.3	93	74-117
108-88-3	Toluene	25	23.0	92	72-116
1330-20-7	Xylene (total)	75	70.9	95	75-119
CAS No.	Surrogate Recoveries	BSP	Li	mits	
1868-53-7	Dibromofluoromethane	102%	80-	-124%	
17060-07-0	1,2-Dichloroethane-D4	103%	78-	-129%	
2037-26-5	Toluene-D8	110%	70-	-134%	

115%

86-139%



Blank Spike Summary Job Number: T7101

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The QC reported here applies to the following samples:

T7101-7, T7101-9, T7101-10, T7101-11, T7101-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2 100-41-4 108-88-3	Benzene Ethylbenzene Toluene	25 25 25	19.0 22.7 23.0	76 91 92	70-116 74-117 72-116
1330-20-7	Xylene (total)	75	69.5	93	75-119
CAS No.	Surrogate Recoveries	BSP	Lin	nits	
1868-53-7	Dibromofluoromethane	95%	80-3	124%	
17060-07-0	1,2-Dichloroethane-D4	94%	78-	129%	
2037-26-5	Toluene-D8	113%	70-1	34%	
460-00-4	4-Bromofluorobenzene	115%	86-1	139%	

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Page 1 of 1

Method: SW846 8260B



Matrix Spike Summary

Job Number:	T7101
Account:	LTENCODE LT Environmental
Project:	Farmington

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T7101-13MS a	Z8274.D	1	03/27/04	JH	n/a	n/a	VZ434
T7101-13	Z8273.D	1	03/27/04	JH	n/a	n/a	VZ434

The QC reported here applies to the following samples:

Method: SW846 8260B

T7101-1, T7101-2, T7101-3, T7101-4, T7101-5, T7101-6, T7101-8, T7101-13

CAS No.	Compound	T7101-13 ug/l Q	Spike ug/l	MS ug/l	MS %	Limits
71-43-2	Benzene	2.0	25	24.4	90	59-122
100-41-4	Ethylbenzene	ND	25	23.0	92	67-125
108-88-3	Toluene	ND	25	23.5	94	61-125
1330-20-7	Xylene (total)	ND	75	71.0	95	68-124
CAS No.	Surrogate Recoveries	MS	T7101-1	3 Lin	nits	
1868-53-7	Dibromofluoromethane	0%*	92%	80-1	124%	
17060-07-0	1,2-Dichloroethane-D4	2%*	86%	78-1	29%	
2037-26-5	Toluene-D8	0%*	109%	70-1	134%	
460-00-4	4-Bromofluorobenzene	2%*	117%	86-1	139%	

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(a) No MSD and surrogate due to instrument failure..



Matrix Spike/Matrix Spike Duplicate Summary Job Number: T7101

Job Number:T7101Account:LTENCODE LT EnvironmentalProject:Farmington

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Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T7101-12MS	Z8294.D	1	03/29/04	JH	n/a	n/a	VZ435
T7101-12MSD	Z8295.D	1	03/29/04	JH	n/a	n/a	VZ435
T7101-12	Z8293.D	1	03/29/04	JH	n/a	n/a	VZ435

The QC reported here applies to the following samples:

Method: SW846 8260B

T7101-7, T7101-9, T7101-10, T7101-11, T7101-12

CAS No.	Compound	T7101-12 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3 1330-20-7	Benzene Ethylbenzene Toluene Xylene (total)	ND ND ND ND	25 25 25 75	19.2 22.6 22.7 69.6	77 90 91 93	19.5 23.0 23.1 70.1	78 92 92 93	2 2 2 1	59-122/15 67-125/18 61-125/18 68-124/16
CAS No.	Surrogate Recoveries	MS	MSD	T71	01-12	Limits			
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	100% 101% 113% 115%	99% 102% 114% 114%	100 103 111 119	% %	80-124% 78-129% 70-134% 86-139%	6 6		

Page 1 of 1





April 9, 2001

New Mexico Energy, Minerals And Natural Resources Department Oil Conservation Division Mr. Roger Anderson 2040 South Pacheco Street Santa Fe, New Mexico 87505

RE: GROUNDWATER CLOSURE TEMPLETON 1E WELL SITE, SAN JUAN COUNTY, NEW MEXICO, RESPONSE TO NMOCD LETTER DATED OCTOBER 27, 2000

Dear Mr. Anderson,

This letter is in response to NMOCD Letter to Greystone Energy, Inc. (GEI) dated October 27, 2000 concerning groundwater closure for the Templeton 1E Well Site. This is an annual report on groundwater remediation and monitoring for the last year.

Remediation Activities

Greystone Energy, Inc. has conducted air sparging in the general area where contaminated groundwater was determined. The air sparging has included pumping forced air into ten (10) total locations alternating between the monitoring wells and inbetween injectors consisting of blank open-ended PVC Pipe that extends approximately ten feet (10') into the water table. Air sparging has not been operated most recently each day for the full twenty-four (24) hour period due to winter conditions. Throughout the winter months we estimate on average the air sparging unit operated one hundred (100) to one hundred fifty (150) hour each week, sometimes continually but more often intermittently. The air sparging unit runs on fuel gas making maintenance much simpler.

Monitoring Action

Periodically, approximately quarterly, the air sparging was halted to gather water samples from each of the monitor wells in the affected areas. Records of the results are maintained and reported to GEI as monitored and summarized as necessary for a more complete review. The report attached outlines in more detail the results of the last two (2) sampling periods and forms conclusions and makes recommendations.

No further action has been taken this last year in efforts to remediate or monitor the Templeton 1E Well Location on groundwater conditions. GEI will inform NMOCD if our plans change concerning this site. If you require additional information please don't

hesitate to contact CES at (505) 325-1198 or stop by at 410 N. Auburn Avenue, Farmington.

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Sincerely,

Shawn A. Adams Contract Environmental Services, Inc.

Cc: NMOCD Office – Aztec

April 9, 200	410 N. Aubu Farmington, New Ma 1 Phone (505) 32	urn exico 87401
Greystone E Mr. Chester 5802 U S H Farmington,	Deal wy 64	APR I 1 2001
RE: Ter	npleton #1E Monitor Well Sampling	CONSERVATION DIVISION
Dear Mr. De	eal,	_

Contract Environmental Services, Inc. (CES) is pleased to present this letter report for the monitor well sampling that was conducted on February 2, 2001. This report contains Sampling Procedures, Laboratory Analyses, Regulatory Guidelines, Conclusions and Recommendations.

Previously, five (5) monitor wells were sampled to help with the assessment on the groundwater condition. December, 2000 the previous round of groundwater sampling was conducted. Recently, the third round of monitor well sampling was completed. This report compares the results from the last two sample intervals to determine the actual affects of air sparging in the area of contamination.

Sampling Procedures

Each monitor well was measured for water level present and depth to bottom of well. A well volume of water was calculated and three (3) well volumes of water were removed prior to sampling. In the instances where the monitor well water went dry, sufficient time was allowed for recharge prior to sampling. This procedure is in accordance with sampling techniques discussed in the New Jersey Field Sampling Procedures Manual for monitor well sampling.

Water samples were collected in 40 ml VOA Vials. The samples were refrigerated after sampling and during transport to the laboratory.

Laboratory Analyses

Each water sample was analyzed for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) using SW8021B for Aromatic Volatiles. The individual analyses are presented in the following table.

Table 1-1.

** Note: all units are in Parts Per Billion (PPB)

Previous Round	l Of Sampling		December Sampling	
	Previous	Previous	Previous	Previous
Sample No.	Benzene	Toluene	Ethylbenzene	Xylenes
Temp-200 R1	ND	ND	1.2	ND
Temp-201 R2	ND	ND	ND	ND
Temp-202 R3	93	ND	4.8	4.8
Temp-203 R4	ND	ND	1	7.2
Temp-204 R10	ND	ND	ND	ND

Current Round Of Sampling

	Current	Current	Current	Current	
Sample No.	Benzene	Toluene	Ethylbenzene	Xylenes	
R1 MW	ND	ND	0.6	ND	
R2 MW	ND	ND	ND	ND	
R3 MW	100	ND	9.3	26.8	

Current	Current	Current	Current
Benzene	Toluene	Ethylbenzene	Xylenes
ND	ND	5	19
ND	ND	ND	ND
	Benzene ND	BenzeneTolueneNDND	BenzeneTolueneEthylbenzeneNDND5

** All other samples not shown were ND in concentration of contaminants

Regulatory Guidelines

The Safe Drinking Water Act allows for Benzene levels of 0.005 mg/l (PPM). The above laboratory levels are reported in ug/l (PPB). Each concentration value above should be divided by 1000 to convert PPB to PPM and then compared to the Standard of 0.005 PPM.

The State Of New Mexico Guidelines for Benzene are 0.01 (PPM), for Ethylbenzene 0.75 (PPM), and for Xylenes 0.62 (PPM).

Conclusions

Sample R3 MW has a Benzene level of 100 PPB. This is equivalent to 0.1 PPM and that is twenty times (20x) the EPA allowed level of Benzene.

For the State Of New Mexico, sample R3 MW is still 10 times (10x) the allowed level of Benzene. R3 MW contained the highest level of contamination. All other values measured were significantly less or below groundwater standards.

Recent groundwater information was used to generate a water table elevation map. This map is attached and shows approximate elevation contours. (Note: Monitor well R1 was arbitrarily given an elevation of 100.00, this does not mean it is 100' to groundwater from the surface.) Water table elevations ranged from 3-5' below ground level.

Recommendations

CES recommends that Greystone Energy, Inc. begin air sparging for the monitor wells that have manhole covers (R2 MW, R3 MW, R4 NW, R5 NW) in April and follow up with another set of water analyses in two to three (2-3) months. If at that point the groundwater is free of contaminants then only continue monitoring the wells until three (3) consecutive series of data confirm this.

Contract Environmental Services, Inc. appreciates this opportunity to present this letter report to Greystone Energy, Inc. If you have any questions or require additional information, please don't hesitate to contact us at (505) 325-1198 or stop by our offices at 410 N. Auburn, Farmington.

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Shawn A. Adams Contract Environmental Services, Inc.



OFF: (505) 325-5667

FAX: (505) 327-1496

LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 13-Feb-01

Client: Work Order:	Contract Environm 0102004	mental Services, In	IC.	Client Sample In Client Sample	-	
Lab ID:	0102004-01A	Matrix: AQUE	ous	Collection Da	ate: 2/2/200	1 12:00:00 PM
Project:	Templeton #1E			COC Reco	ord: 11110	
Parameter		Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOL	ATILES BY GC/PID	SI	N8021B			Analyst: DM
Benzene		ND	0.5	µg/L	1	2/7/2001
Toluene		ND	0.5	µg/L	1	2/7/2001
Ethylbenzene		0.6	0.5	µg/L	1	2/7/2001
m,p-Xylene		ND	1	µg/L	1	2/7/2001
o-Xylene		ND	0.5	µg/L	1	2/7/2001

 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



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 13-Feb-01

Client: Work Order:	Contract Environ 0102004	mental Services, Inc.		lient Sample II Client Sample	-	on #1E
Lab ID: Project:	0102004-02A Templeton #1E	Matrix: AQUEOUS			ate: 2/2/2001 ord: 11110	12:10:00 PM
Parameter		Result P	QL QI	ual Units	DF	Date Analyzed

AROMATIC VOLATILES BY GC/PID	sv	/8021B			Analyst: DM
Benzene	ND	0.5	μg/L	1	2/7/2001
Toluene	ND	0.5	µg/L	1	2/7/2001
Ethylbenzene	ND	0.5	µg/L	1	2/7/2001
m,p-Xylene	ND	1	µg/L	1	2/7/2001
o-Xylene	ND	0.5	µg/L	1	2/7/2001

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 I of I

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 13-Feb-01

Client: Work Order:	Contract Environr 0102004	nental Services, In	IC.	Client Sample In Client Sample	-	
Lab ID:	0102004-03A	Matrix: AQUE	OUS	Collection D:	ate: 2/2/200	1 12:20:00 PM
Project:	Templeton #1E	· · · · ·		COC Reco	rd: 11110	<u>.</u> <u>.</u>
Parameter		Result	PQL	Qual Units	DF	Date Analyzed
	ATILES BY GC/PID	SI	W8021B			Analyst: DM
Benzene		100	0.5	µg/L	1	2/7/2001
Toluene		ND	0.5	µg/L	1	2/7/2001
Ethylbenzene		9.3	0.5	µg/L	1	2/7/2001
m,p-Xylene		22	1	µg/L	1	2/7/2001
o-Xylene		4.8	0.5	µg/L	1	2/7/2001

 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 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 13-Feb-01

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Client:	Contract Environ	mental Services, Inc.	Client Sample Info	: Templet	on #1E
Work Order:	0102004		Client Sample ID	: R4 MW	
Lab ID:	0102004-04A	Matrix: AQUEOUS	Collection Date	: 2/2/2001	12:30:00 PM
Project:	Templeton #1E		COC Record	: 11110	

AROMATIC VOLATILES BY GC/PID	SV	/8021B			Analyst: DN
Benzene	ND	0.5	µg/L	1	2/7/2001
Toluene	ND	0.5	µg/L	1	2/7/2001
Ethylbenzene	5	0.5	µg/L	1	2/7/2001
m,p-Xylene	18	1	µg/L	1	2/7/2001
o-Xylene	1	0.5	µg/L	1	2/7/2001

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 I of l	

P.O. BOX 2606 • FARMINGTON, NM 87499

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 13-Feb-01

2/7/2001 2/7/2001

2/7/2001

Client: Work Order:	Contract Environr 0102004	nental Services, In	с.	Client Sample In Client Sample	-	
Lab ID:	0102004-05A	Matrix: AQUEC	DUS	Collection Da	ate: 2/2/2001	1 12:40:00 PM
Project:	Templeton #1E	_		COC Reco	ord: 11110	
Parameter		Result	PQL	Qual Units	DF	Date Analyzed
	ATILES BY GC/PID	sv	V8021B			Analyst: DM
Benzene		ND	0.5	µg/L	1	2/7/2001
Toluene		ND	0.5	μg/L	1	2/7/2001

Benzene	ND	0.5	µg/L	1
Toluene	ND	0.5	µg/L	1
Ethylbenzene	ND	0.5	µg/L	1
m,p-Xylene	ND	1	µg/L	1
o-Xylene	ND	0.5	µg/L	1

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

Interface Contract Environmental Services, Int. QC SUMMARY REPOI Inter: 0102004 Mathematical Services, Int. Mathematical Services, Int. Interpletion #IE Email: Coc1_unterr Test Code: Streat: Int. Amayes Date: 277201 Perp Date: 0.0004 MBI Basin (): Coc1_unterr Test Code: Streat: Int. Unit: µpl. Amayes Date: 277201 Perp Date: 0.0004 D: MBI Basin (): Coc1_unterr Test Code: Streat: Int. Unit: µpl. Amayes Date: 277201 Perp Date: 0.0004 D: MBI Pol. Srk reice: SPR Retrial %REC LowLinni: RPD Retrial %RPD RepUnit: 0.0004 D: D: SPK reice: SPR Retrial %REC LowLinni: RPD Retrial %RPD RepUnit: 0.0004 D: D			;								ž	, ,
Temploton #15 Method B1 7. Temploton #15 Temploton #15 Method B1 7. Mol 1 Baah (0: GC-1) 01007 Tent Code: Stread 1 Method B1 7. Mol 1 Baah (0: GC-1) 01007 Tent Code: Stread 1 Method B1 7. Mol 1 Baah (0: GC-1) 01007 Tent Code: Stread 1 Method B1 8. Mol 1 Code: Stread 1 Stread 1 Stread 1 Method B1 8. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 8. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 8. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 8. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 8. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 8. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 9. Mol 1 Stread 1 Stread 1 Stread 1 Stread 1 Stread 1 9. Mol 2	CLIENT: Work Order:	Contract Environmental Services			:				QC SUN	MMAR	Y REF	ORJ
D. MB1 Batch ID: CC-1_010201 Test Code: SW021B Units: Jp1 Amatysis Date: 217201 Prop Date: 3002 Result 01.02004 Run D: CC-1_010201A Serify: 3002 Serify: 3002 Result POL. SYK value SYK Ref Val Serify: 3002 Serify: 3002 Result POL. SYK value SYK Ref Val Serify: 3002 Serify: 3002 Result POL. SYK value SYK Ref Val Serify: 3002 Serify: 3002 Result ND 0.5 ND 0.5 ND 0.5 ND 0.5 ND 0.5 ND 0.5 ND 0.5 ND 0.5 ND 0.5 ND ND ND	Project:	Templeton #1E							,		Method	Blan
Realt PQL SYK value SYK Ref Val %FEC LowLinit HighLinit RPD Ref Val %RPD RPDLinit P ene N0 0.5	Sample ID: MB1 Client ID:	Batch ID: GC-1_010207 0102004	Test Code: Run ID:		Jnits: µg/L		Analysis SeqNo:	Date 2/7/2(35092	001	Prep D	ate:	
ene ND 0.5 E0LOY Effer ND 1 ND 0 1 ND 0.5 0.5 ND 0.5 0.5 ND 0.5 0.5	Analyte	Result		SPK value Si	PK Ref Val		owLimit	HighLimit	RPD Ref Val	%RPD		
e ND 05 e Huly Effer ND 05 ND 05 ND 05 ND 05 ND 15 ND 15 ND 105 ND 105	Benzene	QN	0.5	the supremum a transition of a second second		1			:	-		1
Bullyf Efter ND 0.5 ND 0.5 ND 0.5 ND 0.5	Ethylbenzene m.n_Yvlene		0.5									
ND 0.5 ND 0.5 ND-NOI Decenta Inte Actoritia Limit 5. Splik Recovery outside accepted in the associated Method Blan 1. Analyte detected in the associated Method Blan D. Analyte detected in the associated Method Blan	Methyl tert-Butyl E											
ND 0.5 Similar Sim	-Xylene		0.5									
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blan 1 - Analyte detected halow constitionents D - Dr.D. or constrainents D - Dr.D. or constrainents												
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blan 1 - Analyte detected below cumunitation limits D - DDD - not detected in the associated Method Blan												
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blan 1 - Analyte detected below cumunitation limite D DDD outside accepted recovery limits												
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blan I - Analyte detected below manitation limite					,							
	Qualifiers:	ND - Not Detected at the Reporting Limit J - Analyte detected below guantitation limits	şi	S - Spike F R - RPD oi	secovery outside acc	epted recover	ry limits	B	I - Analyte detected i	in the associa	ated Method	Blank

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On Site Technologies, LTD.	es, LTD.								Dat	Date: 13-Feb-01	
CLIENT: Contract Enviro Work Order: 0102004 Project: Templeton #1E	Contract Environmental Services, Inc. 0102004 Templeton #1E	, Inc.						QC SU	QC SUMMARY REPORT Sample Matrix Spike	MARY REPORT Sample Matrix Spike	DRT Spike
Sample ID: 0102003-23AMS Client ID:	Batch ID: GC-1_010207 0102004	Test Code: SW8021B Run ID: GC-1_010	SW8021B GC-1_010207A	Units: µg/L 'A		Analysis SeqNo:	Analysis Date 2/7/2001 SeqNo: 35093	2001 3	Prep Date:	ë	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	215.9	2.5	200	24.01	95.9%	8	111		:		
Ethylbenzene	506.1	2.5	200	335.8	85.1%	84	111				
m.p-Xylene	365.7	יי הי	400	3.556	90.5%	28 8	108				
meinyl tert-buryi ⊨tner o-Xvlene	2///.9 187.8	2.5	200	90.00 0	09.0% 93.9%	8	107				
Toluene	190.1	2.5	200	0	95.1%	6	107				
Sample ID: 0102003-23AMSD	Batch ID: GC-1_010207	Test Code: SW8021B	SW8021B	Units: µg/L		Analysis	Analysis Date 2/7/2001	001	Prep Date:		
Client ID:	0102004	Run ID:	GC-1_010207A	A		SeqNo:	35094	-			
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	221	2.5	200	24.01	98.5%	8	11	215.9	2.3%	8	
Ethylbenzene	516.3	2.5	200	335.8	90.2%	8	111	506.1	2.0%	7	
m,p-Xylene	373.8	ŝ	400	3.556	92.6%	84	108	365.7	2.2%	7	
Methyl tert-Butyl Ether	281	5	200	98.88	91.1%	80	117	277.9	1.1%	9	
o-Xylene	191	2.5	200	0	95.5%	89	107	187.8	1.7%	9	
Toluene	194.6	2.5	200	o	97.3%	06	107	190.1	2.3%	Q	
				:			: :				
Qualifiers: ND - Not De	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	le accepted rec	overy limits		B - Analyte detected in the associated Method Blank	ed in the associat	ted Method E	llank

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

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B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

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

Qualifiers:

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	Contract Environmental Services, Inc.	Inc.				•	ð		MARY	QC SUMMARY REPORT	RT
Work Order: 0102004 Project: Templeton #1E	n #1E						Continuing Calibration Verification Standard	libration	Verifica	ation Star	ıdard
Sample ID: CCV1 BTEX_0012	Batch ID: GC-1_010207	Test Code:	Test Code: SW8021B	Units: µg/L		Analysis	Analysis Date 2/7/2001		Prep Date:	ë	
Client ID:	0102004	Run ID:	GC-1_010207A	A'		SeqNo:	35088				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	f Val	%RPD	RPDLimit	Qual
Benzene	20.22	0.5	20	0	101.1%	85	115				:
Ethylbenzene	20.08	0.5	20	0	100.4%	85	115				
m,p-Xylene	39.82	*-	40	0	66.6%	85	115				
Methyl tert-Butyl Ether	18.52	~	20	0	92.6%	85	115				
o-Xylene	20.17	0.5	50	0	100.9%	85	115				
Toluene	19.98 75 26	0.5	20	0 0	99.9%	85 er	115				
1,4-Difluorobenzene	80.c/) (08	5 0	93.9%	88	103				
4-Bromochiorobenzene Fiuorobenzene	77.1	00	80 80	00	98.9% 96.4%	56 88	108 103				
Sample ID: CCV2 BTEX_0012	Batch ID: GC-1_010207	Test Code:	Test Code: SW8021B	Units: µg/L		Analysis	Analysis Date 2/7/2001		Prep Date:	;;	
Client ID:	0102004	Run ID:	GC-1_010207A	A		SeqNo:	35089				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	[:] Val	%RPD	RPDLimit	Qual
Benzene	19.72	0.5	20	0	98.6%	85	115	ì			
Ethylbenzene	19.59	0.5	20	0	6.79%	85	115				
m,p-Xylene	38.85	-	40	0	97.1%	85	115				
Methyl tert-Butyl Ether	17.94	*	20	0	89.7%	85	115				
o-Xylene	19.76	0.5	20	0	98.8%	85	115				
Toluene	19.52	0.5	20	0	97.6%	85	115				
1,4-Difluorobenzene	75.27	0	80	0	94.1%	85	103				
4-Bromochlorobenzene	80.52	0	80	0	100.7%	63	108				
Fluorobenzene	76.96	0	80	0	96.2%	88	103				

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

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X_0012 Batch ID: GC-1_010207 Test Code: SW3021B Units: µg/L Analysist 0102004 Run ID: GC-1_010207 Test Code: SW3021B Units: µg/L Analysist 8 0102004 Run ID: GC-1_010207 Seq No: Seq No: 8 8 012 SPK Ref Val %REC LowLimit 38.44 0.5 40 0 96.1% 85 37.85 0.5 40 0 94.5% 85 37.85 0.5 40 0 94.5% 85 38.18 0.5 40 0 95.5% 85 38.19 0.5 40 0 95.5% 85 74.86 0 80 95.5% 85 74.86 0 80 95.5% 85 76.67 0 95.5% 95 93 76.67 0 95.5% 95 93	ID: GC1_010207 Test Code: SW0021B Units: $\mu D.$ Analysis Date 2772001 Prep Date: 0102004 Run ID: GC1_1010207 Scalve: 3 salve: 3 salve: 3 salve: 3 salve: 3 roo Result PoL SPK value SPK fret Val % REC LowImit RPD Inni RPD Inni RPD Inni Q mail 33.44 0.5 40 0 8, HEC LowImit HSD Inni RPD Inni Q mail S replice 3 replice	ובווחוכוח	Confident Entri Official Services, life. 0102004 Terrelater #15	s, Inc.					Continu	QC SUI ing Calibratic	QC SUMMARY REPORT Continuing Calibration Verification Standard	PORT tandard
Autom Description Description <thdescription< th=""> <thdescription< th=""> <thd< th=""><th>Autom Description Autom Description Autom Description Autom Description Autom Result POL SerVarius SFR FerValue SFR FerValue</th><th>TTV 0013</th><th>z I</th><th>Taot Cada</th><th>. SM0004B</th><th>l laita:/l</th><th></th><th>A solution</th><th></th><th>)</th><th></th><th></th></thd<></thdescription<></thdescription<>	Autom Description Autom Description Autom Description Autom Description Autom Result POL SerVarius SFR FerValue SFR FerValue	TTV 0013	z I	Taot Cada	. SM0004B	l laita:/l		A solution)		
Result POL SPK value SPK RarVal %REC LowLimit RPD RarVal %RPD RPDLimit RPD Limit	Result POL SPK value SPK RetVal %REC LowLimit RPD RetVal %RD RPD Limit RPD RetVal %RD			Run ID:	GC-1_010207			SeqNo:	35090	100 -	Prep uate:	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3844 0.5 40 0 $96.1%$ 65 115 7501 1 90 0 $94.6%$ 65 115 3610 0.5 40 0 $94.6%$ 65 115 3613 0.5 40 0 $94.6%$ 65 115 3613 0.5 40 0 $94.6%$ 85 115 3813 0.5 40 0 $95.5%$ 85 115 3819 0.5 40 0 $95.5%$ 85 115 74.96 0 0 $90.5%$ 85 115 78.91 0 $90.5%$ 85 103 75.67 0 $90.5%$ 39 103 75.67 0 $90.5%$ 39 103 75.67 0 $95.6%$ 39 103 75.67 0 $95.6%$ 103 103			PQL		SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		
37,85 0.5 40 0 94.5% 35 75,01 1 80 0 94.5% 35 36,02 1 40 0 94.5% 35 38,16 0.5 40 0 94.5% 35 38,19 0.5 40 0 94.5% 35 38,19 0.5 40 0 96 90 74,86 0 80 0 96.5% 85 74,86 0 80 0 96.5% 85 76,67 0 80 0 96.5% 85 76,67 0 90 90 90 95.5% 86 76,67 0 90 90 90 90 95.5% 96 76,67 0 90 90 90 90 95.5% 96 96 76,78 90 90 90 90 96 96 96 96 76,78 90 90 90 90 96 96 96	37.85 0.5 40 0 $94.6%$ 85 75.01 1 80 0 $94.6%$ 85 36.02 1 40 0 $9.1%$ 85 38.19 0.5 40 0 $90.1%$ 85 38.19 0.5 40 0 $90.1%$ 85 74.86 0 0 80 0 $95.5%$ 85 74.96 0 80 0 $95.5%$			0.5	40	0	96.1%	85	115			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		37.85	0.5	40	0	94.6%	85	115			
36.02 1 40 0 90.1% 85 38.18 0.5 40 0 95.5% 85 38.19 0.5 40 0 95.5% 85 38.19 0.5 40 0 95.5% 85 78.91 0 80 0 93.6% 85 78.91 0 80 0 93.6% 85 76.67 0 80 0 93.6% 85 76.67 0 90 0 93.6% 85 76.67 0 90 0 93.6% 85 76.67 0 90 0 93.6% 85 76.67 0 93.6% 93.6% 85	36.02 1 40 0 90.1% 85 38.18 0.5 40 0 95.5% 85 38.19 0.5 40 0 95.5% 85 74.86 0 80 0 95.5% 85 78.91 0 80 0 93.6% 85 78.91 0 80 0 0 93.6% 85 76.91 0 80 0 90 90 90 90 76.91 0 90 90 90 90 90 90 90 90 76.91 0 80 90 90 90 90 90 90 76.91 0 90 90 90 90 90 90 90 90 90 90 76.91 90 90 90 90 90 90 90 90 90 90 76.91 90 90 90 90 90 90 90 90 90 90 90		75.01	-	80	0	93.8%	85	115			
33.18 0.5 40 0 95.5% 85 33.19 0.5 4.0 0 95.5% 85 78.91 0 80 0 95.5% 85 76.67 0 80 0 95.5% 85 76.67 0 96.6% 86 85 76.67 0 95.6% 86 85	38.18 0.5 40 0 95.5% 85 38.19 0.5 8 36.5% 85 85 38.19 0.5 9 9.5% 85 85 74.86 0 9 9.0 0 9.0 9.0 9.0 74.96 0 80 0 9.0	er	36.02	-	40	0	90.1%	85	115			
38.19 0.5 40 0 95.5% 85 74.86 0 80 0 93.6% 85 76.67 0 80 0 93.6% 85 76.67 0 80 0 95.8% 85	38.19 0.5 40 0 95.5% 85 78.91 0 80 0 93.6% 85 78.91 0 80 0 0 93.6% 85 76.67 0 80 0 93.6% 85 85 76.67 0 80 0 93.6% 85 85 76.67 0 80 0 93.6% 85 85 76.67 0 90 0 90 0 95.6% 85 76.67 0 93.6% 93.6% 93.6% 93.6% 93.6% 76.7 0 90 0 0 93.6% 93.6% 93.6% 76.7 93.6% 93.6% 93.6% 93.6% 93.6% 93.6% 77.7 93.6% 93.6% 93.6% 93.6% 93.6% 93.6% 77.7 93.6% 93.6% 93.6% 93.6% 93.6% 93.6% 77.7 93.6% 93.6% 93.6% 93.6% 93.6% 93.6% 93.6% <		38.18	0.5	40	0	95.5%	85	115			
74.86 0 80 0 33.6% 85 78.91 0 80 0 38.6% 93 76.67 0 80 0 93.6% 93 76.67 0 90 0 90.0 0 93.6% 93 76.67 0 90.0 0 90.0 0 95.8% 93 76.61 0 90.0 0 90.0 90.0 93.6% 93 76.61 0 90.0 90.0 90.0 93.6% 93 93.6% 76.61 0 90.0 90.0 90.0 93.6% 93.6% 93.6% 76.61 0 90.0 90.0 90.0 93.6% 93.6% 93.6% 76.61 90.0 90.0 90.0 90.0 93.6% 93.6% 93.6% 77.61 90.0 90.0 90.0 90.0 93.6% 93.6% 93.6% 77.61 90.0 90.0 90.0 90.0 90.0 90.0 90.0 90.0 90.0 90.0 <td>74.85 0 83.6% 83 78.91 0 80 0 93.6% 93 76.01 0 80 0 0 95.6% 93 76.01 0 90 0 95.6% 93 93 76.01 0 90 0 95.6% 93 93 76.01 0 90 0 95.6% 93 93 76.01 0 93 93 93 93 93 76.01 0 93 93 93 93 93 93 76.01 0 93 <</td> <td></td> <td>38.19</td> <td>0.5</td> <td>40</td> <td>0</td> <td>95.5%</td> <td>85</td> <td>115</td> <td></td> <td></td> <td></td>	74.85 0 83.6% 83 78.91 0 80 0 93.6% 93 76.01 0 80 0 0 95.6% 93 76.01 0 90 0 95.6% 93 93 76.01 0 90 0 95.6% 93 93 76.01 0 90 0 95.6% 93 93 76.01 0 93 93 93 93 93 76.01 0 93 93 93 93 93 93 76.01 0 93 <		38.19	0.5	40	0	95.5%	85	115			
	78.91 0 80 0 90.5% 93 76.67 0 80 0 95.8% 93 77.04 0 95.9% 93 94 94		74.86	0	80	0	93.6%	85	103			
	76.0 0 90.0 0 90.0<	sne	78.91	0	80	0	98.6%	6 3	108			
			76.67	0	80	0	95.8%	88	103			
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B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

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

Qualifiers:

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On Site Technologies, LTD.

0102004

Templeton #1E

Contract Environmental Services, Inc.

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CLIENT:

Project:

Work Order:

Date: 13-Feb-01

QC SUMMARY REPORT SURROGATE RECOVERIES

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Test No:	SW8021B			Aromatic Volatiles by GC/PID
Sample ID	14FBZ	4BCBZ	FLBZ	
0102003-21A	98.9	96.3	102	
0102003-23A	96.2	98.4	97.3	
0102003-23AMS	95.6	100	97	
0102003-23AMSD	95.4	99	97.3	
0102003-24A	97	98.3	95.4	
0102003-25A	98.2	99.9	96.1	
0102003-28A	94	99.6	94.4	
0102003-30A	99	97.8	99	
0102003-32A	97.4	99.5	98.3	
0102003-33A	101	105	100	
0102003-34A	95.5	99.6	96.8	
0102003-35A	95	98.5	96.2	
0102004-01A	93.9	98.6	95.4	
0102004-02A	97.3	102	99.7	
0102004-03A	90.6	96	91.5	
0102004-04A	92.7	96.1	93.6	
0102004-05A	94.5	101	97.3	;
0102005-01A	105 *	99.4	98	
0102005-02A	95.5	99.5	97.6	
0102005-03A	95.5	96.7	97.2	
0102005-04A	94.8	100	97	
CCVI BTEX_0012	1 93.8	98.9	96.4	
CCV2 BTEX_0012	1 94.1	101	96.2	
CCV3 BTEX_0012	1 93.6	98.6	95.8	
LCS WATER	93.9	99.7	95.6	
MB1	95.2	98.3	96.8	

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	85-103
4BCBZ	= 4-Bromochlorobenzene	93-108
FLBZ	= Fluorobenzene	88-103

* Surrogate recovery outside acceptance limits

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MON SITE	CHAIN OF CI	USTO	F CUSTODY RECORI	ECORD	Date: 1/1/2/	
TECHNOLOGIES, LTD.	612 E. Murray Dr. • P.O. Box 2606 • Farmi LAB: (505) 325-5667 • FAX: (505)	2606 • Farmington, NM 87499 • FAX: (505) 327-1496	66		Page:	
Purchase Order No.:	Project No.	0.	(~~~~~~~~~~~ Name ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	N 1210 4745	Title	
■ Name (1997) / 2004 (TR(Company Company	$ \rangle$	1 4 4 4 1 - 5 20 5	
Z Company	Dept.		Mailing Address	416 N. 1.	View Are	
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Water Gradient Survey - Templeton #1E

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	Water Depth (inches)	Relative Heights (feet) R1=0.000'	R.H. (inches)	Invert R.H. (inches)	Adj.Height (inches)
R1	43.563	0.000	0.000	0.000	0.000
R2	32.250	0.865	10.380	-10.380	0.933
R3	33.625	0.535	6.420	-6.420	3.518
R4	31.000	0.540	6.480	-6.480	6.083
R5	40.938	-0.415	-4.980	4.980	7.605
R6	38.938	0.355	4.260	-4.260	0.365
R7	56.500	0.315	3.780	-3.780	-16.717
R8	43.438	0.855	10.260	-10.260	-10.135
R9	34.500	-0.319	-3.828	3.828	12.891
R10	31.938	-0.517	-6.204	6.204	17.829
R11	57.813	-2.163	-25.956	25.956	11.706
R12	35.063	-1.123	-13.476	13.476	21.976

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Water Gradient Survey - Templeton #1E

	Water Depth	Relative Heights	R.H.	Invert R.H.	Adj.Height
	(inches)	(feet) R1=0.000'	(inches)	(inches)	(inches)
R1	43.563	0.000	0.000	0.000	0.000
R2	32.250	0.865	10.380	-10.380	0.933
R3	33.625	0.535	6.420	-6.420	3.518
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R5	40.938	-0.415	-4.980	4.980	7.605
R6	38.938	0.355	4.260	-4.260	0.365
R7	56.500	0.315	3.780	-3.780	-16.717
R8	43.438	0.855	10.260	-10.260	-10.135
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R11	57.813	-2.163	-25.956	25.956	11.706
R12	35.063	-1.123	-13.476	13.476	21.976

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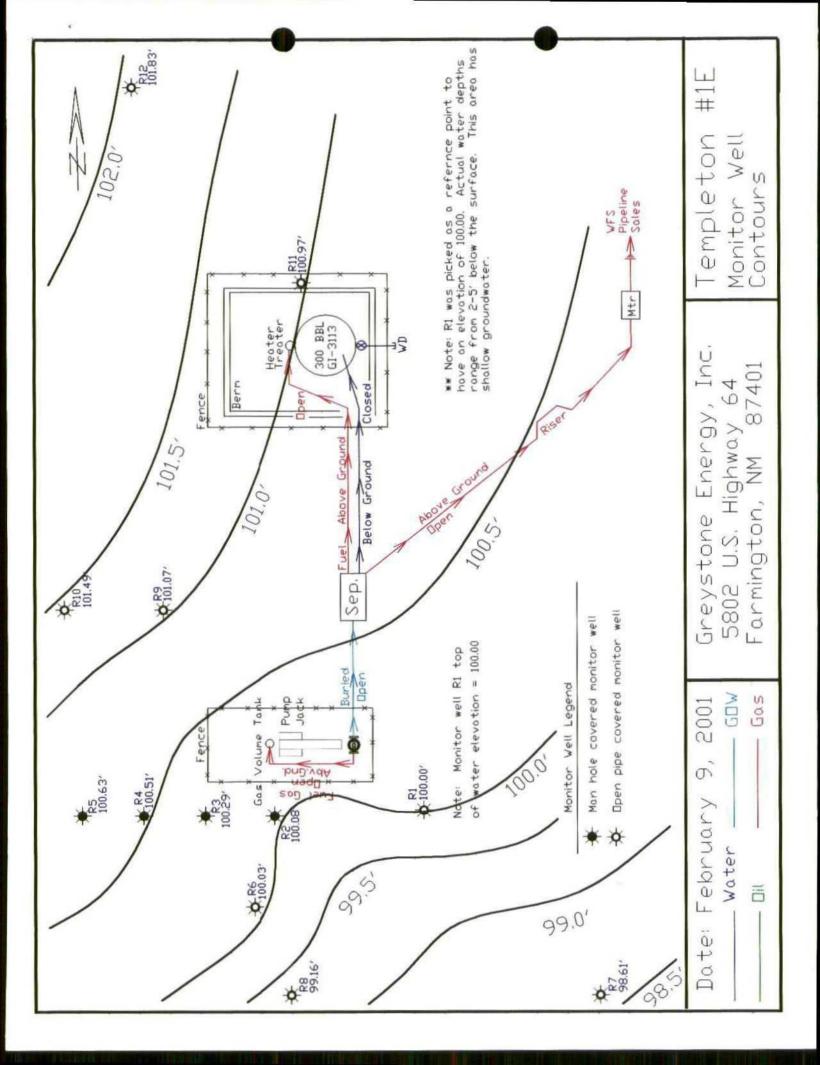
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RACT ENVIRONMENTAL SERVICES, 410 N. Auburn Farmington, New Mexico 87401 Phone (505) 325-1198

August 28, 2000

New Mexico Energy, Minerals And Natural Resources Department Oil Conservation Division Mr. Bill Olson 2040 South Pacheco Santa Fe, New Mexico 87505

AUG 2 9 2000

ЧC.

RE: NMOCD Letter Dated February 14, 2000 Concerning GW-184 Templeton #1E Well Site, San Juan County, New Mexico.

Dear Mr. Olson,

Contract Environmental Services, Inc. (CES) would like to inform NMOCD on behalf of Greystone Energy, Inc. (GEI) formerly (Chateau Oil and Gas) that we no longer have a need for the discharge plan at the above referenced site. The air stripping process previously permitted for this site has not been utilized in the past two years and will not be reinstated.

Currently, GEI is performing air sparging in the area of last known contamination. Air is being pumped into a manifold system that will disburse it below groundwater level to add aeration and speed the remediation process.

CES will periodically monitor the closest monitor wells to the affected area in efforts to chart the progress. Copies of any pertinent reporting will be delivered to NMOCD as they are developed.

Contract Environmental Services, Inc. appreciates this opportunity to present the site update to NMOCD. If you have coments or questions, please don't hesitate to contact our offices at (505) 325-1198 or stop by our offices at 410 N. Auburn, Farmington.

Sincerely

Shawn A. Adams Contract Environmental Servies, Inc.

July 27, 2000

ATRACT ENVIRONMENTAL SERVICES, MC. 410 N. Auburn Farmington, New Mexico 87401 Phone (505) 325-1198

Greystone Energy, Inc. Mr. Chester Deal 5802 U S Hwy 64 Farmington, NM 87401

RE: Templeton #1E Monitor Well Sampling

Dear Mr. Deal,

Contract Environmental Services, Inc. (CES) is pleased to present this letter report for the monitor well sampling that began on June 29, 2000. This report contains Background Information, Sampling Procedures, Laboratory Analyses, Regulatory Guidelines, Conclusions and Recommendations.

Background Information

The Templeton #1E has completed an extensive excavation program. During the excavation process groundwater was circulated through an air stripper to further lower hydrocarbon levels present. Following the air stripper process, twelve (12) monitor wells were installed to help with the assessment on the groundwater condition. June 29, 2000 the first round of groundwater sampling began. July 6, 2000 the final monitor wells were sampled.

Sampling Procedures

CES located each monitor well and found that four (4) of the casings were completed as manhole covers and the remaining eight (8) were completed with open casings protruding approximately twelve (12") above ground level. Please see attached Site Security Diagram for monitor well locations.

Each monitor well was measured for water level present and depth to bottom of well. A well volume of water was calculated and three (3) well volumes of water were removed prior to sampling. In the instances where the monitor well water went dry, sufficient time was allowed for recharge prior to sampling. This procedure is in accordance with sampling techniques discussed in the New Jersey Field Sampling Procedures Manual for monitor well sampling.

Water samples were collected in 40 ml VOA Vials. The samples were refrigerated during sampling and transport to the laboratory.

Laboratory Analyses

Each water sample was analyzed for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) using SW8021B for Aromatic Volatiles. The individual analysis are presented in the following table.

Table 1-1.

** Note: all units are in Parts Per Billion (PPB)

Sample No.	Benzene	Toluene	Ethylbenzene	Xylenes
Temp-100 R1	ND	ND	1.6	ND
Temp-101 R2	2.7	ND	0.7 ·	ND
Temp-102 R3	300	32	50	190
Temp-103 R4	1.6	ND	10	20.9
Temp-104 R5	ND	ND	ND	ND

(Table 1-1 Continued)

Sample No.	Benzene	Toluene	Ethylbenzene	Xylenes
Temp-105 R6	ND	ND	ND	ND
Temp-106 R7	ND	ND	ND	ND
Temp-107 R8	ND	ND	ND	ND
Temp-108 R9	ND	ND	ND	ND
Temp-109 R10	ND	2	1.1	0.7
Temp-110 R11	ND	ND	ND	ND
Temp-111 R12	ND	ND	ND	ND
Temp-108 R9 Temp-109 R10 Temp-110 R11	ND ND ND	ND 2 ND	ND 1.1 ND	ND 0.7 ND

Regulatory Guidelines

The Safe Drinking Water Act allows for Benzene levels of 0.005 mg/l (PPM). The above laboratory levels are reported in ug/l (PPB). Each concentration value above should be divided by 1000 to convert PPB to PPM and then compared to the Standard of 0.005 PPM.

The State Of New Mexico Guidelines for Benzene are 0.01 (PPM), for Ethylbenzene 0.75 (PPM), and for Xylenes 0.62 (PPM). Please see attached Table.

Conclusions

Sample Temp-102 R3 has a Benzene level of 300 PPB. This is equivalent to 0.3 PPM and that is 60 times the EPA allowed level of Benzene.

For the State Of New Mexico, sample Temp-102 is still 30 times (30x) the allowed level of Benzene. All other values measured were below groundwater standards.

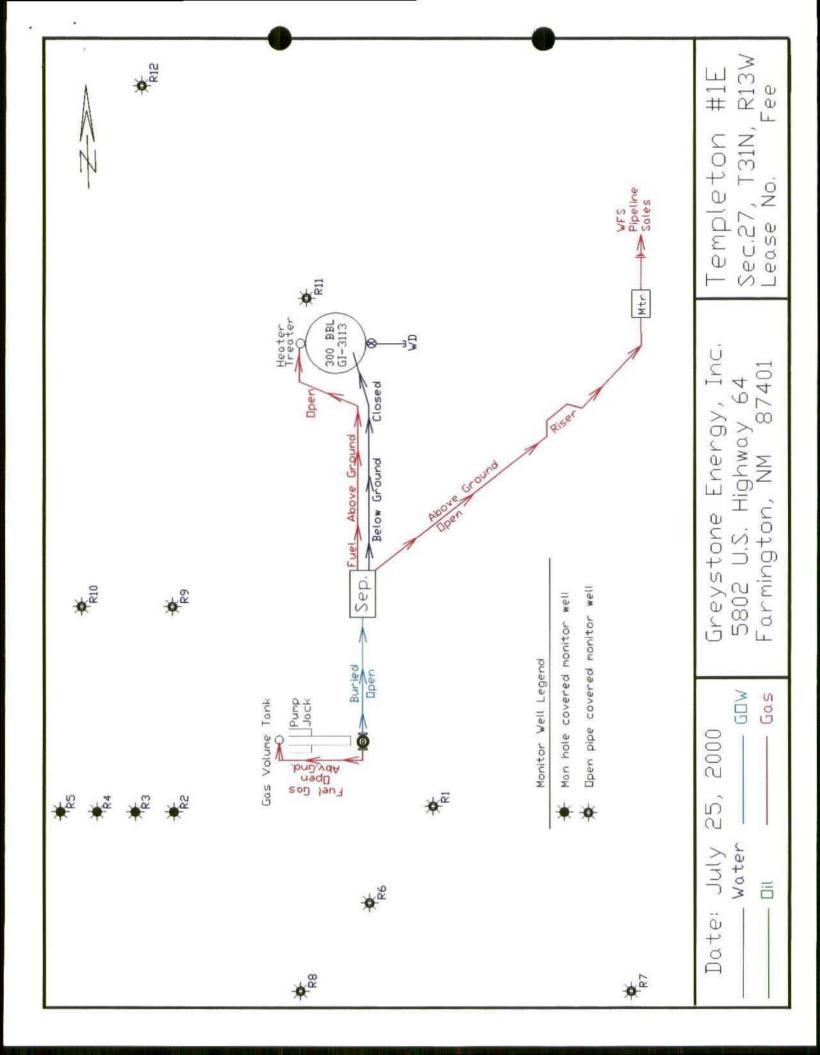
Recommendations

CES recommends that Greystone Energy, Inc. perform air sparging as planned for the monitor wells that have manhole covers (Temp-101 R2, -102 R3, -103 R4, -104 R5) and follow up with another set of water analyses in six (6) months. If at that point the groundwater is free of contaminants then only continue monitoring the wells until three (3) consecutive series of data confirm this.

Contract Environmental Services, Inc. appreciates this opportunity to present this letter report to Greystone Energy, Inc. If you have any questions or require additional information, please don't hesitate to contact us at (505) 325-1198 or stop by our offices at 410 N. Auburn, Farmington.

Sincerely

Shawn A. Adams Contract Environmental Services, Inc.



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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client:	Contract Environmental Services, Inc.	Client Sample Info: Templeton 1E MW
Work Order:	0006066	Client Sample ID: TEMP-100 R1
Lab ID:	0006066-01A Matrix: AQUEOUS	Collection Date: 6/29/2000 9:15:00 AM
Project:	Templeton #1E Monitor Wells	COC Record: 10762

Parameter	Result	PQL Qu	al Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DM
Benzene	ND	0.5	µg/L	1	7/10/2000
Toluene	ND	0.5	µg/L	1	7/10/2000
Ethylbenzene	1.6	0.5	µg/L	1	7/10/2000
m,p-Xylene	ND	1	µg/L	1	7/10/2000
o-Xylene	ND	0.5	µg/L	1	7/10/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit E - Y

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits E - Value above quantitation range

Surr: - Surrogate

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P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BEENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client:	Contract Environmental Service	es, Inc. Clier	nt Sample Info:	Templeton 1E MW
Work Order:	0006066	Cli	ient Sample ID:	TEMP-101 R2
Lab ID:	0006066-02A Matrix: A	QUEOUS C	Collection Date:	6/29/2000 10:15:00 AM
Project:	Templeton #1E Monitor Wells		COC Record:	10762

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DM
Benzene	2.7	0.5	μg/L	1	7/10/2000
Toluene	ND	0.5	µg/L	1	7/10/2000
Ethylbenzene	0.7	0.5	µg/L	1	7/10/2000
m,p-Xylene	ND	1	µg/L	1	7/10/2000
o-Xylene	ND	0.5	µg/L	1	7/10/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits E - Value above quantitation range

Surr: - Surrogate

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P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client:	Contract Environmental Services, Inc.	Client Sample Info: Templeton 1E MW
Work Order:	0006066	Client Sample ID: TEMP-102 R3
Lab ID:	0006066-03A Matrix: AQUEOUS	Collection Date: 6/29/2000 10:30:00 AM
Project:	Templeton #1E Monitor Wells	COC Record: 10762

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DM
Benzene	300	2.5	µg/L	5	7/11/2000
Toluene	32	0.5	µg/L	1	7/10/2000
Ethylbenzene	50	0.5	µg/L	1	7/10/2000
m,p-Xylene	160	1	µg/L	1	7/10/2000
o-Xylene	30	0.5	hð\r	1	7/10/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

TECHNOLOGY BUSINESS INDUSTRY WITH HIT EXTREMALNESS



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client:	Contract Environmental Services, Inc.	Client Sample Info: Templeton 1E MW
Work Order:	0006066	Client Sample ID: TEMP-103 R4
Lab ID:	0006066-04A Matrix: AQUEOUS	Collection Date: 6/29/2000 10:45:00 AM
Project:	Templeton #1E Monitor Wells	COC Record: 10762

Parameter	Result	PQL Q	ual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DM
Benzene	1.6	0.5	µg/L	1	7/11/2000
Toluene	ND	0.5	µg/L	1	7/11/2000
Ethylbenzene	10	0.5	µg/L	1	7/11/2000
m,p-Xylene	19	1	µg/L	1	7/11/2000
o-Xylene	1.9	0.5	µg/L	1	7/11/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BUNDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client:	Contract Environmental Services, Inc.	Client Sample Info: Templeton 1E MW
Work Order:	0006066	Client Sample ID: TEMP-104 R5
Lab ID:	0006066-05A Matrix: AQUEOUS	Collection Date: 6/29/2000 11:00:00 AM
Project:	Templeton #1E Monitor Wells	COC Record: 10762

Parameter	Result	PQL Q	ual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DM
Benzene	ND	0.5	µg/L	1	7/10/2000
Toluene	ND	0.5	μg/L	1	7/10/2000
Ethylbenzene	ND	0.5	µg/L	1	7/10/2000
m,p-Xylene	ND	1	µg/L	1	7/10/2000
o-Xylene	ND	0.5	μg/L	1	7/10/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WHEN THE ENVIRONMENT -



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client:	Contract Environmental Services, Inc.		Client Sample Info:	Templeton 1E MW
Work Order:	0006066		Client Sample ID:	TEMP-105 R6
Lab ID:	0006066-06A	Matrix: AQUEOUS	Collection Date:	6/29/2000 11:30:00 AM
Project:	Templeton #1E Monitor Wells		COC Record:	10762

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	:	SW8021B			Analyst: DM
Benzene	ND	0.5	µg/L	1	7/11/2000
Toluene	ND	0.5	µg/L	1	7/11/2000
Ethylbenzene	ND	0.5	µg/L	1	7/11/2000
m,p-Xylene	ND	1	µg/L	1	7/11/2000
o-Xylene	ND	0.5	µg/L	1	7/11/2000

Qualifiers: PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

TECHNOLOGY BEENDING INDUSTRY WHILE THE ENVIRONMENT -



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 18-Jul-00

Client: Work Order:	Contract Environmental Services, Inc. 0006066	Client Sample Info: Templeton 1E MW Client Sample ID: Trip Blank
Lab ID: Project:	0006066-07A Matrix: AQUEOU Templeton #1E Monitor Wells	
Parameter	Result	PQL Qual Units DF Date Analyzed

ROMATIC VOLATILES BY GC/PID	SM	/8021B			Analyst: DN
Benzene	ND	0.5	µg/L	1	7/11/2000
Toluene	ND	0.5	µg/L	1	7/11/2000
Ethylbenzene	ND	0.5	µg/L	1	7/11/2000
m,p-Xylene	ND	1	µg/L	1	7/11/2000
o-Xylene	ND	0.5	µg/L	1	7/11/2000

Oualifiers:	POL - Practical
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QL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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

E - Value above quantitation range

J - Analyte detected below Practical Quantitation Limit B - Analyte detected in the associated Method Blank

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BELNOING INDUSTRY WITH THE ENVIRONMENT -

Under:	MB1 Batch II: GC1_000110 Templeton #IE Monitor Wells Analysis Date: 71/0/2000 Prep Date: 71/0/2000 D: MB1 Batch ID: GC1_000710 Tett Code: SW0021B Unis: µg/L Analysis Date: 71/0/2000 Prep Date: 71/0/2000 C: MB1 POL SYN SeqNo: 29792 SeqNo: 29792 C: MB1 ND 0.5 SeqNo: 29792 SeqNo: SeqNo: 29792 C: MB1 ND 0.5 SeqNo: 29792 SeqNo: 29792 C: MB1 D1 0.5 SeqNo: 29792 SeqNo: 29792 C: MB1 D1 SeqNo: SeqNo: 29792 SeqNo: SeqNo: C: MB1 D1 SeqNo: SeqNo: 29792 SeqNo:	Method Method Batch Bit Bit Monitor Wells Method Batch Bit Monitor Wells Met	MB1 Batch ID: GC-100/TI Text. Method Implementation Batch ID: GC-100/TI Text. Anaysis Pep Date: Implementation Batch ID: GC-100/TI Text. Anaysis Pep Date: Implementation Result Pol. GC-100/TI Text. Pep Date: Implementation Polo Styte Styte Styte Styte Implementation Polo Styte Styte Styte Styte Implementation Polo Polo Styte Styte Styte Styte Implementation Polo Polo Styte Styte Styte Styte Styte Induvit Polo Polo Styte Styte Styte Styte Styte Styte Induvit Polo Pol	Metro Seque Seque Seque Seque Method D Batch ID: GG-1_00710 Test Code Mary IS Analysis Date: 7102000 Pep Date: 710200 Pep Date: 711200	Method Method Frequent II Method II D: Region #IE Monitor Wells Barch ID: GCP_10001 Tearl: Discretion Perp Date: Method D: Method Barch ID: GCP_10010 Tearl: Discretion Tearline Wells Perp Date: Perp Date: D: Method Result Part Discretion Tearline Wells Method Perp Date: Perp Date: D: Method 0.0 Service Service Service Service Service Perp Date: Componence ND 0.1 Service Se	Methone Methone <t< th=""><th>Mittate: Mittate: Mittate:</th><th>Work Urder: Project: Sample ID: MB1</th><th>Contract Environmental Services, Inc.</th><th>Inc.</th><th></th><th></th><th></th><th></th><th>QC SUMMARY REPORT</th><th>AMAR</th><th>Y REPO</th><th>DRT</th></t<>	Mittate:	Work Urder: Project: Sample ID: MB1	Contract Environmental Services, Inc.	Inc.					QC SUMMARY REPORT	AMAR	Y REPO	DRT
D: MB1 Batch ID: GC-1_000710 Test Code: SW00218 Units: Ig/L Analysis Date: 7/10/2000 Prep Date C: 0006066 Run ID: GC-1_000710 SeqNo: 23732 SeqNo: 23732 Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD Result ND 0.5 SeqNo: 23732 Result ND 0.5 SeqNo: 23732	D: MB1 Batch ID: GC-1_00710 Test Code: SW02718 Units: Janlysis Date: 710/2000 Prep Date Result Run ID: GC-1_00710 Test Code: SeqNo: 2792 Prep Date Result POL SPK value SPK ref Val %REC LowLimit RPD Ref Val %RED Result ND 0.5 SeqNo: 2792 SeqNo: 2792 Result ND 0.5 Analysis Date: Analysis Date: %RED PReD Ref %RED Result ND 0.5 Analysis Date: Analysis Date: %RED Prep Date MB1 Batch ID: GC-1_000711 Test Code: SW0218 Units: PagN: ZMAN SeqNo: ZMAN Prep Date ZMAN Prep Date ZMAN Prep Date ZMAN Prep Date ZMAN Prep Natr Prep Date ZMAN Prep Natr Prep Date ZMAN Prep Natr	D: MB1 Batch 1D: Gc-1.00771 Test Code: SM021B Init: Jg/L Analysis Date: 710/2000 Pre- Date: 710/2001 Result 000066 Run ID: Gc-1_00071A Seq/No: 2973 Seq/No: 2973 Result D S Seq/No: 2973 Seq/No: 2973 Result D S Seq/No: Seq/No: 2973 Seq/No: 2973 Result D S Seq/No: Seq/No: Z973 Seq/No: Z973 Result D S Seq/No: Seq/No: Z973 Seq/No: Z973 Result D S Analysis Date: 7/1/200 Seq/No: Z973 Seq/No: Z973 Result D S Analysis Date: 7/1/200 Seq/No: Z984 Pre- Pre- MB1 Batch ID: Gc-1_00711 Test Code: SW021B Units: Ig/L Analysis Date: 7/11/200 Pre- Pre- MB1 PROLINIA Seq/No Seq/No Z984 Pre- Pre-		D: MB1 Batch ID: GC-1_000710 Test Code: SW0221B Units: $\mu J L$ Analysis Date: 710/2000 Perp Date: 710/2001 Perp Date: 70/2001 Perp Date: 7	D. MB1 Barth ID: GC1_000710 Test Core: Wm3rs Date: 7102000 Pero Date: nooboos Run ID: GC-1_000710 Test Core: SeqNo: 29792 Pero Date: Result POL SPK value SPK ralue SeqNo: 29792 Pero Date: Result D S SeqNo: 29792 SeqNo: 29792 Result ND 0.5 Analysis Date: Market Value SeqNo: 29792 Result ND 0.5 Analysis Date: Market Value SeqNo: 29792 Result ND 0.5 Analysis Date: 7117000 Prop Date: Analysis There ND 0.5 SeqNo: 29940 SeqNo: 29940 Analysis Date: 7117200 Prop Inter Prop Inter SeqNo: 29940 SeqNo: Prop Inter Analysis Date: ND SeqNo: SeqNo: 29940 SeqNo: 29940 SeqNo: SeqNo: Prop Inter Analysis		D. MBJ Barch ID: GC-1_000710 Test Code: Swa021B Units: Jundits: Analysis Date: Tron2000 Penp Date: $1 = 10^{-1}$ 2001 $2 = 1^{-1}$ 2001 $2 = 1^{-1}$ $2 = 1^{$	Sample ID: MB1	0000060 Templeton #1E Monitor Wells						,		Method I	3 lank
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Result PQL SPK value SPK Ref Val MEC LowLimit HighLimit RPD Ref Val %RPD zene .0595 0.5 .0.5	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD cene ND 0.5 0.5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>Result PQL SPK value SPK Ref Val %REC LowLimit RPD Ref Val %RPD RPD Limit cene </td> <td>Result PQL SPK value SPK ref Val %EC LowLimit HighLimit RPD Ref Val %RPD RPDLimit cene ND 0.5 0.5 1</td> <td>Result PQL SPK value SPK Ref Val %REC LowLimit RPD Ref Val %RP0 RPDLimit cene .0593 0.5 0.5 RPD Ref Val %RP0 RPDLimit RPD Ref Val %RP0 RPDLimit cene ND 0.5 0.5 <td>Reut PQL SPK value SPK ref Val %RPD RPD Ref Val %RPD RPD Imit Lene .0595 0.5 .0595 0.5 .0595 .0516 %RPD %RPD %RPD %RPD MD Lene ND 0.5 .05 .0516 .05 .0516</td><td>Result PQL SPK ref Value SPK Ref Val %RPD RPD Ref Val %RPD RPD Limit Return .0555 0.5</td><td>Result PQL SPK value SPK value SPK value RPD Ref Val SRPD RPD Nef Val SRPD SRPD Nef Val SRPD SRPD Nef Val SRPD SRPD Nef Val SRPD Val SRPD Nef Val <</td><td>Client ID:</td><td>0006066</td><td>Run ID:</td><td>GC-1_000711</td><td>×</td><td>SeqNo:</td><td>29854</td><td></td><td></td><td></td><td></td></td>	Result PQL SPK value SPK Ref Val %REC LowLimit RPD Ref Val %RPD RPD Limit cene	Result PQL SPK value SPK ref Val %EC LowLimit HighLimit RPD Ref Val %RPD RPDLimit cene ND 0.5 0.5 1	Result PQL SPK value SPK Ref Val %REC LowLimit RPD Ref Val %RP0 RPDLimit cene .0593 0.5 0.5 RPD Ref Val %RP0 RPDLimit RPD Ref Val %RP0 RPDLimit cene ND 0.5 0.5 <td>Reut PQL SPK value SPK ref Val %RPD RPD Ref Val %RPD RPD Imit Lene .0595 0.5 .0595 0.5 .0595 .0516 %RPD %RPD %RPD %RPD MD Lene ND 0.5 .05 .0516 .05 .0516</td> <td>Result PQL SPK ref Value SPK Ref Val %RPD RPD Ref Val %RPD RPD Limit Return .0555 0.5</td> <td>Result PQL SPK value SPK value SPK value RPD Ref Val SRPD RPD Nef Val SRPD SRPD Nef Val SRPD SRPD Nef Val SRPD SRPD Nef Val SRPD Val SRPD Nef Val <</td> <td>Client ID:</td> <td>0006066</td> <td>Run ID:</td> <td>GC-1_000711</td> <td>×</td> <td>SeqNo:</td> <td>29854</td> <td></td> <td></td> <td></td> <td></td>	Reut PQL SPK value SPK ref Val %RPD RPD Ref Val %RPD RPD Imit Lene .0595 0.5 .0595 0.5 .0595 .0516 %RPD %RPD %RPD %RPD MD Lene ND 0.5 .05 .0516 .05 .0516	Result PQL SPK ref Value SPK Ref Val %RPD RPD Ref Val %RPD RPD Limit Return .0555 0.5	Result PQL SPK value SPK value SPK value RPD Ref Val SRPD RPD Nef Val SRPD SRPD Nef Val SRPD SRPD Nef Val SRPD SRPD Nef Val SRPD Val SRPD Nef Val <	Client ID:	0006066	Run ID:	GC-1_000711	×	SeqNo:	29854				
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zene ND ne ND rt-Butyl Ether ND ND	zene ND ne ND rt-Butyl Ether ND ND .0916	zene ND 0.5 ne ND 1 n-Butyl Ether ND 1 .0916 0.5 .0916 0.5	zene ND 0.5 ne ND 1 ne ND 1 ne ND 1 ne ND 1 no 0.5 0.5 no 0.5 0.5 .0916 0.5 0.5	zene ND 0.5 ne ND 1 ne ND 1 ne ND 1 ne ND 0.5 no 0.5 no 0.5 no 0.5	The ND 0.5 ND 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	T-Buty Ether ND 0.5 T-Buty Ether ND 1 1 CO16 0.5 CO36	Thutyi Ether ND 0.5 Thutyi Ether ND 0.5 Cold	3enzene	.0595	0.5								-
ne ND rt-Butyl Ether ND ND .0916	ne ND rt-Butyl Ether ND ND .0916	ne ND 1 rt-Butyl Ether ND 1 ND 0.5 .0916 0.5	ne ND 1 rt-Butyl Ether ND 1 ND 0.5 .0916 0.5	ne ND 1 t-Butyl Ether ND 1 ND 0.5 .0916 0.5	пе T.Butyl Ether ND 1 ND 0.5 .0916 0.5 	1 1. Butyl Ether ND 1 1. ND 1 1. ND 0.5 0.5 1. ND 1 1. ND 1	T-Buty Effer NO 1 T-Buty Effer NO 1 NO 05 05 05 05 05 05 05 05 05 05	Ethylbenzene	QN	0.5								
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UN 09160.	ON 09160.	0916 0.5 .0916 0.5	01 0.5 .0916 0.5 	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	O. 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	00 05 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0	CN 03 09 05 05 05 05 05 05 05 05 05 05 05 05 05	Methyl tert-Butyl Eth		-								
.0916	.0916	.0916 0.5			- 00160 	00100 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0	002 059 0.5 	-Xylene	QN	0.5								
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I of I

B - Analyte detected in the associated Method Blank

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J - Analyte detected below quantitation limits

ND - Not Detected at the Reporting Limit

Qualifiers:

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

On Site Technologies, LTD.	ss, LTD.								Da	Date: 18-Jul-00	00
CLIENT: Contract Work Order: 0006066 Proiect: Templeto	Contract Environmental Services, Inc. 0006066 Temnleton #1E Monitor Wells	Inc.						QC SUMMARY REPORT Sample Matrix Spike	MMAR Sample	MARY REPORT Sample Matrix Spike	IRT pike
Sample ID: 0006072-21AMS	Batch ID: GC-1_000710 Test Code: SW8021B	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/10/2000	2000	Prep Date:	ite:	
Client ID:	0006066	Run ID:	GC-1_000710A	٩		SeqNo:	29793				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	5448	50	4000	1282	104.2%	73	126				•
Ethylbenzene	4165	50	4000	7.25	103.9%	88	113				
m,p-Xylene	7840	100	8000	0	98.0%	83	112				
Methyl tert-Butyl Ether	15690	100	4000	11680	100.3%	81	125				
o-Xylene	4167	50	4000	4.16	104.1%	93	110				
Toluene	4193	50	4000	8.53	104.6%	76	126				
Sample ID: 0006072-21AMSD	Batch ID: GC-1_000710 Test Code: SW8021B	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/10/2000	2000	Prep Date:	te:	
Client ID:	0006066	Run ID:	GC-1_000710A	٩		SeqNo:	29794				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	5270	50	4000	1282	%2`66	73	126	5448	3.3%	Q	
Ethylbenzene	4029	50	4000	7.25	100.6%	88	113	4165	3.3%	5	
m,p-Xylene	7587	100	8000	0	94.8%	83	112	7840	3.3%	7	
Methyl tert-Butyl Ether	15410	100	4000	11680	93.2%	81	125	15690	1.8%	6	
o-Xylene	4046	50	4000	4.16	101.0%	63	110	4167	2.9%	9	
Toluene	4057	50	4000	8.53	101.2%	76	126	4193	3.3%	Q	•

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

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

B - Analyte detected in the associated Method Blank

Qualifiers:

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CLIENT: Contract Work Order: 0006066 Project: Templeto	Contract Environmental Services, Inc. 0006066 Templeton #1E Monitor Wells	Inc.						QC SUMMARY REPORT Sample Matrix Spike	MMAR Sampl	MARY REPORT Sample Matrix Spike	JRT Spike
Sample ID: 0006072-29AMS Client ID:	Batch ID: GC-1_000711 0006066	Test Code: Run ID:	SW8021B GC-1_000711A	Units: µg/L A		Analysis SeqNo:	Analysis Date: 7/11/2000 SeqNo: 29855	/2000 5	Prep Date:	ite;	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	10880	100	8000	2621	103.3%	73	126				
Ethylbenzene	9217	100	8000	919.5	103.7%	88	113				
m,p-Xylene	16530	200	16000	844.8	98.1%	83	112				
Methyl tert-Butyl Ether	37240	200	8000	30020	90.2%	81	125				
o-Xylene	8424	100	8000	62.34	104.5%	93	110				
Toluene	8474	100	8000	86.84	104.8%	76	126				
Sample ID: 0006072-29AMSD	Batch ID: GC-1_000711 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/11/2000	/2000	Prep Date:	ite:	
Client ID:	0006066	Run ID:	GC-1_000711A	A		SeqNo:	29856	ß			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	10610	100	8000	2621	6.66	73	126	10880	2.5%	9	
Ethylbenzene	8993	100	8000	919.5	100.9%	88	113	9217	2.5%	5	
m,p-Xylene	16140	200	16000	844.8	95.6%	83	112	16530	2.4%	7	
Methyl tert-Butyl Ether	36330	200	8000	30020	78.8%	81	125	37240	2.5%	6	s
o-Xylene	8255	100	8000	62.34	102.4%	63	110	8424	2.0%	9	
Toluene	8278	100	8000	86.84	102.4%	76	126	8474	2.4%	9	

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

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

Qualifiers:

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.	ies, LTD.							Date:	Date: 18-Jul-00	
CLIENT: Contract Work Order: 0006066	Contract Environmental Services, Inc.	Inc.					6	QC SUMMARY REPORT	LEPORT	
	Templeton #1E Monitor Wells						Labo	Laboratory Control Spike - generic	e - generic	
Sample ID: LCS WATER	Batch ID: GC-1_000710 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/10/2000	Prep Date:		l I
Client ID:	0006066	Run ID:	GC-1_000710A	٩		SeqNo:	29791			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit Qual	(
Benzene	42.25	0.5	40	0	105.6%	89	112			U
Ethylbenzene	41.89	0.5	40	0	104.7%	93	112			
m,p-Xylene	78.94		80	0	98.7%	88	108			
Methyl tert-Butyl Ether	42.18	-	40	0	105.5%	87	115			
o-Xylene	41.96	0.5	40	0	104.9%	93	112			
Toluene	42.15	0.5	40	0.0768	105.2%	92	111			
Sample ID: LCS WATER	Batch ID: GC-1_000711 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/11/2000	Prep Date:		ı
Client ID:	0006066	Run ID:	GC-1_000711A	A		SeqNo:	29853			
Analyte	Result	PQL	SPK value	SPK Ref Vai	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit Qual	
Benzene	41.66	0.5	40	0.0595	104.0%	68	112			
Ethylbenzene	41.39	0.5	40	0	103.5%	93	112			
m,p-Xylene	78.06	•	80	0	97.6%	88	108			
Methyl tert-Butyl Ether	41.46	-	40	0	103.7%	87	115			
o-Xylene	41.44	0.5	40	0	103.6%	93	112			ļ
Toluene	41.62	0.5	40	0.0916	103.8%	92	111			
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J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

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

B - Analyte detected in the associated Method Blank

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Qualifiers:

On Site Technologies, LTD.	es, LTD.							Date: 18-Jul-00	•
CLIENT: Contract Work Order: 0006066 Project: Templete	Contract Environmental Services, Inc. 0006066 Templeton #1E Monitor Wells	Inc.					QC SU Continuing Calibrati	QC SUMMARY REPORT Continuing Calibration Verification Standard	L pr
Sample ID: CCV1 BTEX_0007 Client ID:	Batch ID: GC-1_000710 0006066	Test Code: Run ID:	SW8021B GC-1_000710A	Units: µg/L		Analysis SeqNo:	Analysis Date: 7/10/2000 SeqNo: 29788	Prep Date:	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qu	Qual
Benzene	21.47	0.5	20	0	107.4%	85	115		
Ethylbenzene	21.34	0.5	20	0	106.7%	85	115		ł
m,p-Xylene	40.44	-	40	0	101.1%	85	115		
Methyl tert-Butyl Ether	21.4	-	20	0	107.0%	85	115		
o-Xylene	21.36	0.5	2 3	0 0	106.8%	85	115		
Toluene 1 4-Difluorohenzene	21.41 89.09	0.5	20 100	0 0	107.0% 89.1%	85 80	115 105		
4-Bromochlorobenzene	85.8	0 0	100	0.0	85.8%	78	108		
Fluorobenzene	87.55	0	100	0	87.5%	78	108		
Sample ID: CCV2 BTEX_0007	Batch ID: GC-1_000710	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/10/2000	Prep Date:	
Client ID:	0006066	Run ID:	GC-1_000710A			SeqNo:	29789		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qu	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115		
Ethylbenzene	20.57	0.5	20	0	102.9%	85	115		(
m,p-Xylene	38.96	~	40	0	97.4%	85	115		
Methyl tert-Butyl Ether	21.51	-	20	0	107.5%	85	115		
o-Xylene	20.72	0.5	20	0	103.6%	85	115		
Toluene	20.74	0.5	20	0	103.7%	85	115		
1,4-Difluorobenzene	89.24	0	100	0	89.2%	80	105	·	
4-Bromochlorobenzene	85.18	0	100	0	85.2%	78	108		
Fluorobenzene	87.28	0	100	0	87.3%	78	108		
Qualifiers: ND - Not De	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	le accepted reco	overy limits	B - Analyte detecte	B - Analyte detected in the associated Method Blank	

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

J - Analyte detected below quantitation limits

CLIENT: Contract Work Order: 0006066 Project: Templete	Contract Environmental Services, Inc. 0006066 Templeton #1E Monitor Wells	Inc.					Continu	QC SUMMARY REPORT Continuing Calibration Verification Standard	AMAR n Verific	Y REPC	JRT ndard	
Sample ID: CCV3 BTEX_0007	Batch ID: GC-1_000710	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/10/2000	2000	Prep Date:	ite:		1
Client ID:	0006066	Run ID:	GC-1_000710A	A		SeqNo:	29790					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	40.26	0.5	40	0	100.7%	85	115			- 		Y.
Ethylbenzene	39.86	0.5	40	0	39.6%	85	115					
m,p-Xylene	75.3	-	80	0	94.1%	85	115					
Methyl tert-Butyl Ether	42.87	•	40	0	107.2%	85	115					
o-Xylene	40.35	0.5	40	0	100.9%	85	115					
Toluene	40.3	0.5	40	0	100.7%	85	115					
1,4-Difluorobenzene	88.77	0	100	0	88.8%	80	105					
4-Bromochlorobenzene	85.68	0	100	0	85.7%	78	108					
Fluorobenzene	87.02	0	100	0	87.0%	78	108					
Sample ID: CCV1 BTEX_0007	Batch ID: GC-1_000711	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/11/2000	2000	Prep Date:	ite:		ł
Client ID:	0006066	Run ID:	GC-1_000711A	A		SeqNo:	29850					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	21.97	0.5	20	0	109.8%	85	115					
Ethylbenzene	21.8	0.5	20	0	109.0%	85	115					
m,p-Xylene	41.3	-	40	0	103.2%	85	115					
Methyl tert-Butyl Ether	21.84	-	20	0	109.2%	85	115					
o-Xylene	21.96	0.5	20	0	109.8%	85	115					
Toluene	21.9	0.5	20	0	109.5%	85	115					
1,4-Difluorobenzene	89.22	0	100	0	89.2%	80	105					
4-Bromochlorobenzene	85.5	0	100	0	85.5%	78	108					
Fluorobenzene	87.73	0	100	0	87.7%	78	108					
Qualifiers: ND - Not D	ND - Not Detected at the Reporting Limit		S - Sp	S - Spike Recovery outside accepted recovery limits	le accepted reco	overy limits		B - Analyte detected in the associated Method Blank	in the associ	ated Method E	llank	

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J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

CLIENT: Con Work Order: 0000	Contract Environmental Services, Inc.	lnc.						QC SU	QC SUMMARY REPORT	Y REPO	DRT
-	Templeton #1E Monitor Wells						Continu	Continuing Calibration Verification Standard	on Verific	ation Sta	ndard
Sample ID: CCV2 BTEX_0007	0007 Batch ID: GC-1_000711	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/11/2000	2000	Prep Date:	ate:	
Client ID:	0006066	Run ID:	GC-1_000711A	IA		SeqNo:	29851	-			
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.06	0.5	20	0	105.3%	85	115				1 Aller 1 - 1
Ethylbenzene	20.8	0.5	20	0	104.0%	85	115				
m,p-Xylene	39.43	*	40	0	98.6%	85	115				
Methyl tert-Butyl Ether	21.51	-	20	0	107.5%	85	115				
o-Xylene	21.03	0.5	20	0	105.2%	85	115				
Toluene	21.03	0.5	20	0	105.1%	85	115				
1,4-Difluorobenzene	89.09	0	100	0	89.1%	80	105				
4-Bromochlorobenzene	85.09	0	100	0	85.1%	78	108				
Fluorobenzene	87.47	0	100	0	87.5%	78	108				
Sample ID: CCV3 BTEX_0007	0007 Batch ID: GC-1_000711	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/11/2000	2000	Prep Date:	ite:	
Client ID:	0006066	Run ID:	GC-1_000711A	A		SeqNo:	29852	~			
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quat
Benzene	41.47	0.5	40	0	103.7%	85	115				
Ethylbenzene	41.06	0.5	40	0	102.7%	85	115				
m,p-Xylene	77.66	-	80	0	97.1%	85	115				
Methyl tert-Butyl Ether	43.51	-	40	0	108.8%	85	115				
o-Xylene	41.46	0.5	40	0	103.6%	85	115				
Toluene	41.6	0.5	40	0	104.0%	85	115				
1,4-Difluorobenzene	88.8	0	100	0	88.8%	80	105				
4-Bromochlorobenzene	84.38	0	100	0	84.4%	78	108				
Fluorobenzene	87.12	0	100	0	87.1%	78	108			·	
	and a state of the					, Timera					1
Qualifiers: ND - N	NU - Not Detected at the Reporting Limit	ţ	de - e	 S - Spike Recovery outside accepted recovery limits R - RPD nutside accented recovery limits 	le accepted rec	overy limits		B - Analyte detected in the associated Method Blank	d in the associ.	ated Method f	slank , , ,

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

On Site Technologies, LTD.

CLIENT:	Contract Environmental Services, Inc.
Work Order:	0006066
Project:	Templeton #1E Monitor Wells
Test No:	SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

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Sample ID	14FBZ	4BCBZ	FLBZ	
0006066-01A	88	84.2	87	
0006066-02A	87	83.1	86.1	
0006066-03A	87.7	83.5	86.2	
0006066-04A	87.5	81.9	85.6	
0006066-05A	89.5	85.2	88.2	
0006066-06A	89.8	85.5	88.2	
0006066-07A	89.7	84.9	88.1	
0006069-02A	89.7	85.2	88.1	
0006069-03A	89.7	85.4	88.1	
0006070-02A	88.2	83.4	86.8	
0006072-19A	88.1	84.9	87	
0006072-20A	89.4	85.4	87.8	
0006072-21A	89.3	85.6	87.4	
0006072-21AMS	88.1	86.3	86.4	
0006072-21AMSD	88.2	86.2	86.5	
0006072-24A	89.2	85.4	87.3	
0006072-27A	88.5	84.9	87.3	
0006072-29A	89	84.6	87.4	
0006072-29AMS	88.1	85.5	86.5	
0006072-29AMSD	88.4	86	86.8	
0006072-30A	88.6	84.3	86.9	
0006072-32A	89.4	85.6	87.9	
0006072-33A	94.4	84	91.8	
0006072-34A	88.8	85.6	87	
0006072-35A	89.2	83.7	87.2	
0006072-36A	89.6	85.5	88.1	
0006072-37A	89.2	85.2	88.3	

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	80-105
4BCBZ	= 4-Bromochlorobenzene	78-108
FLBZ	= Fluorobenzene	78-108

* Surrogate recovery outside acceptance limits

CLIENT: Work Order: Project: Test No:	Contract Environmental Services, Inc. 0006066 Templeton #1E Monitor Wells SW8021B			QC SUMMARY REPORT SURROGATE RECOVERIES Aromatic Volatiles by GC/PID	
Sample ID	14FBZ	4BCBZ	FLBZ		
0006072-38A	89.6	85.2	88.2		
0006073-01A	89.1	84.5	87.9		
0006073-02A	90	84.8	88.6		
0006074-01A	89.4	84.4	88.2		
0006074-02A	89.7	84.9	88.2		
0006074-03A	88.5	83.6	88.7		
0006074-04A	89.7	85.4	88.5		
CCVI BTEX_0007	0 89.2	85.5	87.7		
CCV2 BTEX_0007	0 89.1	85.1	87.5		
CCV3 BTEX_0007	0 88.8	84.4	87.1		
LCS WATER	88.7	85.7	87.1		
MB1	89.4	85.1	88.4		

Ē	Acronym		Surrogate	QC Limits	
Ì.	14FBZ	=	1,4-Difluorobenzene	80-105	
	4BCBZ	2	4-Bromochlorobenzene	78-108	
	FLBZ	=	Fluorobenzene	78-108	
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* Surrogate recovery outside acceptance limits

10762 Date: 6/29/00	Page: of	Title	ENVIRONMENTAL SUCS.	2	yer Brug	Telefax No.	s REQUESTED			R latin		A3 1 030	24 D-16	0×1 52	RG - CUR	aru. 1				Date/Time(c) 251 (c) 132 b	רמופין וווופ	Date/Time	Days By Date				
F CUSTODY RECORD	M 87499 6		NTRACT	ากร	SEI	E Telephone No. 325- 1, 58					·· × ×	x x	× × .	x x :	x x :					Received by: Area (2) In a Tur		/ed by:	Rush 24-48 Hours 10 Working Days	Special Instructions / Remarks:	553 727		AB Pink - Sampler Goldenrod - Client
CHAIN OF CUS	612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499 LAB: (505) 325-5667 • FAX: (505) 327-1496	Project No.	Poort	ELERGY LUEPI.	Huy "Eq	. C	mo.: to wolls		SAMPLE DATE TIME MATRIX PRES.	1-1 0 HS 19:5 HG H-1	10.15	1, 10.30 1, mm	mer 11 10:45 11 11	M W 11 /1. CO 11 11	mus 11 11:30 11 11							Date/Time			Date 6/27		Distribution: White - On Site Yellow - LAB
MON SITE	TECHNOLOGIES, LTD.	Purchase Order No.:	Mame Chester Dail	Orty store	Z Address SENA 43	- City, State, Zip far with the	Templeton # 15 m	De- Ude	SAMPLE IDENTIFICATION	TEMP-100 Tompleton 15		Temp-102 "	TemP-103	TEMP-104 "		TRIP BLONK	/		The second secon	Relinquished by: 20, 10, 20, 10, 20, 10, 20, 10, 20, 20, 10, 20, 20, 20, 20, 20, 20, 20, 20, 20, 2		elinquished by:	Aethod of Shipment:		Authorized by: 544	(Client Signature <u>Must</u> Accompany Hequest)	

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

Client:	Contract Environmental Services, Inc.	Client Sample Info: Templeton #1E Monitor Wells
Work Order:	0007006	Client Sample ID: Temp-106 R7
Lab ID:	0007006-01A Matrix: AQUEOUS	Collection Date: 7/6/2000 5:01:00 PM
Project:	Templeton #1E Monitor Wells	COC Record: 10785

Parameter	Result	PQL Q	ual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DC
Benzene	ND	0.5	µg/L	1	7/12/2000
Toluene	ND	0.5	µg/L	1	7/12/2000
Ethylbenzene	ND	0.5	µg/L	1	7/12/2000
m,p-Xylene	ND	1	µg/L	1	7/12/2000
o-Xylene	ND	0.5	μg/L	1	7/12/2000

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

Client:	Contract Environmental Services,	c. Client Sample Info: Templeton #1E Monitor Wells
Work Order:	0007006	Client Sample ID: Temp-107 R8
Lab ID:	0007006-02A Matrix: AQU	OUS Collection Date: 7/6/2000 5:05:00 PM
Project:	Templeton #1E Monitor Wells	COC Record: 10785

Parameter	Result	PQL Q	ual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DC
Benzene	ND	0.5	µg/L	1	7/12/2000
Toluene	ND	0.5	µg/L	1	7/12/2000
Ethylbenzene	ND	0.5	µg/L	1	7/12/2000
m,p-Xylene	ND	1	µg/L	1	7/12/2000
o-Xylene	ND	0.5	µg/L	1	7/12/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

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E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

Client:	Contract Environmental Ser	vices, Inc.	Client Sample Info:	Templeton #1E Monitor Wells
Work Order:	0007006		Client Sample ID:	Temp-108 R9
Lab ID:	0007006-03A Matrix:	AQUEOUS	Collection Date:	7/6/2000 5:40:00 PM
Project:	Templeton #1E Monitor We	lls	COC Record:	10785

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	s	W8021B			Analyst: DC
Benzene	ND	0.5	µg/L	1	7/12/2000
Toluene	ND	0.5	µg/L	1	7/12/2000
Ethylbenzene	ND	0.5	µg/L	1	7/12/2000
m,p-Xylene	ND	1	µg/L	1	7/12/2000
o-Xylene	ND	0.5	µg/L	1	7/12/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

Client:	Contract Environm	nental Services, Inc.	Client Sample Info:	Templeton #1E Monitor Wells
Work Order:	0007006		Client Sample ID:	Temp-109 R10
Lab ID:	0007006-04A	Matrix: AQUEOUS	Collection Date:	7/6/2000 5:42:00 PM
Project:	Templeton #1E Monitor Wells		COC Record:	10785

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DC
Benzene	ND	0.5	μg/L	1	7/18/2000
Toluene	2	0.5	µg/L	1	7/18/2000
Ethylbenzene	1.1	0.5	µg/L	1	7/18/2000
m,p-Xylene	ND	1	µg/L	1	7/18/2000
o-Xylene	0.7	0.5	µg/L	1	7/18/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- Transology Bundeng Industry with the Pauronment -



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

Client:	Contract Environmental Services, Inc.	Client Sample Info: Templeton #1E Monitor Wells
Work Order:	0007006	Client Sample ID: Temp-110 R11
Lab ID:	0007006-05A Matrix: AQUEOUS	Collection Date: 7/7/2000 9:30:00 AM
Project:	Templeton #1E Monitor Wells	COC Record: 10785

Parameter	Result	PQL Qu	al Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	S	W8021B			Analyst: DC
Benzene	ND	0.5	µg/L	1	7/12/2000
Toluene	ND	0.5	µg/L	1	7/12/2000
Ethylbenzene	ND	0.5	μg/L	1	7/12/2000
m,p-Xylene	ND	1	µg/L	1	7/12/2000
o-Xylene	ND	0.5	µg/L	1	7/12/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

TERREPORTS REPORTS FOR A CONTRACT PRODUCT OF A CONTRACT PRODUCT.



LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

Client:	Contract Environm	ental Services, Inc.	Client Sample Info:	Templeton #1E Monitor Wells
Work Order:	0007006		Client Sample ID:	Temp-111 R12
Lab ID:	0007006-06A	Matrix: AQUEOUS	Collection Date:	7/7/2000 9:50:00 AM
Project:	Templeton #1E Mo	onitor Wells	COC Record:	10785

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	s	W8021B			Analyst: DC
Benzene	ND	0.5	µg/L	1	7/12/2000
Toluene	ND	0.5	µg/L	1	7/12/2000
Ethylbenzene	ND	0.5	μg/L	1	7/12/2000
m,p-Xylene	ND	1	µg/L	1	7/12/2000
o-Xylene	ND	0.5	µg/L	1	7/12/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

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

E - Value above quantitation range

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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LAB: (505) 325-1556 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 19-Jul-00

		ental Services, Inc.	Client Sample Info:	Templeton #1E Monitor Wells
Work Order: 00	007006		Client Sample ID:	Trip Blank
Lab ID: 00	007006-07A	Matrix: AQUEOUS	Collection Date:	7/6/2000 12:00:00 PM
Project: Te	Cempleton #1E Mo	onitor Wells	COC Record:	10785

Parameter	Result	PQL Q	ual Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID	s	W8021B			Analyst: DC
Benzene	ND	0.5	μg/L	1	7/12/2000
Toluene	ND	0.5	μg/L	1	7/12/2000
Ethylbenzene	ND	0.5	μg/L	1	7/12/2000
m,p-Xylene	ND	1	µg/L	1	7/12/2000
o-Xylene	ND	0.5	µg/L	1	7/12/2000

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

7 of 7

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surt: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

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Contract Environmental Services, Inc. CLIENT:

Date: 19-Jul-00

QC SUMMARY REPORT

Work Order:	0007006										
Project:	Templeton #1E Monitor Wells								4	Method Blank	lank
Sample ID: MB1	Batch ID: GC-1_000712 Test Code: SW8021B	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/12/2000	000	Prep Date:		
Client ID:	0007006	Run ID:	GC-1_000712A	٨		SeqNo:	29926				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	Ref Val	%RPD	%RPD RPDLimit	Qual
Benzene	QN	0.5									
Ethylbenzene	.1388	0.5									ب
m.p-Xylene	.4757	-									Ŀ
Methyl tert-Butyl Ether	ner ND	-									
o-Xylene	.1557	0.5									٦ ٦
Toluene	.2024	0.5									Ŀ
Sample ID: MB1	Batch ID: GC-1_000718 Test Code: SW8021B	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/18/2000	000	Prep Date:		
Client ID:	0007006	Run ID:	GC-1_000718A	٩		SeqNo:	29970				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	RPD Ref Val	%RPD I	RPDLimit	Qual
Benzene	QN	0.5									
Ethylbenzene	.1445	0.5									ر
m,p-Xylene	.4384	-									-r
Methyl tert-Butyl Ether	ner ND	-									
o-Xylene	.1801	0.5									ſ
Toluene	.1111	0.5									-,

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

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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On Site Technologies, LTD	es, LTD.								Da	Date: 19-Jul-00	00	
CLIENT: Contract Work Order: 0007006	Contract Environmental Services, Inc. 0007006	Inc.						QC SUMMARY REPORT	IMAR	Y REPC	IRT	
Project: Templeto	Templeton #1E Monitor Wells								Sample	Sample Matrix Spike	pike	
Sample ID: 0006074-03AMS	Batch ID: GC-1_000712 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/12/2000	0	Prep Date:	te:		ł
Client ID:	0007006	Run ID:	GC-1_000712A	A		SeqNo:	29927					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RI	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	2059	25	2000	46.08	100.7%	88	112					
Ethylbenzene	2805	25	2000	776.7	101.4%	86	113					
m,p-Xylene	2666	50	4000	6132	90.6%	85	108					
Methyl tert-Butyl Ether	2166	50	2000	46.08	106.0%	86	117					
o-Xylene	2352	25	2000	299.2	102.6%	92	110					
Toluene	2130	25	2000	38.93	104.5%	88	116					
Sample ID: 0006074-03AMSD	Batch ID: GC-1_000712 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/12/2000	0	Prep Date:	te:		l
Client ID:	0007006	Run ID:	GC-1_000712A	٩		SeqNo:	29928					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RI	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	2001	25	2000	46.08	97.8%	88	112	2059	2.9%	9		
Ethylbenzene	2725	25	2000	776.7	97.4%	86	113	2805	2.9%	9		
m,p-Xylene	9715	50	4000	6132	89.6%	85	108	2666	2.9%	9		
Methyl tert-Butyl Ether	2137	50	2000	46.08	104.6%	86	117	2166	1.3%	7		
o-Xylene	2285	25	2000	299.2	99.3%	92	110	2352	2.9%	9		
Toluene	2040	25	2000	38.93	100.1%	88	116	2130	4.3%	9		

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

Qualifiers:

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

B - Analyte detected in the associated Method Blank

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Work Order: 0007006 Project: Templeton #1E Monitor Wells	0007006 Templeton #1E Monitor Wells								Sampl	Sample Matrix Spike	Spike
Sample ID: 0007004-02BMS	S Batch ID: GC-1_000718	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/18/2000	2000	Prep Date:	ite:	
Client ID:	0002006	Run ID:	GC-1_000718A	×		SeqNo:	29971				
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	406.4	ъ.	400	0.5	101.5%	88	112			•	
Ethylbenzene	409.4	5	400	-	102.1%	86	113				
m,p-Xylene	784.6	10	800	2	97.8%	85	108				
Methyl tert-Butyl Ether	388.6	1 0	400	0	97.2%	86	117				
o-Xylene	410.9	5	400	-	102.5%	92	110				
Toluene	478	5	400	65	103.2%	88	116				
Sample ID: 0007004-02BMSD	SD Batch ID: GC-1_000718	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/18/2000	2000	Prep Date:	ite:	
Client ID:	0007006	Run ID:	GC-1_000718A	٨		SeqNo:	29972				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	396.6	5	400	0.5	%0.66	88	112	406.4	2.4%	ဖ	
Ethylbenzene	399.7	5	400	-	<u>99.7%</u>	86	113	409.4	2.4%	9	
m.p-Xylene	765.3	5	800	2	95.4%	85	108	784.6	2.5%	9	
Methyl tert-Butyl Ether	383.2	10	400	0	95.8%	86	117	388.6	1.4%	7	
o-Xylene	401.4	5	400	-	100.1%	92	110	410.9	2.3%	9	
Toluene	465.2	S	400	65	100.1%	88	116	478	2.7%	9	

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B - Analyte detected in the associated Method Blank

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

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

Qualifiers:

In Site Technologies, LTD.	Contract Environmental Services, Inc.
On Site T	CLIENT:

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QC SUMMARY REPORT

Work Order: 0007006										UC SUMMAKY KEPUKI	
Project: Templeto	Templeton #1E Monitor Wells							Laboratory Control Spike - generic	Control	ópike - gei	Jenc
Sample ID: LCS WATER	Batch ID: GC-1_000712 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/12/2000	2000	Prep Date:	te:	
Client ID:	0007006	Run ID:	GC-1_000712A	A		SeqNo:	29925				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.32	0.5	40	0	100.8%	96	111				
Ethylbenzene	40.29	0.5	40	0.1388	100.4%	96	111				
m,p-Xylene	76.04	~	80	0.4757	94.4%	92	105				
Methyl tert-Butyl Ether	40.39	-	40	0	101.0%	93	113				
o-Xylene	40.55	0.5	40	0.1557	101.0%	67	110				
Toluene	40.52	0.5	40	0.2024	100.8%	97	109				
Sample ID: LCS WATER	Batch ID: GC-1_000718 Test Code:	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/18/2000	2000	Prep Date:	te:	
Client ID:	0007006	Run ID:	GC-1_000718A	Ā		SeqNo:	29969				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.23	0.5	40	0	100.6%	96	111				
Ethylbenzene	40.59	0.5	40	0.1445	101.1%	96	111				
m,p-Xylene	77.95	-	80	0.4384	96.9%	92	105				
Methyl tert-Butyl Ether	38.89	-	40	0	97.2%	93	113				
o-Xylene	40.66	0.5	40	0.1801	101.2%	97	110				
Toluene	40.76	0.5	40	0.1111	101.6%	67	109				

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

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

B - Analyte detected in the associated Method Blank

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Date: 19-Jul-00

Qualifiers:

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On Site Technologies, LTD	ologies, LTD								Date: 19-Jul-00	
CLIENT: C Work Order: 0	Contract Environmental Services, Inc.	ental Services,	Inc.					QC SU	QC SUMMARY REPORT	
-	Templeton #1E Monitor Wells	nitor Wells						Continuing Calibrati	Continuing Calibration Verification Standard	
Sample ID: CCV1 BTEX_0007		Batch ID: GC-1_000712	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/12/2000	Prep Date:	1
Client ID:		0007006	Run ID:	GC-1_000712A	٩		SeqNo:	29922		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qual	
Benzene		21.07	0.5	20	0	105.4%	85	115		
Ethylbenzene		21.12	0.5	20	0	105.6%	85	115		
m,p-Xylene		40.04	-	40	0	100.1%	85	115		
Methyl tert-Butyl Ether		20.54	-	20	0	102.7%	85	115		
o-Xylene		21.16	0.5	20	0	105.8%	85	115		
Toluene		21.21	0.5	20	0	106.1%	85	115		
1,4-Difluorobenzene		89.52	0	100	0	89.5%	52	101		
4-Bromochlorobenzene		85.38	0	100	0	85.4%	78	66		
Fluorobenzene		87.65	0	100	0	87.6%	76	103		
Sample ID: CCV2 BTEX_0007	1	Batch ID: GC-1_000712	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/12/2000	Prep Date:	
Client ID:		0007006	Run ID:	GC-1_000712A	٩		SeqNo:	29923		
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		20.84	0.5	20	0	104.2%	85	115		
m,p-Xylene		39.65	ب	40	0	99.1%	85	115		
Methyl tert-Butyl Ether		21.62		20	0	108.1%	85	115		
o-Xylene		21.03	0.5	20	0	105.2%	85	115		
Toluene		20.94	0.5	20	0	104.7%	85	115		
1,4-Difluorobenzene		89.55	0	100	0	89.6%	. 79	101		
4-Bromochlorobenzene		84.58	0	100	0	84.6%	78	66		
Fluorobenzene		87.93	0	100	0	87.9%	76	103		
Qualifiers: ND	ND - Not Detected at the Reporting Limit	Reporting Limit		S - Spil	S - Spike Recovery outside accepted recovery limits	de accepted reco	very limits	B - Analyte detecte	B - Analyte detected in the associated Method Blank	

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

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	Contract Environmental Services, Inc.	Inc.						QC SUN	IMAR	QC SUMMARY REPORT	RT	
Work Order: 000/000 Project: Templete	000/006 Templeton #1E Monitor Wells						Continu	Continuing Calibration Verification Standard	n Verific	ation Stand	lard	
Sample ID: CCV3 BTEX_0007 Client ID:	7 Batch ID: GC-1_000712 0007006	Test Code: Run ID:	SW8021B GC-1_000712A	Units: µg/L		Analysis SeqNo:	Analysis Date: 7/12/2000 SeqNo: 29924	2000	Prep Date:	ite:		i i
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	40.54	0.5	40	0	101.3%	85	115					
Ethylbenzene	40.45	0.5	40	0	101.1%	85	115					
m,p-Xylene	77.29	-	80	0	96.6%	85	115)
Methyl tert-Butyl Ether	35.83	-	40	0	89.6%	85	115					
o-Xylene	40.94	0.5	40	0	102.3%	85	115					
Toluene	40.74	0.5	40	0	101.8%	85	115					
1,4-Difluorobenzene	90.08	0	100	0	90.1%	79	101					
4-Bromochlorobenzene	88.66	0	100	0	88.7%	78	66					
Fluorobenzene	88.92	0	100	0	88.9%	76	103					
Sample ID: CCV1 BTEX_0007	7 Batch ID: GC-1_000718	Test Code:	SW8021B	Units: µg/L		Analysis	Analysis Date: 7/18/2000	2000	Prep Date:	ite:		I
Client ID:	0007006	Run ID:	GC-1_000718A	Ŧ		SeqNo:	29967					
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.33	0.5	20	0	101.7%	85	115					1
Ethylbenzene	20.68	0.5	20	0	103.4%	85	115					
m,p-Xylene	39.68		40	0	99.2%	85	115					
Methyl tert-Butyl Ether	19.91	-	20	0	60.6%	85	115					U
o-Xylene	20.7	0.5	20	0	103.5%	85	115					
Toluene	20.63	0.5	20	0	103.2%	85	115					
1,4-Difluorobenzene	90.28	0	100	0	90.3%	79	101					
4-Bromochlorobenzene	89.37	0	100	0	89.4%	78	66					
Fluorobenizene	89.23	0	100	0	89.2%	76	103					

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B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

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

Qualifiers:

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ndard		Qual	1							
tion Star		RPDLimit								
Calibration Verification Standard	Prep Date:	%RPD F								
Continuing Calibration Verification Standard		RPD Ref Val 🛛 💡								
Continuing	Analysis Date: 7/18/2000 SeqNo: 29968	HighLimit RF	115	115	115 115	115	115	101	66	103
	Analysis SeqNo:	LowLimit	85	85 21	85 85	85	85	61	78	76
		%REC	100.6%	102.3%	%6.78 %9.9%	102.8%	101.9%	89.8%	87.7%	88.8%
	Units: µg/L A	SPK Ref Val	0	0 0		0	0	0	0	0
	SW8021B GC-1_000718A	SPK value	20	20	40 20	50	20	100	100	100
	Test Code: Run ID:	PQL	0.5	0.5		0.5	0.5	0	0	0
0007006 Templeton #1E Monitor Wells	Batch ID: GC-1_000718 0007006	Result	20.11	20.45	39.14 19.79	20.57	20.37	89.79	87.66	88.77
Work Order: 0007006 Project: Templeton	Sample ID: CCV2 BTEX_0007 Client ID:	Analyte	Benzene	Ethylbenzene	m.p-Xylene Methvi tert-Britvi Ether	o-Xylene	Toluene	1,4-Difluorobenzene	4-Bromochlorobenzene	Fluorobenzene

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

Qualifiers:

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

B - Analyte detected in the associated Method Blank

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On Site Technologies, LTD.

CLIENT:	Contract Environmental Services, Inc.
Work Order:	0007006
Project:	Templeton #1E Monitor Wells
Test No:	SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
0006069-01A	90	84.6	88.7
0006070-01A	86.4	83.8	85.7
0006074-03A	89.8	83.4	88.2
0006074-03AMS	87.5	84.5	86.8
0006074-03AMSD	87.5	85.4	86.6
0007003-01A	89.9	84.9	88.4
0007004-02B	90.1	88.1	89.2
0007004-02BMS	89.5	88.1	88.3
0007004-02BMSD	89.6	88	88.4
0007005-01A	89.4	84.7	88.5
0007006-01A	90.4	83.9	88.6
0007006-02A	89.9	83.2	88.9
0007006-03A	90.1	85.1	88.5
0007006-04A	88.9	87.2	86.4
0007006-05A	90.4	85.1	88.5
0007006-06A	89.6	85.4	88.8
0007006-07A	89.7	84.8	88.6
0007007-01A	89.3	84.8	88.7
0007007-02A	107 *	86.4	88.8
0007007-03A	90	84.9	88.8
0007007-04A	149 *	85.4	103 *
000700 7-05A	89.7	84.6	88.6
0007007-06A	89.8	84.8	88.4
0007007-07A	89.3	85	88.4
CCV1 BTEX_00070	90.3	89.4	89.2
CCV2 BTEX_00070	89.8	87.6	88.8
CCV3 BTEX_00070	90.1	88.7	88.9

Acronym	 	Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	79-101
4BCBZ	=	4-Bromochlorobenzene	78-99
FLBZ	=	Fluorobenzene	76-103

* Surrogate recovery outside acceptance limits

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CLIENT: Work Order: Project:	Contract Envir 0007006 Templeton #11			QC SUMMARY REPORT SURROGATE RECOVERIES
Test No: Sample ID	SW8021B 14FBZ	4BCBZ	FLBZ	Aromatic Volatiles by GC/PID
LCS WATER	89.7	89.5	88.4	
MB1	90.4	90.4	89.3	

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	79-101
4BCBZ	= 4-Bromochlorobenzene	78-99
FLBZ	= Fluorobenzene	76-103
* Surr	ogate recovery outside acceptance	e limits

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Murray Dr. • P.O. Box 2606 • Farmingtor LAB: (505) 325-5667 • FAX: (505) 327-	n, NM 8749 1496	Q	Page: / of /	
Project No.	0.	Name Sharen Adams	Title Carner	-
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, NM 87401	Я	- 325 - 119	🕺 Telefax No. 🔬	
		-	REQUESTED	
Mariton Wells		K		
		4		
SAMPLE TIME MATRIX				
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5 ; 05	~	×	~	
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7/7 9:50 "	2	XX	R12 1 00	
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Date/Time 7/7		Active () 11-10	Date/Time $\gamma(\gamma)/\gamma$	
Date/Time			Date/Time	
Date/Time	Receiv	ed by:	Date/Time	
	Rush	24-48 Hours 10 Working D	ays By Date	
- / -	Specia			
_ Date _/		PS # TA		
			To Re-order Call 325-9600 or Fox 325-9764 31911011105' FORM # 01	-
	Murray Dr P.O. Box 2 Murray Dr P.O. Box 2 LdB: (505) 325-5667 - Project No. Project No. Dept. Dept. Date T//F 5 : Cf T//F 7//7 7//7 7:7/7 7:7/7 7:7/7 7:7/7 7:7/7 9:550 Date/T Date/T Date/T Date/T Date/T Date/T Date/T Distribution. W	AIN O ay Dr. • P.O. Box 2 ay Dr. • P.O. Box 2 :(505) 325-5667 • :(505) 325-5667 • iect No. iect No.	AIN OF CUSTODY RECC av Dr P.O. Box 2606 - Famington, MM 8749 (stob) 225-5667 - FAX: (505) 227.1486 (stob) 225-5667 - FAX: (505) 227.1486 (stob) 225-5667 - FAX: (505) 227.1486 (stop) 227.148 (stop) 227.148	AIN OF CUSTODY RECORD Date: 7/7/2.com Bate: 7/7/2.com Colspan=7 Maining Address: 7/10.01.01.01.01.01.01.01.01.01.01.01.01.0

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ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

February 14, 2000

CERTIFIED MAIL RETURN RECEIPT NO: Z-559-572-904

Mr. Chester Deal Chateau Oil and Gas Inc. 5802 Hwy. 64 Farmington, New Mexico 87401

RE: GROUND WATER DISCHARGE PLAN GW-184 TEMPLETON #1E WELL SITE SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Deal:

On February 20, 1995, the ground water discharge plan, GW-184 for the Templeton #1E well site located in Unit B, Section 27, Township 31 North, Range 13 West, San Juan County, New Mexico was approved by the Director of the New Mexico Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to New Mexico Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The approval expires on February 20, 2000.

If your facility continues to have potential or actual effluent or leachate discharges, you must renew your discharge plan. Please submit a renewal application to the OCD by April 14, 2000. Please submit an original application and one copy to the OCD Santa Fe Office and one copy to the OCD Aztec District Office. Note that the completed and signed application form must be submitted with your discharge plan renewal request (Copies of the WQCC regulations and the application form and guidelines can be found on the OCD web page at <u>www.emnrd.state.nm.us/ocd/)</u>. Please indicate whether you have made, or intend to make, any changes in your system, and if so, please include these modifications in your application for renewal.

The discharge plan renewal application for the Templeton #1E well site is subject to the WQCC Regulation 3114 discharge plan fees. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filling fee of \$50.00 plus a flat fee of \$690.00 for ground water remediations.

Mr. Chester Deal February 14, 2000 Page 2

The \$50.00 filing fee is to be submitted with the discharge plan renewal application and is nonrefundable. The flat fee for an approved discharge plan renewal may be paid in a single payment due at the time of approval, or in equal installments over the duration of the discharge plan.

Please make all checks payable to the **NMED Water Quality Management Fund** and addressed to the OCD Santa Fe Office.

If you no longer have any actual or potential discharges, a discharge plan is not needed and you need to notify this office. If you have any questions regarding this matter, please do not hesitate to contact Bill Olson of my staff at (505) 827-7154.

Sincerely,

1. Jerso

Roger C. Anderson Environmental Bureau Chief

xc: Denny Foust, OCD Aztec District Office Shawn Adams, Contract Environmental Services, Inc.

STATE OF NEW MEXICO



- ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

July 15, 1997

CERTIFIED MAIL RETURN RECEIPT NO. P-410-431-194

Mr. Chester Deal Chateau Oil and Gas, Inc. 5802 Hwy. 64 Farmington, New Mexico 87401

RE: TEMPLETON #1E GROUND WATER INVESTIGATION.

Dear Mr. Deal:

1.

The New Mexico Oil Conservation Division (OCD) has completed a review of the following Chateau Oil and Gas, Inc.'s (COGI) documents that contain the results of COGI's recent site remedial actions and a proposed work plan for additional ground water investigations and modification of the site remediation system:

- May 7, 1997 "CHATEAU OIL AND GAS, INC. TEMPLETON #1E GROUNDWATER INVESTIGATION REPORT, SECTION 27, T31N, R13W".
- May 7, 1997 "MARCH 20, 1997 NMOCD LETTER, TEMPLETON 1E WELL SITE".
- May 9, 1997 "QUARTERLY REPORTING, AIR STRIPPER, DISCHARGE PLAN APPLICATION GW-184".

The site investigation and remedial actions as contained in the above referenced documents is approved with the following conditions:

The proposed ground water investigation plan does not define the downgradient extent of ground water contamination that is in excess of New Mexico Water Quality Control Commission (WQCC) ground water standards. Therefore the OCD requires that, in addition to the proposed monitor wells, COGI will install 3 downgradient monitor wells at the locations shown on the attached map.

2. COGI will develop each well upon completion using EPA approved procedures.

3. All wastes generated will be disposed of at an OCD approved facility or in an OCD approved manner.

Mr. Chester Deal July 15, 1997 Page 2

5.

- 4. Ground water from all site monitor wells will be sampled and analyzed for concentrations of benzene, toluene, ethylbenzene, xylene (BTEX) using EPA approved methods and quality assurance/quality control (QA/QC).
 - COGI will submit a report on the investigation to the OCD by October 3, 1997. The report will contain:
 - a. A description of all activities which occurred during the investigation including conclusions and recommendations.
 - b. A summary of all laboratory analytic results of soil and water quality sampling and copies of all laboratory analyses and associated QA/QC data.
 - c. A water table elevation map using the water table elevation of the ground water in all monitor wells.
 - d. A geologic log and well completion diagram for each monitor well and air sparging well.
- 6. COGI will notify the OCD at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
- 7. All documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

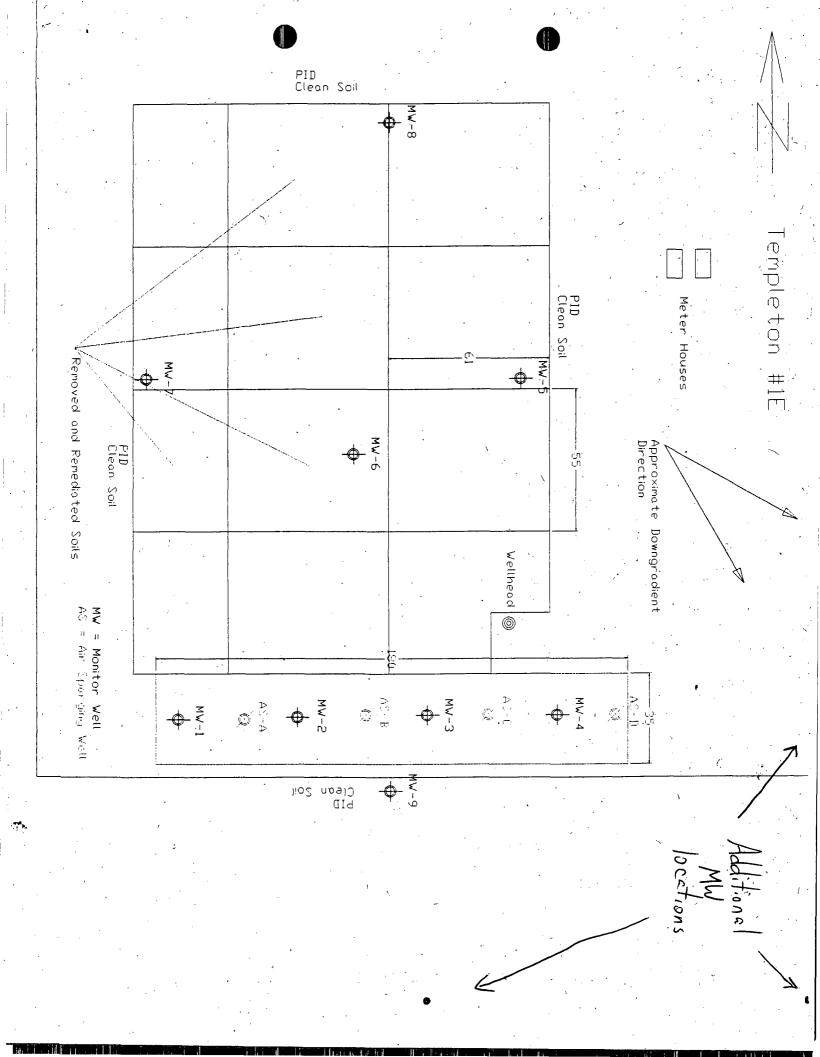
Please be advised that OCD approval does not relieve COGI of liability if contamination exists which is beyond the scope of the plan or if the activities fail to adequately determine the extent of contamination related to their activities. In addition, OCD approval does not relieve COGI of responsibility for compliance with any other federal, state, tribal or local laws and/or regulations. If you have any questions, please call me at (505) 827-7154.

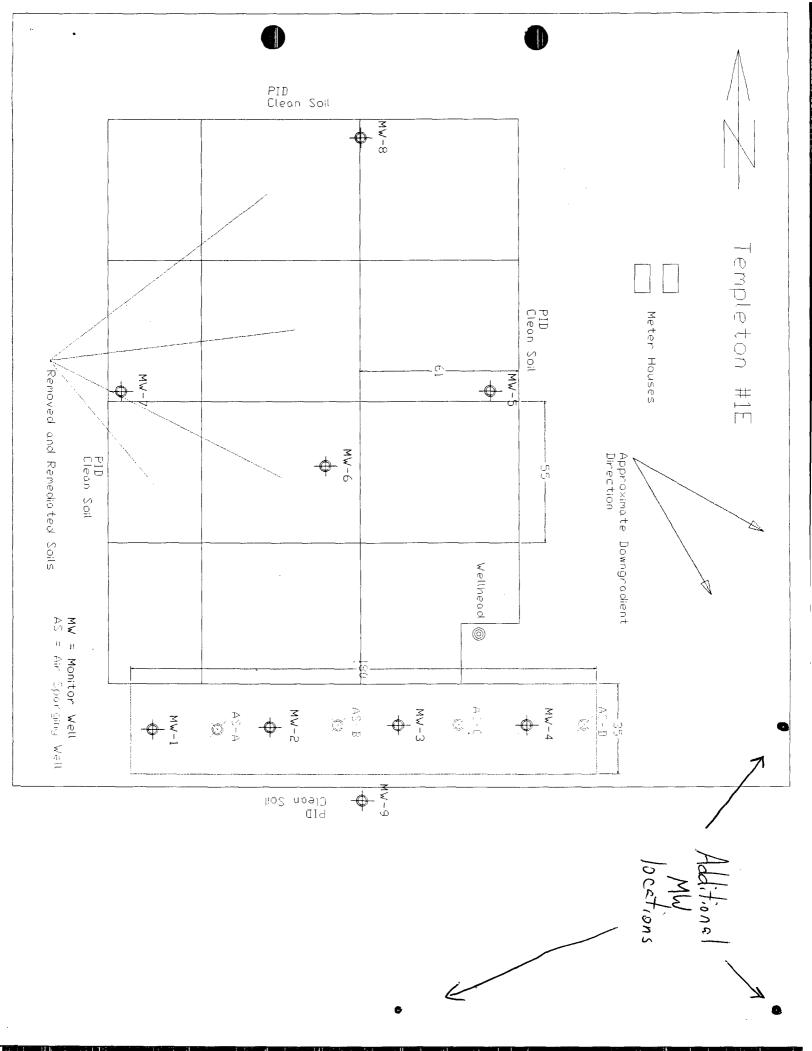
Sincerely_

William C. Olson Hydrogeologist/Environmental Bureau

attachment

xc: Denny Foust, OCD Aztec Office Shawn Adams, Contract Environmental Services





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May 7, 1997

New Mexico Oil Conservation Division Mr. Bill Olson 2040 South Pacheco Santa Fe, New Mexico 87505

RECEIVED

MAY 1 4 1997

Environmental Bureau Oil Conservation Division

RE: March 20, 1997 NMOCD letter, Templeton 1E Well Site

Dear Mr. Olson,

Contract Environmental Services, Inc. (CES) is pleased to present the following comprehensive work plan on behalf of Chateau Oil and Gas, Inc. (COG) to assess groundwater contamination at the Templeton 1E well location, Sec 27, T31N, R13W. This plan includes Background Information, Additional Work Planned, Monitor Well Detail, Air Sparging Well Detail, Remediation Level Achieved, Additional Remediation Anticipated, Conclusions and Recommendations.

Background Information

Numerous excavations have been completed across the wellpad as shown on Figure 1. Open excavations quickly filled with groundwater and had the contaminated water cycled through an air stripper to remove hydrocarbons. The sun and wind helped in the remediation of the groundwater by further breaking down hydrocarbons. The soils excavated were then spread on location and tilled or disced until it reached an acceptable level of contamination. Once remediated, the soils were placed back in the open excavation. The soil farm area was then utilized for another spreading of excavated soil.

On February 4 through February 6, 1997 a total of four (4) monitor wells were installed across the last remaining contaminated zone in efforts to assess existing contamination. Water samples were collected from each of the wells for analysis. The description of these sampling procedures and findings are included in a separate report entitled "Chateau Oil and Gas, Inc. Templeton # 1E Groundwater Investigation Report".

Additional Work Planned

Five (5) monitor wells are planned to more effectively characterize groundwater remediation across the entire well location. The locations of these planned installations are pointed out on Figure 1.

A minimum of four (4) air sparging wells will be installed across this last zone requiring remediation of soil and groundwater. All information to date will be gathered and summarized in a final report complete with conclusions and recommendations. If necessary, COG may open trenches to allow contaminated water to be processed through the air stripper currently on location.

Monitor Well Detail

Efforts will be made to remain consistent with the previous five (5) monitor wells installed. A slotted steel 6" casing will be placed in the subsurface a minimum of five (5) feet below the water table. Excavated soils will then be backfilled around the steel casing. A four (4) inch PVC monitor well casing will be installed within the 6" steel casing and the PVC will be sandpacked. The slotted PVC will extend approximately five foot into the water table and will continue approximately five (5) foot above. This zone will allow for seasonal fluctuations in the water table. The monitor wells will be purged to remove fine material (silts) within the PVC casing. The blank PVC above the perforated zone will have a bentonite seal to prevent infiltration from above. A cemented manhole cover or monument will be completed to allow for ease of sampling and adequate security.

Air Sparging Well Detail

The five (5) monitor wells will be placed in an alternating sequence with the monitoring wells installed on February 4 through 6, 1997. The sparging wells will be completed with 2" heavy wall PVC. The bottom of the PVC casing will have an 18" screened section with 0.020 slots to allow the injected air to enter the water zone. The sparging wells are to be placed so as to allow for seasonal fluctuations in the water table and still maintain submersion. A manifold system of 2" PVC will link the sparging wells at the surface and one common blower will be utilized. Each individual sparging well will have an air inlet control to vary injection as needed.

Remediation Level Achieved

Information gathered from analyzing the water in these monitor wells will be used to establish the remediation level achieved. A groundwater hydrocarbon concentration map will be developed using this same information. This map will be a tool for deciding most effective locations of air sparging wells.

Additional Remediation Anticipated

Expectations are that the only area requiring further groundwater remediation will be the contaminated zone that has not been excavated. This strip of ground is some 35' x 180' in size and is located on the southern edge of the well location. Water analyses indicate considerable contamination within this small strip.

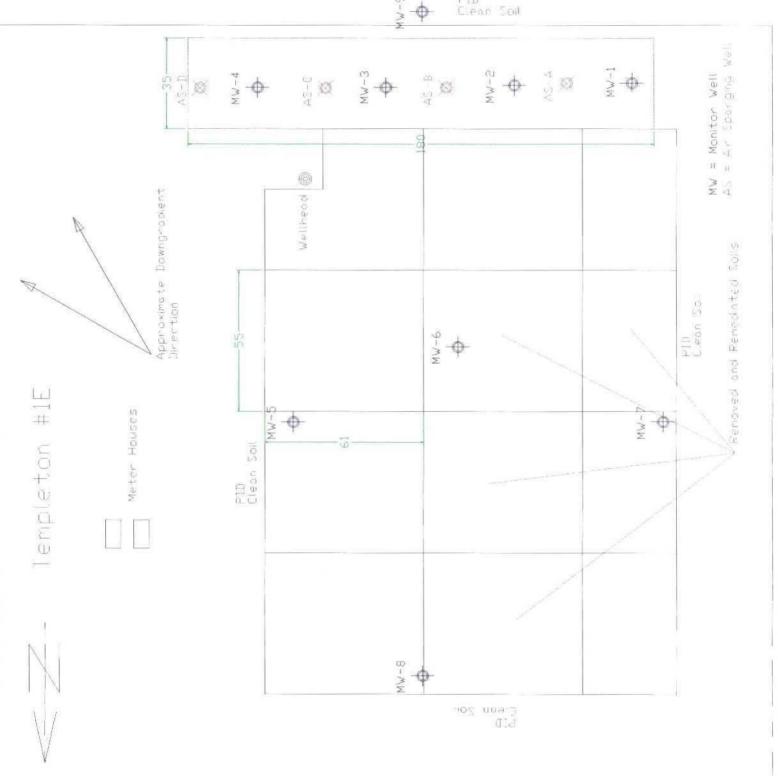
Conclusions and Recommendations

Upon approval, Chateau Oil and Gas, Inc. will activate this work plan and begin installations of monitor wells to assess the overall groundwater condition. This information will be used to decide practical locations of air sparging wells and will give us the levels of contamination (if any) present. CES on behalf of Chateau Oil and Gas, Inc. appreciate this opportunity to present this work plan to the New Mexico Oil Conservation Division. If you require additional information, please don't hesitate to contact us at (505) 325-1198 or stop by our offices at 4200 Hawkins Road, Farmington.

Sincerely.

Shawn A. Adams Contract Environmental Services, Inc.

CC: Mr. Denny Foust, NMOCD Office, Aztec, New Mexico



PID Elean Soil 6-MW

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Contract Environmental Services, Inc. Post Office Box 3376 Farmington, New Mexico 87499-3376 Phone (505) 325-1198

May 7, 1997

New Mexico Oil Conservation Division Mr. William Olson 2040 South Pacheco Santa Fe, New Mexico 87505

RE: Chateau Oil and Gas, Inc. Templeton # 1E Groundwater Investigation Report, Section 27, T31N, R13W

Dear Mr. Olson,

In response to your letter dated March 20, 1997, Contract Environmental Services, Inc. (CES) is pleased to present this Investigation Report for groundwater monitor wells at the Templeton # 1E well location on behalf of Chateau Oil and Gas, Inc. (COG). This report includes the following sections: Site Characteristics, Monitor Well Installation, Monitor Well Completion, Sampling Results, and Conclusions.

Site Characteristics

The Templeton #1E well location is located in the La Plata River Valley. Underlying this location is primarily alluvium material and sand. Groundwater is very shallow and can be usually encountered within the first five (5) foot of digging. Public Service Company of New Mexico (PNM) formerly Gas Company of New Mexico (GCNM) also has earthen pit contamination further to the east of Chateau Oil and Gas, Inc. Figure 3 presents the geologic log observed during excavations. Figure 4 presents groundwater depths with contour lines approximated.

Monitor Well Installation

The area chosen to install the initial four monitor wells was the strip of contaminated subsurface soils approximately 180 feet long and averaging 30 feet wide that runs east to west across the southern end of the well location. The area has been defined during previous excavations and is presented in Figure 1.

The monitor wells were spaced evenly (approximately 36 feet apart) across this area following the center line. A backhoe was utilized to dig the excavations since the water table is shallow and due to the alluvium material present. The soil was backfilled around the steel casings until equal to the grade of the surrounding area. PVC monitor wells were sandpacked within the steel casings only after the water level could be accurately measured. Placement was designed to achieve a screened interval of five (5) feet above and five (5) feet below the water table. The PVC screened pipe was sand-packed to prevent fine-particle intrusion into the wellbore. Figure 2 is a diagram of the monitor well detail.

Monitor Well Completion

Each of the four (4) monitor wells was completed with a ten (10) foot slotted PVC casing attached to a five (5) foot blank PVC casing. All PVC monitor well casings had four (4) inch diameter. Approximately one and one-half (1 1/2) bags of twenty (20) grit silica sand was used to pack the space between the steel and PVC casings. Two (2) bags of bentonite pellets were used to seal the wellbore around the PVC casing. At the surface, three (3) bags of quick-rete was utilized for stabilizing the steel casing. Once the four monitor

wells were completed, the water within the wells was purged and/or developed a minimum of three times the well volume.

Sampling Results

Upon completing the installation of the four monitor wells, a small water pump was used to purge and develop the wells. Each well had a minimum of four well volumes removed to complete the development. Purging in this manner allows the flow channels of both the steel casing and the slotted PVC pipe to be properly developed for uniform groundwater movement through the well. After purging, the wells were left undisturbed for one day before sampling.

Following development and prior to sampling, each of the four monitor wells had a water sample screened with a photo-ionization detector (PID) meter. The results of the screening are presented in the following table.

Table 1-1.

Source	Concentration	Units
Monitor Well #1	200	PPM
Monitor Well #2	130	PPM
Monitor Well #3	100	PPM
Monitor Well #4	1,200	PPM

The monitor wells were bailed the standard three (3) well volumes prior to sampling. Water samples were collected in 40 ml VOA vials with chemical preservative. The samples were kept cool and transported to an accredited laboratory for analysis of Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) as per EPA Method 8020. The results are given below in Table 1-2. Attached are copies of the laboratory analytical reports.

Table 1-2.

Monitor Well	Benzene	Toluene	Ethylbenzene	Xylene(s)
MW-1	0.5	2.8	1.1	6.1
MW-2	162.2	64.6	306	4,136.6
MW-3	4,287.7	10,634.6	797.9	8,566.7
MW-4	1,704.9	5,175.4	464.8	4,871

Allowable concentrations under New Mexico Groundwater Regulations in Parts Per Billion (PPB) are as follows:

 Benzene	Toluene	Ethylbenzene	Xylene(s)
5.0	1,000	700	10,000

One (1) monitor well (MW-1) had a rigorous water analysis conducted that included tests for Cations / Anions, Metals, and Nitrates using EPA Methods. The selection was made the day the monitor wells were installed. Monitor well #1 was selected due to the nearness to the original earthen pit. CES will determine the frequency of sampling jointly with NMOCD. In addition to the above laboratory results, monitor well #1 had the following analyses performed:

Parameter	Results	Units	Parameter	Results	Units
Sodium	822	PPM	Calcium	474	PPM
Magnesium	142	PPM	Potassium	19	PPM
Chloride	267	PPM	Sulfate	3,107	PPM
Carbonate	<1	PPM	Bicarbonate	400	PPM
Hydroxide	<1	PPM	Sulfide	NA	
Iron	0.2	PPM	TDS	5,231	PPM
pН	7.42		Resistivity	1.7094	Ohm-m
Spec. Gravity	1.0044		Total Hardness	1768	
Cation/Anion Dif 7.2		Me/L	Mercury	ND	PPM
Arsenic	ND	PPM	Barium	1.16	PPM
Cadmium	ND	PPM	Chromium	ND	PPM
Lead	ND	PPM	Selenium	ND	PPM
Silver	ND	PPM	Nitrite	ND	PPM
Nitrate	ND	PPM	Acenaphthene	ND	РРВ
Acenaphthylene	ND	PPB	Anthracene	ND	PPB
Benz(a)anthracene	ND	PPB	Benzo(B)Fluoranthene	ND	PPB
Benzo(k)Fluoranthene	ND	PPB	Benzo(ghi)Perylene	ND	PPB
Benzo(a)Pyrene	ND	PPB	Chrysene	ND	PPB
Dibenz(a,h)anthracene	ND	PPB	Fluoranthene	ND	PPB
Fluorene	ND	PPB	Naphthalene	ND	PPB
Phenanthrene	ND	PPB	Pyrene	ND	PPB
Indeno(1,2,3-cal)Pyrene	ND	PPB	2-methylnaphthalene	ND	PPB

Conclusions

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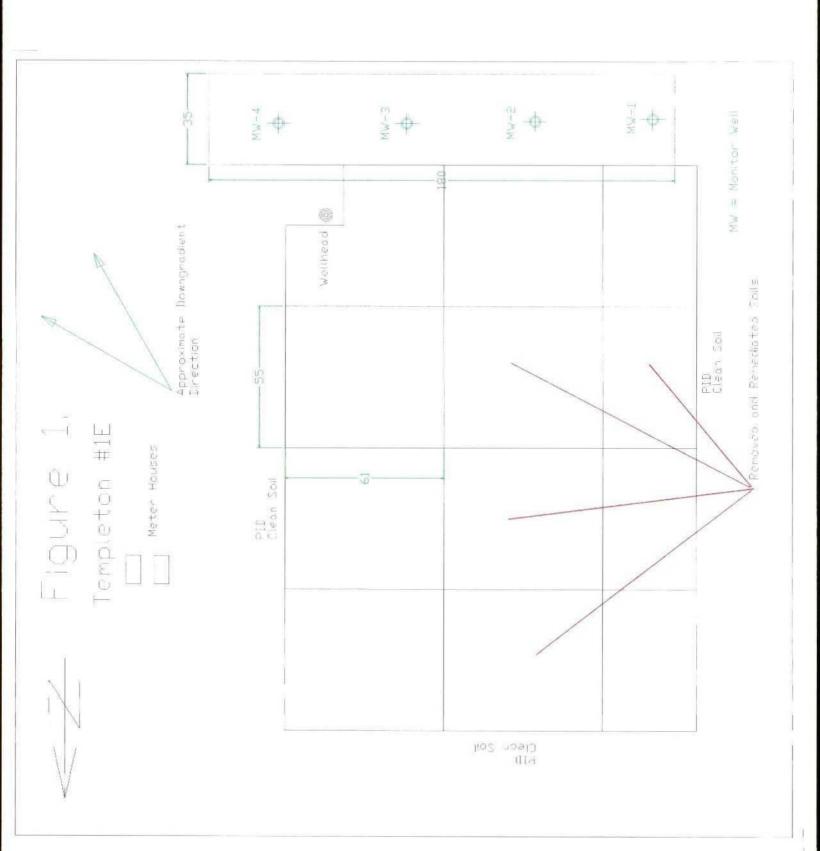
Contract Environmental Services, Inc. anticipates finding that the majority of soil and groundwater contamination has already been successfully remediated. These efforts were accomplished using excavation, soil farms, air stripper, and open trench techniques. Groundwater contamination remains in the area where the monitor wells have just been placed. Contract Environmental Services, Inc. feel that air sparging will be an effective method for cleaning this last remaining zone with surficial disturbance minimized.

Sincerely kan

Shawn A. Adams Contract Environmental Services, Inc.

CC: Mr. Denny Foust, NMOCD Aztec Office

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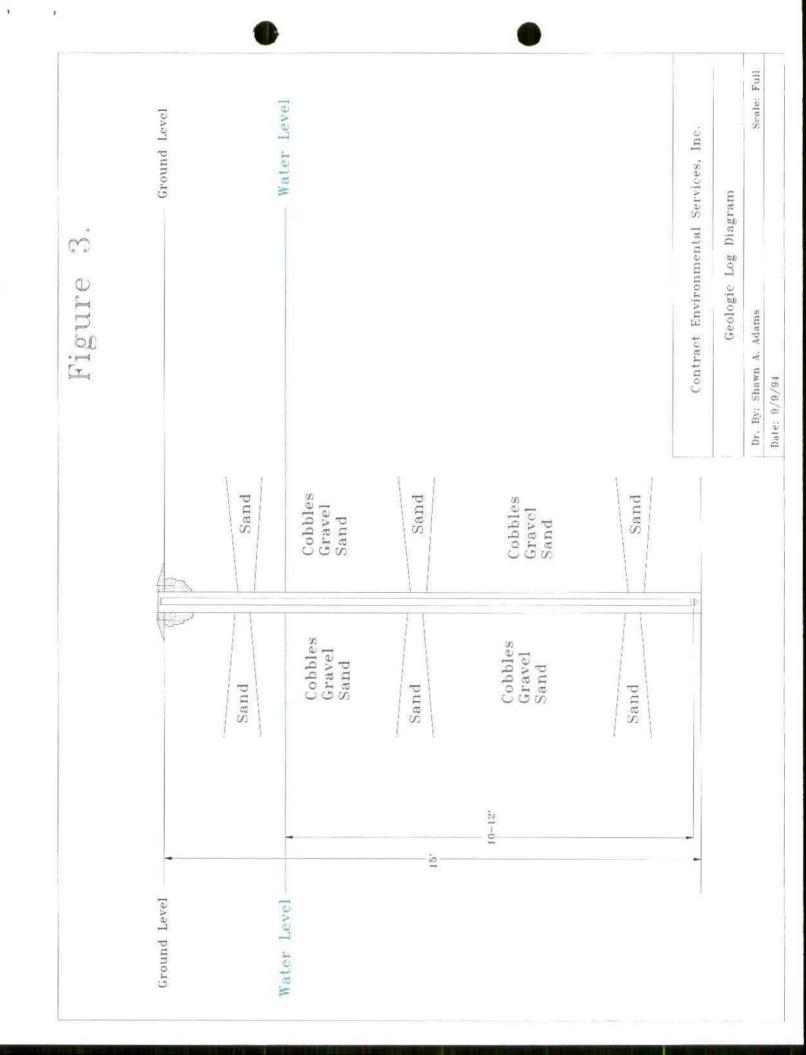
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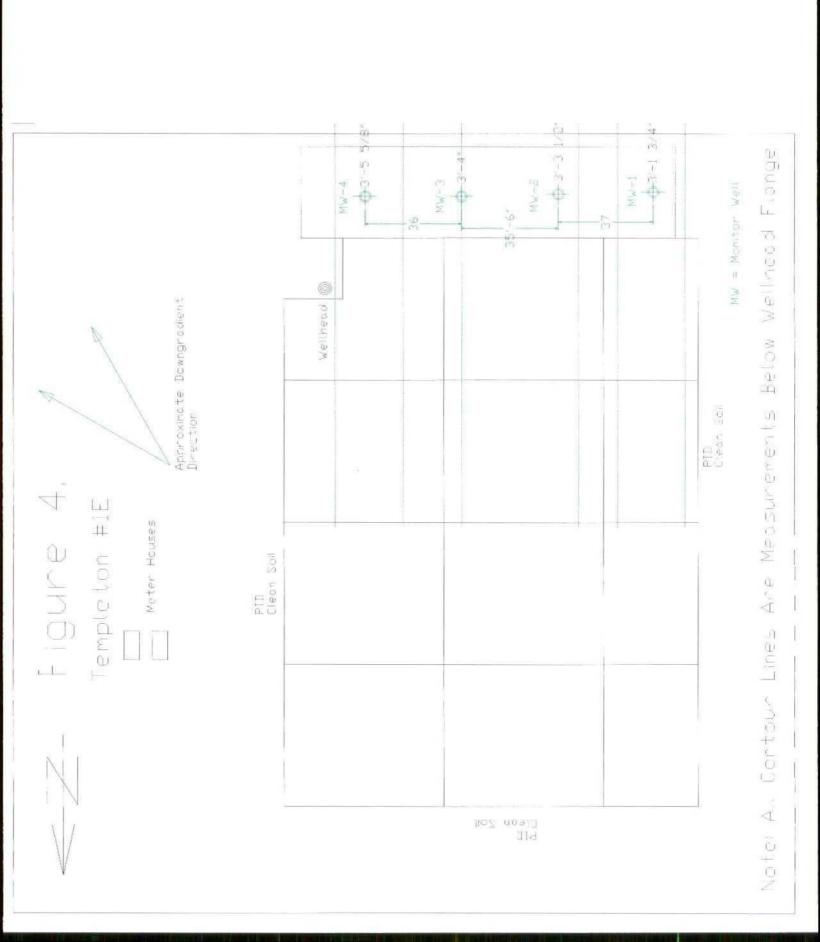
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Scale: Full Contract Environmental Services, Inc. Monitor Wellbore Diagram Ground Level Figure 2. Dr. By: Shawn A. Adams Date: 9/9/94 Schedule 40 Screw Together 4" Sandpoint screw on plug Slotted 4" PVC Pipe 0.010 Schedule 40 Screw Together Sandpack interior space 111 Bentonite Plug____ 10, 15'

II to Bar

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OFF: (505) 325-5667

Sample Matrix:



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: Shawn Adams			Date:	12-Feb-97
Company: Contract	Environmental Servi	ices, Inc.	COC No.:	4371
Address: P.O. Box	505	Sample No.:	13671	
City, State: Kirtland,	NM 87417		Job No.:	2-1000
Project Name:	Chateau Oil & Ga	as, Inc Templeto	on 1E	
Project Location:	TEMP-100; MW	' #1		
Sampled by:	JB	Date:	11-Feb-97 Time:	14:30
Analvzed bv:	DC	Date:	12-Feb-97	

Laboratory Analysis

Liquid

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene		0.5	ug/L	0.2	ug/L
Toluene		2.8	ug/L	0.2	ug/L
Ethylbenzene		1.1	ug/L	0.2	ug/L
m,p-Xylene		5.2	ug/L	0.2	ug/L
o-Xylene		0.9	ug/L	0.2	ug/L
	TOTAL	10.6	ug/L		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date: 2/12/77

P.O. BOX 2606 • FARMINGTON, NM 87499 - Technology Blending Industry with the Environment - OFF: (505) 325-5667

Analyzed by:

Sample Matrix:

DC

Liquid



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	Shawn Ad	ams		Date:	14-Feb-97		
Company:	Contract E	nvironmental Service	s, Inc.	COC No.:	4371		
Address: P.O. Box 505			Sample No.:	13670			
City, State: Kirtland, NM 87417				Job No.:	2-1000		
Project Name: Project Location:		Chateau Oil & Gas, Inc Templeton 1E TEMP-200; MW #2					
Sampled by		JB	Date:	11-Feb-97 Time:	13:30		

Date:

14-Feb-97

Parameter	 Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene	162.2	ug/L	0.2	ug/L
Toluene	64.6	ug/L	0.2	ug/L
Ethylbenzene	306.0	ug/L	0.2	ug/L
m,p-Xylene	3852.1	ug/L	0.2	ug/L
o-Xylene	284.5	ug/L	0.2	ug/L

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date:

P.O. BOX 2606 • FARMINGTON, NM 87499 - Technology Blending Industry with the Environment -



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	Shawn A	ldams		Date:	14-Feb-97
Company:	Contract	Environmental Sei	rvices, Inc.	COC No.:	4371
Address:	P.O. Box	505		Sample No.:	13669
City, State:	Kirtland,	NM 87417		Job No.:	2-1000
Project Nan Project Loca		Chat o au Oil & TEMP-300; M	Gas, Inc Templeto W #3	on 1E	
Sampled by	' :	JB	Date:	11-Feb-97 Time:	13:00
Analyzed by	y:	DC	Date:	14-Feb-97	
Sample Mat	trix:	Liquid			

Laboratory Analysis

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene		4287.7	ug/L	0.2	ug/L
Toluene		10634.6	ug/L	0.2	ug/L
Ethylbenzene		797.9	ug/L	0.2	ug/L
m,p-Xylene		7046.8	ug/L	0.2	ug/L
o-Xylene		1519.9	ug/L	0.2	ug/L
	TOTAL	24286.9	ug/L		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date:

P.O. BOX 2606 • FARMINGTON, NM 87499 - Technology Blending Industry with the Environment -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	Shawn A	Adams		Date:	14-Feb-97
Company:	Contract	Environmental Sei	vices, Inc.	COC No.:	4371
Address:	P.O. Box	c 505		Sample No.:	13668
City, State:	Kirtland,	NM 87417		Job No.:	2-1000
Project Nan Project Loc		Chateau Oil & TEMP-400; M	Gas, Inc Templetc W #4	on 1E	
Sampled by	/:	JB	Date:	11-Feb-97 Time:	12:00
Analyzed b	γ:	DC	Date:	14-Feb-97	
Sample Ma	trix:	Liquid			

Laboratory Analysis

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Benzene		1704.9	ug/L	0.2	ug/L
Toluene		5175.4	ug/L	0.2	ug/L
Ethylbenzene		464.8	ug/L	0.2	ug/L
m,p-Xylene		3985.3	ug/L	0.2	ug/L
o-Xylene		886.0	ug/L	0.2	ug/L
	TOTAL	12216.4	ug/L		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date:

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT for EPA Method 8020

Date Analyzed: 12-Feb-97

Internal QC No.:	0527-STD
Surrogate QC No.:	0528-STD
Reference Standard QC No.:	0417-QC

Method Blank

		Unit of
Parameter	Result	Measure
Average Amount of All Analytes In Blank	< 0.2	ppb

Calibration Check

	Unit of	True	Analyzed	% Diff	Limit
Parameter	Measure	Value	Value		
Benzene	ррь	20.0	19.6	2	15%
Toluene	ppb	20.0	20.7	3	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	40.9	2	15%
o-Xylene	ppb	20.0	20.9	5	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	95	93	(39-150)	1	20%
Toluene	99	98	(46-148)	1	20%
Ethylbenzene	102	100	(32-160)	1	20%
m,p-Xylene	98	96	(35-145)	1	20%
o-Xylene	100	98	(35-145)	1	20%

Surrogate Recoveries

	S1 Percent	S2 Percent		S1 Percent	S2 Percent
Laboratory Identification	Recovered	Recovered	Laboratory Identification	Recovered	Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
13671-4371	96				
		·····			

\$1: Flourobenzene

P.O. BOX 2606 • FARMINGTON, NM 87499

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 14-Feb-97

Internal QC No.:	0527-STD
Surrogate QC No.:	0528-STD
Reference Standard QC No.:	0417-QC

Method Blank

		Unit of
Parameter	Result	Measure
Average Amount of All Analytes In Blank	< 0.2	ppb

Calibration Check

	Unit of	True	Analyzed		
Parameter	Measure	Value	Value	% Diff	Limit
Benzene	ррь	20.0	19.8	1	15%
Toluene	ppb	20.0	20.5	3	15%
Ethylbenzene	ppb	20.0	20.9	5	15%
m,p-Xylene	ppb	40.0	40.6	1	15%
o-Xylene	ppb	20.0	20.6	3	15%

Matrix Spike

	1- Percent	2 - Percent				
Parameter	Recovered	Recovered	Limit	%RSD	Limit	
Benzene	95	93	(39-150)	1	20%	
Toluene	99	98	(46-148)	1	20%	
Ethylbenzene	102	100	(32-160)	1	20%	
m,p-Xylene	98	96	(35-145)	1	20%	
o-Xylene	100	98	(35-145)	1	20%	

Surrogate Recoveries

S1 Percent	S2 Percent		S1 Percent	S2 Percent
Recovered	Recovered	Laboratory Identification	Recovered	Recovered
(70-130)		Limit Percent Recovered	(70-130)	
95				
95				
96				
	Percent Recovered (70-130) 95 95	PercentPercentRecoveredRecovered(70-130)	Percent Percent Recovered Recovered (70-130) Limit Percent Recovered 95 95	Percent RecoveredPercent RecoveredPercent Recovered(70-130)Limit Percent Recovered(70-130)9595

1 1.1.30 101

S1: Flourobenzene

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Mountain States Analytical The Quality Solution

	MSAI Sample: 59079	
On Site Technologies, Ltd.	MSAI Group: 15281	
612 E Murray Drive	Date Reported: 02/27/97	
Farmington, NM 87401	Discard Date: 03/29/97	
	Date Submitted: 02/14/97	
Attn: Mr. David Cox	Date Sampled: 02/11/97	
Project: Chateau Oil and Gas, Inc.	Collected by: DC	
	Purchase Order: 4371	

CARACTER STR

Sample ID: 13671-4371 Matrix: Waste Water Project No.:

ACI

ANERMINER FROM

	Analysis	Results as Received	Units	Limit of Quantitation
	Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
03921	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245	Arsenic by ICP Method: SW-846 6010A	ND	mg/l	0.15
7246	Barium by ICP Method: SW-846 6010A	1.16	mg/l	0.02
7249	Cadmium by ICP Method: SW-846 6010A	ND	mg/l	0.020
7251	Chromium by ICP Method: SW-846 6010A	ND	mg∕l	0.050
7255	Lead by ICP Method: SW-846 6010A	ND	mg∕l	0.20
7264	Selenium by ICP Method: SW-846 6010A	ND	mg/l	0.35
7266	Silver by ICP Method: SW-846 6010A	ND	mg/l	0.030
0332	Nitrogen, Nitrite Method: EPA 354.1	ND	mg/l	0.01
0368	Nitrogen, Nitrate Method: EPA 353.3	ND	mg/l	0.2

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

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15281

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The Quality Solution
On Site Technologies, Ltd.
MSAI Sample:
MSAI Group:
Sample ID: 13671-4371

		Results		Limit of		
Test	Analysis	as Received	Units	Quantitation		
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A Acenaphthene			(1) 10		
	Acenaphthylene Anthracene	ND ND ND	ug/l ug/l	10 10 10		
	Benz (a) anthracene	ND	ug/l	10		
	Benzo (b) fluoranthene	ND	ug/l	10		
	Benzo(k)fluoranthene Benzo(ghi)perylene	ND	ug/l ug/l	10 10		
	Benzo(a)pyrene	ND	ug/l	10		
	Chrysene	ND	ug/l	10		
	Dibenz (a,h) anthracene	ND	ug/l	10		
	Fluoranthene	ND	ug/l	10		
	Fluorene	ND	ug/l	10		
	Naphthalene	ND	ug/l	10		
	Phenanthrene	ND	ug/l	10		
	Pyrene	ND	ug/l	10		
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10		
	2-Methylnaphthalene	ND	ug/l	10		

3000 SVOA Extraction, Water Method: SW-846 3510B Complete

(1) Two surrogates in this sample exceeded method QC limits. There was insufficient volume to re-extract this sample. Any results should be taken as approximate.

ND - Not detected at the limit of quantitation

Respectfully Submitted, Reviewed and Approved by:

1agl

Rolf E. Larsen Project Manager



1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278



EPA SAMPLE NO.

SBLK01 Lab Name: MTN STATES ANALYTICAL Contract: Lab Code: MSAI Case No.: SAS No.: SDG No.: OST Matrix: (soil/water) WATER Lab Sample ID: 970218WB Sample wt/vol: 1000 (g/mL) ML Lab File ID: X0261 Level: (low/med) LOW Date Received: % Moisture: _____ decanted: (Y/N) ___ Date Extracted: 02/18/97 Concentrated Extract Volume: 1000(uL) Date Analyzed: 02/19/97 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/L

Q

91-20-3Naphthalene	10	U
91-57-62-Methylnaphthalene	10	U
208-96-8Acenaphthylene	10	U
83-32-9Acenaphthene	10	U
86-73-7Fluorene	10	U
85-01-8Phenanthrene	10	U
120-12-7Anthracene	10	U
206-44-0Fluoranthene	10	U
129-00-0Pyrene	10	U
56-55-3Benzo(a)anthracene	10	U
218-01-9Chrysene	10	U
205-99-2Benzo(b)fluoranthene	10	U
207-08-9Benzo(k)fluoranthene	10	U
50-32-8Benzo(a)pyrene	10	U
193-39-5Indeno(1,2,3-cd) pyrene	10	U
53-70-3Dibenz(a,h)anthracene	10	U
191-24-2Benzo(g,h,i)perylene	10	U

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WATER SE DLATILE SURROGATE RECOVERY



Lab Name: MTN STATES ANALYTICAL Contract:

Lab Code: MSAI Case No.:

.

SAS No.:

SDG No.: OST

	EPA	S1	S2	S3	S4	S5	S6	S7	S8	TOT
	SAMPLE NO.	(2FP)#	(PHL)#	(NBZ)#	(FBP)#	(TBP)#	(TPH)#	#	#	OUT
		======				=====				
01	SBLK01	31	24	60	60	60	66	Ì		0
02	SBLK01LCS	42	30	58	60	80	81			0
03	SBLK01LCSD	42	31	64	65	80	77			0
04	13671-4371	2*	2*	49	53	18	59			2
05										
06										
07										
08										
09							<u> </u>			
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				QC LIMITS
S1	(2FP)	=	2-Fluorophenol	(21-110)
			Phenol-d6	(10-110)
S 3	(NBZ)	=	Nitrobenzene-d5	(35-114)
			2-Fluorobiphenyl	(43-116)
			2,4,6-Tribromophenol	(10-123)
S6	(TPH)	I	Terphenyl-d14	(33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits D Surrogate diluted out

page 1 of 1

FORM II SV-1

OLM03.0

FORM 3 WATER SUPPOLATILE LAB CONTROL SAMPLE

Lab Name: MTN STATES ANALYTICALContract:Lab Code: MSAICase No.:SAS No.:SDG No.: OST

Matrix Spike - Sample No.: SBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	100	0.0	34	 34	5-112
2-Chlorophenol	100	0.0	67	67	23-134
1,4-Dichlorobenzene	100	0.0	46	46	20-124
N-Nitrosodi-n-propylami	100	0.0	66	66	1-230
1,2,4-Trichlorobenzene	100	0.0	55	55	44-142
4-Chloro-3-methylphenol	100	0.0	85	85	22-147
Acenaphthene	100	0.0	77	77	47-145
4-Nitrophenol	100	0.0	38	38	1-132
2,4-Dinitrotoluene	100	0.0	93	93	39-139
Pentachlorophenol	100	0.0	88	88	14-176
Pyrene	100	0.0	88	88	52 - 115

	SPIKE ADDED	LCSD CONCENTRATION	LCSD %	010	QC LIMITS	
COMPOUND	(ug/L)	(ug/L)	REC #	RPD #	RPD	REC.
					======	
Phenol	100	35	35	3	42	5-112
2-Chlorophenol	100	66	66	2	40	23-134
1,4-Dichlorobenzene	100	60	60	26	28	20-124
N-Nitrosodi-n-propylami	100	75	75	13	38	1-230
1,2,4-Trichlorobenzene	100	67	67	20	28	44-142
4-Chloro-3-methylphenol	100	86	86	1	42	22-147
Acenaphthene	100	82	82	6	31	47-145
4-Nitrophenol	100	38	38	0	50	1-132
2,4-Dinitrotoluene	100	93	93	0	38	39-139
Pentachlorophenol	100	80	80	10	50	14-176
Pyrene	100	88	88	0	31	52 - 115

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

RPD: 0 out of 11 outside limits Spike Recovery: 0 out of 22 outside limits

COMMENTS:

FORM III SV

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EPA SAMPLE NO.

4B SEMIVOL ILE METHOD BLANK SUMMARY

SBLK01

Lab Name: MTN STATES ANALYTICALContract:Lab Code: MSAICase No.:SAS No.:SDG No.: OSTLab File ID: X0261Lab Sample ID: 970218WBInstrument ID: HP_3Date Extracted: 02/18/97Matrix: (soil/water) WATERDate Analyzed: 02/19/97Level:(low/med) LOWTime Analyzed: 2308

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA	LAB	LAB	DATE
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	SBLK01LCS	970218WL	X0262	02/19/97
02	SBLK01LCSD	970218WLD	X0263	02/20/97
03	13671-4371	59079A	X0264	02/20/97
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COMMENTS:

page 1 of 1

FORM IV SV

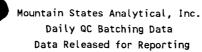
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Test Identif Number of Sar	ch Number: 0332 -02/14/97-066 -1 ication : 0332 -Nitrogen, Nitrite mples : 2 ate/Time : 02/17/97 / 15:36:07		s	equence :		
BLANK#	ANALYTE		# CONC	LIMIT		
BLK-2	Nitrite Nitrogen	0.0030)	0.0030		
BLK-1	Nitrite Nitrogen	0.0020)	0.0030		
SPIKE <u>SAMPLE#</u> 15281-59079 DUPLICATE	ANALYTE Nitrite Nitrogen	CONC ADDED 0.2000	CONC SAMPLE 0.0050	CONC SP		QC LIMITS <u>LOWER</u> <u>UPPER</u> 81.4 115.0
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT DILUTI	ON
15281-59079D		0.1900	0.1920	1.0	4.2 1.0	
CONTROL					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	<u>% REC #</u>	LOWER UPPER	
SRM-3419	Nitrite Nitrogen	0.1890	0.2000	94.5	86.0 116.8	
STD-2	Nitrite Nitrogen	0.1930	0.2000	96.5	86.0 116.8	
SRM-3419	Nitrite Nitrogen	6.6720	6.9000	96.7	86.0 116.8	

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Groups & Samples

15281-59079 15281-59079D

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

Analysis Batch Number: 0368 -02/14/97-066 -1 Test Identification : 0368 -Nitrogen, Nitrate Sequence : Number of Samples : 2 Batch Data-Date/Time : 02/15/97 / 15:51:17 ANALYTE CONC FOUND # BLANK# CONC LIMIT Nitrate Nitrogen BLK-2 0.0500 ND BLK-1 Nitrate Nitrogen ND 0.0500 SPIKE QC LIMITS SAMPLE# ANALYTE CONC ADDED CONC SAMPLE CONC SPIKE <u>% REC #</u> LOWER UPPER 15281-59079 Nitrate Nitrogen 0.4000 0.0900 0.5400 112.5 75.0 125.0 DUPLICATE SAMPLE# ANALYTE RESULT 1 DILUTION RESULT 2 RPD # LIMIT 15281-59079D Nitrate Nitrogen 0.5400 0.5400 0.0 20.0 1.00 CONTROL QC LIMITS SAMPLE# ANALYTE CONC FOUND CONC KNOWN <u>% REC #</u> LOWER UPPER STD-1 Nitrate Nitrogen 0.8700 108.7 90.0 110.0 0.8000

0.7200

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0.8000

90.0

90.0 110.0

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Groups & Samples

STD-2

15281-59079 15281-590790

Nitrate Nitrogen

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Page

Page

DUPLICATE

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

Sequence : 0259T-1

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Analysis Batch Number: 0259T-02/17/97-107 -1 Test Identification : 0259T-Mercury by CVAA, TCLP, 7470 Number of Samples : 14 Batch Data-Date/Time : 02/18/97 / 08:20:38

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-908	Mercury	0.0100	0.5000
PBW2-908-2	Mercury	-0.0400	0.5000
PBW-909-3	Mercury	0.0320	0.5000

SAMPLE# ANALYTE CONC ADDED CONC SAMPLE CONC SPIKE % REC # LOWER U	SPIKE	IKE					QC 1	IMITS
	SAMPLE# A	MPLE# ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>% REC #</u>	LOWER	UPPER
15250-59003 Mercury 1.0000 0.0000 1.1600 116.0 80.0 12	15250-59003 M	250-59003 Mercury	1.0000	0.0000	1.1600	116.0	80.0	120.0
15245-58991-2 Mercury 1.0000 0.0400 1.1500 111.0 80.0 12	15245-58991-2 M	245-58991-2 Mercury	1.0000	0.0400	1.1500	111.0	80.0	120.0

MSD					QC L	IMITS		
SAMPLE# ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	<u>%REC2</u> #	LOWER	UPPER	RPD #	LIMIT
15250-59003 Mercury	1.0000	0.000	1.1100	111.0	80.0	120.0	4.4	20.0
15245-58991-2 Mercury	1.0000	0.0400	1.1000	106.0	80.0	120.0	4.6	20.0

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
15250-59003	Mercury	0.0000	0.0000	0.0	20.0	1.00
15245-58991-2	Mercury	0.000	0.0000	0.0	20.0	1.00

CONTROL					QC LIMITS
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	<u>% REC #</u>	LOWER UPPER
LCSW-908	Mercury	2.5200	2.5000	100.8	80.0 120.0
LCSW-909-2	Mercury	2.5800	2.5000	103.2	80.0 120.0

				QC	LIMITS
<u>CCV #</u>	ANALYTE	TRUE VALUE	BATCH READ	<u>% REC #</u>	LOWER UPPER
ICV-	Mercury	3.0000	3.2000	106.7	90.0 110.0
CCV2	Mercury	5,0000	4.9800	99.6	80.0 120.0
CCV3	Mercury	5.0000	4.9500	99.0	80.0 120.0
CCV4	Mercury	5.0000	4.9100	98.2	80.0 120.0
CCV5	Mercury	5.0000	4.9700	99.4	80.0 120.0
CCB#	ANALYTE	CONC FOUND	<u>#CONC</u>	LIMIT	
ICB-	Mercury	-0.0100		0.5000	
CCB-	Mercury	0.0100		0.5000	
ссв-	Mercury	-0.0300		0.5000	
CCB-	Mercury	0.0100		0.5000	

Groups	&	Samples
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Mercury

CCB-

15236-58961	15245-58991	15248-59001	15250-5900 3	15250-59004	15250-59005	15260-59025	15260-59026
15260-59027	15260-59028	15260-59029	15260-59030	15270-59057	15281-59079		

0.0300

0.5000

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



Analysis Batch Number: ICPWA-02/25/97-061 -3 Test Identification : ICPWA-Metals by ICP Number of Samples : 14 Batch Data-Date/Time : 02/26/97 / 17:29:24

BLANK# ANALYTE CONC FOUND # CONC LIMIT PBW1-913 Silver 0.0015 0.0060 0.0067 Arsenic 0.0300 0.0022 Barium 0.0030 Cadmium 0.0021 0.0040 Chromium 0.0041 0.0100 0.0025 Copper 0.0100 0.0276 Iron 0.2000 Molybdenum ND 0.0300 Nickel ND 0.0300 0.0188 Lead 0.0400 0.0079 Selenium 0.0700 PBW2-913-2 Silver ND 0.0060 0.0056 0.0300 Arsenic Barium 0.0012 0.0030 ŇD Cadmium 0.0040 Chromium 0.0002 0.0100 0.0002 Copper 0.0100 Iron 0.1115 0.2000 Molybdenum ND 0.0300 0.0300 Nickel ND Lead 0.0158 0.0400 Selenium 0.0217 0.0700

SPIKE						QC	LIMITS
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>% REC</u> <u>#</u>	LOWER	UPPER
15283-59081	Silver	0.0500	0.0022	0.0465	88.6	80.0	120.0
	Arsenic	2.0000	0.1263	2.0986	98.6	80.0	120.0
	Barium	2.0000	0.0245	1.3249	65.0(A1)	80.0	120.0
	Cadmium	0.0500	0.0008	0.0398	78.0(A)	80.0	120.0
	Chromium	0.2000	0.0001	0.1575	78.7(A)	80.0	120.0
	Copper	0.2500	0.0049	0.2464	96.6	80.0	120.0
	Iron	1.0000	0.0833	0.8213	73.8(B)	80.0	120.0
1	Molybdenum	0.5000	0.2259	0.6663	88.1	80.0	120.0
	Nickel	0.5000	0.0034	0.3795	75.2(A)	80.0	120.0
	Lead	0.5000	-0.0303	0.4038	86.8	80.0	120.0
	Selenium	2.0000	0.0033	2.1112	105.4	80.0	120.0

MSD						QC L	IMITS		
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	<u>%REC2</u> #	LOWER	UPPER	RPD #	LIMI
15283-59081	Silver	0.0500	0.0022	0.0467	89.0	80.0	120.0	0.5	20.0
	Arsenic	2.0000	0.1263	2.0417	95.8	80.0	120.0	2.9	20.0
:	Barium	2.0000	0.0245	1.5298	75.3(A1)	80.0	120.0	14.7	20.0
	Cadmium	0.0500	0.0008	0.0407	79.8(A)	80.0	120.0	2.3	20.0
	Chromium	0.2000	0.0001	0.1578	78.9(A)	80.0	120.0	0.3	20.0
	Copper	0.2500	0.0049	0.2396	93.9	80.0	120.0	2.8	20.0
	Iron	1.0000	0.0833	1.2771	119.4	80.0	120.0	47.2(B)	20.0
	Molybdenum	0.5000	0.2259	0.6484	84.5	80.0	120.0	4.2	20.0
	Nickel	0.5000	0.0034	0.3785	75.0(A)	80.0	120.0	0.3	20.0
	Lead	0.5000	-0.0303	0.3902	84.1	80.0	120.0	3.2	20.0
	Selenium	2.0000	0.0033	2.0712	103.4	80.0	120.0	1.9	20.0

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Sequence : DATA055

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

02/26/97 18:08:34 Group: 15281

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Analysis Batch Number: ICPWA-02/25/97-061 -3 Test Identification : ICPWA-Metals by ICP Number of Samples : 14 Batch Data-Date/Time : 02/26/97 / 17:29:24

Sequence : DATA055

DUPLICATE

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	#	LIMIT	DILUTION
15283-59081	Silver	0.0022	0.0004	138.5(11)	20.0	1.00
	Arsenic	0.1263	0.1263	0.0	20.0	1.00
	Barium	0.0245	0.0234	4.6	20.0	1.00
	Cadmium	0.0008	0.0018	76.9(11)	20.0	1.00
	Chromium	0.0001	0.0000	200.0(11)	20.0	1.00
	Copper	0.0049	0.0013	116.1(11)	20.0	1.00
	Iron	0.0833	0.0089	161.4(11)	20.0	1.00
	Molybdenum	0.2259	0.2306	2.1	20.0	1.00
	Nickel	0.0034	0.0000	200.0(11)	20.0	1.00
	Lead	-0.0303	0.0000	200.0(11)	20.0	1.00
	Selenium	0.0033	0.0000	200.0(11)	20.0	1.00
CONTROL	~				QC LIM	AITS
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	<u>% REC #</u>	LOWER L	JPPER
LCSW-913	Silver	0.0527	0.0500	105.4	80.0	120.0
	Arsenic	2.1164	2.0000	105.8	80.0	120.0
	Barium	2.0760	2.0000	103.8	80.0	120.0
	Cadmium	0.0515	0.0500	103.0	80.0	120.0
	Chromium	0.2091	0.2000	104.5	80.0	120.0
	Copper	0.2613	0.2500	104.5	80.0	120.0
	Iron	1.0433	1.0000	104.3	80.0	120.0
	Molybdenum	0.5113	0.5000	102.3	80.0	120.0
	Nickel	0.5262	0.5000	105.2	80.0	120.0
	Lead	0.5164	0.5000	103.3	80.0	120.0
	Selenium	2.1034	2.0000	105.2	80.0	120.0
				QC LI	MITS	

1				a c	LIMITS
<u>CCV #</u>	ANALYTE	TRUE VALUE	BATCH READ	<u>% REC #</u>	LOWER UPPER
ICV-	Silver	0.4000	0.3880	97.0	90.0 110.0
	Arsenic	1.6000	1.6230	101.4	90.0 110.0
	Barium	4.0000	3.8766	96.9	90.0 110.0
1	Cadmium	4.0000	3.9632	99. 1	90.0 110.0
	Chromium	4.0000	3.9766	99.4	90.0 110.0
	Copper	4.0000	3.9064	97.7	90.0 110.0
	Iron	4.0000	3.8917	97.3	90.0 110.0
	Molybdenum	20.0000	19.9892	99.9	90.0 110.0
	Nickel	8.0000	7.9205	99.0	90.0 110.0
	Lead	20,0000	19.7448	98.7	90.0 110.0
	Selenium	1.6000	1.6316	102.0	90.0 110.0
CCV12	Silver	0.4000	0.3906	97.6	90.0 110.0
1	Arsenic	1.6000	1.6605	103.8	90.0 110.0
н. 	Barium	4.0000	3.8686	96.7	90.0 110.0
	Cadmium	4.0000	4.0436	101.1	90.0 110.0
1	Chromium	4.0000	4.0340	100.9	90.0 110.0
	Copper	4.0000	3.9090	97.7	90.0 110.0
	Iron	4.0000	4.0422	101.1	90.0 110.0
	Molybdenum	20.0000	20.0987	100.5	90.0 110.0
	Nickel	8.0000	8.0240	100.3	90.0 110.0
	Lead	20.0000	19.8848	99.4	90.0 110.0

THE REPAIR AND A CHIEFE REPAIRED FOR THE AND A DESCRIPTION OF

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

02/26/97 18:08:35 Group: 15281

Analysis Batch Number: ICPWA-02/25/97-061 -3 Test Identification : ICPWA-Metals by ICP Number of Samples : 14 Batch Data-Date/Time : 02/26/97 / 17:29:24

Sequence : DATA055

QC LIMITS ANALYTE CCV # TRUE VALUE BATCH READ <u>% REC #</u> LOWER UPPER CCV1--2 Selenium 1.6000 1.6184 101.2 90.0 110.0 CCV2--3 Silver 0.4000 97.1 90.0 110.0 0.3885 Arsenic 1.6000 1.6314 102.0 90.0 110.0 Barium 4.0000 98.0 90.0 110.0 3.9183 Cadmium 4.0000 4.0493 101.2 90.0 110.0 Chromium 4.0000 4.0504 101.3 90.0 110.0 Copper 4.0000 3.9596 99.0 90.0 110.0 Iron 4.0000 3.9566 98.9 90.0 110.0 Molybdenum 20.0000 20.1229 100.6 90.0 110.0 Nickel 8.0000 8.0723 100.9 90.0 110.0 Lead 20,0000 20.0173 100.1 90.0 110.0 Selenium 1.6000 1.6578 103.6 90.0 110.0 CCV3--4 Silver 0.4000 0.3815 95.4 90.0 110.0 Arsenic 1.6000 1.6041 100.3 90.0 110.0 Barium 4.0000 3.9358 98.4 90.0 110.0 Cadmium 4.0000 3.9861 99.7 90.0 110.0 Chromium 4.0000 4.0097 100.2 90.0 110.0 Copper 4.0000 3.9715 99.3 90.0 110.0 Iron 4.0000 3.9244 98.1 90.0 110.0 Molybdenum 20.0000 20.0219 100.1 90.0 110.0 Nickel 8.0000 7.9749 99.7 90.0 110.0 Lead 20.0000 19.6465 98.2 90.0 110.0 Selenium 1.6000 1.5903 99.4 90.0 110.0 CCV4--5 Silver 0.4000 95.7 0.3828 90.0 110.0 Arsenic 1.6000 1.6030 100.2 90.0 110.0 Barium 4.0000 98.6 3.9459 90.0 110.0 Cadmium 4.0000 3.9877 99.7 90.0 110.0 Chromium 4.0000 4.0137 90.0 110.0 100.3 Copper 4.0000 3.9889 99.7 90.0 110.0 Iron 4,0000 3.9604 99.0 90.0 110.0 Molybdenum 20.0000 90.0 110.0 19.9550 99.8 Nickel 8.0000 7.9735 99.7 90.0 110.0 Lead 20.0000 19.6216 98.1 90.0 110.0 Selenium 1.6000 1.6293 101.8 90.0 110.0 CCB# ANALYTE CONC LIMIT CONC FOUND # ICB-Silver 0.0002 0.0060 Arsenic 0.0142 0.0300 Barium 0,0022 0.0030 Cadmium 0.0025 0.0040 Chromium 0.0050 0.0100 Copper ND 0.0100 Iron ND 0.2000 Molybdenum ND 0.0300 Nickel 0.0067 0.0300 Lead ND 0.0400 Selenium 0,0008 0.0700 CCB1-Silver 0.0028 0.0060 Arsenic

0.0093

0.0300

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

02/26/97 18:08:36 Group: 15281

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Analysis Batch Number: ICPWA-02/25/97-061 -3 Test Identification : ICPWA-Metals by ICP Number of Samples : 14 Batch Data-Date/Time : 02/26/97 / 17:29:24

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB1-	ßarium	0.0018	0.0030
	Cadmium	0.0011	0.0040
	Chromium	0.0038	0.0100
	Copper	0.0022	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0063	0.0300
	Nickel	0.0053	0.0300
	Lead	0.0067	0.0400
	Selenium	ND	0.0700
CCB2-	Silver	0.0003	0.0060
	Arsenic	ND	0.0300
	Barium	0.0014	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0024	0.0100
	Copper	ND	0.0100
	Iron	ND	0.2000
	Molybdenum	ND	0.0300
	Nickel	0.0011	0.0300
	Lead	0.0215	0.0400
	Selenium	ND	0.0700
CCB3-	Silver	0.0011	0.0060
	Arsenic	0.0021	0.0300
	Barium	0.0020	0.0030
	Cadmium	0.0023	0.0040
I.	Chromium	0.0005	0.0100
	Copper	0.0009	0.0100
1	Iron	ND	0.2000
	Molybdenum	ND	0.0300
	Nickel	0.0036	0.0300
	Lead	0.0043	0.0400
1	Selenium	0.0081	0.0700
CCB4-	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	0.0024	0.0030
	Cadmium	0.0018	0.0040
	Chromium	0.0005	0.0100
	Copper	ND	0.0100
	Iron	ND	0.2000
	Molybdenum	ND	0.0300
	Níckel	ND	0.0300
	Lead	ND	0.0400
	Selenium	0.0230	0.0700

..... Result Footnotes -----

(A1) - Matrix Interference with regard to digestion

(A) - Matrix Interference inherent to the sample

(B) - Nonhomogeneous sample

(11) - Both Duplicate results are less than the MDL.



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Page 5	Mountain States Analytical, Inc.	02/26/97
	Daily QC Batching Data	18:08:36
	Data Released for Reporting	Group: 15281
Analysis Batch Number: ICPN	A-02/25/97-061 -3	

Sequence : DATA055

Analysis Batch Number: ICPWA-02/25/97-061 -3 Test Identification : ICPWA-Metals by ICP Number of Samples : 14 Batch Data-Date/Time : 02/26/97 / 17:29:24

Groups & Samples

		-					
15239-58981	15239-58982	15262-59041	15262-59042	15262-59043	15262-59044	15262-59045	15281-59079
15282-59080	15283-59081	15283-59082	15283-59083	15283-59084	15283-59085		

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ÔN SITE	Date: 0	n'i/e	13/97			Page	//	• • .
NOLOGIES, LTD.	657 W. Mapte • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256			,				
Purchase Order No.: 437 Job No.		i manual di	Name DA	DAYID CO	LOX	Title		
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City, State, Z	57458		lephone No.	Telephone No. 505-325-2432		Telefax No. 505	5 315-6252	
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May 9, 1997

New Mexico Oil Conservation Division Mr. Bill Olson 2040 South Pacheco Santa Fe, New Mexico 87505

RE: Quarterly Reporting, Air Stripper, Discharge Plan Application GW-184

Dear Mr. Olson,

Contract Environmental Services, Inc. (CES) presents the following report on the Air Stripper located at the Templeton 1E well location (Sec.27 T31N, R13W). This report contains background information, sampling detail, lab analyses, volume estimations and conclusions. Chateau Oil and Gas, Inc. (COG), formerly Snyder Oil Corporation (SOCO) has operated the air stripper located on the Templeton 1E well location intermittently since the last Quarterly Report. Following each new excavation of contaminated soil, the air stripper was utilized to clean up groundwater that filled the excavation. Each operation is the equivalent of three (3) consecutive twenty-four (24) hour periods.

Our records show that on each of the dates listed below, the air stripper began operation for its average three day cycle. We estimate approximately fifteen days of operation since last reported. Those sample dates followed by an asterick indicate water samples were collected from the pond water and / or air stripper discharge. Laboratory analytical reports are also attached for the dates with astericks.

	May 13, 1995	July 18, 1995 *
	August 16, 1995	February 6, 1996
Π	March 12, 1996 *	

Sampling Detail

On occasion, water from the excavation pond was sampled and/or the discharge from the air stripper itself was sampled. Grab samples were collected from the pond water and placed in 40 ml VOA vials with preservative. The samples were refrigerated throughout the field work and during transportation to the analytical laboratory. Grab samples were collected from the four inch discharge line of the air stripper during operation. These samples were also placed in 40 ml VOA vials. The discharge samples were preserved in the same fashion as the pond water samples. All samples were entered on a chain-of-custody form that accompanied the samples during field transportation and while at the analytical laboratory. The chain-of-custody report is attached with the laboratory reports for your viewing.

Since the last Quarterly Report, dated March 31, 1995 a total of three (3) excavations have taken place. After each excavation, the contaminated soil was spread on location and disked / tilled with farm equipment. Each time a new excavation was opened, the air stripper was operated for three days. Additional operation intervals were completed to be certain <u>all</u> hydrocarbons had been properly removed.

Lab Analyses

As in the first Quarterly Report, the air stripper discharge was sampled periodically with the pond water sampling to ensure proper removal of hydrocarbons continued. March 12, 1996 was the next sampling interval that included air stripper discharge sampling. The results of the pond and air stripper sampling are summarized below in Table 1-1.

Table 1-1.

Sample No.	Location	Benzene	Toluene	Ethylbenzene	Xylenes	Dates
Temp-100	Water Pond	0.2	ND	ND	0.6	7/24/95
Temp-900	Water Pond	ND	ND	ND	ND	10/23/95
Temp-500	Water Pond	ND	ND	ND	ND	3/12/96
Temp-501	Air Stripper Discharge	ND	0.62	ND	ND	3/12/96

Individual laboratory reports for the above referenced analyses are attached for you viewing.

Volume Estimations

On five separate occasions the air stripper was operated for an average period of three days. The air stripper discharge was measured at approximately 18,400 gallons treated in any given twenty-four (24) hour period. That yields approximately 92,000 gallons treated through the air stripper over this intermittent operation period. The third quarter of 1995 and the first quarter of 1996 showed the most activity with two operation intervals each. The air stripper operation periods are presented in the following table.

Table 1-2.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
1995	Not Operated	1 Interval	2 Intervals	Not Operated
1996	2 Intervals	Not Operated	Not Operated	Not Operated
1997	Not Operated	(Pending)	-	•

Conclusions

The air stripper at the Templeton 1E well location has for the most part remained inactive. It was utilized following each new excavation to treat the water that filled the excavation. When the treatment process was complete (approximately three days) a water sample was usually collected to confirm successful treatment. In all cases, the water samples indicated contamination levels far below the Groundwater Standards setforth by the New Mexico Environment Department (NMED). The air stripper discharge sample further confirms the fact that the air stripper is successfully removing hydrocarbons from the water.

We have plans to continue remediation of soil and groundwater at the Templeton 1E location and have already installed four monitor wells in 1997. A plan has been submitted with this report to further our investigation efforts at this location. As activity picks up, we will keep NMOCD informed of the changes.

With the large amounts of inactivity, the quarterly reports were discontinued. Our focus was directed away from the La Plata, New Mexico area and redirected to the Jicarilla Apache Reservation for the bulk of our remediation efforts of 1996.

Contract Environmental Services, Inc. (CES) appreciates this opportunity to present this letter report on the operational status of the air stripper on the Templeton 1E well location. If you have questions or require additional information, please don't hesitate to contact us at (505) 325-1198 or stop by our offices at 4200 Hawkins Road, Farmington.

Sincerely, 1 aun Ĺ

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Shawn A. Adams Contract Environmental Services, Inc.

CC: Mr. Denny Foust, NMOCD Aztec Office Mr. Bill Liese, BLM Farmington Office

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LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	Shawn A	dams		Date:	7/24/95
Company:	Contract	Environmental Servic	es, Inc.	COC No.:	3159
Address:	P.O. Box	505		Sample No.	7423
City, State:	Kirtland,	NM 87417		Job No.	2-1000
Project Nan	ne:	Templeton 1E Wa	ter Pond		
Project Loc	ation:	Temp-100			
Sampled by	/:	SA	Date:	7/21/95 Time:	8:00
Analyzed b	y:	DC/GB	Date:	7/21/95	
Type of Sa	mple:	Water			

Aromatic Volatile Organics

Component		asured tration ug/L	Detection Limit Concentration ug/L
Benzene		0.2	0.2
Toluene		ND	0.2
Ethylbenzene		ND	0.2
m,p-Xylene o-Xylene		0.3	0.2
o-Xylene		0.3	0.2
	TOTAL	0.8 <i>ua/L</i>	

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: J=4 Date: 7/24/55

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-5667

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 7/21/95

Internal QC No.: 0419-STD Surrogate QC No.: 0420-STD Reference Standard QC No.: 0355-STD

Method Blank	
Analytes in Blank	Amount
Average Amount of All Analytes In Blank	<0.2 ppb

Calibration Check

Calibration Standards	Units of Measure	*True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20	20	1	15%
Toluene	ppb	20	20	1	15%
Ethylbenzene	ppb	20	19	4	15%
m,p-Xylene	ppb	40	40	0	15%
o-Xylene	ppb	20	19	4	15%

Spike Results

	1- Percent	2 - Percent			
Analyte	Recovered	Recovered	Limit	%RSD	Limit
Benzene	124	121	(39-150)	2	20%
Toluene	121	117	(46-148)	2	20%
Ethylbenzene	118	114	(32-160)	2	20%
m,p-Xylene	123	118	(35-145)	3	20%
o-Xylene	113	109	(35-145)	2	20%

Surrog	ate Recoveries		
Laboratory Identification	S1 Percent	S2 Percent	S3 Percent
	Recovered	Recovered	Recovered
Limits	(70-130)		
7423-3159	100		
······································			

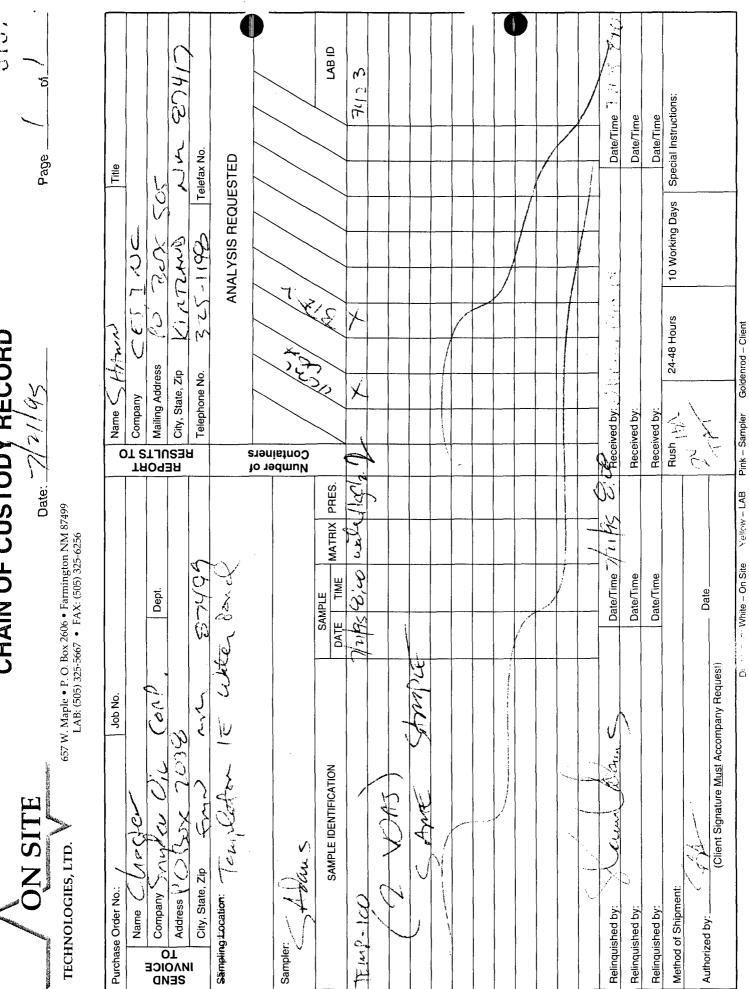
S1: Flourobenzene

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P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



CHAIN OF CUSTODY RECORD

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PURGEABLE AROMATICS

Contract Environmental Services, Inc.

Project ID: Sample ID: Lab ID: Sample Matrix: Preservative: Condition:

Templeton 1E Temp - 900 1728 Water Cool Intact

Report Date:	10/25/95
Date Sampled:	10/23/95
Date Received:	10/23/95
Date Analyzed:	10/25/95

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

Total BTEX ND

ND - Analyte not detected at the stated detection limit.

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Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Trifluorotoluene	105	88 - 110%
	Bromofluorobenzene	106	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Lanuca annar Analyst

Danie /hl

Review

PURGEABLE AROMATICS Quality Control Report

Method Blank Analysis

Sample Matrix: Lab ID: Water MB34997
 Report Date:
 10/25/95

 Date Analyzed:
 10/25/95

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

ND - Analyte not detected at the stated detection limit.

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Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Trifluorotoluene	101	88 - 110%
	Bromofluorobenzene	103	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Denig/hC

Review

ANALYTICA				CHAIN OF CUSTODY	CUSTODY		0640	•
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		Petroleum Hydrocarbons (418.1) Gasoline / Diesel (mod. 8015) Aromatic HCs BTEX/MTBE (602/8020) Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1/503.1) Chlorinated Pesticides / PCBs (608 / 8080) Herbicides (615 / 8150) Volatiles GC/MS (624 / 8240 / 8260) Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100) TCLP Extraction Other (specify):	Cation / Anion Specific Cations (specify): Specific Anions (specify): BOD / Fecal / Total Coliform Solids : TDS / TSS / SS	Other (specify): Other (specify): Other (specify):	Priority Polliutants RCRA Mes (Total) RCRA Metals TCLP (1311) Other (specify	
JEMP-900 10/13/95 8:30A water		×			Tempren	port the way	The Park	
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		/					14 Fr.	_
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		Company:		Company:	Time:	Company:	Time:	
I rnaround Time (Prior	red for Rush)	Received Bv:		Received Bv:		Received Bv:		<u>8</u>
		Signature	Date:	Signature	Date:	Signature	Date:	2
		Company:	Time:	Company:	Time:	Company (

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PURGEABLE AROMATICS

Contract Environmental Services, Inc.

Project ID: Sample ID: Lab ID: Sample Matrix: Preservative: Condition: Templeton 1E Temp - 500 2890 Water Cool Intact

Report Date:	03/14/96
Date Sampled:	03/12/96
Date Received:	03/13/96
Date Analyzed:	03/13/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	0.62	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

Total BTEX

ND - Analyte not detected at the stated detection limit.

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Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Trifluorotoluene	102	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

nica aiman Analyst

Duig Pha

Review

YTICA

PURGEABLE AROMATICS

Contract Environmental Services, Inc.

Project ID: Sample ID: Lab ID: Sample Matrix: Preservative: Condition: Templeton 1E Temp - 501 2891 Water Cool Intact

Report Date:	03/14/96
Date Sampled:	03/12/96
Date Received:	03/13/96
Date Analyzed:	03/13/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

Total BTEX

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Trifluorotoluene	100	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

niea auna Analyst

Danie Ma

Review

PURGEABLE AROMATICS Quality Control Report

Method Blank Analysis

Sample Matrix: Lab ID: Water MB35137
 Report Date:
 03/14/96

 Date Analyzed:
 03/13/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

ND - Analyte not detected at the stated detection limit.

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Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Trifluorotoluene	101	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Panico (arman Analyst

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Purgeable Aromatics

Matrix Spike Analysis

Lab ID: 2890Spk Sample Matrix: Water Preservative: Cool Condition: Intact

Report Date: 03/14/96 Date Sampled: 03/12/96 Date Received: 03/13/96 Date Analyzed: 03/13/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	9.42	93%	39 -150
Toluene	10	0.62	9.91	93%	46 - 148
Ethylbenzene	10	ND	9.41	92%	32 - 160
m,p-Xylenes	20	ND	19.5	94%	NE
o-Xylene	10	ND	9.79	96%	NE

ND - Analyte not detected at the stated detection limit.

NA - Not applicable or not calculated.

NE - Spike acceptance range not established by the EPA.

Quality Control: Surrogate Percent Recovery Acceptance Limits Trifluorotoluene 92 88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Janua (aunon Analyst

Dungth

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID: Sample Matrix: Preservative: Condition: 2882Dup Water Cool, HCI Intact

Report Date:	03/14/96
Date Sampled:	03/08/96
Date Received:	03/11/96
Date Analyzed:	03/13/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	195	195	159 - 231
Toluene	515	513	421 - 608
Ethylbenzene	688	684	452 - 920
m,p-Xylenes	1,480	1,470	NE
o-Xylene	717	712	NE

ND - Analyte not detected at the stated detection limit.

NA - Not applicable or not calculated.

NE - Duplicate acceptance range not established by the EPA.

	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
Quality Control:	Trifluorotoluene	96	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

aimas Analyst

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Review

ANALYTICA			CHAIN OF	CUSTODY			Page / of / -
ONMENTAL PARORATORY 25-	ENVIRONMENTAL'LABORATORY 28	ORGANIC ANALYSES	YSES	WATER ANALYSES	ALYSES	METALS	COMMENTS
BOT S. CARLTON • FARMINGTON, IM B7401. PROJECT MANAGER: Analytica Lab I.D.: Atts Company: Contract Erwit Company: Contract Erwit Address: Kinnauis, A Phone: Fax: Bill To: Company: Contract Oil Bill To: Company: Contract Contract Address: Faulturing Fax A	Hendrey Contraction of the second sec	Petroleum Hydrocarbons (418.1) Gasoline / Diesel (mod. 8015) Casoline (GRO) Aromatic HC4 BTEX/MTBE (602 / 8020) Chlorinated Hydrocarbons (8010) SDWA Volatiles (502.1 / 503.1) Chlorinated Pesticides / PCBs (608 / 8080) Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260) Base / Neutral / Acid GC/MS (625 / 8270) Polynuclear Aromatic Hydrocarbons (8100) TCLP Extraction Other (specify): Voh ViACS (C) 2042 Voh ViACS (C) 2042 Cation / Anion	Specific Cations (specify): Specific Anions (specify): BOD / Fecal / Total Coliform	Nutrients: NH4+ / NO2- / NO3- / TKN Oil and Grease Other (specify):	Priority Pollutants RCRA Metals (Total) AGRA Metals TCLP (1311) Other (specify):	
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Proj. Name:	Custody Seals: Y (N))NA	Adams 3/12/96	· Xun-Ulen	Auk -	Jay - 1m	7-1/5/12/08	Please Fill Out Thorninghly
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		Signature Date:	Signature	Date:	Signature	Date: 3/13/9	White/Yellow: Analytica Pink: Client
	.	Company: Time:	Company:	Time:	company: A	Time:	

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Contract Environmental Services, Inc. Post Office Box 505 Kirtland, New Mexico 87417-0505 Phone (505) 325-1198

January 29, 1997

New Mexico Oil Conservation Division Mr. Bill Olson 2040 South Pacheco Santa Fe, New Mexico 87505

RE: Chateau Oil and Gas, Inc. Templeton # 1E Monitor Wells, Section 27, T31N, R13W

Dear Mr. Olson,

Contract Environmental Services, Inc. (CES) is pleased to present this plan for monitor wells at the Templeton # 1E well location on behalf of Chateau Oil and Gas, Inc. (COG). This plan includes the following sections: Background Information, Action Plan, Development and Sampling Procedures, and Reporting Procedures.

Background Information

At present, numerous excavations have been completed to remove and remediate soil contaminated with hydrocarbons associated with an abandoned water disposal pit. Only one area of soil approximately 35 ft. by 180 ft. remains that has not been excavated or remediated. Please notice the attached site plan (Figure 1). All other areas beneath the well pad have had the soil removed, remediated and then backfilled.

Efforts have been focused on excavating and landfarming contaminated soil and treating groundwater through an air stripper unit to remove the hydrocarbons present. In addition to this, COG has allowed the groundwater to remain exposed to the elements to assist in the remediation process.

Action Plan

COG would like to address remaining impacts (if any) to the groundwater for this particular location. Installing monitor wells will allow COG to evaluate the present condition of the groundwater.

CES plans to place up to four (4) monitor wells within the last strip of unremediated soil. The monitor wells will be placed evenly across the affected area. The monitor wells will be placed in such a manner that one (1) will be in an upgradient direction from the abandoned water disposal pit and the remaining wells will be in the anticipated downgradient direction.

The monitor wells will be installed with a slotted steel casing initially. A backhoe will be utilized to dig the excavation since the water table is shallow and due to the alluvium material present. The soil will be backfilled around the steel casing until it is equal to the grade of the surrounding area. A PVC monitor well will then be completed within the steel casing when the water level can be accurately measured to achieve a screened interval of five (5) feet above and five (5) feet below the water table. Once the PVC screened pipe is placed in the steel casing, it will be sand-packed to prevent fine-particle intrusion into the wellbore. Figure 2 is a diagram of the monitor well detail. In addition to the monitor wells, COG plans to install air sparging wells across this same area. The air sparging wells will be completed as described in Figure 3. Air sparging would be used as a method to cleanup groundwater and to work on reducing levels of contamination in the soils within and above the water table. A constant supply of air will be injected through the air sparging wells into the contaminated zone of the water table. Air flow will then be outward and upward through the zone of contamination. Contact between the air bubbles and the hydrocarbons will promote remediation through volatilization of the hydrocarbons.

Development And Sampling Procedures

The wells may be developed within the steel casing prior to inserting the PVC until the water enters as clear. The monitor wells will initially be bailed the standard three (3) well volumes prior to sampling. Water samples will be collected in 40 ml VOA vials with preservative. The samples will be kept cool and transported to an accredited laboratory for analysis of Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) as per EPA Method 8020.

One (1) monitor well will have a rigorous water analysis conducted that will include tests for Cations / Anions, Metals, and Nitrates using EPA Methods. The selection will be made the day the monitor wells are installed or following BTEX analyses, selecting the worst apparent well. Following receipt of the first laboratory reports, CES will determine the frequency of sampling jointly with NMOCD.

If the contamination is more extensive than anticipated, additional monitor wells and air sparging wells may be necessary. The need for additional monitor wells will be determined at the time of installation.

Reporting Procedures

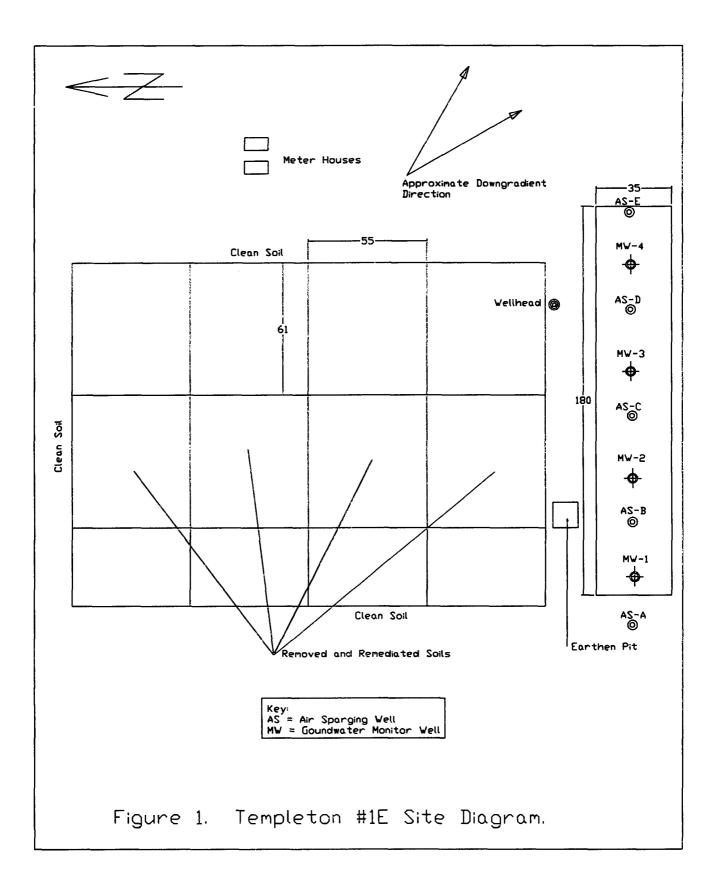
Laboratory results will be reported each time or summarized on a quarterly report issued to NMOCD. The initial report is expected to be presented within two (2) to three (3) weeks following the installation of the monitor wells.

Contract Environmental Services, Inc. appreciates this opportunity to present this Action Plan for the Templeton # 1E monitor well installations. If you have questions or require additional information, please don't hesitate to contact our offices at (505) 325-1198 or stop by at 4200 Hawkins Road, Farmington.

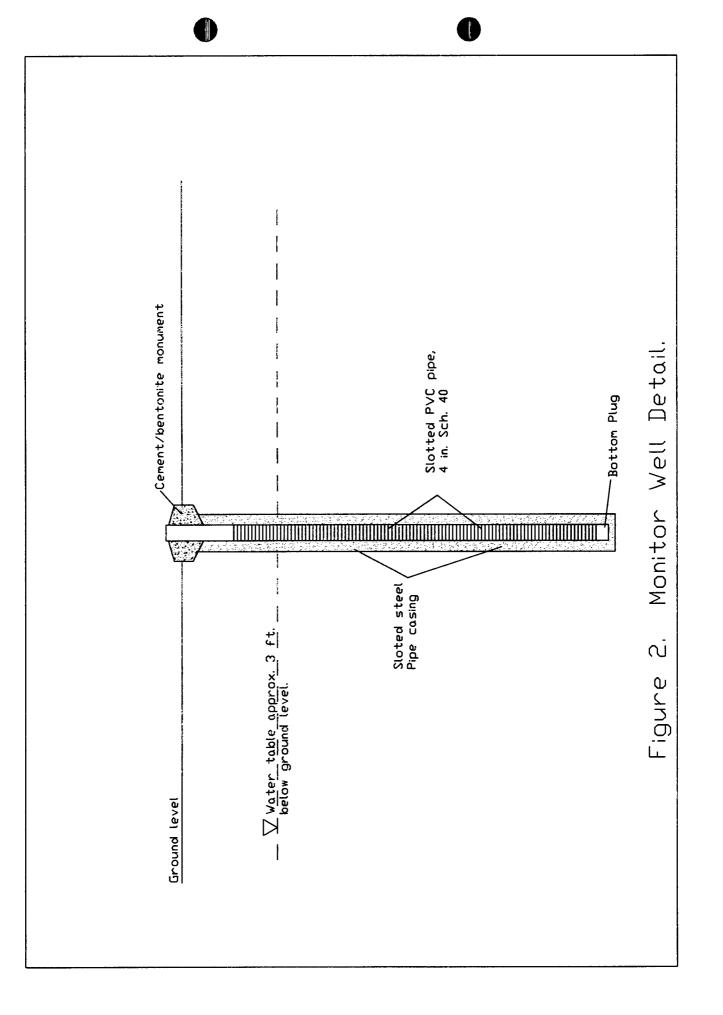
Sincerely am

Shawn A. Adams Contract Environmental Services, Inc.

CC: Mr. Denny Foust, NMOCD Aztec Office



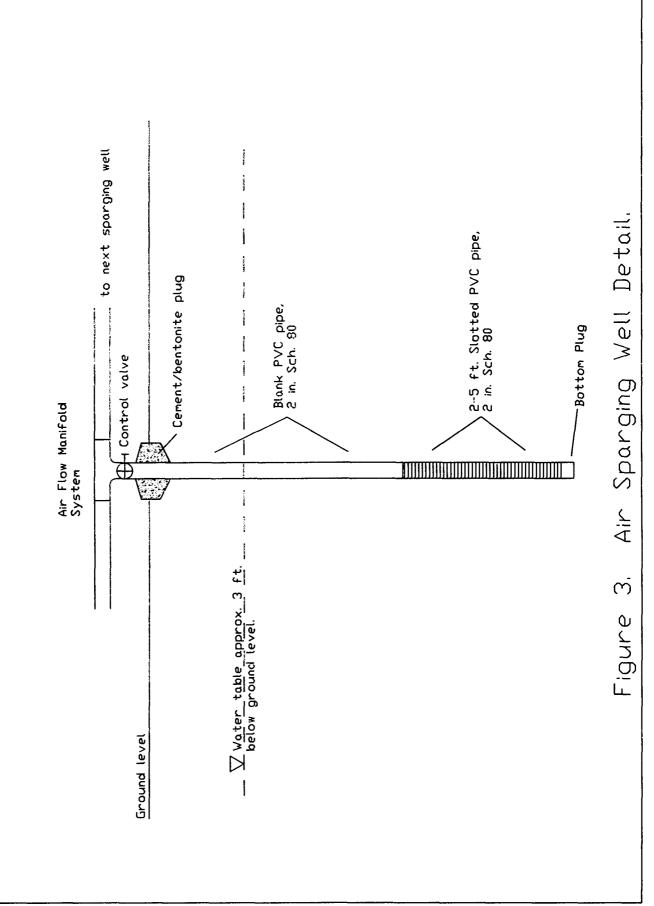
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ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

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/ 1	heck No. 15232 dated 8/30/95,
or cash received on $9/12/95$	in the amount of \$ 1436.06
from <u>Snyder Gil</u>	
for Templeton IE Reme	diation GW-184
(Tealliny Name) Submitted by:	Date:
Submitted to ASD by: Roger (uners Date: 9/13/95
Received in ASD by: Anole All	Date: 9113195
Filing Fee 🔨 New Facili	ty Kenewal
Modification Other	
	(aposidy)
Organization Code <u>521.07</u>	Applicable FY <u>96</u>
To be deposited in the Water Qua	lity Management Fund
Full Payment 📈 or Annu	al Increment
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Snyder Oir Corporation

777 Main Street, Suite 2500 Fort Worth, Texas 76102 (817) 338-4043



PAYMENT ADVICE

INVOICE OPEN OPEN OPEN AMOUNT PAID NUMBER DATE COMMENT GROSS DEDUCTIONS AMOUNT PAID NUMBER DATE ground water remediation discharge paln GW-184 RECE VED SEP 1 2 1995 Isono Bureau Oil Conservation Division			
ground water remediation discharge palm GW-184 Templeton 1E well site SEP 1 2 1995 Environmental Bureau	GF	ROSS DEDUCTIONS	AMOUNT PAID
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Contract Environmental Services, Inc. Post Office Box 505 Kirtland, New Mexico 87417-0505 Phone (505) 325-1198

CHARGE, CON DIVISION FECTIVED Pil 8 52

March 31, 1995

New Mexico Oil Conservation Division Mr. Bill Olson 2040 South Pacheco Santa Fe, New Mexico 87505

Dear Mr. Olson

In accordance with the New Mexico Oil Conservation Division (NMOCD) discharge plan approval dated February 20, 1995, Contract Environmental Services, Inc. (CES) presents the following quarterly report on behalf of Snyder Oil Corporation (SOCO). This, the first of such reports, concerns the groundwater discharge plan for the air stripper on the Templeton #1E well location found in Section 27, T31N, R13W NMPM, San Juan County, New Mexico.

The air stripper has been operated on five (5) separate occasions for a minimum of three (3) days and a maximum of five (5) days each. The total estimated volume of treated water is 367,200 gallons. The majority of this treatment occurred during the Temporary Discharge Permit time frame. The Temporary Discharge Permit was issued on May 23, 1994 and continued until September 21, 1994 or for a period of 120 days. On February 20, 1995 a five (5) year groundwater discharge plan was approved that will expire February 20, 2000.

The air stripper has been inactive since December 21, 1994 when the last request was received for Total Dissolved Solids (TDS) testing. Our plans are to continue the remediation on the Templeton #1E well location by cleaning contaminated soil and groundwater. The air stripper will be utilized intermittently as before for cleanup of the groundwater as other excavations are opened.

As discussed with you on March 3, 1995 we will take exception to the paragraph concerned with netting on the discharge plan approval. We similarly plan to submit a modification to the original plan that would allow up to five (5) locations to be listed for the Multiple Site Discharge Permit of the air stripper. Notification will be made in advance to the NMOCD if changes to the original permit are necessary.

The total volume of product recovered during the air stripper process is not applicable (N/A). The design of the air stripper evaporates and/or volatilizes the hydrocarbons that are removed from the water. No recovery of hydrocarbons is noticed. Residue may be left in the packing material and after accumulation it may reach a point where the packing will need to be replaced or cleaned. The spent packing material will be properly disposed of in accordance with state and federal regulations as necessary.

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Laboratory Results

Laboratory results are presented below in tabular form, chain-of-custody records and individual laboratory reports are presented following this section for your review.

Tabular Form

3/16/94

Sample No. SOCO-001 A,B Water Sample On Templeton #1E From Test Pits.

Date	Analysis Performed	Results (ug/l, PPB)
3/16/94	Test Pit #1 BTEX	B 1,530 (PPB)
		T 1,920 (PPB)
		E 3,650 (PPB)
		X 42,600 (PPB)

Sample No. SOCO-001 C,D Water Sample On Templeton #1E From Test Pits.

Date	Analysis Performed	Results (ug/l, PPB)	
3/16/94	Test Pit #1X BTEX	B 1,100 (PPB)	
		T 870 (PPB)	
		E 1,070 (PPB)	
		X 11,510 (PPB)	

Sample No. SOCO-002 A,B Water Sample On Templeton #1E From Test Pits.

Date	Analysis Performed	Results (u	g/l, PPB)
3/16/94	Test Pit #2 BTEX	B 705	(PPB)
		T 88.7	(PPB)
		E 887	(PPB)
		X 8,630	(PPB)

Sample No. SOCO-003 A,B Water Sample On Templeton #1E From Test Pits.

Date	Analysis Performed	Results (ug/l, PPB)
3/16/94	Test Pit #3 BTEX	B 48.2 (PPB)
		T 1,670 (PPB)
		E 713 (PPB)
		X 6,810 (PPB)

4/13/94

Sample No. SOC-00A1 Water Sample From Test Pit A.

Date	Analysis Performed	Results (ug/l, PPB)	
4/13/94	Test Pit A BTEX	B 9,670 (PPB)	
		T 34,800 (PPB)	
		E 4,310 (PPB)	
		X 81,200 (PPB)	

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Sample No. SOC-00B1 Water Sample From Test Pit B

Date	Analysis Performed	Results (ug/l, PPB)	
4/13/94	Test Pit B BTEX	B 41 (PPB)	
		T ND	
		E 77 (PPB)	
		X 237 (PPB)	

5/31/94

5

Sample No. SOC-704 Air Stripper Discharge Sample

Date	Analysis Performed	Results (mg/l, PPM)
5/31/94	Bicarbonate	284
	Carbonate	<1.0
	Chloride	328
	Hydroxide	<1.0
	pH	6.5 pH units
	Sulfate	2860
	Arsenic	<0.05
	Barium	<0.01
	Cadmium	<0.005
	Calcium	400
	Chromium	<0.01
	Lead	<0.05
	Mercury	<0.0002
	Magnesium	292
	Potassium	6.7
	Selenium	<0.1
	Silver	<0.01
	Sodium	707
8020	Benzene	1.1 (ug/l PPB)
	Toluene	10
	Ethylbenzene	1.5
	Xylenes	28
	Napthalene	ND
	Cation Sum	74.91
	Anion Sum	73.45
	Cation Balance	1.97

6/28/94

 Sample No.
 TEMP-050 Grab Water Sample From Center Of Excavation Pond For New Excavation Opened 6/24/94.

 8020
 Benzene
 10 (ug/l PPB)

 Toluene
 200

 Ethylbenzene
 ND

 Xylenes
 1100

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Sample No. 8020	TEMP-007 A,B Air Stripper Dis Benzene Toluene Ethylbenzene Xylenes	charge Sample. ND (ug/l PPB) ND ND 1.0
11/14/94		
Sample No. 8020	TEMP-200 Grab Water Sample H Benzene Toluene Ethylbenzene Xylenes	From Center Of Excavation Pond Open Since 9/21/94. ND (ug/1 PPB) 1.3 0.2 ND
12/21/94		
Sample No.	TEMP-501 Air Stripper Discharg	ge Sample
TDS	Total Dissolved Solids	3,332 (mg/l PPM)
Sample No.	TEMP-500 Grab Water Sample F 9/21/94.	From South End Of Excavation Pond Open Since
TDS	Pond Groundwater TDS	3,338

Contract Environmental Services, Inc. appreciates this opportunity to present this quarterly report for the Templeton #1E Air Stripper on behalf of Snyder Oil Corporation. If you have questions or require additional information, please don't hesitate to contact our offices at (505) 325-1198 or stop by at 4200 Hawkins Road, Farmington.

Sincerely, 'a 1

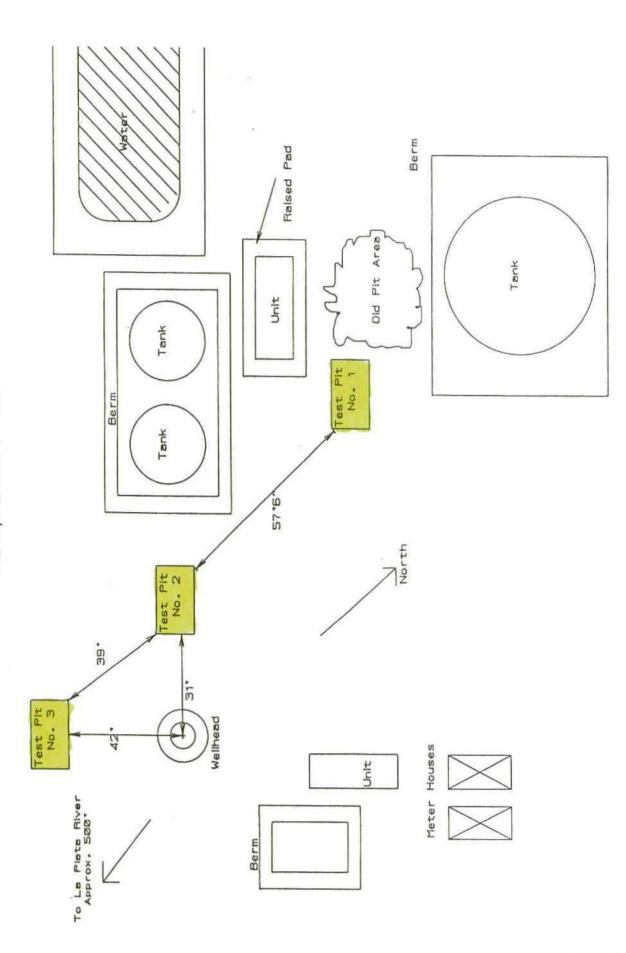
Shawn A. Adams Contract Environmental Services, Inc.

9/13/94

Snyder Oil Corporation Templeton 1E

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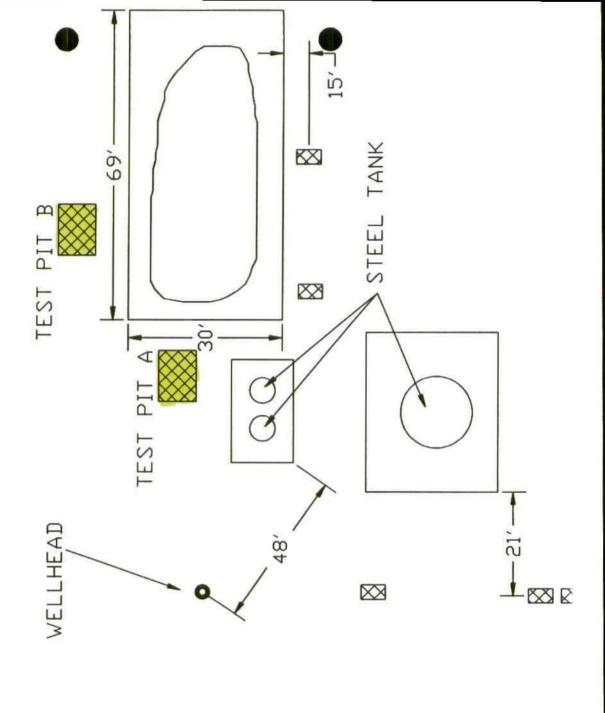


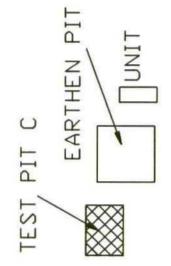
Snyder Oil Corporation

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Templeton #le Well Site, SJC





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VOLATILE AROMATIC HYDROCARBONS

Snyder Oil Corporation

Water Investigation	Report Date:	03/28/94
SOCO-001 A	Date Sampled:	03/15/94
4938	Date Received:	03/16/94
Water	Date Extracted:	NA
Cool/Intact	Date Analyzed:	03/22/94
	4938 Water	SOCO-001 ADate Sampled:4938Date Received:WaterDate Extracted:

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	1,530	1.0
Toluene	1,920	1.0
Ethylbenzene	3,650	1.0
m,p-Xylenes	25,900	1.0
o-Xylene	16,700 [,]	1.0

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Toluene-d8	116.0	88 -110%
	Bromofluorobenzene	130.2	86 -115%

Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test **Reference:** Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

*Surrogate recoveries outside of limits, concentrations estimated. Comments:

Analyst

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Review

Snyder Oil Corporation

Project ID:	Water Investigation	Report Date:	03/28/94
Sample ID:	SOCO-001 C	Date Sampled:	03/15/94
Lab ID:	4939	Date Received:	03/16/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	1,100	0.2
Toluene	870	0.2
Ethylbenzene	1,070	0.2
m,p-Xylenes	6,640	0.2
o-Xylene	4,870	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Toluene-d8*	117.2	88 -110%
	Bromofluorobenzene	102.2	86 -115%

Reference:Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test
Methods for Evaluating Solid Wastes, SW-846, United States Environmental
Protection Agency, September 1986.

Comments: *Toluene-d8 surrogate recovery high due to background interferences.

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Analyst

Snyder Oil Corporation

Project ID: Sample ID: Lab ID: Sample Matrix: Condition:

Water Investigation SOCO-002 A 4940 Water Cool/Intact

Report Date:	03/28/94
Date Sampled:	03/15/94
Date Received:	03/16/94
Date Extracted:	NA
Date Analyzed:	03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	705	0.2
Toluene	88.7	0.2
Ethylbenzene	887	0.2
m,p-Xylenes	6,640	0.2
o-Xylene	1,990	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Toluene-d8	104.8	88 -110%
	Bromofluorobenzene	101.7	86 -115%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

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Review

Snyder Oil Corporation

Project ID: Sample ID: Lab ID: Sample Matrix: Condition: Water Investigation SOCO-003 A 4941 Water Cool/Intact

Report Date:	03/28/94
Date Sampled:	03/15/94
Date Received:	03/16/94
Date Extracted:	NA
Date Analyzed:	03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	48.2	0.2
Toluene	1,670	0.2
Ethylbenzene	713	0.2
m,p-Xylenes	4,960	0.2
o-Xylene	1,850	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Toluene-d8	105.0	88 -110%
	Bromofluorobenzene	102.6	86 -115%

Reference:Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test
Methods for Evaluating Solid Wastes, SW-846, United States Environmental
Protection Agency, September 1986.

Comments:

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Analyst

Review

Snyder Oil

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Project ID:	Templeton IE	Report Date:	04/22/94
Sample ID:	SOC 00A1	Date Sampled:	04/12/94
Lab ID:	0394G00284	Date Received:	04/13/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	04/19/94

Target Analyte	Concentration (ppb)	Detection Limit (ppm)
Benzene	9,670	2.0 .
Toluene	34,800	2.0
Ethylbenzene	4,310	2.0
m,p-Xylenes	58,600	2.0
o-Xylene	22,600	2.0

ND - Analyte not detected at the stated detection limit.

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Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	97.5	86 -115%
Reference:	-	nd Trap; Method 8020, Aromatic g Solid Wastes, SW-846, United ptember 1986.	•

Comments:

Austri, braf-Analyst

Review

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2506 W. Main Street Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Snyder Oil

Project ID:	Templeton IE	Report Date:	04/22/94
Sample ID:	SOC 00B1	Date Sampled:	04/12/94
Lab ID:	0394G00285	Date Received:	04/13/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	04/19/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	41	20.0
Toluene	ND	20.0
Ethylbenzene	77	20.0
m,p-Xylenes	237	20.0
o-Xylene	ND	20.0

ND - Analyte not detected at the stated detection limit.

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Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	98.5	86 -115%
Reference:		nd Trap; Method 8020, Aromatic g Solid Wastes, SW-846, United ptember 1986.	

Comments:

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Core Laboratories

LABORATORY ΤΕSTS RESULTS

06/28/94

JOB NUMBER: 941372

CUSTOMER: BUCHANAN CONSULTANTS, LTD.

ATTN: SHAWN A. ADAMS

LABORATORY I.D...: 941372-0005

DATE RECEIVED: 06/02/94 TIME RECEIVED....: 09:45 REMARKS.....:

CLIENT I.D...... REMEDIATION OF TEMPLETON #1E DATE SAMPLED.....: 06/01/94 TIME SAMPLED.....: 12:15 WORK DESCRIPTION...: SOC-704

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Anion Sum	73.45	1	meq/l		06/27/94	RIF
Cation/Anion Balance	1.97				06/27/94	RIF
Cation Sum	74.91	1	meq/l		06/27/94	RIF
Arsenic, Total (As)	<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
Barium, Total (Ba)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Cadmium, Total (Cd)	<0.005	0.005	mg/L	6010 (2)	06/07/94	GAG
Calcium, Total (Ca)	400	1	mg/L	6010 (2)	06/07/94	GAG
Chromium, Total (Cr)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Lead, Total (Pb)	<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
Mercury, Total (Hg)	<0.0002	0.0002	mg/L	7470 (2)	06/17/94	LMT
Magnesium, Total (Mg)	292	1	mg/L	6010 (2)	06/07/94	GAG
Potassium, Total (K)	6.7	0.1	mg/L	6010 (2)	06/07/94	GAG
Selenium, Total (Se)	<0.1	0.1	mg/L	6010 (2)	06/07/94	GAG
Silver, Total (Ag)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Sodíum, Total (Na)	707	10	mg/L	6010 (2)	06/07/94	GAG
8020 - AROMATIC VOLATILE ORGANICS		*1		8020 (2)	06/03/94	JHT
Benzene Toluene Ethyl benzene Xylenes 4-Bromofluorobenzene (surrogate) Time Analyzed Naphthalene	1.1 10 1.5 28 101 1602 ND	0.5 0.5 0.5 0 5	ug/L ug/L ug/L ug/L % Recovery ug/l	Limit (85–115) 8270 (2)		
			Auro	3 East Bethany Drive ra, CO 80014) 751-1780		

PAGE:5

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and contidential use this report has been made. The interpretations or opinions expressed represent the best judgment of Core Laboratones. Core Laboratones, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitableness of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced except in its entirety, without the written approval of Core Laboratories



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Core Laboratories

LABORATORY TESTS RESULTS 06/28/94 JOB NUMBER: 941372 CUSTOMER: BUCHANAN CONSULTANTS, LTD. ATTN: SHAWN A. ADAMS CLIENT I.D...... REMEDIATION OF TEMPLETON #1E LABORATORY I.D...: 941372-0004 DATE SAMPLED.....: 06/01/94 DATE RECEIVED....: 06/02/94 TIME SAMPLED.....: 12:15 TIME RECEIVED....: 09:45 WORK DESCRIPTION ...: SOC-704 REMARKS.....: TEST DESCRIPTION FINAL RESULT LIMITS/*DILUTION UNITS OF MEASURE TEST METHOD DATE TECHN Bicarbonate (Unfilt.) 284 5 mg/L 403 (3) 06/14/94 403 (3) 06/14/94 Carbonate (Unfilt.) <1 1 mg/L Chloride (Unfilt.) 328 1 mg/L 325.2 (1) 06/21/94 Hydroxide (Unfilt.) 06/14/94 <1 1 mg/L 403 (3) pH (Unfilt.) 6.50 0.01 pH Units 150.1 (1) 06/14/94 Sulfate (Unfilt.) 2860 200 mg/L 375.2 (1) 06/20/94

10703 East Bethany Drive Aurora, CO 80014 (303) 751-1780

PAGE:4

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgment of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or prolitableness of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced except in its entirety, without the written approval of Core Laboratories.



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Core Laboratories

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······	LABORATO	07/13/94			
108 NUNBER: S& 1404	III BUCHANAN CONSUL	IANTSZLTD.	ATTN	SHAWN A. HADANDINI	
CLIENT I.D: SOC-002 DATE SAMPLED: 06/28/94 TINE SAMPLED: 11:45 WORK DESCRIPTION,: TEMP-050			DATE RE	DRY I.D: 941608-000 CEIVED: 06/29/94 CEIVED: 10:45	3
EST DESCRIPTION	PINAL RESULT	LINITS/*DILUTION	UNTIS OF MEASURE	TEST METHOD	DATE TECH
020 + AROMATIC VOLATILE ORGANICS	1.22.20.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	*10		8070 (2)	07/13/94 JHT
Benzene Toluene Ethyl benzene Xylenes 4-Bromofluorobenzene (surrogate) Time Analyzod	1fl 200 ND 1100 102 0959	5 5 5 5 0 0	ug/L ug/L ug/L ug/L X Recovery	85-115% Linit	
		· ·			
······································				10703 East Bethany Dr Aurora, CO 80014 (303) 751-1780	ive

The analysis, ophions or Integratations cardialnes in this report are based upon observations and entering supplied by the clear for whole a externe and controlmed use Pris topin has been have. The integration of an episions and entering supplied to the clear for whole a externe and controlmed use Pris topin has been have. The integration of the production of the produc





Core Laboratories

LABORATORY TESTS RESULTS 09/22/94

JOB NUMBER: 942294 CUSTOMER: SNYDER OIL CORPORATION

ATTN: CHESTER DEAL

CLIENT I.D......: SOIL & GROUNDWATER REMEDIATION DATE SAMPLED.....: 09/13/94 TIME SAMPLED.....: 14:25 WORK DESCRIPTION...: TEMP-007(A) & (B)

1111

LABORATORY I.D...: 942294-0001 DATE RECEIVED....: 09/15/94 TIME RECEIVED....: 09:45 REMARKS.....

,

EST DESCRIPTION	FINAL RESULT	LIMITS/*DILLITION	UNITS OF MEASURE		DATE	TECH
3020 - AROMATIC VOLATILE ORGANICS		*1		8020 (2)	09/15/94	JHL
Benzene Toluene Ethyl benzene Xylenes 4-Bromofluorobenzene (surrogate) Time Analyzed	ND ND 1.0 103 2152	0,5 0.5 0.5 0,5 0 0	ug/L ug/L ug/L ug/L % Recovery	85-115% Limit		
			Auna	13 East Bethany Drive Dra, CO 80014 5) 751-1 78 0		

The analyses, equitants or interpretations contained in this report we assend upon obsorvations and nettaniel supplied by the client for whose exclusive and contributed use the report hits been made. The interpretations or professions and nettaniel supplied by the client for whose exclusive and contributed are the report hits been made. The interpretations or approximate appretations and interpretations of any off, gas, more reported as to the preductive protocols of any off, gas, more regiment of the preducted except in its enterpretations. For enterpretations, or preflections or appretations, or preflections or any off gas, more regiment of the preducted except in its enterpretations the united appretations of any off gas, more regimentations (the management of the preducted except in its enterpretations) with which each tabut to be an appretations of any off gas, more regimentations (the management of the preducted except in its enterpretations). The report shall not be reproduced except in its enterpretations are appreted as to the preducted except in its enterpretations.



LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	Shawn A	Adams			Date:	11/15/94
Company:	Contract	• Environmental	Services, I	nc.	Lab ID:	2296
Address:	P.O. Box	c 505			Sample ID:	3986
City, State:	Kirtland,	NM 87417			Job No.	2-1000
Project Nan	ne:	Snyd er Oll	Corp.			
Project Loc	ation:	TEMP-200	Templeton			
Sampled by	/ :	SA	Date:	11/14/94	Time:	10:15
Analyzed b	y:	DLA	Date:	11/15/94		
Sample Ma	trix:	Water				

Aromatic Volatile Organics

Component	Measured Concentration ug/L		Detection Limit Concentration ug/L
Benzene		ND	0.2
Toluene		1.3	0.2
Ethylbenzene		0.2	0.2
m,p-Xylene o-Xylene		ND	0.2
o-Xylene		ND	0.2
	TOTAL	1.5 ug/L	

ND - Not Detectable

OFF: (505) 325-8786

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: July 4 Date: 11/15/94

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



OFF: (505) 325-8786

LAB: (505) 325-5667

GENERAL WATER ANALYSIS

Attn:	Shawn Adams	Date:	12/22/94
Company:	Contract Environmental Services, Inc.	Lab ID:	2198
Address:	P.O. Box 505	Sample No.	4483
City, State:	Kirtland, NM 87417-0505	Job No.	2-1000

Project Name:	Snyder Oil Corporation		
Project Location:	TEMP - 501	Templeton #1 E Disc	charge TDS
Sampled by:	SA	Date:	12/21/94 Time:
Analyzed by:	DA	Date:	12/22/94
Type of Sample:	Water		

Laboratory Analysis

Laboratory Identification	Sample Identification	Total Dissolved Solids
	Snyder Oil Corporation	
4483-2198	TEMP - 501 Templeton #1 E Discharge TDS	3,332 mg/L

Method - Standard Methods for the Examination of Water and Wastewater 2540 C, Total Dissolved Solids

Approved by: Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



OFF: (505) 325-8786

LAB: (505) 325-5667

GENERAL WATER ANALYSIS

Attn:	Shawn Adams	Date:	12/22/94
Company:	Contract Environmental Services, Inc.	Lab ID:	2198
Address:	P.O. Box 505	Sample No.	4482
City, State:	Kirtland, NM 87417-0505	Job No.	2-1000

Project Name:	Snyder Oil C	Snyder Oil Corporation	
Project Location:	TEMP - 500	Templeton #1 E	Pond GW TDS
Sampled by:	SA	Date:	12/21/94 Time:
Analyzed by:	DA	Date:	12/22/94
Type of Sample:	Water		

Laboratory Analysis

Laboratory Identification	Sample Identification	Total Dissolved Solids				
	Snyder Oil Corporation					
4482-2198	TEMP - 500 Templeton #1 E Pond GW TDS	3,338 <i>mg/L</i>				

Method - Standard Methods for the Examination of Water and Wastewater 2540 C, Total Dissolved Solids

)~4 12/22/94 Approved by: Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

- Technology Blending Industry with the Environment --

ALL MARKEN



AFFIDAVIT OF PUBLICATION

No. 34221

STATE OF NEW MEXICO County of San Juan:

ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Friday, January 13, 1995

and the cost of publication was: \$56.06



appeared before me, whom I know personally to be the person who signed the above document.

My Commission Expires March 21, 1998.

COPY OF PUBLICATION

NOTICE OF PUBLICATION D1- J 2 STATE OF NEW MEXICO 41. 2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT **OIL CONSERVATION DIVISION** 000 96 were Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, Energy Minerals and Natural Resources Building, 2040 South Pacheco St., Sir. Santa Fe, New Mexico 87505, Telephone (505) 827-7152: (GW-40) - Snyder Oil Corporation, Chester Deal, Superintendent, P.O. Box 2038; Farmington, New Mexico 87499, has submitted a discharge application for their Templeton #1E well site located in on. the NW 1/4, NE 1/4 of Section 27, Township 31 North, Range 13 West NMPM, San Juan County, New Mexico. The application adresses discharges to ground water associated with the remediation of petroleum contaminated ground water. Approximately 1,890 gallons per minute of ground water with a total dissolved solids concentration of approximately 3,300 mg/l is processed through a treatment system to remove contaminants to below WQCC ground water standards prior to reinjec-ம் க tion. Groundwater most likely to be affected by an accidental discharge is at a depth of approx-12imately 3 to 4 feet with a total dissolved solids concentration of approximately 3,300 mg/l. The discharge plan addresses system operation and monitoring and how spills, leaks, and other accidental discharges to the surface will be managed. Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan applications may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the Director determines that there is significant -111 public interest. servelf no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing. STTGIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this now, 4th day of January, 1994. 3.37 600 STATE OF NEW MEXICO **OIL CONSERVATION DIVISION** MICHAEL E. STOGNER, Acting Director in the 50 SEAL 34221 nublished in The Daily Times, Farmington, New Mexico on Friday, January 13, l ena

NOTICE OF PUBLICATION'95 FEB S AM & 50

i ED

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission (WQCC) Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, Energy Minerals and Natural Resources Building, 2040 South Pacheco St., Santa Fe, New Mexico 87505, Telephone (505) 827-7152:

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If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 4th day of January, 1994.

	STATE OF NEW MEXICO
NO EFFECT FINDING	OIL CONSERVATION DIVISION
The described action will have no effect on listed species, wetlands, or other important wildlife resources.	Alton
Date January 27, 1995	Martun
SEAL $Consultation # \underline{2-22-95-1-142}$	ICHAEL E. STOGNER, Acting Director
Approved by R. Mark Wilson	
U.S. FISH and WILDLIFE SERVICE	/
NEW MEXICO ECOLOGICAL SERVICES FIELD OFFICE	
ALBUQUERQUE, NEW MEXICO	



JAN 2 4 1995

AFFIDAVIT OF PUBLICATION

OIL CONSERVATION DIV. SANTA FE

COPY OF PUBLICATION

No.34221

STATE OF NEW MEXICO County of San Juan:

ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Friday, January 13, 1995

and the cost of publication was: \$57.21

nne

On ROBERT LOVETT appeared before me, whom I know personally to be the person who signed the above document.

My Commission Expires April 22, 1997.

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Europa Carrier	NOTICE OF PUBLICATION
ی کرین م م م ا	STATE OF NEW MEXICO NERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION
Regulations, the Conservation Div	g1ven that pursuant to New Mexico Water Quality Control Commission (WQCC) following discharge plan application has been submitted to the Director of the Oil ision, Energy Minerals and Natural Resources Building, 2040 South Pacheco St., exico 87505, Telephone (505) 827-7152:
(GW-40) - Snydei Mexico 87499, ha the NW 1/4, NE of petroleum con with a total diss treatment system tion. Groundwate imately 3 to 4 fee charge plan addr	r Oll Corporation, Chester Deal, Superintendent, P.O. Box 2038, Farmington, New as submitted a discharge application for their Templeton #1E well site located in 1/4 of Section 27, Township 31 North, Range 13 West NMPM, San Juan County, application adresses discharges to ground water associated with the remediation taminated ground water. Approximately 1,890 gallons per minute of ground water olved solids concentration of approximately 3,300 mg/l is processed through a to remove contaminants to below WQCC ground water standards prior to reinjec- er most likely to be affected by an accidental discharge is at a depth of approx- t with a total dissolved solids concentration of approximately 3,300 mg/l. The dis- esses system operation and monitoring and how spills, leaks, and other acciden- the surface will be managed.
Any interested p submit written c above. The disct and 4:00 p.m., M cation, the Direct of publication of may be requeste	erson may obtain further information from the Oil Conservation Division and may omments to the Director of the Oil Conservation Division at the address given harge plan applications may be viewed at the above address between 8:00 a.m. onday through Friday. Prior to ruling on any proposed discharge plan or its modifi- or of the. Oil Conservation Division shall allow at least thirty (30) days after the date this notice during which comments may be submitted to him and public hearing d by any interested person. Request for public hearing shall set forth the reasons all be held. A hearing will be held if the Director determines that there is significant
if no hearing is i available. If a pu	held, the Director will approve or disapprove the plan based on the information blic hearing is held, the Director will approve the plan based on the information in nation presented at the hearing.
GIVEN under the	Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 7, 1994.
hos	STATE OF NEW MEXICO OIL CONSERVATION DIVISION
e	MICHAEL E. STOGNER, Acting Director

SEAL

Legal No. 34221 published in The Daily Times, Farmington, New Mexico on Friday, January 13, 1995.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

POST OFFICE BOX 2088

STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504

(505) 827-5800

BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

January 6, 1995

ALBUQUERQUE JOURNAL 717 Silver Southwest Albuquerque, New Mexico 87102 **RE:** NOTICE OF PUBLICATION

ATTN: ADVERTISING MANAGER

Dear Sir/Madam:

Please publish the attached notice one time immediately on receipt of this request. Please proofread carefully, as any error in a land description or in a key word or phrase can invalidate the entire notice.

Immediately upon completion of publication, please send the following to this office:

- 1. Publisher's affidavit in duplicate.
- 2. Statement of cost (also in duplicate.)
- 3. CERTIFIED invoices for prompt payment.

We should have these immediately after publication in order that the legal notice will be available for the hearing which it advertises, and also so that there will be no delay in your receiving payment.

Please publish the notice no later than <u>January 13</u>, 1995, dee4.

Sincerely,

Administrative Secretary

11.1

Attachment



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

POST OFFICE BOX 2088

STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504

(505) 827-5800

BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

January 6, 1995

FARMINGTON DAILY TIMES P. O. Box 450 Farmington, New Mexico 87401 **RE: NOTICE OF PUBLICATION**

ATTN: ADVERTISING MANAGER

Dear Sir/Madam:

Please publish the attached notice one time immediately on receipt of this request. Please proofread carefully, as any error in a land description or in a key word or phrase can invalidate the entire notice.

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Please publish the notice no later than <u>January 13</u>, 1995, 1994.

Sincerely,

Sally E. Martinez Administrative Secretary

Attachment



NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission (WQCC) Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, Energy Minerals and Natural Resources Building, 2040 South Pacheco St., Santa Fe, New Mexico 87505, Telephone (505) 827-7152:

1925-184

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If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 4th day of January, 1994.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

MICHAEL E. STOGNER, Acting Director

SEAL

NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 4th day of January, 1994.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

MICHAEL E. STOGNER, Acting Director

SEAL

OFF: (505) 325-8786

TECHNOLOGIES, LTD.

GENERAL WATER ANALYSIS

DN SITE

JAN 0 4 1995

RECENTED

		OIL CO	ONSERVATION DIV.
Attn:	Shawn Adams	Date:	SANTA FE 12/22/94
Company:	Contract Environmental Services, Inc.	Lab ID:	2198
Address:	P.O. Box 505	Sample No.	4482
City, State:	Kirtland, NM 87417-0505	Job No.	2-1000

Project Name:	Snyder Oil C	orporation	
Project Location:	TEMP - 500	Templeton #1 E Pond	GW TDS
Sampled by:	SA	Date:	12/21/94 Time:
Analyzed by:	DA	Date:	12/22/94
Type of Sample:	Water		

Laboratory Analysis

Laboratory		Total Dissolved
Identification	Sample Identification	Solids
	Snyder Oil Corporation	
4482-2198	TEMP - 500 Templeton #1 E Pond GW TDS	3,338 <i>mg/L</i>

Method - Standard Methods for the Examination of Water and Wastewater 2540 C, Total Dissolved Solids

)~~~ 12/22/94 Approved by: Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

TECHNOLOGIES, LTD.

OFF: (505) 325-8786

Type of Sample:

LAB: (505) 325-5667

GENERAL WATER ANALYSIS

Attn:	Date:	12/22/94			
Company:	Contract Environmental		Lab ID:	2198	
Address:	P.O. Box 505		Sample No.	4483	
City, State:	Kirtland, NM 87417-050		Job No.	2-1000	
Project Nam	e: Snyder Oil C	Corporation			
Project Loca	tion: TEMP - 501	Templeton #1 E	Discharge TDS		
Sampled by:	SA	Date:	12/21/94	Time:	
Analyzed by	: DA	Date:	12/22/94		

Laboratory Analysis

Water

Laboratory		Total Dissolved
Identification	Sample Identification	Solids
	Snyder Oil Corporation	
4483-2198	TEMP - 501 Templeton #1 E Discharge TDS	3,332 <i>mg/L</i>

Method - Standard Methods for the Examination of Water and Wastewater 2540 C, Total Dissolved Solids

12/22/94 Approved by: Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

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	Client Signature Must Accompany Request		Method of Shipment:	Relinquished by:	Relinquished by:	Relinquished by: Jan Mark				()		The ser temple we will	11 × 1-14				Sampler: SADAms			Total .	City. State. Zip	Address PO Box 2038	BBO Company Synales Oir Collo	III Name Clipster C. Degle	Purchase Order No.: Refere		TECHNOLOGIES, LTD. 657 W. Maple LAB: (5	UN SITE	1
Distriction: White	Request)														12/12/11		Ab/u/u		DATE/TIME		Total 2			02hU3		j varfish-		Reference No.:		657 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256		СНА
hito On Cito	- Date	Data		Date/Time	Date/Time	Date/Time ! 7							$\left \right $)	G				COMPOSITE/		Anna		201172	199		Dept.				5 • Farmington FAX: (505) 325-(IN OF
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STATE OF

State of New Mexico ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT Santa Fe, New Mexico 87505

Santa r

MEMORANDUM OF MEETING OR CONVERSATION

Time Date 12/16/94 Telephone 9:00 am Personal Originating Party Other Parties Shaw 15 Contract Enjir Sorvices bull rehn 98 325-Subject Snyder 4 12 s, Q Discussion dis INDS 10/0 D Brite WGN him a 10 Conclusions or Agreements ſo in c. (re acel Wr amo 6 Drovide Aster Distribution Signed

5/92 Energy, Minerals and Natural Resources Department RECEIVED State of New Mexico OIL CONSERVATION DIVISION NOV 0 8 1995 P.O. Box 2088 Santa Fe, NM 87501

OIL CONSERVATION DIV

SANTA FE

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

(Refer to OCD Guidelines for assistance in completing the application.)

1.	TYPE:Natural Gas Production					
II.	OPERATOR: Snyder Oil Corporation					
	ADDRESS:					
	CONTACT PERSON: Mr. Chester L. Deal PHONE:505-632-8056					
III.	LOCATION: <u>NW</u> /4 <u>NE</u> /4 Section <u>27</u> Township <u>31N</u> Range <u>13W</u> Submit large scale topographic map showing exact location.					
IV.	Attach the name and address of the landowner(s) of the disposal facility site.					
V.	Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.					
VI.	Attach a description of sources, quantities and quality of effluent and waste solids.					
VII.	Attach a description of current liquid and solid waste transfer and storage procedures.					
VIII.	Attach a description of current liquid and solid waste disposal procedures.					
IX.	Attach a routine inspection and maintenance plan to ensure permit compliance.					
X.	Attach a contingency plan for reporting and clean-up of spills or releases.					
XI.	Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.					
XII.	Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.					
XIII.	CERTIFICATION					
	I hereby certify that the information submitted with this application is true and					
	correct to the best of my knowledge and belief.					
	Name: Chester L. Deal Title: Superintendent					
	Signature: Mester L. Deal Date: Nov. 4, 1994					

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

Contract Environmental Services, Inc. Post Office Box 505 Kirtland, New Mexico 87417-0505 Phone (505) 325-1198

November 4, 1994

State Of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division Mr. Bill Olsen Post Office Box 2088 Santa Fe, New Mexico 87501

RE: Discharge Permit Application for Templeton #1E Well Location, Sec.27, T31N, R13W

Contract Environmental Services, Inc. (CES) is pleased to present this Discharge Plan Application on behalf of Snyder Oil Corporation (SOCO) for the Templeton #1E well location. The Templeton #1E well is located within the La Plata River Valley in San Juan County.

Background Information

The Templeton #1E well is a dual location which produces from the Gallup and Basin Dakota zones and has a history of retrieving large quantities of formation water along with the natural gas. On March 15, 1994 it was discovered during a subsurface investigation that the underlying soils and groundwater had been impacted with hydrocarbon contamination. An Investigation And Remediation Plan for earthen pits and a Groundwater Remediation Plan were prepared in March, 1994. These plans were approved on March 23, 1994. In April and May a specific groundwater remediation plan was prepared for the Templeton #1E well location. This plan was approved on May 24, 1994. Together, these plans cover the remediation of the soils and groundwater for the Templeton #1E well location. The groundwater plan calls for extraction and treatment through an air stripper unit to remove the hydrocarbons. The treated groundwater will then be returned to a water storage pond where it will recharge the groundwater. The groundwater resides at a depth of approximately 3-4⁺ below ground level. The groundwater for this particular area has a high concentration of salts naturally occurring.

Snyder Oil Corporation applied for and received a Temporary Permit To Discharge (attached) from the Santa Fe office of the New Mexico Oil Conservation Division (NMOCD). This temporary permit was granted on May 23, 1994 and remained valid for a period of 120 days from date of issuance and expired on September 21, 1994. SOCO is seeking a permit to discharge for the duration of the remediation project which is now estimated to be 30% complete. The soils are removed and farmed on location and during this process the excavation fills up with groundwater. SOCO uses the air stripper to remediate this trench water and then return it to either the water pond adjacent to the location or to the opposite end of the trench. All discharge will cease on the expiration date of the Temporary Permit To Discharge (September 21, 1994) and will remain so until the Permit To Discharge is in place.

Body

I. Type of Operation

The major purpose of this facility is to produce natural gas from the Gallup and Basin Dakota zones to be transferred and sold through pipelines to an acceptable market.

II. Name of Operator or Legally Responsible Party and Local Representative

Snyder Oil Corporation Mr. Chester L. Deal Post Office Box 2038 Farmington, New Mexico 87499 Phone (505) 632-8056

III. Location of Discharge

Unit Letter B of Section 27, Township 31 North, Range 13 West with footages of 890' FNL, 1820'FEL, San Juan County, New Mexico

IV. Landowners

The landowner is Charles S. Lewis

V. Facility Description

Please see the attached site diagram (Figure 1.) that indicates the location of wellbore, tanks, berms, meter-runs, earthen pits, excavations and boundaries.

VI. Materials Stored or Used at the Facility

Hydrochloric Acid (liquid) for trickle treatment of water to prevent buildup in air stripper, two 100 barrel produced water tanks, one 400 barrel condensate tank. Gasoline will be stored in a 55 gallon steel drum to operate the air stripper fan and pump.

VII. Sources and Quantities of Effluent and Waste Solids Generated at the Facility

Produced water is currently being hauled off location at an approximate rate of 80 barrels per day and is being trucked by water trucks. Snyder Oil Corporation is currently using Three Rivers Trucking to perform this service.

VIII. Description of Current Liquid and Solid Waste Collection/Storage/Disposal Procedures

Produced water is currently being hauled to the Langendorf #3 injection well and evaporation pond owned and operated by Snyder Oil Corporation where it is re-injected into the Mesa Verde zone for disposal purposes.

There is currently one earthen pond that remains unlined on the Templeton #1E. It is found on the west side of this location where the treated water is pumped to be re-introduced into the groundwater. The dimensions of this earthen pit are approximately 20' x 50'. This pit is currently fenced and bermed around its perimeter. At the completion of the soil remediation phase of this project, groundwater monitoring wells will be installed to allow for sampling and monitoring of the groundwater. The monitor wells will be placed in a down gradient direction in such a way that treatment (if required) will flush waters across the zone of contamination. The monitor wells will be installed in accordance with the diagram (Figure 2.) attached.

IX. Proposed Modifications

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Not Applicable

X. Inspection, Maintenance and Reporting

The produced water tanks (100 bbl) will be inspected daily by the pumper, these are steel tanks with double bottoms and have leak detection built in. Periodically the pumper will inspect the double bottom access to determine if the initial tank bottom is adequate. If the double bottom tank is determined to have a leak that allows the produced water to escape into the subsurface, the NMOCD will be notified within twenty-four (24) hours.

Design of Sampling -

Currently, water sampling is conducted using grab methods and samples have been taken from the open excavation after it has had time to recharge. Grab samples are placed in 40 ml VOA Vials with HCL preservative added. Samples are given a unique number, entered on a Chain-of-custody record, placed in a cooler at 4°C and transferred to the analytical laboratory for analysis. Water samples are being tested for Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX) using EPA Method 602.

The air stripper treats water at an approximate rate of 45 gallons per minute. This volume was measured on the discharge side of the air stripper on 9/13/94.

At the close of the excavation process, monitoring wells will be installed similar to the drawing (Figure 2) attached. If additional groundwater cleanup is required following the soil remediation and air stripping of the trench water, the air stripper unit will be utilized for this treatment. Monitoring wells will be used as extraction wells and the treated water will then be returned to the upgradient pond to recharge the groundwater. The monitoring wells will be placed in such a manner that the contaminated zone will be flushed as the groundwater remediation progresses.

During air stripping with extraction wells, the discharge water will be sampled every two weeks to ensure proper stripping is taking place. Results of this sampling will be presented to NMOCD in letter reports on a monthly basis.

Following acceptable cleanup of the groundwater, the monitoring wells will be sampled quarterly to confirm cleanup. If monitoring after groundwater cleanup reveals no return of contaminants for a period of two quarterly sampling periods, the wells will be grouted and closed. All sampling will cease from that point on.

Contingency Plan For Leaks And Spills -

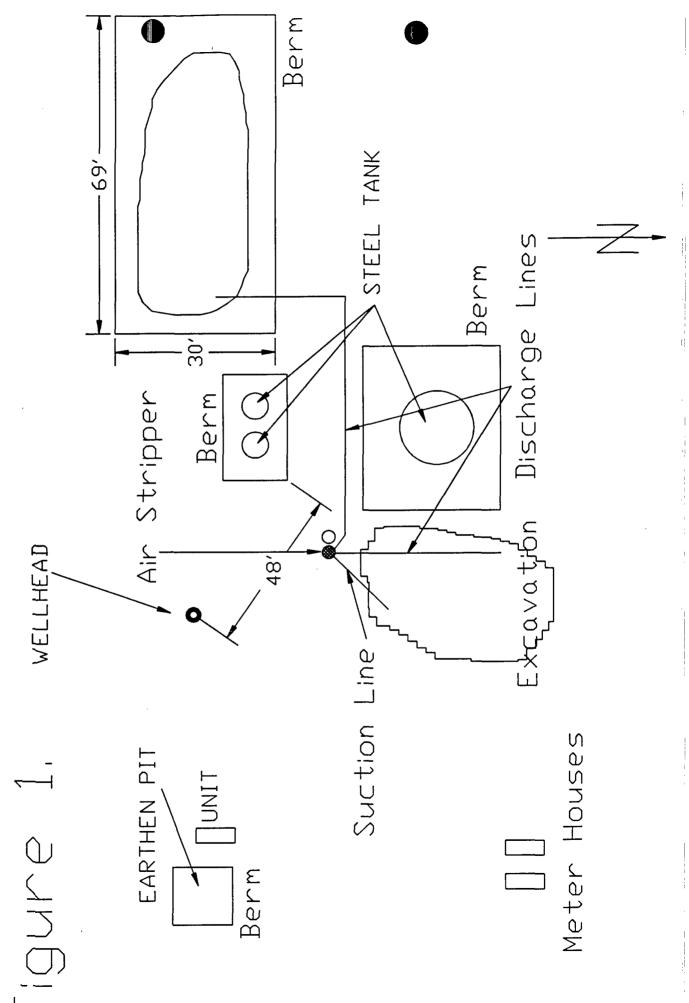
Air stripper equipment (i.e. fan, pump) will be operated from the same temporary fuel source. This will be a 55 gallon steel drum that is mounted in such a way to gravity feed the pump and fan. This fuel tank will have secondary containment that consists of a fiberglass spill pan placed directly under it to catch unplanned discharge.

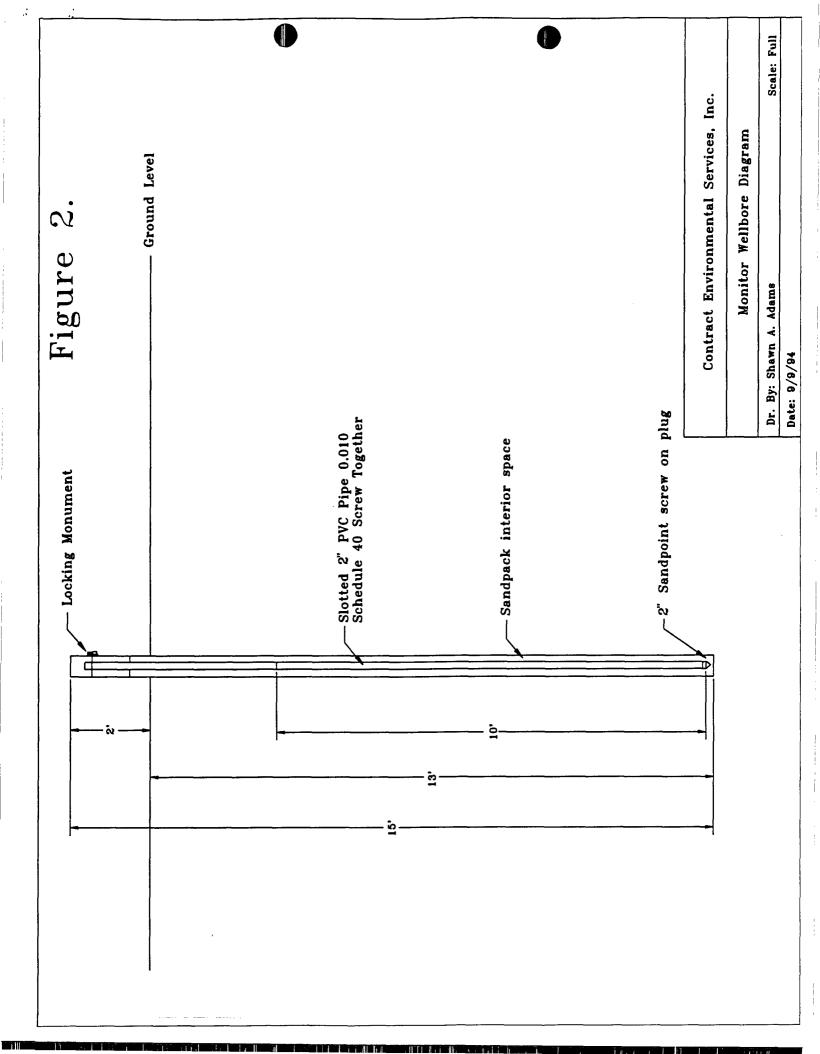
Any leaks found during the daily visit such as suction or discharge lines to the water pump will immediately be repaired. Any leaks that are substantial (above 5 gallons per day) may cause the air stripping to cease until necessary repairs have been completed. The pumper and /or maintenance crew members will carry replacement hosing and PVC repair equipment to remedy leaks found. Leaks on the discharge side of the air stripper will be treated as ordinary groundwater in accordance with the last laboratory data collected from the discharge.

Soil Description -

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Ground Level	0	_	Clay sand, medium grained sand, some gravel, low plasticity clay
	2'	-	
<u></u>	4'	_	Water level 3' Silty sand, medium grained sand, some gravel, some cobbles
	6'	_	
	8'	_	Cobbles, gravel, sand, medium dense, alluvium river bottom material
	10'	_	
	12'	-	TD = TT
	14'	1	





STATE OF NEW MEXICO



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

EDRUG FREE

BRUCE KING

May 23, 1994

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504 (505) 827-5800

ANITA LOCKWOOD CABINET SECRETARY

CERTIFIED MAIL RETURN RECEIPT NO. P-111-334-114

Mr. Chester L. Deal Superintendent Snyder Oil Corporation P.O. Box 2038 Farmington, New Mexico 87499

RE: TEMPORARY DISCHARGE AUTHORIZATION FOR GROUND WATER REMEDIATION TEMPLETON #1E WELL SITE SNYDER OIL CORPORATION

Dear Mr. Deal:

The New Mexico Oil Conservation Division (OCD) has completed a review of Snyder Oil Corporation's (SOC) May 20, 1994 request for authorization to temporarily discharge air stripper effluent into a trench system at SOC's Templeton #1E located in the NW 1/4, NE 1/4 of Section 27, T31N, R13W NMPM San Juan County, New Mexico. The air stripper effluent results from the treatment of contaminated ground water related to prior disposal practices at the Templeton #1E well site. SOC requests this temporary discharge authority for a period of 120 days. Ground water in the vicinity is at a depth of approximately 3 feet and has a total dissolved solids of approximately 2500 mg/1.

Pursuant to New Mexico Water Quality Control Commission (WQCC) Regulation 3-106.B. you are hearby authorized to discharge without an approved discharge plan until September 21, 1994 with the following conditions:

- 1. The initial air stripper effluent sampling will also include an analysis for concentrations of polynuclear aromatic hydrocarbons.
- 2. SOC will submit the results of the initial sampling of the air stripper effluent to OCD upon receipt from the laboratory.

Mr. Chester L. Deal May 23, 1994 Page 2

- 3. After the initial water quality sampling event, SOC will analyze the air stripper effluent on a monthly basis for benzene, toluene, ethylbenzene and xylene.
- 4. SOC will meter the inlet line to the air stripper such that the volume of ground water treated can be monitored.
- 5. On first day of each month, SOC will provide OCD with a report containing the analytical results of the air stripper effluent quality monitoring and the volume treated.
- 6. If SOC plans to continue operation of the air stripper after September 21, 1994, SOC will submit a WQCC discharge plan application to the OCD for approval.

Please be advised that OCD authorization does not relieve you of liability should your operation result in actual pollution of surface waters, ground waters or the environment which may be actionable under other laws and/or regulations. In addition, this authorization does not relieve you of responsibility for compliance with any other federal, state or local laws and/or regulations.

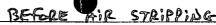
If you have any questions please, contact William Olson of my staff at (505)827-5885.

Sincerely, William J. LeMay Director

xc: OCD Aztec Office Shawn A. Adams, Buchanan Consultants, Ltd.

Inter Mountain Laboratories, Inc.

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2506 W. Main Street Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

<u>Snyder Oil</u>

Project ID:	Templeton IE	Report Date:	04/22/94
Sample ID:	SOC 00A1	Date Sampled:	04/12/94
Lab ID:	0394G00284	Date Received:	04/13/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	04/19/94

Target Analyte	Concentration (ppb)	Detection Limit (ppm)
Benzene	9,670	2.0
Toluene	34,800	2.0
Ethylbenzene	4,310	2.0
m,p-Xylenes	58,600	2.0
o-Xylene	22,600	2.0

ND - Analyte not detected at the stated detection limit.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	97.5	86 -115%
Reference:	-	nd Trap; Method 8020, Aromatic g Solid Wastes, SW-846, United ptember 1986.	• ·

Comments:

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Analyst

Review

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2506 W. Main Street Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Snyder Oil

Project ID: Sample ID: Lab ID: Sample Matrix: Condition: Templeton IE SOC 00B1 0394G00285 Water Cool/Intact

Report Date:	04/22/94
Date Sampled:	04/12/94
Date Received:	04/13/94
Date Extracted:	NA
Date Analyzed:	04/19/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	41	20.0
Toluene	ND	20.0
Ethylbenzene	77	20.0
m,p-Xylenes	237	20.0
o-Xylene	ND	20.0

ND - Analyte not detected at the stated detection limit.

Quality Control:	Surrogate Percent Recovery		Acceptance Limits		
	Bromofluorobenzene	98.5	86 -115%		
Reference:		nd Trap; Method 8020, Aromatic g Solid Wastes, SW-846, United ptember 1986.	•		
Comments:					

Analyst

Review

Inter Mountain Laboratories, Inc.



2506 W. Main Street Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Snyder Oil

Project ID: Templeton IE Report Date: 04/22/94 Sample ID: SOC 00C1 Date Sampled: 04/12/94 Lab ID: 0394G00286 Date Received: 04/13/94 Sample Matrix: Water Date Extracted: NA Condition: Cool/Intact Date Analyzed: 04/19/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	1,460	200.0
Joluene	5,080	200.0
Ethylbenzene	1,270	200.0
m,p-Xylenes	12,000	200.0
o-Xylene	5,650	200.0

ND - Analyte not detected at the stated detection limit.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	101.4	86 -115%
Reference:		• •	Aromatic Volatile Organics; Test

Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review



Core Laboratories

LABORATORY TESTS RESULTS 06/28/94

JOB NUMBER: 941372

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CUSTOMER: BUCHANAN CONSULTANTS, LTD.

ATTN: SHAWN A. ADAMS

CLIENT I.D...... REMEDIATION OF TEMPLETON #1E DATE SAMPLED...... 06/01/94 TIME SAMPLED...... 12:15 WORK DESCRIPTION...: SOC-704

LABORATORY I.D:	941372-0005
DATE RECEIVED:	06/02/94
TIME RECEIVED:	09:45
REMARKS	

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TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Anion Sum	73.45	1	meq/l		06/27/94	RIF
Cation/Anion Balance	1.97				06/27/94	RIF
Cation Sum	74.91	1	meq/l		06/27/94	RIF
Arsenic, Total (As)	<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
Barium, Total (Ba)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Cadmium, Total (Cd)	<0.005	0.005	mg/L	6010 (2)	06/07/94	GAG
Calcium, Total (Ca)	400	1	mg/L	6010 (2)	06/07/94	GAG
Chromium, Total (Cr)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Lead, Total (Pb)	<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
Mercury, Total (Hg)	<0.0002	0.0002	mg/L	7470 (2)	06/17/94	LMT
Magnesium, Total (Mg)	292	1	mg/L	6010 (2)	06/07/94	GAG
Potassium, Total (K)	6.7	0.1	mg/L	6010 (2)	06/07/94	GAG
Selenium, Total (Se)	<0.1	0.1	mg/L	6010 (2)	06/07/94	GAG
Silver, Total (Ag)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Sodium, Total (Na)	707	10	mg/L	6010 (2)	06/07/94	GAG
8020 - AROMATIC VOLATILE ORGANICS		*1		8020 (2)	06/03/94	JHT
Benzene Toluene Ethyl benzene Xylenes 4-Bromofluorobenzene (surrogate) Time Analyzed Naphthalene	1.1 10 1.5 28 101 1602 ND	0.5 0.5 0.5 0 0 5	ug/L ug/L ug/L ug/L % Recovery ug/l	Limit (85-115) 8270 (2)		
			Auro	3 East Bethany Drive ra, CO 80014) 751-1780		

PAGE:5

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Core Laboratories

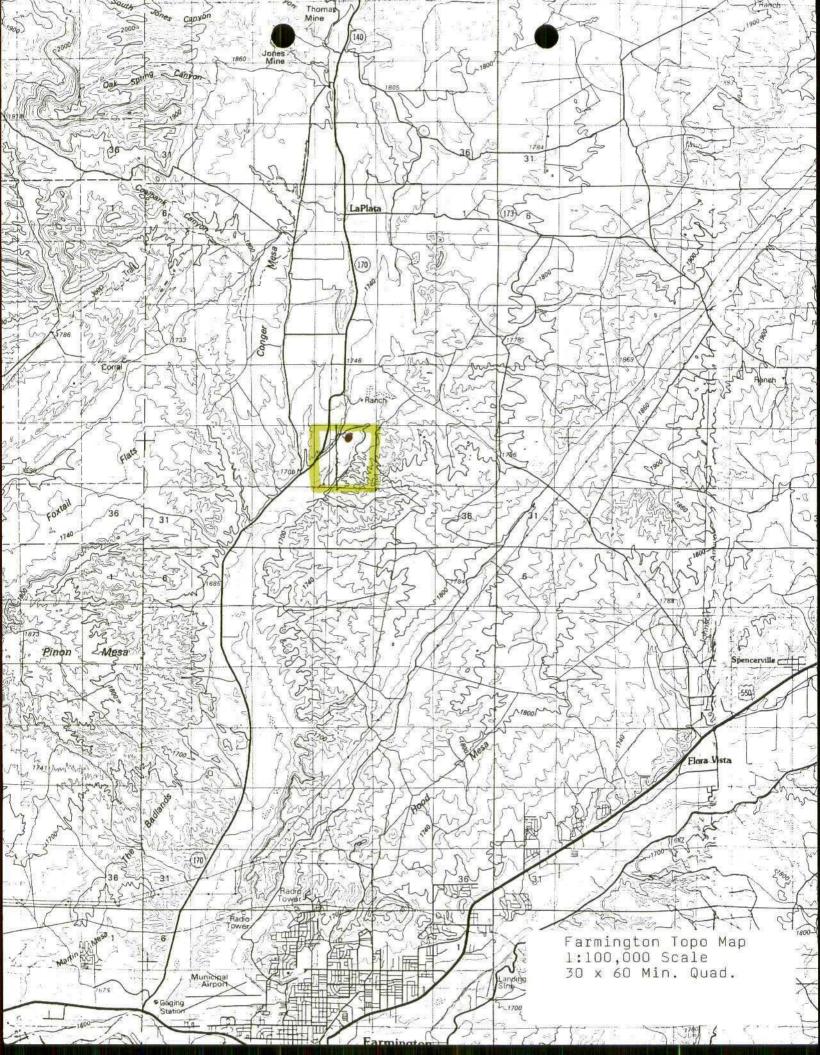
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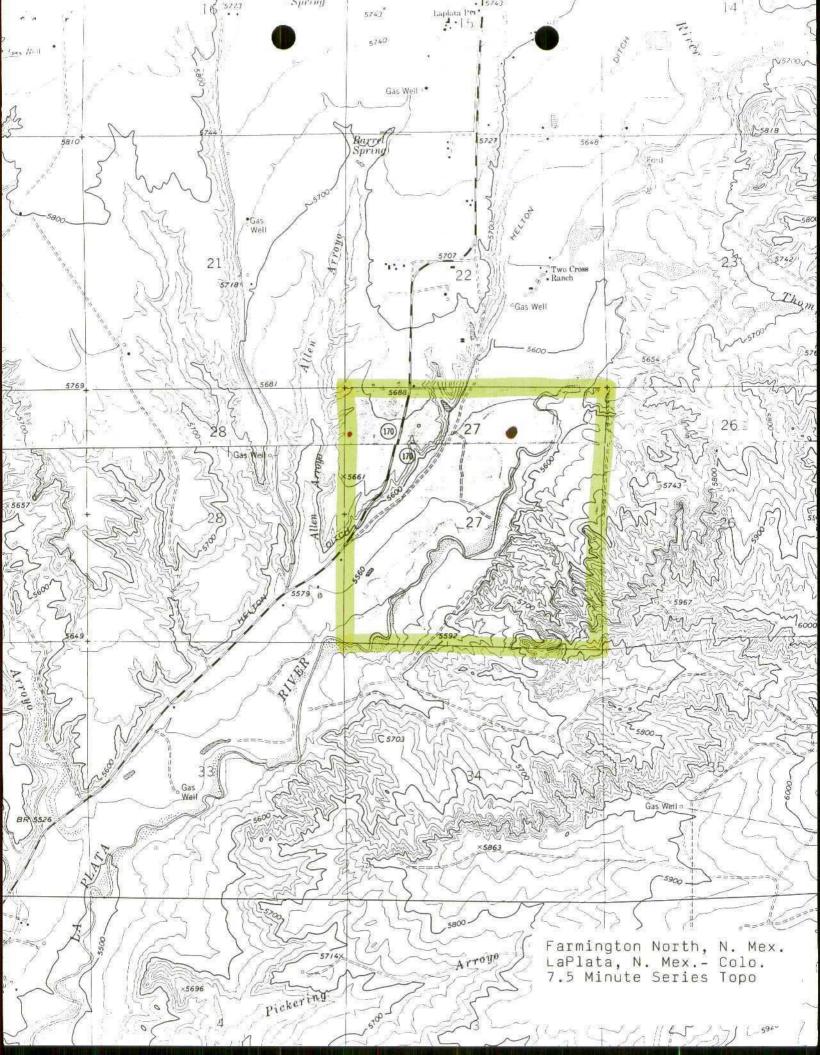
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LABORATORY TESTS RESULTS 06/28/94 JOB NUMBER: 941372 CUSTOMER: BUCHANAN CONSULTANTS, LTD. ATTN: SHAWN A. ADAMS CLIENT I.D...... REMEDIATION OF TEMPLETON #1E LABORATORY I.D...: 941372-0004 DATE SAMPLED.....: 06/01/94 DATE RECEIVED....: 06/02/94 TIME SAMPLED.....: 12:15 TIME RECEIVED....: 09:45 WORK DESCRIPTION ...: SOC-704 REMARKS..... FINAL RESULT LIMITS/*DILUTION UNITS OF MEASURE TEST DESCRIPTION TEST METHOD DATE 06/14/94 Bicarbonate (Unfilt.) 284 5 mg/L 403 (3) Carbonate (Unfilt.) <1 mg/L 403 (3) 06/14/94 1 Chloride (Unfilt.) 328 1 mg/L 325.2 (1) 06/21/94 Hydroxide (Unfilt.) <1 1 mg/L 403 (3) 06/14/94 pH Units 6.50 06/14/94 pH (Unfilt.) 0.01 150.1 (1) 06/20/94 Sulfate (Unfilt.) 2860 200 mg/L 375.2 (1) 10703 East Bethany Drive • ' Aurora, CO 80014 (303) 751-1780

PAGE:4

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DE CONSERT- UN DIVISION RECEIVED

Contract Environmental Services, Thc. 1 AM 8 50 Post Office Box 505 Kirtland, New Mexico 87417-0505 Phone (505) 325-1198

August 25, 1994

Energy Minerals & Natural Resources Dept. Mr. William C. Olson Oil Conservation Division P.O. Box 2088 Santa Fe, New Mexico 87504

Dear Mr. Olson:

The following is a response to the conditions of your Temporary Discharge Authorization, dated May 23, 1994 concerning the Templeton #1E well location of Snyder Oil Corporation.

Question 1	Enclosed please find the analytical laboratory analyses performed on the discharge water from the air stripper, note that as discussed, it includes the analysis for Naphthalene in substitute for Polynuclear Aromatic Hydrocarbons (PAH) as we discussed.
Question 2	See enclosed package
Question 3	The air stripper unit has been used on an occasional schedule and has not operated for a term equal to one month. We estimate 9 days of operation for a total of 72 hours with a treatment of 3240 gallons based on 45 gallons per minute.
Question 4	Due to the gravity flow discharge line, an in-line flow meter will not be installed to measure the gallons of flow through the unit. This meter could cause back pressure on the discharge line forcing the unit to fill with water.
Question 5	Snyder Oil Corporation will provide a monthly report showing the number of gallons treated and any analytical laboratory results. This letter will serve as the initial report with an additional report presented on or before the first day of the month, beginning in October.
Question 6	Due to the extended length of time required for the groundwater remediation project, Snyder Oil Corporation plans to obtain a permanent discharge permit for the Templeton

If you have any questions please call me at (505) 325-1198.

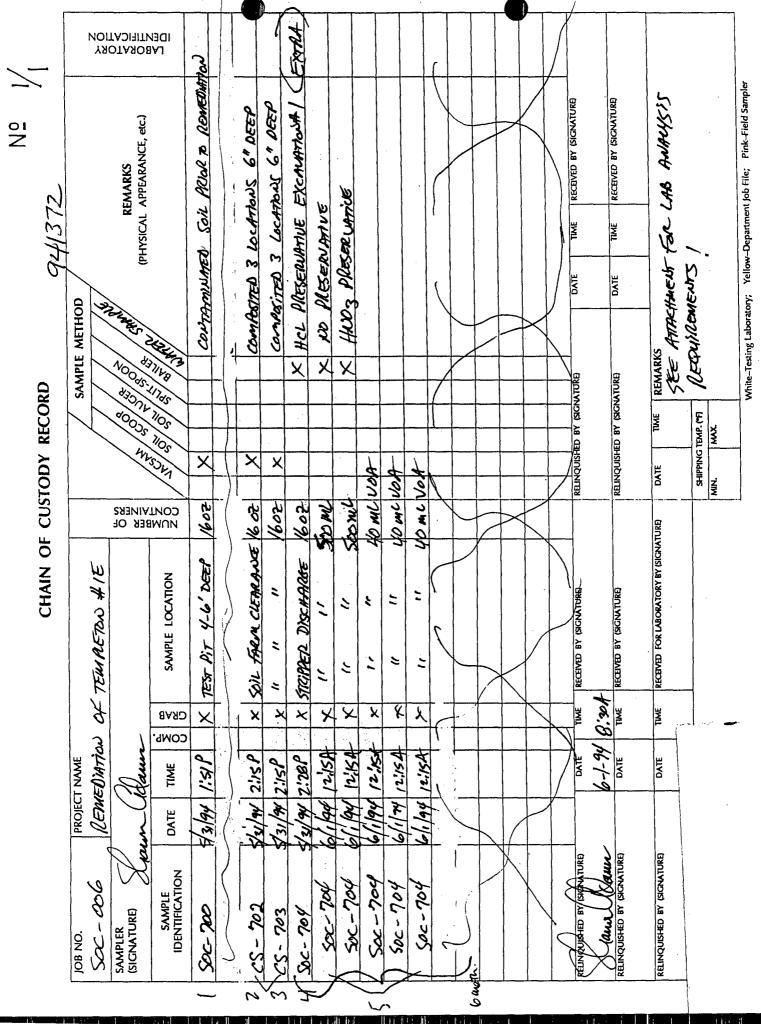
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#1E wellsite.

Sincerel

Shawn A. Adams Contract Environmental Services, Inc.

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Core Laboratories

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LABORATORY TESTS RESULTS 06/28/94

JOB NUMBER: 941372 CUSTOMER: BUCHANAN CONSULTANTS, LTD.

ATTN: SHAWN A. ADAMS

CLIENT I.D...... REMEDIATION OF TEMPLETON #1E DATE SAMPLED...... 06/01/94 TIME SAMPLED...... 12:15 WORK DESCRIPTION...: SOC-704

LABORATORY I.D...: 941372-0004 DATE RECEIVED...: 06/02/94 TIME RECEIVED...: 09:45 REMARKS.....

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN			
Bicarbonate (Unfilt.)	284	5	mg/L	403 (3)	06/14/94	KDS			
Carbonate (Unfilt.)	<1	1	mg/L	403 (3)	06/14/94	KDS			
Chloride (Unfilt.)	328	1	mg/L	325.2 (1)	06/21/94	DME			
Hydroxide (Unfilt.)	<1	1	mg/L	403 (3)	06/14/94	KDS			
pH (Unfilt.)	6.50	0.01	pH Units	150.1 (1)	06/14/94	KDS			
Sulfate (Unfilt.)	2860	200	mg/L	375.2 (1)	06/20/94	DME			
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	I		107/	1 	l				
	10703 East Bethany Drive Aurora, CO 80014 (303) 751-1780								

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Core Laboratories

LABORATORY TESTS RESULTS 06/28/94

JOB NUMBER: 941372

DEC.

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CUSTOMER: BUCHANAN CONSULTANTS, LTD.

ATTN: SHAWN A. ADAMS

REMARKS.....

LABORATORY I.D...: 941372-0005 DATE RECEIVED...: 06/02/94 TIME RECEIVED...: 09:45

CLIENT I.D.....: REMEDIATION OF TEMPLETON #1E DATE SAMPLED.....: 06/01/94 TIME SAMPLED.....: 12:15 WORK DESCRIPTION...: SOC-704

FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
l · -		france encoded and a contract of the contract			000000000000
73.45	1	meq/l		06/27/94	RIF
1.97				06/27/94	RIF
74.91	1	meq/l		06/27/94	RIF
<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
<0.005	0.005	mg/L	6010 (2)	06/07/94	GAG
400	1	mg/L	6010 (2)	06/07/94	GAG
<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
<0.0002	0.0002	mg/L	7470 (2)	06/17/94	LMT
292	1	mg/L	6010 (2)	06/07/94	GAG
6.7	0.1	mg/L	6010 (2)	06/07/94	GAG
<0.1	0.1	mg/L	6010 (2)	06/07/94	GAG
<0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
707	10	mg/L	6010 (2)	06/07/94	GAG
	*1		8020 (2)	06/03/94	JHT
1.1 10 1.5 28 101 1602 ND	0.5 0.5 0.5 0 5	ug/L ug/L ug/L ug/L % Recovery ug/l	Limit (85-115) 8270 (2)		
	 	Aur	ora, CO 80014		
	74.91 <0.05 <0.01 <0.005 400 <0.01 <0.05 <0.0002 292 6.7 <0.1 <0.01 707 1.1 10 1.5 28 101 1602	74.91 1 <0.05 0.05 <0.01 0.01 <0.005 0.005 400 1 <0.005 0.005 400 1 <0.01 0.01 <0.05 0.05 <0.002 0.0002 292 1 6.7 0.1 <0.1 0.1 <0.1 0.1 <0.01 0.01 707 10 $*1$ 1.5 1.5 0.5 1.5 0.5 101 0 101 0 0.5 0.5 101 0 1602 0	1.97 1 meq/l <0.05	1.97 1 meq/l <0.05	1.97 1 mcq/l 06/27/94 74.91 1 mcq/l 6010 (2) 06/27/94 <0.05

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgment of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitableness of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced except in its entirety, without the written approval of Core Laboratories.

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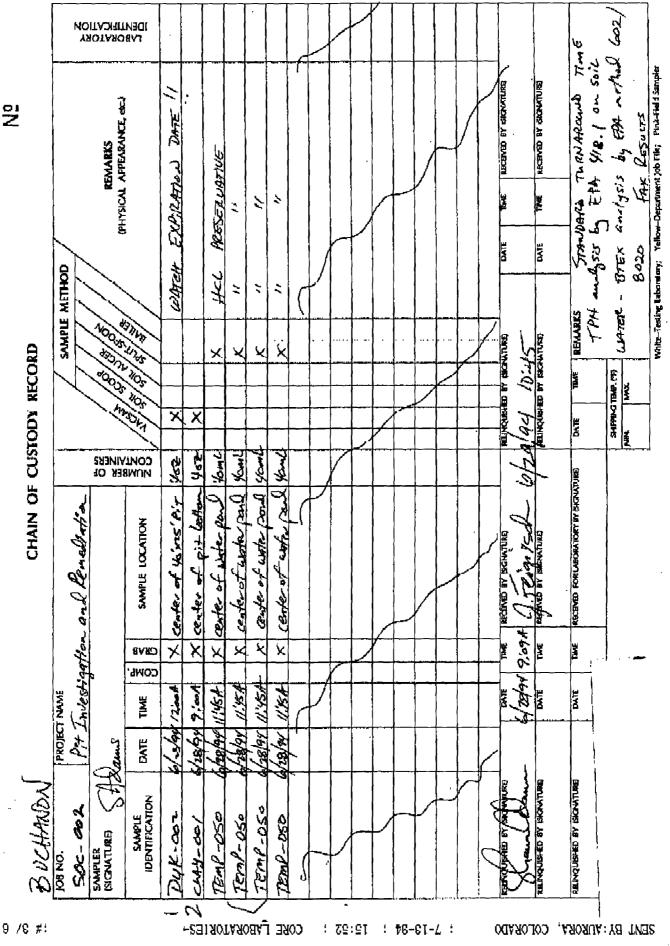


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FOR Bill Olfo	m
DATE 8-30-94	A. TIMEP.
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	LABORATO	RY TESTS 07/13/94				
JOB NUMBER: 34 1008	UCHANAN CONSUL	YANTS, LTD.	April N - and	HAVN (A.U.ADANŠGO) (COS)	1960 - 1960 1960 - 1960 1960 - 1960	
CLIENT I.D: SOC-002 LABORATORY I.D: 941608-0003 DATE SAMPLED: 06/28/94 DATE RECEIVED: 06/29/94 TIME SAMPLED: 11:45 TIME RECEIVED: 10:45 MORK DESCRIPTION: TEMP-050 REMARKS						
TESTI DESCRIPTION	ÊÎNAL RESULT	LIN ITS /* PILUTION	LINITS OF MEASURE	tegt method	DATE	TECH
8020 - AROMATIC VOLATILE ORGANICS		*10		8020 (2)	07/13/94	1 HL
Benzene Toluene Ethyl benzene Xylenes 4-Bromofluorobenzene (surrogate) Time Analyzed	10 200 ND 1100 102 0959	5 5 5 5 0 0	ug/L ug/L ug/L ug/L % Recovery	85-115% Linit		
			Auro)3 East Bethany Drive Dra, CO 80014 \$) 751-1780		

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The analyses, opinions or Integratedions confidence in this operations and autority supplied by the stient for whole a churk want comformal use his report for boot made. The integrations and provide the production of the productivity prover aperations or principle support two based pages of the based page of the based pages of the bas

OL CONSERVE ON DIVISION RED VED 794 JUN 23 AM 8 50



June 20, 1994

Mr. Bill Olsen New Mexico Oil Conservation Division Post Office Box 2088 Santa Fe, New Mexico 87504-2088

Dear Mr. Olsen:

As discussed in our telephone conversation of June 15, 1994 Snyder Oil Corporation would like to make formal notification to the New Mexico Oil Conservation Division (NMOCD) to transfer water from the excavation on the Templeton 1E Sec27 T31N R13W and take it to other earthen pits where bio products have been added. This water will provide necessary moisture for the microbial activity to continue. The water has been treated through the air stripper on location and returned to the excavation.

We anticipate treating several pits in the area with this water source to include: the Government Arnstein 1 Sec18 T31N R12W, the Jacques 1 Sec2 T31N R13W, the Duke 1M Sec13 T31N R13W. Our crews will begin delivering on Friday, June 17, 1994. Periodically, as the pits dry out, additional water may be added to maintain current moisture levels. I am also attaching current laboratory analyses of the discharged water from the air stripper for your review. If you have questions or comments, please don't hesitate to contact us at (505) 632-8056.

Sincerely,

Chester L. Deal Superintendent Snyder Oil Corporation

n Adams for Snyder Oil Corp. Verbilly approved ice by Dinmy Foust OCD Arter Office on 6/16/94

cc: Mr. Denny Foust, Aztec NMOCD Office

Mr. Don Ellsworth, BLM Farmington Office

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LABORATORY 1.D...: 941372-0004

Core Laboratories

LABORATORY TESTS RESULTS 06/21/94

JOB NUMBERS OF TATE AND THE GREENERS BUCHANAN CONSULTANTS, LTD.

CLIENT I.D.....: REMEDIATION OF TEMPLETON #16 DATE SAMPLED..... 05/31/94 TINE SAMPLED..... 14:28 WORK D

DATE SAMPLED: 05/31/94 TIME SAMPLED: 14:20 WORK DESCRIPTION: SOC-704	IEMMLEIUN NIC	LABORATORY 1.D: 941372-0004 DATE RECEIVED: 06/02/94 TIME RECEIVED: 09:45 REMARKS					
TEST DESCRIPTION	FINAL RESULT	UINITS/ TOILUTION	UNITS OF MEASURE	TEST METHOD	DATE	-Tech	
Bicarbonate (Unfilt.)	284	5	mg/l	403 (3)	06/14/94	KDS	
Carbonate (Unfilt.)	<1	1	mg/L	403 (3)	06/14/94	ЮS	
Chloride (Unfilt.)	328	1	mg/L	325.2 (1)	06/21/94	DME	
Hydroxide (Unfilt.)	×1	1	ug/L	403 (3)	06/14/94	ktös	
pH (Unfilt.)	6,50	o.on	pH Units	150.1 (1)	06/14/94	KD S	
Sulfalm (Dofill.)	2860	200	mg/L	375.2 (1)	08/20/94	UME	
				3 East Bethany Drive ra, CO 80014			

Aurora, CO 80 (303) 751-1780

PAGE:4

The analysiss, ophicing or interpretations contained in this report we below pure absorvations and material supplied by the client for whope we were and contained use this report has been these. The many various approaches provide the client for whope we were and contained use this report has been these. even the best judgment of Calls Udjacedures. Care Laborations, however, essures no responsibility and maters no warranty of representatione, sequences or intellect, as to the productivity, proper operations, or prof laborated or end of ges, coal or after minorial property, and is participant amon with which such report to 1860 or relied upon for any reason stratages. The report shall not be reproduced ascept to its antiroly, without the weight approval of Care Laboratories

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Core Laboratories

LABORATORY TESTS RESULTS 06/21/94

LABORATORY I.D:	941372-0005
DATE RECEIVED:	06/02/94
TIME RECEIVED:	09:45
REMARKS:	•

TEST DESCRIPTION	FINAL RESULT	L'INITS/ADILUTION	UNITS OF MEASURE	TEST METHOD	date	
Arsenic, fotal (As)	<0.05	0.05	ng/L	6010 (2)	06/07/94	GAG
Bariun, Total (Ba)	<0.01	0.01	ng/L	6010 (2)	06/07/94	gag
Cadmium, Total (Cd)	<0.005	0.005	mg/L	6010 (2)	06/07/94	GAG
Calcium, Total (Ca)	400	1	mg/L	6010 (2)	06/07/94	GAG
Chronium, Total (Cr)	<0.01	0.01	mg/L	6010 (2)	06/07/94	GAC
Lead, Total (Pb)	<0.05	0.05	mg/L	6010 (2)	06/07/94	GAG
Mercury, Total (Hg)	<0.0002	0.0002	mg/L	7470 (2)	06/17/94	UNT
Magnesium, Total (Ng)	292	1	mg/L	6010 (2)	06/07/94	GAD
Potassium, Totel (K)	6.7	0.1	mg/L	6010 (2)	06707794	GAG
Scienium, Total (Se)	<0,1	0.1	mg/L	6010 (2)	06/07/94	GAG
Silver, Total (Ag)	≪0.01	0.01	mg/L	6010 (2)	06/07/94	GAG
Sudium, Total (Na)	707	10	mg/L	4010 (2)	06/07/94	GAG
8020 - AROMATIC VOLATILE ORGANICS		*1		8020 (2)	06/03/94	JHT
Benzene Toluene Ethyl benzene Xylenes 4-Bromofluorobenzene (surrogate) Time Analyzed Wophthalene	1.1 10 1.5 28 20.2 1602 ND	0.5 0.5 0.5 0 0 5	ug/l ug/l ug/l W Recovery ug/l	Limīt (85-115) 8270 (2)		
	·		Auro	/ J3 East Bethany Drive Dra, CD 80014 S) 751-1780	h Anges hannes	

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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING GOVERNOR

May 23, 1994

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504 (505) 827-5800

ANITA LOCKWOOD CABINET SECRETARY

> CERTIFIED MAIL RETURN RECEIPT NO. P-111-334-114

Mr. Chester L. Deal Superintendent Snyder Oil Corporation P.O. Box 2038 Farmington, New Mexico 87499

RE: TEMPORARY DISCHARGE AUTHORIZATION FOR GROUND WATER REMEDIATION TEMPLETON #1E WELL SITE SNYDER OIL CORPORATION

Dear Mr. Deal:

The New Mexico Oil Conservation Division (OCD) has completed a review of Snyder Oil Corporation's (SOC) May 20, 1994 request for authorization to temporarily discharge air stripper effluent into a trench system at SOC's Templeton #1E located in the NW 1/4, NE 1/4 of Section 27, T31N, R13W NMPM San Juan County, New Mexico. The air stripper effluent results from the treatment of contaminated ground water related to prior disposal practices at the Templeton #1E well site. SOC requests this temporary discharge authority for a period of 120 days. Ground water in the vicinity is at a depth of approximately 3 feet and has a total dissolved solids of approximately 2500 mg/1.

Pursuant to New Mexico Water Quality Control Commission (WQCC) Regulation 3-106.B. you are hearby authorized to discharge without an approved discharge plan until September 21, 1994 with the following conditions:

- 1. The initial air stripper effluent sampling will also include an analysis for concentrations of polynuclear aromatic hydrocarbons.
- 2. SOC will submit the results of the initial sampling of the air stripper effluent to OCD upon receipt from the laboratory.

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Mr. Chester L. Deal May 23, 1994 Page 2

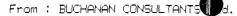
- 3. After the initial water quality sampling event, SOC will analyze the air stripper effluent on a monthly basis for benzene, toluene, ethylbenzene and xylene.
- 4. SOC will meter the inlet line to the air stripper such that the volume of ground water treated can be monitored.
- 5. On first day of each month, SOC will provide OCD with a report containing the analytical results of the air stripper effluent quality monitoring and the volume treated.
- 6. If SOC plans to continue operation of the air stripper after September 21, 1994, SOC will submit a WQCC discharge plan application to the OCD for approval.

Please be advised that OCD authorization does not relieve you of liability should your operation result in actual pollution of surface waters, ground waters or the environment which may be actionable under other laws and/or regulations. In addition, this authorization does not relieve you of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions please, contact William Olson of my staff at (505)827-5885.

Sincerely, William J. LeMay Director

xc: OCD Aztec Office) Shawn A. Adams, Buchanan Consultants, Ltd.



PHONE No. : 505 327 2485

May 20, 1994

New Maxico Oil Conservation Division Mr. Denny Foust 1000 Rio Brazos Rd. Aztec, New Mexico 87410

CORRECTED

Dear Mr. Foust,

Snyder Oil Corporation (SOCO) is pleased to present the following Soil And Groundwater Remediation Plan for the Templeton #1E, Sec 27, T31N, R13W, footages 890'FNL 1820' FEL. An investigation performed by Envirotech, Inc. last year indicated that soil Total Petroleum Hydrocarbons (TPH) level was found to be 160 PPM at three feet below ground surface and water Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) at this same depth indicated 35.5 PPB, 27.1 PPB, 36.8 PPB, and 135.5 PPB respectively. This data was collected from their T1 test pit located within the large earthen pit currently on location. The approximate location of the T1 test pit is indicated by the large black dot on the site plan.

A more recent investigation performed by Buchanan Consultants, Ltd. revealed the following information:

Photo-ionization Detector Data

Test Pit	#1	Test	Pit /	#2	Test Pit	#3	
Depth	PPM	Depth		PPM	Depth	PPM	
*******	*********	******	****	*******	********	*****	********
2'	499	2'		328	2'	411	
4'	623	4'		437	4 '	515	
6'	482	6'		406	61	448	
8'	493	81		481	81	508	
Water BT	EX Data						
Test Pit	#1			Test Pit	#1 (Repeat	.)	
Benzene		1530	PPB	Benzene		1100	PPB
Toluene		1920	PPB	Toluene		870	PPB
Ethylben	zene	3650	PPB	Ethylbenz	ene	1070	PPB
Total Xy		42600		Total Xyl		11510	PPB
Test Pit	#2			Test Pit	#3		
Benzene		705	PPB	Benzene		48	PPB
Toluene		89	PPB	Toluene		1670	PPB
Ethylben	2000			Ethylbenz	ene	713	PPB
Total Xy		8630		Total Xyl		6810	

This investigation was performed in accordance with the site map attached and addressed a slightly different area of the location as compared to the previous survey.

Plan For Remediation

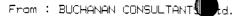
Snyder Oil Corporation plans to address the soil remediation issue and treat the contamination by soil farming on location. Trenches will be excavated approximately ten feet wide across the location with the removed soils being distributed evenly to an approximate thickness of 6" to 12". The soils will be periodically disced or tilled to accelerate the volatilization of hydrocarbons present. Definition of the soil contamination plume will be accomplished as the excavation progresses. Monitoring of the soils using a Photo-Ionization Detector (PID) will be performed periodically. Once the soil has remediated to the point of indicating less than 100 PPM on the meter, a composite soil sample will be taken from the soil farm to have a TPH analysis performed. Once laboratory analysis indicates acceptable contamination concentrations in accordance with NMOCD Guidelines, the soil will be backfilled into the trench.

In areas where there is surface equipment present such as tanks, seperators, dehydrators, wellheads, meterhouses, etc... that prevents excavation at a reasonable cost, we plan to use a bio product to remediate the soils contaminated that underlye these equipment. This product (BC-109) will be mixed on location and then injected into the underlying soils using a water pressure washer.

Groundwater that fills the trenches will be circulated through an air stripper. We have attached literature from the air stripper and a Material Safety Data Sheet (MSDS) on a possible bioremediation product and common fertilizer. If products or equipment vary from those mentioned in this plan, similar information will be provided prior to their use in the field. If bioremediation and or fertilizer is selected, a trash pump will be used to circulate the water within the trench to complete mixing and to add oxygen. As the excavation continues and other trenches are opened, the trench water will be treated in the same manner for each excavation.

At the completion of the soil remediation, monitoring wells will be installed to determine the remaining contamination present in the water. If necessary, the water will be extracted from the monitoring wells and continually processed through an air stripper to achieve remediation. All waters treated will be replaced into the subsurface to assist in the soil washing process. Extraction and replacement will be setup in a manner that flushes through the zone of contamination as determined by plume definition. Once the contamination levels are reduced to acceptable standards, the groundwater remediation will cease. Monitoring of the water will continue for a designated period following remediation.

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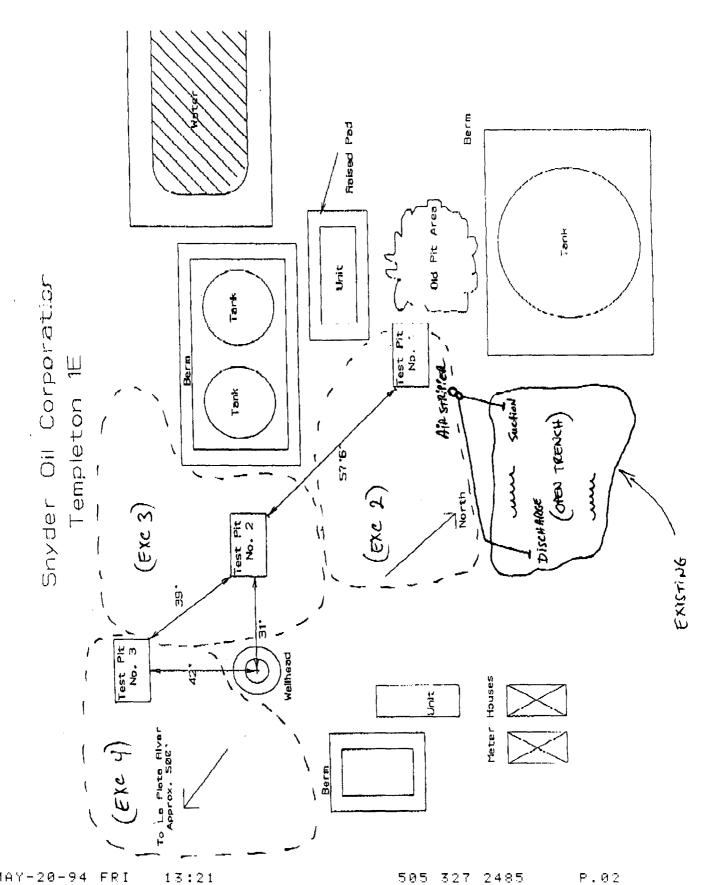


Temporary fencing will be installed around each trench to keep livestock out and to prevent the danger of people falling into the trench itself. If the area excavated is too large to fence, the banks will be properly sloped in accordance with OSHA standards.

Proper documentation of all activities will be presented to the NMOCD for review as the project proceeds.

505 327 2485

PHONE No. : 505 327 2485



MAY-20-94 FRI

505 327 2485

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May 20, 1994

New Mexico Oil Conservation Division Mr. Bill Olsen 310 Old Santa Fe Trail Room 215 Santa Fe, New Mexico 87501

Dear Mr. Olsen,

Snyder Oil Corporation would like to request that we be allowed to withdraw water from several excavation trenches, filter it through an air stripper and then discharge (without a permit) the cleaned water from the air stripper into the opposite sides of each trench. This would circulate and clean the water within the trench until it is sufficiently remediated. Each excavation will be open for a period of approximately 30-45 days while the soils are being remediated using landfarm techniques.

We understand that this temporary permit to discharge would be valid for a period of 120 days. We are expecting to operate the air stripper on 3-5 day schedules every other week. Each open trench will be treated with the same process as we move across the location throughout the remediation.

The water would be properly analyzed prior to and following the treatment through the air stripper. Initially, the water would be tested in accordance with Water Quality Control Commission regulations to include pH, BTEX, Metals, Major Cations, and Major Anions. Following this initial testing, the water would be analyzed for BTEX only.

We plan to initiate treatment of the water on Monday the 23rd or Tuesday the 24th of May. If you have questions or comments, please don't hesitate to contact us at (505) 632-8056 or stop by our offices at 5802 U.S. Highway 64, Farmington.

Sincerely,

Sham Cour for Snyder Oilloy.

Chester L. Deal Superintendent Snyder Oil Corporation STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING GOVERNOR

May 18, 1994

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICD 875D4 (505) 827-5800

ANITA LOCKWOOD CABINET SECRETARY

CERTIFIED MAIL RETURN RECEIPT NO. P-111-334-108

Mr. Chester L. Deal Superintendent Snyder Oil Corporation P.O. Box 2038 Farmington, New Mexico 87499

RE: GROUND WATER CONTAMINATION REMEDIATION PLAN TEMPLETON #1E WELL SITE SNYDER OIL CORPORATION

Dear Mr. Deal:

The New Mexico Oil Conservation Division (OCD) is in the process of reviewing Snyder Oil Corporation's April 8, 1994 Templeton #1E well site ground water remediation plan which was received by the OCD Santa Fe Office on May 16, 1994. This document contains Snyder Oil's proposed work plan to remediate ground water contamination related to unlined production pit disposal practices at Snyder Oil's Templeton #1E well site.

The ground water remedial concepts presented in this document are acceptable. However, the OCD has the following comments, questions and requests for information regarding the above referenced document:

- 1. The work plan proposes to treat contaminated ground water in excavated trenches by one of three different methods. Please clarify exactly which method is to be used and how it will be implemented.
- 2. One of the proposed remedial actions includes the addition of fertilizers to ground water to promote bioremediation. If this option is to be used, please provide the OCD with the composition of the fertilizers.
- 3. Please provide the OCD with the construction specifics and locations of the monitor wells which are proposed to be installed upon completion of the soil remedial work.

Mr. Chester L. Deal May 18, 1994 Page 2

4. Please provide the OCD with a plan for sampling and monitoring ground water quality from the proposed monitor wells.

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5. Please be aware that New Mexico Water Quality Control Commission (WQCC) regulations require that any discharge directly or indirectly into ground water of an effluent or water contaminant which exceeds the WQCC ground water standards be permitted under the discharge plan provisions of Part 3 of the WQCC regulations. This includes ground water discharges related to remedial actions.

Submission of the above information will allow the OCD to complete a review of this ground water remediation plan. If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson Hydrogeologist Environmental Bureau

xc: OCD Aztec Office Shawn A. Adams, Buchanan Consultants, Ltd. April 8, 1994



MAY 1 6 1994

New Mexico Oil Conservation Division Mr. Denny Foust 1000 Rio Brazos Rd. Aztec, New Mexico 87410

OIL CONSERVATION DIV. SANTA FE

Dear Mr. Foust,

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Snyder Oil Corporation (SOCO) is pleased to present the following Soil And Groundwater Remediation Plan for the Templeton #1E, Sec 27, T31N, R13W, footages 890'FNL 1820' FEL. An investigation performed by Envirotech, Inc. last year indicated that soil Total Petroleum Hydrocarbons (TPH) level was found to be 160 PPM at three feet below ground surface and water Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) at this same depth indicated 35.5 PPB, 27.1 PPB, 36.8 PPB, and 135.5 PPB respectively. This data was collected from their T1 test pit located within the large earthen pit currently on location. The approximate location of the T1 test pit is indicated by the large black dot on the site plan.

A more recent investigation performed by Buchanan Consultants, Ltd. revealed the following information:

Photo-ionization Detector Data

Test Pit #	'1	Test P	it #2	Test	Pit #3	
Depth ********	PPM ********	Depth *******	PPM *******	Dept ********	h PPM *********	*****
2'	499	2'	328		411	
4 '	623	4'	437	4 '	515	
6'	482	6'	406	6'	448	
8'	493	8'	481	8'	508	
Water BTE			meet	Dit #1 (D	anost)	
Test Pit #	· T		Test	Pit #1 (R	epeat)	
Benzene		1530 P	PB Benzo	ene	1100	PPB
Toluene			PB Tolu	ene	870	PPB
Ethylbenze	ene			lbenzene	1070	PPB
Total Xyle				l Xylenes		PPB
Test Pit #	⁴ 2		Test	Pit #3		
Benzene		705 P				PPB
Toluene		89 P			1670	
Ethylbenze	ene	887 P	PB Ethy	lbenzene	713	PPB
Total Xyle	enes	8630 P	PB Tota	l Xylenes	6810	PPB

This investigation was performed in accordance with the site map attached and addressed a slightly different area of the location as compared to the previous survey.

Plan For Remediation

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Groundwater that fills the trenches will be treated with either a bioremediation product and/or fertilizer or circulated through an air stripper. We have attached literature from the air stripper and а Material Safety Data Sheet (MSDS) on а possible bioremediation product and fertilizer. If products or equipment vary from those mentioned in this plan, similar information will be provided prior to their use in the field. If bioremediation and\or fertilizer is selected, a trash pump will be used to circulate the water within the trench to complete mixing and to add oxygen. As the excavation continues and other trenches are opened, the trench water will be treated in the same manner for each excavation.

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Proper documentation of all activities will be presented to the NMOCD for review as the project proceeds.

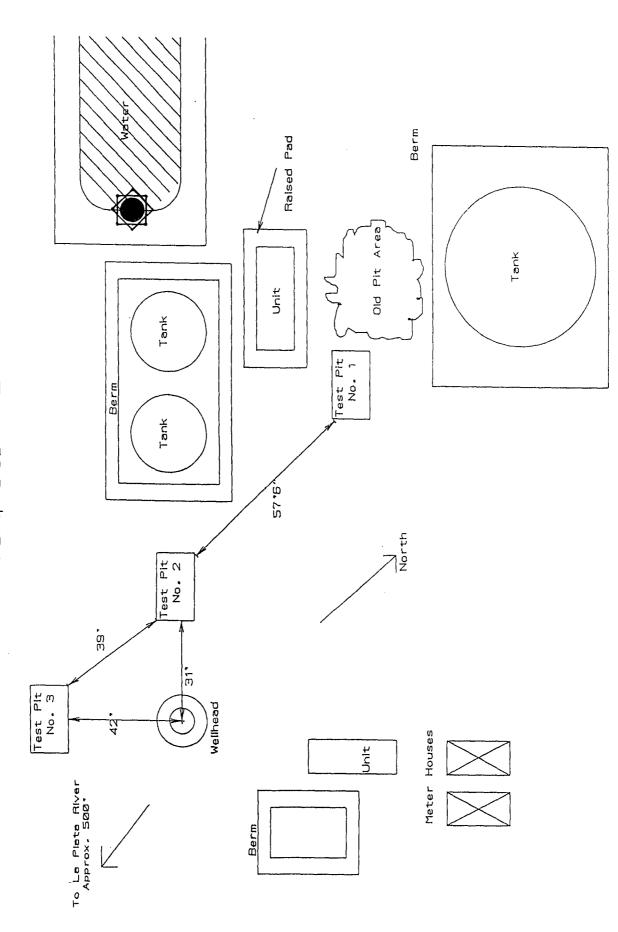
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Snyder Oil Corporation Templeton 1E

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VOLATILE AROMATIC HYDROCARBONS

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Snyder Oil Corporation

Project ID: Sample ID: Lab ID: Sample Matrix: Condition:

Water Investigation SOCO-001 A 4938 Water Cool/Intact

Report Date:	03/28/94
Date Sampled:	03/15/94
Date Received:	03/16/94
Date Extracted:	NA
Date Analyzed:	03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	1,530	1.0
Toluene	1,920	1.0
Ethylbenzene	3,650	1.0
m,p-Xylenes	25,900	1.0
o-Xylene	16,700 ·	1.0

ND - Analyte not detected at the stated detection limit.

WII MIL HI

Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Toluene-d8	116.0	88 -110%
	Bromofluorobenzene	130.2	86 -115%
Reference:	Method 5030, Purge a	and Trap; Method 8020, Arc	omatic Volatile Organics; Tes

est Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments: *Surrogate recoveries outside of limits, concentrations estimated.

Analyst

Review

2506 W. Main Streut Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Snyder Oil Corporation

Project ID: Sample ID: Lab ID: Sample Matrix: Condition:

Water Investigation SOCO-001 C 4939 Water Cool/Intact

Report Date:	03/28/94
Date Sampled:	03/15/94
Date Received:	03/16/94
Date Extracted:	NA
Date Analyzed: -	03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	1,100	0.2
Toluene	870	0.2
Ethylbenzene	1,070	0.2
m,p-Xylenes	6,640	0.2
o-Xylene	4,870	0.2

ND - Analyte not detected at the stated detection limit.

NILLER M

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Toluene-d8*	117.2	88 -110%
	Bromofluorobenzene	102.2	86 -115%
Reference:	*	nd Trap; Method 8020, Aromatic g Solid Wastes, SW-846, United ptember 1986.	

*Toluene-d8 surrogate recovery high due to background interferences. Comments:

Austin back Analyst

Review

2506 W. Main Street Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Snyder Oil Corporation

Project ID: Water Investigation Report Date: 03/28/94 Sample ID: SOCO-002 A Date Sampled: 03/15/94 Lab ID: 4940 Date Received: 03/16/94 Sample Matrix: Water Date Extracted: NA Condition: Cool/Intact Date Analyzed: 03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	705	0.2
Toluene	88.7	0.2
Ethylbenzene	887	0.2
m,p-Xylenes	6,640	0.2
o-Xylene	1,990	0.2

ND - Analyte not detected at the stated detection limit.

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Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Toluene-d8	104.8	88 -110%
	Bromofluorobenzene	101.7	86 -115%
Reference:	·	•	matic Volatile Organics; Test Inited States Environmental

Protection Agency, September 1986.

Comments:

Analyst



Inter Mountain Laboratories, Inc.

2506 W. Main Street Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Snyder Oil Corporation

Project ID: Sample ID: Lab ID: Sample Matrix: Condition:

Water Investigation SOCO-003 A 4941 Water Cool/Intact

Report Date:	03/28/94
Date Sampled:	03/15/94
Date Received:	03/16/94
Date Extracted:	NA
Date Analyzed:	03/22/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	48.2	0.2
Toluene	1,670	0.2
Ethylbenzene	713	0.2
m,p-Xylenes	4,960	0.2
o-Xylene ·	1,850	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	Percent Recovery	Acceptance Limits
	Toluene-d8	105.0	88 -110%
	Bromofluorobenzene	102.6	86 -115%

Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Reference: Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

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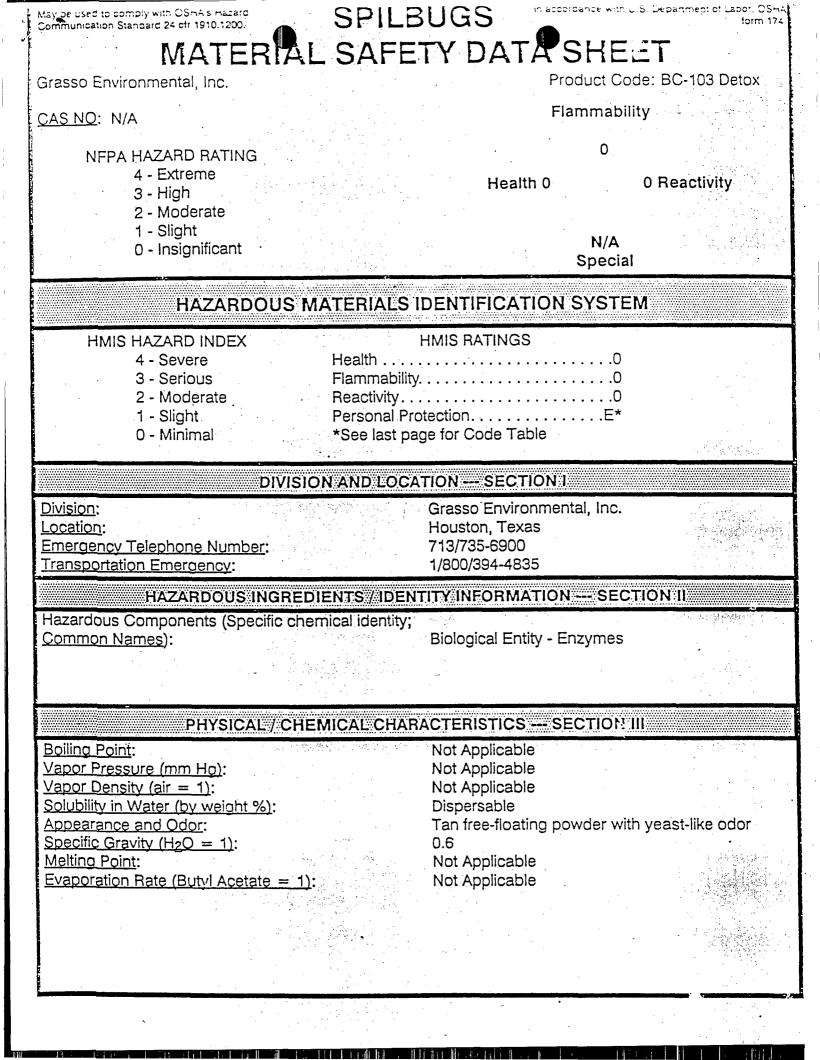
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Analyst

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CONSULTANTS, LTD. Nº 1/2.	SAMUE METHOD SAMUE META SAMUE META	
BUCHANAN CONSUL CHAIN OF CUSTODY RECORD	CONTAINERS	



FIRE AND EXPLOSION	DATA SECTION IV		
Flash Point:	None		
Flammable Limits:	Not Applicable		
<u>Extinguishing Media</u> :	Foam, CO ₂ , Dry chemical, wat		
Special Fire Fighting Procedures:	None		
Unusual Fire and Explosion Hazards:	None		
REACTIVITY DAT	A SECTION V		
<u>Stability</u> :	Stable		
Incompatibility:	None apparent		
Hazardous Decomposition, or Byproducts:	None known		
Hazardous Polymerization:	Will not Occur		
HEALTH HAZARDOUS DATA / IDEN	TITY INFORMATION SECTION VI		
Routes of Entry:	Inhalation? yes Skin? no Ingestion? yes		
Health Hazards (Acute and Chronic):	Not Applicable		
Carcinogenicity:	None Known		
Signs and Symptoms of Exposure:	Not Applicable		
Medical Conditions Generally Aggravated by Exposure:	None, observe 24-48 huors for development of allergic symptoms.		
Emergency and First Aid Procedures:	INHALATION:Move subject to fresh air.INGESTION:Drink large quantities of water Contact physician if intestinal		
	upset persists. EYE CONTACT: Flush thoroughly with water for 15 minutes.		
PRECAUTIONS FOR SAFE HANDLING AND USE SECTION VII			
Steps to be taken in case material is released or spilled:	Sweep up spill, keeping dust to a minimum.		
Waste Disposal Method:	May be added directly to waste treatment system or flushed down drain with water.		
B			

T	PRECAUTIONS FOR SAFE HAI	NDLING AND USE SECTION VII
Precautions t	o be taken in hand and storage:	Store in dry plate with adequate ventilation at ambient temperature. Maintain good
		housekeeping. Avoid creating dust. DO NOT INGEST!!

Other Precautions:

None Known

CONTROL MEASURES --- SECTION VIII

Respiratory Protection (specify type):

Ventilation:

Protective Gloves:

Eve Protection:

Other Protective Clothing or Equipment:

Work/Hygienic practices:

NICSH approved particulate dust mask

Local exhaust if dusty conditions prevail

Cotton, canvas, or rubber

Safety glasses

Eye wash facility

Exposed employees should excercise reasonable personal cleanliness! This means cleaning exposed skin area several times daily with soap and water and laudering soiled clothing.

Prepared by: Date:

GRASSO ENVIRONMENTAL, INC. February 7, 1992



Delta Cooling Towers, Inc. 134 Clinton Road P. O. Box 952 Fairfield, New Jersey 07004-2970 Telephone 201/227-0300 Fax 201/227-0458

Delta Cooling Towers

July 1992

TECHNICAL SPECIFICATIONS DELTA VANGUARD AIR STRIPPERS (FORCED DRAFT TYPE)

Delta Air Strippers are designed to remove volatile organic chemicals and certain other substances from water.

A blower, ducted into the sump plenum provides air at a slight positive pressure and forces it to flow upward against the downward trickling water. This is a countercurrent forced draft design.

As the air passes over the water, spread over the packing surface as a thin film, the molecules of contaminant cross the air/water interface and enter the air stream. The air then exits the column either to atmosphere or to some means of vapor phase remediation process.

Delta VANGUARD[•] Air Strippers possess known, predetermined stripping performance and operational characteristics based upon field test data obtained from independent sources.

Stripper shell. The shell material is a hand lay-up FRP isophthalic polyester resin of sufficient thickness to withstand the specified operating conditions, as well as external loads imposed from earthquake Zone 4 and 120 mile/hour wind loading. Guy wiring is standard; free-standing design is available as an option. The shells are designed using the ASME/ANSI RTP-1-1989 Rev. 1991 Standards as a guide.

<u>Treated water collection sump</u> is integral with lower part of the shell, forming a one piece, seamless component. The sump is provided with outlet and other required connections, and incorporates a blower duct for air supply to the stripper. Access and inspection port is provided in the sump plenum.

<u>Connections</u> (outlet, inlet and others) are constructed of FRP and are fully gasketed with neoprene gaskets. 3ⁿ and larger connection sizes are flanged (150# flanges), smaller than 3ⁿ size connections are NPTF. All flanges up to and including 4ⁿ are gussetted.

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Water distribution system is constructed of Type 1 PVC. Uniform water distribution is effected (on Δ S5 Series Air Strippers and smaller) by a single full cone, non-clog PVC spray nozzle which provides uniform water loading to the entire packing surface. The typical nozzle flow turn - down ratio is 2/1. For flows up to 350 GPM the nozzle is threaded into the inlet header with an NPTM thread and can be readily removed and replaced. Nozzles for flows greater than 350 GPM are 6" 150# flange connections.

<u>Packing</u>. Delta-Pak[®], used in all standard stripper models, is a high performance structured packing constructed of Type 1 PVC material protected against UV degradation.

Applicable data below is for air - water atmospheric system:

Surface area:

Void space:

Open cross-section:

Maximum air flow before flooding, at 20 gpm/sq.ft.:

Static pressure loss at 20 gpm/sq.ft. and 500 scfm/ sq.ft. air flow:

Orientation of corrugation:

Nominal corrugation size:

"Channelling" characteristics:

"Clogging" and "fouling" characteristics:

Higher than 98%

Higher than 98%

90 sq. lt./cu.ft.

750sc[m/sq.ft. or higher

0.10 in. W.C./ft. or lower

Vertical ("see - through")

Approx. 3/4 in.

No channeling occurs. Packing construction prevents any radial transfer of mass, due to its spirally wound configuration, Transfer in tangential direction is negligible. No redistribution devices are required.

The absence of any horizontally orientated surfaces reduces accumulation of precipitates and deposition of suspended solids. Most solids including precipitates pass freely through packing along vertical corrugations.

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Standard packing layer heights:

12.6 in. and 6.3 in.

<u>Mist eliminator</u> is Delta AB mist eliminator, constructed of Type 1 PVC material, compounded with carbon black for UV resistance. The eliminator is designed to minimize drift loss to lower than 0.02% of the water flow.

Depth:12 in.Type:Crimped plate, impingement type

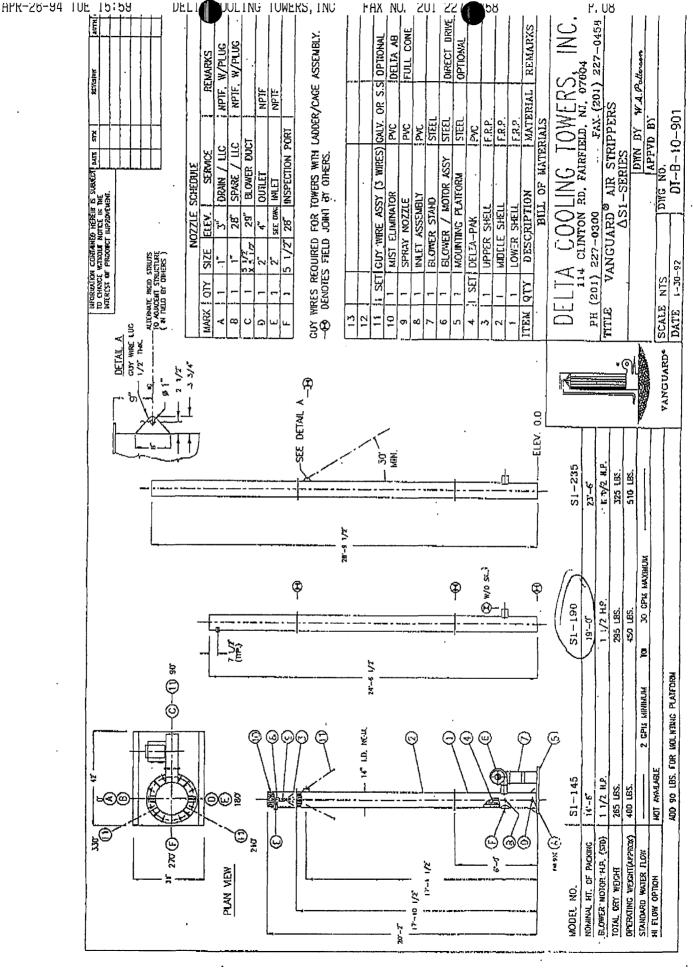
Blower Δ S1 and Δ S1.5 use a cast aluminium/bronze radial bladed wheel. The unit is arrangement 4 and is directly driven by a 3450 RPM motor. Δ S2 uses a backwardly inclined centrifugal blower wheel. The unit is arrangement 10 and is belt driven by a 3450 RPM TEFC motor. Δ S3 through Δ S5 uses an alrfoll blade design for most efficient and quict operation. The unit is arrangement 10 and is belt driven with an 1800 RPM TEFC motor.

<u>Skid</u> used with skid-mounted strippers (an option) is a welded steel frame with 10 ga. plate decking, coated with black air dried phenolic paint.

Fasteners and other hardware: Type 304 SS

Standard features:

- Motors are TEFC design with a minimum 1.15 SF.
- Provided with a motor/drive weather enclosure or guard (Δ S5)
- Belt drive units are provided with vibration isolation and blower to duct neoprene bellows.
- Designed based upon tests made in accordance with ASHRAE Standard 51 and AMCA Standard 210-74, and are licensed to carry the AMCA SEAL.
- Factory dynamically balanced and checked against the acceptable levels on the Rathbone Chart.
- Standard coating is an industrial baked enamel. Other coatings are available and provided based upon AMCA Recommended Practice NO. 2601-66



Air Emmission Calculations For Air Stripper

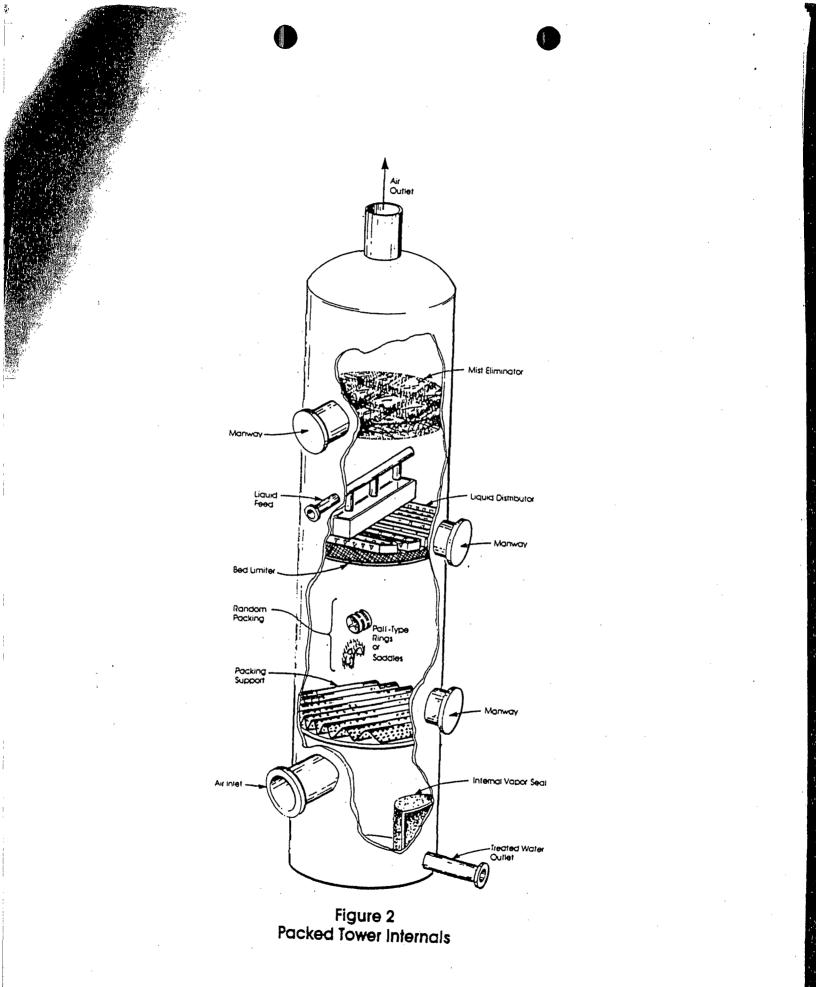
Formula: Gallons Per Minute (Total BTEX) (5 x 10^{-7}) = lbs/hour

			GPM	BTEX	5x10 ⁻⁷	Lbs/Hr	Lbs/Day QG-14/
**** Test			********** 4	*********** 49,700	**************************************	********** 0.0994	2.386
Test	Pit	2	4	14,550	5x10 ⁻⁷	0.0291	0.698
Test	Pit	3	4	9,241	5x10 ⁻⁷	0.0185	0.444
Test	Pit	4	4	10,311	5x10 ⁻⁷	0.0206	0.495
Test	Pit	A	4	129,980	5x10 ⁻⁷	0.2599	6.239
Test	Pit	в	4	355	5x10 ⁻⁷	0.00071	0.017
Test	Pit	с	4	25,460	5x10 ⁻⁷	0.0509	1.222

0.0684 1.643

** Note: These calculations are presented for operation of the air stripper based on continuous twenty-four hour operation. Snyder Oil Corporation plans to operate the air stripper on occasion and for less than twenty-four hours at a time.

** NOTE: CALCULATIONS FOR EMMISSIONS STATED ABOUT CLEARLY FALL WITHIN ENDERENES OF 10 Tons/YEAR STATED IN TITLE THE HAZAADOWS AIR POLLYTANTS ATTACHED.



TITLE III-HAZARDOUS AIR POLLUTANTS

Section 112 of the Clean Air Act is amended to read as follows:

"SEC. 112. HAZARDOUS AIR POLLUTANTS.

"(a) DEFINITIONS.-For purposes of this section, except subsection (r)-

"(1) MAJOR SOURCE.-The term 'major source' means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.

"(2) AREA SOURCE.-The term 'area source' means any stationary source of hazardous air pollutants that is not a major source. For purposes of this section, the term 'area source' shall not include motor vehicles or nonroad vehicles subject to regulation under title II.

"(3) STATIONARY SOURCE.-The term 'stationary source' shall have the same meaning as such term has under section 111(a).

"(4) NEW SOURCE.-The term 'new source' means a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emission standard applicable to such source.

"(5) MODIFICATION.-The term 'modification' means any physical change in, or change in the method of operation of, a major source which increases the actual emissions of any hazardous air pollutant emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimis amount.

"(6) HAZARDOUS AIR POLLUTANT.-The term 'hazardous air pollutant' means any air pollutant listed pursuant to subsection (b).

"(7) ADVERSE ENVIRONMENTAL EFFECT.-The term 'adverse environmental effect' means any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.

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"(8) ELECTRIC UTILITY STEAM GENERATING UNIT.-The term 'electric utility steam generating unit' means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.

"(9) OWNER OR OPERATOR.-The term 'owner or operator' means any person who owns, leases, operates, controls, or supervises a stationary source.

"(10) EXISTING SOURCE.-The term 'existing source' means any stationary source other than a new source.

"(11) CARCINOGENIC EFFECT.-Unless revised, the term 'carcinogenic effect' shall have the meaning provided by the Administrator under Guidelines for Carcinogenic Risk Assessment as of the date of enactment. Any revisions in the existing Guidelines shall be subject to notice and opportunity for comment.

"(b) LIST OF POLLUTANTS. -

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"(1) INITIAL LIST.-The Congress establishes for purposes of this section a list of hazardous air pollutants as follows:

CAS ni	umber	Chemical name
75070		Acetaldehyde
60355		Acetamide
75058		Acetonitrile
98862		Acetophenone
53963		2-Acetylaminofluorene
107028	8	Acrolein
79061		Acrylamide
79107		Acrylic acid
10713:	1	Acrylonitrile
10705	1	Allyl chloride
92671		4-Aminobiphenyl
62533		Aniline
90040		o-Anisidine
13322:	14	Asbestos
71432		Benzene (including benzene from gasoline)
92875		Benzidine
98077		Benzotrichloride
10044	7	Benzyl chloride
92524		Biphenyl
11781	7	Bis(2-ethylhexyl)phthalate (DEHP)
54288	1	Bis(chloromethyl)ether
75252		Bromoform
10699	0	1,3-Butadiene
15662	7	Calcium cyanamide
10560:	2	Caprolactam
13306:	2	Captan
63252		Carbaryl
75150		Carbon disulfide
56235		Carbon tetrachloride
46358	1	Carbonyl sulfide
12080	9	Catechol
133904	4	Chloramben
57749		Chlordane
77825	05	Chlorine

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20110	Chlonesectic end
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	o-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
	N,N-Diethyl aniline (N,N-Dimethylaniline)
121697	
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (l-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichloroethane)
107211	
	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
7783064	Hydrogen sulfide

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123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroaniline)
	Methylene chloride (Dichloromethane)
75092	
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
127184 7550450	Tetrachloroethylene (Perchloroethylene) Titanium tetrachloride
	Titanium tetrachloride Toluene
7550450	Titanium tetrachloride Toluene
7550450 108883	Titanium tetrachloride Toluene 2,4-Toluene diamine
7550450 108883 95807 584849	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate
7550450 108883 95807 584849 95534	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine
7550450 108883 95807 584849 95534 8001352	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene)
7550450 108883 95807 584849 95534 8001352 120821	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene
7550450 108883 95807 584849 95534 8001352 120821 79005	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichloroethane
7550450 108883 95807 584849 95534 8001352 120821 79005 79016	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichloroethane Trichloroethylene
7550450 108883 95807 584849 95534 8001352 120821 79005	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichloroethane Trichloroethylene 2,4,5-Trichlorophenol
7550450 108883 95807 584849 95534 8001352 120821 79005 79016	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichloroethane Trichloroethylene
7550450 108883 95807 584849 95534 8001352 120821 79005 79016 95954	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichloroethane Trichloroethylene 2,4,5-Trichlorophenol
7550450 108883 95807 584849 95534 8001352 120821 79005 79016 95954 88062	Titanium tetrachloride Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichlorobenzene 1,1,2-Trichloroethane Trichloroethylene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol

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540841 108054 593602	2,2,4-Trimethylpentane Vinyl acetate Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide Compounds *1
0	Glycol ethers *2
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers *3
0	Nickel Compounds
0	Polycylic Organic Matter *4
0	Radionuclides (including radon) *5
0	Selenium Compounds

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

*1 X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)2

*2 Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR' where

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH2CH)n-OH. Polymers are excluded from the glycol category.

*3 Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

*4 Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100-C.

*5 A type of atom which spontaneously undergoes radioactive decay.