1R - 271

REPORTS

DATE:

1998

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

November 20, 1998

CERTIFIED MAIL

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

RE: Tatum Pit Closure Project
Fifth Quarterly Progress Report
Sample Date of October 1,1998
Lea County, NM

Dear Mr. Olson:

Please find enclosed additional results from our monitor wells in the subject project area. These results are from water samples taken on October 1, 1998. These samples represent the fifth quarter of monitoring. The total BTEX concentrations continue to decline. The Vera and Iva Com monitor wells now have at least four consecutive quarters of acceptable concentrations. We will continue to analyze water samples quarterly from the other monitor wells.

If you have any questions, please call me at (303) 293-9379.

Very truly yours,

Larry G. Sugano
Vice President - Engineering

cc: NMOCD Hobbs District Office

Enclosures

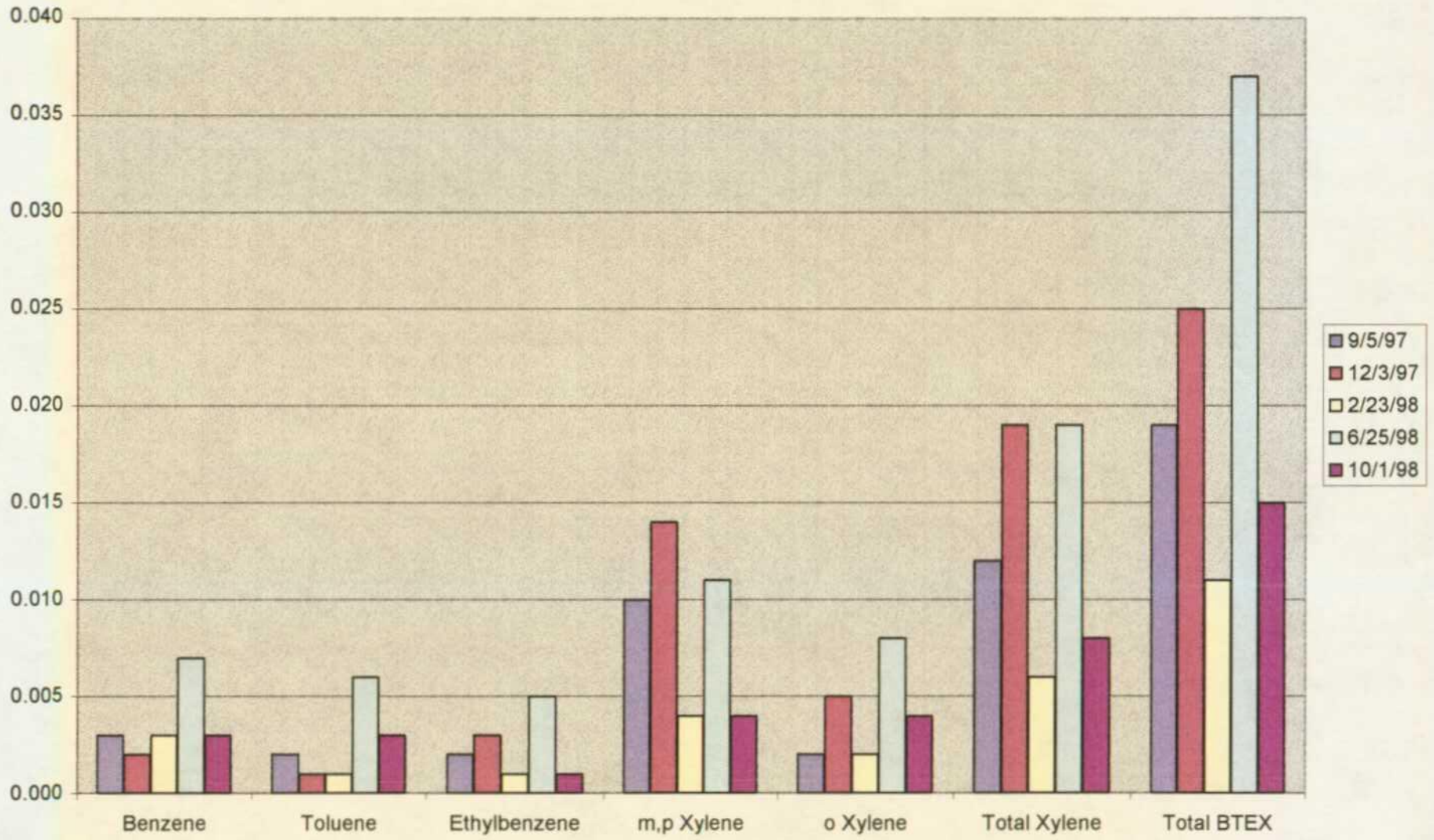
Tipperary
CORPORATION

TATUM PIT CLOSURE PROJECT
LEA COUNTY, NM
FIFTH QUARTERLY PROGRESS REPORT
SAMPLE DATE OF 10/1/98

Monitor Well # 5
Vera # 1
Sampling Results

Lab. #	12487	13184	14061	14660	15592
Sample Date	9/5/97	12/3/97	2/23/98	6/25/98	10/1/98
Benzene	0.003	0.002	0.003	0.007	0.003
Toluene	0.002	0.001	0.001	0.006	0.003
Ethylbenzene	0.002	0.003	0.001	0.005	0.001
m,p Xylene	0.010	0.014	0.004	0.011	0.004
o Xylene	0.002	0.005	0.002	0.008	0.004
Total Xylene	0.012	0.019	0.006	0.019	0.008
Total BTEX	0.019	0.025	0.011	0.037	0.015

Monitor Well # 5



ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY
ATTN: MR. VICTOR A. VICE
P.O. BOX 857
TATUM, NM 88267
FAX: 505-398-6510
FAX: 281-646-8996

Receiving Date: 09/30/98
Sample Type: Water
Project : None Given
Project Location: Tatum, New Mexico

Analysis Date: 9/30 & 10/01/98
Sampling Date: 09/29/98
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)
15590	Iva Com M/W #1	0.004	0.004	0.002	0.006	0.007
15591	Mable Com M/W #3	0.010	0.015	0.010	0.041	0.017
15592	Vera M/W #5	0.003	0.003	0.001	0.004	0.004
15593	Bell A M/W #6	0.130	0.002	0.003	0.004	0.002
15594	NBN M/W #7	0.006	0.007	0.001	0.006	0.003
15595	NBF M/W #8	0.005	0.004	0.001	0.004	0.004
15596	Satelite #4 M/W #9	0.036	0.002	0.006	0.003	0.001
15597	Sohio St. #1 M/W #10	2.541	0.106	0.182	0.167	0.098
15598	Sohio St. "A" M/W #11	0.070	0.010	0.003	0.014	0.011
15599	Bell A M/W #13	0.003	0.002	0.002	0.004	0.002
15600	NBF M/W #15	3.027	1.630	0.225	0.811	0.393
15601	Sohio St. #1 M/W #17	0.872	0.105	0.071	0.242	0.129
15602	Sohio St. "A" M/W #19	0.033	0.015	0.005	0.018	0.011
15603	G.S. State M/W #21	0.128	0.005	0.069	0.030	0.006
15604	Satelite #4 M/W #23	0.048	0.023	0.001	0.004	0.002
15605	Iva Com M/W #2	0.003	0.002	<0.001	0.003	0.001
15606	Mable Com M/W #4	0.007	0.002	<0.001	0.002	0.001
15607	Bell A M/W #14	0.175	0.002	0.001	0.002	0.001
15608	NBF M/W #16	1.046	0.065	0.037	0.100	0.039
15609	Sohio St. #1 M/W #18	0.542	0.072	0.025	0.093	0.054
15610	Sohio St. "A" M/W #20	0.464	0.011	0.008	0.045	0.011
15611	G.S. State M/W #22	0.049	0.011	0.026	0.040	0.018
15612	Satelite #4 M/W #24	0.002	0.001	<0.001	0.002	<0.001
	% IA	100	94	91	90	95
	% EA	98	97	93	91	93
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030

Raland K. Tuttle

10-5-98
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Vic Vice
Phone #: 505-398-6507
FAX #: 505-398-6510

Company Name & Address: Tipperary Oil & Gas
" 1-800-854-4358 "Whole Earth "Mike"

Project #:
Project Name:

Project Location: Tatum, New Mexico
Sampler Signature: D.A. Vice

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021D/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
15590	IUA Com M/W #1 ~~#2~~	1												9-29-98									
15591	Mable Com M/W # 3 ~~#4~~	1																					
15592	Vera # M/W #5	1																					
15593	Bell A M/W #6	1																					
15594	NBN M/W. #7	1																					
15595	NBF M/W #8	1																					
15596	SATILITE #4 M/W #9	1																					
15597	Soho ST. #1 M/W #10	1																					
15598	Soho ST "A" M/W #11	1																					
15599	Bell A M/W #13 ~~#14~~	1																					
15600	NBF M/W #15 ~~#16~~	1																					

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[signature]	09-30-98	0855	[signature]
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Vic Vice

Phone #: 505-398-6507
FAX #: 505-398-6510

Company Name & Address: Tipperary Oil & Gas

Attn: 1-800-854-4358 Wilde Earth "Mike"

Project #:

Project Name:

Project Location: Tatum, New Mexico

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME
15601	Sohio ST #1 M/W #17 ~~#18~~	1		X							X			9-29-98	
15602	Sohio ST "A" M/W #19 ~~#20~~	1		X							X				
15603	G.S. State M/W #21 - ~~#22~~	1		X							X				
15604	Satellite #4 - M/W #23 ~~#24~~	1		X							X				
15605	Iva Com M/W #2	1		X							X				
15606	Mable Com M/W #4	1		X							X				
15607	Bell A M/W #14	1		X							X				
15608	NBF M/W #16	1		X							X				
15609	Sohio St #1 M/W #18	1		X							X				
15610	Sohio St "A" M/W #20	1		X							X				
15611	GS State M/W #22	1		X							X				
15612	Satellite #4 M/W #24	1		X							X				

ANALYSIS REQUEST

BTEX 8021B/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
X	X						

Relinquished by:	Date:	Times:	Received by:
[signature]	09-30-98	0855.	[signature]
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

September 8, 1998

CERTIFIED MAIL

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

RE: Work Plan & 6/98 Progress Report
Tatum Pit Closure Project
Lea County, NM

Dear Mr. Olson:

In response to your June 29,1998 correspondence, please find enclosed the following:

1. A delineation work plan as requested for the pits requiring additional lateral data.
2. Additional results from the closure of ten pits in the project area. These results are from water samples taken from the monitor wells on June 25, 1998. In general, all pits have shown consistent reductions in BTEX concentrations with the total reduction being 32% during the past four quarters.

If you have any questions, please call me at (303) 293-9379.

Very truly yours,

Larry G. Sugano

Larry G. Sugano
Vice President - Engineering

cc: Wayne Price, NMOCD Hobbs Office

Enclosures

Delineation Protocol
Tipperary Corporation
Tatum Pit Closure Project

1.0 Purpose

This protocol is provide a detailed outline of the steps to be employed in the remediation and final closure of the Tipperary Tatum, New Mexico pits.

2.0 Scope

This protocol is site specific for the above stated site.

3.0 Define the Lateral Extent of Contamination

3.1 Whole Earth Environmental will contact Mr. Wayne Price of the Hobbs office of the NMOCD and request a site visit to five pits presently requiring lateral delineation. Mr. Price will select the best location for an additional monitoring well at each pit site. The location will be marked with pin flags and plotted on a plat map.

3.2 Atkins Engineering will be instructed to drill, case and develop an additional monitoring well at each pit site. Whole Earth will collect water samples in accordance with WEQP-76 (previously submitted) and transfer them to Environmental Labs of Tx. for testing. For purposes of defining the lateral extent of contamination we propose that a single BTEX measurement run in accordance with EPA Method 8020 be used.

3.3 The analysis will be reviewed by Whole Earth to confirm that the individual BTEX values all fall below NMWQCC standards. If not, we will repeat the steps contained within paragraph 3 of this protocol until the final results pass NMWQCC standards.

3.4 Once established, these delineation wells will not be subject to quarterly monitoring. They will be tested to insure acceptable concentrations of all criteria pollutants at the time of final pit closure.

4.0 Documentation & Reporting

4.1 At the conclusion of the pit remediation project, Whole Earth will prepare a closure report to include the following information:

- A plat map of the location showing the exact location of the pits, the location and orientation of all monitoring wells associated with the pit.
- Laboratory analyses of the BTEX concentration within the ground water.
- Well diagram to include the construction, soil morphology and final depth of the monitor wells.

Tipperary Tatum Pit Closure Project
One Year Sampling Summary

Project History

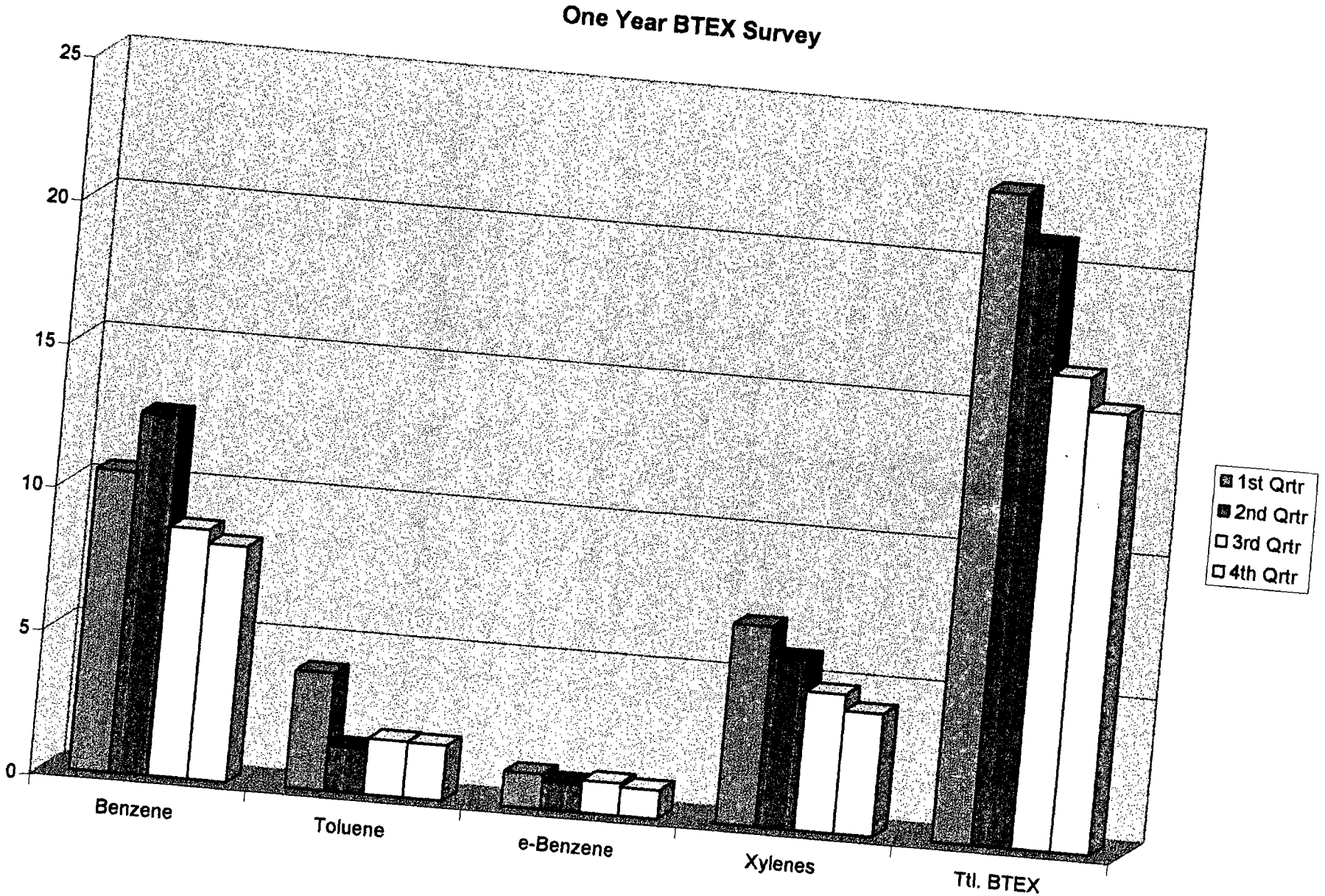
Tipperary began the excavation and remediation of ten pit locations located west of Tatum, New Mexico in August 1997. The remediation protocol was to model the potential migration of all pits having hydrocarbon concentrations in excess of 1, 000 ppm TPH and 10 ppm benzene, to determine their potential for impacting the Ogallala Aquifer. The model was "ground truthed" by the installation of twenty-four down gradient monitor wells. Free product was discovered within three monitor wells and wind driven recovery wells were erected to capture the hydrocarbons. The seven sites not having recovery wells were covered with 20 mill polyethylene liners to prevent any further potential vertical migration of hydrocarbons. Each monitoring well was sampled quarterly and the BTEX concentrations studied to determine trending.

Present Status

One pit site is ready for closure having never shown BTEX concentrations in excess of WQCC standards. Three sites have shown two or more consecutive quarters with BTEX concentrations within WQCC standards. All remaining sites have shown consistent reductions in BTEX concentrations and will continue to be sampled quarterly until four consecutive quarters of acceptable results are obtained. The attached bar graph shows the total reduction in BTEX concentrations for all wells to have been 32% over the past year.

Future Activities

Tipperary will install an additional monitoring well at each of five sites to delineate the lateral extent of contamination. Those monitor wells not showing four consecutive quarters of acceptable BTEX concentrations will be monitored quarterly until they do.


One Year BTEX Survey
25
20
15
10
5
0
Benzene
Toluene
e-Benzene
Xylenes
Ttl. BTEX
1st Qrtr
2nd Qrtr
3rd Qrtr
4th Qrtr

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY
ATTN: MR. VICTOR A. VICE
P.O. BOX 857
TATUM, NM 88267
FAX: 1-281-646-8996

Receiving Date: 06/26/98
Sample Type: WATER
Project : TATUM, NM
Project Location: TATUM, NM

Analysis Date: 06/26/98
Sampling Date: 06/25/98
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)
14657	IVA COM M/W #1	0.006	0.005	0.002	0.008	0.009
14658	MABLE COM M/W #3	0.009	0.011	0.009	0.033	0.009
14659	MABLE COM M/W #4	0.020	0.006	0.003	0.015	0.005
14660	VERA M/W #5	0.007	0.006	0.005	0.011	0.008
14661	BELL A M/W #6	0.203	0.008	0.015	0.017	0.006
14662	NBN M/W #7	0.009	0.007	0.007	0.016	0.009
14663	NBF M/W #8	0.034	0.003	0.007	0.011	0.003
14664	SATELITE #4 M/W #9	0.055	0.003	0.010	0.011	0.002
14665	SOHIO STATE #1 M/W #10	1.313	0.113	0.206	0.611	0.180
14666	SOHIO STATE A M/W #11	0.093	0.009	0.005	0.020	0.014
14667	BELL A M/W #13	0.016	0.014	0.005	0.015	0.006
14668	BELL A M/W #14	0.735	0.009	0.005	0.011	0.004
14669	NBF M/W #15	1.415	1.165	0.270	0.927	0.412
14670	NBF M/W #16	1.058	0.113	0.070	0.145	0.060
14671	SOHIO STATE #1 M/W #17	1.111	0.138	0.118	0.379	0.174
14672	SOHIO STATE #1 M/W #18	1.357	0.272	0.131	0.589	0.252
14673	SOHIO STATE A #1 M/W #19	0.029	0.010	0.007	0.022	0.011
14674	SOHIO STATE A #1 MW/ #20	0.517	0.009	0.008	0.061	0.009
14675	GS STATE #1 M/W #21	0.047	0.009	0.019	0.086	0.038
14676	GS STATE #1 M/W #22	0.183	0.012	0.062	0.077	0.010
14677	SATELITE #4 M/W #23	0.002	<.001	0.001	0.003	0.001
14678	SATELITE #4 M/W #24	0.003	0.003	0.002	0.006	0.003
14679	IVA COM WINDMILL SW #1	1.174	1.290	0.265	1.262	1.241
	% IA	99	95	92	90	94
	% EA	98	95	94	92	95
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030

Michael R. Fowler

7-9-98
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: VICTOR A. OLIVA

Phone #: 1-800-854-4358

FAX #:

Company Name & Address: TIPPERARY OIL & GAS P.O. BOX 857

Project #: TATUM, N. MEX 88267

Project Name:

Project Location: TATUM, N.M.

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021D/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	Chlorides
14657	IVA COM M/W #1	1												6-25-98		X								
14658	MABEE COM M/W #3	1														X								
14659	" " " #4	1														X								
14660	UEA M/W # 5	1														✓								#
14661	BELL A M/W # 6	1														X								
14662	NBN M/W # 7	1														X								
14663	UBE M/W # 8	1														X								
14664	SATELITE #4 M/W # 9	1														X								
14665	SOHIO STATE #1 M/W # 10	1														X								
14666	SOHIO STATE A M/W # 11	1														X								

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Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS

RECEIVED

SEP 1 0 1998

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Remediation Results
One Year Review
Vera # 1

Remediation Summary
The site was excavated to an approximate depth of 25' bgl., lined and a monitor well installed down gradient from the pit center.

Present Status
The monitoring well has shown four consecutive quarters of BTEX concentrations below WQCC standards.

Future Remediation Activities
We request that the OCD schedule a sampling event as early as possible in which we will obtain split samples for analysis of BTEX and PAH's. If both analyses agree, we will remove the monitoring well and request final closure of the site.

Monitor Well # 5
Vera # 1
Sampling Results

Lab. #	12487	13184	14061	14660
Sample Date	9/5/97	12/3/97	2/23/98	6/25/98
Benzene	0.003	0.002	0.003	0.007
Toluene	0.002	0.001	0.001	0.006
Ethylbenzene	0.002	0.003	0.001	0.005
m,p Xylene	0.010	0.014	0.004	0.011
o Xylene	0.002	0.005	0.002	0.008
Total Xylene	0.012	0.019	0.006	0.019
Total BTEX	0.019	0.025	0.011	0.037

Monitor Well # 5