

1R - 263

# REPORTS

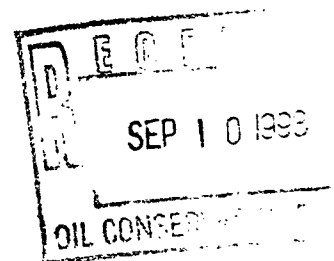
DATE:

9/8/1998



**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.

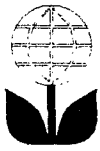
If you have any questions, please call me at (303) 293-9379.

Very truly yours,

Larry G. Sugano  
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.

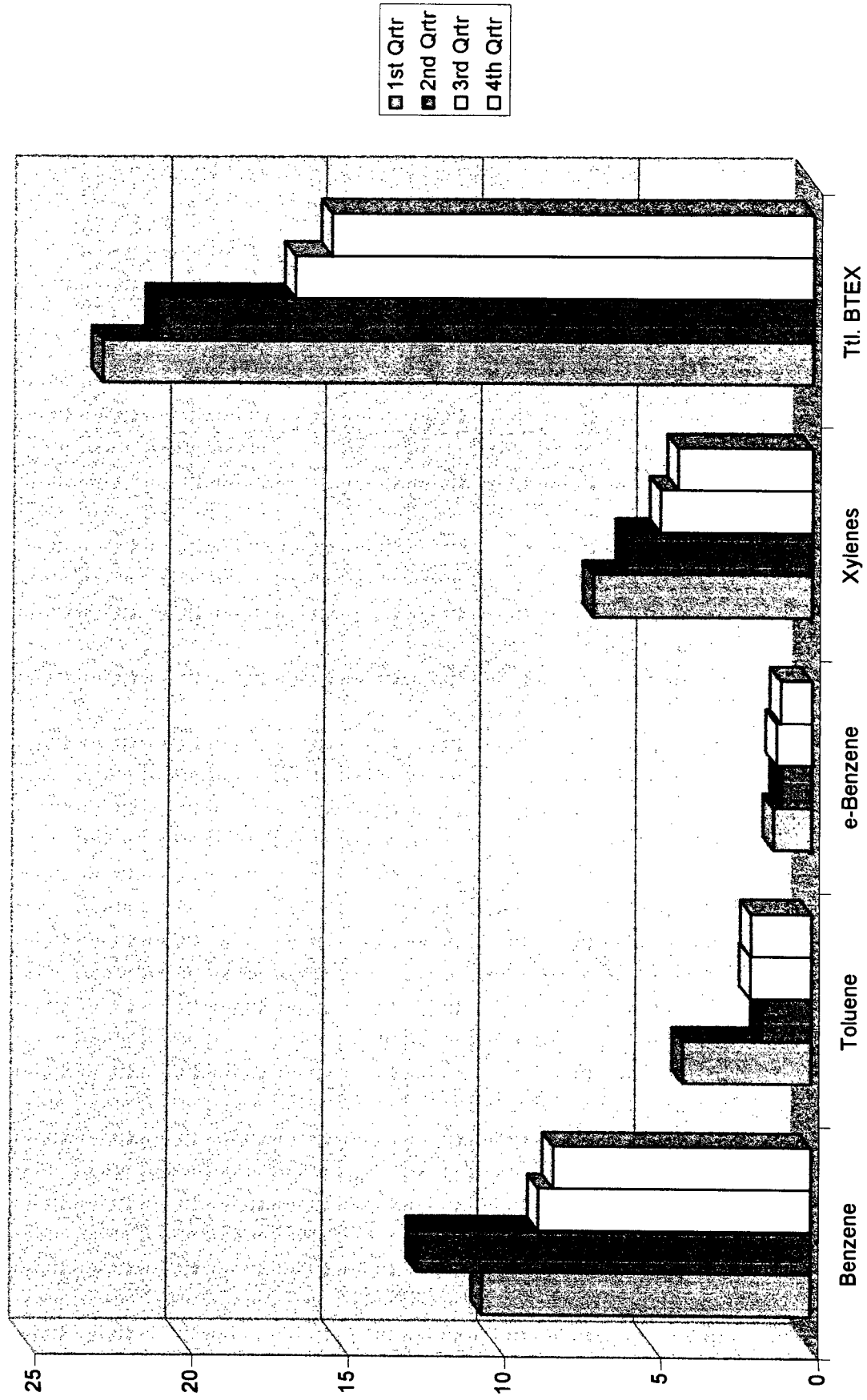
### **Present Status**

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



# 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 M/W #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

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

**FAK:**

**Sampler Signature:**

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	PRESERVATIVE METHOD		DATE	SAMPLING TIME
				MATRIX	METHOD		
				WATER			
				SOIL			
				AIR			
				SUDGE			
				OTHER			
				ICL			
				HNH3			
				ICE			
				NONE			
				OTHER			

[illegible]

Relinquished by:	Date: 60-26-98	Time: 1035	Received by: R. L. N. K. J. (unclear)
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory: