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270

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# REPORTS

**DATE:**

1999

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# Tipperary CORPORATION

633 Seventeenth Street  
Suite 1550  
Denver, Colorado 80202

April 27, 1999

CERTIFIED MAIL

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

**RE: April 1999 Progress Report  
Tatum Pit Closure Project  
Lea County, NM**

**RECEIVED**

**MAY 06 1999**

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

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 April 1, 1999. These samples represent the seventh quarter of monitoring. We will continue to analyze water samples quarterly.

In our January 1999 progress report, we requested final closure for these projects: Vera (pit and monitor well #5) and State NBN (pit and monitor well #7). In your letter dated March 29, 1999, you requested a water table potentiometric map as well as the magnitude of the hydraulic gradient at these sites to complete your review of our request. Please be advised that we are currently constructing this data and it will be forwarded to you as soon as it is completed.

Additional monitor wells were constructed March 15-16 at the following pit sites: Bell A, State NBF, Sohio 1, Sohio A, and GS State. Complete water analyses from these new monitor wells are included in this report. It appears that an additional monitor well will be necessary for the Sohio 1 and Sohio A pit sites. These will be installed accordingly.

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

Very truly yours,

Larry G. Sugano  
Vice President - Engineering

cc: NMOCD Hobbs Office

Enclosures



**Tipperary**  
CORPORATION

TATUM PIT CLOSURE PROJECT  
WATER SAMPLING RESULTS  
APRIL, 1999

## **Executive Summary**

### **Iva COM**

Having completed six consecutive quarters of sampling monitor wells 1 & 2 with no BTEX component exceeding WQCC standards, we began a sampling program from the source well. The results are presented in this report. We do not plan to continue to sample wells 1 & 2.

### **Mable COM**

Monitor well #3 has passed six consecutive quarters with no BTEX component exceeding WQCC standards. We do not plan to continue monitoring the location, but will provide complete analyses (RCRA 8 metals, BTEX, and major cation / anions) at the conclusion of the sampling program for the source well. Monitor well #4 showed a slight increase in BTEX concentrations reflecting a normal seasonal increase in water table levels. The source well shows moderate benzene and xylene concentrations.

### **Vera**

The analytical results of six consecutive quarterly samplings described in our February 16<sup>th</sup> summary revealed no BTEX component concentration in excess of WQCC standards. Tipperary requests final closure of this pit.

### **Bell A**

Monitor wells 6, 13 & 14 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#25) was drilled a distance of 150' southeast of the mid-point of wells 13 & 14. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17265).

### **NBF**

Monitor wells 8, 15 & 16 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#26) was drilled at a distance of 150' southeast of the mid-point of wells 15 & 16. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17266).

### **NBN**

The analytical results of six consecutive quarterly samplings described in our February 16<sup>th</sup> summary revealed no BTEX component concentration in excess of WQCC standards. Tipperary requests final closure of this pit.

**Sohio State #1**

Monitor wells 10, 17 & 18 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#28) was drilled at a distance of 150' southeast of the mid-point of wells 17 & 18. The drilling log is included within this report. The analytical results of water samples obtained from this new wells reflect acceptable RCRA 8 metals and cation / anion concentrations however the BTEX concentrations are in excess of WQCC standards. (See Environmental Labs of Texas log no. 17268). A fifth monitor well will be drilled, cased, developed and tested.

**Sohio State A**

Monitor wells 10, 19 & 20 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#27) was drilled at a distance of 150' southeast of the mid-point of wells 19 & 20. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect acceptable RCRA 8 metals and cation / anion concentrations however the BTEX concentrations are in excess of WQCC standards. (See Environmental Labs of Texas log no. 17267). A fifth monitor well will be drilled, cased, developed and tested.

**G.S. State**

Monitor wells 21 & 22 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#29) was drilled at a distance of 150' southeast of the mid-point of wells 21 & 22. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17269).

**Satellite #4**

BTEX concentrations within monitor wells 9 & 23 remain essentially unchanged from the January, 1999 sampling round.

# 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

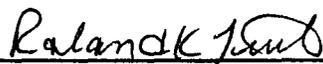
Receiving Date: 04/02/99  
Sample Type: Water  
Project : None Given  
Project Location: None Given

Analysis Date: 4/05 & 4/06/99  
Sampling Date: 04/01/99  
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)
17428	Iva Com Source Well	2.05	4.15	0.902	5.50	3.80
17429	Mable Com Source Well	0.486	0.432	0.066	1.00	0.713
17430	Mable Com #4	0.012	0.008	0.002	0.010	0.006
17431	Bell A #6	0.139	0.013	0.006	0.011	0.006
17432	Bell A #13	0.021	0.018	0.003	0.009	0.006
17433	Bell A #14	0.108	0.015	0.004	0.009	0.005
17434	NBF #8	0.032	0.002	0.004	0.003	0.001
17435	NBF #15	3.11	1.98	0.214	0.767	0.435
17436	NBF #16	3.15	0.164	0.078	0.219	0.098
17437	Sohio St. #1- #10	2.34	0.067	0.168	0.203	0.100
17438	Sohio St. #1- #17	1.35	0.092	0.079	0.248	0.138
17439	Sohio St. #1- #18	3.35	0.331	0.114	0.469	0.280
17440	Sohio St. #1- #28	0.446	0.065	0.011	0.041	0.058
17441	Sohio St. A - #11	0.048	0.008	0.004	0.014	0.010
17442	Sohio St. A - #19	0.026	0.010	0.006	0.016	0.010
17443	Sohio St. A - #20	0.547	0.011	0.005	0.030	0.009
17444	Sohio St. A - #27	0.056	0.007	0.006	0.007	0.013
17445	G.S. State #21	0.124	0.008	0.042	0.012	0.007
17446	G.S. State #22	0.059	0.010	0.036	0.022	0.014
17447	G.S. State #29	0.004	<0.001	<0.001	0.035	<0.001
17448	Satellite #4 - #9	0.027	0.005	0.004	0.004	0.002
17449	Satellite #4 - #23	0.004	0.004	0.001	0.003	0.002

% IA	102	99	97	97	99
% EA	100	97	97	91	95
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020.5030

  
Raland K. Tuttle

4-7-99  
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:

Phone #: 505-398-6509

Company Name & Address:

FAX #:

Mike Griffin

Project #:

Project Name:

Project Location:

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX							PRESERVATIVE METHOD			SAMPLING		TIME
				WATER	SOIL	AIR	SLUDGE	OTHER	ICL	LIQ3	ICE	NONE	OTHER	DATE	DATE	
17428	EVA Com Source Well	2		X								X			4-1	
17429	Mable Com Source well 4	2		X								X			4-1	
17430	Mable Com # 4	2		X								X			4-1	
17431	Bell A # 6 #13 #14	2	EA	X								X			4-1	
17432	NBF # 8 #15 #16	2	EA	X								X			4-1	
17433	Soho ST #1 #10 #17 #18 #28	2	EA	X								X			4-1	
17434	Soho ST # A #11 #19 #20 #27	2	EA	X								X			4-1	
17435	GS STAR # 21 #22 #29	2	EA	X								X			4-1	
17436	SATELLITE #7 - Mable #9 #23															

ANALYSIS REQUEST

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	

Requested by:	Date:	Times:	Received by:	REMARKS
D. A. Dece	4-2-99	1010	Mike Griffin	
Requested by:	Date:	Times:	Received by:	
Requested by:	Date:	Times:	Received by Laboratory:	

**Environmental Lab of Texas, Inc.** 12600 West I-20 St Odessa, Texas 79763  
 (915) 563-1800 FAX (915) 563-1713

**CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST**

Project Manager: Phone #: FAX #:  
 Company Name & Address: Project Name:  
 Tipperary

Project Location: Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX						PRESERVATIVE METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE	TIME	
17431	BELA #6															
17432	#13															
17433	#14															
17434	NBF #8															
17435	#15															
17436	#16															
17437	Sohio St. #1 #10															
17438	#17															
17439	#18															
17440	#28															
17441	Sohio St. #A #11															

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	

Relinquished by:	Date:	04-02-99	Times:	1010	Received by:	REMARKS
Relinquished by:	Date:		Times:		Received by:	
Relinquished by:	Date:		Times:		Received by Laboratory:	

**Environmental Lab of Texas, Inc.** 12600 West I-21 st Odessa, Texas 79763  
 (915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Phone #:

FAX #:

Company Name & Address:

Tipperary

Project #:

Project Name:

Project Location:

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX						PRESERVATIVE METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE	TIME	
17442	Schriest. #A #19															
17443	→ #20															
17444	→ #27															
17445	G.S.State #21															
17446	→ #22															
17447	→ #29															
17448	Satellite #4 #9															
17449	→ #23															

ANALYSIS REQUEST

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	

BTEX 8020/5030  
 TPH 418.1

REMARKS

Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date: 04-02-99	Times: 1010	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS  
633 17TH  
DENVER, COLORADO 80202  
FAX: 281-646-8996 (Mike Griffin)

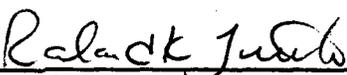
Receiving Date: 03/17/99  
Sample Type: Water  
Project : Tatum Dileneation  
Project Location: Tatum, New Mexico

Analysis Date: 03/17/99  
Sampling Date: 03/17/99  
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)
17265	#25 Bell	0.006	0.004	0.004	0.005	0.004
17266	#26 NBF	0.002	0.003	0.001	0.002	0.001
17267	#27 Sohio A	0.118	0.019	0.005	0.004	0.008
17268	#28 Sohio #1	0.156	0.008	0.003	0.010	0.005
17269	#29 G.S. State	0.012	0.012	0.004	0.021	0.041

% IA	104	100	99	98	99
% EA	108	104	101	102	103
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030

  
Raland K. Tuttle

3-26-99  
Date



# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS  
633 17TH  
DENVER, COLORADO 80202  
FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99  
Sample Type: Water  
Project : Tatum Dileneation  
Project Location: Tatum, N.M.

Analysis Date: Hg 3/23/99  
Analysis Date: 3/25/99  
Sampling Date: 3/17/99  
Sample Condition: Intact/Iced

### TOTAL METALS (mg/L)

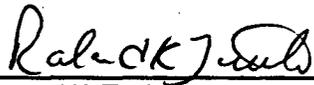
ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
17265	#25 Bell	ND	ND	0.250	ND	0.0110	ND	ND	ND
17266	#26 NBF	ND	ND	0.201	ND	0.0060	ND	ND	ND
17267	#27 Sohio A	ND	ND	0.276	ND	0.0110	ND	ND	ND
17268	#28 Sohio #1	ND	0.028	0.709	ND	0.0220	ND	0.0090	ND
17269	#29 G.S. State	ND	ND	0.369	ND	0.0080	ND	ND	ND

REPORTING LIMIT                      0.0050   0.005   0.010   0.0010   0.0050   0.00020   0.0030   0.0050

ND = Not detected at the reporting limit.

% INSTRUMENT ACCURACY	100	106	95	100	94	103	98	112
% EXTRACTION ACCURACY	96	104	97	100	96	96	99	102

METHODS: EPA 200.7, 245.2

  
Raland K. Tuttle

3-26-99  
Date



**GULF STATES JALYTICAL**  
 6310 Rothway, Houston, Texas 77040  
 (713) 690-4444, Fax (713) 690-5646

Company: **Denver, CO** Tele #: **80202**  
 Address: **Tipperary O&G 633 17th** Fax #: **80202**  
 Reports Sent To: **Whole Earth** Project #: **80202**  
 P.O. #:

Project Name: **Tatum Dismantment**  
 Project Location: **Tatum, NM**

Sampler(s) Name: (Signature) **M. G. [Signature]**  
 Courier: **M. G. [Signature]**

**Request for Analysis**

Matrix	Water	Soil	Sludge	Oil	Other
RTX	✓				
PCRB & Metals	✓				
Major cat & anions	✓				
Chlorides	✓				
Carbonates	✓				
SO <sub>4</sub> <sup>2-</sup>	✓				
Ca, Mg, K, Na	✓				

Field Sample ID	Sampling		Haz. Sample (Y/N)	# of Containers
	Date	Time		
1. # 25 Bell (17265)	3-17	8:10	N	3
2. # 26 NBF (17266)	3-17	8:26	N	3
3. # 27 Sahio A (17267)	3-17	8:44	N	3
4. # 28 Sahio #1 (17268)	3-17	9:05	N	3
5. # 29 G.S. State (17269)	3-17	9:25	N	3
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				

Special Detection Limits

Requested Turnaround: **M. nites?**

GSAI Group:

QC Package: (check one)  
 CLP  Site Specific  
 Tier 1  Tier 2  QC Summary

Relinquished by: (Signature) <b>M. G. [Signature]</b>	Date: <b>3-17-99</b>	Time: <b>1345</b>	Received by: (Signature) <b>Ruback [Signature]</b>	Date: <b>3-17-99</b>	Time: <b>1345</b>
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by Laboratory: (Signature)	Date:	Time:

Remarks:



# Tipperary CORPORATION

633 Seventeenth Street  
Suite 1550  
Denver, Colorado 80202

REG

FEB 22 1999

February 16, 1999

**CERTIFIED MAIL**

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

**RE: January 1999 Progress Report  
Tatum Pit Closure Project  
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 January 8, 1999. These samples represent the sixth quarter of monitoring. The total BTEX concentrations continue to decline. We will continue to analyze water samples quarterly from the subject project.

Because the following wells have had at least four consecutive quarters of acceptable BTEX concentrations, we formally request final closure for these projects: Vera (pit and monitor well #5), State NBN (pit and monitor well #7), Iva Com (monitor wells #1 & #2), Mable Com (monitor well #3). Please advise if this request is acceptable.

In response to your January 15, 1999 correspondence, please be advised that we are scheduling the installation of additional monitor wells in accordance with the conditions set forth in your letter. Additionally, we respectfully request an extension until May 1, 1999 to submit our next progress report rather than the April 1 deadline specified in your letter. This will allow us to stay on our current quarterly monitoring schedule. Please advise if this is not acceptable.

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

Very truly yours,

Larry G. Sugano  
Vice President - Engineering

cc: NMOCD Hobbs Office

Enclosures



**Tipperary**  
CORPORATION

TATUM PIT CLOSURE PROJECT  
WATER SAMPLING RESULTS  
JANUARY, 1999



## **Executive Summary**

### **Iva COM**

#### **Monitor Wells # 1, 2**

No sample from either Iva COM well has ever revealed a BTEX component concentration in excess of standards. Tipperary may request closure of monitor wells nos. 1 and 2. The source well is still producing free product on occasion and has not been tested for BTEX.

### **Mable COM**

#### **Monitor Wells # 3, 4**

Monitor well # 3 has recorded four consecutive quarters of acceptable BTEX concentrations. Tipperary may request closure of this well. Well # 4 has shown two consecutive quarters of acceptable BTEX concentrations. The source well has not been tested for BTEX.

### **Vera**

#### **Monitor Well # 5**

Monitor well # 5 has shown six consecutive quarters of acceptable concentrations. Tipperary may request closure of the pit and monitor well.

### **Bell**

#### **Monitor Wells # 6, 13, 14**

Monitor well # 13 has gone two quarters with acceptable concentrations. Wells # 6 & 14 continue to show benzene concentrations in excess of standards. Such concentrations are consistently trending lower. A delineation well is required for this site.

### **NBN**

#### **Monitor Well # 7**

Monitor well # 7 has shown four consecutive quarters of acceptable concentrations. Tipperary may request closure of the pit and monitor well.

### **NBF**

#### **Monitor Wells # 8, 15, 16**

All well BTEX concentrations exceed standards. A delineation well is required for this site.



**Sohio State # 1**

**Monitor Wells # 10**

Though trending steadily downward, all well sample concentrations exceed standard. A delineation well is required for this site.

**Sohio State "A"**

**Monitor Well # 11, 19, 20**

The benzene concentrations in all three wells are trending sharply downward. At the present rate of decline, wells 19 & 20 will become delineation wells through natural attenuation within six months.

**GS State # 1**

**Monitor Wells # 12, 21, 22**

Monitor well # 12 continues to contain free product. BTEX concentrations in wells 21 & 22 are trending downward though not as sharply as similar sites. Well # 12 should be evaluated for potential as a source well. A delineation well is required for this site.

**Satellite # 4**

**Monitor Wells # 9, 23, 24**

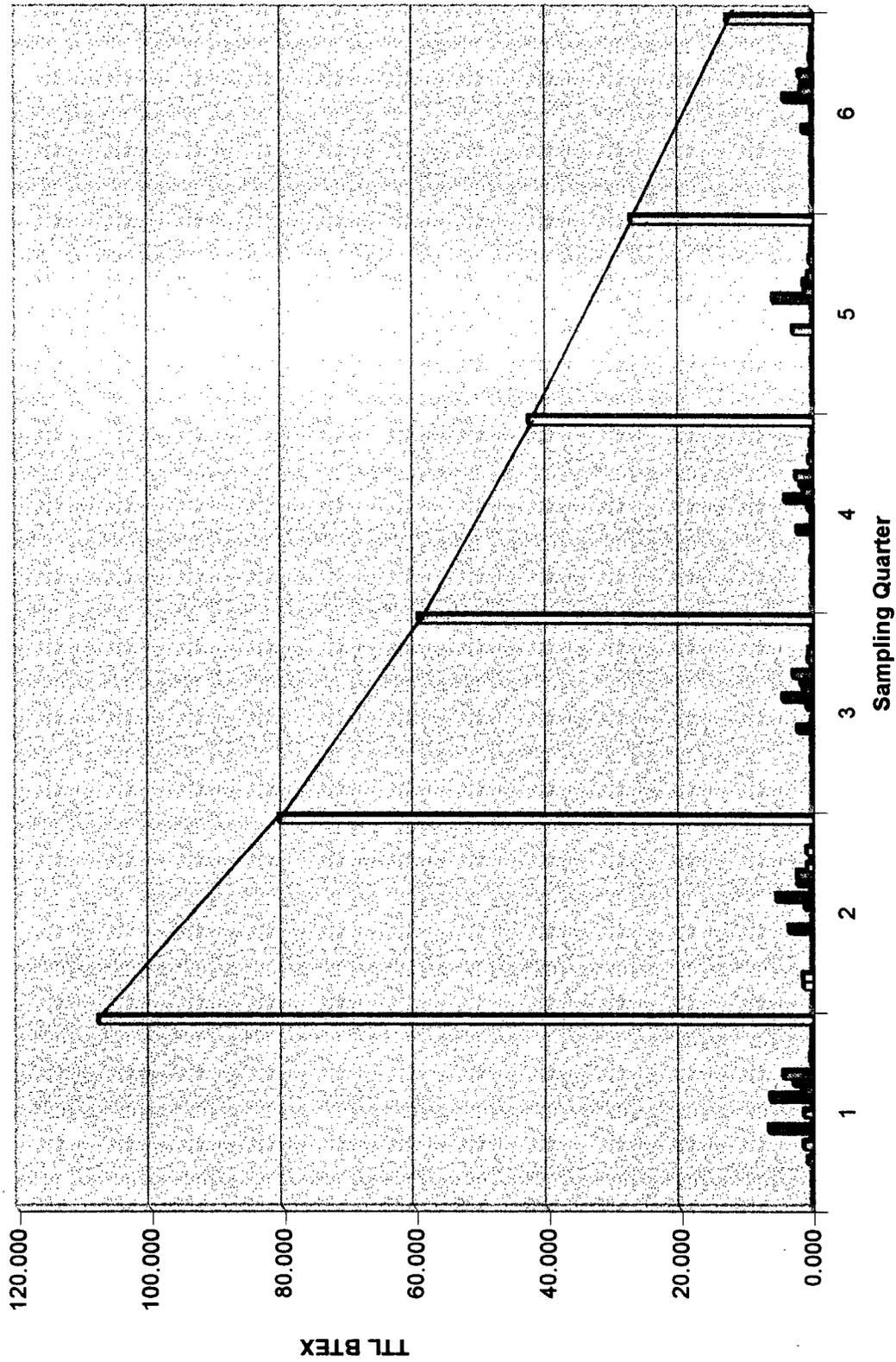
Well # 24 has shown four quarters of acceptable concentrations. The reported benzene concentrations from Well # 23 have been quite erratic but appear to be generally trending downward. Well # 23 presently shows acceptable concentrations. Well # 9 is steadily trending lower in benzene and should fall within acceptable limits within the next few sampling rounds.



**Tipperary Corporation  
Tatum Pit Closure Project  
Quarterly Sampling Comparison**

<b>Well #</b>	<b>9/5/97</b>	<b>12/3/97</b>	<b>3/23/98</b>	<b>6/25/98</b>	<b>10/1/98</b>	<b>1/6/99</b>
1	0.012	0.025	0.022	0.030	0.023	0.011
2	0.005	0.013	0.011	0.010	0.010	0.010
3	0.200	1.387	0.054	0.071	0.093	0.073
4	0.031	1.501	0.047	0.049	0.013	0.019
5	0.019	0.025	0.011	0.037	0.015	0.011
6	0.790	0.068	0.281	0.249	0.141	0.137
7	0.005	0.023	0.017	0.048	0.023	0.008
8	1.377	0.023	0.146	0.058	0.018	0.036
9	0.285	0.123	0.007	0.081	0.050	0.049
10	6.626	3.626	2.292	2.423	3.096	1.532
11	0.122	0.124	0.184	0.141	0.108	0.105
13	1.346	0.010	0.037	0.056	0.017	0.007
14	0.005	1.183	0.918	0.764	0.184	0.161
15	6.432	5.499	4.588	4.189	6.086	4.380
16	1.662	0.256	1.419	1.446	1.287	1.845
17	2.908	2.305	1.863	1.920	1.419	1.665
18	4.498	2.361	3.013	2.601	0.786	2.072
19	0.011	0.875	0.184	0.079	0.082	0.094
20	0.454	0.345	0.658	0.604	0.539	0.390
21	0.287	0.953	0.554	0.198	0.238	0.259
22	0.152	0.200	0.195	0.344	0.144	0.134
23	0.009	0.122	0.106	0.008	0.078	0.014
24	0.009	0.064	0.007	0.017	0.007	0.011
	<b>107.873</b>	<b>80.628</b>	<b>59.517</b>	<b>42.903</b>	<b>27.480</b>	<b>13.023</b>

# Tipperary Quarterly Sampling Comparison



- Series 1
- Series 2
- Series 3
- Series 4
- Series 5
- Series 6
- Series 7
- Series 8
- Series 9
- Series 10
- Series 11
- Series 12
- Series 13
- Series 14
- Series 15
- Series 16
- Series 17
- Series 18
- Series 19
- Series 20
- Series 21
- Series 22
- Series 23
- Series 24





NBN

**Monitor Well # 7  
State NBN # 1  
Sampling Results**

Lab. #	12482	13174	14063	14662	15594	16601
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99
Benzene	0.001	0.017	0.009	0.009	0.006	0.003
Toluene	0.001	0.002	0.001	0.007	0.007	0.001
Ethylbenzene	0.001	0.001	0.001	0.007	0.001	0.001
m,p Xylene	0.001	0.001	0.004	0.016	0.006	0.002
o Xylene	0.001	0.002	0.002	0.009	0.003	0.001
Total Xylene	0.001	0.003	0.006	0.025	0.009	0.003
Total BTEX	0.005	0.023	0.017	0.048	0.023	0.008

Monitor Well # 7

