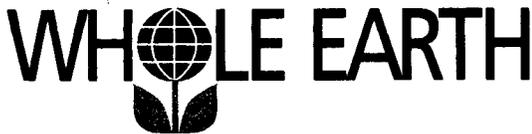


1R - 266

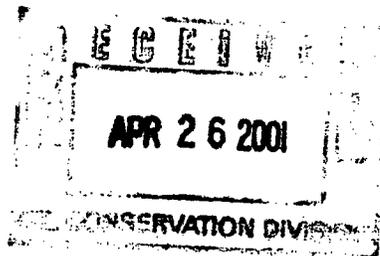
**GENERAL
CORRESPONDENCE**

YEAR(S):

1997 - 2001



Whole Earth Environmental, Inc.
19606 San Gabriel, Houston, Texas 77084
281/492-7077 • Fax: 281/646-8996



April 19, 2001

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Sante Fe, NM 87505

Attn: Bill Olson

Dear Bill:

We are in receipt of your letter dated March 15, 2001 concerning the Tatum pit closure project and have prepared the following response:

Request # 1

A review of the OCD's files shows that TC has never responded to the OCD's August 6, 1999 correspondence requiring information related to the remediation and monitoring of contaminated ground water at TC's Tatum Pit closure sites.

Response

Tipperary Corporation did indeed respond to your request and sent copies to both Sante Fe and Hobbs in October, 1999. We duplicated the Hobbs office copy yesterday and re-sent it to you via UPS.

Request # 2

The report does not contain a water potentiometric map for each sampling event at each site which shows the location of the pit and excavated areas, the surveyed locations of all monitor wells and recovery wells and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water table elevation in each monitoring well.

Response

Though the requested information is contained within the afore mentioned report, we are including it once again in this transmittal.

Request # 3

The report does not contain information on the quarterly volume of ground water and product recovered at each site nor the total volume recovered at each site to date.

Response

As stated in our October 1999 response, our collection and disposal system does not allow us to accurately measure either the total volume of water produced by the windmills or the oil / water ratio. We propose to install flow meters between the collection tanks and the downstream check valves leading into the Burro Pipeline disposal system at each location so as to capture total fluid volumes. We



further propose to collect samples directly from the lines coming from the windmills into a large graduated cylinder in order to determine the oil / water ratios. These results will be collected quarterly and reported annually.

Request # 4

The report does not contain information on the free product thickness in all wells containing products.

Response

We've not been asked to provide such information in the past. We do however plan to provide you with the information in the future and have resultantly purchased a new Waterra ultrasonic oil / water LNAPL / DNAPL interface meter expressly for this purpose.

Thank you again for your interest in this project. We will continue to strive to provide you with accurate information for your future evaluations.

Warmest regards,

Mike Griffin
President

Whole Earth Environmental, Inc.

COORDINATE FILE : TIPARARY.CRD

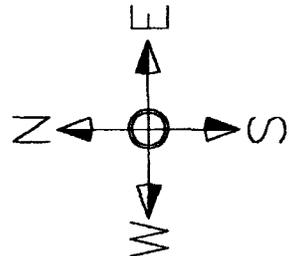
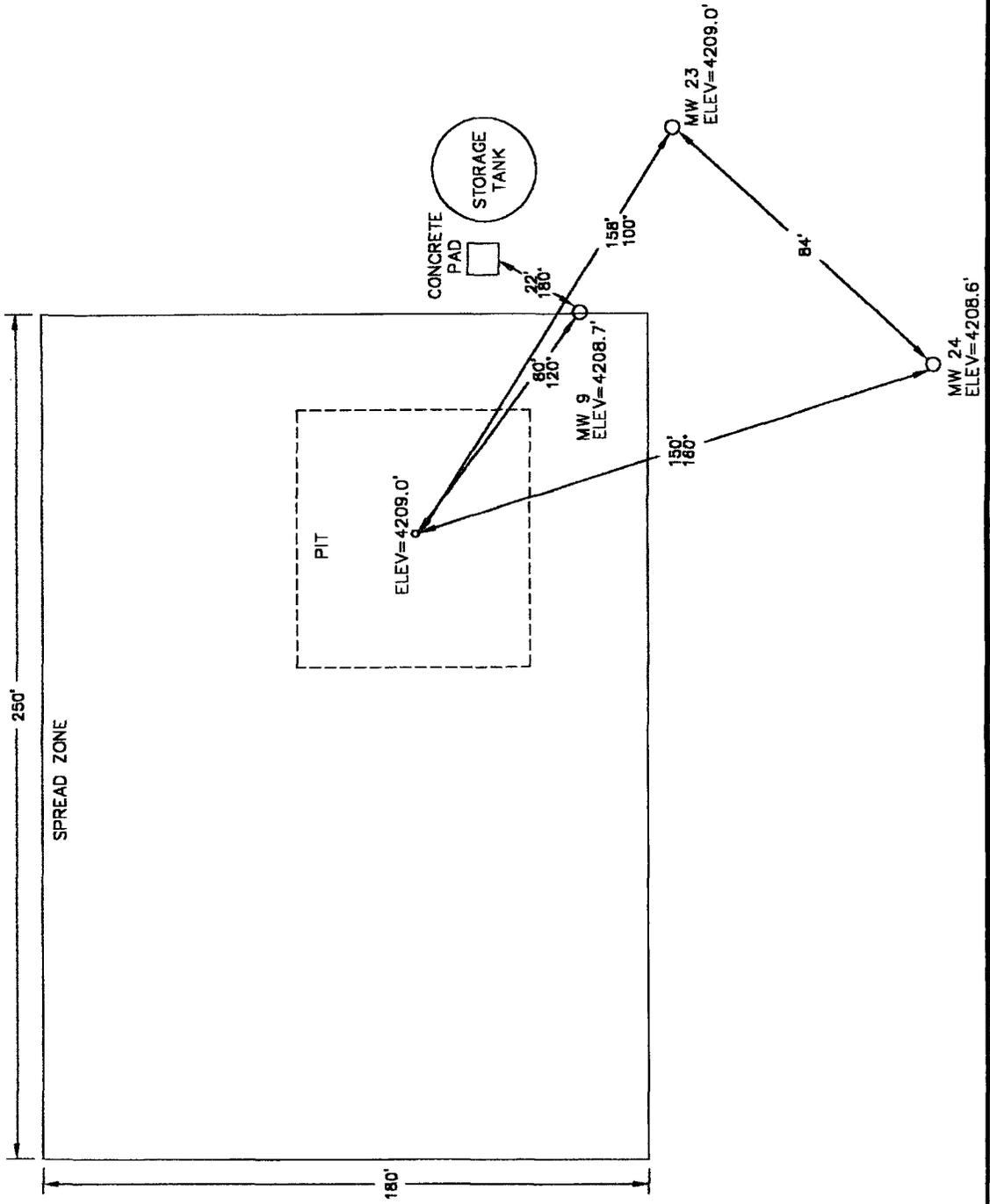
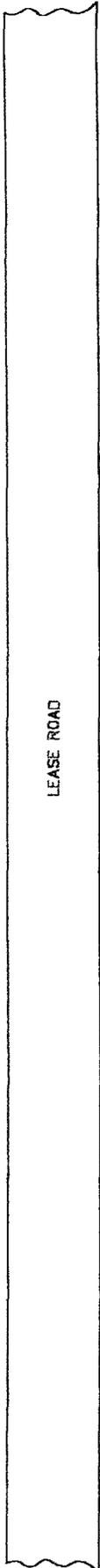
F COORDINATES

	PT#	NORTH	EAST	ELEV
SOHIO A STATE 1 PIT	253	870084.293	760084.206	4286.84
SOHIO A STATE 1 MW11	254	869981.125	760134.902	4285.88
SOHIO A STATE 1 MW19	255	869974.033	760205.397	4285.97
SOHIO A STATE 1 MW28	256	869892.771	760255.240	4285.61
SOHIO A STATE 1 MW31	257	869667.200	760452.460	4283.54
SOHIO STATE 1 PIT	258	870105.632	761381.498	4285.42
SOHIO STATE 1 MW10	259	870027.049	761459.334	4283.63
SOHIO STATE 1 MW17	260	869969.168	761443.837	4283.31
SOHIO STATE 1 MW18	261	870017.865	761533.683	4283.59
SOHIO STATE 1 MW28	262	869892.594	761534.416	4283.21
SOHIO STATE 1 MW30	263	869677.360	761728.469	4281.13
VERA 1 PIT	264	846366.089	752525.766	4289.49
VERA #1 MW5	265	846217.026	752582.067	4298.90
STATE NBF 1 PIT	266	856893.939	764024.682	4266.86
STATE NBF 1 MW8	267	856806.388	764165.403	4259.41
STATE NBF 1 MW15	268	856747.667	764157.788	4259.68
STATE NBF 1 MW16	269	856774.041	764241.604	4259.06
STATE NBF 1 MW26	270	856658.728	764331.675	4258.04
BELL A 1 PIT	271	857796.692	758625.535	4279.64
BELL A 1 MW6	272	857857.556	758583.503	4281.12
BELL A 1 MW13	273	857754.617	758597.054	4280.84
BELL A 1 MW14	274	857821.944	758664.690	4280.80
BELL A 1 MW25	275	857614.080	758714.518	4280.37
GS STATE 1 SOURCE	276	867037.530	755087.975	4307.00
GS STATE 1 MW21	277	866953.249	755213.712	4303.08
GS STATE 1 MW22	278	866905.186	755154.733	4302.77
GS STATE 1 MW29	279	866798.038	755260.271	4303.20
GS STATE 1 MW?	280	867001.862	755131.639	4303.27
MABEL COM 1 SOURCE	281	852659.555	756329.277	4290.55
MABEL COM 1 MW3	282	852517.536	756370.356	4287.22
MABEL COM 1 MW4	283	852592.288	756473.774	4287.46
STATE NBN 1 PIT	284	859499.318	758793.854	4282.45
STATE NBN 1 MW7	285	859397.517	758825.203	4281.59
SATELLITE 4 MW9	286	866587.512	775890.421	4208.66
SATELLITE 4 MW23	287	866507.846	775901.105	4209.03
SATELLITE 4 MW24	288	866562.481	775964.699	4208.64
IVA COM 1 SOURCE	289	856721.216	756252.189	4298.42
IVA COM 1 MW1	290	856654.035	756344.507	4292.10
IVA COM 1 MW2	291	856695.146	756388.036	4291.93

HORIZONTAL DATUM NAD 83

VERTICAL DATUM NAVD 88

SAT. 4



SCALE 1"=50'

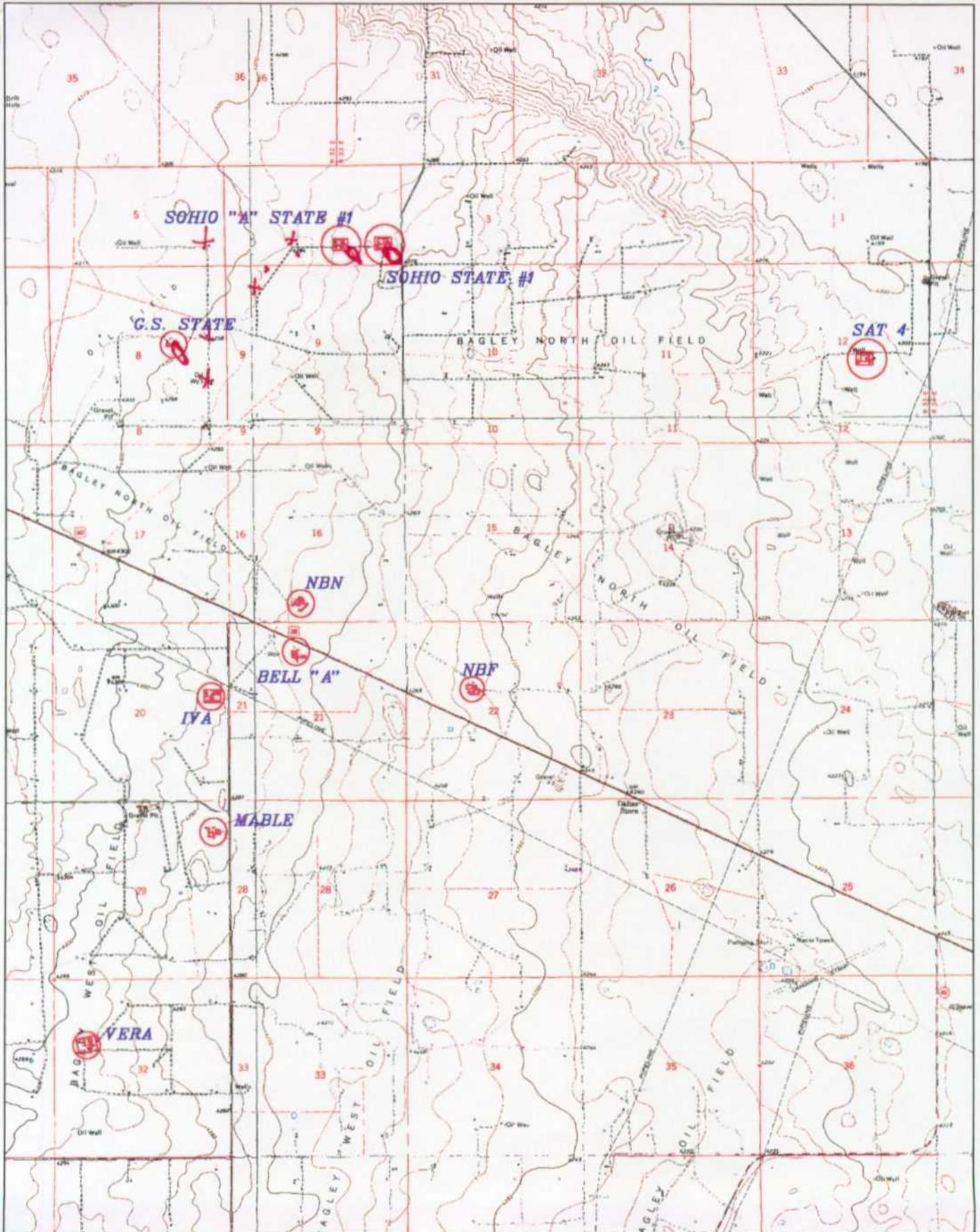


Tipperary Corporation
Tatum Pit Closure Project
Monitor Well Water Elevation Table

Well Name	Monitor Well No.	Surface Elevation	Date Well Drilled	Water Depth @ Drill Date	Water Elevation	Water Depth @ 8/8/99	Water Elev. @ 8/8/99	Water Depth @ 10/21/99	Water Elev. @ 10/21/99	Depth Change Aug. / Oct. 99	Distance to Pit Center (ft)	Gradient (FL / FL)	Gradient (FL / 100 FL)
Iva	1	4,298.42	Aug-97	52.0	4,246.42	48.83	4,243.27	51.75	4,240.35	2.92	115	0.080174	8.02
	2	4,292.10	Aug-97	54.9	4,237.20	49.17	4,242.76	51.50	4,240.43	2.33	140	0.053500	5.35
	3	4,291.93	Aug-97	53.0	4,238.93	52.0	4,238.55	52.0	4,238.55	0.00	148	0.022500	2.25
Mable	4	4,287.22	Aug-97	52.0	4,235.22	48.75	4,238.47	52.50	4,234.72	3.75	160	0.019313	1.93
	5	4,287.46	Aug-97	52.0	4,235.46	48.58	4,238.58	51.75	4,235.71	3.17	159	-0.037233	-3.72
Vera	6	4,292.98	Aug-97	63.0	4,289.50	61.50	4,237.40	61.50	4,237.40	0.00	93	0.021183	2.12
	7	4,283.09	Aug-97	47.8	4,279.60	42.13	4,238.99	43.01	4,238.11	0.88	51	0.044118	4.41
Bell	8	4,281.12	Aug-97	51.0	4,230.12	40.83	4,240.01	43.66	4,237.18	2.83	47	0.048723	4.87
	13	4,280.84	Oct-97	47.8	4,232.04	43.00	4,237.80	43.50	4,237.30	0.50	154	0.017662	1.77
NBN	14	4,280.80	Oct-97	48.3	4,232.50	43.50	4,236.87	43.50	4,236.87	0.00	107	0.008037	0.80
	25	4,280.37	Mar-99	47.4	4,232.97	43.50	4,236.87	43.50	4,236.87	0.00	165	0.045152	4.52
NBF	7	4,281.59	Aug-97	50.0	4,281.59	43.50	4,238.09	44.00	4,238.73	0.40	262	0.008053	0.81
	8	4,266.86	Aug-97	48.0	4,211.41	35.75	4,223.66	35.75	4,223.66	0.00	176	0.010398	1.04
Sohle # 1	15	4,259.68	Oct-97	47.0	4,212.68	34.75	4,224.93	37.00	4,222.68	2.25	387	0.031579	3.16
	16	4,259.08	Oct-97	47.1	4,211.98	36.00	4,223.08	36.10	4,222.96	0.10	247	0.022791	2.28
Sohle # 2	26	4,258.04	Mar-99	43.0	4,215.04	34.75	4,223.29	34.60	4,223.44	-0.15	387	0.022791	2.28
	30	4,281.13	Aug-99	45.3	4,235.82	45.31	4,235.82	44.10	4,237.03	-1.21	110	0.016273	1.63
Sohle "A"	11	4,285.88	Aug-97	50.0	4,233.63	44.50	4,239.13	44.90	4,238.73	0.40	262	0.008053	0.81
	17	4,283.31	Oct-97	49.4	4,233.91	44.00	4,239.31	44.50	4,238.81	0.50	176	0.010398	1.04
G.S. State	18	4,283.59	Oct-97	48.6	4,234.99	43.75	4,239.84	44.10	4,239.49	0.35	552	0.004004	0.40
	28	4,283.21	Mar-99	46.3	4,236.96	35.00	4,248.21	44.15	4,239.06	9.15	776	0.005528	0.56
Sat # 4	31	4,283.54	Aug-99	37.5	4,246.09	37.45	4,246.09	38.90	4,244.64	1.45	624	0.005288	0.53
	9	4,208.66	Aug-97	31.0	4,177.66	26.17	4,182.49	26.75	4,181.91	0.58	80	0.035375	3.54
	23	4,208.03	Oct-97	28.0	4,181.03	26.25	4,182.78	27.15	4,181.88	0.90	158	0.016570	1.56
	24	4,208.64	Oct-97	28.9	4,179.74	26.08	4,182.66	26.45	4,182.19	0.37	150	0.019000	1.90

Note: Vera, Bell and Satellite 4 had significant subsidence within the pit area. The red elevations include an added 3.49' (Ave. of seven other sites) Correct elevations noted in column 6.

WHOLE EARTH ENVIROMENTAL, INC.



BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 9352
Date: 10-21-99

Drawn By: K. GOAD
Disk: KJG #122 - WE9352.DWG



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

March 15, 2001

CERTIFIED MAIL
RETURN RECEIPT NO. 5051-4218

Mr. Larry Sugano
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

**RE: TATUM PIT CLOSURE PROJECT
LEA COUNTY, NEW MEXICO**

Dear Mr. Sugano:

The New Mexico Oil Conservation Division (OCD) has reviewed Tipperary Corporation's (TC) December 7, 2000 "PROGRESS REPORT FOR YEAR 2000, TATUM PIT CLOSURE PROJECT, LEA COUNTY, NEW MEXICO". This document contains TC's annual report on the results of monitoring of ground water contamination related to the closure of 8 unlined pits west of Tatum, New Mexico.

The OCD has the following comments and requests for information regarding the above-referenced document:

1. A review of the OCD's files shows that TC has never responded to the OCD's August 6, 1999 correspondence requiring information related to the remediation and monitoring of contaminated ground water at TC's Tatum Pit closure sites. Please provide this information.
2. The report does not contain a water table potentiometric map for each sampling event at each site which shows the location of the pit and excavated areas, the surveyed locations of all monitor wells and recovery wells and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water table elevation in each monitor well. This information has been required in prior correspondence and must be submitted with the annual reports in order to be able to evaluate the effectiveness of the monitoring system. Please provide this information.

Larry G. Sugano
March 15, 2001
Page 2

3. The report does not contain information on the quarterly volume of ground water and product recovered at each site nor the total volume recovered at each site to date. This information has been required in prior correspondence and must be included in the annual reports in order to evaluate the effectiveness of the remediation system. Please provide this information.
4. The report does not contain information on the free product thickness in all wells containing products. Please provide this information such that the OCD can evaluate the effectiveness of the remediation system. In addition please provide this information in all future annual reports.

The above required information shall be submitted to the OCD Santa Fe Office by April 15, 2001 with a copy provided to the OCD Hobbs District Office.

If you have any questions, please call me at (505) 476-3491.

Sincerely,



William C. Olson
Hydrologist
Environmental Bureau

xc: Chris Williams, OCD Hobbs District Office
Mike Griffin, Whole Earth Environmental, Inc.



Tipperary CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

December 7, 2000

VIA FEDERAL EXPRESS

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

**RE: Progress Report for Year 2000
Tatum Pit Closure Project
Lea County, NM**

RECEIVED
DEC 15 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Dear Mr. Olson:

Please find enclosed additional results from our monitor wells in the subject project area. This report summarizes the results from water samples taken on January 8, April 13, July 20, and September 26, 2000. These results represent the tenth through thirteenth quarters of monitoring. In general, we are continuing to observe decreasing levels of BTEX in the monitor wells.

The Executive Summary section contains the following:

- Observations by well of sampling results.
- Summary of water depths in each monitor well.
- Lab results and chain of custody records for the water samples.

Detailed results are presented in tabular and graphical format for each monitor well. The monitor well data is grouped by site location in the report.

We will continue to sample the project quarterly and report the results to your office on an annual basis. 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



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

August 6, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z-274-520-689

Mr. Larry G. Sugano
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

RE: TATUM PIT CLOSURES

Dear Mr. Sugano:

The New Mexico Oil Conservation Division (OCD) has reviewed Tipperary Corporation's (TC) April 27, 1999 "APRIL 1999 PROGRESS REPORT, TATUM PIT CLOSURE PROJECT, LEA COUNTY, NEW MEXICO". This document contains the results of TC's monitoring of ground water contamination related to the closure of 10 unlined pits west of Tatum, New Mexico. The document also requests final closure of the remedial actions related to unlined pits at the State NBN #1 and Vera #1 sites and proposes modifications to the ground water sampling program.

In order to complete a review of the above referenced closure requests and sampling modifications, the OCD requires that TC submit the following information, with all maps, tables and data segregated into separate case files for each site:

1. A water table potentiometric map for each site which shows the location of the pit and excavated areas, the surveyed locations of all monitor wells and recovery wells and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water table elevation in each monitor well. On March 29, 1999, the OCD required that TC submit this information. The above referenced document states that TC was preparing the maps. To date the OCD has not received this required information.
2. Tables of water table elevations in each monitor well during each sampling event. The document discusses seasonal fluctuations in the water table as responsible for increases in contaminant concentrations in ground water. However, the supporting water table elevation vs. time data for each monitor well is not provided.
3. Tables of all past and present water quality sampling results for each ground water monitoring and recovery well as required in the OCD's January 15, 1999 conditions of approval. The document only contains analytical data for ground water monitoring wells that are currently being sampled.

Mr. Larry G. Sugano
August 6, 1999
Page 2

4. An explanation of the use of drill cuttings as backfill in the annular space above the bentonite plug in each newly constructed monitor well . This is a direct violation of the OCD's January 15, 1999 conditions of approval which required that the remainder of the annular space be grouted to the surface with cement containing 3-5% bentonite. As a result the monitor wells as constructed by TC are potentially direct conduits to ground water.
5. The monitor well development procedures and volumes for each monitor well.
6. The volume of ground water and product recovered to date at all sites with fluid recovery as required in the OCD's January 15, 1999 conditions of approval.
7. A completed OCD pit closure and remediation report form for each site requested for closure. Each form will contain a discussion and the results of all soil and ground water site closure activities including all soil analytical data from the excavations and the backfilled materials as well as figures showing all sample locations.

The above required information shall be submitted to the OCD Santa Fe Office by October 4, 1999 with a copy provided to the OCD Hobbs District Office. Submission of this information will allow the OCD to complete a review of TC's closure requests and proposed ground water sampling plan modifications.

If you have any questions or comments, please call me at (505) 827-7154.

Sincerely,



William C. Olson
Hydrologist
Environmental Bureau

xc: Chris Williams, OCD Hobbs District Office
Mike Matush, NM State Land Office
Mike Griffin, Whole Earth Environmental, Inc.



**NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT**

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

March 29, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z-274-520-638

Mr. Larry Sugano
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

RE: TATUM PIT CLOSURES

Dear Mr. Sugano:

The New Mexico Oil Conservation Division (OCD) has reviewed Tipperary Corporation's (TC) February 16, 1999 "January 1999 PROGRESS REPORT, TATUM PIT CLOSURE PROJECT, LEA COUNTY, NEW MEXICO". This document contains the results of TC's monitoring of ground water contamination related to the closure of 10 unlined pits west of Tatum, New Mexico and requests final closure of the remedial actions related to unlined pits at the Iva Com #1, Mable Com #1, State NBN #1 and Vera #1 sites. The document also requests an extension of the deadline for submission of a report on ground water investigations from April 1 to May 1, 1999.

The above referenced deadline extension request is approved.

In order to complete a review of the above referenced closure requests, the OCD requires that TC submit a water table potentiometric map for each of the 10 sites which shows the location of the pit and excavated areas, the surveyed locations of all monitor wells and recovery wells and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water table elevation in each monitor well.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Chris Williams, OCD Hobbs District Office
Mike Matush, NM State Land Office
Mike Griffin, Whole Earth Environmental, 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

June 29, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-303

Mr. Larry Sugano
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

**RE: TATUM PIT CLOSURES
LEA COUNTY, NEW MEXICO**

Dear Mr. Sugano:

The New Mexico Oil Conservation Division (OCD) has reviewed Tipperary Corporation's (TC) April 2, 1998 "PROGRESS REPORT, TATUM PIT CLOSURE PROJECT, LEA COUNTY, NEW MEXICO" and December 11, 1997 "TATUM PIT CLOSURE PROJECT, CLOSURE REPORT". These documents contain the results of TC's investigation of ground water contamination related to the closure of 10 unlined pits west of Tatum, New Mexico.

A review of the above referenced documents shows that at the majority of the sites the extent of ground water contamination has not been completely defined. Therefore, the OCD requires that TC submit a work plan to completely define the extent of ground water contamination which is in excess of New Mexico Water Quality Control Commission (WQCC) ground water standards. The work plan will be submitted to the OCD Santa Fe Office by August 28, 1998 with a copy provided to the OCD Hobbs District Office.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

A handwritten signature in black ink, appearing to read "William C. Olson".

William C. Olson
Hydrologist
Environmental Bureau

xc: Wayne Price, OCD Hobbs District Office
Mike Matush, NM State Land Office
Mike Griffin, Whole Earth Environmental, Inc.



Whole Earth
Environmental

19606 S. Gabriel
Houston, TX 77084
Phone: (281) 492-7077
Fax: (281) 646-8996

FAX COVER PAGE

To: Bill Olsen

From: Mike Griffin

Company: NM OCD

Company: Whole Earth Environmental, Inc.

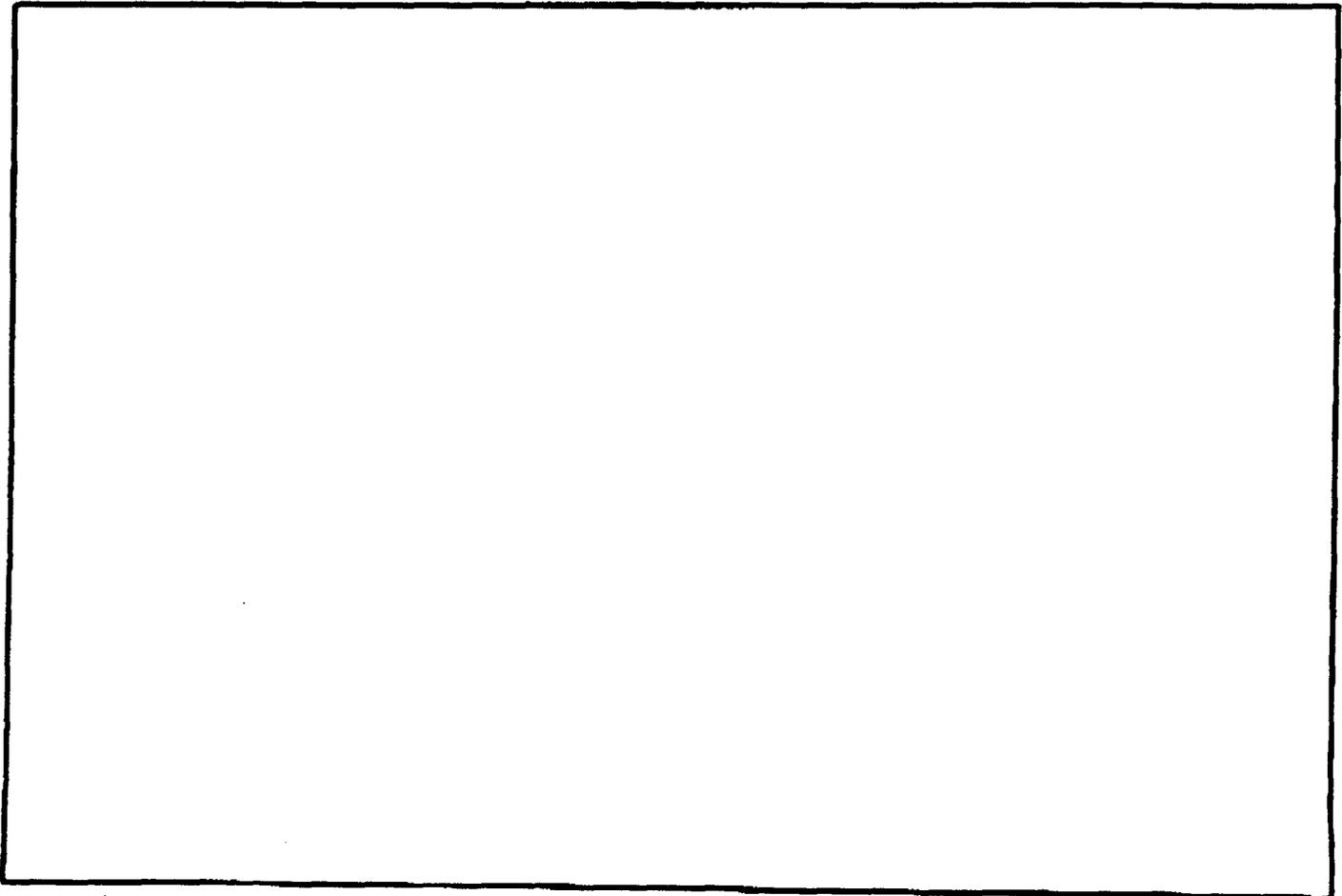
Fax No.: (505) 827-8177

Pages including cover sheet: 3

Subject: Extension Request

Message:

Date: 9/22/97





To: Bill Olsen

From: Mike Griffin

Date: September 9, 1997

Subject: Extension Request

Sent by FAX to: (505) 827-8177

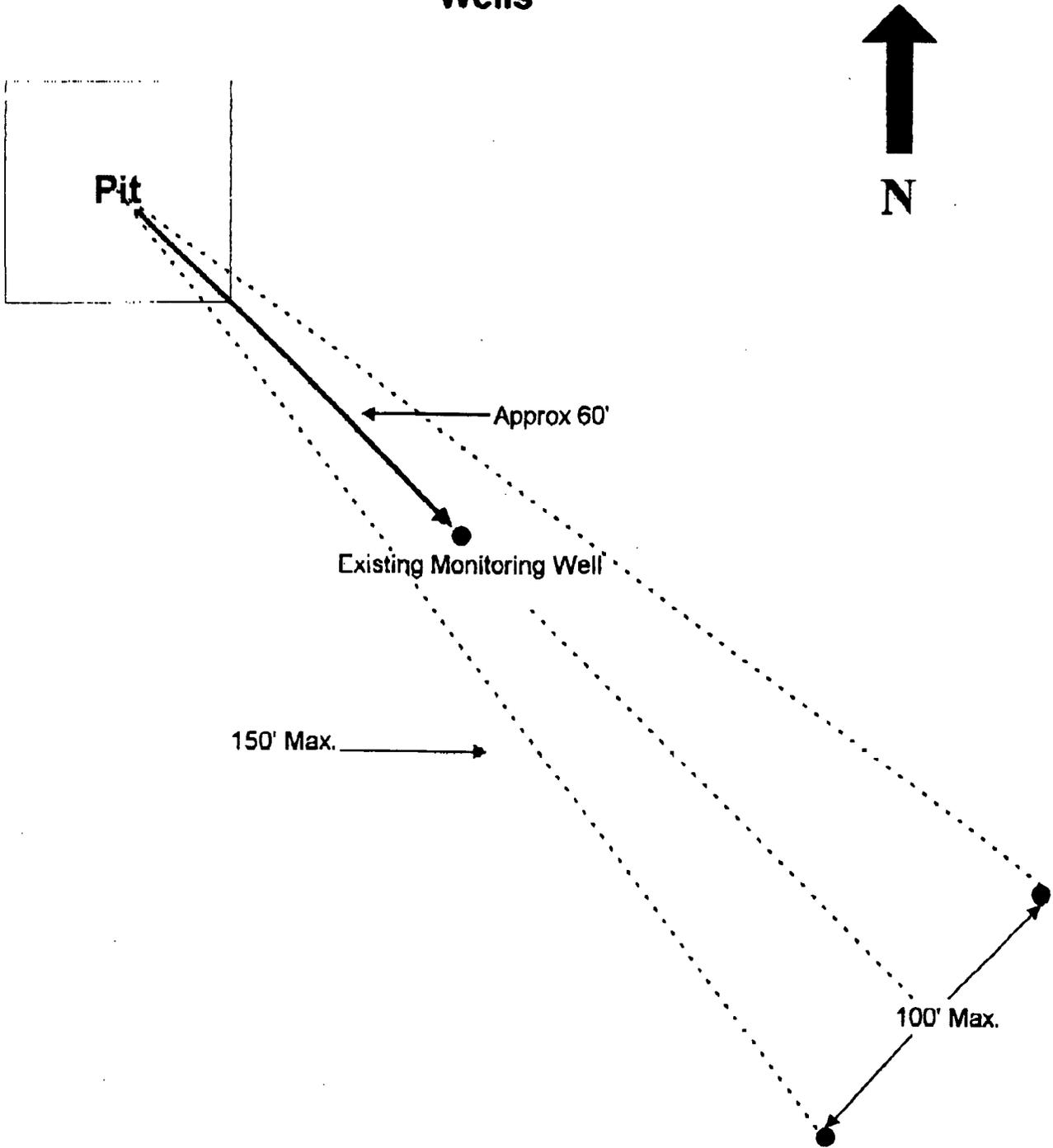
Bill, as you know we experienced an unforeseen delay in completing the Tipperary Tatum Pit Closure Project due to the discovery of detectable BTEX concentrations on five pit locations and the presence of free product in the G.S. State monitoring well. (Reference two letters Bob Fehlmann of Tipperary to you dated Sept. 11).

The new monitoring and recovery wells will be drilled beginning the morning of the 25th and will be sampled as soon as possible thereafter. We request an additional extension for project completion to the end of October.

By copy of this memorandum, I'm notifying Mr. Wayne Price of your Hobbe office as to the new schedule and will further advise him telephonically in advance of the final sampling events so as to allow him to witness.

Please advise if this causes any problems for you.

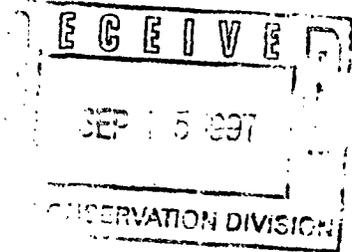
Typical Location of Monitoring Wells





Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202



September 11, 1997

Mr. William C. Olson
Hydrogeologist – Environmental Bureau
New Mexico Energy And Natural Resources Dept.
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87504

Subject: Tatum, New Mexico Area “Pit Closure Project”.

Dear Mr. Olson:

Enclosed is a copy of the laboratory analyses of the first water samples taken from the new monitoring wells at our Tatum, New Mexico “Pit Closure Project”. The data indicates BTEX concentrations below allowable maximums for pit closures, but higher than maximums allowed for the more stringent WQCC standards that here apply to the Ogalla Aquifer. Pits with monitor well water samples exceeding the WQCC BTEX maximums include the: Bell State “A” #1, Sohio State “A”, Sohio State #1, Satellite #4, and the State NBF#1.

We have already removed the BTEX source (pit sludge) at these locations, and believe that through time, the processes of natural attenuation will remediate the minor amounts detected. Therefore, as a continuation of our pit closure project, in an effort to establish the extent of the plume we intend to set one new monitor well 150 feet down the ground-water gradient from each of the pits listed above. Tipperary believes these new monitor wells will define the lateral extent of the BTEX at these sites. We intend to sample these wells quarterly.

Please indicate your approval of the above modification to Tipperary’s pit closure plan so that we may proceed with the work. Let me know if you have questions or need more information.

Sincerely,

Robert H. Fehlmann
Environmental Coordinator

WPWIN \ TIP \ LETTERS \ NMPClose.L09

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. MIKE GRIFFIN
18606 SAN GABRIEL
HOUSTON, TEXAS 77064
FAX: 1-281-846-8996

Receiving Date: 08/08/97
Sample Type: WATER
Project: TIPPERARY
Project Location: NONE GIVEN

Analysis Date: 08/09/97
Sampling Date: 08/06/97, 08/06/97
Sample Condition: Intact/ice

ELTS	FIELD CODE	BENZENE mg/l	TOLUENE mg/l	ETHYLBENZENE mg/l	m-p-XYLENE mg/l	o-XYLENE mg/l
12475	NA COM MWW1	<.001	<.001	<.001	0.002	0.007
12476	NA COM MWW2	<.001	<.001	<.001	<.001	<.001
12477	NA COM SW	3.128	2.551	0.209	1.182	0.094
12478	GS #12	1.894	0.055	0.061	3.065	0.064
12481	BELL #8	0.667	0.013	0.024	0.060	0.006
12482	NBN #7	<.001	<.001	<.001	<.001	<.001
12483	OHIO 1 #10	2.558	1.148	0.243	1.257	0.081
12484	OHIO A #11	0.096	0.004	0.002	0.068	0.012
12485	SAT #19	0.092	0.010	0.015	0.082	0.002
12486	NBF #8	0.302	0.208	0.089	0.753	0.161
12487	VERA #8	0.003	0.003	0.003	0.021	0.029
12488	MABLE MW #3	0.010	0.008	0.001	0.139	0.012
12489	MABLE MW #4	0.015	0.002	0.002	0.010	0.002
	% IA	111	111	112	111	113
	% EA	113	112	114	112	111
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030


Michael R. Fowler

9-10-97
Date



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

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

June 4, 1997

CERTIFIED MAIL

RETURN RECEIPT NO. F-410-431-177

Mr. Larry G. Sugano
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

RE: PIT CLOSURES
TATUM, NEW MEXICO

Dear Mr. Sugano:

The New Mexico Oil Conservation Division (OCD) has reviewed Tipperary Corporation's (TC) April 9, 1997 "PIT CLOSURES TATUM, NEW MEXICO" and TC's undated "TATUM PIT CLOSURE PROJECT". This document contains the results of soil investigations and remedial action plans for field production pits at the following TC locations in the North Bagley Oil Field near Tatum, New Mexico:

- | | |
|-------------------|----------------------------|
| - Bell State "A" | Unit C, Sec 21, T11S, R33E |
| - G.S. State #1 | Unit G, Sec 08, T11S, R33E |
| - Iva Com #1 | Unit H, Sec 20, T11S, R33E |
| - Mabel Com #1 | Unit D, Sec 29, T11S, R33E |
| - Satellite #4 | Unit I, Sec 12, T11S, R33E |
| - Sohio State "A" | Unit P, Sec 04, T11S, R33E |
| - State NBF #1 | Unit N, Sec 27, T11S, R33E |
| - State NBN #1 | Unit N, Sec 16, T11S, R33E |
| - Vera #1 | Unit E, Sec 32, T11S, R33E |

The remedial action work plan, as contained in the above referenced documents, is approved with the following conditions:

1. All soil samples from the excavations and remediated soils will be taken and analyzed for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylene (BTEX) using EPA approved methods and quality assurance/quality control procedures.

NOTE: The proposed BTEX soil analytical method QF-19 is not an EPA approved method for analysis of soils. In fact, the QF-19 procedure does not measure BTEX in soils but actually measures the concentrations of BTEX in vapors emanating from the soil in an enclosed headspace. This method is not acceptable for a final determination of the

remaining concentrations of BTEX in soils. EPA approved methods must be used.

In addition, the TPH analytical data sheets for the initial surveys do not contain the EPA method QA/QC data such as duplicates, spikes, etc. for each site nor do they contain the signature of the analyst. The soil TPH analyses from the excavations and remediated soils must include appropriate QA/QC data for the EPA method TPH soil analysis and a data sheet signed by the analyst.

2. Upon completion of the soil remedial actions at the Vera #1, State NBN #1, State NBF #1, Bell State "A" and G.S. State #1, TC will install a monitor well directly adjacent to and downgradient of the pit at each site.
3. At the Mabel Com #1 and Iva Com #1, TC will define the full extent of free phase and dissolved phase hydrocarbon contaminants in ground water which are in excess of New Mexico Water Quality Control Commission (WQCC) standards. During the initial ground water investigations at least 2 monitor wells will be installed in a radial pattern downgradient of each site recovery well such that the direction of the local ground water gradient can be determined.
4. At the Mabel Com #1 and Iva Com #1, the recovery wells will be installed directly adjacent to the excavated pit such that the well bore does not pierce the liners in the excavated pit areas.
5. All monitor wells and recovery wells will be constructed and completed as set out below:
 - a. A minimum of fifteen feet of well screen will be installed, with at least five feet of well screen above the water table and ten feet of well screen below the water table.
 - b. An appropriately sized gravel pack will be set around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.
 - c. A 2-3 foot bentonite plug will be placed above the gravel pack.
 - d. The remainder of the hole will be grouted to the surface with cement containing 5 % bentonite.
 - e. Each well will be developed after construction using EPA approved procedures.

6. Ground water from all monitor wells and recovery wells will be initially sampled and analyzed for concentrations of benzene, toluene, ethylbenzene, xylene (BTEX), major cations and anions, WQCC metals and polynuclear aromatic hydrocarbons using EPA approved methods and QA/QC procedures.
7. All wastes generated during the investigative and remedial actions will be disposed of at an OCD approved facility.

NOTE: The OCD permitted Gandy/Marley Landfarm is not allowed to accept liquids. This landfarm is only permitted to accept contaminated soils and sludges. If liquids are recovered during the remedial actions they will need to be disposed of at an alternate OCD approved facility which is permitted for those types of wastes.

8. TC will submit a report on the investigations and remedial actions to the OCD by September 5, 1997. The report will contain:
 - a. A description of all activities which occurred during the investigations and remedial actions including the final excavated size of each pit, the volume of material remediated as well as conclusions and recommendations.
 - b. A completed OCD "PIT REMEDIATION AND CLOSURE REPORT" form for each site for which final pit closure approval is sought.
 - c. A summary of all laboratory analytic results of soil and water quality sampling for each site including copies of all laboratory analytical data sheets and associated QA/QC data.
 - d. A water table elevation map for the Mable Com #1 and Iva Com #1 sites using the water table elevation of the ground water in all site monitor wells.
 - e. A geologic log and as built well completion diagram for each monitor well and recovery well.
9. The OCD defers comment on the long term ground water monitoring plan for the Mabel Com #1 and Iva Com #1 until the full extent of contamination has been determined.
10. TC will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.

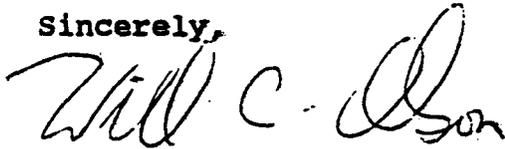
Mr. Larry G. Sugano
June 4, 1997
Page 4

11. All documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve TC of liability if contamination exists which is beyond the scope of the work plan or if the activities fail to adequately determine the extent of or adequately remediate contamination related to TC's activities. In addition, OCD approval does not relieve TC of responsibility for compliance with any other federal, state 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

- cc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price, OCD Hobbs Office
Linda Freedman, NM State Land Office
Mike Griffin, Whole Earth Environmental, Inc.

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PS Form 3800, April 1995



STATE OF
 NEW MEXICO
 OIL
 CONSERVATION
 DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 1530	Date 9/22/97
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<u>Originating Party</u>	<u>Other Parties</u>
Bill Olson - Environmental Bureau	Bob Fehlmann - Tipperary Corp. (303) 293-9379

Subject
 Tipperary Pit Closures - Tatum, NM

Discussion
 Gave verbal approval of 9/22/97 fax from Mike Griffin with following conditions:

- 1.) Monitor well construction, water quality sampling and waste disposal will be conducted according to OCD June 4, 1997 approval conditions
- 2.) Wayne Price at OCD Hobbs will be contacted about the drilling and sampling schedule

Also expressed concern about source well located 60' from pit instead of directly adjacent to pit areas required in OCD's 6/4/97 approval

Conclusions or Agreements
 I will fax copy of verbal approval to Tipperary at (303) 291-0398

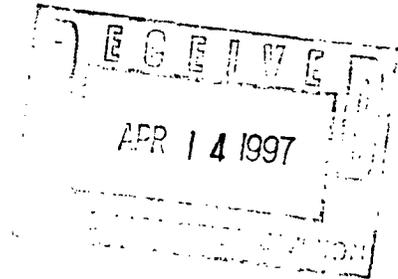
Distribution
 file
 Bob Fehlmann - Tipperary (fax copy)
 Wayne Price - OCD Hobbs

Signed



Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202



April 9, 1997

Mr. William C. Olson
Hydrogeologist - Environmental Bureau
New Mexico Energy and Natural Resources Dept.,
Oil Conservation Division
2040 Pacheco
Santa Fe, New Mexico

RE: PIT CLOSURES TATUM, NEW MEXICO

Dear Mr. Olson:

Enclosed is a copy of Tipperary's work results to date, and a new proposed closure plan, for the production emergency upset pits at Tatum, New Mexico. I believe that this report includes all the information that you requested in your March 27, 1997 letter concerning Tipperary's progress with this project.

I have forwarded a copy of this report to Jerry Sexton, in the OCD's Hobbs, NM office. Let me know if you have any questions.

Sincerely,

Larry G. Sugano
Vice President - Engineering

cc: Jerry Sexton, OCD Hobbs Office