1R - 324

REPORTS

DATE:

2003

MAXIM TECHNOLOGIES INC
A TETRA TECH COMPANY

10601 Lomas NE
Suite 106
Albuquerque, NM 87112
505-237-8440
505-237-8656 fax

July 18, 2003

Mr. William Olson, Hydrogeologist
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

RE: Reed A Groundwater Investigation
Cooper Ranch
Lea County, New Mexico

Dear Mr. Olson:

Attached is a copy of the results of the recent groundwater investigation at the former Conoco Reed A site, Lea County, New Mexico. We would appreciate your review and concurrence on the path forward stated in the report.

Please let me know if you have any questions regarding the attached report.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Clyde L. Yancey, P.G.
Senior Project Manager

Cc: Neal Goates, ConocoPhillips

Attachment

1R324

Olson, William

From: Goates, R. Neal [Neal.Goates@conocophillips.com]
Sent: Wednesday, June 04, 2003 6:17 AM
To: Clyde Yancey; WOlson@state.nm.us
Subject: RE:

Bill,
FYI, Clyde and I went over this memo prior to sending to you. We feel the investigation scope of work was completed.

Neal Goates
RM&R Site Manager
ConocoPhillips
Threadneedle Office
PO Box 2197
Houston, TX 77252-2197
phone: 832-379-6427
etn: 679-6427
fax: 801-382-1674
cell: 832-465-4123
email: Neal.Goates@conocophillips.com

-----Original Message-----
From: Clyde Yancey [mailto:CYancey@maximusa.com]
Sent: Monday, June 02, 2003 2:46 PM
To: WOlson@state.nm.us
Cc: Goates, R. Neal
Subject:

Bill,

Please find attached a memo addressing your recent letter (5/23/03) concerning approval to install monitor wells at the Reed A site in Lea County, NM, case #1R-324.

Regards,
Clyde
<<BOlson Memo 060203.pdf>>

Clyde L. Yancey, P.G.
Maxim Technologies, Inc.
10601 Lomas Blvd. NE, Suite 106
Albuquerque, NM 87112
(505) 237-8440 phone
(505) 237-8656 fax
cyancey@maximusa.com <mailto:cyancey@maximusa.com>

MAXIM TECHNOLOGIES INC®

10601 Lomas NE, Suite 106
Albuquerque, NM 87112
(505) 237-8440

MEMORANDUM

DATE: **June 2, 2003**

TO: **Bill Olson, NMOCD – Neal Goates, ConocoPhillips**

FROM: **Clyde Yancey, Maxim Technologies**

SUBJECT: **NMOCD May 23, 2003 Reed "A" Letter**

Maxim Technologies is in receipt of your May 23, 2003 letter granting approval of the work plan to install three monitor wells at the Reed "A" site in Lea County, New Mexico. Your conditions of approval are noted and will be followed during field activities currently scheduled to commence on June 10, 2003.

In the closing paragraph of said letter, you indicated that Maxim did not carry out our previous fieldwork pursuant to OCD's work plan approval conditions (letter dated 9/19/03). You state in your recent letter "that soil from each borehole be sampled on 10 foot intervals and be analyzed for concentrations of BTEX, (TPH), and chloride. ConocoPhillips did not conduct borehole soil sampling from 10 foot intervals as required." The actual language from the September 19, 2001 is as follows:

1. *Soil from each boring shall be sampled on 10 foot intervals.*
2. *All soil samples shall be obtained and analyzed for concentrations of benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and chloride using EPA approved methods and quality assurance/quality control (QA/QC).*

   Note: Field PID readings of less than 100 ppm may be substituted for a laboratory analysis of BTEX.

In regards to item #1, we took continuous split-spoon soil samples in all borings and performed headspace analyses on each sample collected. We believed that methodology clearly achieved the condition set forth. We did not interpret item #1 as requiring actual laboratory analyses on all samples at ten-foot intervals, and would have questioned OCD at the time if this were our interpretation. The questions would have been based on excessive costs to our client and redundancy of information.

In regards to item #2, samples collected for analyses per our work plan were all analyzed for TPH and chloride using EPA approved methods. We did not analyze for BTEX based on your

stated "note" regarding substituting field PID readings less than 100 ppm for a laboratory analysis.

You further state "that there were no sample analyses of heavily contaminated soils in the source areas obtained during the soil investigations showing actual BTEX, TPH and chloride source contaminant concentrations, other than SPLP composite samples. The lack of this information will make it difficult to assess remedial options for contamination at the site."

In regards to this statement, we take exception based on the following:

- The composite SPLP samples from the two areas of concern consisted of four representative samples from across that site and from depth, consisting of the most heavily contaminated material present. True, bulk analyses were not obtained, but if they were, they would not be useful in "assessing remedial options for contamination at the site." Only the SPLP data can assess potential groundwater impacts.
- The SPLP analyses, which tell us what constituent of concern will leach from the most heavily contaminated material and possibly impact groundwater, are critical in determining remedial options at the site. The leachate was analyzed for TPH, BTEX and chloride.
- SPLP data is used in fate and transport modeling of constituents of concern to determine if the site warrants closure or some other abatement process. It is our understanding that the OCD typically requires this information.
- This sampling methodology was presented in our work plan, and was not questioned by NMOCD at the time.

Olson, William

From: Clyde Yancey [CYancey@maximusa.com]
Sent: Wednesday, May 07, 2003 4:13 PM
To: Goates, R. Neal; Olson, William
Cc: Crouch, Ronald P.
Subject: RE: Reed Monitor Well Locations

Attached is the proposal to install 3 monitor wells at the Cooper Reed A site.
Clyde

Clyde L. Yancey, P.G.
Senior Vice President
Maxim Technologies, Inc.
10601 Lomas Blvd. NE, Suite 106
Albuquerque, NM 87112
(505) 237-8440 phone
(505) 237-8656 fax
cyancey@maximusa.com <mailto:cyancey@maximusa.com>

Neal Goates
Site Manager
Risk Management & Remediation

Threadneedle 5022
600 North Dairy Ashford
Houston, TX 77079-1175
phone 832.379.6427
fax 801-382-1674
Neal.Goates@conocophillips.com

ConocoPhillips

May 5, 2003

Mr. Bill Olson, Hydrogeologist
New Mexico Oil Conservation Division
1230 South St. Francis Drive
Santa Fe, NM 87505

RE: ConocoPhillips "Cooper Reed A" Pit Site
Lea County, New Mexico

Dear Mr. Olson:

I am forwarding an additional copy of the August 26, 2002, report produced by Maxim Technologies, Inc. (Maxim) entitled *Cooper Reed A Soil Investigation, Leas County, New Mexico,* for your use.

Please note that a total of 11 soil borings were installed in and around the natural depression/pit area and the former tank battery site. The deepest boring (46 feet below ground surface [bgs]) was installed within the natural depression/pit. Within this boring, the soil photo-ionization detector (PID) readings were less than 100 parts per million (ppm), and the total petroleum hydrocarbons (TPH) values were below action levels. This boring was allowed to stay open for several hours, and no groundwater infiltration was noted. Also, a total of 15 test pits were installed within the natural depression/pit area, and no groundwater accumulated in the pits overnight. SPLP samples were taken of both pit material and former tank battery material. The non-detect results indicated no leachability potential from the hydrocarbon material.

The results summarized above and presented in the attached report and the SPLP results indicate source migration to groundwater is not occurring. To confirm groundwater is not being impacted, ConocoPhillips proposes the following:

- Installation of three monitor wells to groundwater to confirm our conclusion that the former tank battery area and the natural depression/pit area have not contributed leachate to the natural groundwater system underlying the Cooper Reed A site.

- The monitor wells will be configured in a triangular pattern to insure that the localized gradient can be determined; thus presenting both site-specific downgradient data as well as site-specific background data (Figure 1).

- The wells will be installed, developed and sampled per NM Oil Conservation Division protocols. The wells will be drilled to first water or red beds.

- Groundwater will be analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), TPH and chloride.

Please let me know if you have additional questions or comments relative to this proposal. We are prepared to install the wells within two weeks of receiving your concurrence on this plan and approval of access from the landowner.

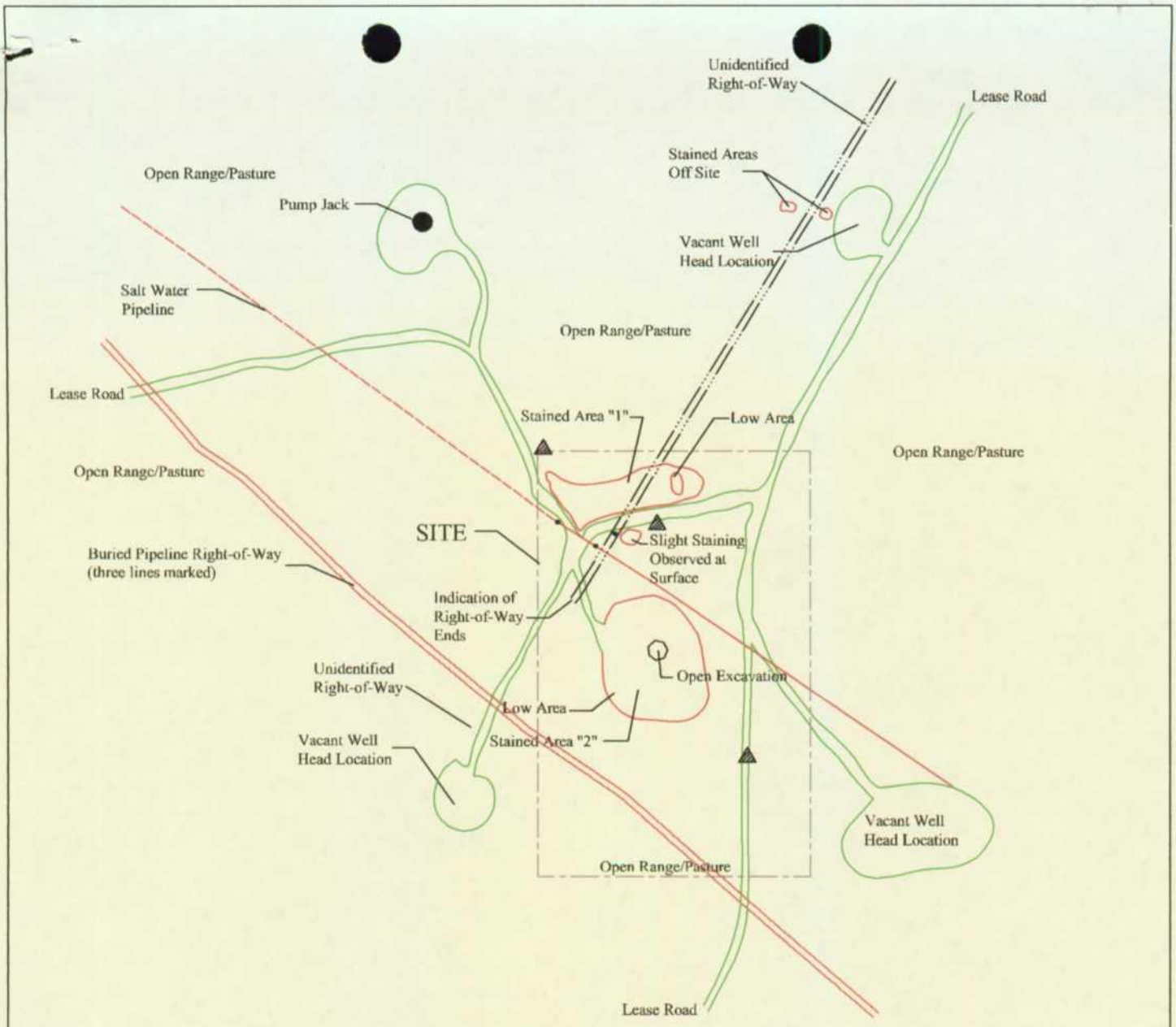
Very truly yours,

Neal Goates

Neal Goates
Project Manager
ConocoPhillips
Risk Management and Remediation

Attachments

CC: Clyde L. Yancey, Maxim Technologies, Albuquerque, NM



N

NOTES:

Target Property

- Pipeline Right-of-Way Marker
- ▲ Proposed Monitor Well

Scale: 1 in. = approx. 300 ft.

Locations Are Approximate

SOURCE: USGS Topographical Map - Monument South, NM

TARGET PROPERTY:	Former Tank Battery - Reed "A"	PROPOSED MONITOR WELL LOCATIONS	MAXIM TECHNOLOGIES INC
LEGAL DESCRIPTION			
CITY/STATE/ZIP:	Lea County, New Mexico		
LAT/LONG:	N32.55510/W103.31170	Drawing: Reed A WellFig.DWG	FIGURE 1

1R324

Olson, William

From: Sheeley, Paul
Sent: Tuesday, August 31, 2004 8:38 AM
To: Olson, William
Subject: CP Reed A Pix 8/5/04


DCP_4637.JPG


DCP_4638.JPG


DCP_4639.JPG


DCP_4640.JPG


DCP_4641.JPG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08/05/2005


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08/05/2005


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08/05/2005


08/05/2005

MAXIM TECHNOLOGIES INC®
A TETRA TECH COMPANY

10601 Lomas NE, Suite 106.
Albuquerque, NM 87112
(505) 237-8440

August 26, 2004

Mr. William Olson
Hydrogeologist, Environmental Bureau
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Reed A Historic Tank Battery Site
NE¼, SW¼, Sec 24, T20S, R36E
Perched Water Issue
NMOCD Case No. 1R-324
Maxim Project No. 4690024

Dear Mr. Olsen:

On behalf of ConocoPhillips, Maxim Technologies (Maxim) submits this review of environmental conditions at ConocoPhillips historic Reed A Tank Battery (site). This is in response to Mr. Dale Cooper's concern about water seeping into the excavation at Reed A. The site is located approximately 5.9 miles southwest of Monument (Latitude 32° 33' 18.9" N and Longitude 103° 18' 42.4"W) in Lea County, New Mexico.

During remedial excavations at the site, very shallow perched water was observed seeping from the contact between the overlying dune sands and the underlying clay beds at depths of approximately 4 to 10 feet below ground surface (fbgs; photos). This shallow perched water occurs where the highly permeable dune sands transmit precipitation downward until it encounters the underlying impermeable clays. The unconfined water then may flow laterally along the sand – clay contact due to gravity or remain in retention in low-lying areas of the clay surface. The perched water may also accumulate in larger quantities in erosional basins within the upper clay surface. During times of very low precipitation, a majority of the perched water is discharged from the subsurface by evaportranspiration.

In past conversations and correspondence regarding this site, the occurrence of this limited, shallow, perched water has been referred to as a natural "spring" by the landowner or landowner representatives. By definition, a spring occurs where the land surface intersects the water table. To investigate the occurrence of a water table underlying the site, Maxim on behalf of ConocoPhillips, performed two detailed subsurface investigations. These investigations were performed during March 2002 and June 2003. The results are presented below.

During an investigation performed in March, 2002, soil borings were drilled to depths ranging from 15 to 46 fbgs. The deepest boring (46 fbgs) was allowed to remain open for approximately two hours, after which it was plugged back to surface when no groundwater was observed in the borehole. Groundwater was not encountered in any of the other borings, as well. Lithology encountered in these borings consisted of approximately 5 to 10 feet of unconsolidated dune sand underlain by varying consistencies of clays and sands, and occasional discrete caliche beds. Also during this investigation, fifteen test pits were excavated to depths of between 4 and 13.5 fbgs at the site. No groundwater was encountered in any of the pits during excavation. Four of the pits, with bottom depths of 8 to 9 fbgs, were allowed to remain open overnight for observation. No groundwater or seepage was found in any of these four pits the following morning, and they were subsequently backfilled. The results of this investigation concluded that groundwater was not encountered at the site in any of the borings or excavations. A formal letter report detailing this investigation was provided to the NMOCD.

In June 2003, to further investigate the potential for the occurrence of groundwater underlying the site, three pilot borings were advanced until either groundwater or Triassic "Red Beds" were encountered per a NMOCD approved work plan. Triassic "Red Beds" were encountered in all three pilot borings at approximately 75 feet below ground surface. The borings were allowed to stand open over night to facilitate any potential groundwater infiltration. All three pilot borings were observed to be dry the day following installation. The borings were plugged and abandoned. A formal letter report detailing this investigation was provided to the NMOCD.

The Reed A site appears to be situated on the edge of a major regional groundwater boundary. According to New Mexico State Engineer Well Reports, shallow groundwater occurs in the Triassic-aged Chinle Formation approximately 0.5 miles south of the Reed A site. Groundwater in the Chinle Formation is usually found under confined conditions. Two wells identified as being in the Chinle Formation located approximately 1.2 miles south-southwest of the site were drilled to depths of 265 and 400 fbgs, and exhibited static groundwater levels of approximately 120 and 170 fbgs, respectively. To the north and west of the Reed A site, shallow groundwater occurs under unconfined conditions in the Tertiary-aged Ogallala Formation and in Quaternary alluvium deposits at depths of less than 40 fbgs. A number of wells drilled to depths of 125 to greater than 400 fbgs in this area have not encountered any groundwater.

Based on data collected during the two site investigations, it appears that the Ogallala Formation and Quaternary alluvium are non-water bearing, and groundwater as defined by the New Mexico Water Quality Control Commission (NMWQCC), does not occur within strata between ground surface and 75 fbgs at the Reed A site. Therefore, the occurrence of the limited water discharge into the open excavations does not meet the definition of a spring or groundwater per the NMWQCC (*interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply*). Therefore, ConocoPhillips requests that the NMOCD concur with the decision to backfill the open excavations and complete the approved site restoration plan.

Mr. Olson, if you have any questions concerning this perched water issue, please call Mr. Neal Goates (832-379-6427) or me (505-237-8440).

Sincerely,

MAXIM TECHNOLOGIES

Clyde L. Yancey, P.G.
Senior Project Manager

Cc: Mr. Neal Goates, ConocoPhillips
Mr. Paul Scheeley, NMOCD District I

Olson, William

From: Goates, R. Neal [Neal.Goates@conocophillips.com]
Sent: Tuesday, September 28, 2004 6:11 AM
To: Bill Olson
Subject: FW: Reed A Photos
Importance: High
Follow Up Flag: Follow up
Due By: Thursday, September 30, 2004 4:00 PM
Flag Status: Flagged

Bill,
It's my opinion and the professionals that are working the job that this project needs to stay on path of the original procedure for closure. There is no evidence of a spring at this location.

-----Original Message-----
From: Cwdurrett1@aol.com [mailto:Cwdurrett1@aol.com]
Sent: Friday, September 24, 2004 5:17 PM
To: Goates, R. Neal
Cc: cyancey@maximusa.com
Subject: Reed A Photos

Attached are photos showing 3 dry trenchs. Photos taken today.

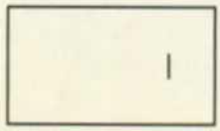
ConocoPhillips/Cooper Ranch Reed A Excavation

Reed A West Side
Trench

Reed A West Side
Trench

Reed A East Side
Trench

Reed A East Side
Trench$_2$



Olson, William

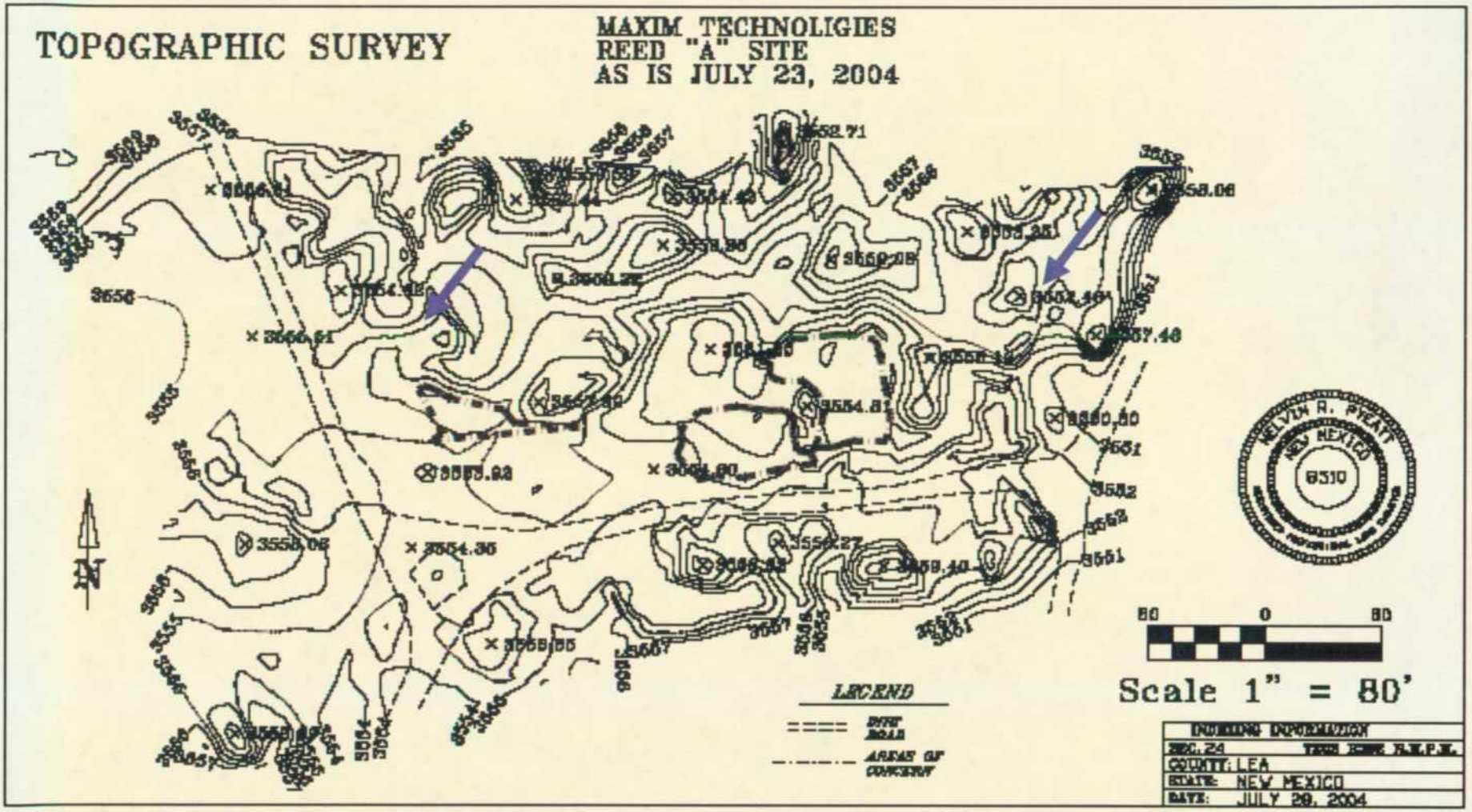
From: Goates, R. Neal [Neal.Goates@conocophillips.com]
Sent: Thursday, August 12, 2004 2:11 PM
To: Bill Olson
Subject: FW: Reed A Edited Photos


Reed A Water.pdf

-----Original Message-----
From: Cwdurrett1@aol.com [mailto:Cwdurrett1@aol.com]
Sent: Saturday, August 07, 2004 4:09 PM
To: Goates, R. Neal; Crouch, Ronald P.
Cc: cyancey@maximusa.com
Subject: Reed A Edited Photos

<<Reed A Water.pdf>> See Attached

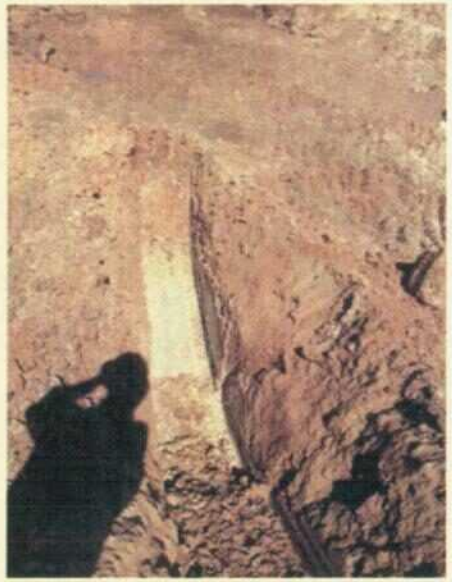
--
Charlie Durrett
Maxim Technologies
1703 W. Industrial Ave.
Midland, TX 79701
P 432-686-8081
F 432-686-8085



Approximate location of standing water

MAXIM Technologies

West Excavation



West Trench

West Excavation

East Excavation

MAXIM Technologies

East Excavation

East Excavation

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Paul Sheeley
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: August 22, 2001

Order ID Number: A01081010

Project Number: West Landfarm Monument Spring
Project Name: N/A
Project Location: Cooper Landowner

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
176869	0108091340A	Water	8/9/01	13:40	8/10/01
176870	0108091345	Water	8/9/01	13:40	8/10/01

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 7 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 176869 - 0108091340A

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC13479	Date Analyzed:	8/20/01
Analyst:	CG	Preparation Method:	E 5030B	Prep Batch:	PB11493	Date Prepared:	8/20/01

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.528	mg/L	1	0.10	105	72 - 128
4-BFB		0.422	mg/L	1	0.10	84	72 - 128

Sample: 176869 - 0108091340A

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC13307	Date Analyzed:	8/13/01
Analyst:	JJ	Preparation Method:	3510C - Mod.	Prep Batch:	PB11356	Date Prepared:	8/13/01

Param	Flag	Result	Units	Dilution	RDL
DRO		8.9	mg/L	0.10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Octane		17	mg/L	0.10	25	68	70 - 130

Sample: 176869 - 0108091340A

Analysis:	TPH GRO	Analytical Method:	8015B	QC Batch:	QC13480	Date Analyzed:	8/20/01
Analyst:	CG	Preparation Method:	5030	Prep Batch:	PB11493	Date Prepared:	8/20/01

Param	Flag	Result	Units	Dilution	RDL
GRO		<0.5	mg/L	5	0.10

Sample: 176870 - 0108091345

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC13281	Date Analyzed:	8/10/01
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB11327	Date Prepared:	8/10/01

Param	Flag	Result	Units	Dilution	RDL
CL		91.3	mg/L	5	0.50
Nitrate-N		<1.0	mg/L	5	0.20

Quality Control Report
Method Blank

Method Blank

QCBatch: QC13281

Param	Flag	Results	Units	Reporting Limit
CL		<2.0	mg/L	0.50
Nitrate-N		<0.2	mg/L	0.20

Method Blank

QCBatch: QC13307

Param	Flag	Results	Units	Reporting Limit
DRO		<5	mg/L	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Octane		20	mg/L	1	25	80	70 - 130

Method Blank

QCBatch: QC13479

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Method Blank

QCBatch: QC13480

Param	Flag	Results	Units	Reporting Limit
GRO		<0.1	mg/L	0.10

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC13281

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
CL	12.13	12.36	mg/L	1	12.50	<2.0	97	1	90 - 110	20
Nitrate-N	2.34	2.35	mg/L	1	2.50	<0.2	93	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC13307

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	< 50	< 50	mg/L	1	250	<5	10	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
n-Octane	21.1	20.6	mg/L	1	25	84	82	70 - 130

Laboratory Control Spikes

QCBatch: QC13479

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.098	0.097	mg/L	1	0.10	<0.001	98	1	80 - 120	20
Benzene	0.098	0.097	mg/L	1	0.10	<0.001	98	1	80 - 120	20
Toluene	0.101	0.101	mg/L	1	0.10	<0.001	101	0	80 - 120	20
Ethylbenzene	0.104	0.103	mg/L	1	0.10	<0.001	104	0	80 - 120	20
M,P,O-Xylene	0.313	0.31	mg/L	1	0.30	<0.001	104	0	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.096	0.092	mg/L	1	0.10	96	92	72 - 128
4-BFB	0.105	0.101	mg/L	1	0.10	105	101	72 - 128

Laboratory Control Spikes

QCBatch: QC13480

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	0.948	0.898	mg/L	1	1	<0.1	94	5	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.096	0.095	mg/L	1	0.10	96	95	70 - 130
4-BFB	0.092	0.092	mg/L	1	0.10	92	92	70 - 130

Quality Control Report
Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC13281

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
CL	[1] 207.06	[2] 208.75	mg/L	1	125	91.3	99	1	52 - 131	20
Nitrate-N	[3] 25.24	[4] 24.12	mg/L	1	25	<1.0	100	4	84 - 105	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Continuing Calibration Verification Standards

CCV (1) QCBatch: QC13281

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	12.16	97	90 - 110	8/10/01
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	8/10/01

ICV (1) QCBatch: QC13281

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	12.10	96	90 - 110	8/10/01
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	8/10/01

CCV (1) QCBatch: QC13307

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	246	98	85 - 115	8/13/01
n-Octane		mg/L	250	210	84	85 - 115	8/13/01

ICV (1) QCBatch: QC13307

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	286	114	85 - 115	8/13/01
n-Octane		mg/L	250	208	83	85 - 115	8/13/01

[1] I spiked the *10 dilution for 176870, but reported the *5 dilution. The correct %EA = 99.
[2] I spiked the *10 dilution for 176870, but reported the *5 dilution.
[3] I spiked the *10 dilution for 176870, but reported the *5 dilution.
[4] I spiked the *10 dilution for 176870, but reported the *5 dilution.

CCV (1) QCBatch: QC13479

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.094	94	85 - 115	8/20/01
Benzene		mg/L	0.10	0.094	94	85 - 115	8/20/01
Toluene		mg/L	0.10	0.096	96	85 - 115	8/20/01
Ethylbenzene		mg/L	0.10	0.098	98	85 - 115	8/20/01
M,P,O-Xylene		mg/L	0.30	0.296	98	85 - 115	8/20/01

CCV (2) QCBatch: QC13479

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.094	94	85 - 115	8/20/01
Benzene		mg/L	0.10	0.09	90	85 - 115	8/20/01
Toluene		mg/L	0.10	0.093	93	85 - 115	8/20/01
Ethylbenzene		mg/L	0.10	0.095	95	85 - 115	8/20/01
M,P,O-Xylene		mg/L	0.30	0.286	95	85 - 115	8/20/01

ICV (1) QCBatch: QC13479

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.091	91	85 - 115	8/20/01
Benzene		mg/L	0.10	0.089	89	85 - 115	8/20/01
Toluene		mg/L	0.10	0.092	92	85 - 115	8/20/01
Ethylbenzene		mg/L	0.10	0.093	93	85 - 115	8/20/01
M,P,O-Xylene		mg/L	0.30	0.282	94	85 - 115	8/20/01

CCV (1) QCBatch: QC13480

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1	0.951	95	85 - 115	8/20/01

CCV (2) QCBatch: QC13480

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1	1.05	105	85 - 115	8/20/01

ICV (1)

QCBatch: QC13480

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1	0.908	90	85 - 115	8/20/01

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

155 McCutcheon,Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0108 1010

Company Name: New Mexico Oil Conservation Division Phone #: (505) 393-6161

Address: (Street, City, Zip) 1625 N. French Dr, Hobbs NM 88240 Fax #: (505) 393-0720

Contact Person: Paul Sheeley

Invoice to: (If different from above)

Project #: West Landfarm Project Name: Monument Spring

Project Location: Cooper - Landowner Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
176869	0108091340 A	1	40mL	X				X				X		8-9	1340
	0108091340 B	1	40mL	X				X				X		"	"
	0108091340 C	1	40mL	X				X				X		"	"
	0108091340 D	1	40mL	X				X				X		"	"
176870	0108091345	1	1L	X								X		"	"

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1 TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Nitrate	Chloride	Turn Around Time if different from standard	Hold
	X	X													X	X		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	8-9-01	15:00			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
				8.10.01	1000

LAB USE ONLY

Intact (Y) / N

Headspace Y / N

Temp 3 °

Log-in Review MH

REMARKS: 4, 40-mL for 1 BTEX
1 TPH
8/22 1-1L for 1 Cl^-
1 $NO_3^=$
total of 4 measurements

☐ Check If Special Reporting Limits Are Needed

Carrier # Twin 80 902-674-5497

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

TraceAnalysis , Inc.
General Terms and Conditions

Article 1: General

1.1 The words "we", "us", and "our" refer to TraceAnalysis. You will deliver samples to us for analysis, accompanied, or preceded by, a signed Chain of Custody/Analysis Request defining the scope and timing of our work and stating either the testing criteria you require or identifying the agency to which the results will be submitted.

Article 2: Our General Responsibilities

2.1 We agree to provide the professional services described in this agreement. We will provide you with written reports containing analytical results. In performing our service, we will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession practicing in the same locality.

2.2 Test and observations will be conducted using test procedures and laboratory protocols as specified in accepted Chain of Custody/Analysis Request. If you direct a manner of making tests that varies from our standard or recommended procedures, you agree to hold us harmless from all claims, damages, and expenses arising out of your direction.

2.3 We will not release information regarding our services for you or any information that we receive from you, except for information that is in the public domain and except as we are required by law.

Article 3: Your General Responsibilities

3.1 On each Chain of Custody/Analysis Request you will designate a representative who has authority to transmit instructions, receive information, and make decisions relative to our work.

3.2 You will respond in a reasonable time to our request for decisions, authorization for changes, additional compensation, or schedule extensions.

3.3 For each Chain of Custody/Analysis Request you will either provide us with the exact methods for analysis of each fraction or you will identify the regulations and agency under which or for which the analysis are to be prepared. If permits, consent orders, work plans, quality assurance plans, or correspondence with regulatory agencies address laboratory requirements, you will provide us with copies of the relevant provisions prior to our initiation of the analyses.

Article 4: Reports and Records

4.1 We will furnish copies of each report to you as specified in the Chain of Custody and Analysis Request. We will retain analytical data for seven years and financial data for three years relating to the services performed following transmittal of our final report.

4.2 If you do not pay for our services as agreed, you agree that we may retain all reports and work not yet delivered to you. You also agree that our work will not be used by you for any purpose unless paid for.

Article 5: Delivery and Acceptance of Samples

5.1 Until we accept delivery of samples by notation on chain of custody documents or otherwise in writing accept the samples, you are responsible for loss of or damage to samples. Until so accepted, we have no responsibility as to samples.

5.2 As to any samples that are suspected of containing hazardous substances or radioactive material, such that would make special handling required, you will specify the suspected or known substances, and level and type of radioactive activity. This information will be given to us in writing as a part of the Chain of Custody/Analysis Request and will precede or accompany samples suspected of containing hazardous substances.

5.3 Samples accepted by us remain your property while in our custody. We will retain samples for a period of 14 days following the date of submission of our report. We will extend the retention period if you so direct. Following the retention period we will dispose of non-hazardous samples. We may return highly hazardous, acutely toxic, or radioactive samples and samples containers and residues to you. You agree to accept them.

5.4 Regardless of a prior acceptance, we may refuse acceptance or revoke acceptance of samples if we determine that the samples present a risk to health, safety, or the environment, or that we are not authorized to accept them. If we revoke acceptance of any sample, you will have it removed from our facilities promptly.

Article 6: Changes to Task Orders

6.1 No persons other than the designated representatives for each Chain of Custody/Analysis Request are authorized to act regarding changes to a Chain of Custody/Analysis Request. We will notify you promptly if we identify any activity that we regard as a change to the terms and conditions of a Chain of Custody/Analysis Request. Our notice will include the date, nature, circumstance, and cause of the activity regarded as a change. We will specify the particular elements of project performance for which we may seek an equitable adjustment.

6.2 You will respond to the notice provided for in paragraph 6.1 promptly. Changes may be made to a Chain of Custody/Analysis Request through issuance of an amendment. The amendment will specify the reason for the change and, as appropriate, include any modified budgets, schedules, scope of work, and other necessary provisions.

6.3 Until agreement is reached concerning the proposed change, we may regard the situation as a suspension directed by you.

Article 7: Compensation

7.1 Our pricing for the work is predicated upon your acceptance of the conditions and allocations of risks and responsibilities described in this agreement. You agree to pay for services as stated in our proposal and accepted by you or according to our then current standard pricing documents if there is no other written agreement as to price. An estimate or statement of probable cost is not a firm figure unless stated as such.

7.2 Unless otherwise agreed to elsewhere, you agree to pay invoices within 30 days of receipt unless, within 15 days from receipt of the invoice, you notify us in writing of a particular item that is alleged to be incorrect. You agree to pay the uncontested portions of the invoices within 30 days of receipt. You agree to pay interest on unpaid balances beginning 60 days after receipt of invoice at the rate of 1.5% per month, but not to exceed the maximum rate allowed by law.

7.3 If you direct us to invoice another, we will do so, but you agree to be ultimately responsible for our compensation until you provide us with that third party's written acceptance of all terms of our agreement and until we agree to the substitution.

7.4 You agree to compensate us for our services and expenses if we are required to respond to legal process related to our services for you. Compensable services include hourly charges for all personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, the preparation of the testifier, and appearances related to the legal process.

7.5 If we are delayed by, or the period of performance is materially extended because of, factors beyond our control, or if project condition or the scope or amount of work change, or if the standards or methods of testing change, we will give you timely notice of the change and we will receive an equitable adjustment of our compensation.

Article 8: Risk Allocation, Disputes, and Damages

8.1 Neither we nor you will be liable to the other for special, incidental, consequential or punitive losses or damages, including but not limited to those arising from delay, loss of use, loss of profits or revenue, or the cost of capital.

8.2 We will not be liable to you for damages unless suit is commenced within two years of injury or loss or within two years of the date of the completion of our services, whichever is earlier. In no event will we be liable to you unless you have notified us of the discovery of the negligent act, error, omission or breach within 30 days of the date of its discovery and unless you have given us an opportunity to investigate and to recommend ways of mitigating your damages.

8.3 In the event you fail to pay us within 90 days following the invoice date, we may consider the default a total breach of our agreement and we may, at our option, terminate all of our duties without liability to you or to others.

8.4 If it is claimed by a third party that we did not complete an acceptable analysis, at your request we will seek further review and acceptance of the completed work by the third party and use your best efforts to obtain that acceptance. We will assist you as directed.

8.5 You and we agree that disputes will be submitted to "Alternative Dispute Resolution" (ADR) as a condition precedent to litigation and other remedies provided by law. Each of us agrees to exercise good faith efforts to resolve disputes through mediation unless we both agree upon another ADR procedure. All disputes will be governed by the law of the place where our services are rendered, or if our services are rendered in more than one state, you and we agree that the law of the place that services were first rendered will govern.

8.6 If either of us makes a claim against the other as to issues out of the performance of this agreement, the prevailing party will be entitled to recover its reasonable expenses of litigation, including reasonable attorney's fees. If we bring lawsuit against you to collect our invoiced fees and expenses, you agree to pay our reasonable collection expenses including attorney fees.

Article 9: Indemnities

9.1 We will indemnify and hold you harmless from and against demands, damages, and expenses caused by our negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses caused by your negligent act and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom you are legally responsible. These indemnities are subject to specific limitations provided for in this agreement.

Article 10: Miscellaneous Provisions

10.1 This agreement constitutes the entire agreement between you and us, and it supersedes all prior agreements. Any term, condition, prior course of dealing, course of performance, usage of trade, understanding, purchase order conditions, or other agreement purporting to modify, vary, supplement, or explain any provision of this agreement is of no effect until placed in writing and signed by both parties subsequent to the date of this agreement. In no event will the printed terms or conditions stated in a purchase or work order, other than an agreed upon Chain of Custody/Analysis Request, be considered a part of this agreement, even if the document is signed by both of us.

10.2 Neither party will assign this agreement without the express written approval of the other, but we may subcontract laboratory procedures with your approval as we deem necessary to meet our obligations to you.

10.3 If any of the provisions of this agreement are held to be invalid or unenforceable in any respect, the remaining terms will be in full effect and the agreement will be construed as if the invalid or unenforceable matters were never included in it. No waiver of any default will be waiver of any future default.

10.4 Neither you or we will have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to, acts of God, civil unrest and war, labor unrest and strikes, equipment failures, matrix interference, acts of authorities, and failures of subcontractors that could not be reasonably anticipated.

10.5 You may stop our work by giving a written suspension or termination directive, but once work has been suspended, we need not resume work until we agree to changes in scope, schedule, and compensation. Upon suspension or termination, we will use reasonable care to preserve samples provided that you agree to compensate us for any additional effort, but we will have no responsibility for meeting holding time limitations after the effective time of a suspension or termination directive. We will be compensated for service rendered and expenses incurred prior to termination that cannot reasonably be avoided.

3R324

Olson, William

From: Wrotenbery, Lori
Sent: Wednesday, August 08, 2001 4:46 PM
To: Williams, Chris
Cc: Salisbury, Jennifer; Anderson, Roger; Olson, William
Subject: RE: Phone call from Senator Carroll Leavell

Thanks for the report, Chris. Let us know what you find.

From: Williams, Chris
Sent: Wednesday, August 08, 2001 4:44 PM
To: Wrotenbery, Lori
Subject: Phone call from Senator Carroll Leavell

I received a call from the Senator requesting information on a possible contamination site on Clay and Kenna Coopers land behind their land farm. It appears that there is contamination of some sort, but it is hard to tell due to the cattle tracks and various things left behind. Paul Sheeley had photographed the site and talked Bill Olson back in late May early June. Paul's second trip therehe was locked out and couldn't get in. He will make a trip out tomorrow to grab a water sample for analysis. It appears that the contamination may be nitrates, but the lab sample will confirm or deny.

New Mexico State Senate

State Capitol
Santa Fe

COMMITTEES:

MEMBER:
·Corporations & Transportation
·Ways & Means

SENATOR CARROLL H. LEAVELL
R-Eddy & Lea-41

P.O. Drawer D
Jal, NM 88252

Business: 393-2550
Home: 395-3154

OIL CONSERVATION DIV
01 AUG 10 AM 11:46

August 7, 2001

Mr. Chris Williams
Oil Conservation Division
1625 N. Frence Drive
Hobbs, NM 88240

Dear Chris,

Thanks for your call today. Attached is the letter I received from Kena Kay Cooper On the Dale Cooper Ranch Spring water contamination.

Appreciate your attention to their concerns.

Sincerely,

Carroll H. Leavell

cc: Ms. Lori Wrotenbery, Director
Oil Conservation Division
1220 St. Francis Drive
Santa Fe, New Mexico 87505

July 24, 2001

Senator Carroll H. Leavell
Drawer D
Jal, NM 88252

RE: DALE COOPER RANCH SPRING WATER CONTAMINATION

Dear Senator Leavell:

I am writing this letter as per your conversation with David Walton concerning the contamination of the natural spring waters on the Dale Cooper Ranch in Monument, New Mexico. In December 2000 Clay Cooper contacted Conoco, Inc., about possible contamination of the spring water. He had a meeting with Mr. R.V. Pauli from Conoco about cleaning up the site. He never heard back from Conoco. In February, 2001, when a coyote was found dead by the spring waters, the Oil Conservation Division in Hobbs was contacted and a representative was sent to the site. Ronald Crouch, with Conoco, was then contacted by the O.C.D. Again, another 2 months went by, with no contact from Conoco or the O.C.D. Both were contacted in April, 2001 and Conoco stated a report had been made for clean up and submitted to the O.C.D. office in Santa Fe. Clay contacted Wayne Price, O.C. D., who stated that he did have the report on his desk. As of this date we have still not heard back from Santa Fe and have been told it could take 6 months or more. Any assistance you could give us to help get something done on this matter would be greatly appreciated.

Sincerely,

Kena Kay Cooper

Kena Kay Cooper

1224 Cimarron
Hobbs, NM 88240
(505) 392-1180
(505) 390-7996 (cell) - Clay Cooper

MAXIM TECHNOLOGIES INC

10601 Lomas NE
Suite 106
Albuquerque, NM 87112

505-237-8440

March 26, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

RE: Subsurface Investigation – Reed "A" Site
Section 24, T20S, R36E
Lea County, New Mexico

Dear Wayne:

Attached is a work plan to investigate a former tank battery and the occurrence of potentially perched groundwater on the Tuffy Cooper Ranch, southwest of Monument, Lea County, New Mexico.

Please let me know if you have any questions regarding the attached plan.

Sincerely,
MAXIM TECHNOLOGIES, INC.

Clyde L. Yancey, P.G.
Senior Project Manager

Attachment

MAXIM TECHNOLOGIES INC

10601 Lomas NE
Suite 106
Albuquerque, NM 87112

505-237-8440

March 7, 2001

Mr. John E. Skopak
Conoco Inc.
600 North Dairy Ashford
Houston, TX 77079-1175

RE: Work Plan – Reed A Investigation
Eunice, New Mexico
Maxim Project 1690010.100

Dear John:

Following the review of the information provided by Conoco Inc. (Conoco) and a site visit on January 25, 2001, Maxim Technologies, Inc. (Maxim) proposes the following work plan to investigate the Reed A site. It is our understanding that the areas to be investigated include a former tank battery location and a manifestation of potentially perched groundwater. Conoco is currently investigating if a separate former tank battery in the immediate vicinity may also require investigation. Maxim has included this separate tank battery in this work plan, with the understanding that it can be dropped from the plan if it is not a Conoco responsibility. Following completion of this proposed investigation, and receipt of the investigation-derived analytical results, Maxim will formulate a site conceptual model. Subsequently, Maxim will provide Conoco with a path-forward for this site within the framework of the New Mexico Oil Conservation Division (OCD) *Guidelines for Remediation of Leaks, Spills and Releases* (1993), and if appropriate, utilize a risk-based approach to site closure.

Scope of Work

Former Tank Battery Sites

In order to determine the vertical and horizontal extent of any potential impacts to soil underlying and surrounding the historic tank battery sites, the following scope of work is proposed for each of the two sites:

1. Maxim will advance a minimum of six soil borings at each site and collect soil samples from the borings to establish current soil conditions with respect to potential impacts from the batteries. The borings will be within and surrounding the immediate perimeter of the battery. Perimeter (outside the potential influence of the former battery) borings will be installed first to ascertain if any soil impacts extend to groundwater, and provide stratigraphic control prior to boring through the base of the former battery location. It should be noted that depending on

contaminant distribution (if any) within the soils surrounding the former battery, additional delineation borings might be required.

2. The borings will be advanced with a truck-mounted drill rig. The drill rig is equipped with air rotary capabilities if refusal is encountered during split spoon sampling.

3. The borings will be continuously sampled during drilling activities and logged according to the Unified Soil Classification System so that observations concerning soil types, lithologic changes, and the environmental condition of the soils can be noted.

4. The soil samples will be field screened with a photo-ionization detector (PID) to detect the presence of volatile organic vapors.

5. All sampling equipment will be cleaned between each boring installation. Rinse water will be contained and disposed of per appropriate regulatory procedures.

6. One soil sample from the bottom of each boring will be retained and submitted to the laboratory for analyses (more may be required depending on any constituent or lithologic heterogeneity's). One sample from each battery material will be collected and submitted for SPLP analysis. The objective of the soil analytical program will be to provide verification of the vertical and horizontal extent of any impacts, and if required, provide data for determining acceptable risk based closure levels. If groundwater is encountered prior to reaching unimpacted soil conditions (if present), a soil sample will be collected from immediately above the groundwater interface.

7. The soil samples will be placed into 4-oz. glass sample jars, sealed with Teflon-lined lids, and placed on ice for transportation to an analytical laboratory where they will be analyzed for total petroleum hydrocarbons (TPH) (USEPA Method 8015). Battery material samples will be analyzed for SPLP volatiles analysis (USEPA Method 1312). All soil samples will be scanned with a PID, and per OCD Guidance, PID readings *of 100 ppm will be substituted for a laboratory analysis of benzene and BTEX concentration limits.*

8. If groundwater is encountered, three temporary PVC monitor wells will be installed, developed, and sampled at each location. The temporary wells will stay in place until the project is closed. Following project closure, the PVC will be removed and the borings plugged-back to the surface with bentonite pellets. Groundwater samples will be analyzed for BTEX (USEPA Method 8260), major cations and anions (various methods), RCRA metals (USEPA Method 6010), and polynuclear aromatic hydrocarbons (USEPA Method 8270), per OCD Guidance. A maximum of three borings will be sampled for groundwater. A survey relative to ground surface will be performed to determine the groundwater gradient.

9. Soil cuttings generated by soil boring activities will be drummed and disposed of offsite at a permitted facility. Purge water from the temporary monitor wells will also be drummed and disposed of offsite.

Potential Perched Groundwater Area

Appearances indicate that the area to be investigated is located within a natural depression or "buffalo wallow", surrounded on all sides by vegetated sand dunes, typical of the area. A shallow excavation has been opened in the middle of the depression to a depth of approximately eight feet. This excavation contained standing water, approximately three feet below ground surface (bgs), and the water had a "sheen" at the time of the site visit.

At this time, it is unclear if the water represents a shallow, perched aquifer system, or simply an area of localized recharge, with saturated conditions maintained by the relatively impermeable material within the depression. The landowner has stated that he would like to maintain saturated conditions if possible following investigation of the site. To that end, the following scope of work was developed to formulate a site conceptual model to ascertain the nature and extent of saturated conditions within the depression area, and guide the path-forward for the area.

1. A minimum of four soil borings will be installed immediately adjacent to, and outside of the vegetated sand dunes surrounding the depression. The purpose of these borings is to define the hydrostratigraphy and determine the lateral extent of any potential hydrocarbon impacts in the depression. The borings will be continuously sampled and scanned with a photo-ionization detector (PID).

2. Soil borings will be advanced until impacts are no longer observed or groundwater is encountered, at which point a soil sample will be collected for analysis. If impacts are not encountered, the boring will be terminated at 20 feet bgs, and a verification soil sample will be collected for analysis.

3. If impacts (if any) extend to groundwater, a temporary monitor well will be installed and a groundwater sample collected.

4. The borings will be advanced with a truck-mounted drill rig. The drill rig is equipped with air rotary capabilities if refusal is encountered during split spoon sampling.

5. The borings will be continuously sampled during drilling activities and logged according to the Unified Soil Classification System so that observations concerning soil types, lithologic changes, and the environmental condition of the soils can be noted.

6. All sampling equipment will be cleaned between each boring installation. Rinse water will be contained and disposed of per appropriate regulatory procedures.

7. The soil samples will be placed into 4-oz. glass sample jars, sealed with Teflon-lined lids, and placed on ice for transportation to an analytical laboratory where they will be analyzed for total petroleum hydrocarbons (TPH) (USEPA Method 8015). All soil samples will be scanned with a PID, and per OCD Guidance, PID readings of 100 ppm will be substituted for a laboratory analysis of benzene and BTEX concentration limits per OCD guidelines.

8. If groundwater is encountered, three temporary PVC monitor wells will be installed, developed, and sampled. The temporary wells will remain in place until the project is closed. Following project closure, the PVC will be removed and the borings plugged-back to the surface with bentonite pellets. Groundwater samples will be analyzed for BTEX (USEPA Method 8260), major cations and anions (various methods), RCRA metals (USEPA Method 6010), and polynuclear aromatic hydrocarbons (USEPA Method 8270), per OCD Guidance. A maximum of three borings will be sampled for groundwater. A survey relative to ground surface will be performed to determine the groundwater gradient. This scenario would indicate that a shallow aquifer system exists under the site. A report to the OCD will be made within 24 hours of encountering impacted groundwater.

9. Soil cuttings generated by soil boring activities will be drummed and disposed of offsite at a permitted facility. Purge water from the temporary monitor wells will also be drummed and disposed of offsite.

10. If groundwater is not encountered in the borings outside of the natural depression, it will be assumed that the standing water within the depression is a result of local recharge, with saturated conditions maintained by relatively impermeable material within the depression. The following steps would be taken to investigate the nature of the standing pit water.

11. Because of the sandy nature of the soils, it is anticipated that the drill rig will not be able to enter the pit area. Also, because of the shallow saturation, there is concern that the drilling equipment may become stuck. Therefore, Maxim proposes to use a trackhoe to install investigation excavations within the confines of the depression. The purpose of the excavations will be to ascertain the thickness of any hydrocarbon-related material within the depression. Care will be taken not to breach the bottom of the depression in order to prohibit communication between saturated waters in the depression and natural material underlying the depression (assumed to be actual existing conditions).

12. If water accumulates in the excavations, a minimum of four piezometers will be installed within excavations by the trackhoe and Maxim field personnel. Piezometer excavations will be evenly distributed across the depression. Following piezometer installation, and equilibration of water levels, the water from the existing excavation (installed by the landowner) will be pumped into a holding tank (frac-tank), and water level fluctuations will be monitored within the piezometers. If water levels drop within the piezometers during or following pumping, it will be evident that communication exists, and dewatering of the pit can be accomplished prior to removing the solid materials (assuming saturated conditions do not represent a laterally extensive, perched aquifer system). The pumped water will be analyzed and disposed of per appropriate regulatory guidelines.

13. Four composite samples of the material within the depression will be collected and submitted to the laboratory for SPLP volatiles analysis (USEPA Method 1312) to provide data for determining acceptable risk based closure levels.

14. The piezometers will be left in place pending the development of a remediation plan.

Project Schedule

Maxim is prepared to commence work on this project immediately following receipt of your notification to proceed.

Project Approach

Mr. Clyde L. Yancey will serve as the Project Manager and field coordinator, and will have the authority to commit whatever resources are necessary to support the project team. It will be his responsibility to assure that the Clients needs are met in terms of scope of work and schedule.

Maxim appreciates this opportunity to provide Conoco with this scope of work. If you should have any questions, please do not hesitate to me at 505-237-8440.

Sincerely,
MAXIM TECHNOLOGIES, INC.

Clyde L. Yancey, P.G.
Senior Project Manager