1R - 296

APPROVALS

YEAR(S):

2002

Price, Wayne

From: Price, Wayne
Sent: Thursday, April 18, 2002 4:00 PM
To: 'mriw@chevron.com'
Cc: 'enviplus1@aol.com'
Subject: Chevron/Anadarko West Hugh Lease Railroad Conduit Remediation OCD Case #1R0296

Contacts: R.W. (Rick) Massey

Dear Mr. Massey:

The OCD is in receipt of the Closure report dated March 25, 2002 for the above subject site. **The OCD hereby approves of the closure plan** and requires no further action at this time. Please be advised that NMOCD approval of this plan does not relieve Chevron USA of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve Chevron USA of responsibility for compliance with any other federal, state, or local laws and/or regulations.

ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Micro-Blaze Micro-Blaze Out™

March 25, 2002

RECEIVED
APR 0 1 2002
Environmental Bureau
Oil Conservation Division

Mr. Wayne Price
NMOCD Environmental Bureau
P.O. Box 6429
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Subject: Chevron/Anadarko West Hugh Lease Railroad Conduit Remediation

OCD Case #: 1R0296

Dear Mr. Price,

Environmental Plus, Inc. of Eunice, New Mexico on behalf of Mr. Rick Massey, Chevron USA and Mr. Mike Gray, Anadarko Petroleum Corporation submits the following information to substantiate that ground water was not impacted at the above referenced site. The final New Mexico Oil Conservation Division (NMOCD) form C-141 and report titled, " Remediation Work Plan and Closure Report for the production fluid release associated with the West Hugh Lease Railroad Conduit," documented remediation of the site and was submitted to you in March 2001. The information collected during this most recent study substantiates that the ground water at this site has not been impacted by this release, therefore it is requested that the NMOCD require "no further action at this site.

If more information is required, please contact Mr. Massey, Mr. Gray, or myself at 505.394.1237, 915.683.0540, or 505.390.7864, respectively.

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Chris Williams, NMOCD Hobbs
Rick Massey, ChevronTexaco
Mike Gray, Anadarko
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

Background
The NMOCD requested information be collected that would substantiate the conclusion that the ground water at the site had not been impacted by the production fluid release. The proposal accepted by the NMOCD was to advance and sample a single borehole southeast of the site center just inside the clay barrier perimeter apron to the 40'bgs interval and sample discretely for chloride. Successive samples would be collected at 4' intervals until a field chloride result of less than 250 mg/Kg was obtained and confirmed by laboratory analysis. When confirmed to be <250 mg/Kg the NMOCD Santa Fe office will be notified and a request for final closure submitted along with documentation.

Proposal Implementation
On March 8 and 11, 2002, EPI advanced and sampled the borehole along the southeast barrier apron. The borelog provides the lithology and field chloride data.

Interval	Lithology	Field Chloride Data	Laboratory Chloride Data
Feet below ground surface		mg/Kg	mg/Kg
2'bgs	Brown Sand	na	Not analyzed (na)
5'bgs	Red Clay Sand	na	na
10'bgs	Light Brown Sand	na	na
15'bgs	Light Brown Sand	na	na
20'bgs	Brown Sand	na	na
25'bgs	Brown Sand/Caliche	na	na
27-28'bgs	Indurated Silicaceous Sandstone	na	na
30'bgs	Light Brown Sand/Caliche Rock	na	na
35'bgs	Light Brown Sand	na	na
40'bgs	Red Clay Sand (dry)	1024	na
41'bgs	Red Clay Sand (dry)	1600	na
42'bgs	Red Clay Sand (dry)	1120	na
44'bgs	Red Clay (dry)	864	na
45.5'bgs	Red Clay (dry)	864	na
49.5'bgs	Red Clay (dry)	416	na
51'bgs	Red Clay (dry)	640	na
54'bgs	Red Clay (dry)	448	na
56'bgs	Red Clay (dry)	192	200 (SCAHRRC31102BH2-56')

Conclusion
The chloride delineation goal of 250 mg/Kg was achieved at the 56'bgs interval validating the initial conclusion that the ground water had not been impacted by this release. NMOCD personnel from the Hobbs field office observed drilling and sampling activities on both days and were given a split of the 56'bgs sample under chain of custody protocol. The Cardinal Laboratories analytical report is included below along with a site map.

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 03/11/02
Reporting Date: 03/12/02
Project Owner: TEXACO/ANADARKO
Project Name: CHEVRON/ANADARKO HUGH RAILROAD CONDUIT
Project Location: NOT GIVEN

Analysis Date: 03/11/02
Sampling Date: 03/11/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl^- (mg/Kg)
H6581-1	SCAHRRC31102BH2-56'	200

Quality Control	980
True Value QC	1000
% Recovery	98.0
Relative Percent Difference	6.0

METHOD: Standard Methods 4500-Cl^-B
NOTE: Analyses performed on 1:4 w:v aqueous extracts.

Amy Hill
Chemist

3-12-02
Date

H6581

Cardinal Laboratories Inc.

2111 Beechwood, Abilene, TX 79603
915-673-7001 Fax 915-673-7020

101 East Marland, Hobbs, NM 88240
505-393-2326 Fax 505-393-2476

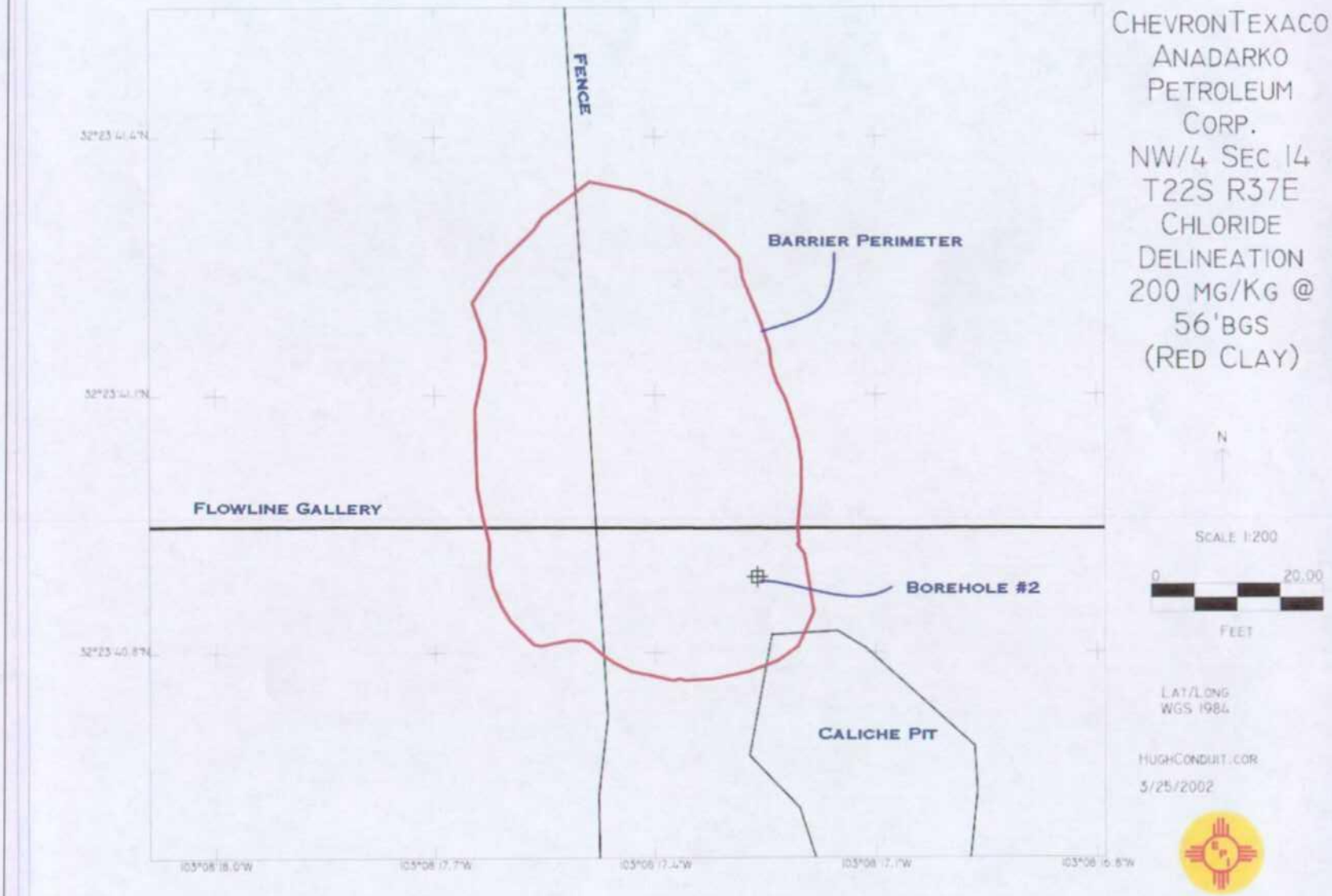
Company Name	Environmental Plus, Inc.
Project Manager	Pat McCasland
Address	P.O. Box 1558
City, State, Zip	Eunice, NM 88231
Phone#/Fax#	505.394.3481 / 505.394.2601
Project #/Owner	Chevron / Anadarko
Project Name	Chevron/Anadarko Hobbs Railroad Conduit
Project Location	
Sampler Name	Bradley Blevins

Bill To

Analysis Request

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: CUDE OIL	MATRIX: SLUDGE	MATRIX: OTHER:	PRESERV.: ACID/BASE	PRESERV.: ICE/COOL	PRESERV.: OTHER	SAMPLING: DATE	SAMPLING: TIME	BTEX 8021B	TPH 8015M	Chloride									
H6581-1	SCAHRRC31102BH2-5'	G	1			✓					✓		3-11-02	3:05			X									

Sampler Relinquished: Bradley Blevins	Date: 3-11-02 Time: 3:25	Received By:	Fax Results To Pat McCasland 505-394-2601
Relinquished by: B... Clift	Date: 3-11-02 Time: 3:45	Received By: (lab staff) Amy Hill	REMARKS
Delivered by Sampler	Sample Cool & Intact: (Yes) No	Checked By	


FENCE
BARRIER PERIMETER
FLOWLINE GALLERY
BOREHOLE #2
CALICHE PIT
32°23'41.4"N
32°23'41.1"N
32°23'40.8"N
103°08'18.0"W
103°08'17.7"W
103°08'17.4"W
103°08'17.1"W
103°08'16.8"W
CHEVRONTEXACO
ANADARKO
PETROLEUM
CORP.
NW/4 SEC 14
T22S R37E
CHLORIDE
DELINEATION
200 MG/KG @
56'BGS
(RED CLAY)
N
SCALE 1:200
0
20.00
FEET
LAT/LONG
WGS 1984
HUGHCONDUIT.COR
3/25/2002

TraceAnalysis, Inc. 67[redacted]berdeen Ave., Suite 9 Lubbock, [redacted]79424-1515 (806) 794-1296

Summary Report

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

Report Date: April 9, 2002

Order ID Number: A02031822

Project Number: Environmentl Plus Sample-Anadarko
Project Name: Chevron Site
Project Location: Hugh Railroad Conduit

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
193148	0203131200	Soil	3/13/02	12:00	3/15/02

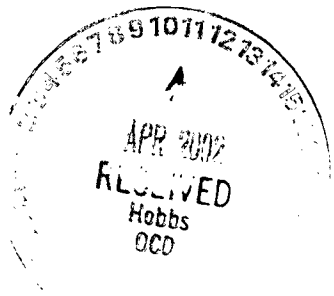
0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

Sample: 193148 - 0203131200

Param	Flag	Result	Units
Specific Conductance		488	µMHOS/cm
Extractable Calcium		23.4	mg/Kg
Extractable Magnesium		9.85	mg/Kg
Extractable Potassium		7.98	mg/Kg
Extractable Sodium		45.0	mg/Kg
Chloride	[1]	63.4	mg/Kg
Fluoride	[2]	4.06	mg/Kg
Nitrate-N		<2.0	mg/Kg
Sulfate	[3]	52.4	mg/Kg
pH		8.2	s.u.

Wayne,
This is the soil sample split w/Pat McCasland...
Hugh Railroad Conduit

thnks, Pat S.



[1]Chloride matrix spikes RPD = 0; %EA = 81
[2]Fluoride matrix spikes RPD = 1; %EA = 92
[3]Sulfate matrix spikes RPD = 1; %EA = 51 . The %EA is low due to matrix difficulties. LCS spikes show that the test was in control.

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: April 9, 2002

Order ID Number: A02031822

Project Number: Environmentl Plus Sample-Anadarko
Project Name: Chevron Site
Project Location: Hugh Railroad Conduit

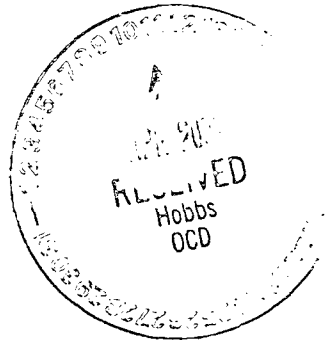
Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
193148	0203131200	Soil	3/13/02	12:00	3/15/02

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. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 6 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: 193148 - 0203131200

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC19288	Date Analyzed:	4/2/02
Analyst:	JSW	Preparation Method:	N/A	Prep Batch:	PB18607	Date Prepared:	4/2/02

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		488	μMHOS/cm	1	

Sample: 193148 - 0203131200

Analysis:	Extractable Metals	Analytical Method:	S 6010B	QC Batch:	QC19340	Date Analyzed:	4/2/02
Analyst:	BC	Preparation Method:	E 3050B	Prep Batch:	PB18720	Date Prepared:	3/25/02

Param	Flag	Result	Units	Dilution	RDL
Extractable Calcium		23.4	mg/Kg	1	0.05
Extractable Magnesium		9.85	mg/Kg	1	0.05
Extractable Potassium		7.98	mg/Kg	1	0.05
Extractable Sodium		45.0	mg/Kg	1	0.05

Sample: 193148 - 0203131200

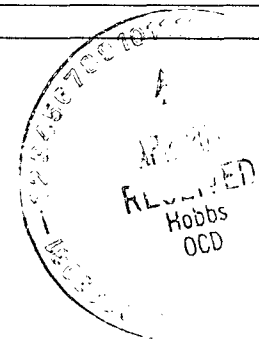
Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC19364	Date Analyzed:	4/2/02
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB18679	Date Prepared:	4/1/02

Param	Flag	Result	Units	Dilution	RDL
Chloride	[1]	63.4	mg/Kg	2	0.50
Fluoride	[2]	4.06	mg/Kg	2	0.20
Nitrate-N		<2.0	mg/Kg	2	0.20
Sulfate	[3]	52.4	mg/Kg	2	0.50

Sample: 193148 - 0203131200

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC19311	Date Analyzed:	4/2/02
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB18634	Date Prepared:	4/2/02

Param	Flag	Result	Units	Dilution	RDL
pH		8.2	s.u.	1	1



[1]Chloride matrix spikes RPD = 0; %EA = 81
[2]Fluoride matrix spikes RPD = 1; %EA = 92
[3]Sulfate matrix spikes RPD = 1; %EA = 51 . The %EA is low due to matrix difficulties. LCS spikes show that the test was in control.

Quality Control Report
Method Blank

Method Blank QCBatch: QC19288

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		7.00	µMHOS/cm	

Method Blank QCBatch: QC19340

Param	Flag	Results	Units	Reporting Limit
Extractable Calcium		<5	mg/Kg	0.05
Extractable Magnesium		<5	mg/Kg	0.05
Extractable Potassium		<5	mg/Kg	0.05
Extractable Sodium		<5	mg/Kg	0.05

Method Blank QCBatch: QC19364

Param	Flag	Results	Units	Reporting Limit
Chloride		10.72	mg/Kg	0.50
Fluoride		0.73	mg/Kg	0.20
Nitrate-N		<1.00	mg/Kg	0.20
Sulfate		13.34	mg/Kg	0.50

Quality Control Report
Duplicate Samples

Duplicate QCBatch: QC19288

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		490	488	µMHOS/cm	1	0	4.3

Duplicate QCBatch: QC19311

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		8.2	8.2	s.u.	1	0	0

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC19340

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Extractable Calcium	101	98.2	mg/Kg	1	100	<5	101	2	80 - 120	20
Extractable Magnesium	100	96.6	mg/Kg	1	100	<5	100	3	80 - 120	20
Extractable Potassium	103	102	mg/Kg	1	100	<5	103	0	80 - 120	20
Extractable Sodium	103	103	mg/Kg	1	2	<5	5150	0	80 - 120	20

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

Laboratory Control Spikes

QCBatch: QC19364

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	22.13	22.15	mg/Kg	1	12.50	10.72	91	0	90 - 110	20
Fluoride	2.98	3.04	mg/Kg	1	2.50	0.73	90	1	90 - 110	20
Nitrate-N	2.52	2.53	mg/Kg	1	2.50	<1.00	100	0	90 - 110	20
Sulfate	25.31	25.17	mg/Kg	1	12.50	13.34	96	0	90 - 110	20

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

Quality Control Report
Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC19340

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Extractable Calcium	1300	1260	mg/Kg	1	1000	277	102	3	75 - 125	20
Extractable Magnesium	1060	1040	mg/Kg	1	1000	49.9	101	1	75 - 125	20
Extractable Potassium	998	962	mg/Kg	1	1000	12.0	98	3	75 - 125	20
Extractable Sodium	1110	1070	mg/Kg	1	1000	158	95	4	75 - 125	20

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

Matrix Spikes

QCBatch: QC19364

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Nitrate-N	12.72	12.67	mg/Kg	1	5	8.04	93	0	76 - 117	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: QC19288

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1412	1400	99	90 - 110	4/2/02

ICV (1) QCBatch: QC19288

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1409	1400	99	90 - 110	4/2/02

CCV (1) QCBatch: QC19311

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	-0.1 s.u. - +0.1 s.u.	4/2/02

ICV (1) QCBatch: QC19311

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	-0.1 s.u. - +0.1 s.u.	4/2/02

CCV (1) QCBatch: QC19340

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Extractable Calcium		mg/Kg	25	25.1	100	90 - 110	4/2/02
Extractable Magnesium		mg/Kg	25	24.4	97	90 - 110	4/2/02
Extractable Potassium		mg/Kg	25	25.7	102	90 - 110	4/2/02
Extractable Sodium		mg/Kg	25	24.9	99	90 - 110	4/2/02

ICV (1) QCBatch: QC19340

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Extractable Calcium		mg/Kg	25	26.1	104	90 - 110	4/2/02
Extractable Magnesium		mg/Kg	25	25.1	100	90 - 110	4/2/02
Extractable Potassium		mg/Kg	25	25.6	102	90 - 110	4/2/02
Extractable Sodium		mg/Kg	25	26.1	104	90 - 110	4/2/02

CCV (1)

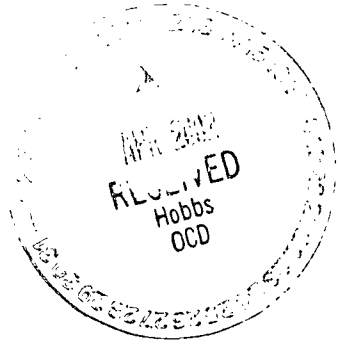
QCBatch: QC19364

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.37	90	90 - 110	4/2/02
Fluoride		mg/L	2.50	2.34	93	90 - 110	4/2/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	4/2/02
Sulfate		mg/L	12.50	11.62	92	90 - 110	4/2/02

ICV (1)

QCBatch: QC19364

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.40	91	90 - 110	4/2/02
Fluoride		mg/L	2.50	2.35	94	90 - 110	4/2/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	4/2/02
Sulfate		mg/L	12.50	11.67	93	90 - 110	4/2/02



193148

AO2031822

Paul f. 505-393-0720

Page 1 of 1

8701 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

Company Name: New Mexico Oil Conservation Div. Phone #: (505) 393-6161 x113

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

Contact Person: Paul Sheeley

Invoice to: (If different from above)

Project #: Environmental Mgt Sample - Anadarko Project Name: Coleman Site

Project Location: Hugh Railroad Conduit Sampler Signature:

ANALYSIS REQUEST
(Circle or Specify Method No.)

FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO3	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag Al 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 608/8081	BOD, TSS, pH	General Chemistry Anions+Cations	Turn Around Time if different from standard	Hold
0203131200 (193148)	1	40Z		X								X	3/6/02	12:00																X		

Relinquished by: Date: 3-13-02 Time: 15:00

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: 3-15-02 Time:

Relinquished by: Date: Time:

Received by: Date: Time:

REMARKS:
insufficient sample for alkalinity, TDS - called Paul 4/3

☐ Check if Special Reporting Limits Are Needed

FTP 4/10/02

Sent By: TRACEANALYSIS; 18 Mar '02 10:42; Job 22; Page 1/1 7941298;

Carrier #

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

MAR-18-02 09:29 From:8152218 To:15053938758 P.02/02 Job-837

Price, Wayne

From: Price, Wayne
Sent: Friday, March 01, 2002 3:17 PM
To: 'ENVIPLUS1@aol.com'; Price, Wayne
Cc: Larry_Pickerel@anadarko.com; mriw@chevron.com;
Subject: RE: Chevron/Anadarko West Hugh Railroad Conduit Case #1R0296
Approved:

Please be advised that NMOCD approval of this plan does not relieve ChevronTexaco and Anadarko of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve ChevronTexaco and Anadarko of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: ENVIPLUS1@aol.com [mailto:ENVIPLUS1@aol.com]
Sent: Friday, March 01, 2002 3:03 PM
To: wprice@state.nm.us
Cc: Larry_Pickerel@anadarko.com; mriw@chevron.com; Miller1b@aol.com
Subject: Re: Chevron/Anadarko West Hugh Railroad Conduit Case #1R0296

Wayne,

Environmental Plus, Inc., on behalf of Mr. Rick Massey and Mr. Mike Gray, ChevronTexaco and Anadarko, respectively, submits this proposal in response to your request for more information to further substantiate and verify the reported conclusion that ground water at the Chevron/Anadarko West Hugh Railroad Conduit, Case #1R0296 has not been impacted by chloride.

Proposal;
Using a hollow stem drill rig, a sample borehole will be advanced and logged at a location down gradient, i.e., southeast of the site center, just inside the clay barrier perimeter apron to the 40'bgs interval and discretely sampled and field tested for chloride. Successive samples will be collected at 4' intervals until a field chloride result less than 250 mg/Kg is obtained, the sample will then be sent to the lab for confirmatory analysis. When confirmed to be <250 mg/Kg, the NMOCD Santa Fe will be notified and final closure requested.

The "February 2001, Remediation Work Plan and Closure Report" should be referenced for site metrics and previous delineation and remediation activities.

With your approval of this proposal, EPI will issue the New Mexico One Call, and notify the local NMOCD and landowners of the proposed activities and implement the proposal.

Pat McCasland
EPI Technical Manager
Office; 505.394.3481
Mobile; 505.390.7864
FAX; 505.394.2601
eddress; enviplus1@aol.com

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

February 19, 2002

Lori Wrotenbery
Director
Oil Conservation Division

CERTIFIED MAIL
RETURN RECEIPT NO. 5357 7188

Mr. Rick Massey
Chevron U.S.A.
P.O. Box 1949
Eunice, NM 88231

Re: Chevron/Anadarko Hugh Remediation Case # 1R0296

Dear Mr. Massey:

The New Mexico Oil Conservation Division (OCD) is in receipt of Environmental Plus,' Inc. letter dated March 28, 2001 with an accompanying closure report. The report indicates that chloride levels of 801 mg/kg were found at 40 feet below ground surface (bgs) and that groundwater in the area is noted to be at approximately 60 feet bgs. The conclusion of the report indicates there is a red clay interbed at this depth and noted this is consistent with the borelog information for the origin borehole, i.e. reddish brown sand, and concludes that this serves as a retarding barrier.

OCD could not find a copy of the borehole log report. Typically red bed clays would not be defined as a sand. Therefore in order for OCD to continue evaluating the closure report please submit documentation demonstrating that the underlying groundwater has not been impacted.

If you have any questions please do not hesitate to contact me at 505-476-3487 or E-mail WPRICE@state.nm.us.

Sincerely,

Wayne Price- Engineer

cc: OCD Hobbs Office

Price, Wayne

[redacted]

From: ENVIPLUS1@aol.com[SMTP:ENVIPLUS1@aol.com]

Sent: Friday, February 23, 2001 10:15 AM

To: mriw@chevron.com; nvmo@chevron.com; Larry_Pickerel@anadarko.com

Cc: wprice@state.nm.us

Subject: (no subject)

Gentlemen,

The barrier will be tested by Pettigrew and Associates today. If compaction is at least 95% of the proctor for the Wallach clay, we will proceed with backfilling. I should have the Final Remediation Report completed in 2 weeks.

Pat McCasland

Price, Wayne

From: ENVIPLUS1@aol.com[SMTP:ENVIPLUS1@aol.com]
Sent: Friday, February 23, 2001 10:04 AM
To: mriw@chevron.com; nvmo@chevron.com; Larry_Pickerel@anadarko.com
Cc: wprice@state.nm.us
Subject: Fwd: Chevron/Anadarko Hugh Remediation

RE: Chevron/
Anadarko H...

Gentlemen,
Mr. Wayne Price notified me that the NMOCD has assigned the Hugh remediation site, OCD Case # 1R0296 and that a closure plan be submitted. I explained to Mr. Price this AM about the project and appraised him of the closure plan strategy, i.e., determine vertical extent and install the clay barrier. He is looking forward to the Final Remediation Report. Call if there are any questions.

Pat McCasland

Price, Wayne

[redacted]

From: Price, Wayne

Sent: Thursday, February 22, 2001 5:23 PM

To: 'ENVIPLUS1@aol.com'

Subject: RE: Chevron/Anadarko Hugh Remediation

Dear Pat:

Please notify your clients that OCD will require a closure plan to be submitted for approval. Please note the closure plan shall demonstrate that the corrective actions taken will be protective of public health, fresh water and the environment.

Since OCD did not have an opportunity to approve the work plan Chevron and Anadarko shall demonstrate that any remaining contaminants will not be a threat to public health, fresh water and the environment in the foreseeable future.

We have assigned this case as OCD Case # 1R0296. Please reference this number in all future submittals.

From: ENVIPLUS1@aol.com[SMTP:ENVIPLUS1@aol.com]

Sent: Thursday, February 22, 2001 6:22 AM

To: WPrice@state.nm.us

Subject: Re: Chevron/Anadarko Hugh Remediation

Wayne,

Rick Massey with Chevron wanted you to know that the work has been initiated and will be conducted in accordance with the NMOCD guidelines. A final report documenting remediation will be provided to the NMOCD in Hobbs as was

Price, Wayne

[redacted]

From: ENVIPLUS1@aol.com[SMTP:ENVIPLUS1@aol.com]

Sent: Thursday, February 22, 2001 6:22 AM

To: WPrice@state.nm.us

Subject: Re: Chevron/Anadarko Hugh Remediation

Wayne,

Rick Massey with Chevron wanted you to know that the work has been initiated and will be conducted in accordance with the NMOCD guidelines. A final report documenting remediation will be provided to the NMOCD in Hobbs as was the standing request of Donna Williams. I will forward a copy to you also.

Thanks,

Pat

Price, Wayne

From: Price, Wayne

Sent: Wednesday, February 21, 2001 3:51 PM

To: 'ENVIPLUS1@aol.com'

Cc: Olson, William

Subject: RE: Chevron/Anadarko Hugh Remediation

Dear Pat:

Are you asking the OCD to review and approve or just notifying us that this work will be done and a final report sent in. Please explain,

---

From: ENVIPLUS1@aol.com[SMTP:ENVIPLUS1@aol.com]

Sent: Wednesday, February 21, 2001 2:38 PM

To: wprice@state.nm.us

Cc: Larry_Pickerel@anadarko.com; nvmo@chevron.com

Subject: Chevron/Anadarko Hugh Remediation

<<File: ChevAnaWHughPlan.doc>>

Wayne,

Rick Massey, Chevron EH&S, asked that I contact you about the Hugh Remediation Project south of Eunice on Sims/Kennann property. This site is at the east end of a pipeline gallery conduit that crosses under the railroad bed. Sometime in the past a leak of unknown volume occurred in either a Chevron or Anadarko flowline with each company agreeing to share 50% of the responsibility. Attached is the work plan approved by Chevron, Anadarko, and Sims/Kennann.

Donna Williams had been to the site in the past and was aware of the proposed

Price, Wayne

From: ENVIPLUS1@aol.com[SMTP:ENVIPLUS1@aol.com]
Sent: Wednesday, February 21, 2001 2:38 PM
To: wprice@state.nm.us
Cc: Larry_Pickerel@anadarko.com; nvmo@chevron.com
Subject: Chevron/Anadarko Hugh Remediation

ChevAnaWHughPlan.doc

Wayne,

Rick Massey, Chevron EH&S, asked that I contact you about the Hugh Remediation Project south of Eunice on Sims/Kennann property. This site is at the east end of a pipeline gallery conduit that crosses under the railroad bed. Sometime in the past a leak of unknown volume occurred in either a Chevron or Anadarko flowline with each company agreeing to share 50% of the responsibility. Attached is the work plan approved by Chevron, Anadarko, and Sims/Kennann.

Donna Williams had been to the site in the past and was aware of the proposed investigation and remediation activities. She also acknowledged at the time that the site was historical, but nevertheless needed to be remediated to NMOCD standards and supporting documentation submitted to her upon completion. I will, on behalf of Chevron and Anadarko, submit the final report to you or your designee (?). Please note that the initial excavation will cease at -20'bgs even if contamination persists below that level. It is at -20.bgs that the OSHA excavation safety regs require a professional engineer to sign off on the excavation safety plan and excavation costs and occupational safety risks escalate. The risk based closure strategy requires advancing a sampling borehole near the leak origin to identify vertical extent and then utilizes an engineered barrier to limit transport of residual contaminants. If you need more information, please let me know.

Sincerely,
Pat McCasland
EPI Technical Manager

CHEVRON USA
AND
ANADARKO PETROLEUM CORP.

REMEDIATION WORK PLAN

FOR THE
PRODUCTION FLUID RELEASE
ASSOCIATED WITH THE

WEST HUGH LEASE RAILROAD CONDUIT

NW¼ SECTION 14, T22S, R37E
~3 miles southeast of Eunice
Lea County, New Mexico

FEBRUARY 2001

Prepared by

Environmental Plus, Inc.
1324 North Main Street
P.O. Box 1558
Eunice, New Mexico 88231
Tele 505•394•3481 FAX 505•394•2601

Table of Contents

1 WEST HUGH LEASE CONDUIT REMEDIATION WORK PLAN

This plan will restore the impacted surface area to an acceptable agricultural state and remove soil contaminated above New Mexico Oil Conservation Division (NMOCD) guidelines by historical oil and gas production and handling activities. Of main concern will be the concentration of Chloride, Total Petroleum Hydrocarbon (TPH) and Benzene, Toluene, Ethyl Benzene, and m & p Xylene (BTEX). This Site Specific Remediation Work Plan will provide information and identify activities necessary to;

1. Restore the impacted surface area to an acceptable agricultural state
2. Document final achievement of acceptable environmental thresholds established by the NMOCD

1.1 Site Description

This site is associated with a gallery of five 2" diameter production flow lines owned by Chevron USA and Anadarko Petroleum Corporation that carries production fluid from the Hugh Lease wells east of Highway 18 and the Texas-New Mexico Railroad to the tank batteries on the west via a common conduit under the Texas-New Mexico Railroad right of way. The leak occurred inside the conduit where one or more of the flow lines failed, resulting in production fluid being released to the surface via the east end of the conduit. The decision was made by Chevron and Anadarko managers to first replace or repair the flow lines inside the conduit and then proceed with site remediation. The leak origin lies on the northwest corner of a caliche barrow pit that also received historic run-in from the location. Discovery of the Hugh Lease Top West Conduit site occurred in July 2000, when contractors involved in remediating the Anadarko Top East site located on the northeast corner of the caliche barrow pit, observed crude oil pooling on the surface near the east end of the railroad conduit. Both leaks developed respective flow paths that end in a common pooling area in the bottom of the 25' deep caliche pit. The Top East Anadarko site, flow path, and half the pooling area were remediated to NMOCD standards in August 2000. Details are presented in the "Anadarko West Hugh Highway 18 Conduit Remediation Report, EPI, October 2000." Significant run-in of possibly contaminated fluid has occurred to the pooling area. A current site status map is included as Attachment I.

1.1.1 Historical Use

This land surface is owned by Sims/Kennann and used for livestock grazing, caliche sales, and oil and gas production facilities access.

1.1.2 Legal Description

The site is located approximately 3 miles southeast of Eunice, Lea County, New Mexico. The legal description is NW¼ S14 T22S R37E. Latitude 32°23'39"N and Longitude 103°08'18"W.

1.1.3 Photographic documentation

Photographs of the site are included as Attachment II.

1.1.4 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (Querqus harvardi) interspersed with Honey Mesquite (Prosopis glandulosa) along with typical desert grasses and weeds. Mammals present, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, and the Mule Deer. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species has not been conducted.

1.1.5 Environmental Media Characterization

Chemical parameters of the soil and ground water will be characterized consistent with the New Mexico Oil Conservation Division (NMOCD) guidelines published in the following documents;

- Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable "Site Specific" thresholds for contaminants of concern, i.e., Chloride, TPH and BTEX, will be determined based on the following;

- Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.
- Wellhead Protection Area, i.e., distance from fresh water supply wells.
- Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.

1.1.5.1 Ground Water Level

According to the Office of the New Mexico State Engineer ground water level database, there are three water wells with known levels in section 14 of T22S R37E, i.e., 60.76, 68, 54.06 feet below ground surface (bgs). This averages to 60.94'bgs.

1.1.5.2 Depth to Ground Water Calculation

Depth to ground water, i.e., "the vertical distance from the lowermost contaminants to the seasonal high water elevation of the ground water." This will be determined following investigation.

1.1.5.3 Ground Water Gradient

According to the USGS (Nicholson & Clbesch), the gradient is to the southeast.

1.1.5.4 Wellhead Protection Area

There is one domestic use well located upgradient but within a 1000' radius of the site.

1.1.5.5 Distance to Nearest Surface Water Body

There are no naturally occurring surface water bodies located within a 1 mile radius of the site.

1.1.5.6 Soil Assessment

The site will be divided into 3 areas and considered separately, i.e., Conduit Area, Flow Path, and Pooling Area (Pit Bottom). The VOC headspace threshold of 200 ppm is being used here to determine when samples should be ascensioned to the laboratory for analysis and is not implied to be an acceptable remedial goal.

1.1.5.6.1 Conduit Area

Soil will be excavated to 20' below ground surface or until bottom hole field headspace VOC readings are <200 ppm and chloride is <1000 mg/Kg. Side walls will be excavated to the horizontal interval where the VOC readings are <200 ppm and chloride is <1000 mg/Kg. "Five-Point" composite samples of the 4 sidewalls and the bottom hole will be collected and ascensioned to the laboratory for Chloride, TPH, and BTEX analyses. Refer to Attachment I, Site Map.

1.1.5.6.2 Flow Path

The slope leading from the Top West Conduit Area will be sampled at 1' intervals to 4' below ground surface and surveyed. Soil with VOC readings >200 ppm and chloride >1000 mg/Kg will be disposed of in an NMOCD approved facility. After soil surveys of the surfaces indicate acceptable field survey data, "Five-Point" composite samples of the 4 sidewalls and the bottom hole will be collected and ascensioned to the laboratory for Chloride, TPH, and BTEX analyses. Refer to Attachment I, Site Map.

1.1.5.6.3 Pooling Area (Pit Bottom)

The East half of the Pooling Area is the responsibility of Anadarko and had been remediated in October 2000. NMOCD remedial goals required excavation to ~4 feet below the bottom surface. Storm events have occurred during the interim and washed contamination from the Top West Conduit site into the pit bottom. Three east/west sampling trenches will be excavated and sampled to determine acceptable intervals. Soil with VOC readings >200 ppm and chloride >1000 mg/Kg will be disposed of in an NMOCD approved facility.

1.1.5.7 Ground Water Assessment

The ground water level is conservatively estimated to occur at ~61 feet bgs. If the soil assessment indicates that the ground water has been impacted, the ground water will be investigated.

1.2 Data Quality

To ensure quality and credibility of data used to support successful site remediation the following quality controls will be documented.

- Laboratory data must have > 85% recovery for TPH and BTEX and >75% recovery for general chemistry parameters.
- Laboratory data must have <15% Relative Percent Difference
- Field headspace analyses must be supported with instrument calibration data and calibration gas certification.

Duplicates or blanks may be submitted to the laboratory to establish reproducibility and possible laboratory contamination, respectively.

1.3 Project Safety

Hazards that will be encountered at this site include the following;

- Moving equipment
- Buried pipelines
- Highway ingress/egress
- Excavation
- Potential Hydrogen Sulfide Gas

Employees and subcontractors will be required to confirm current training in these hazards. Standard personal protective equipment will include;

- Personal H_2S Monitor
- Hard-hat
- Safety Glasses
- Excavation Safety
- Steel Toed Boots/Shoes

1.4 Process/Procedure

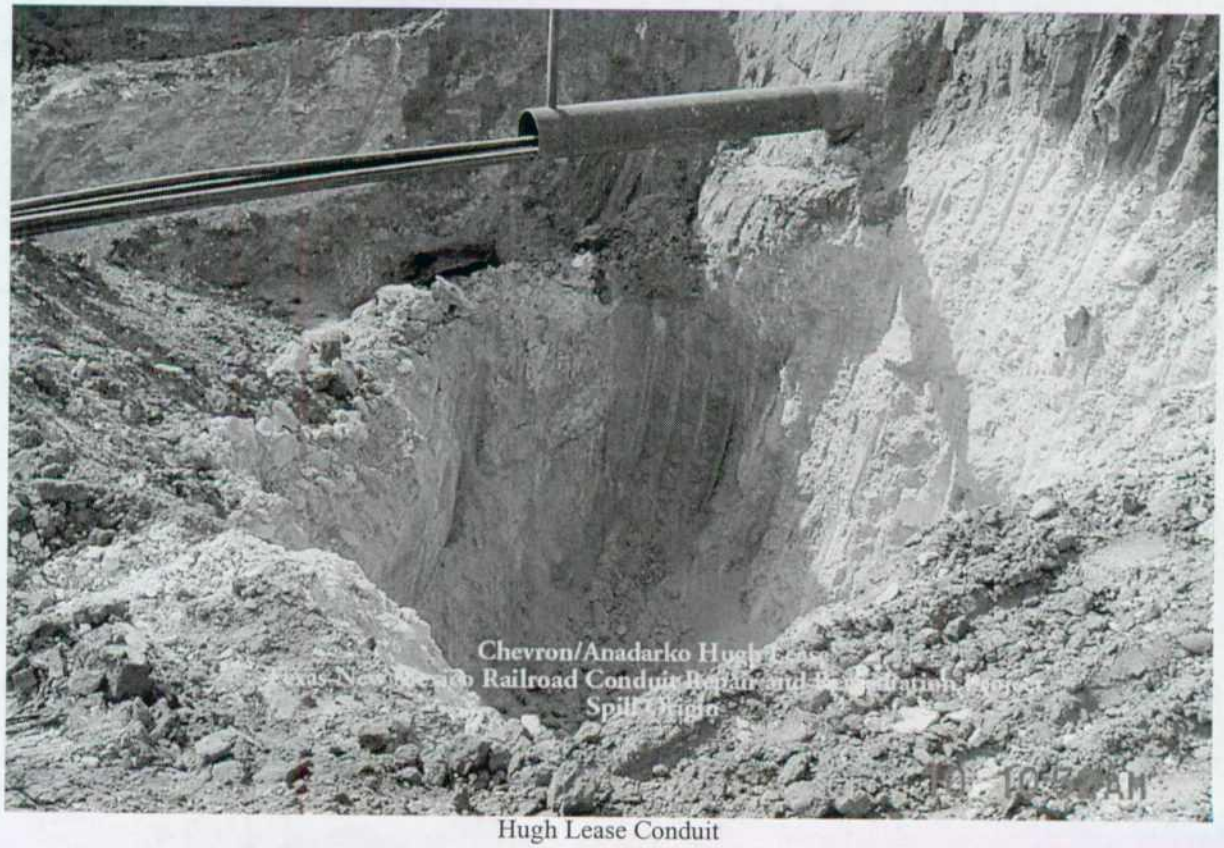
The following sequence will be used to guide project implementation.

1. Site visit: Photograph and map
2. Issue "One Call" and notifying utilities
3. Locate, hand spot, and mark buried lines or other structures
4. Overhead powerlines are present just beyond the east perimeter and will not be a hazard.
5. Lockout/Tagout: Pipeline companies notified of activity but LO/TO unnecessary
6. Procedure: Equipment required will be: Backhoe, Excavator, Dump Trucks
    - Daily Tail gate safety meetings and PPE check
    - Excavate visibly contaminated soil and stockpile
    - Haul stockpiled soil to NMOCD approved facility
    - Conduct field VOC headspace analyses on selected samples
    - Collect Composite Sample of the selected areas for laboratory analysis
    - Review data and determine "Depth to Ground Water"
    - Backfill excavations with volume consistent with disposal volume
    - Photograph
    - Develop and issue site specific report
    - Reseed surface

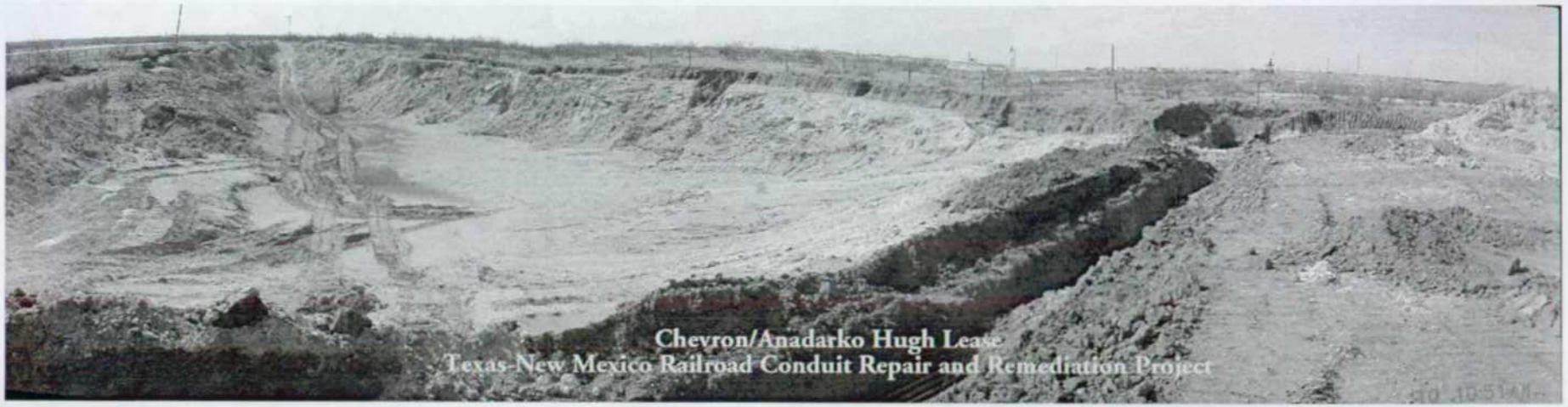
Attachment I: Site Map

Attachment II: Photographs

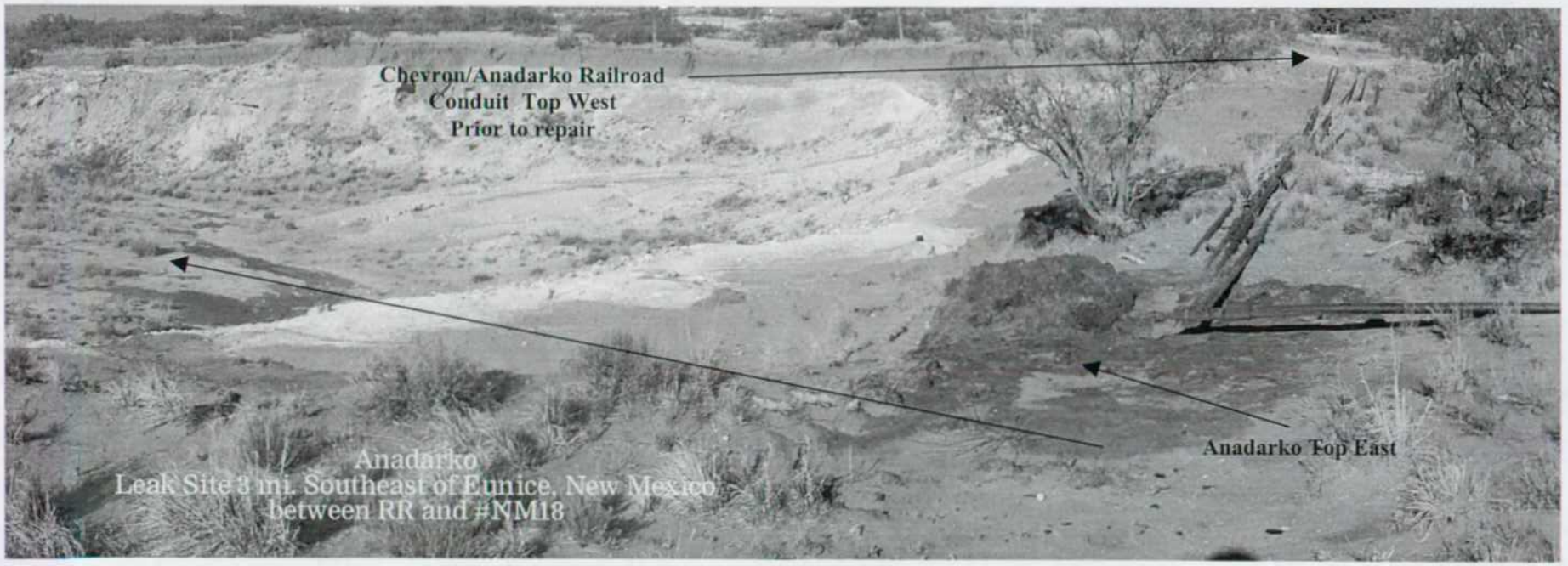
Hugh Lease Conduit



Hugh Lease Conduit



Caliche Pit to the left/Railroad Conduit to the right (photo looking southwest)



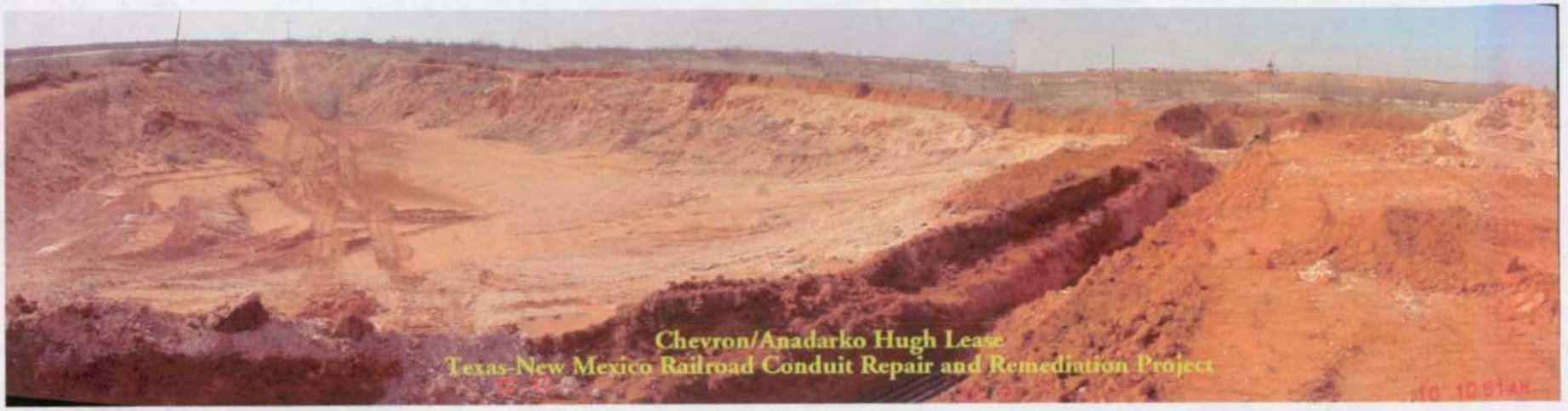
Caliche Pit to the left/Railroad Conduit to the right (photo looking southwest)

Run-in area from the Railroad Conduit showing historical hydrocarbon impact

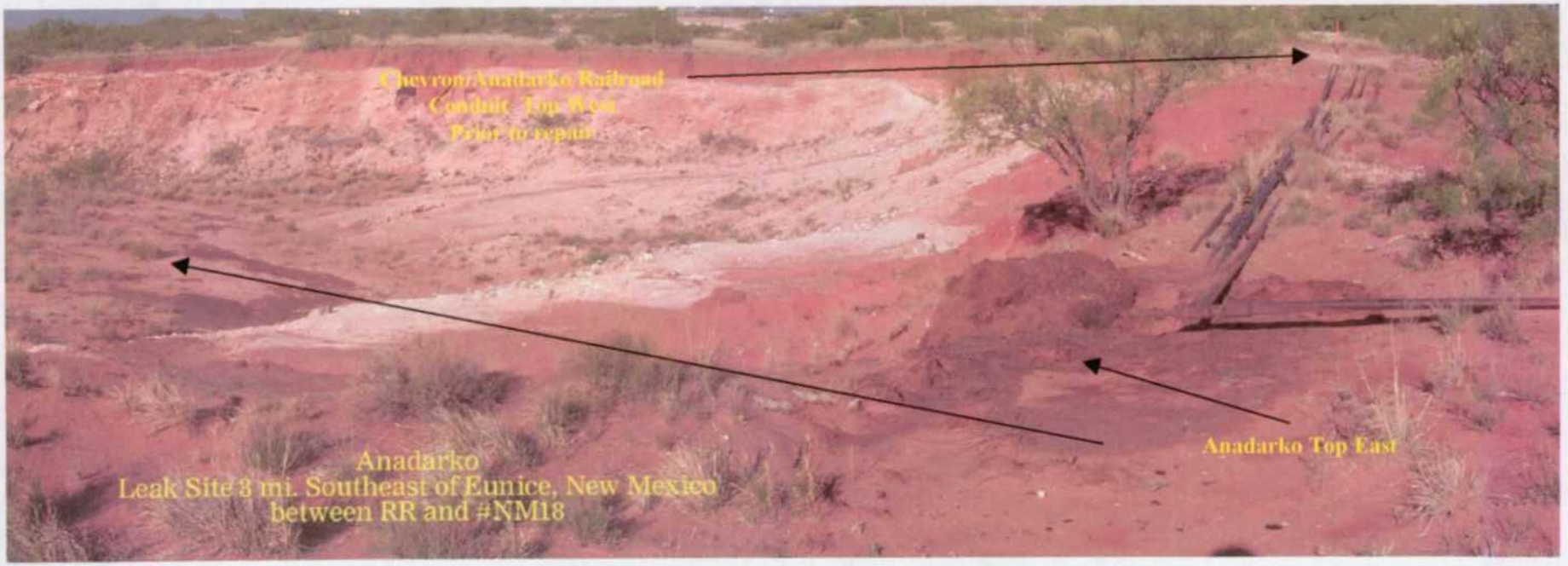
Attachment II: Photographs

Hugh Lease Conduit

Hugh Lease Conduit



Caliche Pit to the left/Railroad Conduit to the right (photo looking southwest)



Caliche Pit to the left/Railroad Conduit to the right (photo looking southwest)

Run-in area from the Railroad Conduit showing historical hydrocarbon impact

Run-in area from the Railroad Conduit showing historical hydrocarbon impact