District I
1625 N French Dr , Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr , Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised June 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☑ Initial Report ☑ Final Report

Name of Company	**Apache Corporation**	Contact	**Natalie Gladden**
Address	**P.O. Box 1849** **Eunice, NM 88231**	Telephone No.	**575-390-4186**
Facility Name	**ARNOLD A #1 Battery**	Facility Type	**Tank Battery**
Surface Owner	**Private**	Mineral Owner	API No. **30-025-07761**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from North Line	Feet from West Line	Longitude-W	Latitude-N	County
F	**11**	**20S**	**38E**	**NA**	**NA**	**103.1208**	**32.5891**	**Lea**

NATURE OF RELEASE

Type of Release **Accumulated release from unlined blowdown pit**	Volume of Release **Greater than 25 bbl**	Volume Recovered **0 bbl**
Source of Release **Blowdown Pit**	Date and Hour of Occurrence **NA**	Date and Hour of Discovery **NA**
Was Immediate Notice Given? ☐ YES ☐ NO ☑ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ YES ☑ NO	If YES, Volume Impacting the Watercourse **NA**	

If a Watercourse was Impacted, Describe Fully*

Describe Cause of Problem and Remedial Action Taken. *
Discharge into unlined blowdown pit south of battery since 1950's. Chloride concentrations exceeded 250-ppm down to 41-ft bgs level.

Describe Area Affected and Cleanup Action Taken. *
Blowdown pit was excavated laterally to achieve sidewall concentrations <250-ppm Cl; bottom excavated to 25-ft bgs to achieve <1000-ppm Cl; excavation backfilled with <1000-ppm Cl blended material then lined with 20-mil polyvinyl liner at 5-ft bgs level. Final backfill was clean topsoil purchased from landowner.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator 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 acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations

Signature: Natalie Gladden	**OIL CONSERVATION DIVISION**
Printed Name: **Natalie Gladden**	Approved by District Supervisor: ENVIRONMENTAL ENGINEER
Title: **Environmental Tech - Permian Basin**	Approval Date: 7-31-09 Expiration Date: —
E-Mail Address: Natalie.Gladden@usa.apachecorp.com	Conditions of Approval: 1RP# 09-7.2250 ☐ Attached
Date: **6/10/2009** Phone: **575-390-4186**	

fGRL0921733182

Table of Contents

1.0 Project Summary

Release Site Name:	Arnold A #1 Battery Reclamation	
Operating Company:	Apache Corporation	
Company Representative:	Natalie Gladden, Environmental Tech	Phone: 575-390-4186
Address: PO Box 1849, Eunice, NM 88231	Email: Natalie.Gladden@usa.apachecorp.com	
Remediation Company:	Ocotillo Environmental - Hobbs	Phone: 575-738-0138

SITE SPECIFIC DATA:

Legal Description:	Lea County, New Mexico	UL-F Section 11 T20S R37E
General Location:	2.4 miles SSE (170.9°) of Nadine, NM.	
Latitude: N32° 35.348'	Longitude: W103° 7.249'	Elevation: 3,591-ft amsl
Land Ownership:	Private – Zaragoza	
Ground Water Elevation:	54-ft bgs (Monitor Well)	
Water Wells within 1000-ft:	none	Surface Water within 1000-ft: none

RELEASE SPECIFIC DATA:

Date and Time of Release(s):	Historical
Material Released:	Produced Water and Crude Oil component
Volume Released:	>25-bbl Volume Recovered: 0-bbl
Cause of Release:	Battery blow down into unlined pit since 1950's
Release Affected Area:	~22,000-ft^2
Depth of Contamination:	40-ft bgs
NMOCD Site Ranking:	20 (ground water <50-ft below lowest contamination)
Remediation Action Levels:	TPH: 100-ppm; Benzene: 10-ppm; BTEX: 50-ppm; Cl – 250-ppm

REMEDIATION SUMMARY:

Remediation of the release site consisted of the excavation and disposal of 5,852-yd^3 of grossly contaminated soil from the blow down pit area. Disposal was at Sundance Services. Chloride contaminated soil that remained (down to the 25-ft bgs level) was blended with clean soil to achieve chloride concentrations of <1000-ppm. Nine 25-ft bottom samples and twelve sidewall samples were obtained to confirm bottom chloride concentrations of <1000-ppm and sidewall concentrations of <250-ppm. Nine sequential samples of the blended backfill were obtained over the 3-day blend/backfill operation. All blended samples were <500-ppm chloride concentration. The excavation was backfilled with clean caliche up to the desired liner elevation of 5-ft bgs. The 20-mil polyvinyl liner (150' X 155') was installed at 5-ft bgs and allowed for a 5-ft overlap of the excavation aerial extents. Two additional feet of clean caliche was added on top of the liner, and then 3-ft of clean topsoil was placed and contoured to complete the project on June 26, 2008.

2.0 Detailed Site Description

2.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an inter-grade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick inter-bed of caliche and generally overlain by sandy soil." The release site is located in the High Plains physiographic subdivision (more commonly referred to as the Llano Estacado), described by Nicholson & Clebsch as "a flat, gently sloping plain, treeless, and marred only by slight undulations and covered with short prairie grass."

2.2 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, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of the area. A survey of Listed, Threatened, or Endangered species was not conducted.

2.3 Area Ground Water

The Chevron-Texaco water contour map (*Plate 4 of Attachments*) indicates that water in this area is 25' – 50' bgs. A monitor well drilled at the NW corner of the location measures 54-ft to water level.

2.4 Area Water Wells

There are no recorded or observed water wells within 1000 horizontal feet of the site.

2.5 Area Surface Water Features

No permanent surface water bodies exist within 1000 horizontal feet of the site.

3.0 Contaminant and Size of Area

The primary Contaminant of Concern (COC) was total chlorides and hydrocarbons resulting from the historical releases at this location since the 1950's. Hydrocarbon contamination was limited to the top few feet of the release surface area. The areal extent of the excavated release was ~22,000-ft^2.

4.0 NMOCD Site Ranking

Contaminant delineation and site evaluation work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

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

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH^{8015m}, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX^{8260}), was determined based on the NMOCD Ranking Criteria as follows:

- *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.*

Based on the proximity of the site to area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 20 points with the soil remedial goals highlighted in the Site Ranking Table.

SITE RANKING TABLE

1. Ground Water	2. Wellhead Protection	3. Distance to Surface Water
Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
Depth to GW 50 to 99 feet: 10 points		200-1000 horizontal feet: 10 points
Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Ground Water Score = 20	Wellhead Protection Score= 0	Surface Water Score= 0
Site Rank (1+2+3) = 20 + 0 + 0 = 20 points		

Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Parameter	20+	10	0
Benzene	10 ppm	10 ppm	10 ppm
BTEX	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

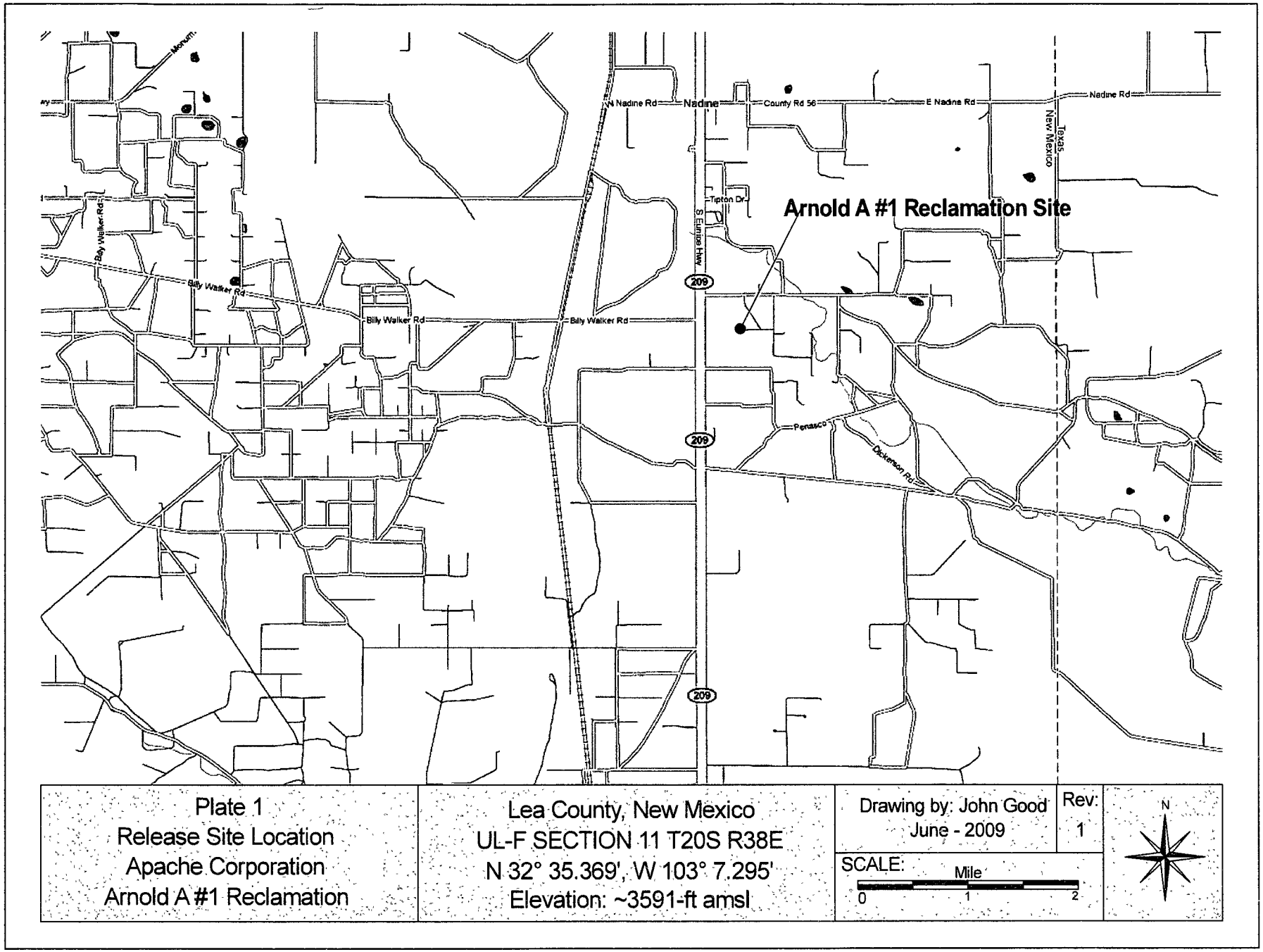
5.0 Remediation Process

Remediation of the release site consisted of the excavation and disposal of 5,852-yd^3 of grossly contaminated soil from the blow down pit area. Disposal was at Sundance Services. Chloride contaminated soil that remained (down to the 25-ft bgs level) was blended with clean soil to achieve chloride concentrations of <1000-ppm. Nine 25-ft bottom samples and twelve sidewall samples were obtained to confirm bottom chloride concentrations of <1000-ppm and sidewall concentrations of <250-ppm. Nine sequential samples of the blended backfill were obtained over the 3-day blend/backfill operation. All blended samples were <500-ppm chloride concentration. The excavation was backfilled with clean caliche up to the desired liner elevation of 5-ft bgs. The 20-mil polyvinyl liner (150' X 155') was installed at 5-ft bgs and allowed for a 5-ft overlap of the

excavation aerial extents. Two additional feet of clean caliche was added on top of the liner, and then 3-ft of clean topsoil was placed and contoured to complete the project on June 26, 2008.

Based on the contents and data contained herein, Apache Corporation requests that NMOCD require "no further action" as regards the soil contamination resulting from the historical unlined blow down pit at the abandoned Arnold A #1 Battery location.

ATTACHMENTS


Arnold A #1 Reclamation Site
Nadine
N Nadine Rd
E Nadine Rd
Nadine Rd
County Rd 56
Billy Walker Rd
Billy Walker Rd
Billy Walker Rd
Tipton Dr
S Eunice Hwy
209
209
209
Penasco
Dickenson Rd
Texas
New Mexico
Plate 1
Release Site Location
Apache Corporation
Arnold A #1 Reclamation
Lea County, New Mexico
UL-F SECTION 11 T20S R38E
N 32° 35.369', W 103° 7.295'
Elevation: ~3591-ft amsl
Drawing by: John Good
June - 2009
Rev:
1
SCALE:
Mile
0
1
2
N

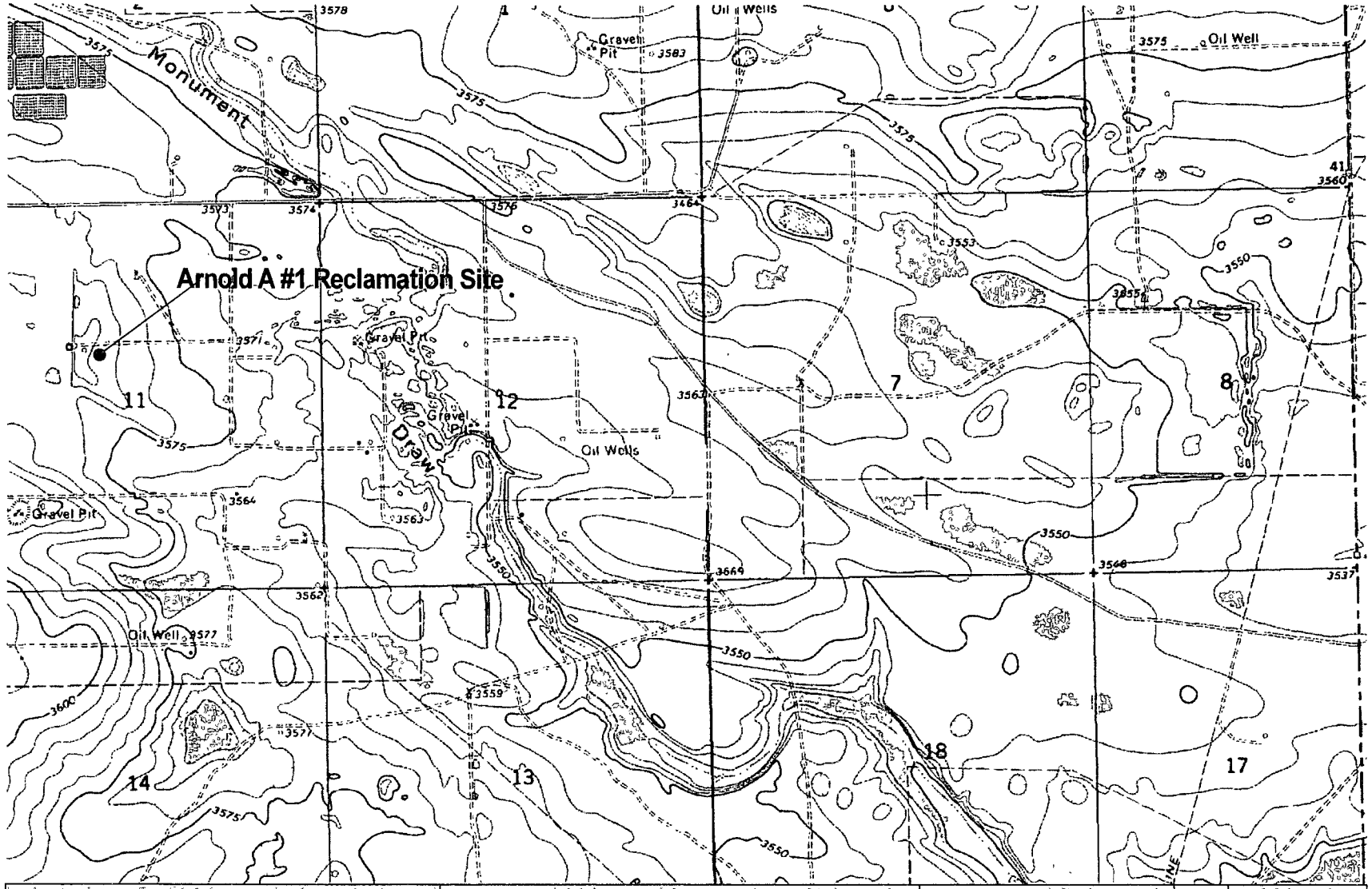


Plate 2 Release Site Topography (USGS) Apache Corporation Arnold A #1 Reclamation	Lea County, New Mexico UL-F SECTION 11 T20S R38E N 32° 35.369', W 103° 7.295' Elevation: ~3591-ft amsl	Drawing by: John Good June - 2009	Rev: 1
		SCALE: 0 Feet 3000	N

Plate 3 Release Site Aerial Photograph Apache Corporation Arnold A #1 Reclamation	Lea County, New Mexico UL-F SECTION 11 T20S R38E N 32° 35.348', W 103° 7.249' Elevation: ~3591-ft amsl	Drawing by: John Good June - 2009 Rev: 1 SCALE: 0 Feet 1000	N

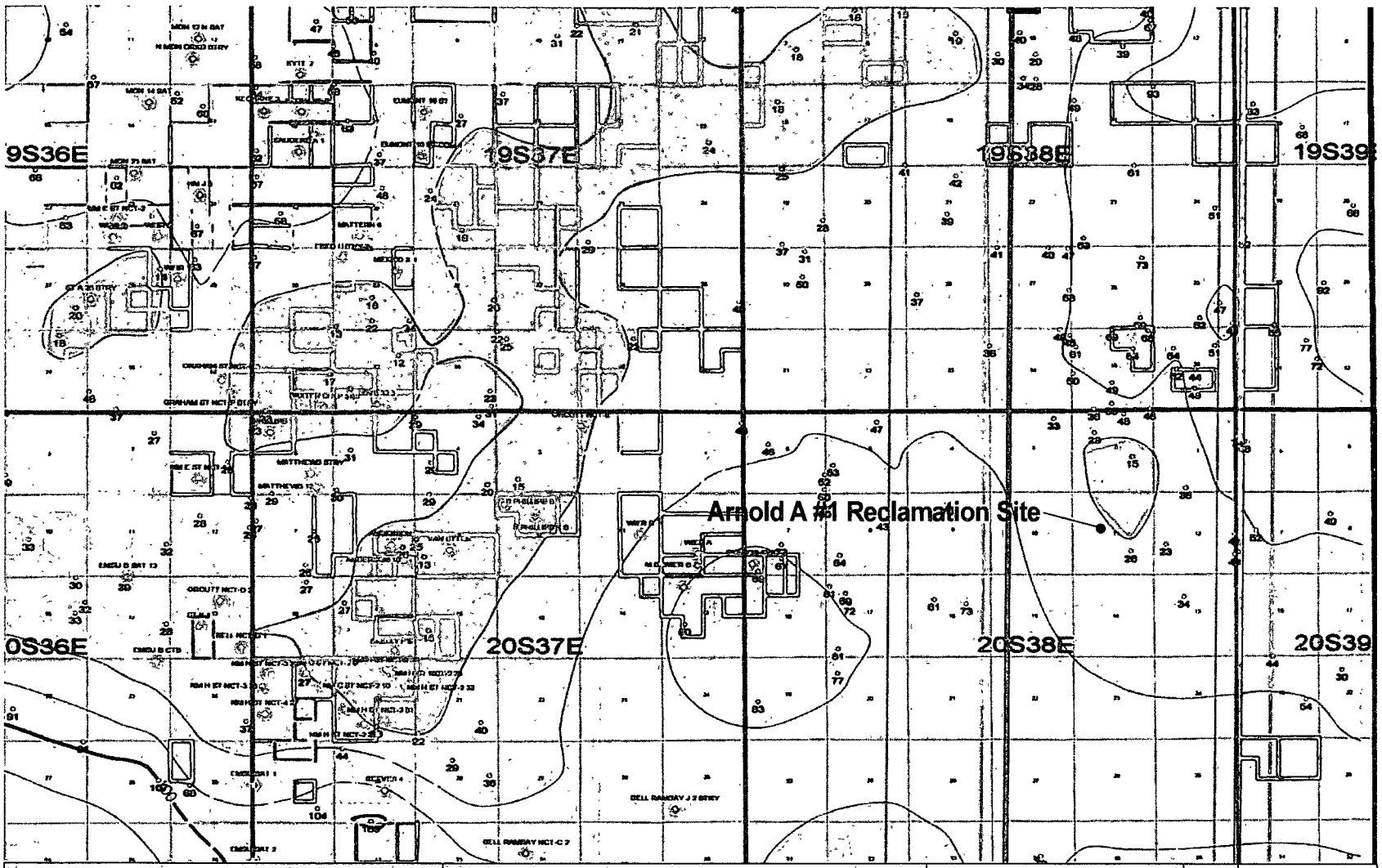
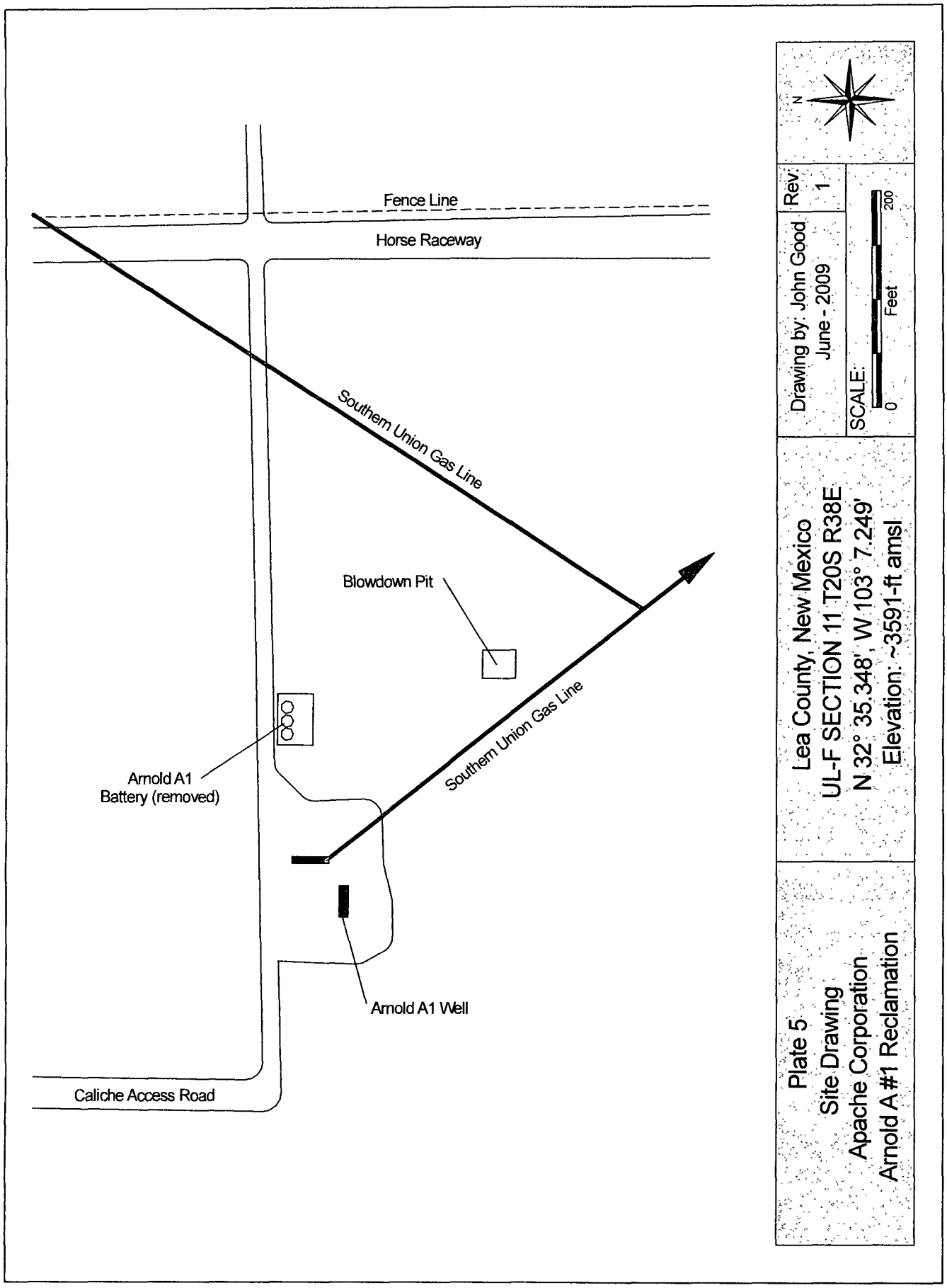
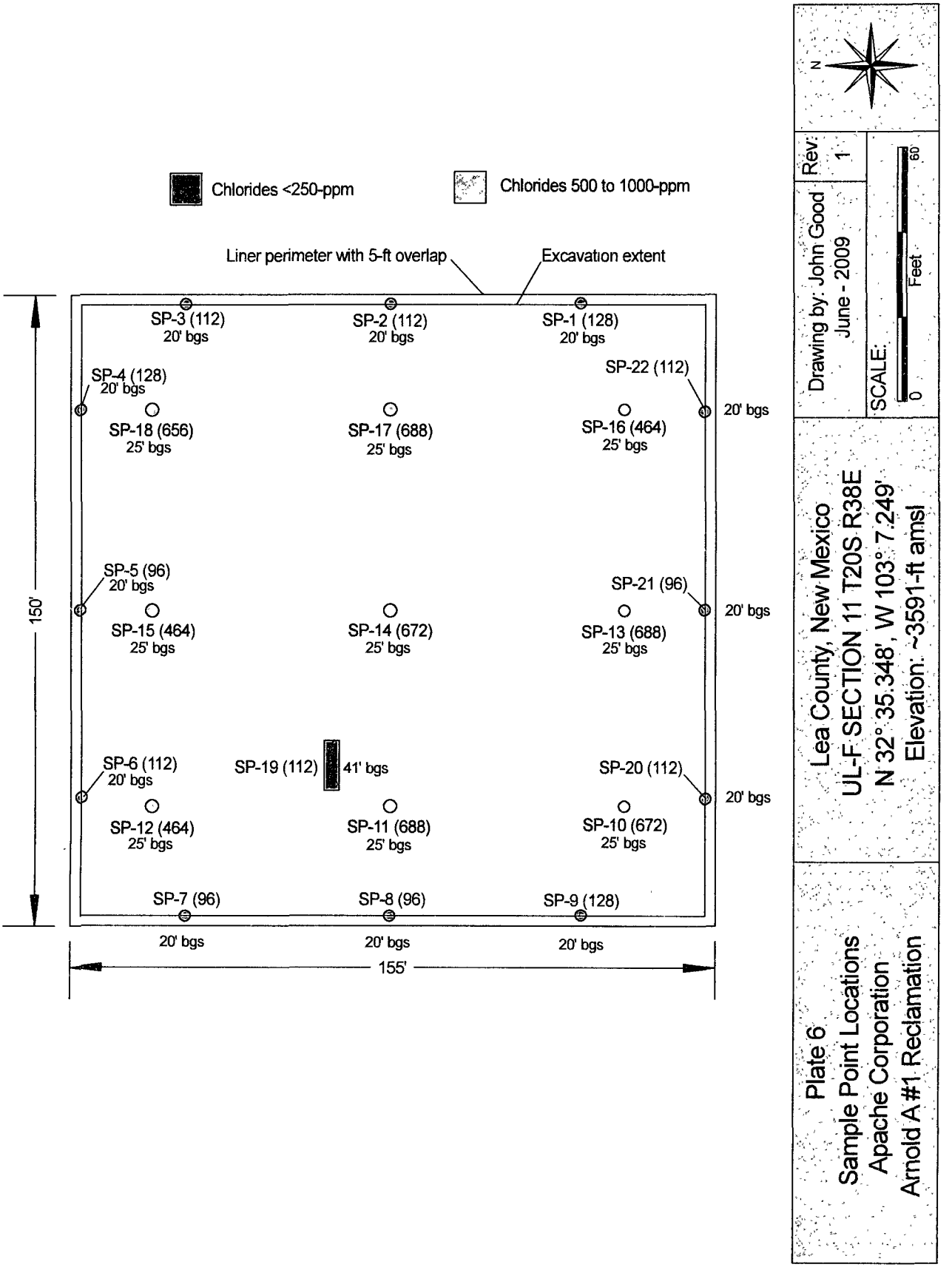


Plate 4 Release Site Water Depth Contour Apache Corporation Arnold A #1 Reclamation	Lea County, New Mexico UL-F SECTION 11 T20S R38E N 32° 35.348', W 103° 7.249' Elevation: ~3591-ft amsl	Drawing by: John Good June - 2009 SCALE: 0 Mile 3	Rev: 1 N


Fence Line
Horse Raceway
Southern Union Gas Line
Blowdown Pit
Southern Union Gas Line
Arnold A1
Battery (removed)
Arnold A1 Well
Caliche Access Road
N
Rev: 1
Drawing by: John Good
June - 2009
SCALE:
0
200
Feet
Lea County, New Mexico
UL-F SECTION 11 T20S R38E
N 32° 35.348', W 103° 7.249'
Elevation: ~3591-ft amsl
Plate 5
Site Drawing
Apache Corporation
Arnold A #1 Reclamation


Chlorides <250-ppm
Chlorides 500 to 1000-ppm
Liner perimeter with 5-ft overlap
Excavation extent
SP-3 (112) 20' bgs
SP-2 (112) 20' bgs
SP-1 (128) 20' bgs
SP-4 (128) 20' bgs
SP-22 (112) 20' bgs
SP-18 (656) 25' bgs
SP-17 (688) 25' bgs
SP-16 (464) 25' bgs
SP-5 (96) 20' bgs
SP-21 (96) 20' bgs
SP-15 (464) 25' bgs
SP-14 (672) 25' bgs
SP-13 (688) 25' bgs
SP-6 (112) 20' bgs
SP-19 (112) 41' bgs
SP-20 (112) 20' bgs
SP-12 (464) 25' bgs
SP-11 (688) 25' bgs
SP-10 (672) 25' bgs
SP-7 (96) 20' bgs
SP-8 (96) 20' bgs
SP-9 (128) 20' bgs
150'
155'
N
Rev: 1
Drawing by: John Good
June - 2009
SCALE:
0
60
Feet
Lea County, New Mexico
UL-F SECTION 11 T20S R38E
N 32° 35.348', W 103° 7.249'
Elevation: ~3591-ft amsl
Plate 6
Sample Point Locations
Apache Corporation
Arnold A #1 Reclamation

APACHE CORP - ARNOLD A #1: LABORATORY ANALYTICAL RESULTS SUMMARY TABLE							
Sample Number	Sample Depth	Sample Location	Chlorides mg/Kg	Sample Number	Sample Depth	Sample Location	Chlorides mg/Kg
SP1	20-ft	ESW-S	128	SP18	25-ft	BH-EN	656
SP2	20-ft	ESW-C	112	SP19	41-ft	POR	112
SP3	20-ft	ESW-N	112	SP20	20-ft	SSW-W	112
SP4	20-ft	NSW-E	128	SP21	20-ft	SSW-C	96
SP5	20-ft	NSW-C	96	SP22	20-ft	SSW-E	112
SP6	20-ft	NSW-W	112	SP23	20-ft	BLEND-1	432
SP7	20-ft	WSW-N	96	SP24	20-ft	BLEND-2	304
SP8	20-ft	WSW-C	96	SP25	20-ft	BLEND-3	400
SP9	20-ft	WSW-S	128	SP26	15-ft	BLEND-4	320
SP10	25-ft	BH-WS	672	SP27	15-ft	BLEND-5	432
SP11	25-ft	BH-WC	688	SP28	15-ft	BLEND-6	432
SP12	25-ft	BH-WN	464	SP29	10-ft	BLEND-7	304
SP13	25-ft	BH-CS	688	SP30	10-ft	BLEND-8	416
SP14	25-ft	BH-CC	672	SP31	10-ft	BLEND-9	464
SP15	25-ft	BH-CN	464	SP32	5-ft	BLEND-10	368
SP16	25-ft	BH-ES	464	SP33	5-ft	BLEND-11	448
SP17	25-ft	BH-EC	688	SP34	5-ft	BLEND-12	224

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
OCOTILLO ENVIRONMENTAL, LLC
ATTN: JOHN GOOD
P.O. BOX 1816
HOBBS, NM 88241

Receiving Date: 06/19/08
Reporting Date: 06/19/08
Project Owner: APACHE CORP.
Project Name: ARNOLD A #1-2
Project Location: UL-F S11 T20S R38E

Analysis Date: 06/19/08
Sampling Date: 06/12/08 & 06/18/08
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: KS
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H15017-1	ESW-S	128
H15017-2	ESW-C	112
H15017-3	ESW-N	112
H15017-4	NSW-E	128
H15017-5	NSW-C	96
H15017-6	NSW-W	112
H15017-7	WSW-N	96
H15017-8	WSW-C	96
H15017-9	WSW-S	128
H15017-10	BH25-WS	672
H15017-11	BH25-WC	688
H15017-12	BH25-WN	464
H15017-13	BH25-CS	688
H15017-14	BH25-CC	672
H15017-15	BH25-CN	464
H15017-16	BH25-ES	464
H15017-17	BH25-EC	688
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		2.0

METHOD: Standard Methods	4500-Cl B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

06-20-08
Date

H15017-OCO

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
OCOTILLO ENVIRONMENTAL, LLC
ATTN: JOHN GOOD
P.O. BOX 1816
HOBBS, NM 88241

Receiving Date: 06/19/08
Reporting Date: 06/19/08
Project Owner: APACHE CORP.
Project Name: ARNOLD A #1-2
Project Location: UL-F S11 T20S R38E

Analysis Date: 06/19/08
Sampling Date: 06/12/08 - 06/19/08
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: KS
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H15017-18	BH25-EN	656
H15017-19	BH41-POR	112
H15017-20	SSW-W	112
H15017-21	SSW-C	96
H15017-22	SSW-E	112
H15017-23	BLEND-1	432
H15017-24	BLEND-2	304
H15017-25	BLEND-3	400
H15017-26	BLEND-4	320
H15017-27	BLEND-5	432
H15017-28	BLEND-6	432
H15017-29	BLEND-7	304
H15017-30	BLEND-8	416
H15017-31	BLEND-9	464
H15017-32	BLEND-10	368
H15017-33	BLEND-11	448
H15017-34	BLEND-12	224
Quality Control		510
True Value QC		500
% Recovery		102
Relative Percent Difference		2.0

METHOD: Standard Methods	4500-ClB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

06-20-08
Date

H15017 OCO

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

CHAIN OF CUSTODY AND ANALYSIS REQUEST

Sheet 1 of 1

Company Name:	OCOTILLO ENVIRONMENTAL	BILL TO	
Project Manager:	JOHN GOOD	P.O. #:	
Address:	2125 N. FRENCH DR.	Company:	Apache Corp
City:	HOBBS State: NM Zip: 88241	Attn:	Natalie Gladden
Phone #:	575-631-3277 Fax #:	Address:	PO Box 1849
Project #	Project Owner: APACHE CORP	City:	Eunice
Project Name:	ARNOLD A #1-2	State: NM	Zip: 88231
Project Location:	UL-F S11 T20S R38E	Phone #:	575-390-4186
Sampler Name:	JOHN GOOD	Fax #:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUND WATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	PRESERV: ACID/BASE	PRESERV: ICE/COOL	PRESERV: OTHER:	SAMPLING: DATE	SAMPLING: TIME	ANALYSIS REQUEST: Chlorides
H15017-1	ESW-S	G	1			X				X		12-Jun	7:30	X
-2	ESW-C	G	1			X				X		12-Jun		X
-3	ESW-N	G	1			X				X		12-Jun		X
-4	NSW-E	G	1			X				X		12-Jun		X
-5	NSW-C	G	1			X				X		12-Jun		X
-6	NSW-W	G	1			X				X		12-Jun		X
-7	WSW-N	G	1			X				X		12-Jun		X
-8	WSW-C	G	1			X				X		12-Jun	8:00	X
-9	WSW-S	G	1			X				X		18-Jun	3:00	X
-10	BH25-WS	G	1			X				X		12-Jun	8:00	X
-11	BH25-WC	G	1			X				X		12-Jun		X
-12	BH25-WN	G	1			X				X		12-Jun		X
-13	BH25-CS	G	1			X				X		12-Jun		X
-14	BH25-CC	G	1			X				X		12-Jun		X
-15	BH25-CN	G	1			X				X		12-Jun		X
-16	BH25-ES	G	1			X				X		12-Jun		X
-17	BH25-EC	G	1			X				X		12-Jun	9:00	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based on contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within 30-days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates, or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished by: John Good	Date: 6/19/08	Received By: Kristi Dupree	
	Time: 11:10		
Relinquished by:	Date	Received By:	
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) ICS

Phone Result: ☑ Yes ☐ No Add'l Phone#: 631-3277 (J. Good)

Fax Result: ☐ Yes ☑ No Add'l Fax #:

Remarks: J. Good will pickup results when completed - - please do not mail.

Note: Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

CHAIN OF CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES
PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603
PHONE (505) 393-2326 · 101 E. MARLAND · HOBBS, NM 88240

Sheet 2 of 2

Company Name:	OCOTILLO ENVIRONMENTAL	BILL TO	
Project Manager:	JOHN GOOD	P.O. #:	
Address:	2125 N. FRENCH DR.	Company:	Apache Corp
City:	HOBBS State: NM Zip: 88241	Attn:	Natalie Gladden
Phone #:	575-631-3277 Fax #:	Address:	PO Box 1849
Project #:	Project Owner: APACHE CORP	City:	Eunice
Project Name:	ARNOLD A #1-2	State: NM Zip:	88231
Project Location:	UL-F S11 T20S R38E	Phone #:	575-390-4186
Sampler Name:	JOHN GOOD	Fax #:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUND WATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	PRESERV: ACID/BASE	PRESERV: ICE/COOL	PRESERV: OTHER:	SAMPLING: DATE	SAMPLING: TIME	ANALYSIS REQUEST: Chlorides
H 15017-18	BH25-EN	G	1			X				X		12-Jun	9:00	X
-19	BH41-POR	G	1			X				X		12-Jun	9:30	X
-20	SSW-W	G	1			X				X		18-Jun	3:05	X
-21	SSW-C	G	1			X				X		18-Jun	3:10	X
-22	SSW-E	G	1			X				X		18-Jun	3:15	X
-23	BLEND-1	G	1			X				X		13-Jun	2:30	X
-24	BLEND-2	G	1			X				X		13-Jun	2:30	X
-25	BLEND-3	G	1			X				X		13-Jun	2:30	X
-26	BLEND-4	G	1			X				X		16-Jun	1:45	X
-27	BLEND-5	G	1			X				X		16-Jun	1:45	X
-28	BLEND-6	G	1			X				X		16-Jun	1:45	X
-29	BLEND-7	G	1			X				X		18-Jun	9:00	X
-30	BLEND-8	G	1			X				X		18-Jun	9:00	X
-31	BLEND-9	G	1			X				X		18-Jun	9:00	X
-32	BLEND-10	G	1			X				X		19-Jun	10:30	X
-33	BLEND-11	G	2			X				X		19-Jun	10:30	X
-34	BLEND-12	G	3			X				X		19-Jun	10:30	X

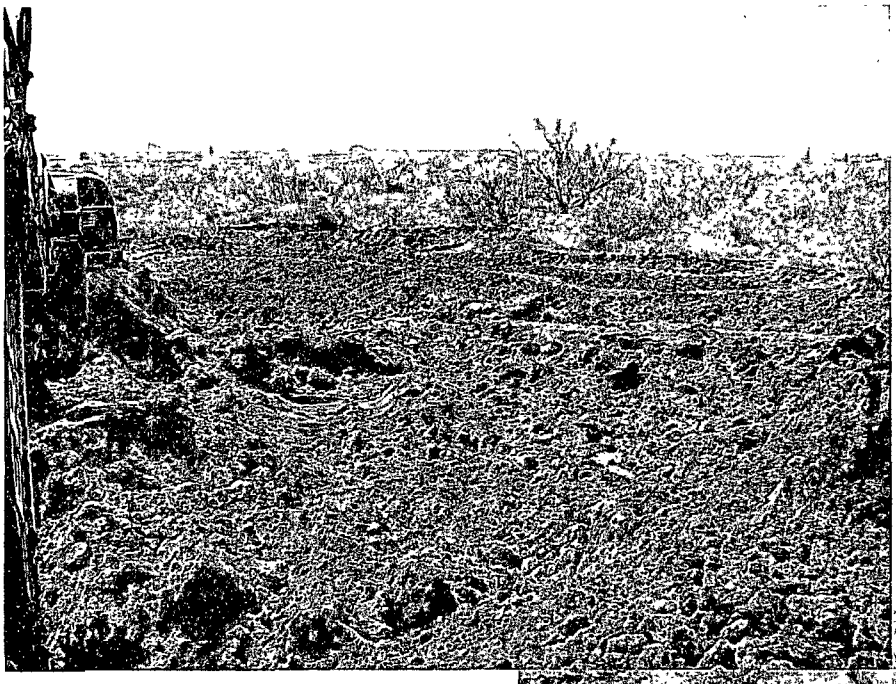
Relinquished by:	Date: 6/19/08	Received By:	
JOHN GOOD	Time: 11:10		
Relinquished by:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)	Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other	Cool	Intact		
	☑ Yes ☐ No	☑ Yes ☐ No	KS	

Phone Result:	☑ Yes	☐ No	Add'l Phone#:	631-3277 (J. Good)
Fax Result:	☐ Yes	☑ No	Add'l Fax #:	

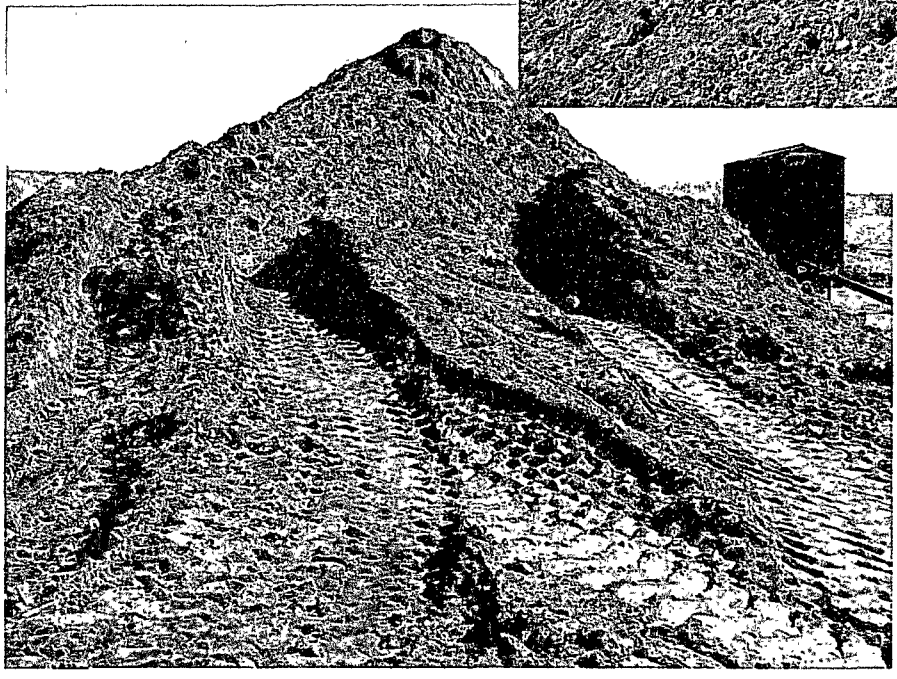
Remarks: J. Good will pickup results when completed - - please do not mail.

Note: Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

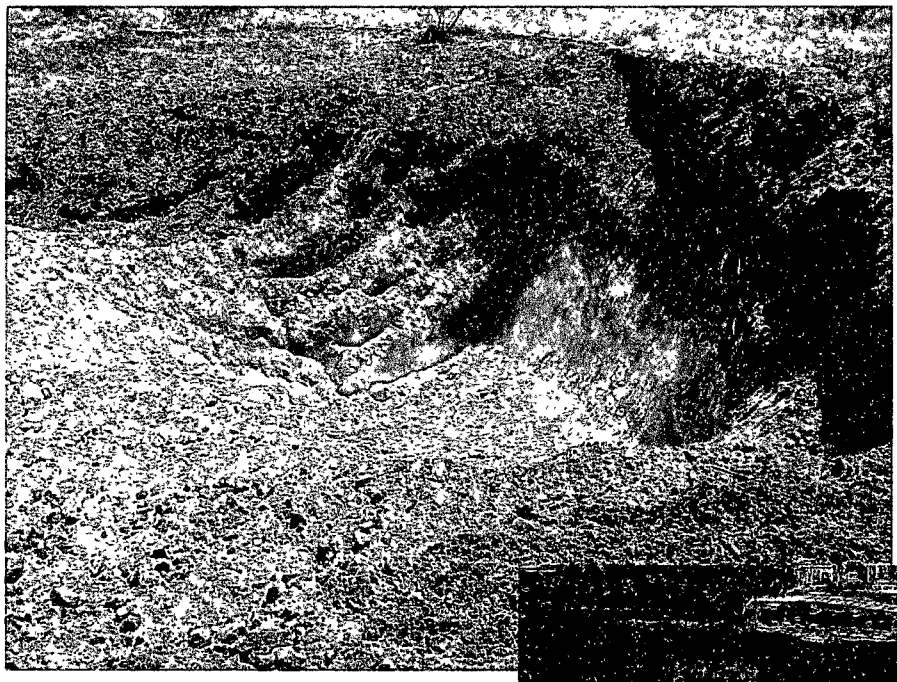


< 5/7/08 – Commencing excavation of old blow down pit

5/7/08 – Commencing excavation of old blow down pit >

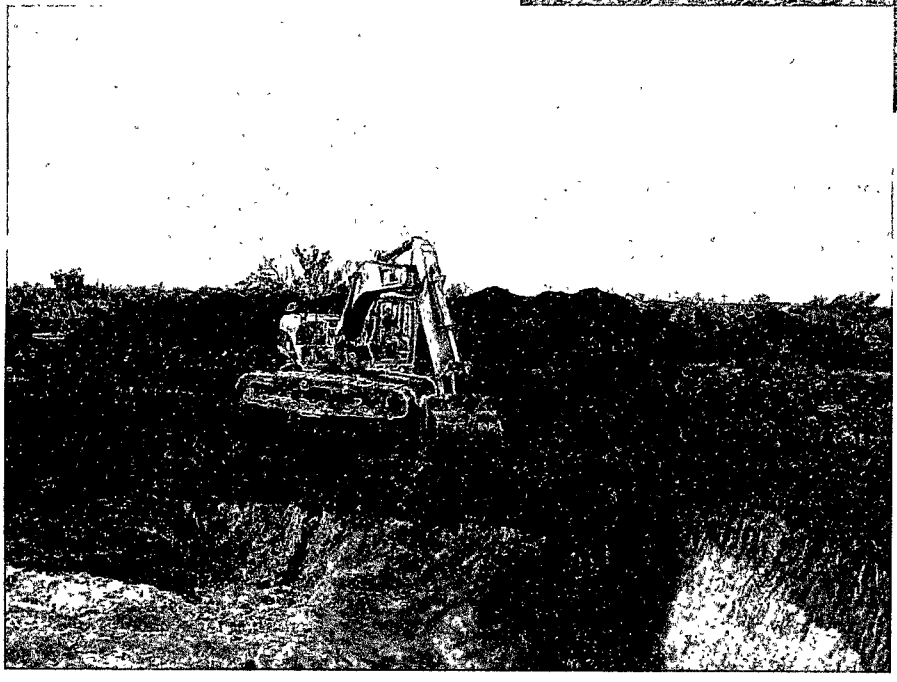


< 5/8/08 – Grossly contaminated soil stockpiled for disposal.

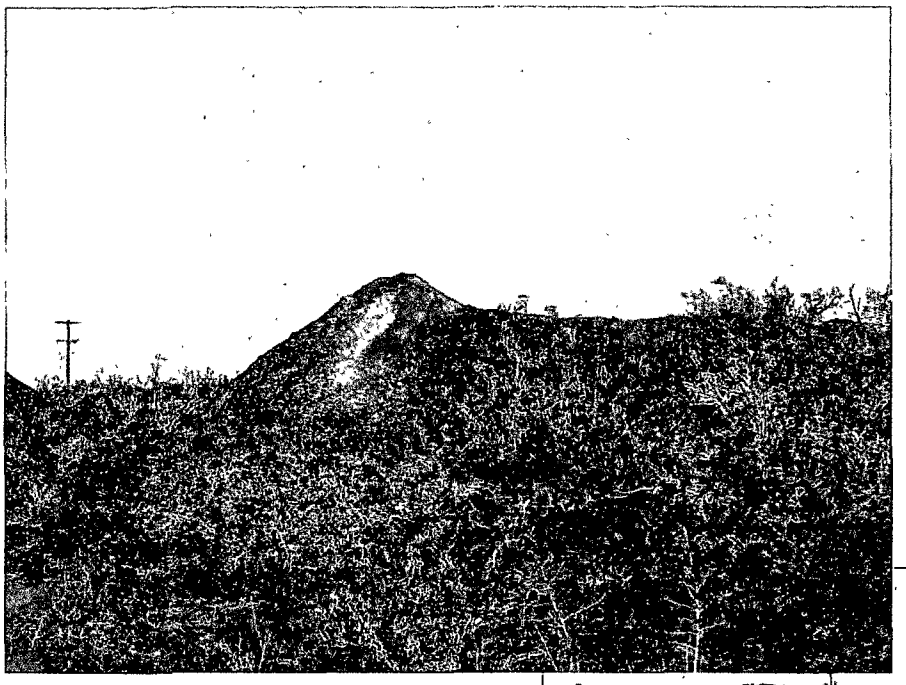


< 5/12/08 – Excavating chloride contaminated soil.

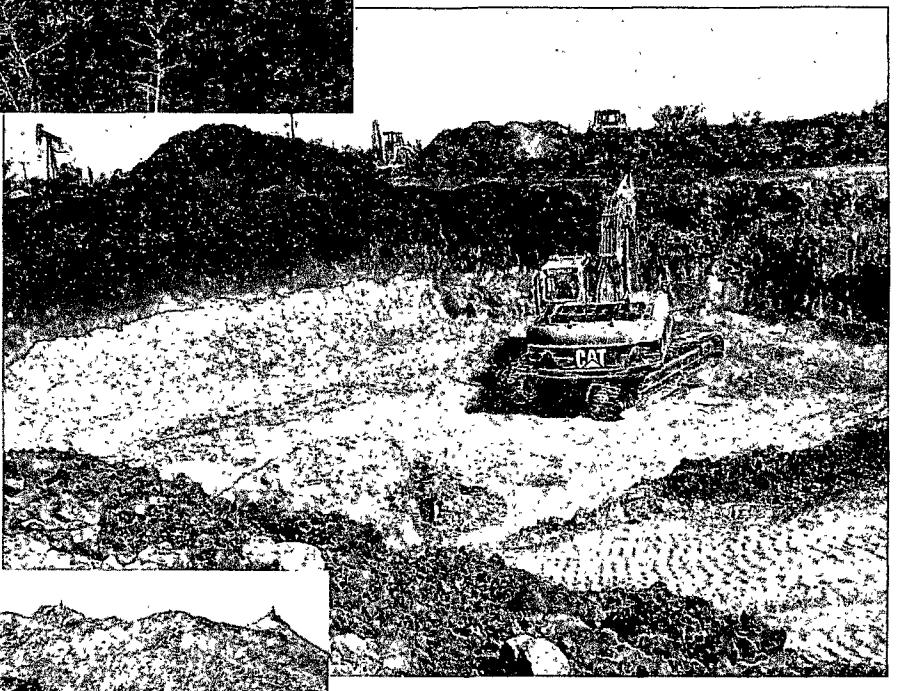
5/14/08 – Down ~20-ft on the north side of excavation. >



< 5/14/08 – Isolating clean topsoil for use as final cover.

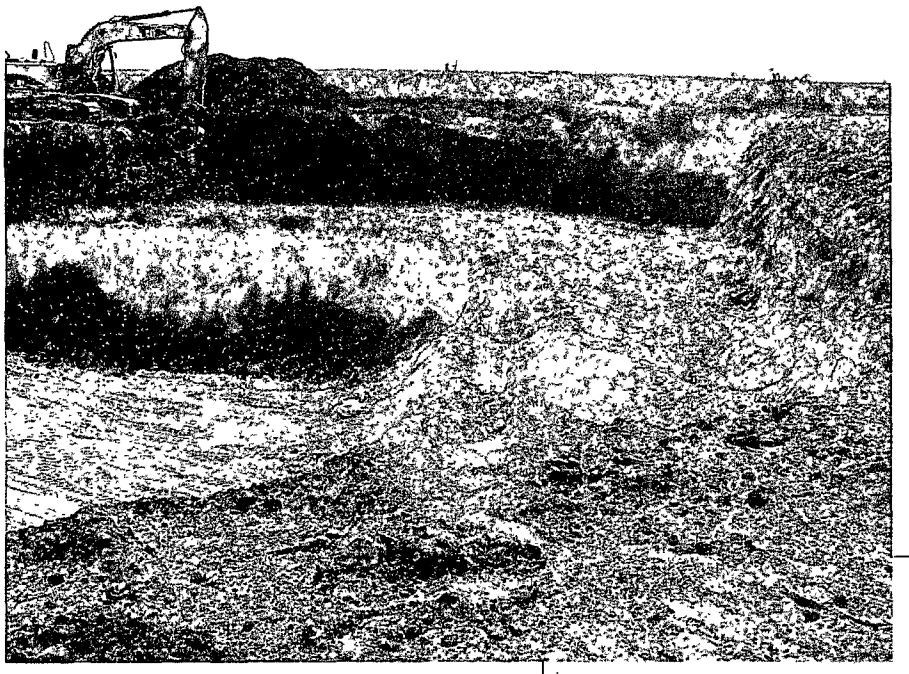


< 5/14/08 – Accumulated blend stockpile

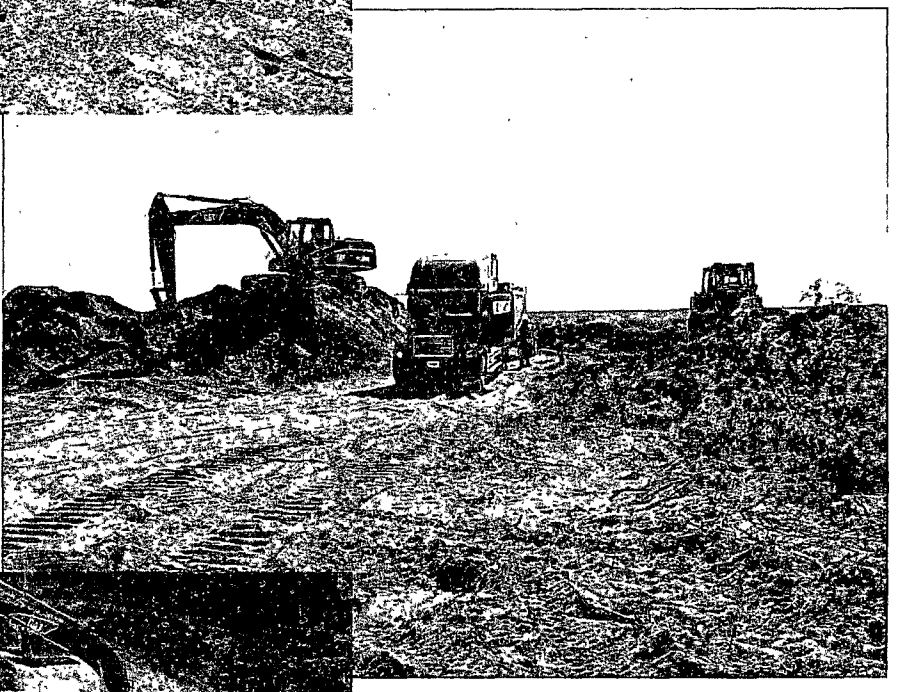


5/21/08 – Continuing bottom excavation. >

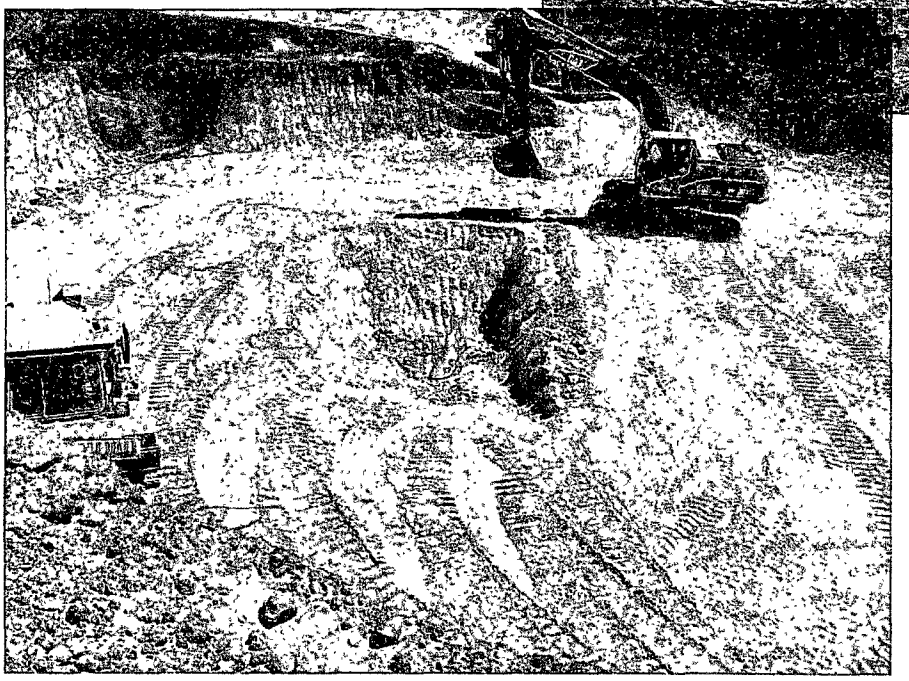
< 5/21/08 – Continuing bottom excavation.



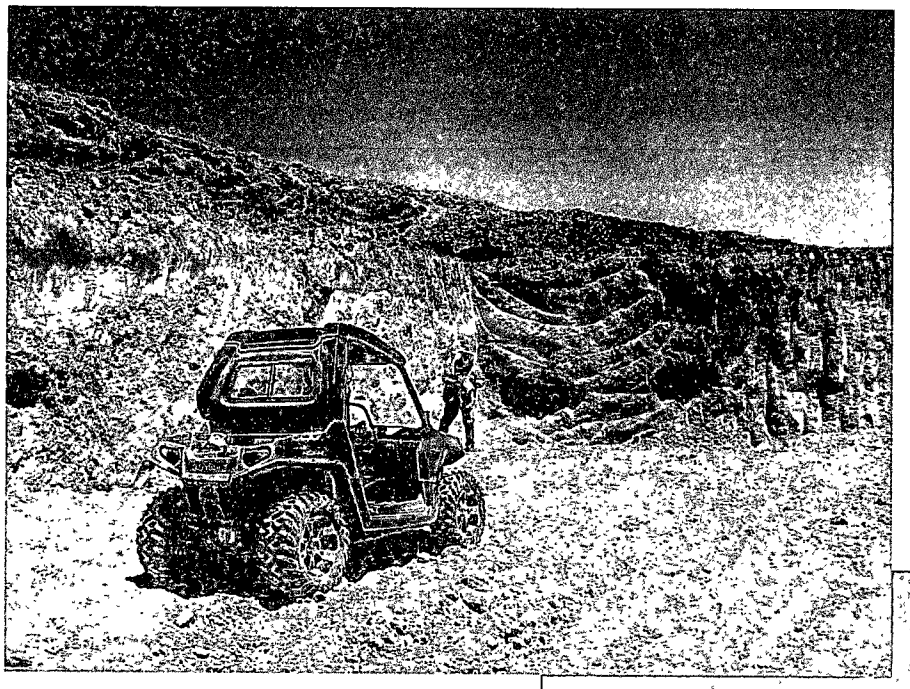
< 5/29/08 – Excavating clean topsoil from surface to enable lateral extension of excavation bottom.



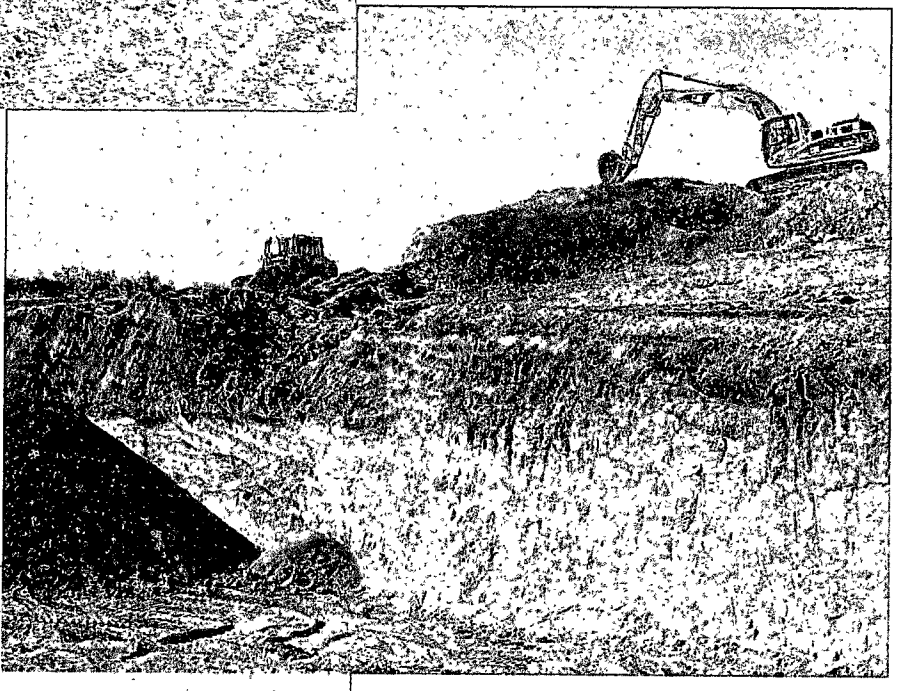
6/5/08 – Disposing of contaminated stockpile. >



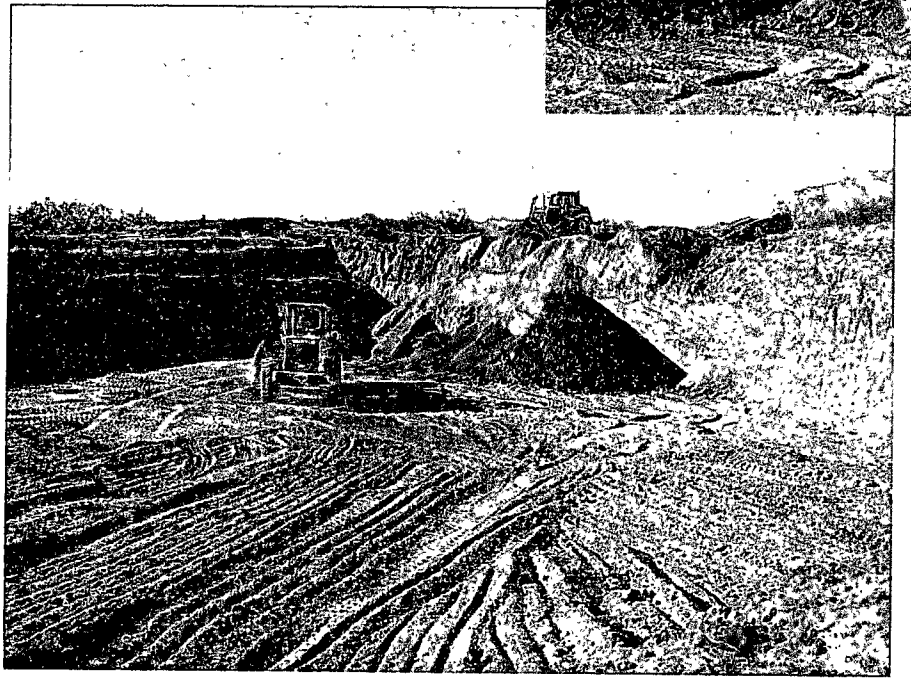
< 6/12/08 – Excavating from 25-ft bgs to 41-ft bgs to determine vertical extent of chloride contamination.



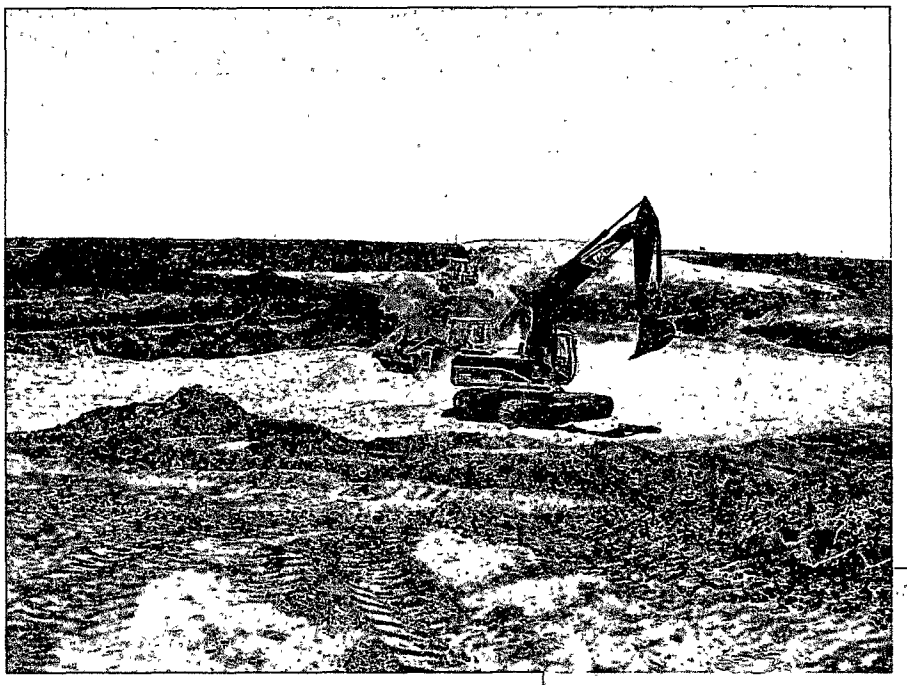
< 6/12/08 – Some fat boy taking final sidewall and bottom samples.



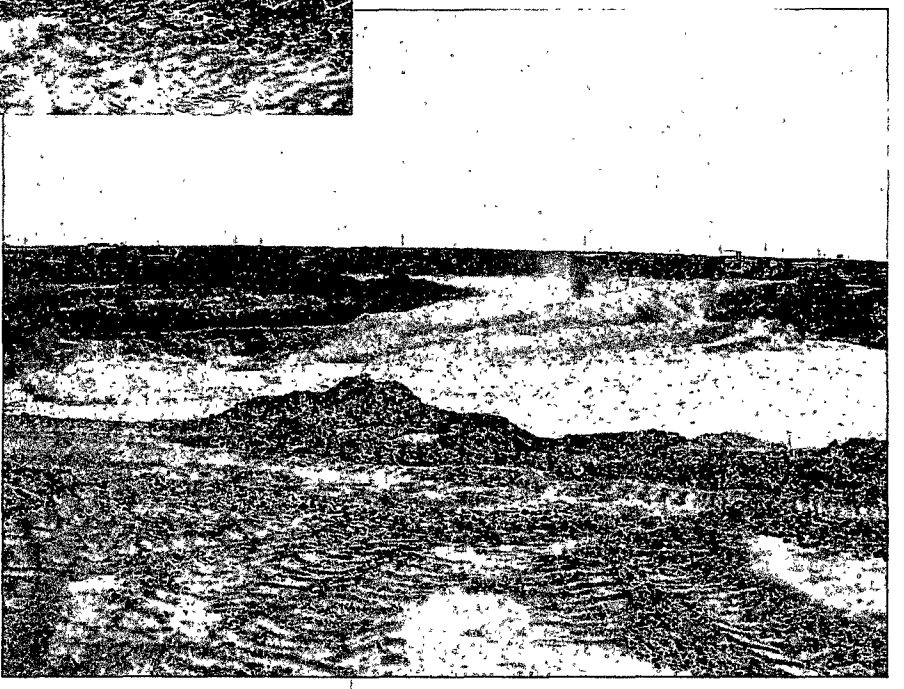
6/13/08 – Backfilling excavation with blended soil. >



< 6/13/08 – Backfilling excavation with blended soil.

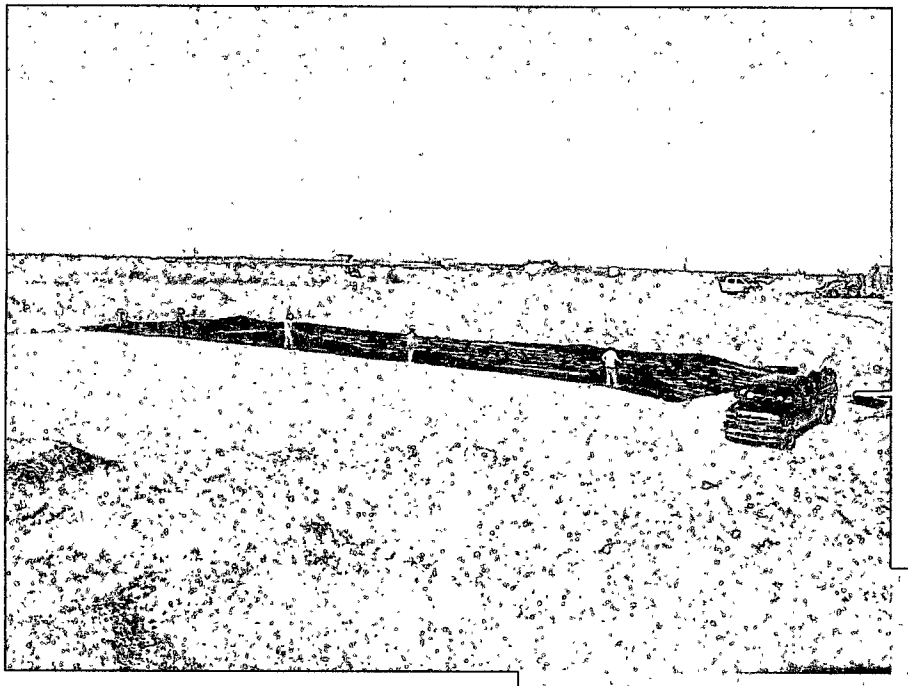


< 6/18/08 – Backfilling excavation with blended soil.



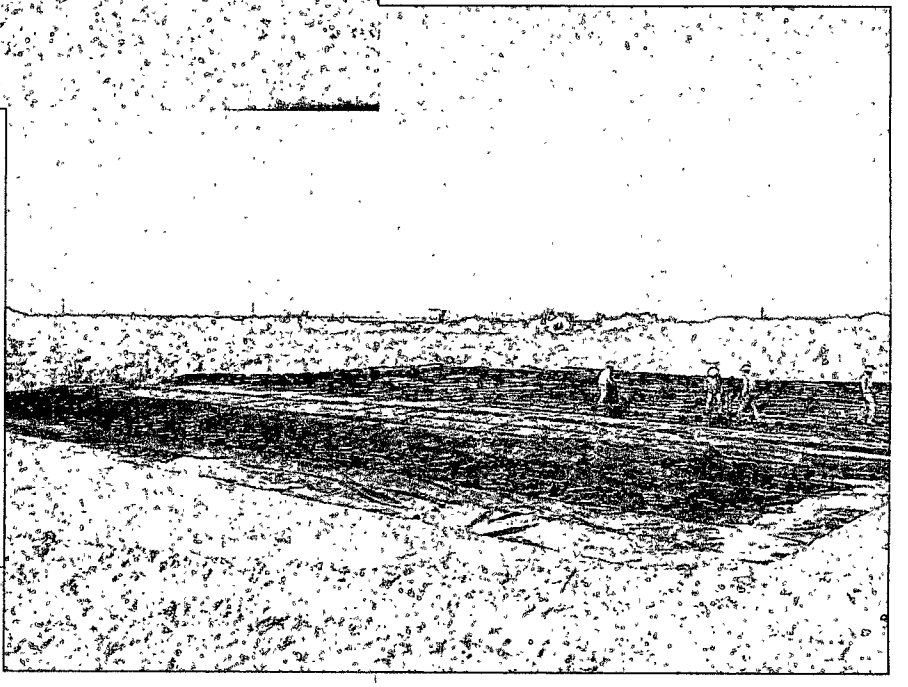
6/19/08 – Placing clean caliche over blended to bring up to 5-ft bgs. >

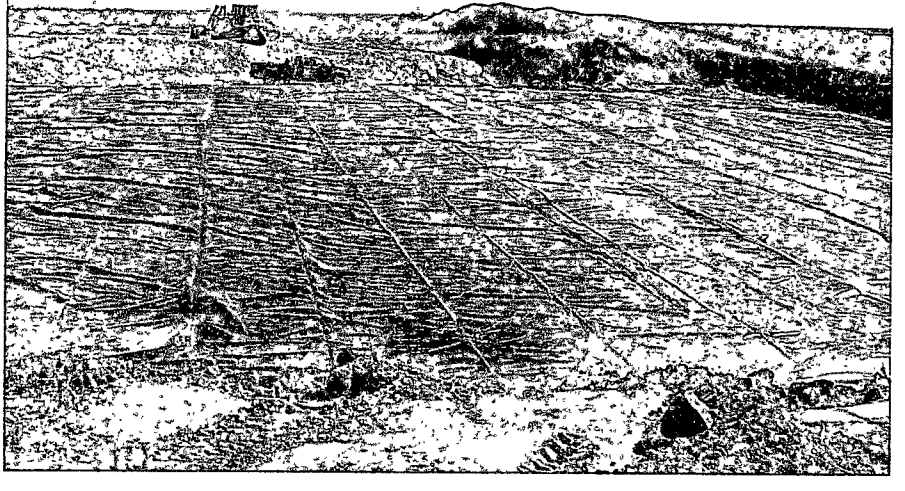
< 6/20/08 – Preparing caliche surface for liner installation. >



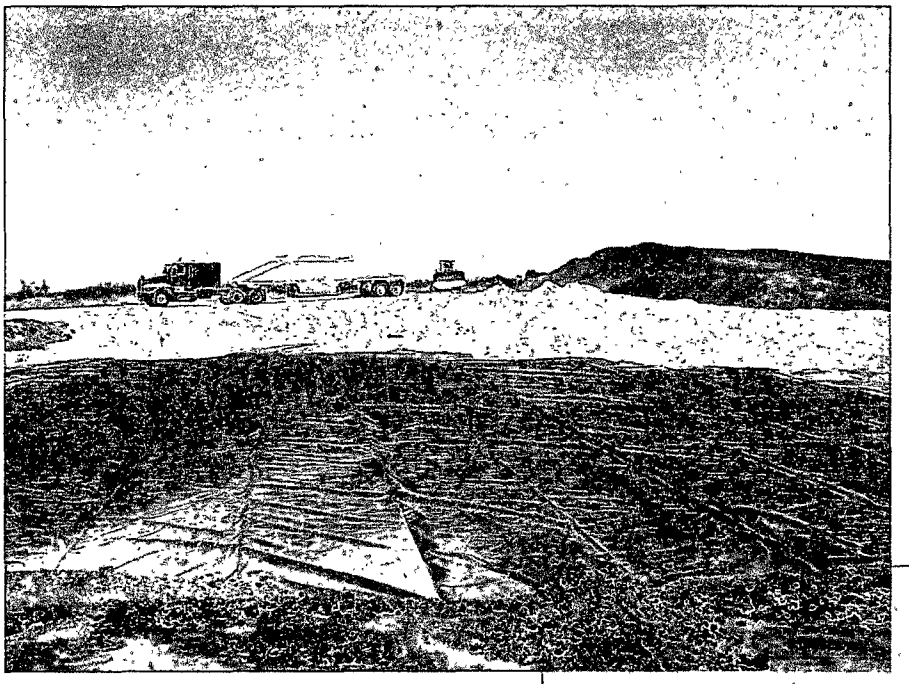
< 6/23/08 – Installing 20-mil polyvinyl liner (155' X 150').

6/23/08 – 6/23/08 – Installing 20-mil polyvinyl liner (155' X 150'). >

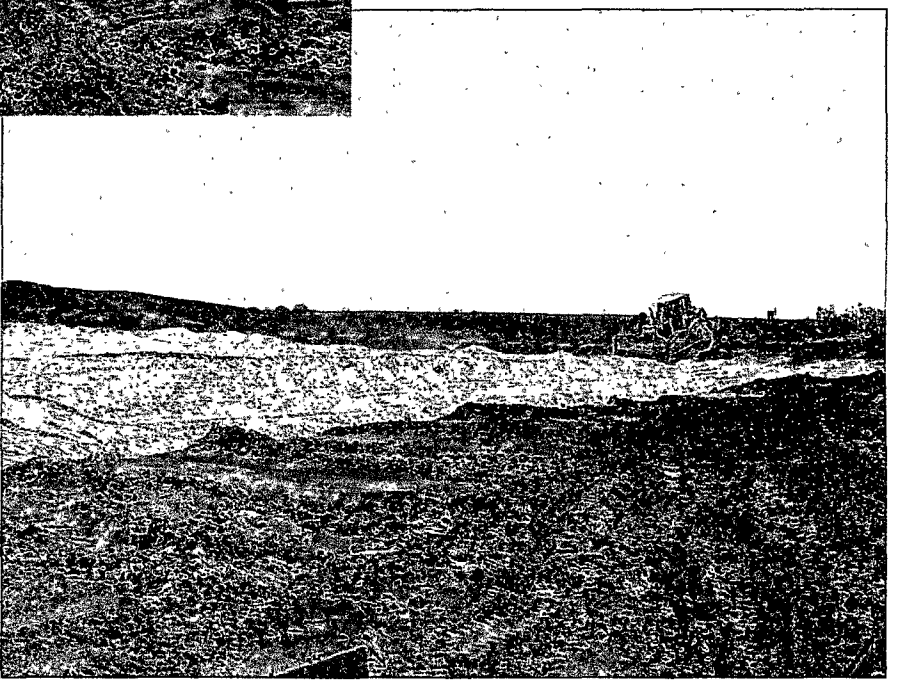




< 6/23/08 – Installing 20-mil polyvinyl liner (155' X 150').

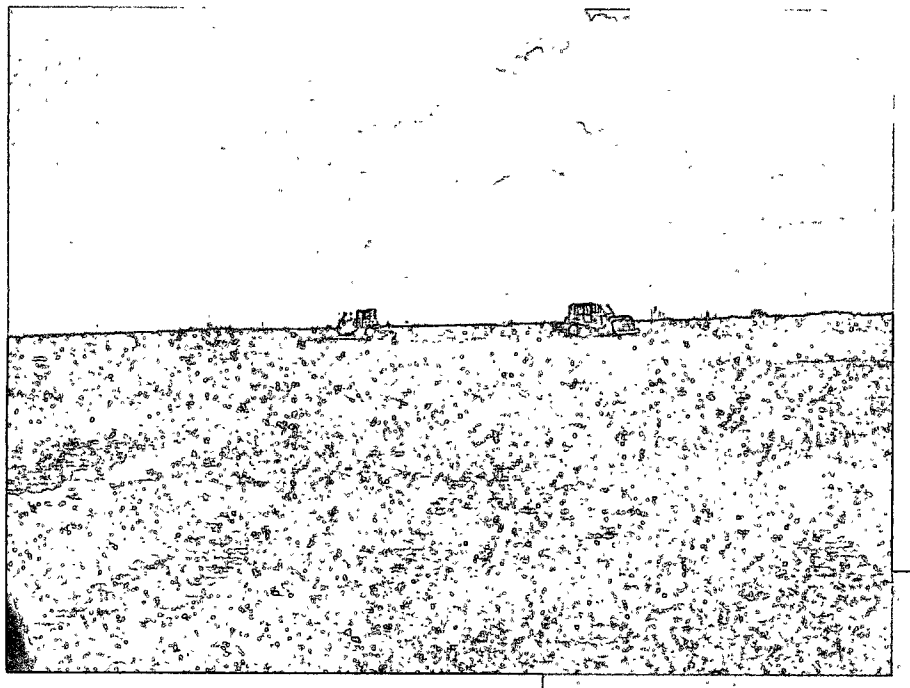


< 6/23/08 – Adding caliche layer over top of liner.



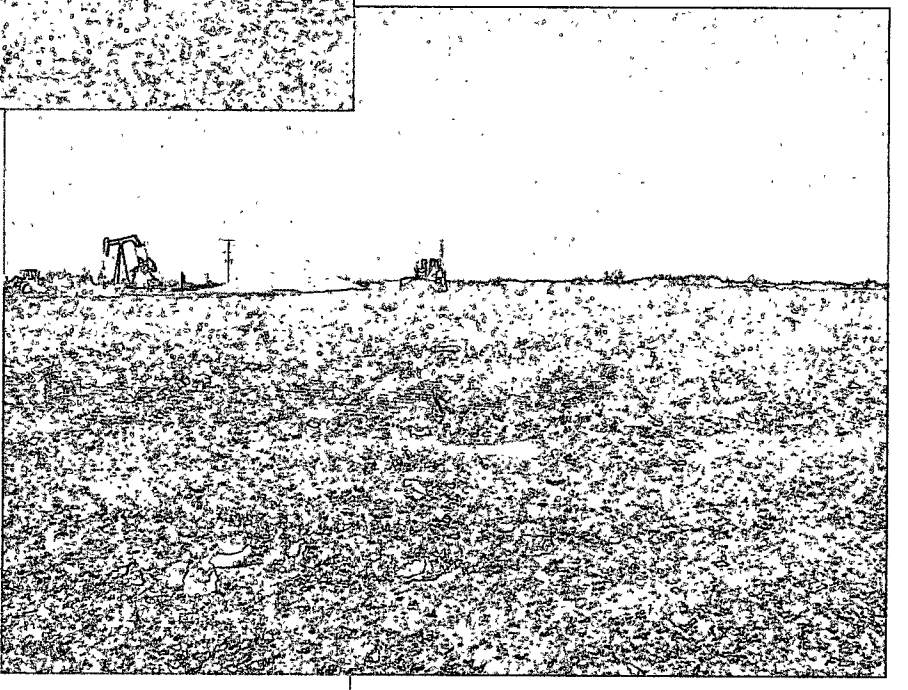
6/24/08 – Adding caliche layer over top of liner. >

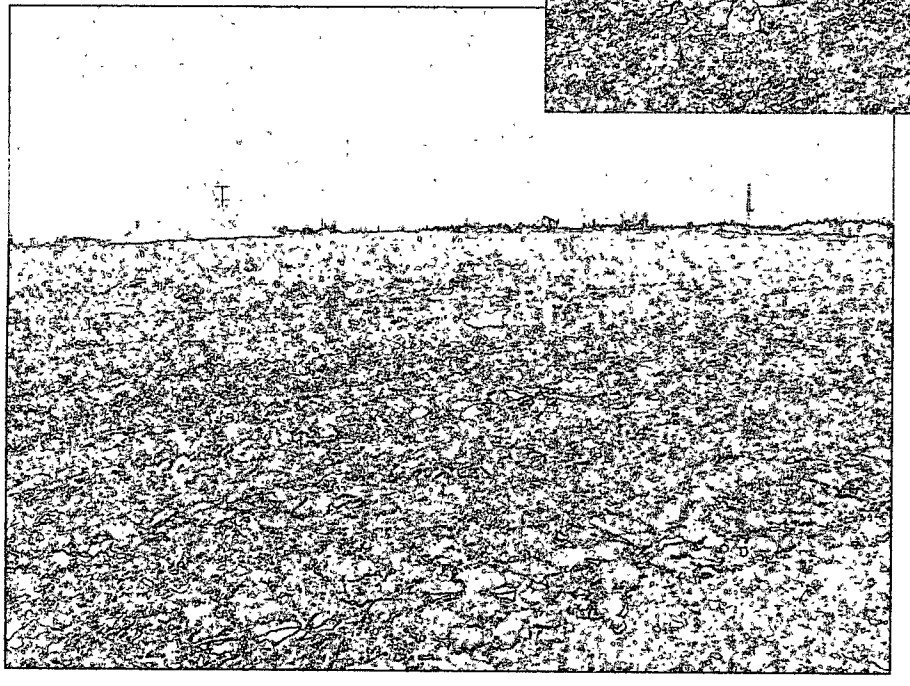
< 6/25/08 – Placing final 3-ft layer of topsoil



< 6/25/08 – Placing final 3-ft layer of topsoil.

6/26/08 – Contouring final topsoil layer >





< 6/26/08 – Remediation completed.

Apache Corporation	Incident Date: NA	NMOCD Notified: NA

SITE: ARNOLD A #1 Battery		API No.	30-025-07761
Company:	Apache Corporation		
Street Address:	North Eunice Loop, Hwy 207		
Mailing Address:	P.O. Box 1849		
City, State, Zip:	Eunice, NM 88231		
Representative:	Natalie Gladden		
Representative Telephone:	575-390-4186		
Telephone:			
Fluid Volume Released (bbl): > 25	Volume Recovered (bbl): 0	Net Release: > 25	

>25 bbl: Notify NMOCD verbally within 24 hours and submit C-141 within 15 days.

5-25 bbl: Submit Form C-141 within 15 days. (Also applies to unauthorized release of >50 mcf Natural Gas).

Leak, Spill, or Pit (LSP) Name:	ARNOLD A #1 Battery
Source of Contamination:	Blowdown Pit
Land Owner, i.e. BLM, ST, Fee, Other:	Private
LSP Dimensions:	~ 40' X 40'
LSP Area	~ 1600 -ft^2
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude: North	32 35.348
Longitude: West	103 7.249
Elevation above mean sea level (amsl):	3591 feet 1095 meters
Distance from North Section Line (feet):	NA
Distance from West Section Line (feet):	NA
Location - Unit Letter and 1/4 1/4:	UL- F SE 1/4 of NW 1/4
Location - Section	11
Location - Township	20S
Location - Range	38E
Location - County	Lea
Surface water body within 1000' radius of site:	0
Surface water body within 1000' radius of site:	0
Domestic water wells within 1000' radius of site:	0
Domestic water wells within 1000' radius of site:	0
Agricultural water wells within 1000' radius of site:	0
Agricultural water wells within 1000' radius of site:	0
Public water supply wells within 1000' radius of site:	0
Public water supply wells within 1000' radius of site:	0
Depth (feet) from land surface to Ground Water (DG):	54
Depth (feet) of lowest contamination (DC):	41
Depth (feet) to Ground Water (DG - DC = DtGW):	~ 13

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water
If Depth to GW <50-feet: 20 points	If <1000' from water source, or, <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
If Depth to GW 50 to 100-feet: 10 points		200-1000 horizontal feet: 10 points
If Depth to GW >100-feet: 0 points	If >1000' from water source, or, >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Ground Water Score: 20	Wellhead Protection Score: 0	Surface Water Score: 0

Site Ranking (1 + 2 + 3):	**20**

Total Site Ranking Score and Acceptable Concentrations

Parameter	20 or >	10	0
Benzene[1]	**10-ppm**	10-ppm	10-ppm
BTEX[1]	**50-ppm**	50-ppm	50-ppm
TPH	**100-ppm**	1000-ppm	5000-ppm

[1] *100-ppm field VOC headspace measurement may be substituted for lab analysis*

District I
1625 N French Dr , Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
Distric III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised June 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR ☑ Initial Report ☑ Final Report

Name of Company	**Apache Corporation**	Contact	**Natalie Gladden**
Address	**P.O. Box 1849** **Eunice, NM 88231**	Telephone No.	**575-390-4186**
Facility Name	**ARNOLD A #1 Battery**	Facility Type	**Tank Battery**

Surface Owner **Private**	Mineral Owner	API No. **30-025-07761**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from North Line	Feet from West Line	Longitude-W	Latitude-N	County
F	**11**	**20S**	**38E**	**NA**	**NA**	**103.1208**	**32.5891**	**Lea**

NATURE OF RELEASE

Type of Release **Accumulated release from unlined blowdown pit**	Volume of Release **Greater than 25 bbl**	Volume Recovered **0 bbl**
Source of Release **Blowdown Pit**	Date and Hour of Occurrence **NA**	Date and Hour of Discovery **NA**
Was Immediate Notice Given? ☐ YES ☐ NO ☑ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ YES ☑ NO	If YES, Volume Impacting the Watercourse **NA**	

If a Watercourse was Impacted, Describe Fully*

Describe Cause of Problem and Remedial Action Taken. *
Discharge into unlined blowdown pit south of battery since 1950's. Chloride concentrations exceeded 250-ppm down to 41-ft bgs level.

Describe Area Affected and Cleanup Action Taken. *
Blowdown pit was excavated laterally to achieve sidewall concentrations <250-ppm Cl; bottom excavated to 25-ft bgs to achieve <1000-ppm Cl; excavation backfilled with <1000-ppm Cl blended material then lined with 20-mil polyvinyl liner at 5-ft bgs level. Final backfill was clean topsoil purchased from landowner.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator 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 acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	**OIL CONSERVATION DIVISION**	
Printed Name: **Natalie Gladden**	Approved by District Supervisor:	
Title: **Environmental Tech - Permian Basin**	Approval Date:	Expiration Date:
E-Mail Address: Natalie.Gladden@usa.apachecorp.com	Conditions of Approval: **1RP# 2204**	☐ Attached
Date: **6/10/2009** Phone: **575-390-4186**		