1R - 313

APPROVALS

YEAR(S):

2001

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

1R0313

May 8, 2001

CERTIFIED MAIL
RETURN RECEIPT NO. 5051 0395

Mr. David E. Urbanski
Apache Corporation
2000 Post Oak Boulevard, Suite 100
Houston, Texas 77056-4400

RE: Closure Plan Approval
Drill Pit Spills
Wells #928, #929, #922, #829, #830
Northeast Drinkard Unit
Lea County, New Mexico

Dear Mr. Urbanski:

The New Mexico Oil Conservation Division (OCD) has received the Apache Corporation's closure plan dated April 23, 2001 signed by Mr. Urbanski. The NMOCD hereby approve the workplan plan submitted for clouser of the the above captioned drill pits. The conditions outlined below shall serve as basis for approval of the pit closure process already underway at the subject pits.

1. All wastes shall be disposed of at an OCD approved facility.

2. Apache Corporation will document any/all contaminant levels in the soils.

3. Apache Corporation will submit a final closure report within 30 days of completion of work so that OCD may approve the closure process as being final. This report shall include result from all sampling activities and the actions taken to complete the pit closure.

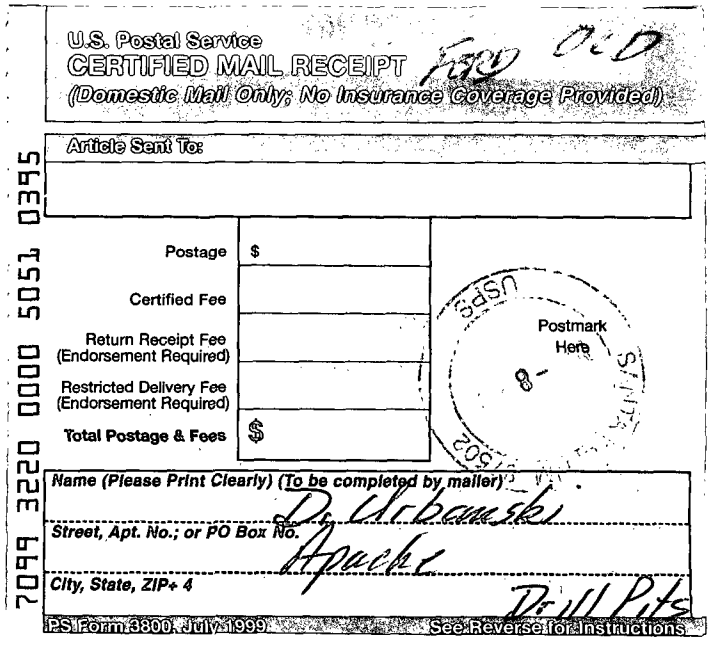
4. All original documents concerning the closure process shall be sent to the Santa Fe OCD office, with copies provided to the Hobbs district OCD office.

Note, that OCD approval does not relieve Apache Corporation of liability should it later be found that contamination exists which is beyond the scope of this work plan. In addition , OCD approval does not relieve Apache Corporation of responsibility for compliance with any other Federal, State or other local laws and/or regulations. If you have any questions regarding this matter feel free to call me at (505)-476-3489.

Sincerely,

W. Jack Ford, C.P.G.
Environmental Bureau OCD

XC: Hobbs OCD District office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WWW.APACHECORP.COM
[713] 296-6000

April 23, 2001

Mr. Jack Ford
NMOCD
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Re: Delineation and Remediation Proposal for Drill Pit Spills
Wells #928, #929, #922, #829, #830
Northeast Drinkard Unit, Eunice, NM

Dear Mr. Ford:

Apache Corporation respectfully submits the attached proposal regarding remediation of the above referenced property. Apache will initiate cleanup operations shortly after receiving written approval from your office.

Should you have any questions or comments concerning the proposal, please contact me at 713-296-6555, or email me a David.Urbanski@apachecorp.com.

Thank you in advance for your assistance in this matter.

Sincerely,
APACHE CORPORATION

David E. Urbanski

David E. Urbanski
Environmental Coordinator

Attachment

cc: Chris Williams, NMOCD Hobbs
Doug O'Neil, Southern Region Manager
Dennis Bickford, Drilling Superintendent
Paul Griesedieck, Manager EH&S

Remediation Proposal for Drill Pit Spills
Wells #928, #929, #922, #829, #830
Northeast Drinkard Unit, Eunice, NM
Section 22-T21S-R37E

Overview

On April 6, 2001, the New Mexico Oil Conservation Division (NMOCD) was contacted by an Eunice area landowner. The landowner stated that Apache Corporation appeared to be attempting to prematurely deep bury some of their new drill pits. Buddy Hill, NMOCD Hobbs, visited the site on April 9, 2001 and photographed the drill pits at wells #928, #929, #922, #829 and #830. Mr. Hill reported to Chris Williams, also with the NMOCD Hobbs, that in his opinion, fluids had been drained from the drill pits into the deep trenches at the subject sites. The trench adjacent to the #928 well had standing fluid in the bottom at the time of his inspection. Apache immediately dispatched a vacuum truck to remove the fluids from the #928 deep trench. The fluids were hauled to an injection well for disposal.

Everett Ouzts, Apache Field Drilling Foreman, was contacted and questioned about the pit closures. Mr. Ouzts said that he had personally checked each of the subject pits the week before and none contained fluids at the time of his inspection. He stated that he walked on the dried crust in the well #928 pit and, since he did not observe any fluids, he instructed the contractor, L. Ramirez Trucking & Backhoe Service, to deep bury the pits.

When the berms of the pits were broken open to begin the process of deep burying, fluids trapped under the dried crusts drained from the pits into the trenches. Moreover, contractor employees told Apache personnel that they had witnessed vacuum trucks releasing fluids into the subject drill pits that had been left open to dry. Some of this dumping occurred during the time period between Mr. Ouzts' inspection and the initiation of the deep bury activities. Apache has forewarned all the location-building/closure contractors to never allow drilling fluids to escape the pits, but the message may not have been reiterated to this contractor immediately before he began his closure operation. The illegal dumping, the miscommunication, and the fluids trapped beneath the crust were all key factors in the release of the drilling fluids into the deep trench.

David Urbanski, Apache Environmental Coordinator, contacted the NMOCD and asked to meet with one of their representatives at the NEDU field. Mr. Urbanski and Dennis Bickford, Apache Drilling Superintendent, met with Gary Wink, NMOCD Hobbs, on April 10, 2001 at Apache's Eunice field office. Mr. Wink presented the photographs taken and discussed the need for delineation of the drilling fluid impacts in the deep trenches.

Bob Allen of Safety and Environmental Solutions, Inc., was contacted to assist in the delineation of drill fluid impacts. The deep trenches adjacent to the subject wells had been inadvertently backfilled due to a miscommunication between Apache and L. Ramirez; therefore, it would now be necessary to excavate through the fill material to the original bottom of the trench to obtain samples. The sampling exercise at each well site was conducted as follows:

1. Fill material was excavated from the deep trench until the original bottom of the trench was reached at three different locations.
2. Soil samples were collected at each of the three locations and combined into one composite sample.
3. A portion of the composite sample was placed in glass jars and preserved and transported to Cardinal Laboratories according to proper protocol.
4. The samples were submitted to Cardinal Labs in a timely manner, and were analyzed for TPH, Cl and BTEX impacts (A detailed summary of activities and the analytical results are presented in Appendix A).

The deep trench adjacent to Well #922 was not sampled during the sampling exercise, but Apache has agreed to treat this location in the same manner as the other drilling fluid impacted sites.

Jack Ford, NMOCD Santa Fe, was contacted by Mr. Urbanski on April 23, 2001 and was made aware of the Apache drill pit situation and the subsequent analytical results. Mr. Ford requested that Apache propose a procedure to further delineate and remediate the impacts of drill fluids in the deep trenches.

Delineation and Remediation of Impacts

Apache's approach to the delineation of the impacts will assist in the remediation of the soils as well. Rather than coring or excavating for soil samples, Apache proposes to remove the contents of the deep trenches and the adjacent soils by utilizing a bulldozer (dozer). The dozer operator will center the blade over the end of each deep trench and proceed to remove 1' to 2' of soil with each pass across the length of the deep trench. The dozer will continue to remove soil with each pass until it has excavated to a depth below the original deep trench floor. The resulting trench will be one dozer blade wide and slightly deeper than the original deep trench. The soils removed from the trench area will be stockpiled on site to be sampled later.

Once the dozer has reached a depth at which human visual and olfactory senses indicate that the extent of the impacts have been surpassed, samples will be collected on the floor and walls of the excavation and submitted for analysis to include TPH, BTEX and chloride content. The analytical results will be evaluated and presented to the NMOCD to determine if further excavation will be required. When the analytical results indicate that the levels of impact are below NMOCD acceptable levels, the delineation of impacts from the deep trench will be

considered completed. The newly excavated trenches will be cordoned off from the open pastures with fencing materials.

The soils excavated from the trenches will be blended and stockpiled on site. Samples of each stockpile will be collected and analyzed for TPH, BTEX and chloride content. The analytical results will be evaluated and presented to the NMOCD to determine if additional blending or tilling will be required, or if the soil can be utilized in some other capacity.

The newly excavated trenches will remain open and the stockpiled soil will remain on site until such time that the drill pit contents have dried sufficiently to be deep buried as allowed by federal standards. The lined drill pits will be rolled into the trenches, and the stockpiled soil will be placed in the trench on top of the lined pit contents. Apache will place 3'-4' of clean topsoil in the trench to bring the elevation up to natural grade. The pit liner on the bottom will provide a barrier to preclude the downward migration of any drill pit constituents. Due to the extremely low precipitation rates in the Eunice area, the depth of the topsoil will act as a barrier to stop any rainfall from infiltrating into the pit contents.

Apache Corporation will contract an environmental consultant to monitor the work and collect samples. The NMOCD will be notified of the project start date and will be contacted throughout the process with updates of progress. Should the need arise to remove some of the impacted soil from the site, the NMOCD will be contacted to obtain approval of Apache's intended use or disposal of the soil.

Closure

Upon conclusion of the delineation and remediation of the drill pits at NEDU wells #928, #929, #922, #829 and #830, Apache will submit a request for closure to the NMOCD which will include a summary of site activities and any pertinent analytical test results.

Preventative Measures

Apache regrets that the miscommunication between the contractor and Apache personnel resulted in the release of drilling fluids. Apache is taking the following measures to ensure that a repeat of this type of incident does not occur.

1. Contracts for building well locations will contain verbiage warning the contractor to not initiate any deep bury process without an Apache representative on site.
2. Well location contractors will be instructed to never let fluids escape from the drill pit into the deep trench, and if fluids are discovered when the deep bury process is started, they should immediately take measures to prevent the fluid from reaching the deep trench.

3. An Apache employee or representative will be on site to initiate the deep burying process and to verify that the pit contents are sufficiently dry to be buried.
4. Apache will post signs at field entrances and on the drill pit fence warning that anyone caught placing anything in the drill pits will be prosecuted.
5. Apache will implement a drill pit tracking system that will record when the drill pit was last used and the date it should be closed so that the pits can maximize the drying time without exceeding the NMOCD time limit to closure.

APPENDIX A

Apache Corporation
Sampling Report
NEDU Well # 830, #829, #928, #929
Section 22, T21S, R37E
Lea County, New Mexico

April 13, 2001

Prepared For:

Apache Corporation
2000 Post Oak Blvd., Suite 100
Houston, Texas 77056
(713) 296-6555

Prepared By:

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 102
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

I. Background

Safety & Environmental Solutions, Inc. (SESI) was engaged by Apache Corporation to perform soil sampling at the NEDU #829, #830, #928, and #929 well locations. The subject sites are located in Section 22, Township 21S, Range 37E in Lea County, New Mexico (See Vicinity Map).

II. Work Performed

A technician with SESI arrived at the NEDU #829 location on April 13, 2001. A trackhoe was used to excavate to the bottom of the deep trench area in three separate locations to a depth of 19-20 feet for sampling (See Site Plan). A composite sample was taken from the bottom of the holes.

On April 13, 2001 SESI also delineated and collected a sample at the NEDU #830 site. The trench area was again excavated in three separate locations to a depth of 19 feet (See Site Plan). A composite sample was collected from the bottom of each hole.

SESI arrived at the NEDU # 928 location on April 15, 2001. The trench area, where sampling was to be conducted, was already excavated. A composite sample was collected from three different locations of the trench at depths between 12-13 feet (See Site Plan).

On April 15, 2001, SESI also collected a composite sample from the NEDU #929 location after a trackhoe was used to delineate the trench area. Three separate excavations were made ranging from 19.5 to 20 feet. Samples taken from the bottom hole of the three excavations made up the composite sample.

The composite samples collected from the four sites were preserved in appropriate containers and transported under chain of custody to Cardinal Laboratories in Hobbs, New Mexico for analysis. The analysis performed on these samples was to detect elevated levels of Chlorides, Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl Benzene, and Total Xylenes (BTEX).

III. Analytical Results

The analysis of the composite samples are summarized as follows:

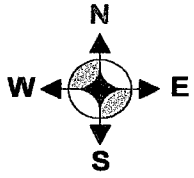
COMPOSITE SAMPLE ID	TPH (mg/Kg)	CHLORIDE (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
NEDU #829	41.8	25,600	<0.005	<0.005	0.006	0.021
NEDU #830	<10.0	25,600	<0.005	<0.005	0.005	0.020
NEDU #928	1340	22,400	0.006	0.048	0.058	0.150
NEDU #929	262	16,800	0.006	0.049	0.054	0.138

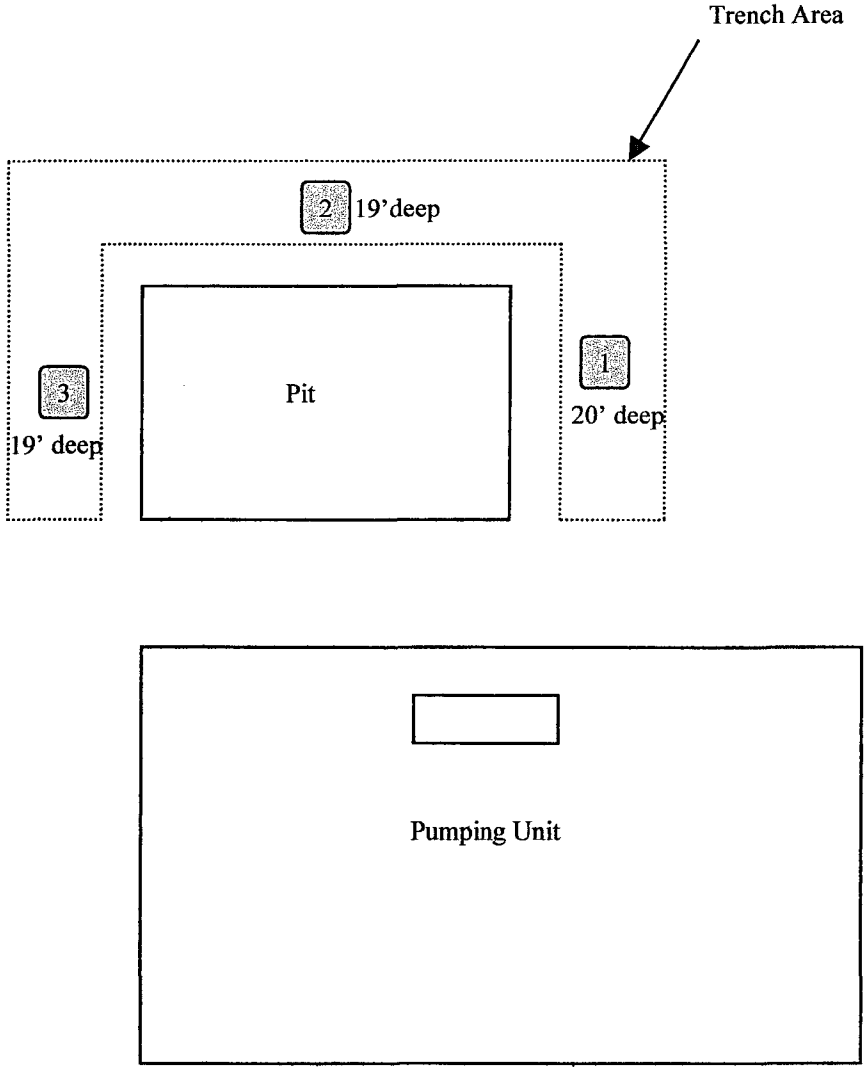
IV. Maps and Figures

Vicinity Map
Site Plans
Analytical Results

Figure 1
Vicinity Map

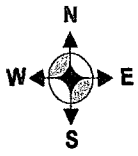
Figure 2
Site Plans

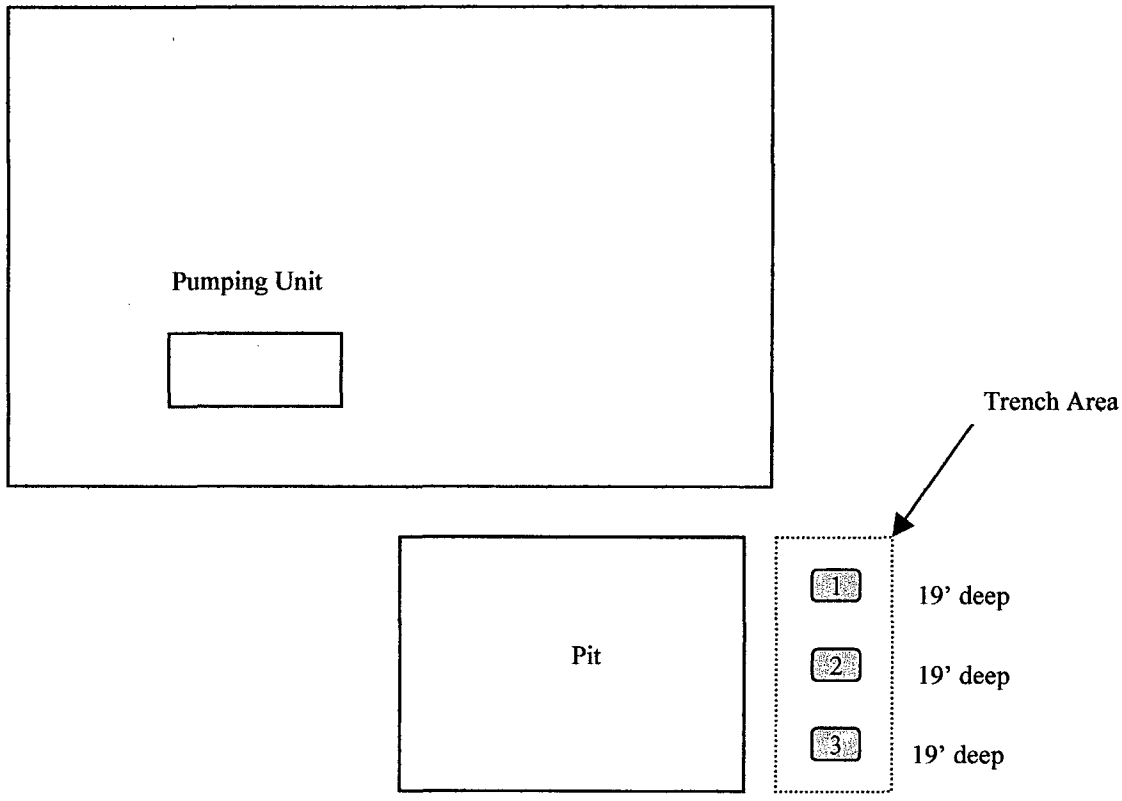




4-13-2001

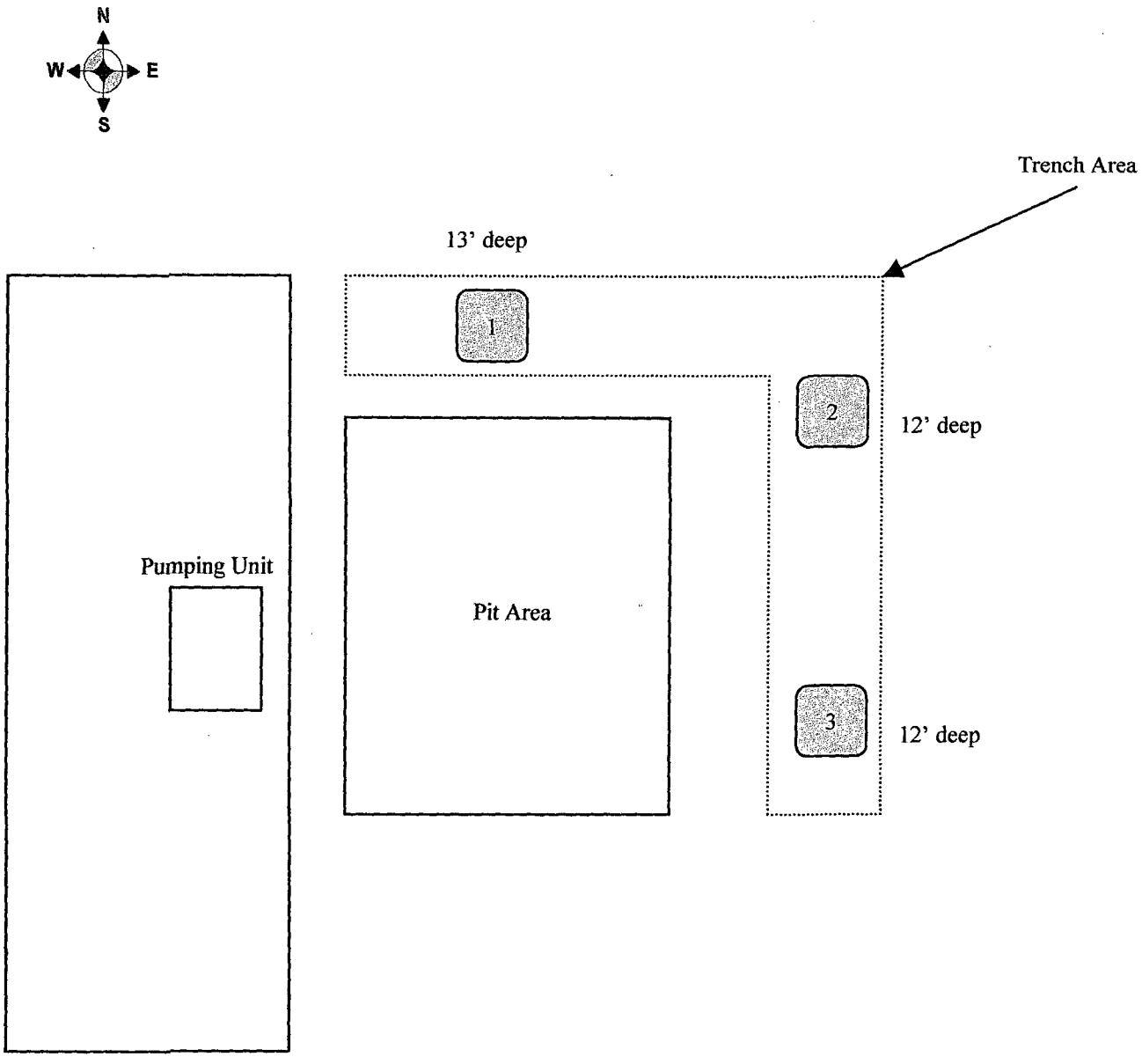
Apache Corporation	**Site Plan** **NEDU #829** **Unit L, Section 22, T21S, R37E**	***Safety & Environmental Solutions, Inc.***





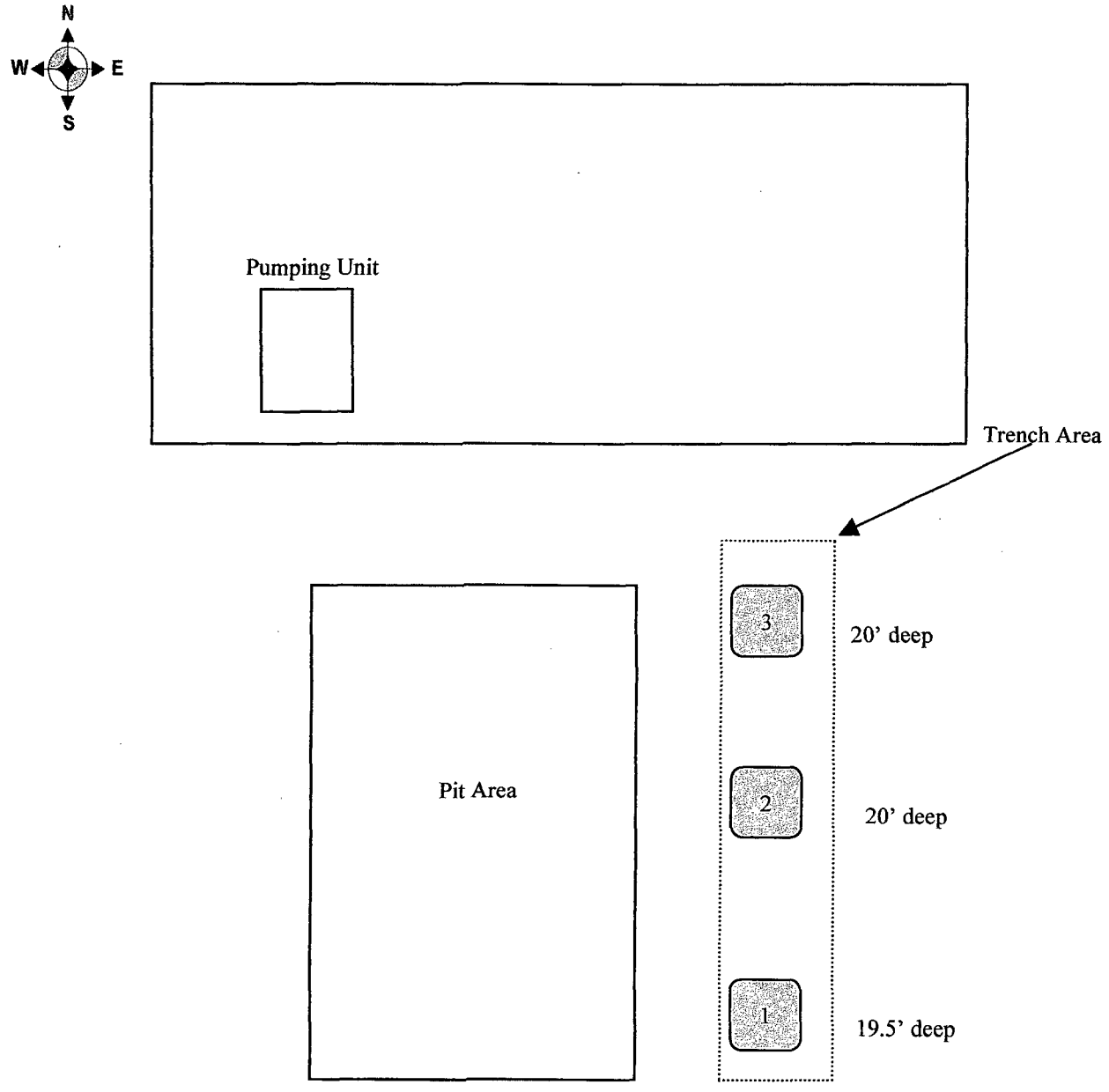
4-13-2001

Apache Corporation	**Site Plan** **NEDU #830** **Section 22, T21S, R37E**	***Safety & Environmental Solutions, Inc.***



4-15-2001

Apache Corporation	**Site Plan** **NEDU #928** **Unit M, Section 22, T21S, R37E**	***Safety & Environmental Solutions, Inc.***



4-15-2001

Apache Corporation	**Site Plan** **NEDU #929** **Unit M, Section 22, T21S, R37E**	***Safety & Environmental Solutions, Inc.***

Figure 3
Analytical Results

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, #103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 04/16/01
Reporting Date: 04/17/01
Project Number: NOT GIVEN
Project Name: APACHE SAMPLING
Project Location: EUNICE, NM

Sampling Date: 04/13/01 (#1, #2)
04/15/01 (#3, #4)
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	Cl* (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		04/16/01	04/17/01	04/16/01	04/16/01	04/16/01	04/16/01
H5789-1	#830	<10.0	25600	<0.005	<0.005	0.005	0.020
H5789-2	#829	41.8	25600	<0.005	<0.005	0.006	0.021
H5789-3	#928	1340	22400	0.006	0.048	0.058	0.150
H5789-4	#929	262	16800	0.006	0.049	0.054	0.138
Quality Control		244	960	0.107	0.100	0.101	0.301
True Value QC		240	1000	0.100	0.100	0.100	0.300
% Recovery		102	96.0	107	99.9	101	100
Relative Percent Difference		0.1	6.3	11.0	8.9	10.8	8.5

METHODS: TRPHC-EPA 600/4-79-020 418.1;Cl-Std. Methods 4500-ClB; BTEX-EPA SW-846 8260
*Analyses performed on 1:4 w:v aqueous extracts.

Burgess J.A. Cooke. Ph. D.

4/17/01
Date

PLEASE NOTE: **Liability and Damages.** **Cardinal's** liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: SESI	BILL TO PO #:
Project Manager:	Company: SAME
Address: 703 E. CLINTON, #103	Attn:
City: HOBBS State: NM Zip: 88240	Address:
Phone #: (505) 397-0510	City:
Fax #: (505) 393-4388	State: Zip:
Project #: Project Owner:	Phone #:
Project Name: Apache Sampling	Fax #:
Project Location: Eunice	

FOR LAB USE ONLY				MATRIX							PRES.			SAMPLING		ANALYSIS REQUEST													
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	BTEX	TPH 418.1	CHLORIDES												
H5769-1	#830	C	1			X					X		4-13-01		X	X	X												
-2	#829	C	1			X					X		4-13-01		X	X	X												
-3	#928	C	1			X					X		4-15-01		X	X	X												
-4	#929	C	1			X					X		4-15-01		X	X	X												

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in 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.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time:		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date:	Received By: (Lab Staff)	REMARKS:
	Time:		
Delivered By: (Circle One)		Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:			

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.