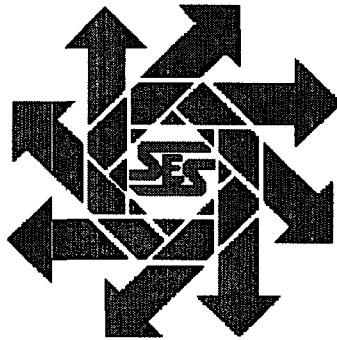


**Merit Energy
State T Battery
Site Investigation
Unit K, Section 2, Township 15S, Range 37E
Lea County, New Mexico**

April 28, 2005



Prepared for:

**Merit Energy
13727 Noel Road, Suite 500
Dallas, Texas 75240**

By:

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

*Merit - 14591
facility - FPAC 0603935523
application - pFAC 0603935624*

*Revised
May
19, 05*

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I. Company Contacts

<u>Chad Brister</u>	Merit	972-628-1564	chad.brister@meritenergy.com
Bob Allen	SESI	505-397-0510	<u>ballen@sesi-nm.com</u>

II. Purpose

The purpose of this site investigation is to identify the vertical and horizontal extent of contamination inside the bermed area at the State T Battery. The site is located in Section 2, Township 15S, Range 37E, Lea County, New Mexico. The site is situated on a relatively level site.

III. Background

Merit Energy received a Notice of Violation in mid-2004 regarding the condition of the battery inside the berm. SESI visited the site on July 28, 2004 and recorded visible hydrocarbon staining and 6 -10" of fluid covering the entire battery area. An oil sheen was visible on top of the fluid. At some time a previous release had overflowed the battery to the west. (See Photos) The area is now dry with visible staining. The battery is currently in use and owned by Americo Energy.

IV. Contaminant and Size of Area

The suspected contaminant is produced fluids. The area inside the berm is approximately 22,000 square feet. No evidence of a current release is evident.

V. Groundwater

The following water level information was obtained from a database provided by the United State Geological Survey (USGS).

15S.37E.02.324214	19660218	42.09	15S.37E.04.113311	19930106	73.58
15S.37E.05.311334	19910308	72.54	15S.37E.06.211134	19960321	74.80
15S.37E.07.111324	19940106	75.84	15S.37E.08.211	19960105	69.41
15S.37E.08.21333	19910308	70.28	15S.37E.09.21112	19910308	68.80
15S.37E.09.431211	19960103	67.01	15S.37E.10.111332	19801003	62.34
15S.37E.11.333324	19910313	57.17	15S.37E.12.313221	19960110	52.48
15S.37E.14.232342	19860204	49.28	15S.37E.15.143423	19910313	63.76

In addition, there is a monitor well installed in Section 11 to the southeast of the subject site where groundwater was measured to be 68.27' from the top of casing on April 7, 2005.

VI. Work Performed

On April 25, 2005 Safety & Environmental Solutions, Inc. (SESI) installed 7 test trenches

inside the bermed area at the site. Test Trenches 1 – 4 were installed on the north end to the battery site to the following depths:

Test Trench # 1	7'
Test Trench # 2 and 3	5'
Test Trench # 4	4'

Test Trench # 5 was installed on the west side of the battery and excavated to a depth of 1' where an electric line was cut. This trench was abandoned at that time.

Test Trench # 6 was installed on the east side of the battery near the center and excavated to a depth of 8'.

Test Trench # 7 was installed on the southeast end of the battery and excavated to a depth of 3'. No sample was retrieved from this trench. White caliche was encountered at a depth of 3'.

Samples were taken from the bottom of each trench with the exception of trench # 5. The samples were properly packaged and transported under a chain of custody to Cardinal Laboratories in Hobbs, New Mexico for analysis. All samples were analyzed for Chlorides (EPA Method 4500-Cl⁻B), TPH (EPA Method 418.1) and BTEX (EPA Method SW-846-8260). The results of the analysis are presented below:

Date	Sample ID	Cl ⁻
4-26-05	TT 1 @ 7'	432
4-26-05	TT 2 @ 5'	416
4-26-05	TT 3 @ 5'	432
4-26-05	TT 4 @ 4'	96
4-26-05	TT 6 @ 8'	640

Date	Sample ID	TPH	Benzene	Toluene	Ethyl Benzene	Total Xylene
4-27-05	TT 1 @ 7'	2040	<0.005	<0.005	<0.005	<0.015
4-27-05	TT 2 @ 5'	98.2	<0.005	<0.005	<0.005	<0.015
4-27-05	TT 3 @ 5'	1610	<0.005	<0.005	<0.005	<0.015
4-27-05	TT 4 @ 4'	10900	<0.005	<0.005	0.524	3.16
4-27-05	TT 6 @ 8'	3930	<0.005	<0.005	0.715	0.016

VII. Conclusions

Based on the characterization of the site, the cleanup level reached by the application of the “**Guidelines for Remediation of Leaks, Spills and Releases**” *New Mexico Oil Conservation Division (NMOCD)* – August 13, 1993 (Guidelines) to this site is 1000 parts per million (ppm) Total Petroleum Hydrocarbons (TPH). Application of the New Mexico Oil Conservation Division's ranking criteria for contaminated soils at this site is presented below:

Depth to Ground Water:	10 points
Distance to Well Head or Water Source:	0 points
Distance to Surface Water/Waterways:	0 points
Total Score:	10 points

The results of the analyses indicate the hydrocarbon contamination to be above the NMOCD guidelines in Test Trenches 1, 3, 4 and 6. The chloride concentrations are slightly elevated but should not present a threat to groundwater.

VIII. Figures & Appendices

Figure 1 - Vicinity Map

Figure 2 - Site Plan

Appendix A - C-141

Appendix B - Analytical Results

Figure 1

Vicinity Map

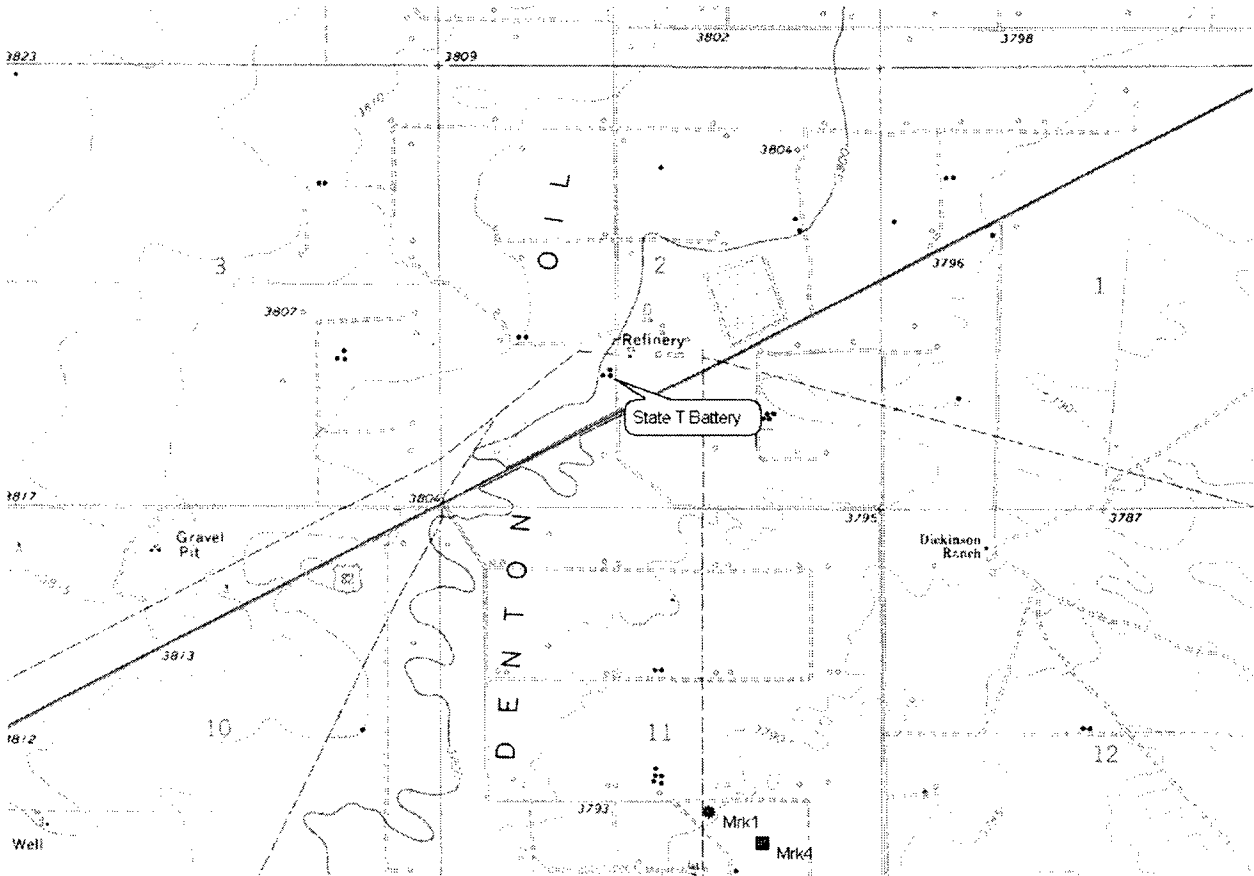
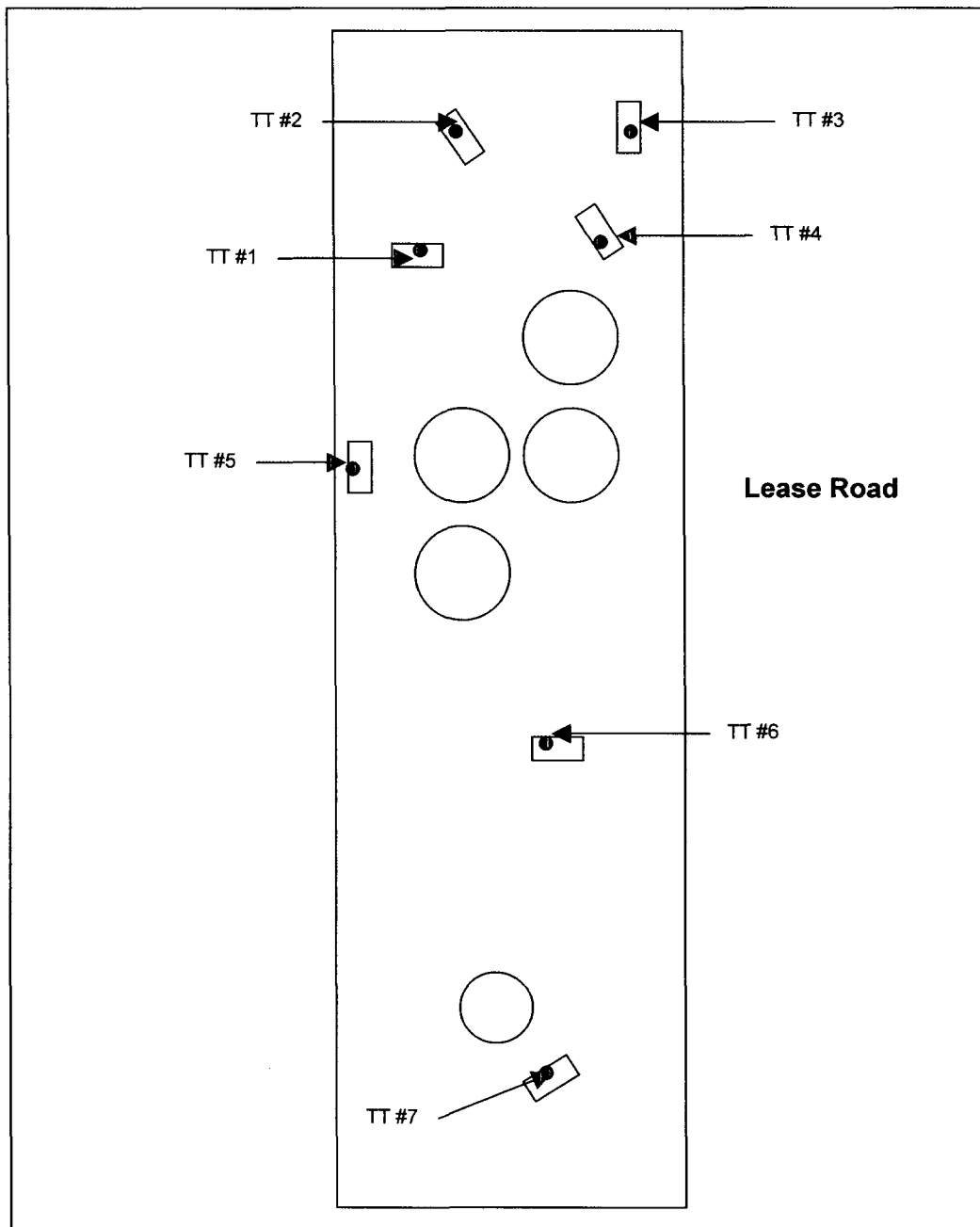
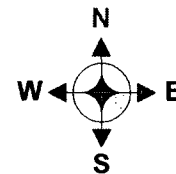


Figure 2
Site Plan



Merit Energy

State T Battery
S2, T15S, R37E
Lea County, New Mexico

**Safety & Environmental
Solutions, Inc.**

Appendix A

Analytical Results



PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2025 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, #102
HOBBS, NM 88240
FAX TO: (505) 393-4399

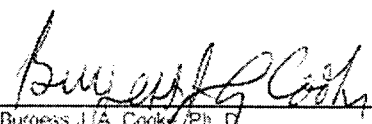
Receiving Date: 04/26/05
Reporting Date: 04/29/05
Project Number: MER-04-015
Project Name: STATE T
Project Location: NOT GIVEN

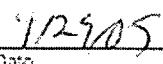
Sampling Date: 04/25/05
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: NF
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	CI* (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		04/27/05	04/26/05	04/27/05	04/27/05	04/27/05	04/27/05
H9748-1	TT-1 7'	2040	432	<0.005	<0.005	<0.005	<0.015
H9748-2	TT-2 5'	98.2	416	<0.005	<0.005	<0.005	<0.015
H9748-3	TT-3 5'	1610	432	<0.005	<0.005	<0.005	<0.015
H9748-4	TT-4 4'	10900	96	<0.005	<0.005	0.524	3.16
H9748-5	TT-5 8'	3830	640	<0.005	<0.005	0.715	0.016
Quality Control		234	998	0.090	0.089	0.094	0.293
True Value QC		240	1000	0.100	0.100	0.100	0.300
% Recovery		97.6	99.8	89.8	88.7	94.4	97.7
Relative Percent Difference		5.4	0.2	3.2	7.3	2.9	6.1

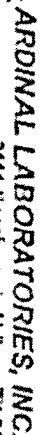
METHODS: TRPHC-EPA 600/4-79-020 416.1 CI Std. Methods 4500-CIB, BTEX-EPA SW-846 8260

*Analyses performed on 1:4 w/v aqueous extracts.


Burgess J.A. Cook / Ph. D.


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 analysis. 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. **11/2/05** Cardinal shall 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.



2111 Lochwood, Allen, TX 79603 401 East Maryland, Hobbs, NM 89240
(916) 673-7001 Fax (945) 673-7020 (606) 393-2328 Fax (505) 393-2476

Page 1 of 1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

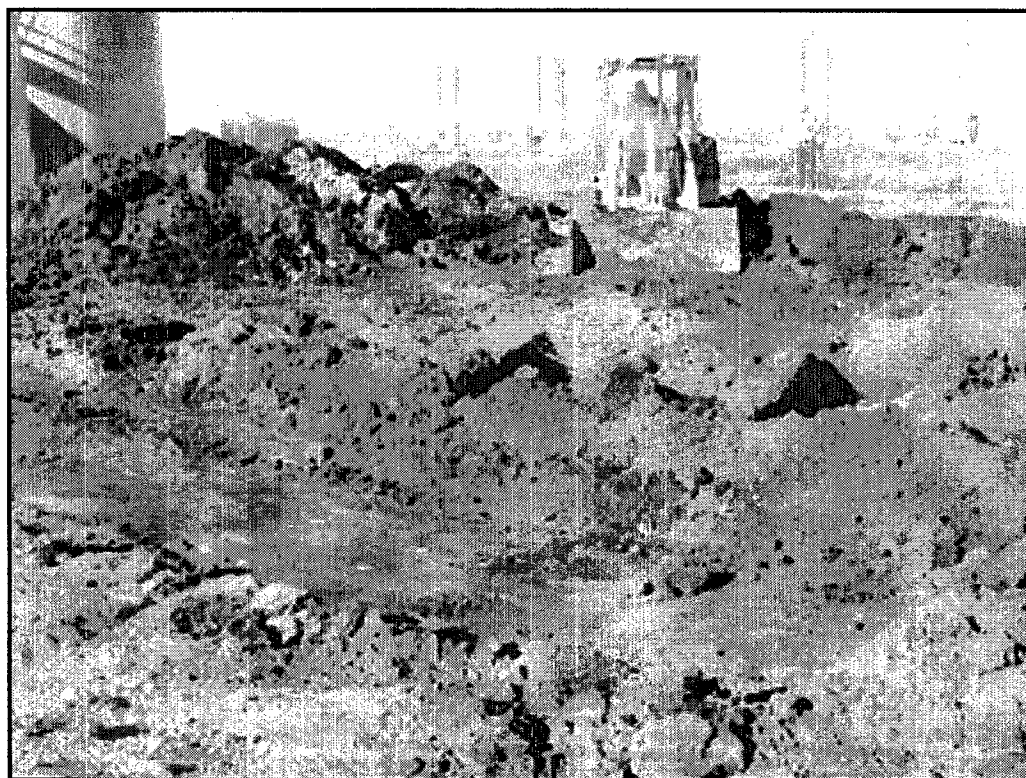
† Cardinal cannot accept verbal changes. Please fax written changes to (915) 573-7020

Appendix B

Site Photos



Backhoe excavating trench #1



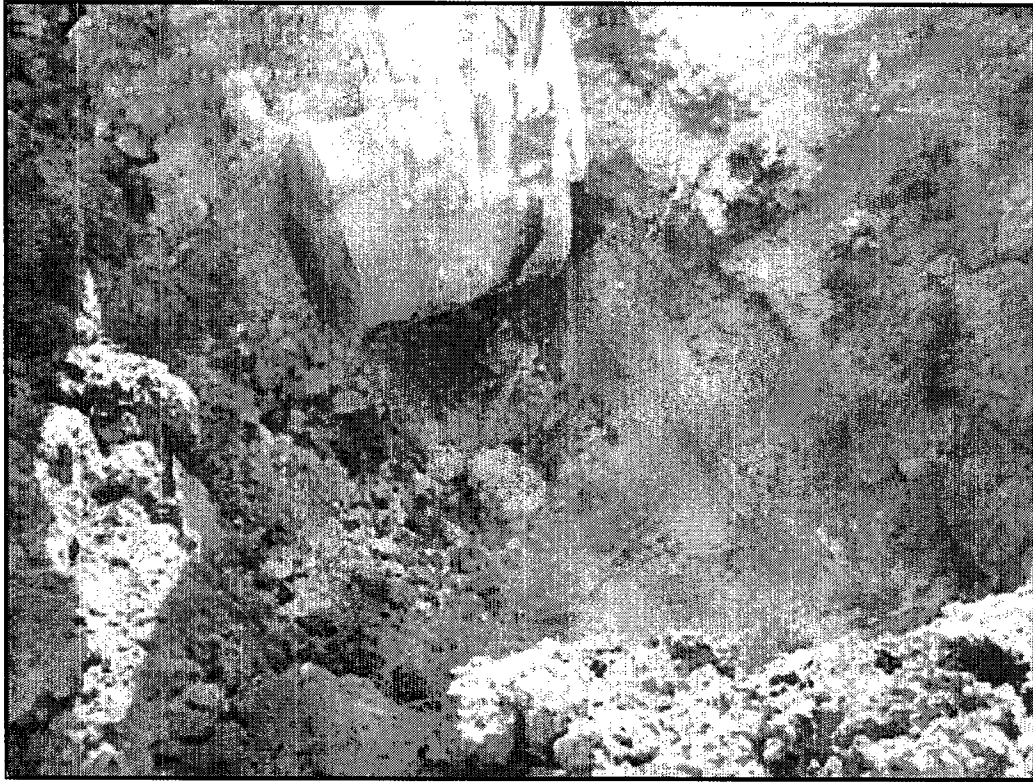
Backhoe excavating trench # 1 foreground typical material on N. side of battery



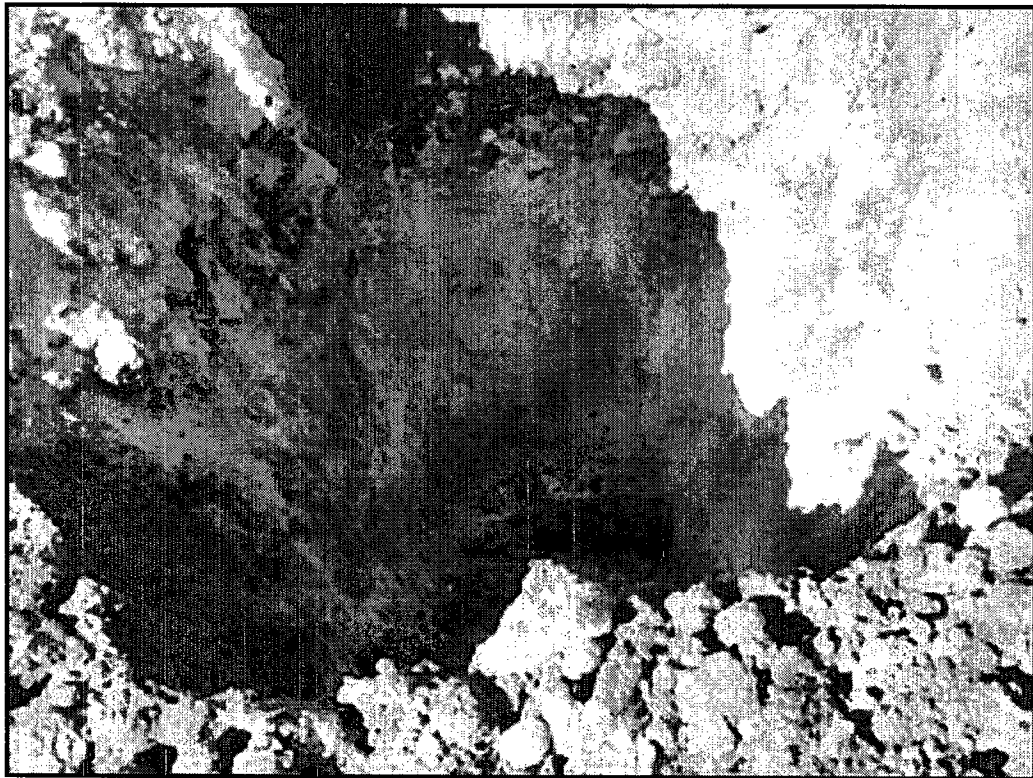
Undisturbed material on N. Side of battery



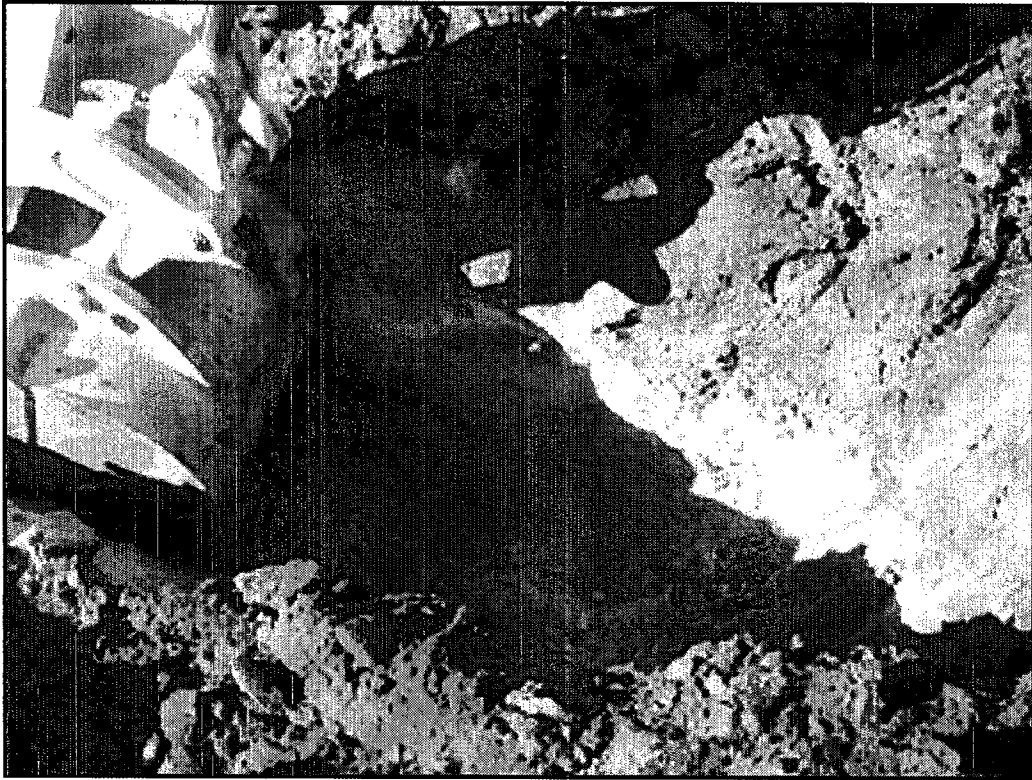
N. side of battery



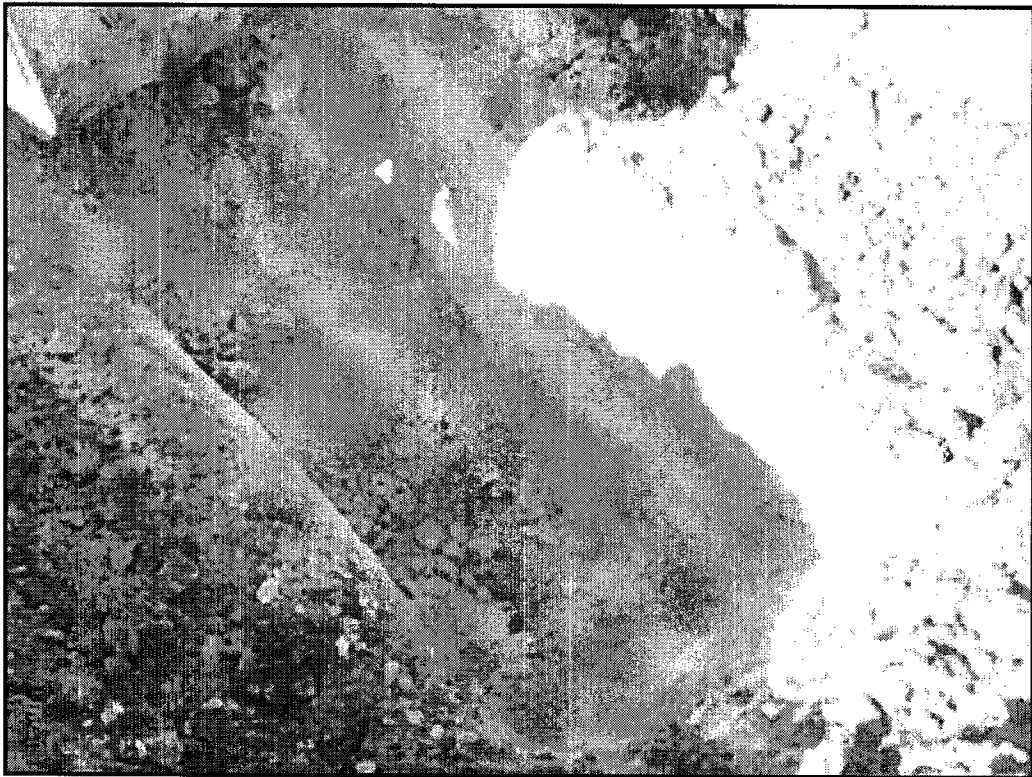
Test trench #1



Test trench # 1



Test trench #2



Test trench #3



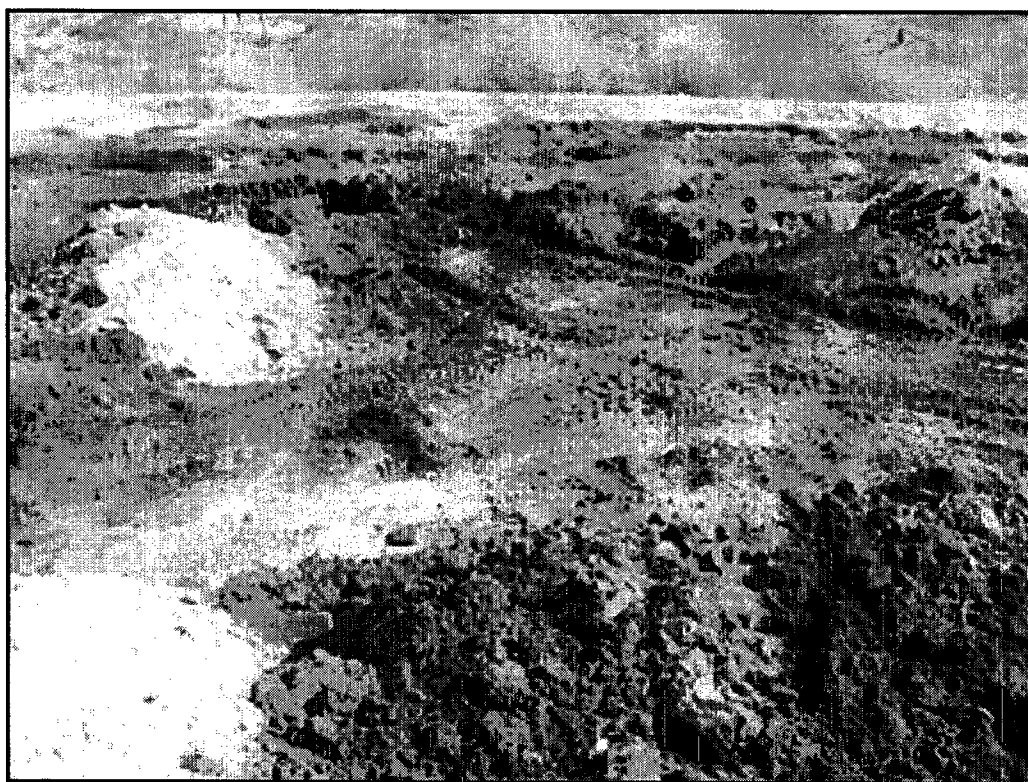
Test trench # 4



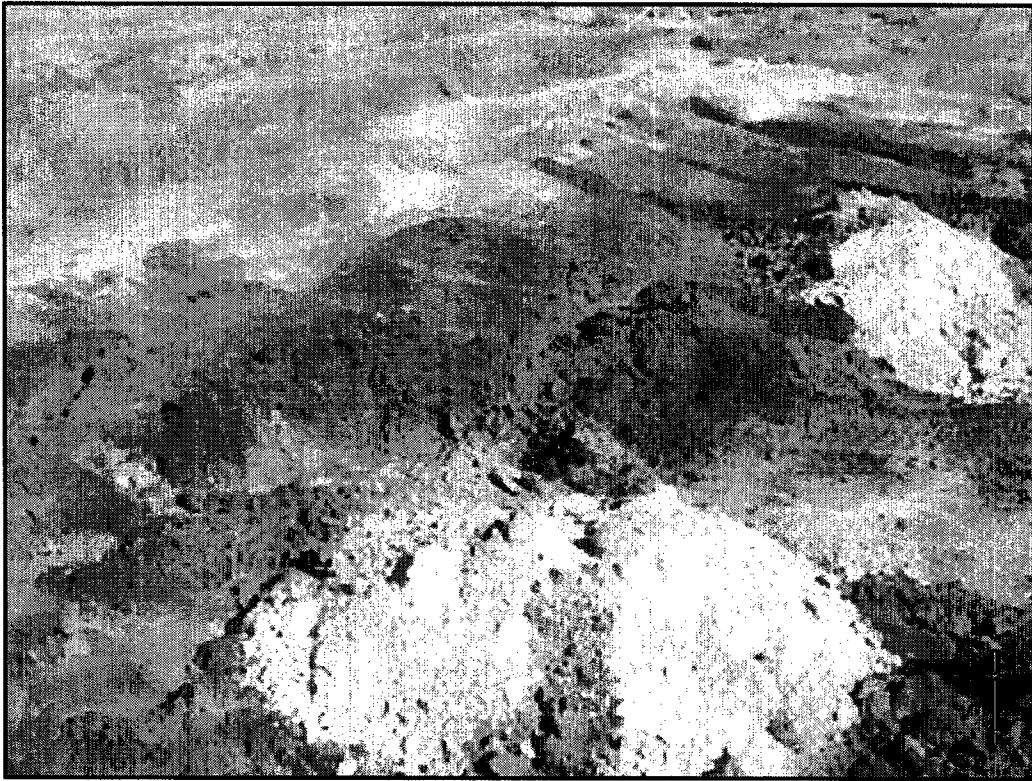
West side of 1,000 barrel tank



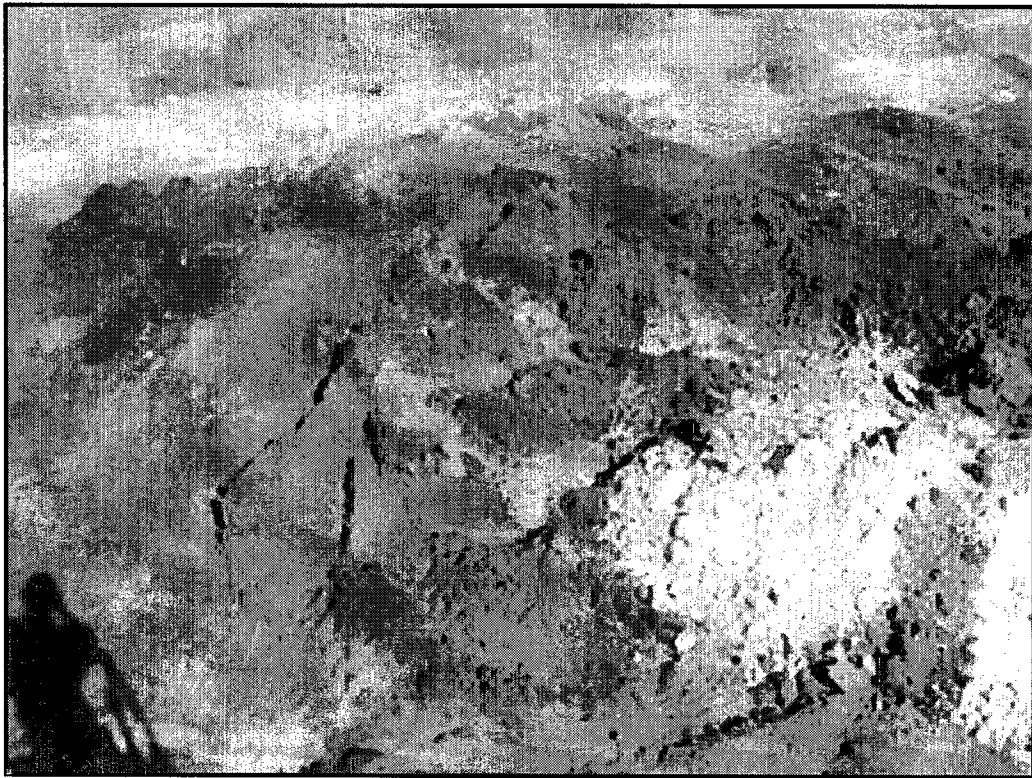
Test trenches # 3 (upper) & #4 (lower)



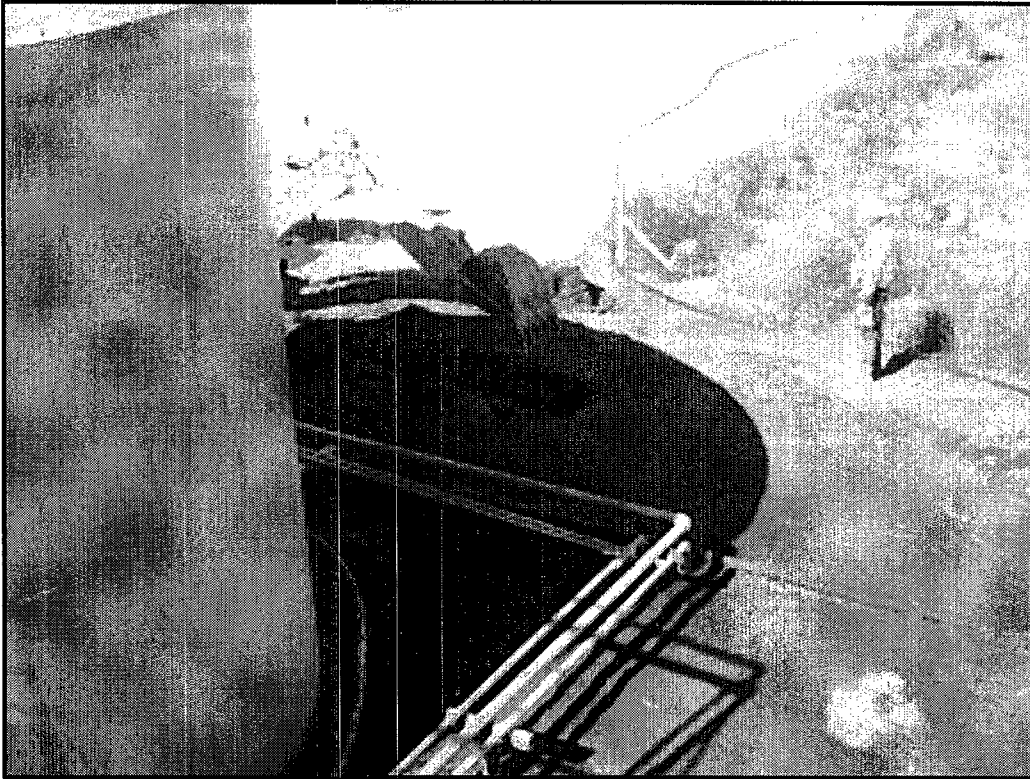
Test trenches # 1 (lower) & #2 (upper)



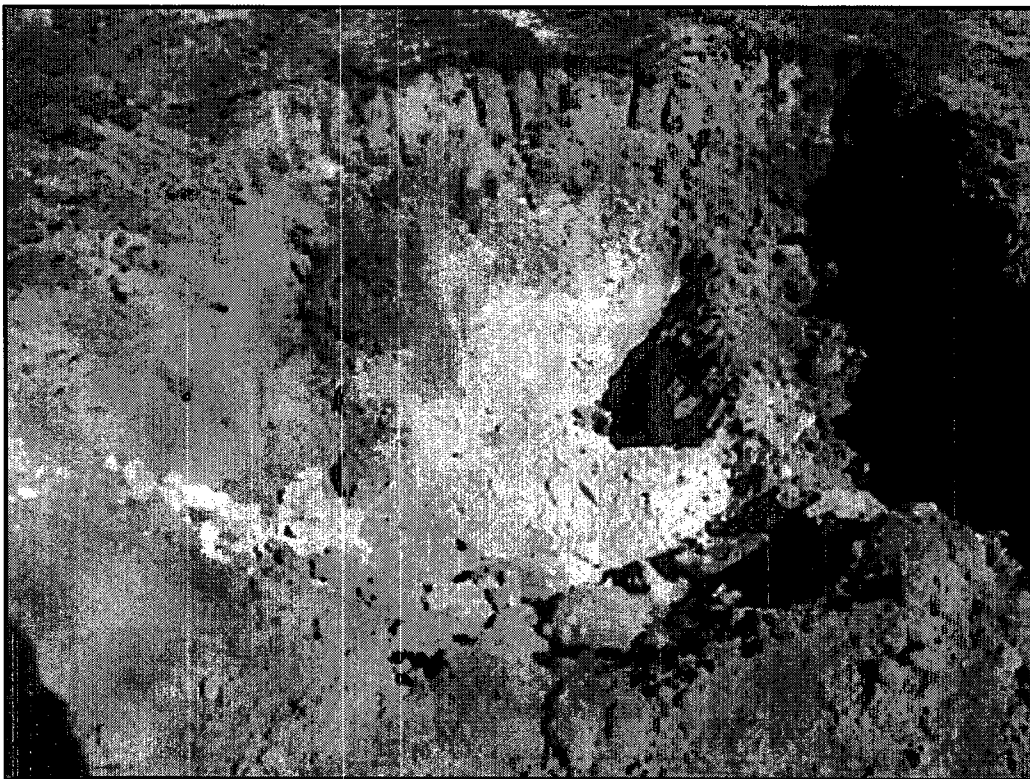
Test trenches #1 (lower) & #2 (upper)



Test trench #1 and surrounding area



Backhoe digging trench #2 (hit electric line here)



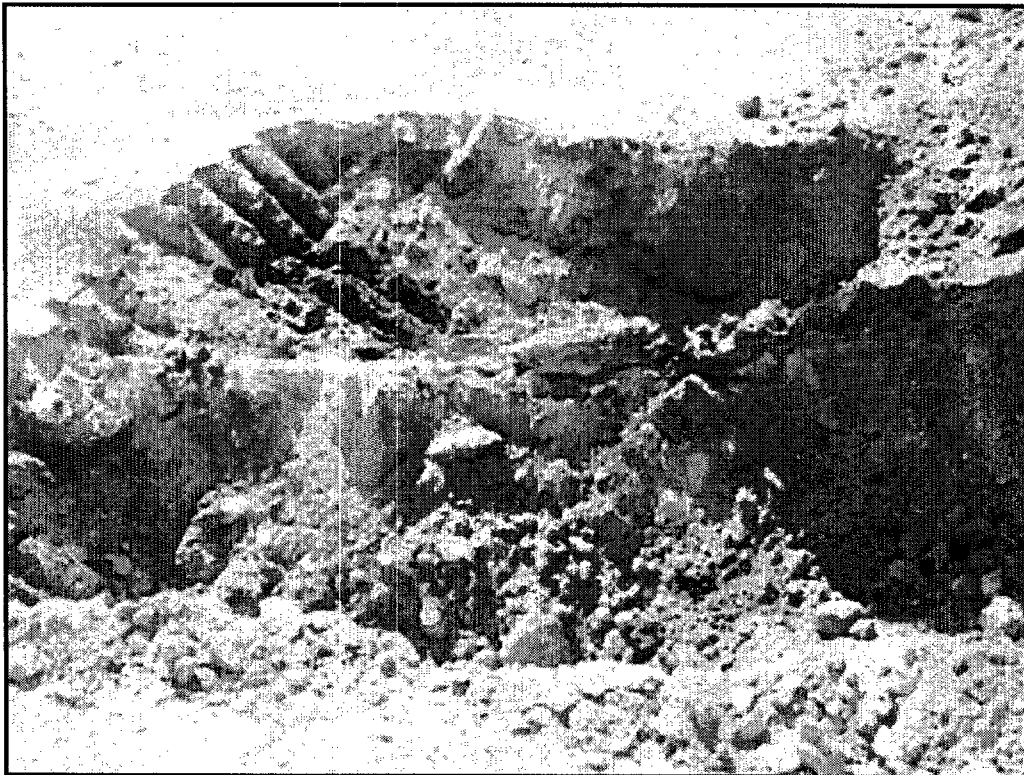
Test trench #4



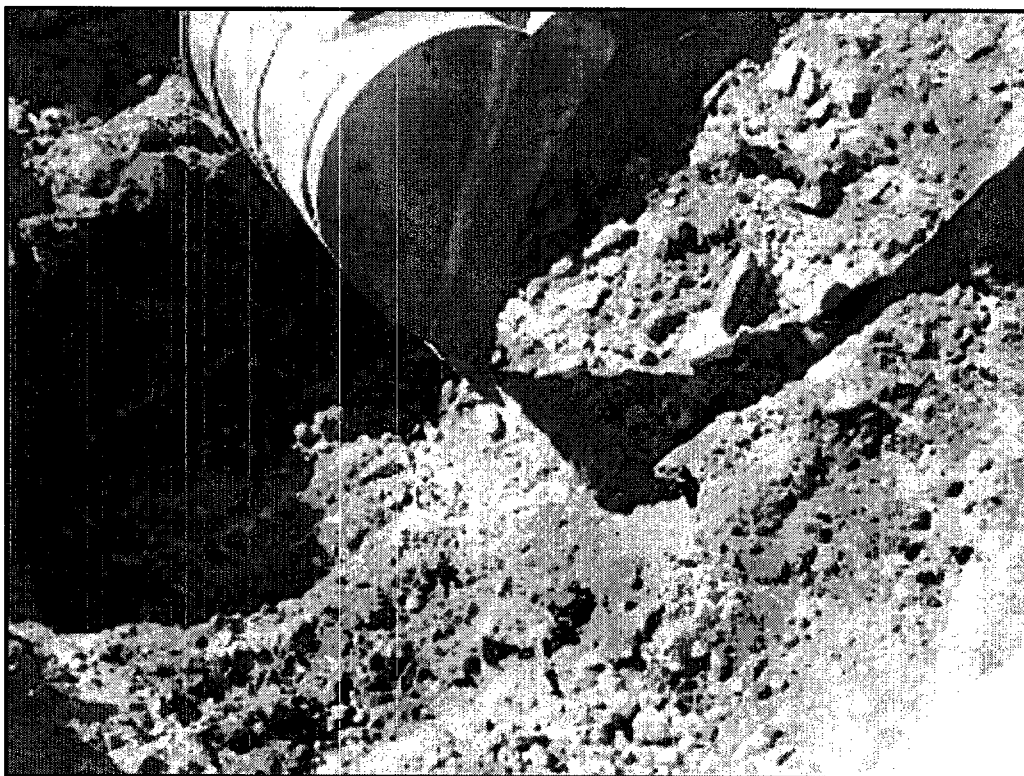
Test trench #6



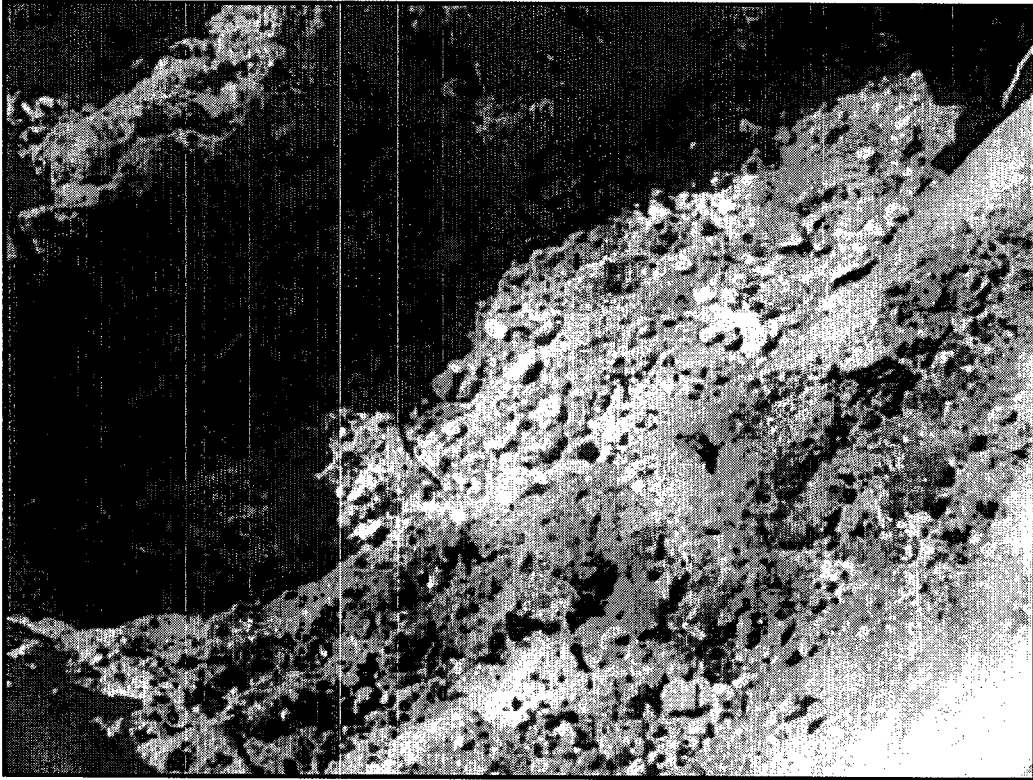
Test trench #6



Test trench #7



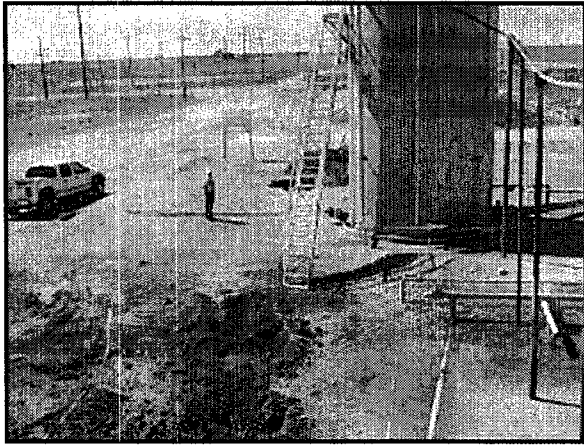
Test trench #7



Test trench # 7



Location of test trench # 6



Location of test trench # 7 (behind water tank)