

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 October 10, 2003

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

RECEIVED Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy, Inc	Contact: Dean Ericson
Address: 200 N Loraine, Suite 800, Midland, TX 79701	Telephone No.: 432-524-5673 (Office)
Facility Name: Southwest Royalties Inc	Facility Type: Tank Battery

Surface Owner: Eidson Ranch	Mineral Owner: State of New Mexico	Lease No.: 97887
-----------------------------	------------------------------------	------------------

LOCATION OF RELEASE *NEAREST WELL STATE UU COM #1*
30-025-24661

Unit Letter E	Section 7	Township 17S	Range 35E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	--------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude 32.852183° Longitude -103.501633°

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 15 barrels	Volume Recovered: 10 barrels
Source of Release: 4" Steel Gathering Line	Date and Hour of Occurrence	Date and Hour of Discovery: 10/16/12 1545
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.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Plane discovered a leak on the Southwest Royalty Battery - 4" Steel Gathering Line. XTO personal were notified, and the following remedial actions were taken: 4" steel gathering was shut-in and a flowline clamp installed. Vacuum Truck was dispatched to recover standing fluid.

Describe Area Affected and Cleanup Action Taken.*

Approx. area affected 4,430 sq/ft area of pasture/grassland land. Following clean-up actions have and will be taken:

1. Vacuum truck dispatched to recover standing fluid
2. Contaminated soil will be removed and disposed off-site.
3. Soil samples will be obtained to verify compliance with NMOCD remediation requirements.
4. Soil will be replaced upon approval from land-owner.

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: <i>Dean D. Ericson</i>	OIL CONSERVATION DIVISION <i>Jeffrey LeKing</i> Approved by District Supervisor Environmental Specialist	
Printed Name: Dean D. Ericson	Approval Date: <i>10/22/12</i>	Expiration Date: <i>12/22/12</i>
Title: EH&S, Regulatory and Compliance	Conditions of Approval: <i>SUBMIT FINAL C-141 BY 12/22/12</i>	
E-mail Address: <i>Dean_Ericson@xtoenergy.com</i>	Attached ☐	<i>IRP-03-13-2907</i>
Date: 10/18/2012	Phone: 432-524-5673	

* Attach Additional Sheets If Necessary

HOBBS OCD

MAY 17 2013

RECEIVED

REMEDIATION REPORT
Southwest Royalties Gathering Line
Crude Oil Spills
1RP-03-13-2907
Lea County, New Mexico

Project No. 12-0144-01

April 19, 2013

Prepared for:
XTO Energy
200 North Loraine Street, Suite 800
Midland, Texas 79701

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld, Suite 200
Midland, Texas 79701



Coty Woolf
Environmental Scientist/Chemist



Mark J. Larson, PG
President/Geologist

Mark J. Larson, CPG
Certified Professional Geologist No. 10490

April 19, 2013

Table of Content

1.0	Executive Summary	1
2.0	Introduction	2
3.0	Chronology	2
4.0	Remediation	2

List of Tables

Table 1	Remediation Analytical Results
---------	--------------------------------

List of Figures

Figure 1	Topographic and Depth to Groundwater Map
Figure 2	Aerial Drawing of Spill #1 & #2
Figure 3	Site Drawing of Spill #1 & #2
Figure 4	Aerial Drawing of Spill #3
Figure 5	Site Drawing of Spill #3

List of Appendices

Appendix A	Surface Waste Management Facility Acceptance Logs (CD ROM)
Appendix B	Laboratory Analytical Reports and Chain of Custody Documentation
Appendix C	Photo Documentation
Appendix D	Initial and Final C-141 Forms

1.0 Executive Summary

This report is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of XTO Energy, Inc. (XTO) by Larson & Associates, Inc. (LAI) to report the remediation of 3 crude oil spills at the Southwest Royalties Gathering Line (Site) located in Lea County, New Mexico. The Site is located approximately 3.5 miles north of Buckeye, New Mexico, in Unit E, Section 7, Township 17 South and Range 35 East. The geodetic position is 32° 51' 07.39" north and 103° 30' 05.42" west.

The spills were discovered on October 16, 2012 by aerial survey, and involved a release of crude oil, approximately 15 barrels (bbl) collectively, of which 10 bbl were recovered. The spills were reported to the New Mexico Oil Conservation Division (OCD) with form C-141 and were submitted on October 18, 2012.

Between October 24, 2012 and November 5, 2012, LAI personnel supervised Watson Construction Company, Inc. (Watson) while excavating approximately 2,620 cubic yards of contaminated soil. Soil was disposed at the R360 Halfway Facility located west of Hobbs, New Mexico. On November 7, 2012, LAI personnel collected eighteen (18) sidewall and six (6) bottom samples from three (3) individual excavations (excavation #1, excavation #2, excavation #3). The samples were analyzed for TPH and chloride. All the samples were field tested using a PID which did not detect any headspace readings above the OCD action level of 100 parts per million (ppm). In excavations #1 and #2, TPH was below the RRAL (1,000 mg/Kg) in all samples except SS-1 (2,805.5 mg/Kg), SS-2 (1,108 mg/Kg), SS-10 (4,650 mg/Kg), BS-2 (2,000 mg/Kg), BS-4 (13,630 mg/Kg), BS-5 (9,277 mg/Kg). In excavation #3, TPH was above the RRAL (100 mg/Kg) in sample SS-15 (442.3 mg/Kg). On December 21, 2012, Watson excavated soil from the sidewall (SS-1, SS-2, SS-10, and SS-15), and bottom (BS-1, BS-2, BS-4, and BS-5) of the excavation. On December, 28, 2012, LAI personnel sampled the eight locations for remediation confirmation. TPH in the confirmation samples was below the RRAL for TPH except in BS-2. On January 22, 2013, LAI personnel supervised the excavation of BS-2 location to approximately 9 feet below ground surface at which time a confirmation sample was collected. TPH in the confirmation sample for BS-2 location was below the RRAL.

On March 4, 2013, the OCD in Hobbs, New Mexico, granted approval to fill the excavation with clean soil. Between March 14 and March 19, 2013, Watson filled the excavation with clean soil acquired from the ranch land owner, Mr. Arzell Sellers.

2.0 Introduction

This report is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of XTO Energy, Inc. (XTO) to present the remediation of 3 crude oil leaks along the Southwest Royalties Gathering Line located in Lea County, New Mexico. The leaks were discovered by an aerial survey on October 16, 2012. The Site is located approximately 3.5 miles north of Buckeye, in Unit E, Section 7, Township 17 South and Range 35 East, in Lea County, New Mexico. The geodetic position is 32° 51' 07.39" north and 103° 30' 05.42" west. A topographic is presented in Figure 1. An aerial image and site drawing for Spill #1 and #2 are presented in Figures 2 and 3, respectively. An aerial image and site drawing for Spill #3 are presented in Figures 4 and 5, respectively.

3.0 Chronology

On October 16, 2012, the leaks were discovered during an aerial survey and reported to XTO. On October 18, 2012, XTO submitted the initial C-141 to the OCD District 1 office in Hobbs, New Mexico, for notification that 3 spills had occurred at its Southwest Royalties Gathering Line. The spills involved approximately 15 barrels (bbl) of crude oil, with 10 bbl being recovered and approximately 5 bbl lost in the subsurface. The spills were attributed to pipeline corrosion and flow-line clamps were installed. XTO immediately initiated spill control measures. The system was shut-in and a roustabout crew was contracted to assist with cleanup. The OCD assigned the incident remediation project number 1RP1RP-03-13-2907.

4.0 Remediation

Between October 24, 2012 and November 5, 2012, LAI personnel supervised Watson Construction Company, Inc. (Watson) while excavating approximately 2,620 cubic yards of contaminated soil. Soil was disposed at the R360 Halfway Facility located between Hobbs and Carlsbad, New Mexico.

On November 7, 2012, LAI personnel collected (18) sidewall and six (6) bottom samples from three (3) excavations (excavation #1, excavation #2, excavation #3). The soil samples were collected at the 2, 3, 5, and 10 feet bgs. The sample containers were labeled, placed on ice in an ice chest and delivered under chain of custody control to Trace Analysis, Inc, in Midland, Texas.

The samples were analyzed for total petroleum hydrocarbons (TPH) by EPA SW846 method 8015, including gasoline range organics (GRO) and diesel range organics (DRO), and chloride. Field headspace readings were less than 100 parts per million (ppm), therefore, no samples were analyzed for benzene, toluene, ethyl benzene, and xylene (BTEX).

The following soil remediation ranking criteria were used to calculate the RRAL:

Spill #1 and Spill #2

Ranking Criteria	Result	Ranking Score:
Depth to Groundwater (vertical feet):	50 – 99	10
Wellhead Protection Area:	No	0
Distance to Surface Water Body:	>1000 horizontal feet	0
Total Score		10

Spill #3

Ranking Criteria	Result	Ranking Score:
Depth to Groundwater (vertical feet):	50 – 99	10
Wellhead Protection Area:	yes	20
Distance to Surface Water Body:	200 - 1,000 horizontal feet	10
Total Score		40

The following RRALs were assigned to the Spill #1 and Spill #2 based on the total ranking score:

Recommended Remediation Action Levels

Constituent	Action Level (ppm)
TPH	1,000

The following RRALs were assigned to the Site #3 based on the total ranking score:

Recommended Remediation Action Levels

Constituent	Action Level (ppm)
TPH	100

The following soil samples from Spill #1 and Spill #2 exceeded the RRAL for TPH:

Location	Depth (Feet BGS)	TPH (mg/Kg)
SS-1	3	2,805.5
SS-2	3	1,108
SS-10	3	4,650
BS-2	5	2,000
BS-4	5	13,630
BS-5	10	9,277

The maximum chloride concentration was reported in sample BS-1, 5 feet bgs (431 mg/Kg) and the vertical extent of chloride was delineated to 250 mg/Kg. Table 1 presents a summary of the investigation results for TPH and chloride results.

The following soil samples from Spill #3 exceeded the RRAL for TPH:

Location	Depth (Feet BGS)	TPH (mg/Kg)
SS-15	2	422.3

On December 21, 2012, Watson excavated soil from Spill #1 (SS-1, SS-2, SS-10, BS-2, and BS-4), Spill #2 (BS-5), and Spill #3 (SS-15). Approximately 84 cubic yards of soil was removed and hauled to the JDan Commercial Landfarm located near Lovington, New Mexico. On December, 28, 2012, LAI personnel sampled the eight locations (SS-1, SS-2, SS-10, BS-1, BS-2, BS-4, BS-5, and SS-15) for remediation confirmation. TPH in the confirmation samples was below RRAL except in BS-2.

On January 22, 2013, LAI personnel supervised the excavation of approximately 24 cubic yards of soil at BS-2 to approximately 9 feet below ground surface and collected a confirmation sample. TPH in the confirmation sample for BS-2 was below RRAL. The soil was hauled to the JDan Commercial Landfarm located near Lovington, New Mexico. A summary of the remediation sample results are presented in Table 1. Laboratory reports are presented in Appendix B.

Notification was provided to the OCD at least 24 hours prior to beginning remediation and collecting soil samples.

On March 4, 2013, the OCD in Hobbs, New Mexico, granted permission to backfill the excavation with clean soil. Between March 14 and March 19, 2013, Watson filled the excavation with clean soil acquired from the land owner, Mr. Arzell Sellers. Photo documentation is presented in Appendix C. The OCD signed initial C-141 and the final C-141 forms are presented in Appendix D.

Table 1
Soil Samples Analytical Data Summary
XTO Energy, Inc. - Southwest Royalties Gathering Line Leak
Lea County, New Mexico

Location	Sample	Date	Sample Depth Feet BGS	Status	GRO (C6 - C12)	DRO (>C12 - C35)	TPH (C6 - C35)	Chloride
NMOCD RRAL							1,000	250
1	SS-1	11/7/2012	3	Excavated	35.5	2770	2805.5	<20.0
		12/28/2012	3	In-Situ	<4.00	<50.0	<54.0	--
	SS-2	11/7/2012	3	Excavated	352	756	1108	<20.0
		12/28/2012	3	In-Situ	<4.00	<10.0	<14.0	--
	SS-3	11/7/2012	3	In-Situ	<1.00	<50.0	<51.0	141
	SS-4	11/7/2012	3	In-Situ	<1.00	<50.0	<51.0	<20.0
	SS-5	11/7/2012	3	In-Situ	16	190	206	<20.0
	SS-6	11/7/2012	3	In-Situ	<1.00	<50.0	<51.0	<20.0
	SS-7	11/7/2012	3	In-Situ	<1.00	<50.0	<51.0	<20.0
	SS-8	11/7/2012	3	In-Situ	<1.00	348	348	189
	SS-9	11/7/2012	3	In-Situ	<1.00	<50.0	<51.0	<20.0
	SS-10	11/7/2012	3	Excavated	2260	2390	4650	<20.0
		12/28/2012	3	In-Situ	<4.00	<10.0	<14.0	--
	BS-1	11/7/2012	5	Excavated	28.1	217	245.1	431
		12/28/2012	5.5	In-Situ	--	--	--	14.6
	BS-2	11/7/2012	5	Excavated	1100	900	2000	<20.0
		12/28/2012	5.5	Excavated	2090	456	2546	--
		1/22/2013	8 - 9	In-Situ	<4.00	<50.0	<54.0	--
	BS-3	11/7/2012	5	In-Situ	<1.00	200	200	<20.0
	BS-4	11/7/2012	5	Excavated	4460	9170	13630	43.6
		12/28/2012	5.5	In-Situ	<4.00	<50.0	<54.0	--
2	SS-11	11/7/2012	5	In-Situ	<1.00	106	106	<20.0
	SS-12	11/7/2012	5	In-Situ	<1.00	<50.0	<50.0	<20.0
	SS-13	11/7/2012	5	In-Situ	122	351	473	<20.0
	SS-14	11/7/2012	5	In-Situ	<1.00	59.1	59.1	<20.0
	BS-5	11/7/2012	10	Excavated	437	8840	9277	<20.0
		12/28/2012	12	In-Situ	<4.00	<10.0	<10.0	--
NMOCD RRAL							100	250
3	SS-15	11/7/2012	2	Excavated	19.3	403	422.3	<20.0
		12/28/2012	2	In-Situ	<4.00	<10.0	<14.0	--
	SS-16	11/7/2012	2	In-Situ	<1.00	<50.0	<51.0	<20.0
	SS-17	11/7/2012	2	In-Situ	<1.00	<50.0	<51.0	<20.0
	SS-18	11/7/2012	2	In-Situ	<1.00	<50.0	<51.0	<20.0
	BS-6	11/7/2012	4	In-Situ	<1.00	<50.0	<51.0	<20.0

Notes: All samples analyzed by Trace Analysis, Inc., Midland, Texas
Depth measurements are in feet below ground surface (bgs).
All concentrations are in milligrams per kilogram (mg/Kg) equivalent to parts per million (ppm)
SS - Denotes sidewall sample
BS - Denotes bottom sample
< - Denotes concentration below test method detection limit
-- No sample collected
Bold denotes analyte detected
Bold and color denotes analyte detected above remediation action level

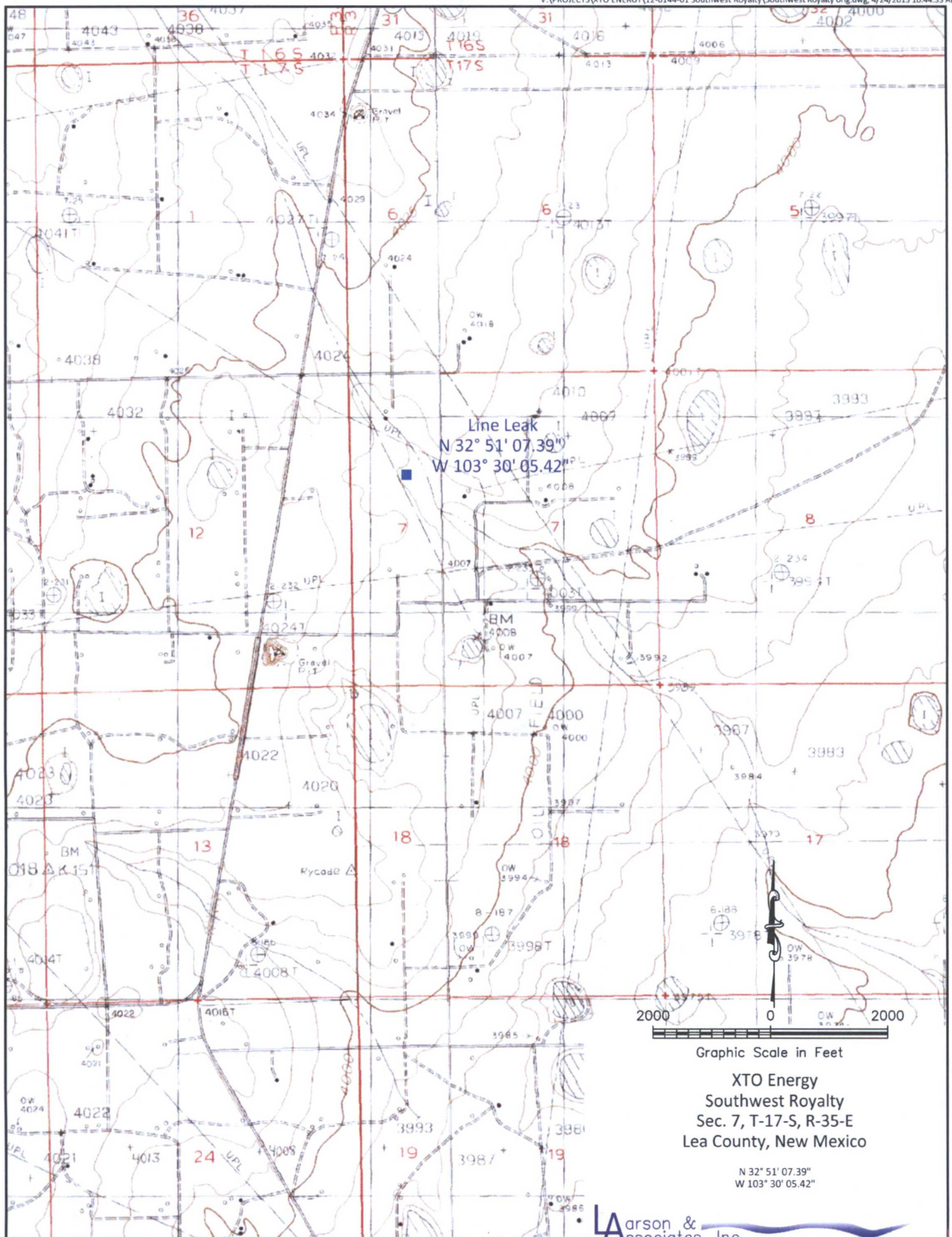


Figure 1 - Topographic Map

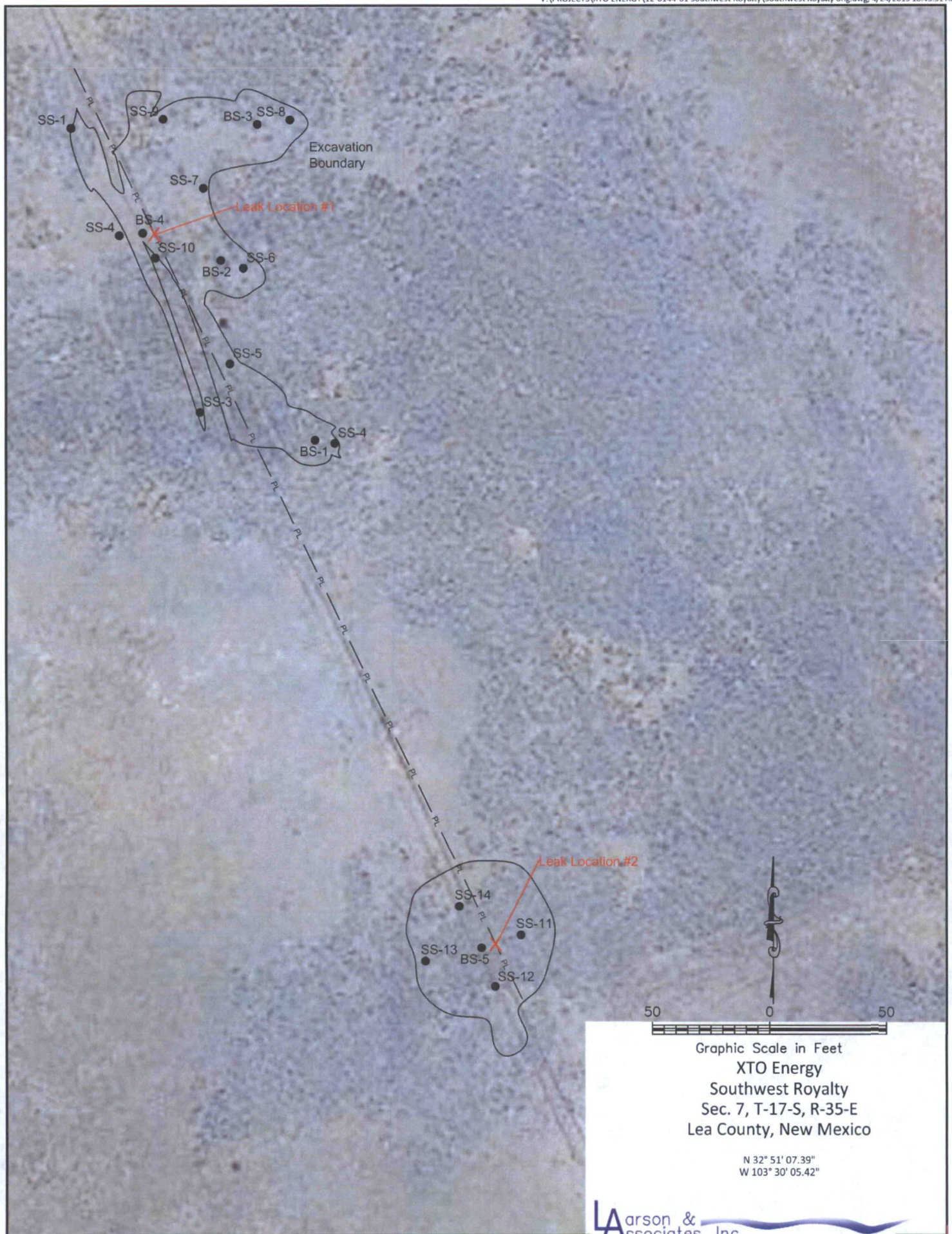


Figure 2 - Leak Location #1 and #2 Aerial Map

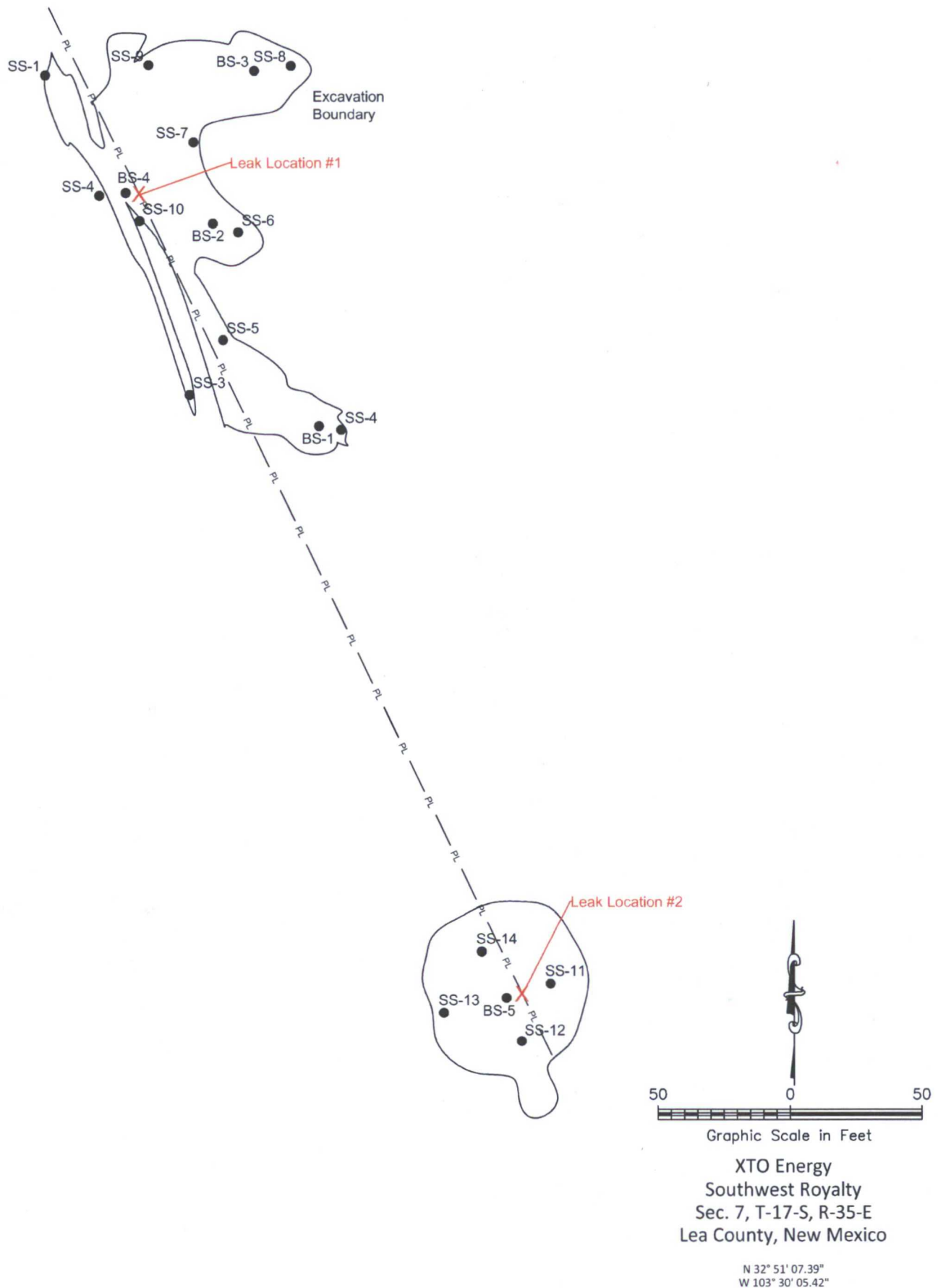
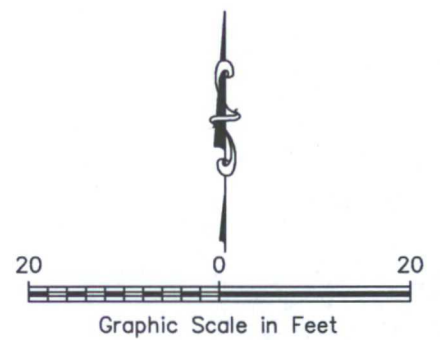
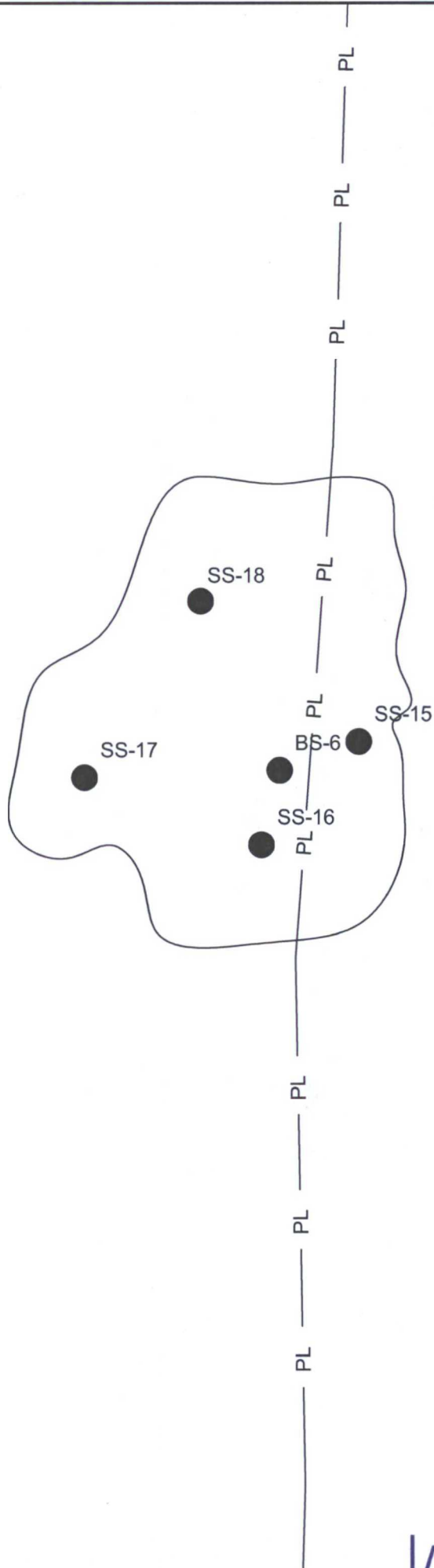


Figure 3 - Leak Location #1 and #2 Site Map



Figure 4 - Leak Location #3 Aerial Map



XTO Energy
Southwest Royalty
Sec. 7, T-17-S, R-35-E
Lea County, New Mexico

N 32° 50' 44.73"
W 103° 29' 53.70"

Figure 5 - Leak Location #3 Site Map



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Coty Woolf
Larson and Associates, Inc.

Report Date: November 16, 2012

P. O. Box 50685
Midland, TX, 79710

Work Order: 12110915



Project Location: Buckeye, NM
Project Name: Buckeye
Project Number: 12-0144-01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
313804	SS-1	soil	2012-11-07	08:00	2012-11-08
313805	SS-2	soil	2012-11-07	08:15	2012-11-08
313806	SS-3	soil	2012-11-07	08:30	2012-11-08
313807	SS-4	soil	2012-11-07	08:45	2012-11-08
313808	SS-5	soil	2012-11-07	09:00	2012-11-08
313809	SS-6	soil	2012-11-07	09:15	2012-11-08
313810	SS-7	soil	2012-11-07	09:30	2012-11-08
313811	SS-8	soil	2012-11-07	09:45	2012-11-08
313812	SS-9	soil	2012-11-07	10:00	2012-11-08
313813	SS-10	soil	2012-11-07	10:15	2012-11-08
313814	BS-1	soil	2012-11-07	10:30	2012-11-08
313815	BS-2	soil	2012-11-07	10:45	2012-11-08
313816	BS-3	soil	2012-11-07	11:00	2012-11-08
313817	BS-4	soil	2012-11-07	11:15	2012-11-08
313818	SS-11	soil	2012-11-07	11:30	2012-11-08
313819	SS-12	soil	2012-11-07	11:45	2012-11-08
313820	SS-13	soil	2012-11-07	12:00	2012-11-08

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
313821	SS-14	soil	2012-11-07	12:15	2012-11-08
313822	BS-5	soil	2012-11-07	12:30	2012-11-08
313823	SS-15	soil	2012-11-07	12:45	2012-11-08
313824	SS-16	soil	2012-11-07	13:00	2012-11-08
313825	SS-17	soil	2012-11-07	13:15	2012-11-08
313826	SS-18	soil	2012-11-07	13:30	2012-11-08
313827	BS-6	soil	2012-11-07	13:45	2012-11-08

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

This report consists of a total of 46 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	5
Analytical Report	6
Sample 313804 (SS-1)	6
Sample 313805 (SS-2)	7
Sample 313806 (SS-3)	8
Sample 313807 (SS-4)	9
Sample 313808 (SS-5)	10
Sample 313809 (SS-6)	11
Sample 313810 (SS-7)	12
Sample 313811 (SS-8)	13
Sample 313812 (SS-9)	14
Sample 313813 (SS-10)	15
Sample 313814 (BS-1)	16
Sample 313815 (BS-2)	17
Sample 313816 (BS-3)	18
Sample 313817 (BS-4)	19
Sample 313818 (SS-11)	20
Sample 313819 (SS-12)	21
Sample 313820 (SS-13)	22
Sample 313821 (SS-14)	23
Sample 313822 (BS-5)	24
Sample 313823 (SS-15)	25
Sample 313824 (SS-16)	26
Sample 313825 (SS-17)	27
Sample 313826 (SS-18)	28
Sample 313827 (BS-6)	29
Method Blanks	31
QC Batch 96536 - Method Blank (1)	31
QC Batch 96537 - Method Blank (1)	31
QC Batch 96538 - Method Blank (1)	31
QC Batch 96555 - Method Blank (1)	31
QC Batch 96561 - Method Blank (1)	32
QC Batch 96563 - Method Blank (1)	32
QC Batch 96600 - Method Blank (1)	32
Laboratory Control Spikes	34
QC Batch 96536 - LCS (1)	34
QC Batch 96537 - LCS (1)	34
QC Batch 96538 - LCS (1)	34
QC Batch 96555 - LCS (1)	35
QC Batch 96561 - LCS (1)	35
QC Batch 96563 - LCS (1)	36
QC Batch 96600 - LCS (1)	36
QC Batch 96536 - MS (1)	37

QC Batch 96537 - MS (1)	37
QC Batch 96538 - MS (1)	38
QC Batch 96555 - MS (1)	38
QC Batch 96561 - MS (1)	39
QC Batch 96563 - MS (1)	39
QC Batch 96600 - MS (1)	40
Calibration Standards	41
QC Batch 96536 - CCV (1)	41
QC Batch 96536 - CCV (2)	41
QC Batch 96537 - CCV (1)	41
QC Batch 96537 - CCV (2)	41
QC Batch 96538 - CCV (1)	41
QC Batch 96538 - CCV (2)	42
QC Batch 96555 - CCV (1)	42
QC Batch 96555 - CCV (2)	42
QC Batch 96555 - CCV (3)	42
QC Batch 96555 - CCV (4)	43
QC Batch 96561 - CCV (1)	43
QC Batch 96561 - CCV (2)	43
QC Batch 96561 - CCV (3)	43
QC Batch 96563 - CCV (1)	44
QC Batch 96563 - CCV (2)	44
QC Batch 96600 - CCV (1)	44
QC Batch 96600 - CCV (2)	44
QC Batch 96600 - CCV (3)	45
QC Batch 96600 - CCV (4)	45
Appendix	46
Report Definitions	46
Laboratory Certifications	46
Standard Flags	46
Attachments	46

Case Narrative

Samples for project Buckeye were received by TraceAnalysis, Inc. on 2012-11-08 and assigned to work order 12110915. Samples for work order 12110915 were received intact at a temperature of 2.8 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	81793	2012-11-12 at 10:38	96536	2012-11-13 at 13:24
Chloride (Titration)	SM 4500-Cl B	81793	2012-11-12 at 10:38	96537	2012-11-13 at 13:24
Chloride (Titration)	SM 4500-Cl B	81793	2012-11-12 at 10:38	96538	2012-11-13 at 13:25
TPH DRO - NEW	S 8015 D	81821	2012-11-12 at 10:00	96555	2012-11-14 at 08:42
TPH DRO - NEW	S 8015 D	81829	2012-11-12 at 11:00	96563	2012-11-14 at 10:15
TPH GRO	S 8015 D	81822	2012-11-13 at 13:40	96561	2012-11-13 at 13:40
TPH GRO	S 8015 D	81874	2012-11-14 at 11:11	96600	2012-11-01 at 11:11

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12110915 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 6 of 46
Buckeye, NM

Analytical Report

Sample: 313804 - SS-1

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-11-13	Analyzed By:	AR
QC Batch:	96536	Sample Preparation:	2012-11-12	Prepared By:	AR
Prep Batch:	81793				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313804 - SS-1

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2012-11-14	Analyzed By:	CW
QC Batch:	96555	Sample Preparation:	2012-11-12	Prepared By:	CW
Prep Batch:	81821				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	2770	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	426	mg/Kg	5	100	426	55.1 - 135.7

Sample: 313804 - SS-1

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2012-11-13	Analyzed By:	YG
QC Batch:	96561	Sample Preparation:	2012-11-13	Prepared By:	YG
Prep Batch:	81822				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B	1	35.5	mg/Kg	5	1.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.63	mg/Kg	5	10.0	96	70 - 130

continued ...

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 7 of 46
Buckeye, NM

sample continued ...

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			8.58	mg/Kg	5	10.0	86	70 - 130

Sample: 313805 - SS-2

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313805 - SS-2

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	756	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	158	mg/Kg	1	100	158	55.1 - 135.7

Sample: 313805 - SS-2

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96561
Prep Batch: 81822

Analytical Method: S 8015 D
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-13

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	352	mg/Kg	5	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 8 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.45	mg/Kg	5	10.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)			12.2	mg/Kg	5	10.0	122	70 - 130

Sample: 313806 - SS-3

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			141	mg/Kg	5	4.00

Sample: 313806 - SS-3

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb,Qs	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			99.2	mg/Kg	1	100	99	55.1 - 135.7

Sample: 313806 - SS-3

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96561
Prep Batch: 81822

Analytical Method: S 8015 D
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-13

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 9 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Sample: 313807 - SS-4

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313807 - SS-4

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb,Qs	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			102	mg/Kg	1	100	102	55.1 - 135.7

Sample: 313807 - SS-4

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96561
Prep Batch: 81822

Analytical Method: S 8015 D
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-13

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 10 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.67	mg/Kg	1	2.00	84	70 - 130

Sample: 313808 - SS-5

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313808 - SS-5

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B, Qs	1	190	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	136	mg/Kg	1	100	136	55.1 - 135.7

Sample: 313808 - SS-5

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96561
Prep Batch: 81822

Analytical Method: S 8015 D
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-13

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B	1	16.0	mg/Kg	5	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 11 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.62	mg/Kg	5	10.0	96	70 - 130
4-Bromofluorobenzene (4-BFB)			9.26	mg/Kg	5	10.0	93	70 - 130

Sample: 313809 - SS-6

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313809 - SS-6

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb, Qs	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			91.1	mg/Kg	1	100	91	55.1 - 135.7

Sample: 313809 - SS-6

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96561
Prep Batch: 81822

Analytical Method: S 8015 D
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-13

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 12 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.56	mg/Kg	1	2.00	128	70 - 130
4-Bromofluorobenzene (4-BFB)			1.66	mg/Kg	1	2.00	83	70 - 130

Sample: 313810 - SS-7

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 96536 Date Analyzed: 2012-11-13 Analyzed By: AR
Prep Batch: 81793 Sample Preparation: 2012-11-12 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313810 - SS-7

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 96555 Date Analyzed: 2012-11-14 Analyzed By: CW
Prep Batch: 81821 Sample Preparation: 2012-11-12 Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb, Qs	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			104	mg/Kg	1	100	104	55.1 - 135.7

Sample: 313810 - SS-7

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 96561 Date Analyzed: 2012-11-13 Analyzed By: YG
Prep Batch: 81822 Sample Preparation: 2012-11-13 Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 13 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.68	mg/Kg	1	2.00	84	70 - 130

Sample: 313811 - SS-8

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			189	mg/Kg	5	4.00

Sample: 313811 - SS-8

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	348	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	140	mg/Kg	1	100	140	55.1 - 135.7

Sample: 313811 - SS-8

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96561
Prep Batch: 81822

Analytical Method: S 8015 D
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-13

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 14 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.60	mg/Kg	1	2.00	130	70 - 130
4-Bromofluorobenzene (4-BFB)			1.70	mg/Kg	1	2.00	85	70 - 130

Sample: 313812 - SS-9

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313812 - SS-9

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb, Qs	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			91.9	mg/Kg	1	100	92	55.1 - 135.7

Sample: 313812 - SS-9

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 15 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.22	mg/Kg	1	2.00	111	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Sample: 313813 - SS-10

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96536
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313813 - SS-10

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	2390	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	175	mg/Kg	5	100	175	55.1 - 135.7

Sample: 313813 - SS-10

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	2260	mg/Kg	50	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 16 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			95.9	mg/Kg	50	100	96	70 - 130
4-Bromofluorobenzene (4-BFB)			127	mg/Kg	50	100	127	70 - 130

Sample: 313814 - BS-1

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96537
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			431	mg/Kg	5	4.00

Sample: 313814 - BS-1

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B, Qs	1	217	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			107	mg/Kg	1	100	107	55.1 - 135.7

Sample: 313814 - BS-1

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B	1	28.1	mg/Kg	5	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 17 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.73	mg/Kg	5	10.0	97	70 - 130
4-Bromofluorobenzene (4-BFB)			8.58	mg/Kg	5	10.0	86	70 - 130

Sample: 313815 - BS-2

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96537
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313815 - BS-2

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	900	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	153	mg/Kg	1	100	153	55.1 - 135.7

Sample: 313815 - BS-2

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B	1	1100	mg/Kg	50	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 18 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			96.5	mg/Kg	50	100	96	70 - 130
4-Bromofluorobenzene (4-BFB)			110	mg/Kg	50	100	110	70 - 130

Sample: 313816 - BS-3

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96537
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313816 - BS-3

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B, Qs	1	200	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			103	mg/Kg	1	100	103	55.1 - 135.7

Sample: 313816 - BS-3

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 19 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.99	mg/Kg	1	2.00	100	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Sample: 313817 - BS-4

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 96537 Date Analyzed: 2012-11-13 Analyzed By: AR
Prep Batch: 81793 Sample Preparation: 2012-11-12 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			43.6	mg/Kg	5	4.00

Sample: 313817 - BS-4

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 96555 Date Analyzed: 2012-11-14 Analyzed By: CW
Prep Batch: 81821 Sample Preparation: 2012-11-12 Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Q _s	1	9170	mg/Kg	10	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	841	mg/Kg	10	100	841	55.1 - 135.7

Sample: 313817 - BS-4

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 96600 Date Analyzed: 2012-11-01 Analyzed By: YG
Prep Batch: 81874 Sample Preparation: 2012-11-14 Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	4460	mg/Kg	100	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 20 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			194	mg/Kg	100	200	97	70 - 130
4-Bromofluorobenzene (4-BFB)			252	mg/Kg	100	200	126	70 - 130

Sample: 313818 - SS-11

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96537
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313818 - SS-11

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96555
Prep Batch: 81821

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B,Qs	1	106	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			97.0	mg/Kg	1	100	97	55.1 - 135.7

Sample: 313818 - SS-11

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Jb	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 21 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.98	mg/Kg	1	2.00	99	70 - 130
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	70 - 130

Sample: 313819 - SS-12

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 96537

Prep Batch: 81793

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-11-13

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313819 - SS-12

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 96555

Prep Batch: 81821

Analytical Method: S 8015 D

Date Analyzed: 2012-11-14

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb,Qs	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			94.9	mg/Kg	1	100	95	55.1 - 135.7

Sample: 313819 - SS-12

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 96600

Prep Batch: 81874

Analytical Method: S 8015 D

Date Analyzed: 2012-11-01

Sample Preparation: 2012-11-14

Prep Method: S 5035

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 22 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 313820 - SS-13

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 96537 Date Analyzed: 2012-11-13 Analyzed By: AR
Prep Batch: 81793 Sample Preparation: 2012-11-12 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313820 - SS-13

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 96555 Date Analyzed: 2012-11-14 Analyzed By: CW
Prep Batch: 81821 Sample Preparation: 2012-11-12 Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	351	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			119	mg/Kg	1	100	119	55.1 - 135.7

Sample: 313820 - SS-13

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 96600 Date Analyzed: 2012-11-01 Analyzed By: YG
Prep Batch: 81874 Sample Preparation: 2012-11-14 Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	122	mg/Kg	2	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 23 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			3.92	mg/Kg	2	4.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			4.03	mg/Kg	2	4.00	101	70 - 130

Sample: 313821 - SS-14

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96537
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313821 - SS-14

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96563
Prep Batch: 81829

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B	1	59.1	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			95.5	mg/Kg	1	100	96	55.1 - 135.7

Sample: 313821 - SS-14

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 24 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	70 - 130
4-Bromofluorobenzene (4-BFB)			1.71	mg/Kg	1	2.00	86	70 - 130

Sample: 313822 - BS-5

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 96537
Prep Batch: 81793

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-11-13
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313822 - BS-5

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 96563
Prep Batch: 81829

Analytical Method: S 8015 D
Date Analyzed: 2012-11-14
Sample Preparation: 2012-11-12

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	8840	mg/Kg	10	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	383	mg/Kg	10	100	383	55.1 - 135.7

Sample: 313822 - BS-5

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 96600
Prep Batch: 81874

Analytical Method: S 8015 D
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-14

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	437	mg/Kg	10	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 25 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			19.2	mg/Kg	10	20.0	96	70 - 130
4-Bromofluorobenzene (4-BFB)			20.8	mg/Kg	10	20.0	104	70 - 130

Sample: 313823 - SS-15

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 96537 Date Analyzed: 2012-11-13 Analyzed By: AR
Prep Batch: 81793 Sample Preparation: 2012-11-12 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313823 - SS-15

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 96563 Date Analyzed: 2012-11-14 Analyzed By: CW
Prep Batch: 81829 Sample Preparation: 2012-11-12 Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	403	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	143	mg/Kg	1	100	143	55.1 - 135.7

Sample: 313823 - SS-15

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 96600 Date Analyzed: 2012-11-01 Analyzed By: YG
Prep Batch: 81874 Sample Preparation: 2012-11-14 Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B	1	19.3	mg/Kg	2	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 26 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.78	mg/Kg	2	4.00	120	70 - 130
4-Bromofluorobenzene (4-BFB)			3.60	mg/Kg	2	4.00	90	70 - 130

Sample: 313824 - SS-16

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 96538

Prep Batch: 81793

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-11-13

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313824 - SS-16

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 96563

Prep Batch: 81829

Analytical Method: S 8015 D

Date Analyzed: 2012-11-14

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			116	mg/Kg	1	100	116	55.1 - 135.7

Sample: 313824 - SS-16

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 96600

Prep Batch: 81874

Analytical Method: S 8015 D

Date Analyzed: 2012-11-01

Sample Preparation: 2012-11-14

Prep Method: S 5035

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 27 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.07	mg/Kg	1	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 313825 - SS-17

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 96538

Prep Batch: 81793

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-11-13

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313825 - SS-17

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 96563

Prep Batch: 81829

Analytical Method: S 8015 D

Date Analyzed: 2012-11-14

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	jb	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	55.1 - 135.7

Sample: 313825 - SS-17

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 96600

Prep Batch: 81874

Analytical Method: S 8015 D

Date Analyzed: 2012-11-01

Sample Preparation: 2012-11-14

Prep Method: S 5035

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 28 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	70 - 130
4-Bromofluorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Sample: 313826 - SS-18

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 96538 Date Analyzed: 2012-11-13 Analyzed By: AR
Prep Batch: 81793 Sample Preparation: 2012-11-12 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 313826 - SS-18

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 96563 Date Analyzed: 2012-11-14 Analyzed By: CW
Prep Batch: 81829 Sample Preparation: 2012-11-12 Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	jb	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			117	mg/Kg	1	100	117	55.1 - 135.7

Sample: 313826 - SS-18

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 96600 Date Analyzed: 2012-11-01 Analyzed By: YG
Prep Batch: 81874 Sample Preparation: 2012-11-14 Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 29 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.06	mg/Kg	1	2.00	103	70 - 130
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	70 - 130

Sample: 313827 - BS-6

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 96538

Prep Batch: 81793

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-11-13

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 313827 - BS-6

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 96563

Prep Batch: 81829

Analytical Method: S 8015 D

Date Analyzed: 2012-11-14

Sample Preparation: 2012-11-12

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			106	mg/Kg	1	100	106	55.1 - 135.7

Sample: 313827 - BS-6

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 96600

Prep Batch: 81874

Analytical Method: S 8015 D

Date Analyzed: 2012-11-01

Sample Preparation: 2012-11-14

Prep Method: S 5035

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<1.00	mg/Kg	1	1.00

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 30 of 46
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 31 of 46
Buckeye, NM

Method Blanks

Method Blank (1) QC Batch: 96536

QC Batch: 96536
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 96537

QC Batch: 96537
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 96538

QC Batch: 96538
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 96555

QC Batch: 96555
Prep Batch: 81821

Date Analyzed: 2012-11-14
QC Preparation: 2012-11-12

Analyzed By: CW
Prepared By: CW

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 32 of 46
Buckeye, NM

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	27.1	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			95.1	mg/Kg	1	100	95	55.1 - 135.7

Method Blank (1) QC Batch: 96561

QC Batch: 96561
Prep Batch: 81822

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-13

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.482	mg/Kg	1

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.95	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.65	mg/Kg	1	2.00	82	70 - 130

Method Blank (1) QC Batch: 96563

QC Batch: 96563
Prep Batch: 81829

Date Analyzed: 2012-11-14
QC Preparation: 2012-11-12

Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	25.5	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			98.5	mg/Kg	1	100	98	55.1 - 135.7

Method Blank (1) QC Batch: 96600

QC Batch: 96600
Prep Batch: 81874

Date Analyzed: 2012-11-01
QC Preparation: 2012-11-14

Analyzed By: YG
Prepared By: YG

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 33 of 46
Buckeye, NM

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.482	mg/Kg	1

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.95	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 34 of 46
Buckeye, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 96536
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2540	mg/Kg	1	2500	<3.85	102	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2610	mg/Kg	1	2500	<3.85	104	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 96537
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2730	mg/Kg	1	2500	<3.85	109	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2650	mg/Kg	1	2500	<3.85	106	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 96538
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 35 of 46
Buckeye, NM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2550	mg/Kg	1	2500	<3.85	102	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2670	mg/Kg	1	2500	<3.85	107	85 - 115	5	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 96555
Prep Batch: 81821

Date Analyzed: 2012-11-14
QC Preparation: 2012-11-12

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	215	mg/Kg	1	250	27.1	75	66.9 - 119.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	198	mg/Kg	1	250	27.1	68	66.9 - 119.9	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	102	90.9	mg/Kg	1	100	102	91	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 96561
Prep Batch: 81822

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-13

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.2	mg/Kg	1	20.0	3.37	96	70 - 130

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

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 36 of 46
Buckeye, NM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.6	mg/Kg	1	20.0	3.37	88	70 - 130	9	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	2.03	mg/Kg	1	2.00	100	102	70 - 130
4-Bromofluorobenzene (4-BFB)	1.70	1.80	mg/Kg	1	2.00	85	90	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 96563
Prep Batch: 81829

Date Analyzed: 2012-11-14
QC Preparation: 2012-11-12

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	209	mg/Kg	1	250	25.5	73	66.9 - 119.9

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	212	mg/Kg	1	250	25.5	75	66.9 - 119.9	1	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
n-Tricosane	96.1	95.9	mg/Kg	1	100	96	96	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 96600
Prep Batch: 81874

Date Analyzed: 2012-11-01
QC Preparation: 2012-11-14

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	20.2	mg/Kg	1	20.0	3.4	101	70 - 130

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

continued ...

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 37 of 46
Buckeye, NM

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.1	mg/Kg	1	20.0	3.4	90	70 - 130	11	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.37	1.91	mg/Kg	1	2.00	118	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.84	1.79	mg/Kg	1	2.00	92	90	70 - 130

Matrix Spike (MS-1) Spiked Sample: 313813

QC Batch: 96536
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2660	mg/Kg	5	2500	<19.2	106	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2780	mg/Kg	5	2500	<19.2	111	78.9 - 121	4	20

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

Matrix Spike (MS-1) Spiked Sample: 313823

QC Batch: 96537
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2730	mg/Kg	5	2500	<19.2	109	78.9 - 121

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

continued ...

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 38 of 46
Buckeye, NM

matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2590	mg/Kg	5	2500	<19.2	104	78.9 - 121	5	20

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

Matrix Spike (MS-1) Spiked Sample: 313827

QC Batch: 96538
Prep Batch: 81793

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-12

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2500	mg/Kg	5	2500	<19.2	100	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2620	mg/Kg	5	2500	<19.2	105	78.9 - 121	5	20

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

Matrix Spike (MS-1) Spiked Sample: 313235

QC Batch: 96555
Prep Batch: 81821

Date Analyzed: 2012-11-14
QC Preparation: 2012-11-12

Analyzed By: CW
Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	Qs	Qs	1	255	mg/Kg	1	250	191	26

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	283	mg/Kg	1	250	191	37	36.1 - 147.2	10	20

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

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 39 of 46
Buckeye, NM

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	102	112	mg/Kg	1	100	102	112	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 313766

QC Batch: 96561
Prep Batch: 81822

Date Analyzed: 2012-11-13
QC Preparation: 2012-11-13

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.4	mg/Kg	1	20.0	<0.482	77	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	15.3	mg/Kg	1	20.0	<0.482	76	70 - 130	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.03	2.02	mg/Kg	1	2	102	101	70 - 130
4-Bromofluorobenzene (4-BFB)	1.80	1.79	mg/Kg	1	2	90	90	70 - 130

Matrix Spike (MS-1) Spiked Sample: 313821

QC Batch: 96563
Prep Batch: 81829

Date Analyzed: 2012-11-14
QC Preparation: 2012-11-12

Analyzed By: CW
Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	235	mg/Kg	1	250	59.1	70	36.1 - 147.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	268	mg/Kg	1	250	59.1	84	36.1 - 147.2	13	20

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

continued ...

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 40 of 46
Buckeye, NM

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	89.6	95.4	mg/Kg	1	100	90	95	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 313816

QC Batch: 96600
Prep Batch: 81874

Date Analyzed: 2012-11-01
QC Preparation: 2012-11-14

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.8	mg/Kg	1	20.0	<0.482	84	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.2	mg/Kg	1	20.0	<0.482	81	70 - 130	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.92	1.91	mg/Kg	1	2	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.87	1.88	mg/Kg	1	2	94	94	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 96536

Date Analyzed: 2012-11-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.6	100	85 - 115	2012-11-13

Standard (CCV-2)

QC Batch: 96536

Date Analyzed: 2012-11-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-11-13

Standard (CCV-1)

QC Batch: 96537

Date Analyzed: 2012-11-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-11-13

Standard (CCV-2)

QC Batch: 96537

Date Analyzed: 2012-11-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.7	100	85 - 115	2012-11-13

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 42 of 46
Buckeye, NM

Standard (CCV-1)

QC Batch: 96538

Date Analyzed: 2012-11-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-11-13

Standard (CCV-2)

QC Batch: 96538

Date Analyzed: 2012-11-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.7	100	85 - 115	2012-11-13

Standard (CCV-1)

QC Batch: 96555

Date Analyzed: 2012-11-14

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	265	106	80 - 120	2012-11-14

Standard (CCV-2)

QC Batch: 96555

Date Analyzed: 2012-11-14

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	202	81	80 - 120	2012-11-14

Standard (CCV-3)

QC Batch: 96555

Date Analyzed: 2012-11-14

Analyzed By: CW

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 43 of 46
Buckeye, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	217	87	80 - 120	2012-11-14

Standard (CCV-4)

QC Batch: 96555

Date Analyzed: 2012-11-14

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	250	100	80 - 120	2012-11-14

Standard (CCV-1)

QC Batch: 96561

Date Analyzed: 2012-11-13

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.987	99	80 - 120	2012-11-13

Standard (CCV-2)

QC Batch: 96561

Date Analyzed: 2012-11-13

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.14	114	80 - 120	2012-11-13

Standard (CCV-3)

QC Batch: 96561

Date Analyzed: 2012-11-13

Analyzed By: YG

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 44 of 46
Buckeye, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.981	98	80 - 120	2012-11-13

Standard (CCV-1)

QC Batch: 96563

Date Analyzed: 2012-11-14

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	232	93	80 - 120	2012-11-14

Standard (CCV-2)

QC Batch: 96563

Date Analyzed: 2012-11-14

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	283	113	80 - 120	2012-11-14

Standard (CCV-1)

QC Batch: 96600

Date Analyzed: 2012-11-01

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.811	81	80 - 120	2012-11-01

Standard (CCV-2)

QC Batch: 96600

Date Analyzed: 2012-11-01

Analyzed By: YG

Report Date: November 16, 2012
12-0144-01

Work Order: 12110915
Buckeye

Page Number: 45 of 46
Buckeye, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.814	81	80 - 120	2012-11-01

Standard (CCV-3)

QC Batch: 96600

Date Analyzed: 2012-11-01

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.15	115	80 - 120	2012-11-01

Standard (CCV-4)

QC Batch: 96600

Date Analyzed: 2012-11-01

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.02	102	80 - 120	2012-11-01

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-12-4	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Company Name:

CAI

Phone #:

Address:

(Street, City, Zip)

Fax #:

Contact Person:

Coty Wolf

E-mail:

Invoice to:

(If different from above)

Project #:

12-0144-01

Project Name:

Project Location (including state):

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX			PRESERVATIVE METHOD						SAMPLING		DATE	TIME
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE			
BS-2		1	2oz	X								X			11-7-12	1045
BS-3		1														1100
BS-4		1														1115
SS-11		1														1130
SS-12		1														1145
SS-13		1														1200
SS-14		1														1215
BS-5		1														1230
SS-15		1														1245
SS-16		1														1300
SS-17		1														1315
		</														

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:
CAI		11-8-12	448	TA		11/8/12	16:48	CAI		11-8-12	448	TA		11/8/12	16:48	CAI		11-8-12	448
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:

REMARKS:

LAB USE ONLY

Inst Y/N

Headspace Y/N/NA

Log-In-Review

Dry Weight Basis Required
TRRP Report Required
Check if Special Reporting
Limits Are Needed

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

Carrier #

ORIGINAL COPY

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Company Name:	CAI	Phone #:	
Address:	(Street, City, Zip)	Fax #:	
Contact Person:	Coty Wood	E-mail:	
Invoice to:			
(If different from above)			
Project #:	12-0144-01	Project Name:	
Project Location (including state):		Sampler Signature:	

[illegible]

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST OBS COR
	AL	11-8-12	4:48		TA	11/8/12	14:48	
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST OBS COR
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST OBS COR

ANALYSIS REQUEST (Circle or Specify Method No.)		LAB USE ONLY		REMARKS:
MTBE 8021 / 602 / 8260 / 624		Int'd ☒ N	HeadSpace ☒ N / NA	
BTEX 8021 / 602 / 8260 / 624				
TPH 418.1 / TX1005 / TX1005 Ext(C35)				
TPH 8015 GRO/DRO / TVHC	☒			
PAH 8270 / 625				
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7				
TCLP Metals Ag As Ba Cd Cr Pb Se Hg				
TCLP Volatiles				
TCLP Pesticides				
RCI				
GC/MS Vol. 8260 / 624				
GC/MS Semi. Vol. 8270 / 625				
PCB's 8082 / 608				
Pesticides 8081 / 608				
BOD, TSS, pH				
Moisture Content				
Cl, F, SO ₄ , NO ₃ -N, NO ₂ -N, PO ₄ -P, Alkalinity	☒			
Na, Ca, Mg, K, TDS, EC	☒			
Turn Around Time if different from standard				
Hold				

☐ Dry Weight Basis Required
☐ TRRP Report Required
☐ Check if Special Reporting Limits Are Needed

☐ Log-In-Review

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

ORIGINAL COPY

Carrier #



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Coty Woolf
Larson and Associates, Inc.

Report Date: January 10, 2013

P. O. Box 50685
Midland, TX, 79710

Work Order: 13010208



Project Location: Buckeye, NM
Project Name: Southwest Royalties/Buckeye
Project Number: 12-0144-01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
317581	SS-1 (3')	soil	2012-12-28	12:20	2013-01-02
317582	SS-2 (3')	soil	2012-12-28	12:25	2013-01-02
317583	BS-4 (5.5')	soil	2012-12-28	12:30	2013-01-02
317584	SS-10 (3')	soil	2012-12-28	12:35	2013-01-02
317585	BS-2 (5.5')	soil	2012-12-28	12:40	2013-01-02
317586	BS-1 (5.5')	soil	2012-12-28	12:45	2013-01-02
317587	BS-5 (12')	soil	2012-12-28	13:50	2013-01-02
317588	SS-15 (6')	soil	2012-12-28	14:10	2013-01-02

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.

This report consists of a total of 19 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Michael Abel

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	4
Analytical Report	5
Sample 317581 (SS-1 (3'))	5
Sample 317582 (SS-2 (3'))	5
Sample 317583 (BS-4 (5.5'))	6
Sample 317584 (SS-10 (3'))	7
Sample 317585 (BS-2 (5.5'))	8
Sample 317586 (BS-1 (5.5'))	8
Sample 317587 (BS-5 (12'))	9
Sample 317588 (SS-15 (6'))	9
Method Blanks	11
QC Batch 97823 - Method Blank (1)	11
QC Batch 97880 - Method Blank (1)	11
QC Batch 97966 - Method Blank (1)	11
Laboratory Control Spikes	12
QC Batch 97823 - LCS (1)	12
QC Batch 97880 - LCS (1)	12
QC Batch 97966 - LCS (1)	12
QC Batch 97823 - MS (1)	13
QC Batch 97880 - MS (1)	13
QC Batch 97966 - MS (1)	14
Calibration Standards	15
QC Batch 97823 - CCV (1)	15
QC Batch 97823 - CCV (2)	15
QC Batch 97823 - CCV (3)	15
QC Batch 97823 - CCV (4)	15
QC Batch 97880 - CCV (1)	15
QC Batch 97880 - CCV (2)	16
QC Batch 97966 - CCV (1)	16
QC Batch 97966 - CCV (2)	16
QC Batch 97966 - CCV (3)	16
Appendix	18
Report Definitions	18
Laboratory Certifications	18
Standard Flags	18
Attachments	18

Case Narrative

Samples for project Southwest Royalties/Buckeye were received by TraceAnalysis, Inc. on 2013-01-02 and assigned to work order 13010208. Samples for work order 13010208 were received intact at a temperature of 1.3 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (IC)	E 300.0	82901	2013-01-04 at 12:24	97880	2013-01-04 at 17:21
TPH DRO - NEW	S 8015 D	82879	2013-01-03 at 16:00	97823	2013-01-04 at 10:21
TPH GRO	S 8015 D	82995	2013-01-09 at 09:00	97966	2013-01-09 at 09:00

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 13010208 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 5 of 19
Buckeye, NM

Analytical Report

Sample: 317581 - SS-1 (3')

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2013-01-04	Analyzed By:	CW
QC Batch:	97823	Sample Preparation:	2012-01-03	Prepared By:	CW
Prep Batch:	82879				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			126	mg/Kg	1	100	126	70 - 130

Sample: 317581 - SS-1 (3')

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2013-01-09	Analyzed By:	YG
QC Batch:	97966	Sample Preparation:	2013-01-09	Prepared By:	YG
Prep Batch:	82995				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 317582 - SS-2 (3')

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2013-01-04	Analyzed By:	CW
QC Batch:	97823	Sample Preparation:	2012-01-03	Prepared By:	CW
Prep Batch:	82879				

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 6 of 19
Buckeye, NM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	133	mg/Kg	1	100	133	70 - 130

Sample: 317582 - SS-2 (3')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97966
Prep Batch: 82995

Analytical Method: S 8015 D
Date Analyzed: 2013-01-09
Sample Preparation: 2013-01-09

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.51	mg/Kg	1	2.00	76	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Sample: 317583 - BS-4 (5.5')

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97823
Prep Batch: 82879

Analytical Method: S 8015 D
Date Analyzed: 2013-01-04
Sample Preparation: 2012-01-03

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			118	mg/Kg	1	100	118	70 - 130

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 7 of 19
Buckeye, NM

Sample: 317583 - BS-4 (5.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97966
Prep Batch: 82995

Analytical Method: S 8015 D
Date Analyzed: 2013-01-09
Sample Preparation: 2013-01-09

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.77	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.79	mg/Kg	1	2.00	90	70 - 130

Sample: 317584 - SS-10 (3')

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97823
Prep Batch: 82879

Analytical Method: S 8015 D
Date Analyzed: 2013-01-04
Sample Preparation: 2012-01-03

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	133	mg/Kg	1	100	133	70 - 130

Sample: 317584 - SS-10 (3')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97966
Prep Batch: 82995

Analytical Method: S 8015 D
Date Analyzed: 2013-01-09
Sample Preparation: 2013-01-09

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 8 of 19
Buckeye, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.49	mg/Kg	1	2.00	74	70 - 130
4-Bromofluorobenzene (4-BFB)			1.82	mg/Kg	1	2.00	91	70 - 130

Sample: 317585 - BS-2 (5.5')

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97823
Prep Batch: 82879

Analytical Method: S 8015 D
Date Analyzed: 2013-01-04
Sample Preparation: 2012-01-03

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	2090	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	157	mg/Kg	5	100	157	70 - 130

Sample: 317585 - BS-2 (5.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97966
Prep Batch: 82995

Analytical Method: S 8015 D
Date Analyzed: 2013-01-09
Sample Preparation: 2013-01-09

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	456	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			7.31	mg/Kg	5	10.0	73	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	19.4	mg/Kg	5	10.0	194	70 - 130

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 9 of 19
Buckeye, NM

Sample: 317586 - BS-1 (5.5')

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 97880
Prep Batch: 82901

Analytical Method: E 300.0
Date Analyzed: 2013-01-04
Sample Preparation: 2013-01-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		14.6	mg/Kg	1	10.0

Sample: 317587 - BS-5 (12')

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97823
Prep Batch: 82879

Analytical Method: S 8015 D
Date Analyzed: 2013-01-04
Sample Preparation: 2012-01-03

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			119	mg/Kg	1	100	119	70 - 130

Sample: 317587 - BS-5 (12')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97966
Prep Batch: 82995

Analytical Method: S 8015 D
Date Analyzed: 2013-01-09
Sample Preparation: 2013-01-09

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.48	mg/Kg	1	2.00	74	70 - 130
4-Bromofluorobenzene (4-BFB)			2.02	mg/Kg	1	2.00	101	70 - 130

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 10 of 19
Buckeye, NM

Sample: 317588 - SS-15 (6')

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97823
Prep Batch: 82879

Analytical Method: S 8015 D
Date Analyzed: 2013-01-04
Sample Preparation: 2012-01-03

Prep Method: N/A
Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			121	mg/Kg	1	100	121	70 - 130

Sample: 317588 - SS-15 (6')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97966
Prep Batch: 82995

Analytical Method: S 8015 D
Date Analyzed: 2013-01-09
Sample Preparation: 2013-01-09

Prep Method: S 5035
Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.50	mg/Kg	1	2.00	75	70 - 130
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	70 - 130

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 11 of 19
Buckeye, NM

Method Blanks

Method Blank (1) QC Batch: 97823

QC Batch: 97823
Prep Batch: 82879

Date Analyzed: 2013-01-04
QC Preparation: 2013-01-03

Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<6.88	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	140	mg/Kg	1	100	140	70 - 130

Method Blank (1) QC Batch: 97880

QC Batch: 97880
Prep Batch: 82901

Date Analyzed: 2013-01-04
QC Preparation: 2013-01-04

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<0.0460	mg/Kg	10

Method Blank (1) QC Batch: 97966

QC Batch: 97966
Prep Batch: 82995

Date Analyzed: 2013-01-09
QC Preparation: 2013-01-09

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.51	mg/Kg	1	2.00	76	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 12 of 19
Buckeye, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 97823
Prep Batch: 82879

Date Analyzed: 2013-01-04
QC Preparation: 2013-01-03

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	260	mg/Kg	1	250	<6.88	104	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	276	mg/Kg	1	250	<6.88	110	70 - 130	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	122	126	mg/Kg	1	100	122	126	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 97880
Prep Batch: 82901

Date Analyzed: 2013-01-04
QC Preparation: 2013-01-04

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			262	mg/Kg	1	250	<0.0460	105	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			262	mg/Kg	1	250	<0.0460	105	90 - 110	0	20

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

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 13 of 19
Buckeye, NM

Laboratory Control Spike (LCS-1)

QC Batch: 97966
Prep Batch: 82995

Date Analyzed: 2013-01-09
QC Preparation: 2013-01-09

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.3	mg/Kg	1	20.0	3.86	92	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	20.9	mg/Kg	1	20.0	3.86	104	70 - 130	13	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.76	1.83	mg/Kg	1	2.00	88	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.94	1.85	mg/Kg	1	2.00	97	92	70 - 130

Matrix Spike (MS-1) Spiked Sample: 317581

QC Batch: 97823
Prep Batch: 82879

Date Analyzed: 2013-01-04
QC Preparation: 2013-01-03

Analyzed By: CW
Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	260	mg/Kg	1	250	9.68	100	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	254	mg/Kg	1	250	9.68	98	70 - 130	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	121	120	mg/Kg	1	100	121	120	70 - 130

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 14 of 19
Buckeye, NM

Matrix Spike (MS-1) Spiked Sample: 317586

QC Batch: 97880
Prep Batch: 82901

Date Analyzed: 2013-01-04
QC Preparation: 2013-01-04

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Qs	Qs	578	mg/Kg	10	300	14.6	188	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Qs	Qs	574	mg/Kg	10	300	14.6	186	80 - 120	1	20

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

Matrix Spike (MS-1) Spiked Sample: 317581

QC Batch: 97966
Prep Batch: 82995

Date Analyzed: 2013-01-09
QC Preparation: 2013-01-09

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	24.5	mg/Kg	1	20.0	<2.32	122	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	24.3	mg/Kg	1	20.0	<2.32	122	70 - 130	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.84	1.84	mg/Kg	1	2	92	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.90	1.88	mg/Kg	1	2	95	94	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 97823

Date Analyzed: 2013-01-04

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	274	110	80 - 120	2013-01-04

Standard (CCV-2)

QC Batch: 97823

Date Analyzed: 2013-01-04

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	264	106	80 - 120	2013-01-04

Standard (CCV-3)

QC Batch: 97823

Date Analyzed: 2013-01-04

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	262	105	80 - 120	2013-01-04

Standard (CCV-4)

QC Batch: 97823

Date Analyzed: 2013-01-04

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	274	110	80 - 120	2013-01-04

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 16 of 19
Buckeye, NM

Standard (CCV-1)

QC Batch: 97880

Date Analyzed: 2013-01-04

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	25.0	26.2	105	90 - 110	2013-01-04

Standard (CCV-2)

QC Batch: 97880

Date Analyzed: 2013-01-04

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	25.0	25.8	103	90 - 110	2013-01-04

Standard (CCV-1)

QC Batch: 97966

Date Analyzed: 2013-01-09

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.911	91	80 - 120	2013-01-09

Standard (CCV-2)

QC Batch: 97966

Date Analyzed: 2013-01-09

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.910	91	80 - 120	2013-01-09

Standard (CCV-3)

QC Batch: 97966

Date Analyzed: 2013-01-09

Analyzed By: YG

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 17 of 19
Buckeye, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.907	91	80 - 120	2013-01-09

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-12-4	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

Report Date: January 10, 2013
12-0144-01

Work Order: 13010208
Southwest Royalties/Buckeye

Page Number: 19 of 19
Buckeye, NM

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Coty Woolf
Larson and Associates, Inc.

Report Date: January 29, 2013

P. O. Box 50685
Midland, TX, 79710

Work Order: 13012326



Project Location: Buckeye, NM
Project Name: Southwest Royalties/Buckeye
Project Number: 12-0144-01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
319172	BS-2 (8-9')	soil	2013-01-22	10:45	2013-01-23

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

This report consists of a total of 11 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	3
Analytical Report	4
Sample 319172 (BS-2 (8-9'))	4
Method Blanks	5
QC Batch 98417 - Method Blank (1)	5
QC Batch 98418 - Method Blank (1)	5
Laboratory Control Spikes	6
QC Batch 98417 - LCS (1)	6
QC Batch 98418 - LCS (1)	6
QC Batch 98417 - MS (1)	7
QC Batch 98418 - MS (1)	7
Calibration Standards	8
QC Batch 98417 - CCV (1)	8
QC Batch 98417 - CCV (2)	8
QC Batch 98417 - CCV (3)	8
QC Batch 98418 - CCV (1)	8
QC Batch 98418 - CCV (2)	8
QC Batch 98418 - CCV (3)	9
Appendix	10
Report Definitions	10
Laboratory Certifications	10
Standard Flags	10
Attachments	10

Case Narrative

Samples for project Southwest Royalties/Buckeye were received by TraceAnalysis, Inc. on 2013-01-23 and assigned to work order 13012326. Samples for work order 13012326 were received intact at a temperature of 7.9 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
TPH DRO - NEW	S 8015 D	83395	2013-01-24 at 11:00	98418	2013-01-28 at 08:25
TPH GRO	S 8015 D	83394	2013-01-25 at 12:00	98417	2013-01-25 at 12:00

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 13012326 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 29, 2013
12-0144-01

Work Order: 13012326
Southwest Royalties/Buckeye

Page Number: 4 of 11
Buckeye, NM

Analytical Report

Sample: 319172 - BS-2 (8-9')

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 98418

Prep Batch: 83395

Analytical Method: S 8015 D

Date Analyzed: 2013-01-28

Sample Preparation: 2013-01-24

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Q ⁿ	1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			108	mg/Kg	1	100	108	70 - 130

Sample: 319172 - BS-2 (8-9')

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 98417

Prep Batch: 83394

Analytical Method: S 8015 D

Date Analyzed: 2013-01-25

Sample Preparation: 2013-01-25

Prep Method: S 5035

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.00	mg/Kg	1	2.00	100	70 - 130
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70 - 130

Report Date: January 29, 2013
12-0144-01

Work Order: 13012326
Southwest Royalties/Buckeye

Page Number: 5 of 11
Buckeye, NM

Method Blanks

Method Blank (1) QC Batch: 98417

QC Batch: 98417
Prep Batch: 83394

Date Analyzed: 2013-01-25
QC Preparation: 2013-01-25

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.73	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	70 - 130

Method Blank (1) QC Batch: 98418

QC Batch: 98418
Prep Batch: 83395

Date Analyzed: 2013-01-28
QC Preparation: 2013-01-24

Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	31.0	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			123	mg/Kg	1	100	123	70 - 130

Report Date: January 29, 2013
12-0144-01

Work Order: 13012326
Southwest Royalties/Buckeye

Page Number: 6 of 11
Buckeye, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 98417
Prep Batch: 83394

Date Analyzed: 2013-01-25
QC Preparation: 2013-01-25

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	22.8	mg/Kg	1	20.0	<2.32	114	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	22.7	mg/Kg	1	20.0	<2.32	114	70 - 130	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.79	1.78	mg/Kg	1	2.00	90	89	70 - 130
4-Bromofluorobenzene (4-BFB)	2.06	1.99	mg/Kg	1	2.00	103	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 98418
Prep Batch: 83395

Date Analyzed: 2013-01-28
QC Preparation: 2013-01-24

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	232	mg/Kg	1	250	31	80	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	250	mg/Kg	1	250	31	88	70 - 130	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	108	106	mg/Kg	1	100	108	106	70 - 130

Report Date: January 29, 2013
12-0144-01

Work Order: 13012326
Southwest Royalties/Buckeye

Page Number: 7 of 11
Buckeye, NM

Matrix Spike (MS-1) Spiked Sample: 319160

QC Batch: 98417
Prep Batch: 83394

Date Analyzed: 2013-01-25
QC Preparation: 2013-01-25

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	21.2	mg/Kg	1	20.0	<2.32	106	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	22.7	mg/Kg	1	20.0	<2.32	114	70 - 130	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.27	2.46	mg/Kg	1	2	114	123	70 - 130
4-Bromofluorobenzene (4-BFB)	1.97	1.97	mg/Kg	1	2	98	98	70 - 130

Matrix Spike (MS-1) Spiked Sample: 319164

QC Batch: 98418
Prep Batch: 83395

Date Analyzed: 2013-01-28
QC Preparation: 2013-01-24

Analyzed By: CW
Prepared By: CW

Param			F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	Qs	Qs		1	389	mg/Kg	1	250	223	66	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	438	mg/Kg	1	250	223	86	70 - 130	12	20

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

			MS	MSD			Spike	MS	MSD	Rec.
Surrogate			Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	Q _{sr}	Q _{sr}	139	151	mg/Kg	5	100	139	151	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 98417

Date Analyzed: 2013-01-25

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.04	104	80 - 120	2013-01-25

Standard (CCV-2)

QC Batch: 98417

Date Analyzed: 2013-01-25

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.02	102	80 - 120	2013-01-25

Standard (CCV-3)

QC Batch: 98417

Date Analyzed: 2013-01-25

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.950	95	80 - 120	2013-01-25

Standard (CCV-1)

QC Batch: 98418

Date Analyzed: 2013-01-28

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	244	98	80 - 120	2013-01-28

Report Date: January 29, 2013
12-0144-01

Work Order: 13012326
Southwest Royalties/Buckeye

Page Number: 9 of 11
Buckeye, NM

Standard (CCV-2)

QC Batch: 98418

Date Analyzed: 2013-01-28

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	291	116	80 - 120	2013-01-28

Standard (CCV-3)

QC Batch: 98418

Date Analyzed: 2013-01-28

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	239	96	80 - 120	2013-01-28

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-12-4	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

Report Date: January 29, 2013
12-0144-01

Work Order: 13012326
Southwest Royalties/Buckeye

Page Number: 11 of 11
Buckeye, NM

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

13012326

CHAIN-OF-CUSTODY

Laarson & Associates, Inc.
Environmental Consultants

507 N. Marientfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: Coty Woolf
 TRRP report?
☐ Yes ☐ No

 S=SOIL
 W=WATER
 A=AIR

 P=PAINT
 SL=SLUDGE
 OT=OTHER

 TIME ZONE:
 Time zone/State:
MT/ND
 Field
 Sample I.D.
BS-2 (8-9)

Lab #

Date

Time

Matrix

S1/22/13 1645

of Containers

1

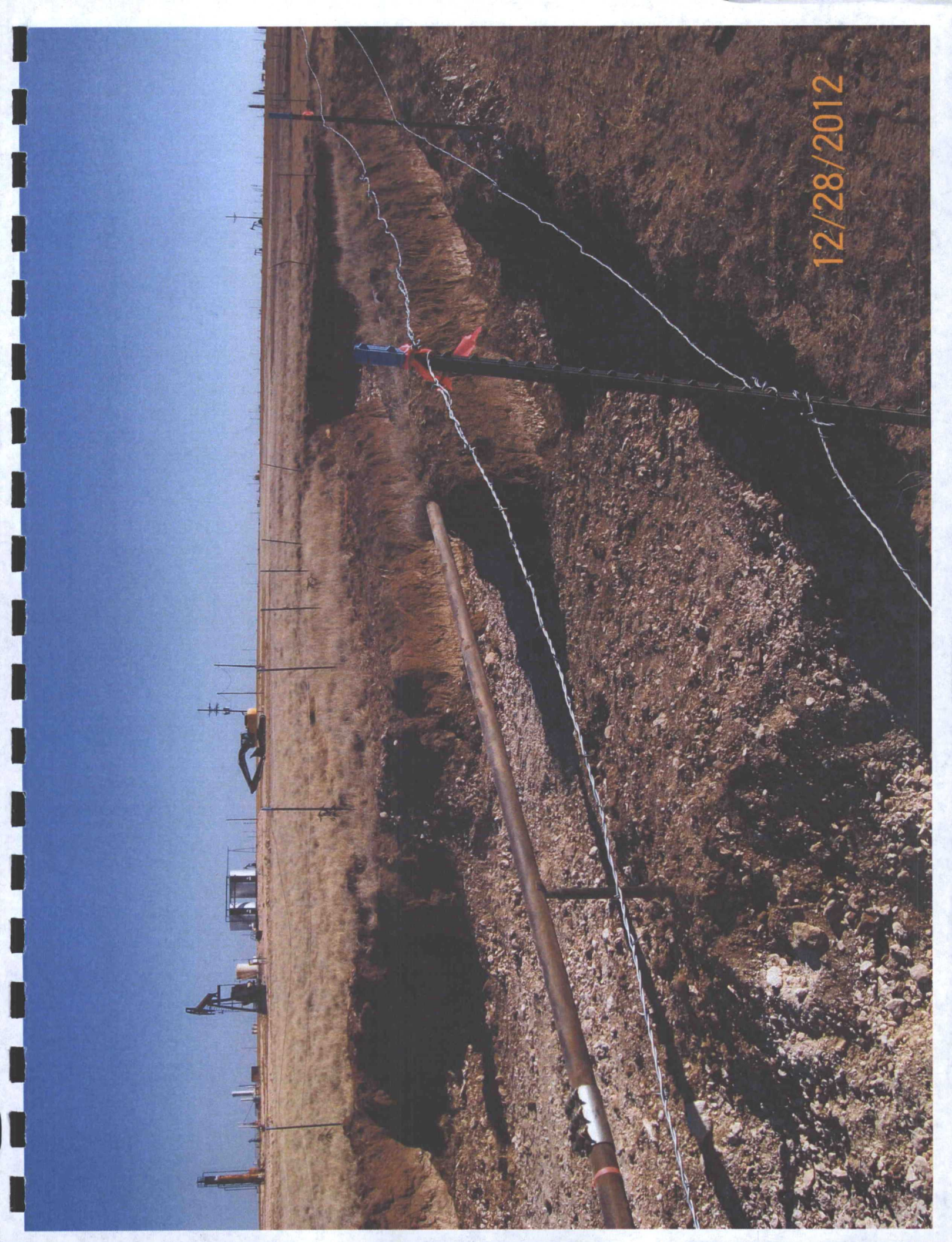
PRESERVATION

 HCl
 HNO₃
 H₂SO₄ ☐ NaOH ☐
 UNPRESERVED
X

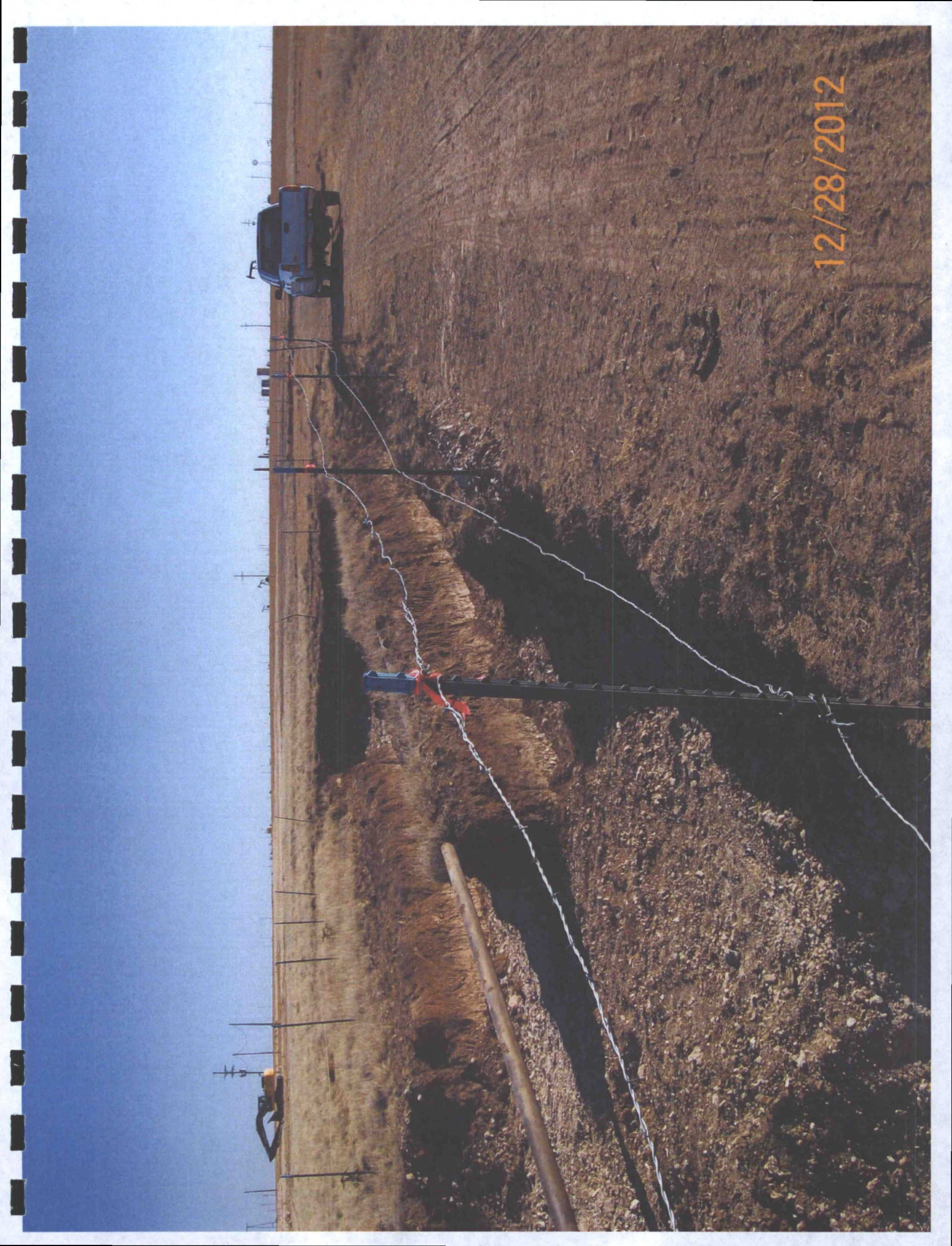
ANALYSES

☐ BTEX ☐ MTBE
☐ TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ TPH 1008
☐ VOC 8280 ☐ SVOC 8270 ☐ PAH 8270 ☐ PAH 8015
☐ DIESEL - MOD 8015 ☐ GASOLINE - MOD 8015
☐ TCEP 418.1 ☐ TCEP 1005 ☐ TCEP 1006 ☐ TCEP 1008
☐ TCEP 1009 ☐ TCEP 1010 ☐ TCEP 1011
☐ TCEP 1012 ☐ TCEP 1013 ☐ TCEP 1014
☐ TCEP 1015 ☐ TCEP 1016 ☐ TCEP 1017
☐ TCEP 1018 ☐ TCEP 1019 ☐ TCEP 1020
☐ TCEP 1021 ☐ TCEP 1022 ☐ TCEP 1023
☐ TCEP 1024 ☐ TCEP 1025 ☐ TCEP 1026
☐ TCEP 1027 ☐ TCEP 1028 ☐ TCEP 1029
☐ TCEP 1030 ☐ TCEP 1031 ☐ TCEP 1032
☐ TCEP 1033 ☐ TCEP 1034 ☐ TCEP 1035
☐ TCEP 1036 ☐ TCEP 1037 ☐ TCEP 1038
☐ TCEP 1039 ☐ TCEP 1040 ☐ TCEP 1041
☐ TCEP 1042 ☐ TCEP 1043 ☐ TCEP 1044
☐ TCEP 1045 ☐ TCEP 1046 ☐ TCEP 1047
☐ TCEP 1048 ☐ TCEP 1049 ☐ TCEP 1050
☐ TCEP 1051 ☐ TCEP 1052 ☐ TCEP 1053
☐ TCEP 1054 ☐ TCEP 1055 ☐ TCEP 1056
☐ TCEP 1057 ☐ TCEP 1058 ☐ TCEP 1059
☐ TCEP 1060 ☐ TCEP 1061 ☐ TCEP 1062
☐ TCEP 1063 ☐ TCEP 1064 ☐ TCEP 1065
☐ TCEP 1066 ☐ TCEP 1067 ☐ TCEP 1068
☐ TCEP 1069 ☐ TCEP 1070 ☐ TCEP 1071
☐ TCEP 1072 ☐ TCEP 1073 ☐ TCEP 1074
☐ TCEP 1075 ☐ TCEP 1076 ☐ TCEP 1077
☐ TCEP 1078 ☐ TCEP 1079 ☐ TCEP 1080
☐ TCEP 1081 ☐ TCEP 1082 ☐ TCEP 1083
☐ TCEP 1084 ☐ TCEP 1085 ☐ TCEP 1086
☐ TCEP 1087 ☐ TCEP 1088 ☐ TCEP 1089
☐ TCEP 1090 ☐ TCEP 1091 ☐ TCEP 1092
☐ TCEP 1093 ☐ TCEP 1094 ☐ TCEP 1095
☐ TCEP 1096 ☐ TCEP 1097 ☐ TCEP 1098
☐ TCEP 1099 ☐ TCEP 1100 ☐ TCEP 1101
☐ TCEP 1102 ☐ TCEP 1103 ☐ TCEP 1104
☐ TCEP 1105 ☐ TCEP 1106 ☐ TCEP 1107
☐ TCEP 1108 ☐ TCEP 1109 ☐ TCEP 1110
☐ TCEP 1111 ☐ TCEP 1112 ☐ TCEP 1113
☐ TCEP 1114 ☐ TCEP 1115 ☐ TCEP 1116
☐ TCEP 1117 ☐ TCEP 1118 ☐ TCEP 1119
☐ TCEP 1120 ☐ TCEP 1121 ☐ TCEP 1122
☐ TCEP 1123 ☐ TCEP 1124 ☐ TCEP 1125
☐ TCEP 1126 ☐ TCEP 1127 ☐ TCEP 1128
☐ TCEP 1129 ☐ TCEP 1130 ☐ TCEP 1131
☐ TCEP 1132 ☐ TCEP 1133 ☐ TCEP 1134
☐ TCEP 1135 ☐ TCEP 1136 ☐ TCEP 1137
☐ TCEP 1138 ☐ TCEP 1139 ☐ TCEP 1140
☐ TCEP 1141 ☐ TCEP 1142 ☐ TCEP 1143
☐ TCEP 1144 ☐ TCEP 1145 ☐ TCEP 1146
☐ TCEP 1147 ☐ TCEP 1148 ☐ TCEP 1149
☐ TCEP 1150 ☐ TCEP 1151 ☐ TCEP 1152
☐ TCEP 1153 ☐ TCEP 1154 ☐ TCEP 1155
☐ TCEP 1156 ☐ TCEP 1157 ☐ TCEP 1158
☐ TCEP 1159 ☐ TCEP 1160 ☐ TCEP 1161
☐ TCEP 1162 ☐ TCEP 1163 ☐ TCEP 1164
☐ TCEP 1165 ☐ TCEP 1166 ☐ TCEP 1167
☐ TCEP 1168 ☐ TCEP 1169 ☐ TCEP 1170
☐ TCEP 1171 ☐ TCEP 1172 ☐ TCEP 1173
☐ TCEP 1174 ☐ TCEP 1175 ☐ TCEP 1176
☐ TCEP 1177 ☐ TCEP 1178 ☐ TCEP 1179
☐ TCEP 1180 ☐ TCEP 1181 ☐ TCEP 1182
☐ TCEP 1183 ☐ TCEP 1184 ☐ TCEP 1185
☐ TCEP 1186 ☐ TCEP 1187 ☐ TCEP 1188
☐ TCEP 1189 ☐ TCEP 1190 ☐ TCEP 1191
☐ TCEP 1192 ☐ TCEP 1193 ☐ TCEP 1194
☐ TCEP 1195 ☐ TCEP 1196 ☐ TCEP 1197
☐ TCEP 1198 ☐ TCEP 1199 ☐ TCEP 1200
☐ TCEP 1201 ☐ TCEP 1202 ☐ TCEP 1203
☐ TCEP 1204 ☐ TCEP 1205 ☐ TCEP 1206
☐ TCEP 1207 ☐ TCEP 1208 ☐ TCEP 1209
☐ TCEP 1210 ☐ TCEP 1211 ☐ TCEP 1212
☐ TCEP 1213 ☐ TCEP 1214 ☐ TCEP 1215
☐ TCEP 1216 ☐ TCEP 1217 ☐ TCEP 1218
☐ TCEP 1219 ☐ TCEP 1220 ☐ TCEP 1221
☐ TCEP 1222 ☐ TCEP 1223 ☐ TCEP 1224
☐ TCEP 1225 ☐ TCEP 1226 ☐ TCEP 1227
☐ TCEP 1228 ☐ TCEP 1229 ☐ TCEP 1230
☐ TCEP 1231 ☐ TCEP 1232 ☐ TCEP 1233
☐ TCEP 1234 ☐ TCEP 1235 ☐ TCEP 1236
☐ TCEP 1237 ☐ TCEP 1238 ☐ TCEP 1239
☐ TCEP 1240 ☐ TCEP 1241 ☐ TCEP 1242
☐ TCEP 1243 ☐ TCEP 1244 ☐ TCEP 1245
☐ TCEP 1246 ☐ TCEP 1247 ☐ TCEP 1248
☐ TCEP 1249 ☐ TCEP 1250 ☐ TCEP 1251
☐ TCEP 1252 ☐ TCEP 1253 ☐ TCEP 1254
☐ TCEP 1255 ☐ TCEP 1256 ☐ TCEP 1257
☐ TCEP 1258 ☐ TCEP 1259 ☐ TCEP 1260
☐ TCEP 1261 ☐ TCEP 1262 ☐ TCEP 1263
☐ TCEP 1264 ☐ TCEP 1265 ☐ TCEP 1266
☐ TCEP 1267 ☐ TCEP 1268 ☐ TCEP 1269
☐ TCEP 1270 ☐ TCEP 1271 ☐ TCEP 1272
☐ TCEP 1273 ☐ TCEP 1274 ☐ TCEP 1275
☐ TCEP 1276 ☐ TCEP 1277 ☐ TCEP 1278
☐ TCEP 1279 ☐ TCEP 1280 ☐ TCEP 1281
☐ TCEP 1282 ☐ TCEP 1283 ☐ TCEP 1284
☐ TCEP 1285 ☐ TCEP 1286 ☐ TCEP 1287
☐ TCEP 1288 ☐ TCEP 1289 ☐ TCEP 1290
☐ TCEP 1291 ☐ TCEP 1292 ☐ TCEP 1293
☐ TCEP 1294 ☐ TCEP 1295 ☐ TCEP 1296
☐ TCEP 1297 ☐ TCEP 1298 ☐ TCEP 1299
☐ TCEP 1300 ☐ TCEP 1301 ☐ TCEP 1302
☐ TCEP 1303 ☐ TCEP 1304 ☐ TCEP 1305
☐ TCEP 1306 ☐ TCEP 1307 ☐ TCEP 1308
☐ TCEP 1309 ☐ TCEP 1310 ☐ TCEP 1311
☐ TCEP 1312 ☐ TCEP 1313 ☐ TCEP 1314
☐ TCEP 1315 ☐ TCEP 1316 ☐ TCEP 1317
☐ TCEP 1318 ☐ TCEP 1319 ☐ TCEP 1320
☐ TCEP 1321 ☐ TCEP 1322 ☐ TCEP 1323
☐ TCEP 1324 ☐ TCEP 1325 ☐ TCEP 1326
☐ TCEP 1327 ☐ TCEP 1328 ☐ TCEP 1329
☐ TCEP 1330 ☐ TCEP 1331 ☐ TCEP 1332
☐ TCEP 1333 ☐ TCEP 1334 ☐ TCEP 1335
☐ TCEP 1336 ☐ TCEP 1337 ☐ TCEP 1338
☐ TCEP 1339 ☐ TCEP 1340 ☐ TCEP 1341
☐ TCEP 1342 ☐ TCEP 1343 ☐ TCEP 1344
☐ TCEP 1345 ☐ TCEP 1346 ☐ TCEP 1347
☐ TCEP 1348 ☐ TCEP 1349 ☐ TCEP 1350
☐ TCEP 1351 ☐ TCEP 1352 ☐ TCEP 1353
☐ TCEP 1354 ☐ TCEP 1355 ☐ TCEP 1356
☐ TCEP 1357 ☐ TCEP 1358 ☐ TCEP 1359
☐ TCEP 1360 ☐ TCEP 1361 ☐ TCEP 1362
☐ TCEP 1363 ☐ TCEP 1364 ☐ TCEP 1365
☐ TCEP 1366 ☐ TCEP 1367 ☐ TCEP 1368
☐ TCEP 1369 ☐ TCEP 1370 ☐ TCEP 1371
☐ TCEP 1372 ☐ TCEP 1373 ☐ TCEP 1374
☐ TCEP 1375 ☐ TCEP 1376 ☐ TCEP 1377
☐ TCEP 1378 ☐ TCEP 1379 ☐ TCEP 1380
☐ TCEP 1381 ☐ TCEP 1382 ☐ TCEP 1383
☐ TCEP 1384 ☐ TCEP 1385 ☐ TCEP 1386
☐ TCEP 1387 ☐ TCEP 1388 ☐ TCEP 1389
☐ TCEP 1390 ☐ TCEP 1391 ☐ TCEP 1392
☐ TCEP 1393 ☐ TCEP 1394 ☐ TCEP 1395
☐ TCEP 1396 ☐ TCEP 1397 ☐ TCEP 1398
☐ TCEP 1399 ☐ TCEP 1400 ☐ TCEP 1401
☐ TCEP 1402 ☐ TCEP 1403 ☐ TCEP 1404
☐ TCEP 1405 ☐ TCEP 1406 ☐ TCEP 1407
☐ TCEP 1408 ☐ TCEP 1409 ☐ TCEP 1410
☐ TCEP 1411 ☐ TCEP 1412 ☐ TCEP 1413
☐ TCEP 1414 ☐ TCEP 1415 ☐ TCEP 1416
☐ TCEP 1417 ☐ TCEP 1418 ☐ TCEP 1419
☐ TCEP 1420 ☐ TCEP 1421 ☐ TCEP 1422
☐ TCEP 1423 ☐ TCEP 1424 ☐ TCEP 1425
☐ TCEP 1426 ☐ TCEP 1427 ☐ TCEP 1428
☐ TCEP 1429 ☐ TCEP 1430 ☐ TCEP 1431
☐ TCEP 1432 ☐ TCEP 1433 ☐ TCEP 1434
☐ TCEP 1435 ☐ TCEP 1436 ☐ TCEP 1437
☐ TCEP 1438 ☐ TCEP 1439 ☐ TCEP 1440
☐ TCEP 1441 ☐ TCEP 1442 ☐ TCEP 1443
☐ TCEP 1444 ☐ TCEP 1445 ☐ TCEP 1446
☐ TCEP 1447 ☐ TCEP 1448 ☐ TCEP 1449
☐ TCEP 1450 ☐ TCEP 1451 ☐ TCEP 1452
☐ TCEP 1453 ☐ TCEP 1454 ☐ TCEP 1455
☐ TCEP 1456 ☐ TCEP 1457 ☐ TCEP 1458
☐ TCEP 1459 ☐ TCEP 1460 ☐ TCEP 1461
☐ TCEP 1462 ☐ TCEP 1463 ☐ TCEP 1464
☐ TCEP 1465 ☐ TCEP 1466 ☐ TCEP 1467
☐ TCEP 1468 ☐ TCEP 1469 ☐ TCEP 1470
☐ TCEP 1471 ☐ TCEP 1472 ☐ TCEP 1473
☐ TCEP 1474 ☐ TCEP 1475 ☐ TCEP 1476
☐ TCEP 1477 ☐ TCEP 1478 ☐ TCEP 1479
☐ TCEP 1480 ☐ TCEP 1481 ☐ TCEP 1482
☐ TCEP 1483 ☐ TCEP 1484 ☐ TCEP 1485
☐ TCEP 1486 ☐ TCEP 1487 ☐ TCEP 1488
☐ TCEP 1489 ☐ TCEP 1490 ☐ TCEP 1491
☐ TCEP 1492 ☐ TCEP 1493 ☐ TCEP 1494
☐ TCEP 1495 ☐ TCEP 1496 ☐ TCEP 1497
☐ TCEP 1498 ☐ TCEP 1499 ☐ TCEP 1500
☐ TCEP 1501 ☐ TCEP 1502 ☐ TCEP 1503
☐ TCEP 1504 ☐ TCEP 1505 ☐ TCEP 1506
☐ TCEP 1507 ☐ TCEP 1508 ☐ TCEP 1509
☐ TCEP 1510 ☐ TCEP 1511 ☐ TCEP 1512
☐ TCEP 1513 ☐ TCEP 1514 ☐ TCEP 1515
☐ TCEP 1516 ☐ TCEP 1517 ☐ TCEP 1518
☐ TCEP 1519 ☐ TCEP 1520 ☐ TCEP 1521
☐ TCEP 1522 ☐ TCEP 1523 ☐ TCEP 1524
☐ TCEP 1525 ☐ TCEP 1526 ☐ TCEP 1527
☐ TCEP 1528 ☐ TCEP 1529 ☐ TCEP 1530
☐ TCEP 1531 ☐ TCEP 1532 ☐ TCEP 1533
☐ TCEP 1534 ☐ TCEP 1535 ☐ TCEP 1536
☐ TCEP 1537 ☐ TCEP 1538 ☐ TCEP 1539
☐ TCEP 1540 ☐ TCEP 1541 ☐ TCEP 1542
☐ TCEP 1543 ☐ TCEP 1544 ☐ TCEP 1545
☐ TCEP 1546 ☐ TCEP 1547 ☐ TCEP 1548
☐ TCEP 1549 ☐ TCEP 1550 ☐ TCEP 1551
☐ TCEP 1552 ☐ TCEP 1553 ☐ TCEP 1554
☐ TCEP 1555 ☐ TCEP 1556 ☐ TCEP 1557
☐ TCEP 1558 ☐ TCEP 1559 ☐ TCEP 1560
☐ TCEP 1561 ☐ TCEP 1562 ☐ TCEP 1563
☐ TCEP 1564 ☐ TCEP 1565 ☐ TCEP 1566
☐ TCEP 1567 ☐ TCEP 1568 ☐ TCEP 1569
☐ TCEP 1570 ☐ TCEP 1571 ☐ TCEP 1572
☐ TCEP 1573 ☐ TCEP 1574 ☐ TCEP 1575
☐ TCEP 1576 ☐ TCEP 1577 ☐ TCEP 1578
☐ TCEP 1579 ☐ TCEP 1580 ☐ TCEP 1581
☐ TCEP 1582 ☐ TCEP 1583 ☐ TCEP 1584
☐ TCEP 1585 ☐ TCEP 1586 ☐ TCEP 1587
☐ TCEP 1588 ☐ TCEP 1589 ☐ TCEP 1590
☐ TCEP 1591 ☐ TCEP 1592 ☐ TCEP 1593
☐ TCEP 1594 ☐ TCEP 1595 ☐ TCEP 1596
☐ TCEP 1597 ☐ TCEP 1598 ☐ TCEP 1599
☐ TCEP 1600 ☐ TCEP 1601 ☐ TCEP 1602
☐ TCEP 1603 ☐ TCEP 1604 ☐ TCEP 1605
☐ TCEP 1606 ☐ TCEP 1607 ☐ TCEP 1608
☐ TCEP 1609 ☐ TCEP 1610 ☐ TCEP 1611
☐ TCEP 1612 ☐ TCEP 1613 ☐ TCEP 1614
☐ TCEP 1615 ☐ TCEP 1616 ☐ TCEP 1617
☐ TCEP 1618 ☐ TCEP 1619 ☐ TCEP 1620
☐ TCEP 1621 ☐ TCEP 1622 ☐ TCEP 1623
☐ TCEP 1624 ☐ TCEP 1625 ☐ TCEP 1626
☐ TCEP 1627 ☐ TCEP 1628 ☐ TCEP 1629
☐ TCEP 1630 ☐ TCEP 1631 ☐ TCEP 1632
☐ TCEP 1633 ☐ TCEP 1634 ☐ TCEP 1635
☐ TCEP 1636 ☐ TCEP 1637 ☐ TCEP 1638
☐ TCEP 1639 ☐ TCEP 1640 ☐ TCEP 1641
☐ TCEP 1642 ☐ TCEP 1643 ☐ TCEP 1644
☐ TCEP 1645 ☐ TCEP 1646 ☐ TCEP 1647
☐ TCEP 1648 ☐ TCEP 1649 ☐ TCEP 1650
☐ TCEP 1651 ☐ TCEP 1652 ☐ TCEP 1653
☐ TCEP 1654 ☐ TCEP 1655 ☐ TCEP 1656
☐ TCEP 1657 ☐ TCEP 1658 ☐ TCEP 1659
☐ TCEP 1660 ☐ TCEP 1661 ☐ TCEP 1662
☐ TCEP 1663 ☐ TCEP 1664 ☐ TCEP 1665
☐ TCEP 1666 ☐ TCEP 1667 ☐ TCEP 1668
☐ TCEP 1669 ☐ TCEP 1670 ☐ TCEP 1671
☐ TCEP 1672 ☐ TCEP 1673 ☐ TCEP 1674
☐ TCEP 1675 ☐ TCEP 1676 ☐ TCEP 1677
☐ TCEP 1678 ☐ TCEP 1679 ☐ TCEP 1680
☐ TCEP 1681 ☐ TCEP 1682 ☐ TCEP 1683
☐ TCEP 1684 ☐ TCEP 1685 ☐ TCEP 1686
☐ TCEP 1687 ☐ TCEP 1688 ☐ TCEP 1689
☐ TCEP 1690 ☐ TCEP 1691 ☐ TCEP 1692
☐ TCEP 1693 ☐ TCEP 1694 ☐ TCEP 1695
☐ TCEP 1696 ☐ TCEP 1697 ☐ TCEP 1698
☐ TCEP 1699 ☐ TCEP 1700 ☐ TCEP 1701
☐ TCEP 1702 ☐ TCEP 1703 ☐ TCEP 1704
☐ TCEP 1705 ☐ TCEP 1706 ☐ TCEP 1707
☐ TCEP 1708 ☐ TCEP 1709 ☐ TCEP 1710
☐ TCEP 1711 ☐ TCEP 1712 ☐ TCEP 1713
☐ TCEP 1714 ☐ TCEP 1715 ☐ TCEP 1716
☐ TCEP 1717 ☐ TCEP 1718 ☐ TCEP 1719
☐ TCEP 1720 ☐ TCEP 1721 ☐ TCEP 1722
☐ TCEP 1723 ☐ TCEP 1724 ☐ TCEP 1725
☐ TCEP 1726 ☐ TCEP 1727 ☐ TCEP 1728
☐ TCEP 1729 ☐ TCEP 1730 ☐ TCEP 1731
☐ TCEP 1732 ☐ TCEP 1733 ☐ TCEP 1734
☐ TCEP 1735 ☐ TCEP 1736 ☐ TCEP 1737
☐ TCEP 1738 ☐ TCEP 1739 ☐ TCEP 1740
☐ TCEP 1741 ☐ TCEP 1742 ☐ TCEP 1743
☐ TCEP 1744 ☐ TCEP 1745 ☐ TCEP 1746
☐ TCEP 1747 ☐ TCEP 1748 ☐ TCEP 1749
☐ TCEP 1750 ☐ TCEP 1751 ☐ TCEP 1752
☐ TCEP 1753 ☐ TCEP 1754 ☐ TCEP 1755
☐ TCEP 1756 ☐ TCEP 1757 ☐ TCEP 1758
☐ TCEP 1759 ☐ TCEP 1760 ☐ TCEP 1761
☐ TCEP 1762 ☐ TCEP 1763 ☐ TCEP 1764
☐ TCEP 1765 ☐ TCEP 1766 ☐ TCEP 1767
☐ TCEP 17

12/28/2012



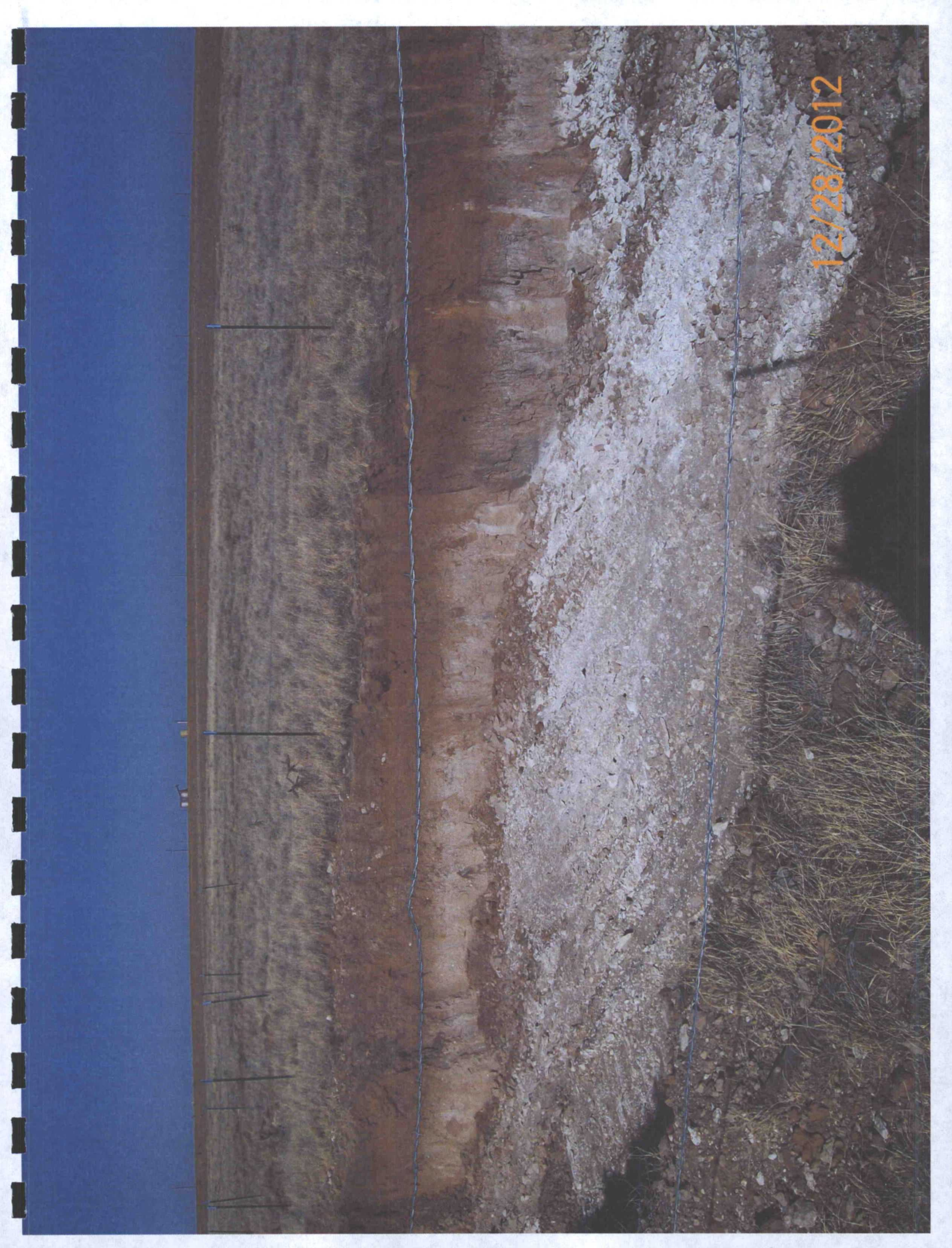
12/28/2012



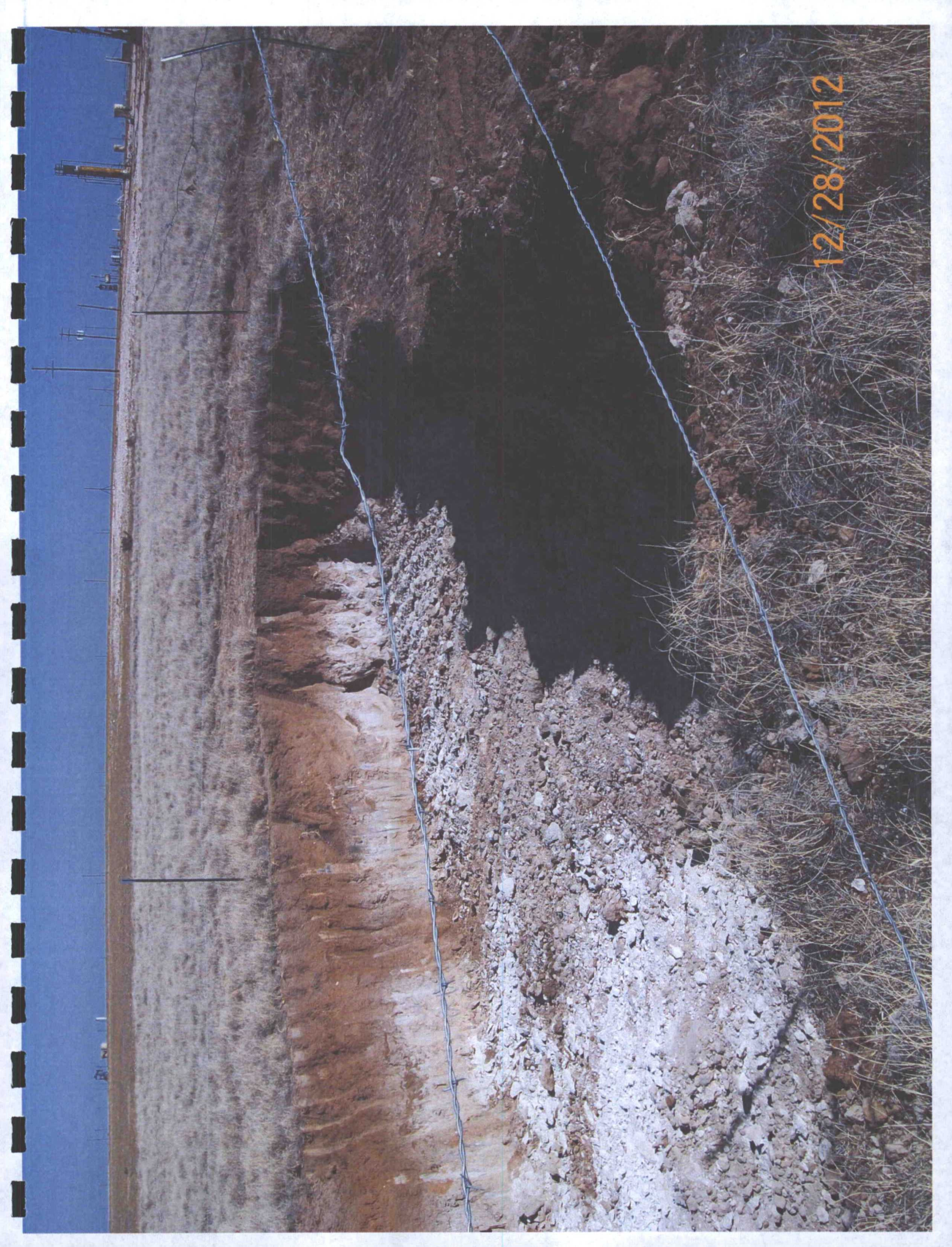
12/28/2012



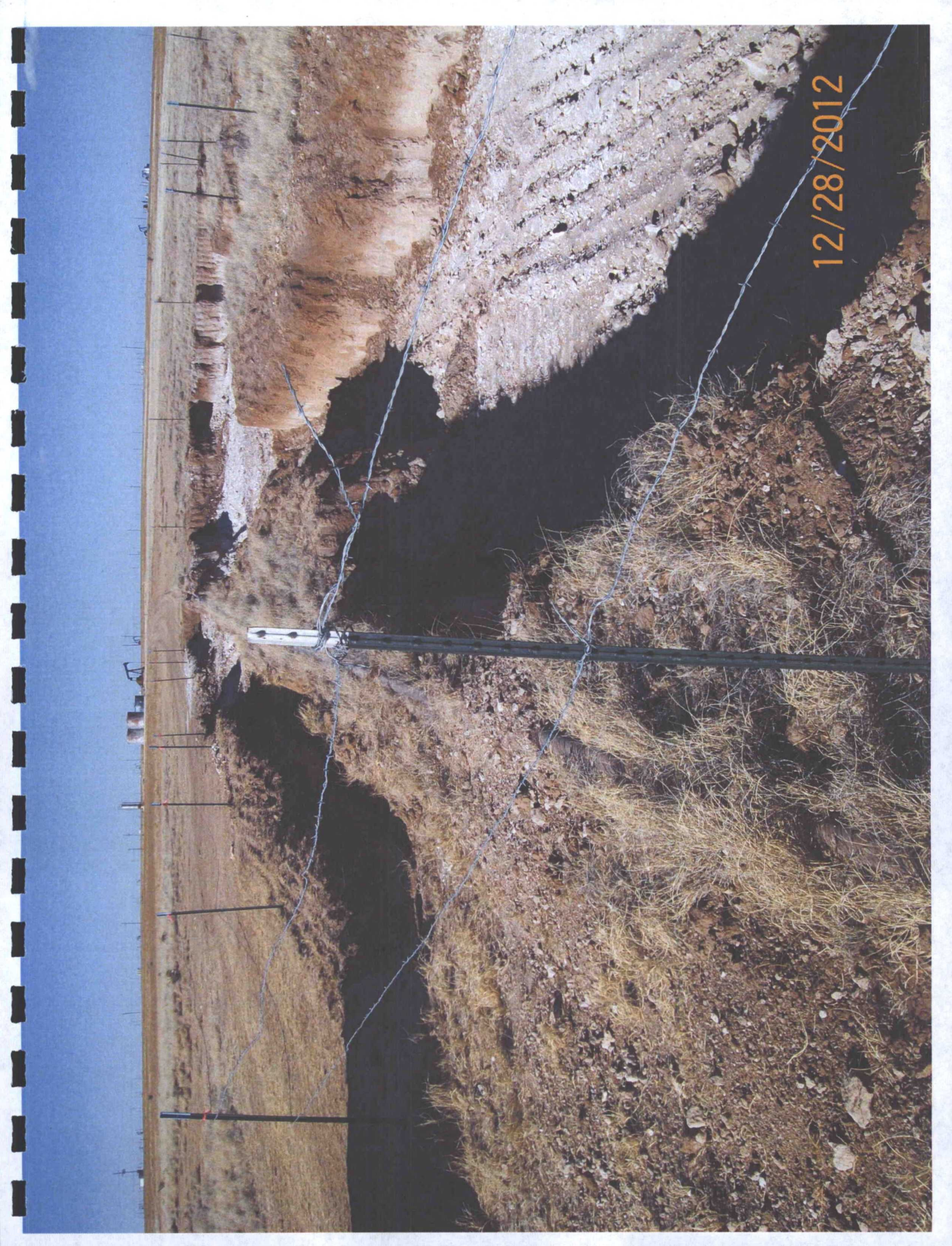
12/28/2012



12/28/2012



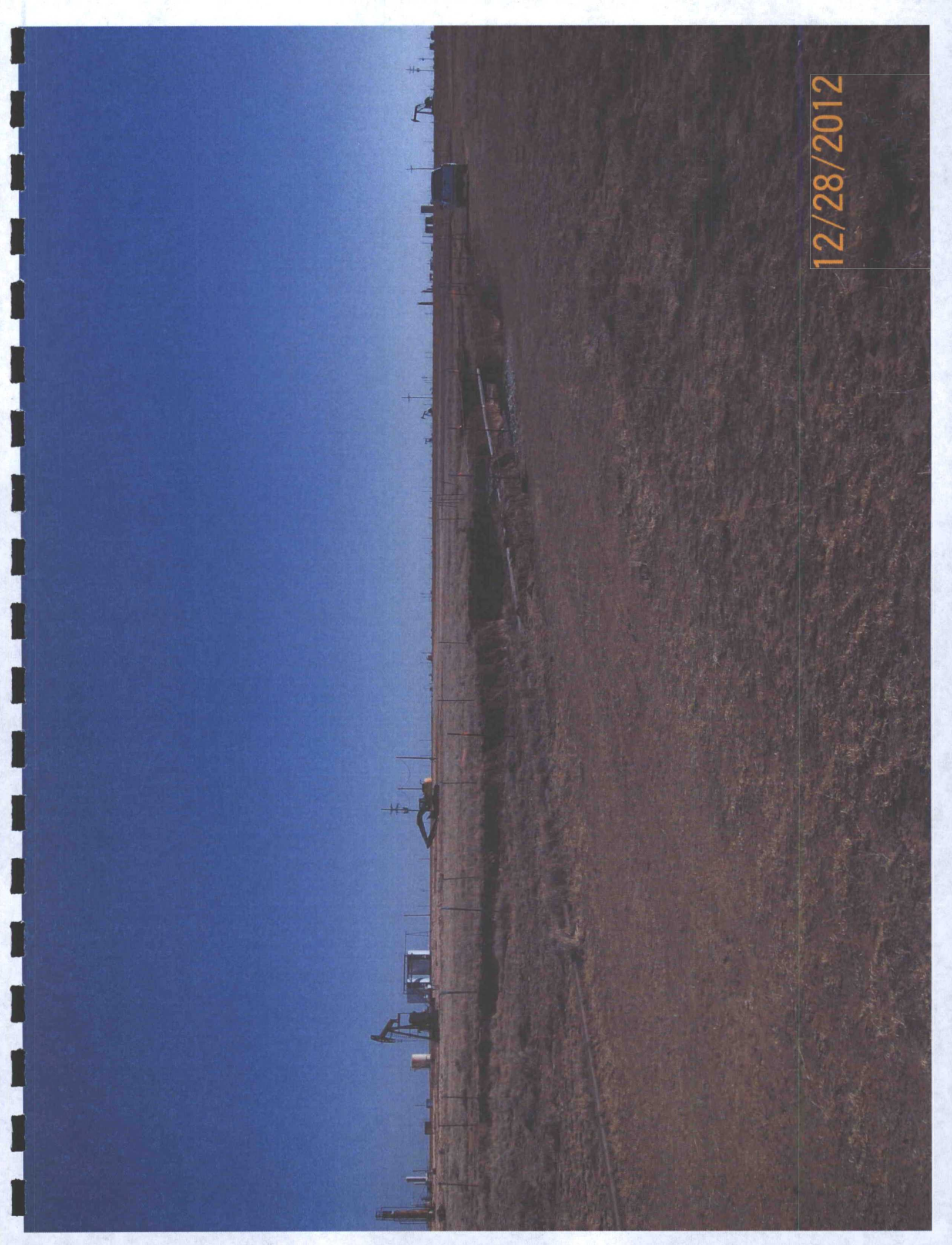
12/28/2012



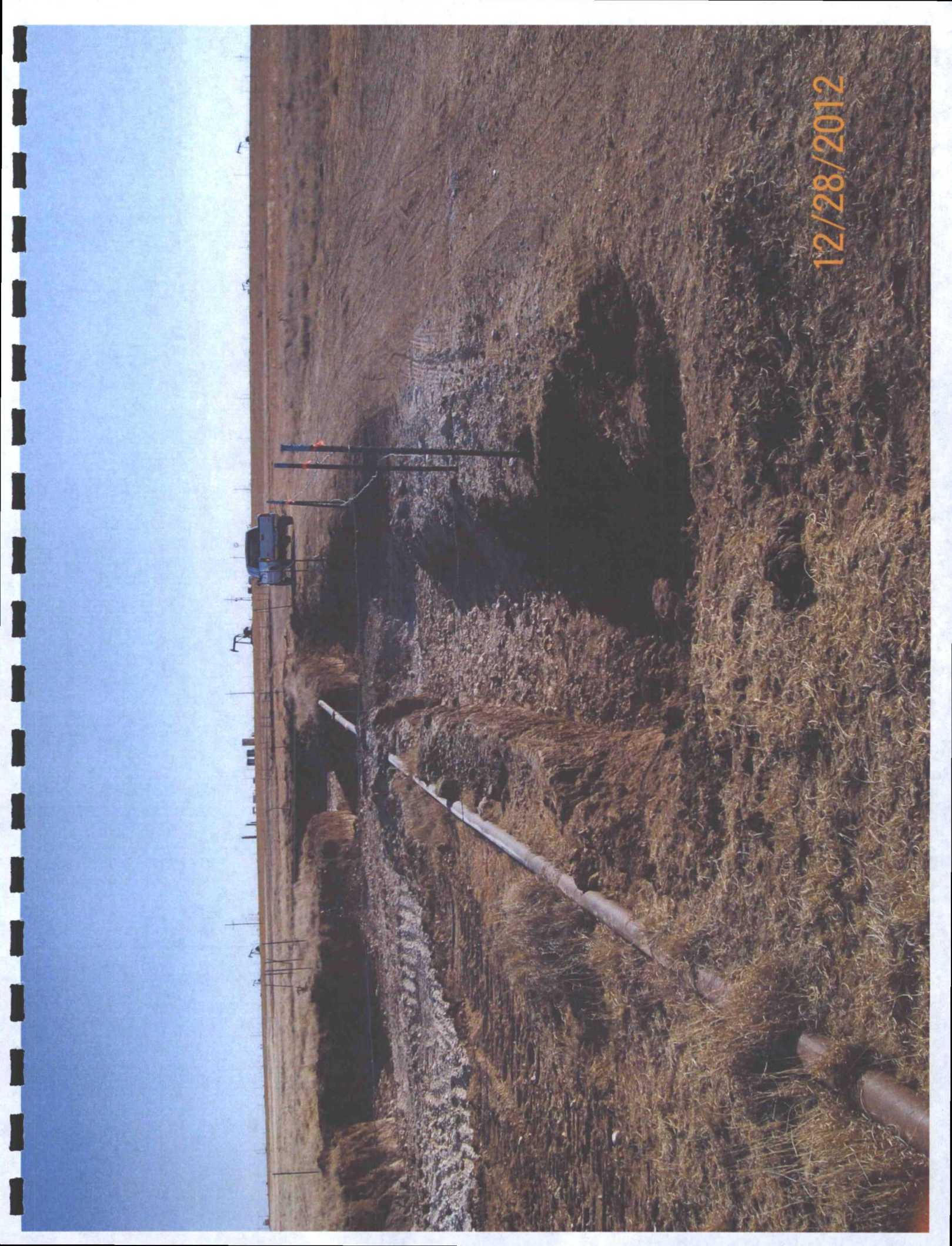
12/28/2012



12/28/2012



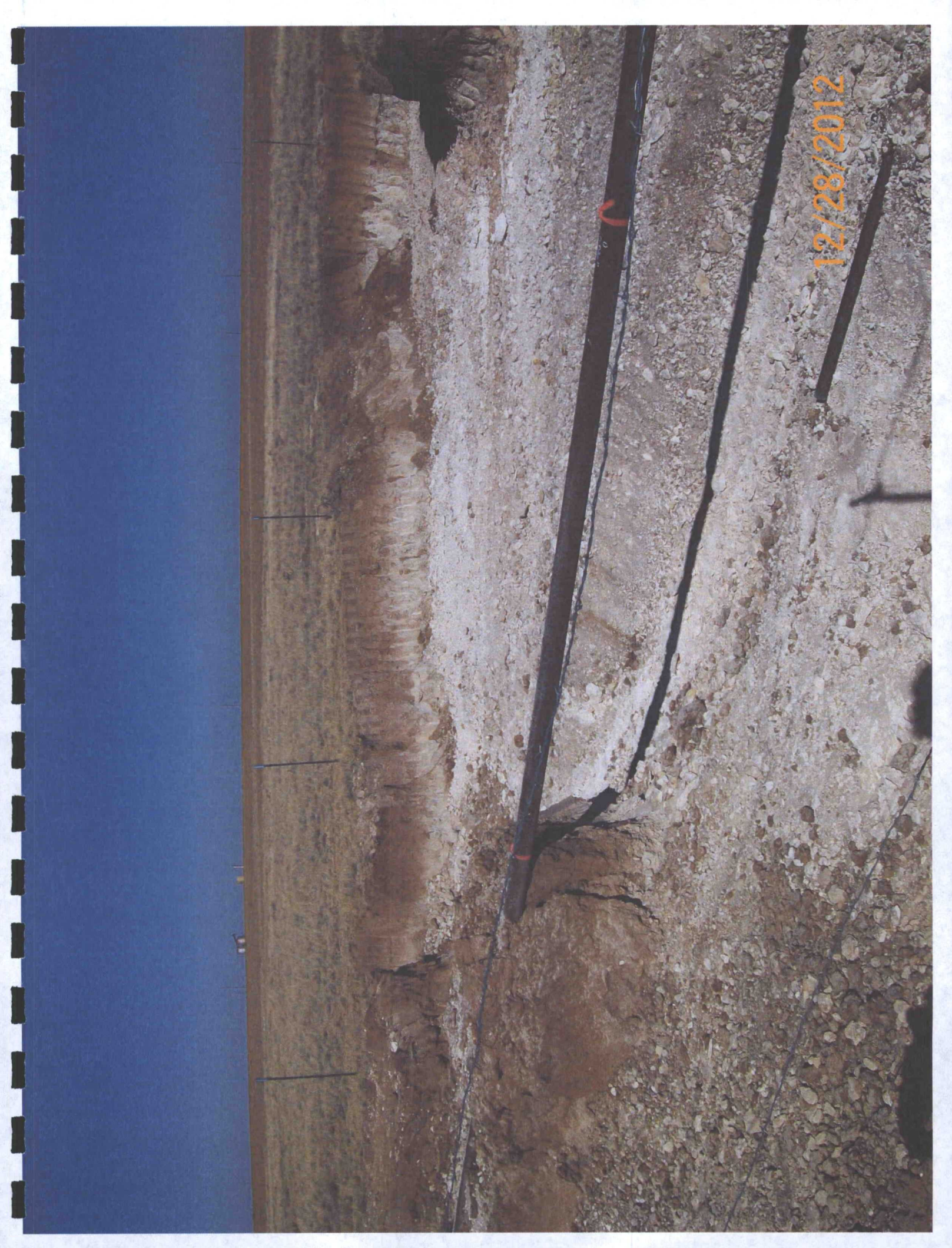
12/28/2012



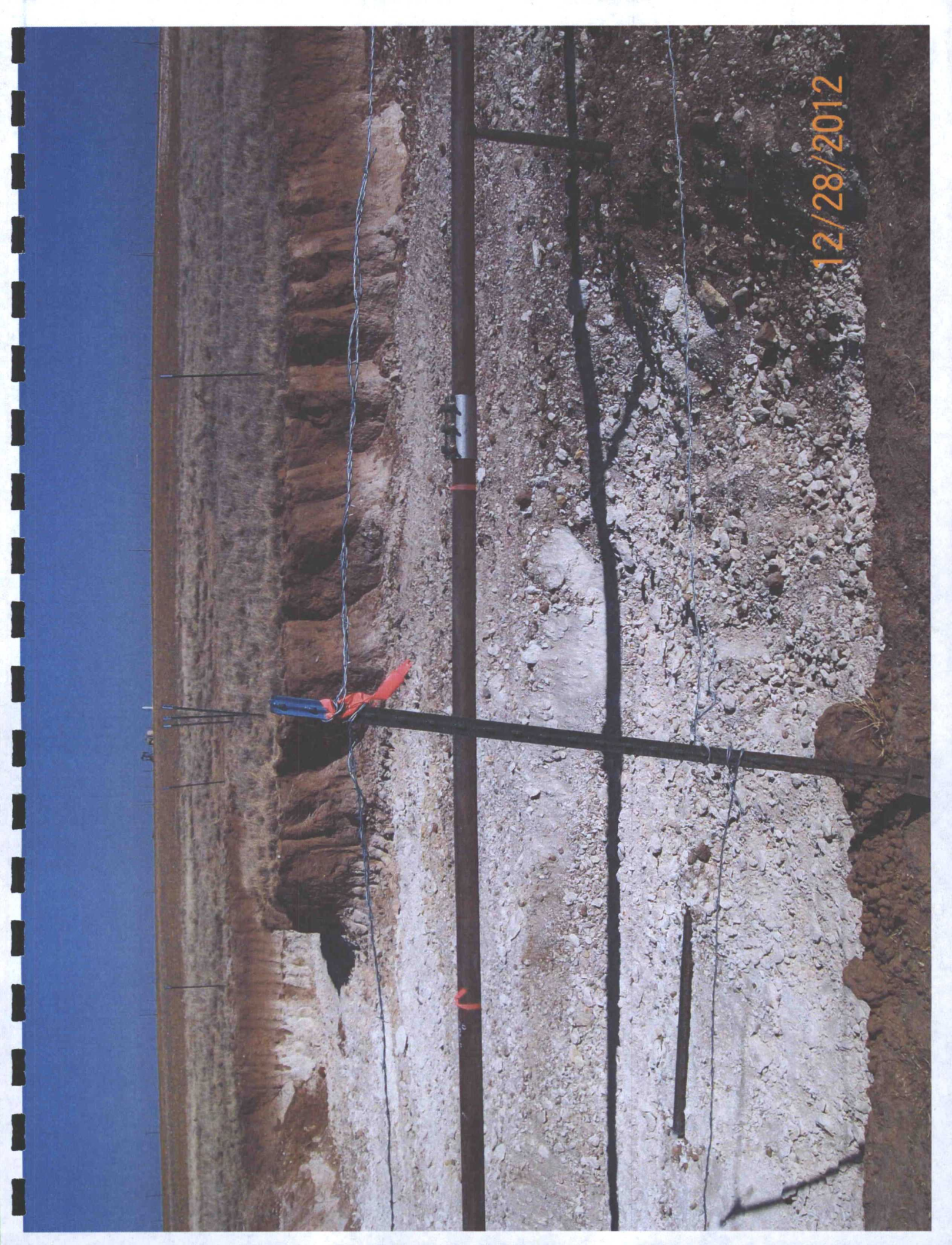
12/28/2012



12/28/2012



12/28/2012



12/28/2012



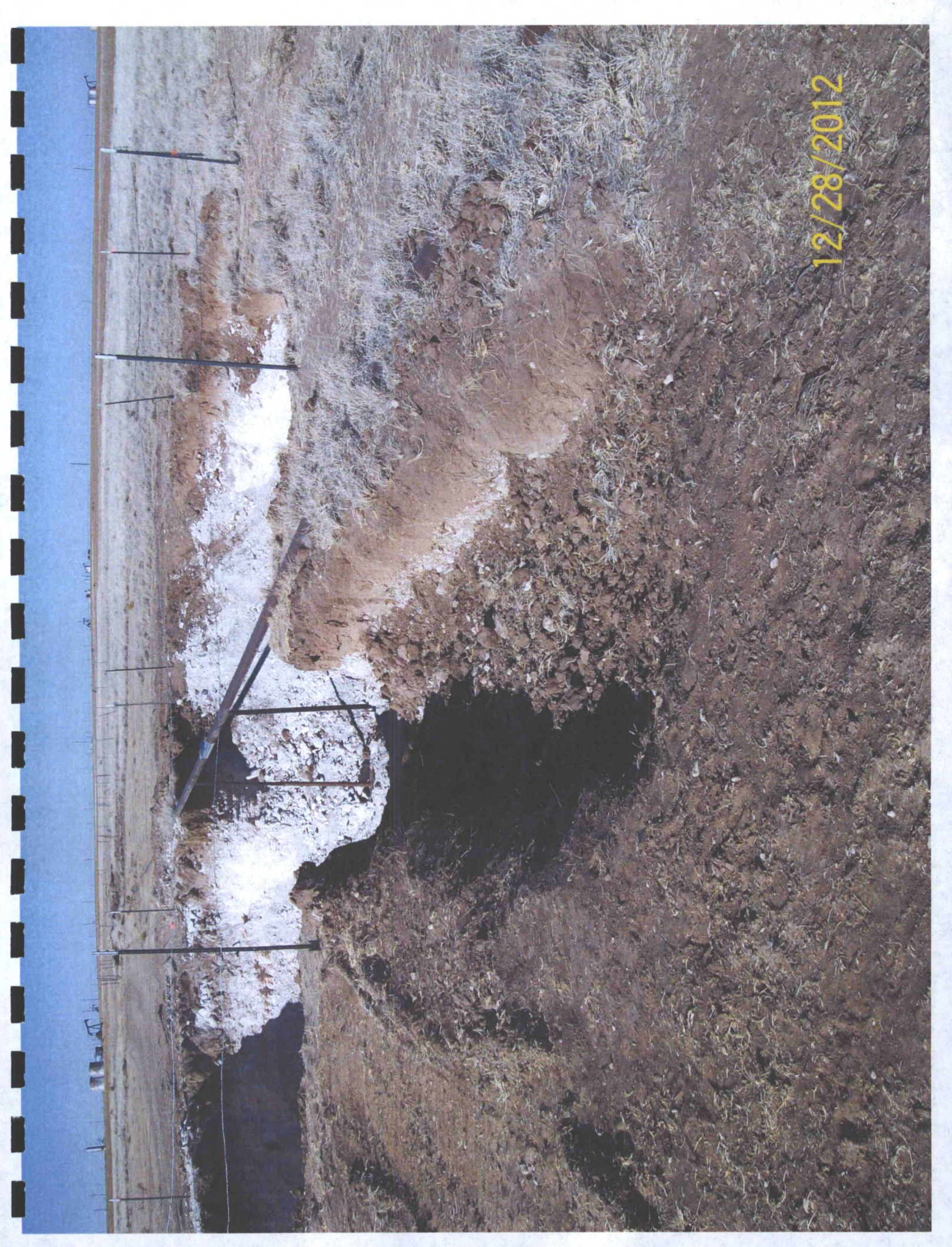
12/28/2012



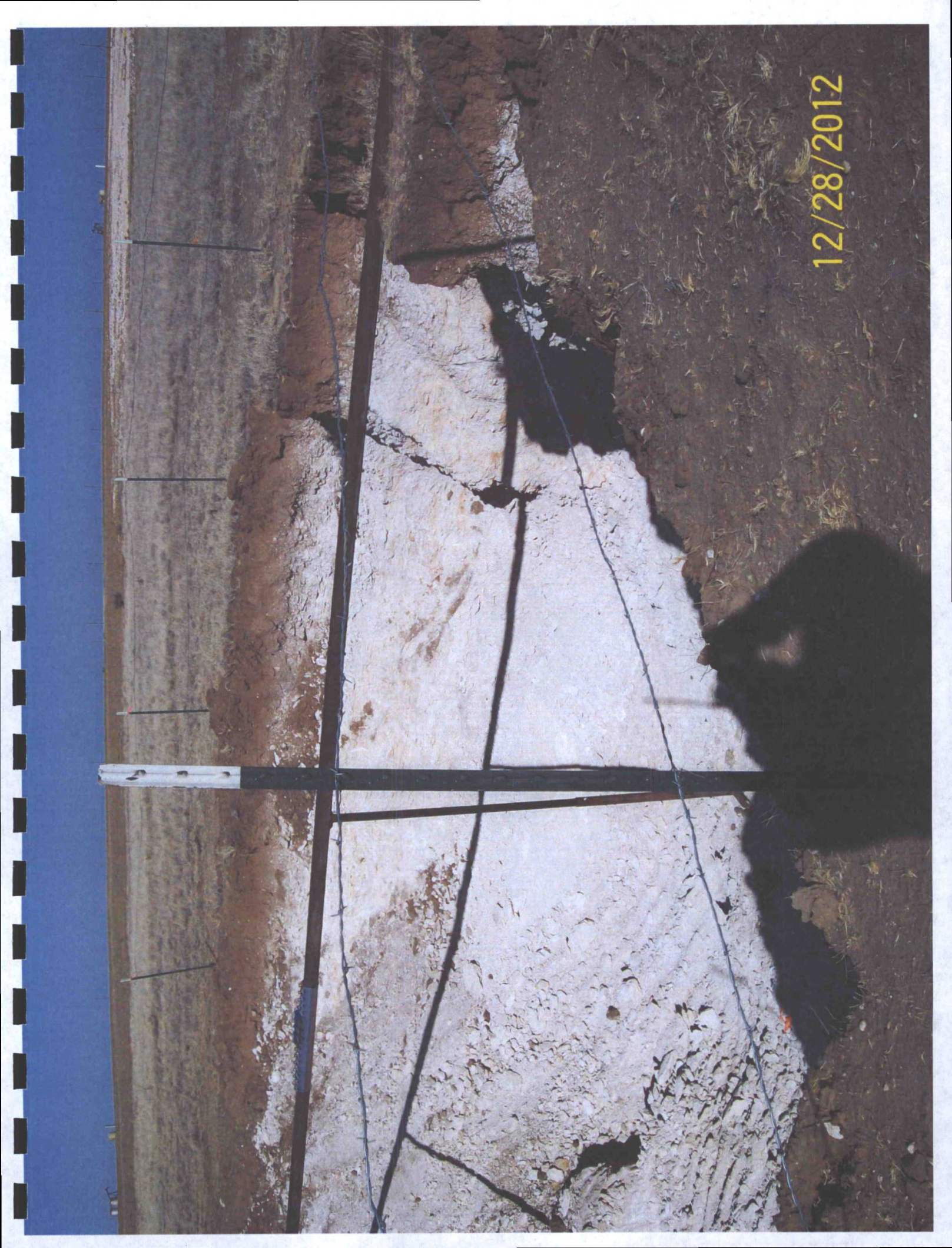
12/28/2012



12/28/2012



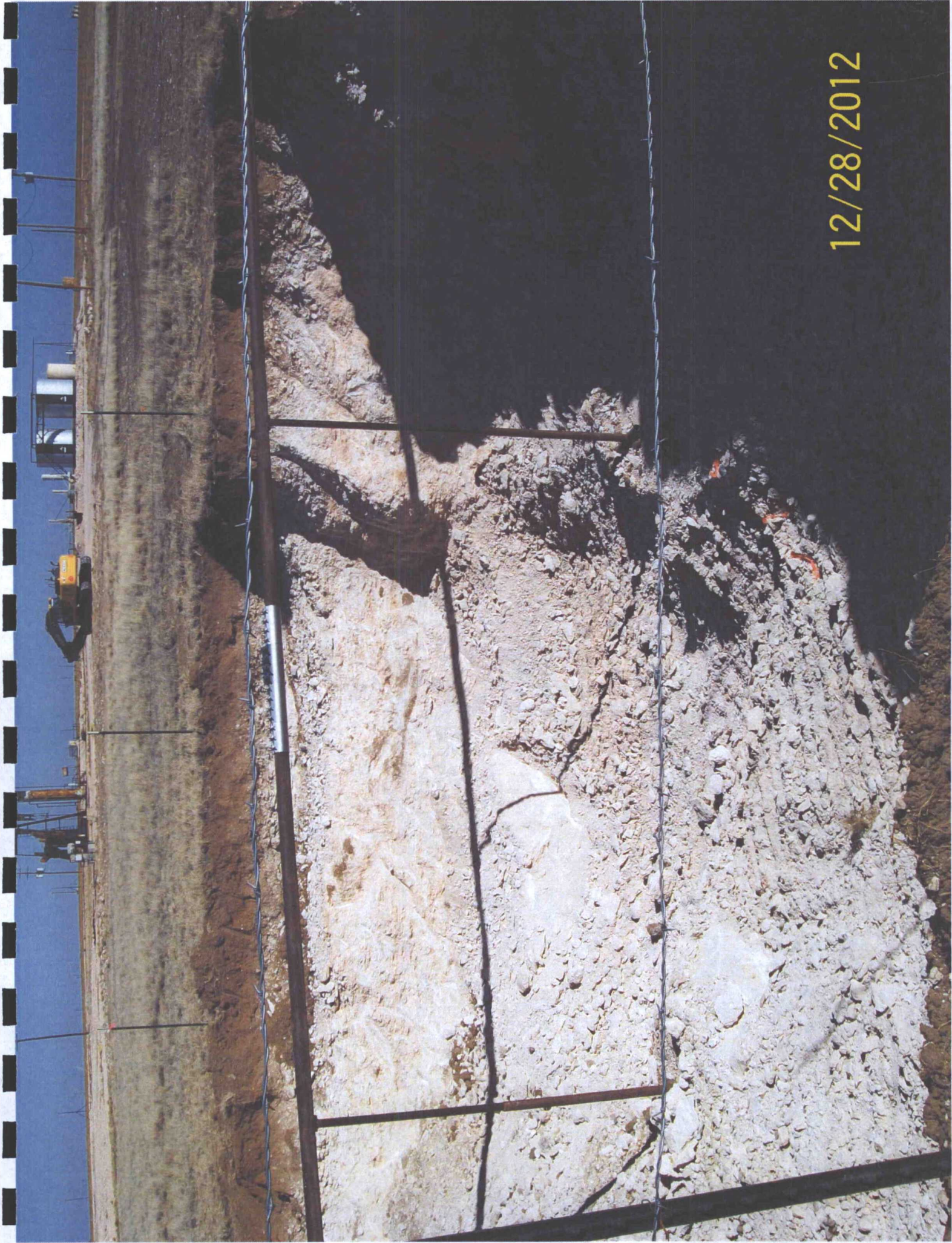
12/28/2012



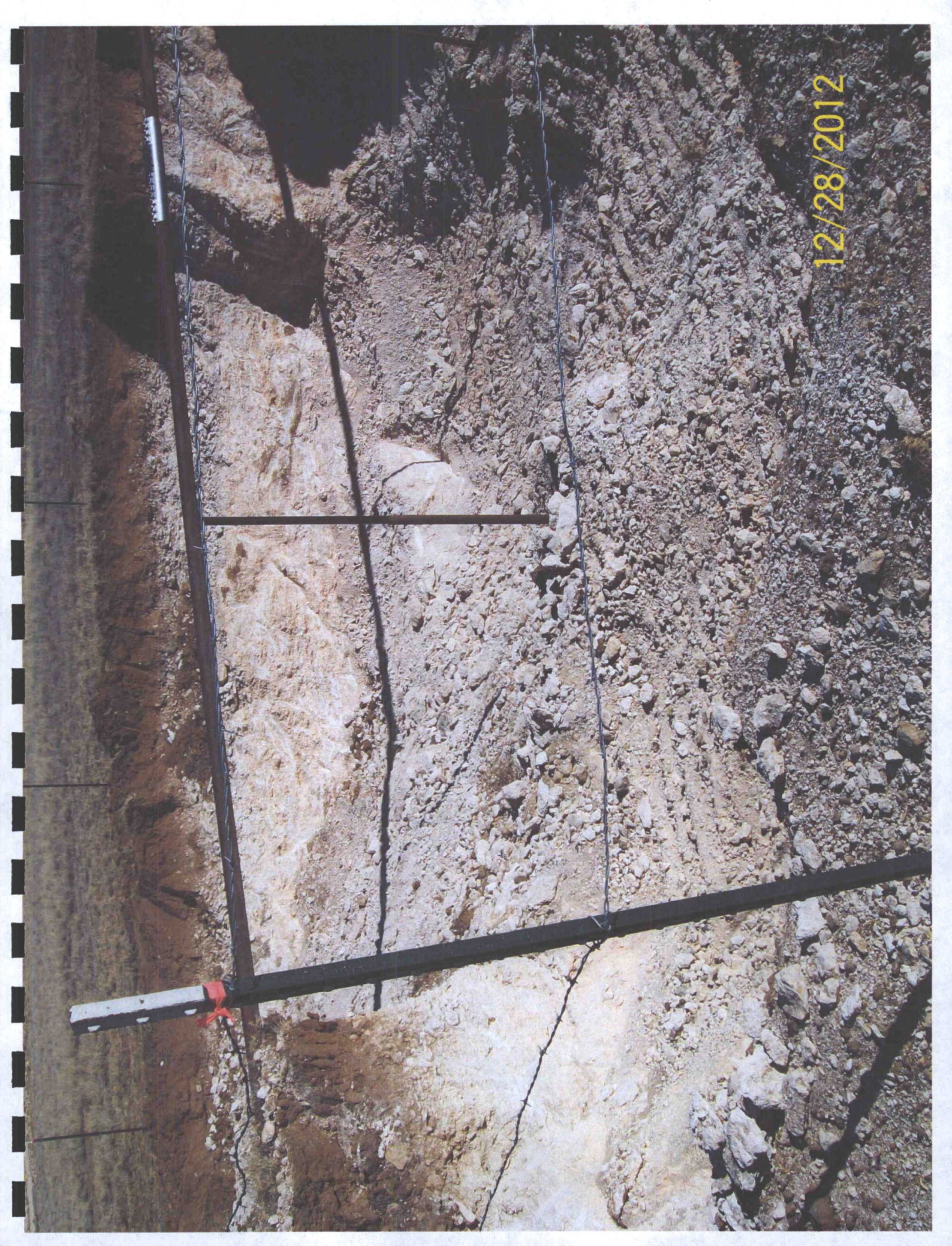
12/28/2012



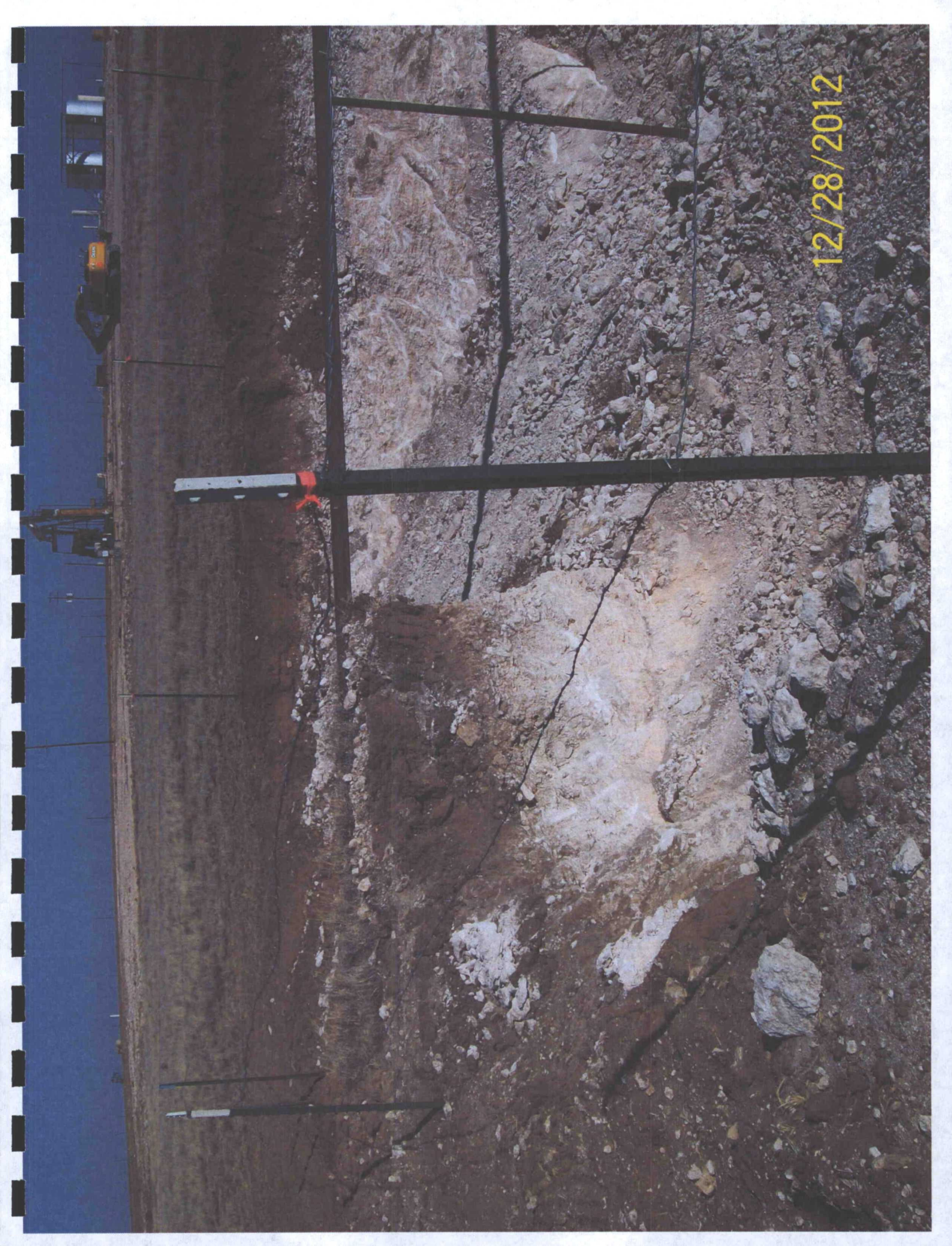
12/28/2012



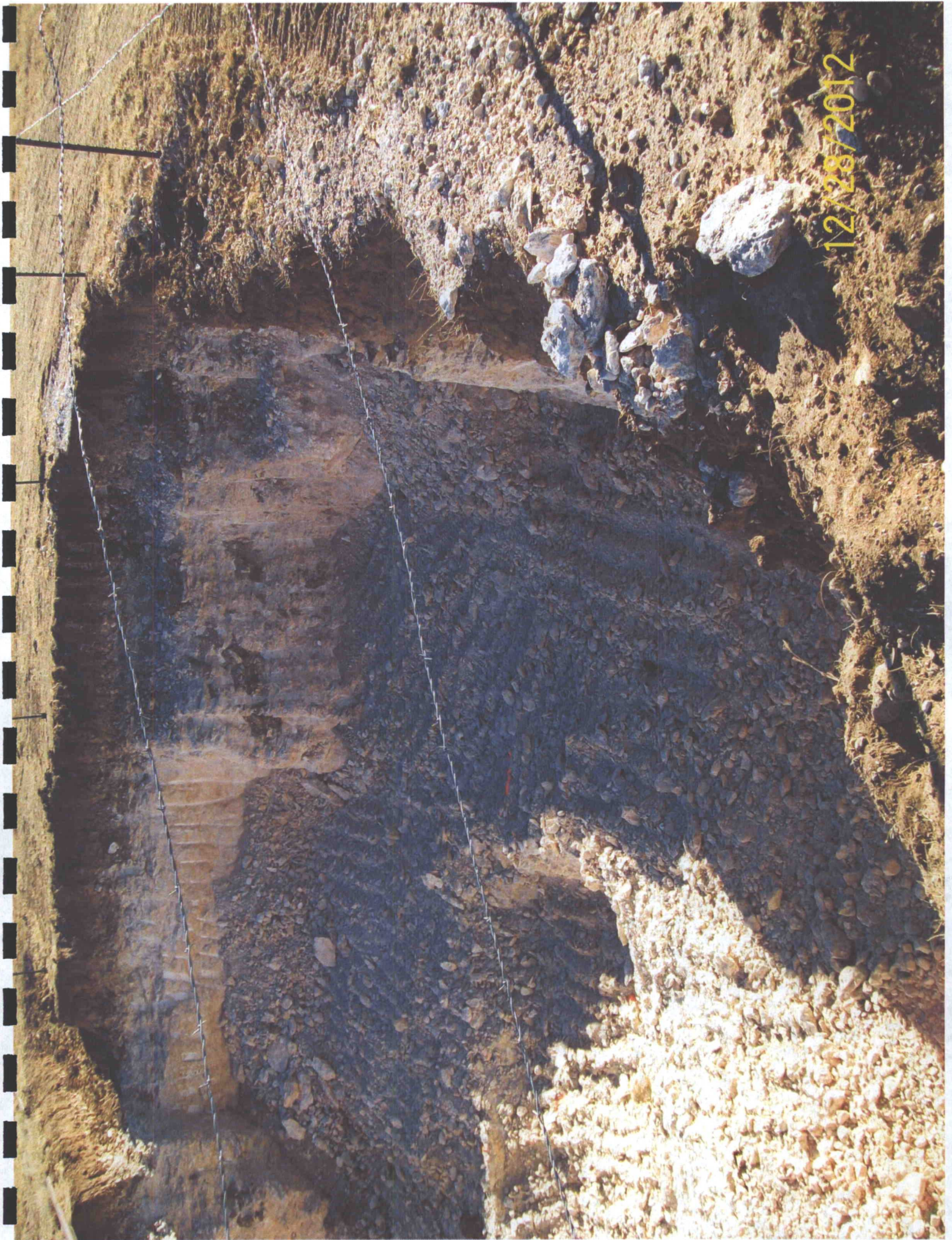
12/28/2012



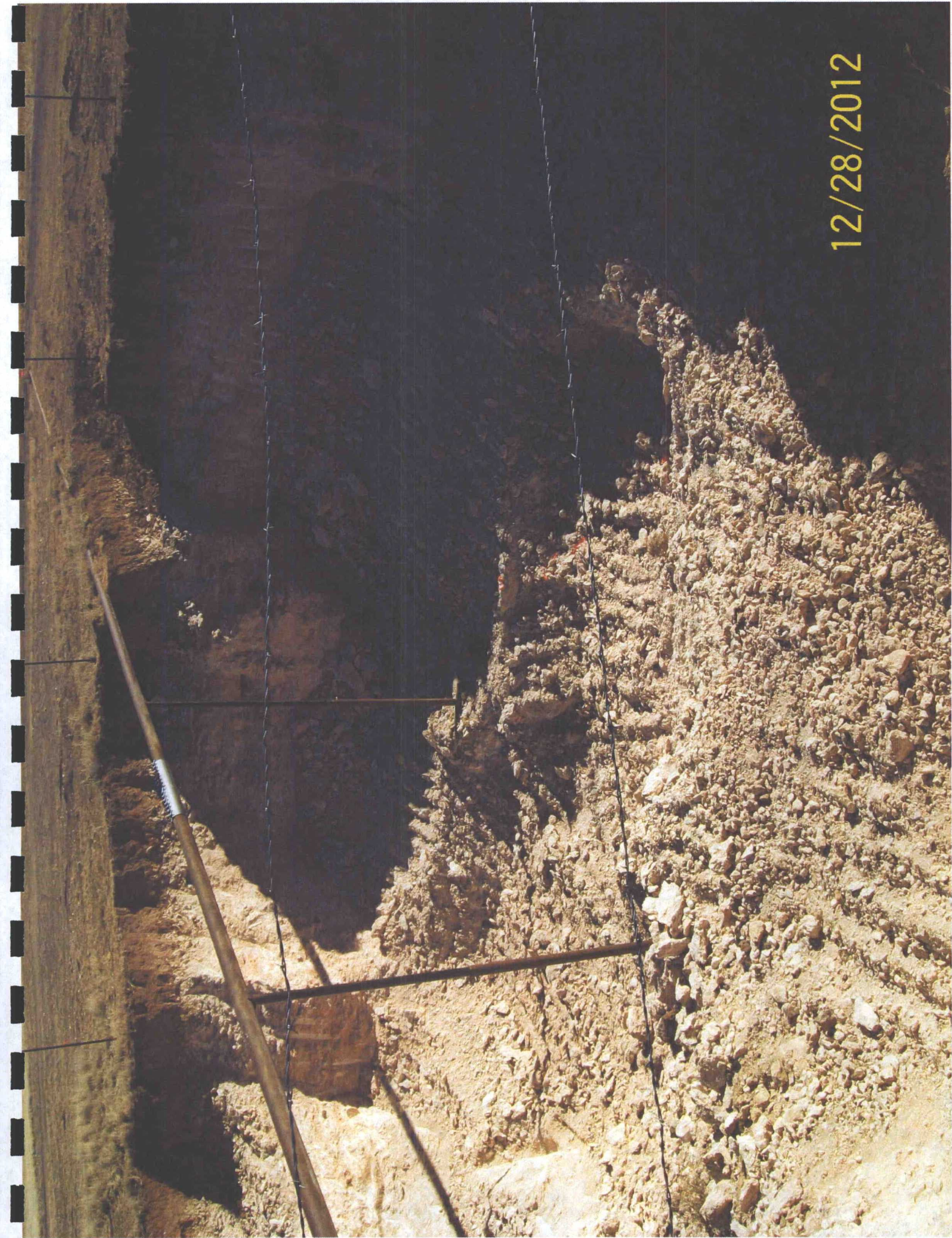
12/28/2012



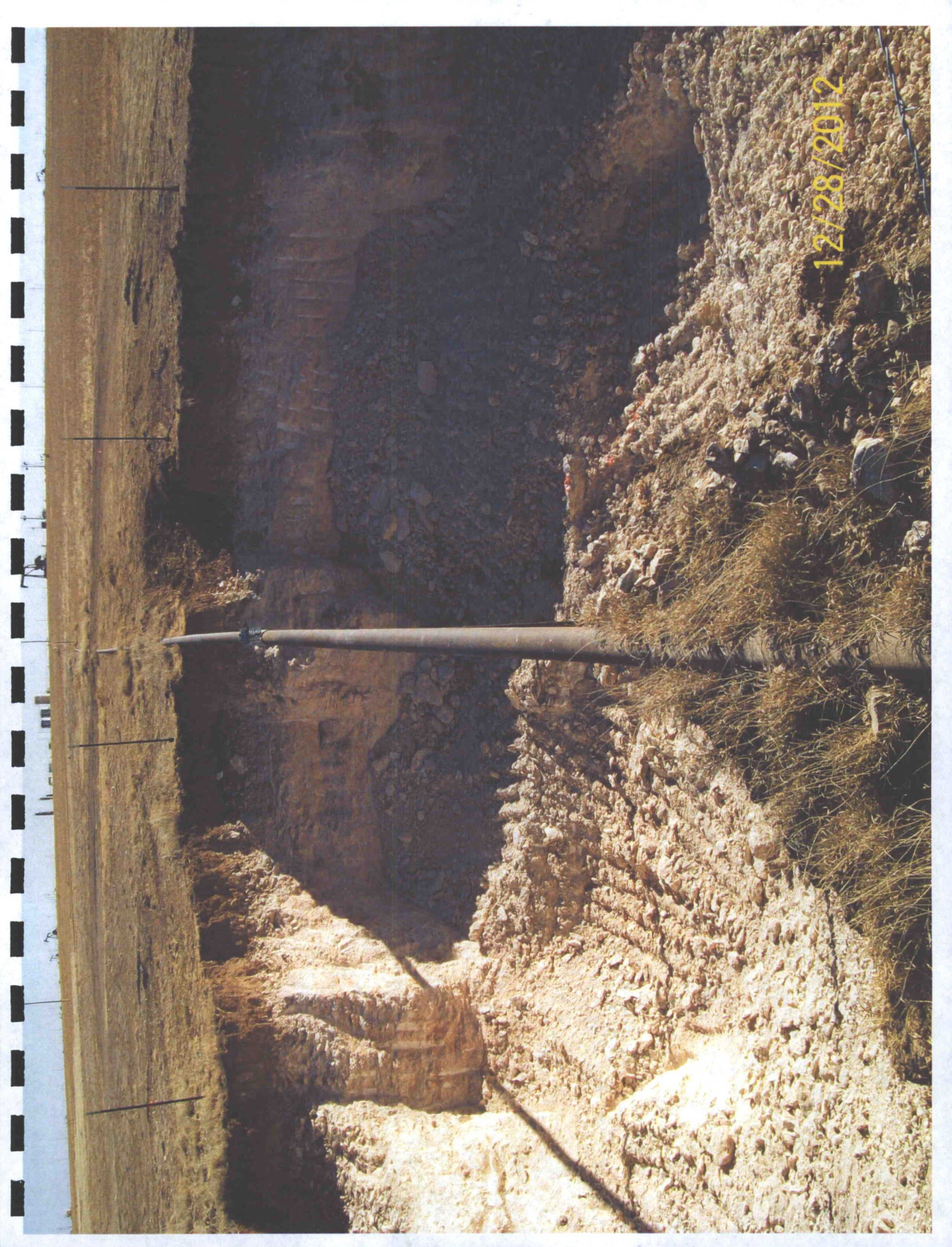
12/28/2012



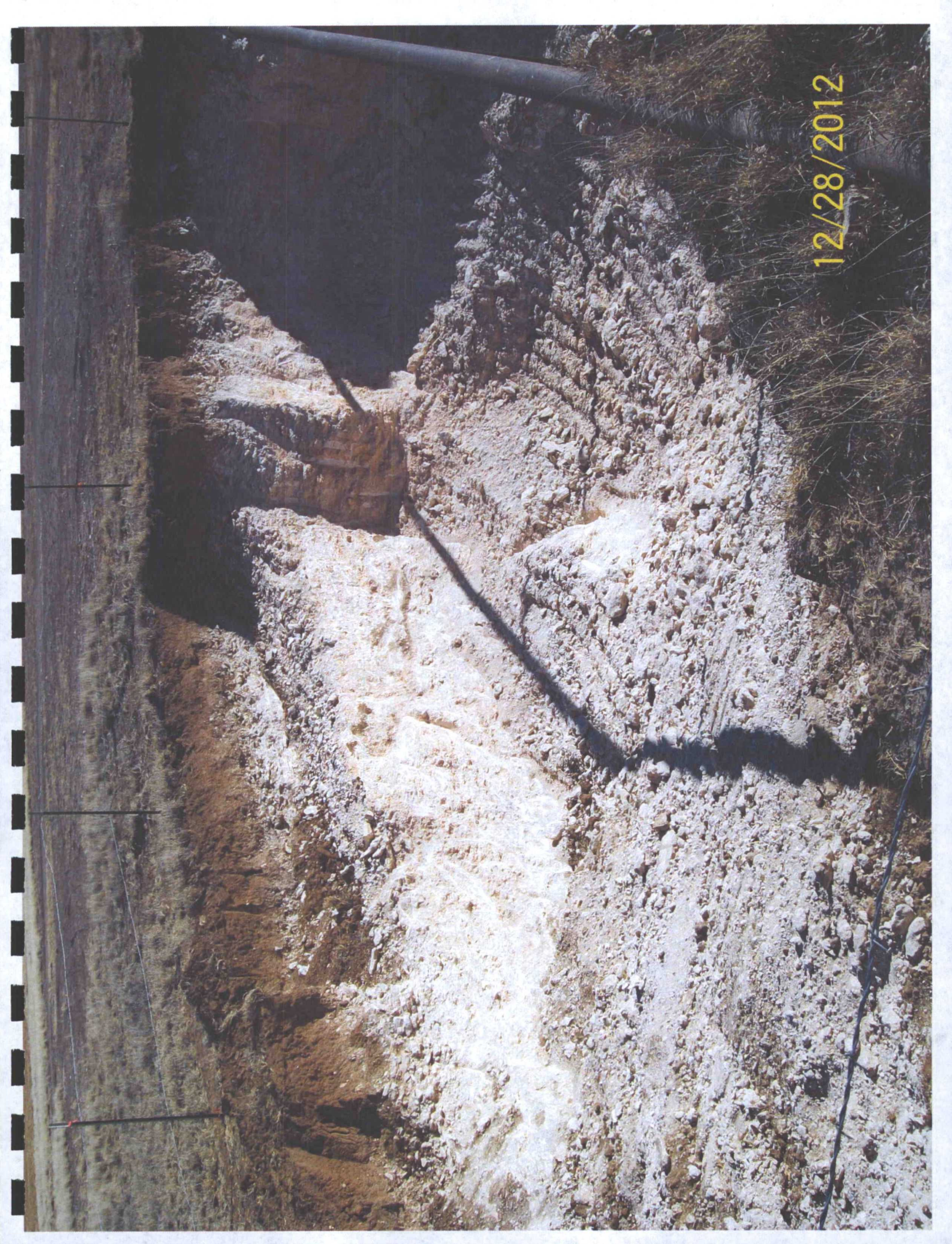
12/28/2012



12/28/2012



12/28/2012



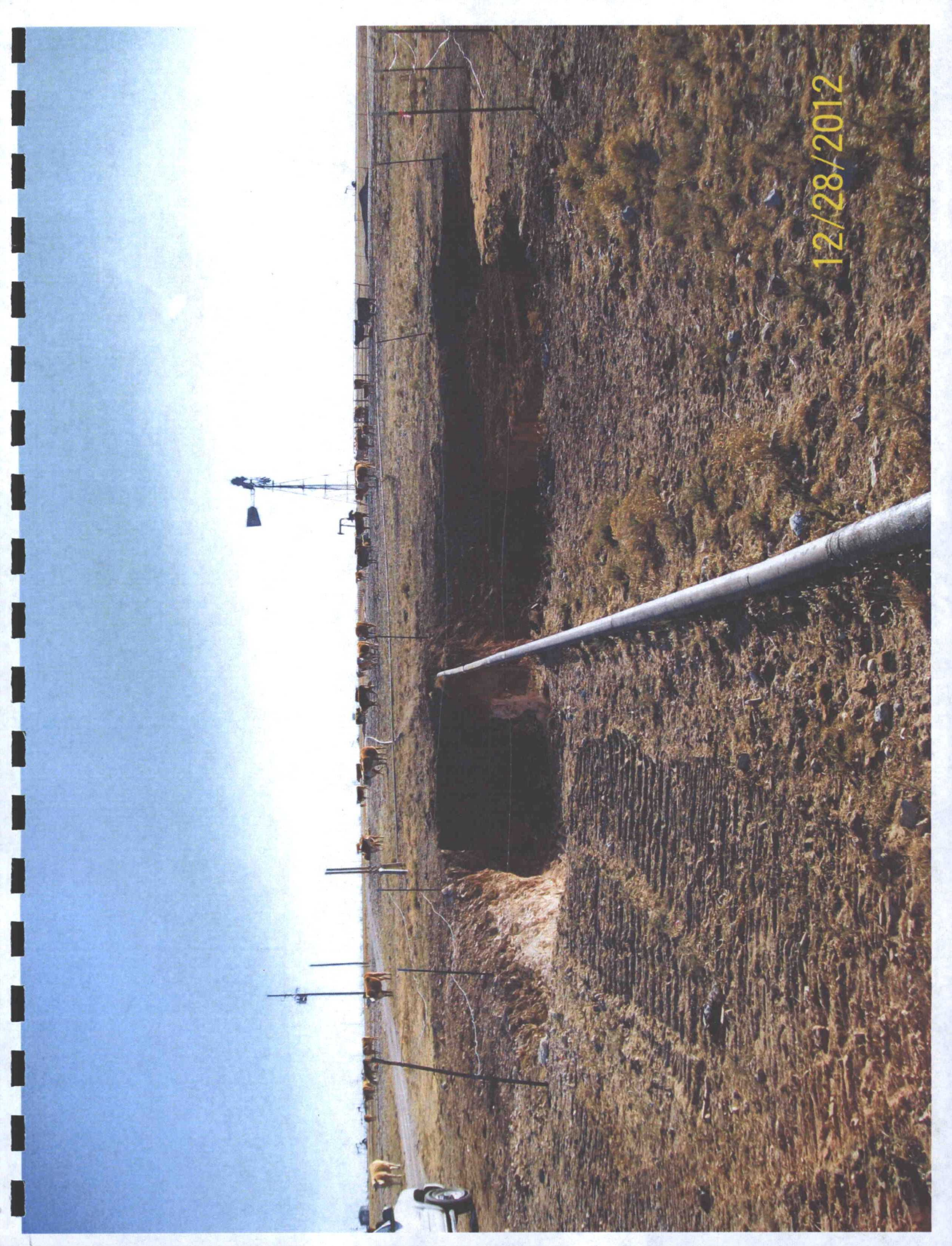
12/28/2012



12/28/2012



12/28/2012



12/28/2012



12/28/2012



12/28/2012

