

NM2 - 10

**APPROVED
SUPPLEMENTAL
BACKGROUND
SAMPLING
PLAN**

August 2015

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



August 18, 2015

Kelly Robinson
Western Refining Southwest, Inc.
111 County Road 4990
Bloomfield, New Mexico 87413

**RE: Supplement Facility Background Sampling Plan Review
Western Refining Southwest, Inc.
Bisti Landfarm
Permit NM2-010
Location: Unit F of Section 16, Township 25 North, Range 12 West, NMPM
San Juan County, New Mexico**

Dear Ms. Robinson:

The Oil Conservation Division (OCD) has completed the review of Western Refining Southwest, Inc.'s (Western) Supplement Facility Background Sampling Plan, dated July 24, 2015, to obtain additional background data to combine with the existing 1998 background data in order to complete vadose zone monitoring assessments to determine whether a release has occurred within the vadose zone. Based upon the information provided in the background sampling plan, Western's proposal is **hereby approved** with the following understandings and conditions:

1. Western shall comply with the applicable requirements of the Surface Waste Management Facilities Rule (19.15.36 NMAC), the Oil and Gas Act (Chapter 70, Article 2 NMSA 1978), Permit NM2-010, and all conditions specified in this approval;
2. OCD conditionally approves the "summation of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) determined by United States Environmental Protection Agency Method 8015 as a valid method for assessing total petroleum hydrocarbon (TPH) concentration in the vadose zone," if the test method is able to demonstrate a carbon range of C₆ through C₃₆, which OCD considers to be the equivalent to EPA Method 418.1.
3. Western shall obtain written approval from OCD prior to implementing any changes to the July 24, 2015 Supplement Facility Background Sampling Plan.

Ms. Robinson
Permit NM2-010
August 18, 2015
Page 2 of 2

Please be advised that approval of this request does not relieve Western of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve Western of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brad A. Jones', written over a horizontal line.

Brad A. Jones
Environmental Engineer

BAJ/baj

cc: OCD District III Office, Aztec



LOGISTICS

July 24, 2015

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

RECEIVED 000

2015 JUL 29 PM 1:32

FedEx Tracking #: 7741 4321 1764

**RE: Background Sampling Plan
Bisti Landfarm 711 Permit NM-02-0010
San Juan County, New Mexico**

Dear Mr. Jones:

Western Refining Southwest, Inc. (Western) is submitting the above reference Plan pursuant to two comment letters received from the New Mexico Oil Conservation Division (NMOCD) dated May 29th, and June 3rd, 2015, regarding the Bisti Landfarm 2014 Annual Sampling Report and the May 2014 Release Response Report, respectively. The purpose of the Background Sampling Plan is to obtain additional background data as needed to comply with 19.15.36.15.E NMAC. The additional data will be used to complete a vadose zone assessment, update the 2012 Five-Year Vadose Zone Monitoring Report, update the most recent Quarterly Monitoring Report dated June 2015, and incorporate into the revised Release Response Plan currently being submitted to NMOCD under a separate cover by way of an addendum.

As allowed by the NMOCD in the May 29, 2015 letter, Western requests NMOCD approval to recognize the summation of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) determined by United States Environmental Protection Agency Method 8015 as a valid method for assessing total petroleum hydrocarbon (TPH) concentration in the vadose zone. This analytical method includes a carbon range of C₆ to C₃₆ as required for NMOCD approval.

Western's scheduling of fieldwork is contingent upon approval of this Background Sampling Plan by the NMOCD. Western intends to conduct the described background sampling activities within two weeks of the receipt of NMOCD approval, and a schedule of reporting is proposed in the attached document based on receipt of laboratory analytical results.

If you have any questions or comments regarding this Background Sampling Plan, please do not hesitate to contact me at (505) 632-4166 or Kelly.Robinson@wnr.com.

Sincerely,

Kelly R. Robinson
Environmental Manager
Western Refining Southwest, Inc.

WNR
NYSE

BACKGROUND SAMPLING PLAN
BISTI LANDFARM 711 PERMIT NM-02-0010
SAN JUAN COUNTY, NEW MEXICO

JUNE 2015

Prepared for:

WESTERN REFINING SOUTHWEST, INC.
111 County Road 4990
Bloomfield, New, Mexico 87413



Prepared by:

LT ENVIRONMENTAL, INC.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
(970) 385-1096



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APPENDIX A HISTORICAL LABORATORY ANALYTICAL RESULTS

1.0 INTRODUCTION

LT Environmental, Inc. (LTE) was contracted by Western Refining Southwest, Inc. (Western) to develop a Background Sampling Plan to update the existing background data for the Bisti Landfarm, Permit Number NM-02-0010. The Bisti Landfarm was permitted in February 1998 under the New Mexico Oil and Gas Conservation Division (NMOCD) Rule 711 to Giant Industries, Arizona (Giant). In 2007, the NMOCD passed new rules (19.15.36 of the New Mexico Administrative Code [NMAC] [Rule 36]) pertaining to surface waste management facilities and required site compliance with the transitional provisions of Rule 36. This report presents a Background Sampling Plan to establish background concentrations for analytes required for a complete vadose zone soil assessment in Rule 36.

2.0 SITE DESCRIPTION AND BACKGROUND

The Site is located in the northwest quarter of the southeast quarter of Section 16, Township 25 North, Range 12 West in San Juan County, New Mexico (Figure 1). Giant and Western disposed of impacted soil at the Bisti Landfarm resulting in three cells: API Cell, Crude Cell (containing material originating from Pettigrew, East Line, Bisti, and West Line source areas), and Cell 1 (Figure 2).

As part of the original Rule 711 application requirements, one background soil sample was collected on March 27, 1998, in the middle of the proposed landfarm from 2 feet below ground surface. Rule 711 required the soil sample be analyzed for arsenic, barium, cadmium, calcium, chromium, lead, magnesium, potassium, selenium, silver, sodium, mercury, sulfate, chloride, carbonate, bicarbonate, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons (TPH)-diesel range organics (DRO). The laboratory analytical results for the original background sample are presented in Table 1 and the laboratory report is included in Appendix A.

3.0 PROPOSED BACKGROUND SAMPLING ACTIVITIES

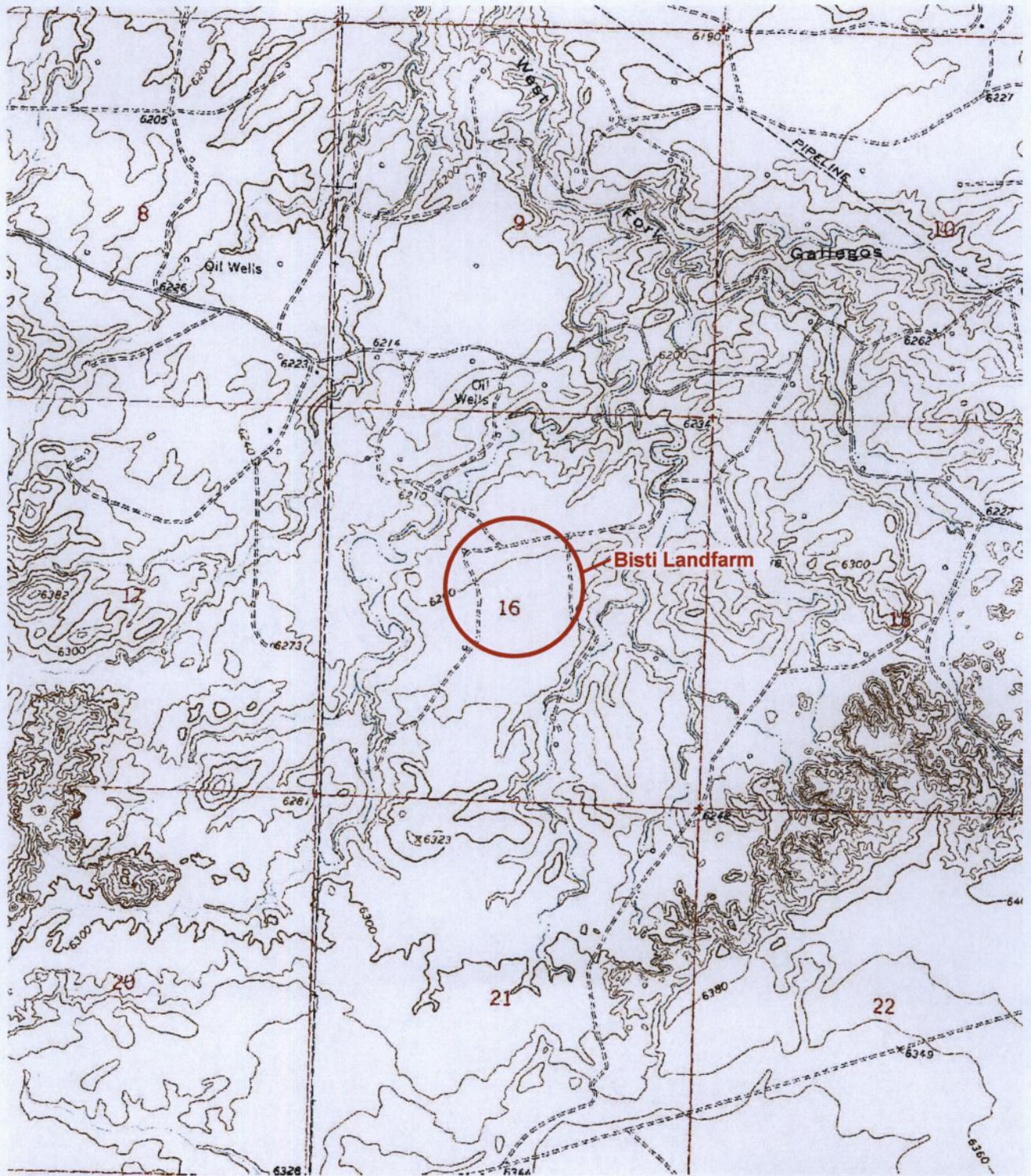
In order to update the existing background data set, Western proposes to collect one background soil sample according to the sampling protocol required in the original Rule 711 Permit to establish background concentrations for additional analytes required for a complete vadose zone soil assessment by Rule 36.

Western will collect one soil sample west of the landfarm from two feet below the native ground surface. The proposed sample location is outside the fenced area of current and historical landfarm activities and topographically higher than the landfarm. LTE determined the proposed location to be the least likely upgradient location to be potentially affected by current and historical oil and gas activities to the east, southeast, and southwest. The proposed sampling location is depicted on Figure 2. The soil sample will be analyzed for constituents listed in subsections A and B of 20.6.2.3103 of the NMAC. The proposed parameters and associated analytical methods are listed in Table 2.

4.0 SCHEDULE

Western's scheduling of fieldwork is contingent upon response to this Plan from the NMOCD. Western intends to conduct the described background sampling activities within two weeks of the receipt of NMOCD approval of this background sampling plan. As required in the letter from NMOCD dated June 3, 2015, Western will provide the additional background results in an amendment to the 2012 Five-Year Vadose Zone Assessment. The amendment will consist of a revised table showing all existing and new background data compared to the laboratory results of the five-year vadose zone sampling event. The majority of the laboratory analyses will require a minimum of three weeks and the radionuclide analysis requires a minimum of 28 days in the laboratory; therefore, Western will submit the amendment within two weeks of receipt of all laboratory analysis.

FIGURES



LEGEND

 SITE LOCATION

IMAGE COURTESY OF USDA/NRCS, VARIOUS DATES

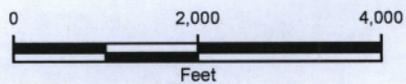


FIGURE 1
SITE LOCATION MAP
BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.





IMAGE COURTESY OF ESRI

LEGEND

- ▲ PROPOSED BACKGROUND SAMPLE LOCATION
- x — x FENCE
- - - - - APPROXIMATE SOURCE IDENTITY BOUNDARY
- ▭ CELL 1 BOUNDARY
- ▭ API CELL BOUNDARY
- ▭ CRUDE CELL BOUNDARY

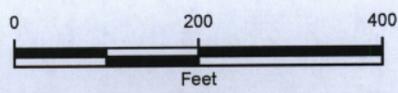


FIGURE 2
PROPOSED BACKGROUND SAMPLE LOCATION MAP
BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.



TABLES

TABLE 1
Background Laboratory Analytical Results
Bisti Landfarm
Western Refining Southwest, Inc.

ANALYTE	UNIT	BACKGROUND SAMPLE
		27-Mar-98
Benzene	mg/kg	<0.05
Toluene	mg/kg	<0.05
Ethylbenzene	mg/kg	<0.05
Xylenes, Total	mg/kg	<0.05
DRO (C ₁₀ - C ₂₈)	mg/kg	<50
Arsenic	mg/kg	2.8
Barium	mg/kg	180
Cadmium	mg/kg	<1.3
Calcium	mg/kg	2,500
Bibarbonate	mg/kg	110
Carbonate	mg/kg	26
Chloride	mg/kg	<50
Chromium	mg/kg	<5.0
Lead	mg/kg	6.8
Magnesium	mg/kg	1,300
Mercury	mg/kg	<0.5
Potassium	mg/kg	810
Selenium	mg/kg	<2.5
Silver	mg/kg	<1.3
Sodium	mg/kg	90
Sulfate	mg/kg	140

Notes:

DRO - diesel range organics

mg/kg - milligrams per kilograms

< - indicates result is less than the stated method reporting limit

TABLE 2
Proposed Background Analytes and Methods
Bisti Landfarm
Western Refining Southwest, Inc.

PROPOSED ANALYTE	PROPOSED METHOD
Carbon tetrachloride	EPA Method 8260B
1,2-Dichloroethane (EDC)	EPA Method 8260B
1,1-dichloroethylene (1,1-DCE)	EPA Method 8260B
1,1,2,2-Tetrachloroethylene (PCE)	EPA Method 8260B
1,1,2-Trichloroethylene (TCE)	EPA Method 8260B
Methylene chloride	EPA Method 8260B
Chloroform	EPA Method 8260B
1,1-Dichloroethane	EPA Method 8260B
Ethylene Dibromide (EDB)	EPA Method 8260B
1,1,1-Trichloroethane	EPA Method 8260B
1,1,2-Trichloroethane	EPA Method 8260B
1,1,2,2-Tetrachloroethane	EPA Method 8260B
Vinyl chloride	EPA Method 8260B
Aroclor 1016	EPA Method 8082
Aroclor 1221	EPA Method 8082
Aroclor 1232	EPA Method 8082
Aroclor 1242	EPA Method 8082
Aroclor 1248	EPA Method 8082
Aroclor 1254	EPA Method 8082
Aroclor 1260	EPA Method 8082
Radium 226	EPA Method 901.1
Radium 228	EPA Method 901.1
Phenol	EPA Method 9065
Naphthalene	EPA Method 8310
1-Methylnaphthalene	EPA Method 8310
2-Methylnaphthalene	EPA Method 8310
Benzo(a)pyrene	EPA Method 8310
GRO (C ₆ - C ₁₀)	EPA Method 8015M
MRO (C ₂₈ - C ₃₆)	EPA Method 8015M
Total Petroleum Hydrocarbons	EPA Method 418.1
Copper	EPA Method 6010 B
Iron	EPA Method 6010 B
Manganese	EPA Method 6010 B
Uranium	EPA Method 6010 B
Zinc	EPA Method 6010 B
pH	SM4500 - H-B
Fluoride	EPA Method 300.0
Nitrogen, Nitrate (As N)	EPA Method 300.0
Cyanide	EPA Method 335.4

Notes:

DRO - diesel range organics

EPA - United State Environmental Protection Agency

GRO - gasoline range organics

MRO - motor oil range organics

APPENDIX A
HISTORICAL LABORATORY ANALYTICAL RESULTS



Chain of Custody Record — Nonchemical Samples

210 West Sand Bank Road
P.O. Box 230
Columbia, IL 62236-0230

(618) 281-7473 Phone 505 326 2862
(618) 281-5120 FAX 2388

COC Serial No. **G 8630**

Project Name GIANT-LANDFARM BASELINE				Lab Name TRACE ANALYSIS, INC.			
Project Number 16958 Phase - Task				Location EL PASO, TX			
Samplers D. CESARK				(EFH) ^{TP} Analysis Type			
Sample Number	Date	Time	Matrix	8015/ 8020	HEAVY METALS	CATIONS ANIONS	Comments
BL-1	3/27/98	9:25	SOIL	X	X	X	2 4-OZ. JARS
	981171						* EPA 875 SULFATE
							" 32512 CHLORIDE
							" 610 CALCIUM,
							MAGNESIUM, SODIUM,
							POTASSIUM,
							EPA 310.1 CARBONATE,
							BICARBONATE
							REGULAR (NORMAL
							T/A TIME

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
	3/27	14:20		3/28/98	10:00
	DC	DC			

Carrier: **UPS**

Airbill No. **N301 0214 268**

Shipping and Lab Notes:

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR PHILIP ENVIRONMENTAL

Attention: Dave Cesark
4000 Monroe Rd.
Farmington, NM 87401

Prep Date: 04/10/98
Analysis Date: 04/11/98
Sampling Date: 03/27/98
Sample Condition: Intact & Cool
Sample Received by: BW
Project Name: Giant - Landfarm
Baseline

April 15, 1998
Receiving Date: 03/28/98
Sample Type: Soil
Project No: 16958
Project Location: NA
COC# G 3630

TA#	FIELD CODE	DRO (mg/kg)
T95949/981171	BL-1	<50
METHOD BLANK		<50
REPORTING LIMIT		50
ICV		200
CCV		211
RPD		8
% Extraction Accuracy		80
% Instrument Accuracy		82

METHODS: EPA SW 846-8015 Diesel.
CHEMIST: MS
SPIKE: 250 mg/kg.
CV: 250 mg/L.



Director, Dr. Blair Leftwich

4-15-98

DATE

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
 4725 Rigley Avenue, Suite A
CLIENT PHILIP SERVICES
4000 MONROE ROAD
FARMINGTON, NM 87401

Lubbock, Texas 79424 800•378•1296
 El Paso, Texas 79922 888•588•3443
 E-Mail: lab@traceanalysis.com

806•794•1296 FAX 806•794•1298
 915•585•3443 FAX 915•585•4944

SAMPLE NO. : 981171
 INVOICE NO. : 22101871
 REPORT DATE: 04-10-98
 REVIEWED BY: *WJ*
 PAGE : 1 OF 2

CLIENT SAMPLE ID : BL-1
 SAMPLE TYPE: Soil
 SAMPLED BY: D Cesark
 SUBMITTED BY: D Cesark
 SAMPLE SOURCE ...: Giant-Landfarm Baseline
 ANALYST: K. Costa

AUTHORIZED BY : D. CESARK
 CLIENT P.O. : --
 SAMPLE DATE ...: 03-27-98
 SUBMITTAL DATE : 03-28-98
 EXTRACTION DATE: 04-07-98
 ANALYSIS DATE ..: 04-07-98

Petroleum Contaminants by 8020A

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<50.	ug/Kg	50.
Toluene	<50.	ug/Kg	50.
Ethylbenzene	<50.	ug/Kg	50.
Total Xylenes	<50.	ug/Kg	50.

ANALYTICAL RESULT(S) REPORTED HEREIN APPLY ONLY TO THE SAMPLE(S) TESTED. FURTHERMORE, THIS REPORT CAN ONLY BE COPIED IN ITS ENTIRETY.

(1) Copy to Client

W. J. Costa

TRACE ANALYSIS, INC.

CLIENT PHILIP SERVICES
4000 MONROE ROAD
FARMINGTON, NM 87401

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

SAMPLE NO. : 981171
INVOICE NO. : 22101871
REPORT DATE: 04-10-98
REVIEWED BY: *WJ*
PAGE : 2 OF 2

DATA TABLE (Cont.)

<u>Surrogate Information</u> -	<u>Percent Recovery</u>	<u>Range</u>
Trifluorotoluene	100.5	64-135

TRACE ANALYSIS, INC.

ANALYTICAL REPORT

CLIENT PHILIP SERVICES
 4000 MONROE ROAD
 FARMINGTON, NM 87401

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
 4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4844
 E-Mail: lab@traceanalysis.com

SAMPLE NO. : 981171
 INVOICE NO. : 22101871
 REPORT DATE: 04-14-98
 REVIEWED BY: *MC 7*
 PAGE : 1 OF 2

CLIENT SAMPLE ID : BL-1
 SAMPLE TYPE: Soil
 SAMPLED BY: D Cesark
 SUBMITTED BY: D Cesark
 SAMPLE SOURCE: Giant-Landfarm Baseline

AUTHORIZED BY : D. CESARK
 CLIENT P.O. : --
 SAMPLE DATE ...: 03-27-98
 SUBMITTAL DATE : 03-28-98
 EXTRACTION DATE: --

REMARKS -

Detection limit was raised as sample was analyzed diluted to avoid matrix interference for the following parameters: Cr and Se. Matrix spike and matrix spike duplicate were out of acceptance criteria range for Arsenic possibly due to matrix interference.

Inorganic Chemistry-Total Metals

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Arsenic	2.8	mg/Kg	1.3	03-30-98	SW 7060A	N. Munir
Total Barium	180	mg/Kg	25.	03-31-98	SW 7080A	N. Munir
Total Cadmium	<1.3	mg/Kg	1.3	03-31-98	SW 7130	N. Munir
Total Calcium	2500	mg/Kg	25.	03-31-98	SW 7140	N. Munir
Total Chromium	<5.0	mg/Kg	5.0	03-31-98	SW 7190	N. Munir
Total Lead	6.8	mg/Kg	4.0	03-31-98	SW 7420	N. Munir
Total Magnesium	1300	mg/Kg	25.	03-31-98	SW 7450	N. Munir
Total Mercury	<0.50	mg/Kg	0.50	04-02-98	SW-7471	N. Munir

ANALYTICAL RESULTS REPORTED HEREIN APPLY ONLY TO THE SAMPLE(S) TESTED. FURTHERMORE, THIS REPORT CAN ONLY BE COPIED IN ITS ENTIRETY.

(1) Copy to Client

M. Munir

TRACE ANALYSIS, INC.

ANALYTICAL REPORT

CLIENT PHILIP SERVICES
 4000 MONROE ROAD
 FARMINGTON, NM 87401

6701 Aberdeen Avenue, Suite 9
 4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 800•378•1296
 El Paso, Texas 79922 888•588•3443
 E-Mail: lab@traceanalysis.com

806•794•1296 FAX 806•794•1298
 915•585•3443 FAX 915•585•4944

SAMPLE NO. : 981171
 INVOICE NO.: 22101871
 REPORT DATE: 04-14-98
 REVIEWED BY: *MCJ*
 PAGE : 2 OF 2

DATA TABLE (Continue)

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Potassium	810	mg/Kg	25.	03-31-98	SW 7610	N. Munir
Total Selenium	<2.5	mg/Kg	2.5	03-31-98	SW 7741A	N. Munir
Total Silver	<1.3	mg/Kg	1.3	03-31-98	SW 7760A	N. Munir
Total Sodium	90.	mg/Kg	25.	03-21-98	SW 7770	N. Munir
Sulfate	140	mg/Kg	50.	04-06-98	EPA-300.0	A. Donohue
Chloride	<50.	mg/Kg	50.	04-06-98	EPA-300.0	A. Donohue
Carbonate	26.	mg/Kg	5.0	04-06-98		A. Donohue
Bicarbonate	110	mg/Kg	5.0	04-06-98		A. Donohue

(1) Copy to Client