3R - 258

REPORTS

DATE:

April 28, 1999

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

April 28, 1999

Mr. William C. Olson, Hydrologist
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: Giant Industries Arizona, Inc.
Soil Lead Survey - Bloomfield Crude Station
Bloomfield, New Mexico

Dear Mr. Olson:

On behalf of Giant Industries Arizona, Inc., Blagg Engineering, Inc. is submitting a report with respect to a soil lead survey at the Bloomfield Crude Station, Bloomfield, New Mexico. Pursuant to your correspondence dated February 5, 1999, the enclosed report is required to be submitted to NMOCD by April 30, 1999.

Questions or comments concerning this report may be directed to Jeff Blagg of Blagg Engineering at (505)632-1199.

Respectfully submitted:
Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President

Enclosure: Soil Lead Survey Report dated April 28, 1999

cc: Denny Foust, NMOCD Aztec District Office
Tim Kinney, Giant Industries Arizona, Inc.

SOIL LEAD SURVEY

GIANT INDUSTRIES ARIZONA, INC.
BLOOMFIELD CRUDE STATION
BLOOMFIELD, NEW MEXICO

Prepared for:

Giant Industries Arizona, Inc.
111 CR 4990
Bloomfield, New Mexico 87413

Prepared by:

Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, New Mexico 87413
(505)632-1199

April 28, 1999

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INTRODUCTION

Giant Industries Arizona, Inc. has retained Blagg Engineering, Inc. (BEI) to conduct a soil lead survey at the Bloomfield Crude Station located at the intersection of West Blanco Blvd. and 5th Street in Bloomfield, New Mexico (Figure 1). The purpose of this sampling has been to determine the residual total lead concentration in the soil around and under a 55,000 gallon crude oil tank that was previously involved in an accidental fire. The tank has since been removed and some lead abatement remedial activities have been conducted as outlined in a draft report to the New Mexico Oil Conservation Division (NMOCD) dated August 21, 1996. A workplan to perform the lead survey was submitted by BEI to NMOCD on December 3, 1998. NMOCD gave approval to proceed with this plan in a letter dated February 5, 1999. Outlined herein are the results of the soil lead survey, including conclusions and recommendations.

BACKGROUND

Giant Industries Arizona, Inc. and the NMOCD are interested in finding the extent of potential lead impacts, if any, from lead based paint chips that may have contaminated the ground surface around a 55,000 gallon crude oil tank during a fire that occurred on December 12, 1995 (Figure 2). A preliminary lead sampling program within the tank berm area was conducted in August, 1996 following an initial lead abatement program. This preliminary sampling program determined that lead impacts to the northeast (also known as Cell B) and southeast (also known as Cell D) of the tank location were below action levels and these areas were cleared from further action by the NMOCD. The area to the northwest (Cell A) and southwest (Cell C) were not cleared from further action and NMOCD requested additional soil lead sampling to determine the extent of lead impacts.

The appropriate analytical protocol for lead in soils was determined following discussions between BEI and the New Mexico Environment Department Superfund Oversite office in October, 1998. Mr. Christopher Holmes with the Superfund Oversite group recommended following U.S. EPA OSWER Directive #9200.4-27P as the protocol for the lead test program. This Directive provides clarification of a 2,000 mg/Kg closure standard for lead in soils at industrial sites and a cleanup level of 400 mg/Kg at residential sites. The accepted laboratory test procedure was for total lead in soils (U.S. EPA Method 7420/7421).

BEI developed a sampling strategy in which a uniform sample grid was outlined within the subject berm area around the prior 55,000 gallon tank (Figure 3). Soil sampling included a 5-point composite collected from each sample grid for submission to a qualified laboratory for total lead analysis. Additionally, two (2) each background sample locations were selected in coordination with the NMOCD for comparison with the berm area test results. This sampling plan was approved by the NMOCD in their February 5, 1999 plan approval letter.

SITE INVESTIGATION

Methodology

On March 3, 1999 BEI inspected the site and installed a string line grid pattern within the proposed berm area sample site (Figure 3). Sample cells A and C were each divided into nine (9) equally sized 40' x 40' square sub-cell sample units, for a total of 18 each sample blocks. Sample blocks A9 and C3 were located primarily inside the west half of the prior 55,000 gallon tank perimeter. Sample blocks A6, A8, C2 and C6 were located immediately adjacent to the prior tank location. The remaining sample blocks were within the berm area north, south and west of the tank. Note that the tank outline was clearly impressed on the ground surface.

BEI conducted site sampling on March 4, 1999. Mr. Denny Foust with the NMOCD observed the sample event. A 5-point composite soil sample was collected from the 0"-2" depth in each sample unit, thoroughly mixed, placed into a laboratory supplied glass sample container, labeled, sealed and stored in an ice chest with ice. Samples were collected using stainless steel sampling equipment. Sampling equipment was decontaminated with Alconox™ soap in potable water wash and rinsed in distilled water between collection of composite samples. Following the sample event, the soil specimens were hand delivered to Onsite Technology, LTD laboratories for testing. Chain-of-Custody documentation followed the samples.

Two (2) each background sample locations were selected at sites outside of and adjacent to the south property fence line (Figure 2) as directed by Mr. Foust. These locations were chosen at upwind areas based on a predominate wind direction from the southeast during the accidental fire event. Background sample collection protocol followed the same 5-point sample procedure as previously described.

Soil sample collection locations from each grid unit was judgmental (Figure 4). Samples collected from sub-cells A9 and C3 were limited to soil within the tank imprint area only. Samples from sub-cells A6, A8, C2 and C6 were collected adjacent to but outside of the tank imprint area. Samples from the remaining sub-cells were collected from an evenly spaced pattern within the given sub-cell. This sampling strategy was selected to identify potential lead accumulations below, immediately adjacent to and away from the tank location.

Two (2) duplicate samples were collected to insure uniform field and laboratory test methodology. Duplicate site selection was arbitrary, with duplicate sample Dup 1 from sub-cell A9 and duplicate sample Dup 2 from sub-cell C8. The laboratory was not made aware of the locations for the duplicate samples.

Test Results

Laboratory test results were made available to BEI on March 22, 1999. Listed below in Table 1 are summary results of the testing. Figure 5 presents the lead test results found for each sub-cell. Laboratory reports are included as Appendix B. Within the berm area the maximum test result

Table No. 1

Soil Lead Test Results
U.S. EPA Method 7420
Giant Industries Arizona, Inc. Bloomfield Crude Station
March 4, 1999

Sample Identification	Soil Lead Test Results, mg/Kg
Sub-Cell A1	46
Sub-Cell A2	88
Sub-Cell A3	269
Sub-Cell A4	213
Sub-Cell A5	249
Sub-Cell A6	228
Sub-Cell A7	251
Sub-Cell A8	134
Sub-Cell A9	28
Sub-Cell C1	227
Sub-Cell C2	80
Sub-Cell C3	61
Sub-Cell C4	37
Sub-Cell C5	147
Sub-Cell C6	28
Sub-Cell C7	46
Sub-Cell C8	44
Sub-Cell C9	185
Background No. 1	20
Background No. 2	10
Duplicate No. 1 (Sub-Cell A9)	27
Duplicate No. 2 (Sub-Cell C8)	60

yielded a value of 269 mg/Kg in sub-cell A3 and the minimum value was 28 mg/Kg in sub-cell A9. The average lead content in the 18 sub-cells tested within the berm area was 131 mg/Kg. The two background samples yielded a maximum value 20 mg/Kg for Background No. 1, a minimum value of 10 mg/Kg at Background No. 2 and an average background value of 15 mg/Kg.

The duplicate samples yielded satisfactory results. Sample Dup 1 from sub-cell A9 tested at 27 mg/Kg as compared to 28 mg/Kg for the original sub-cell A9 sample. Sample Dup 2 from sub-cell C8 was analyzed at 60 mg/Kg whereas the original C8 sample tested at 44 mg/Kg. Based on the sampling protocol and poor heterogeneity in the soils found at the site the duplicate test results are acceptable and indicate the sampling program was competent in identifying average total lead content in the soils.

All soil lead analytical results tested below the U.S. EPA closure standard of 2,000 mg/Kg for industrial sites and 400 mg/Kg for residential sites.

CONCLUSIONS & RECOMMENDATIONS

At the Giant Bloomfield Crude Station in Bloomfield, New Mexico, total lead in soil was tested at 18 distinct composite locations within the berm area of a previously removed 55,000 gallon tank and at 2 background locations immediately south of the Crude Station. Analytical test results indicate that total lead in soils within the berm area was below U.S. EPA closure standards at all test points. The U.S. EPA closure is 2,000 mg/Kg for industrial sites and 400 mg/Kg for residential sites. The maximum total lead value found in the berm area was 269 mg/Kg and the average lead value for all 18 test composites was 131 mg/Kg. The background samples tested a maximum value of 20 mg/Kg and an average value of 15 mg/Kg total lead.

Based on the maximum and average total soil lead analytical results within the berm area yielding values below U.S. EPA closure standards, Blagg Engineering, Inc. is of the opinion that closure of the site for surface soil lead content has been achieved. Therefore, it is recommended that the New Mexico Oil Conservation Division accept the site as closed with respect to soil lead abatement.

STATEMENT OF LIMITATIONS

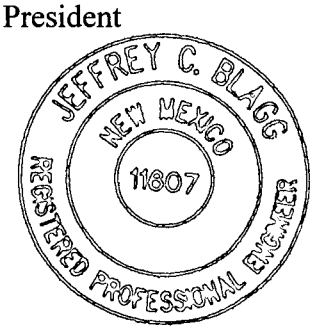
This document has been prepared by Blagg Engineering, Inc. for the exclusive use of Giant Industries, Inc. as it pertains to a soil lead survey at the Bloomfield Crude Station located in Bloomfield, New Mexico at the intersection of West Blanco Blvd. and 5th Street. The conclusions and statements expressed in this report are based on visual observations, soil conditions encountered at sample locations and analytical test results on soil samples. Variations may exist in soil types or in the magnitude of soil lead content between sampling locations. Future work at the site may expose lead impacts or other hazards not identified during this investigation.

The scope of Blagg Engineering's services was limited to a soil lead survey on the ground surface within the berm area of a previously removed 55,000 gallon tank. Work was performed in accordance with generally accepted professional practices in environmental and petroleum engineering.

I certify that the work performed by Blagg Engineering, Inc. as described in this report was directed by my supervision, and that I am personally familiar with the results of the investigation and the contents of this report.

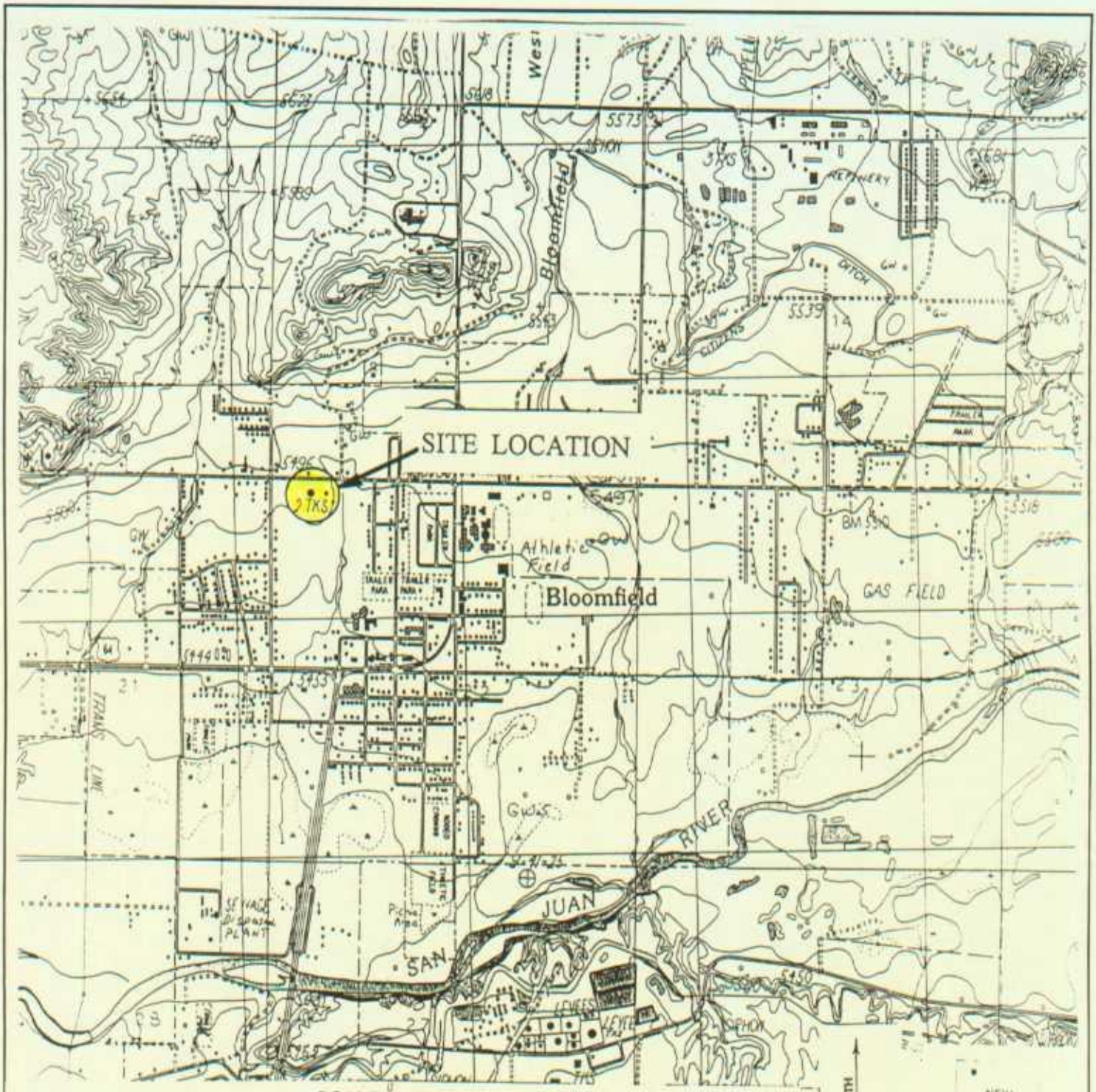
Respectfully submitted,
Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E. #11607
President



APPENDIX A

Figures



SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

BLOOMFIELD, NEW MEXICO

PROVISIONAL EDITION 1985

GIANT INDUSTRIES ARIZONA, INC.
BLOOMFIELD CRUDE STATION
BLOOMFIELD, NEW MEXICO

MARCH 1999

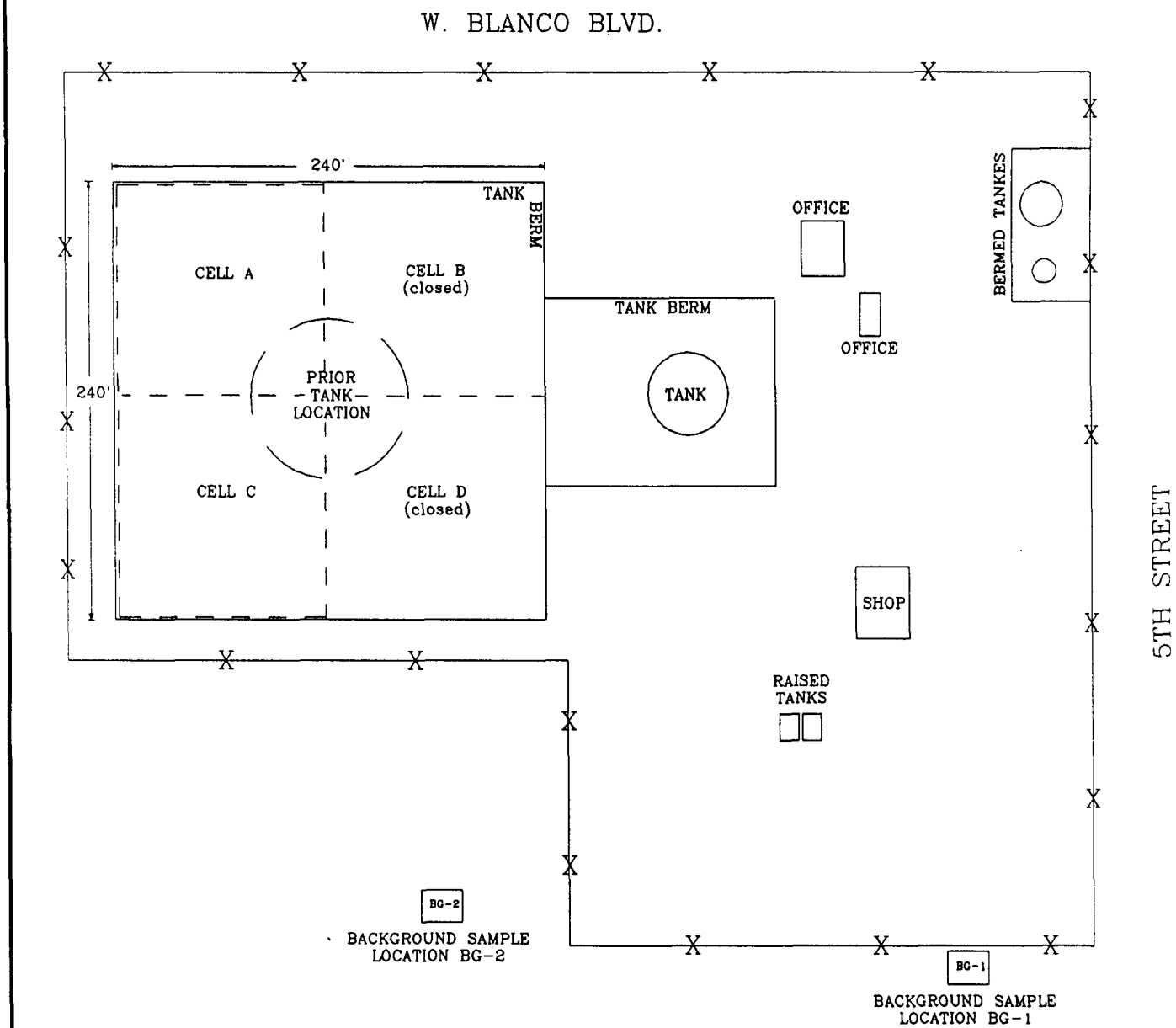
BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

FIGURE 1
VICINITY MAP

3/99

DRWN BY JCB

FILE BLMF7



LEGEND

N

Perimeter Fence

0 100 200 FEET

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BLOOMFIELD CRUDE STATION
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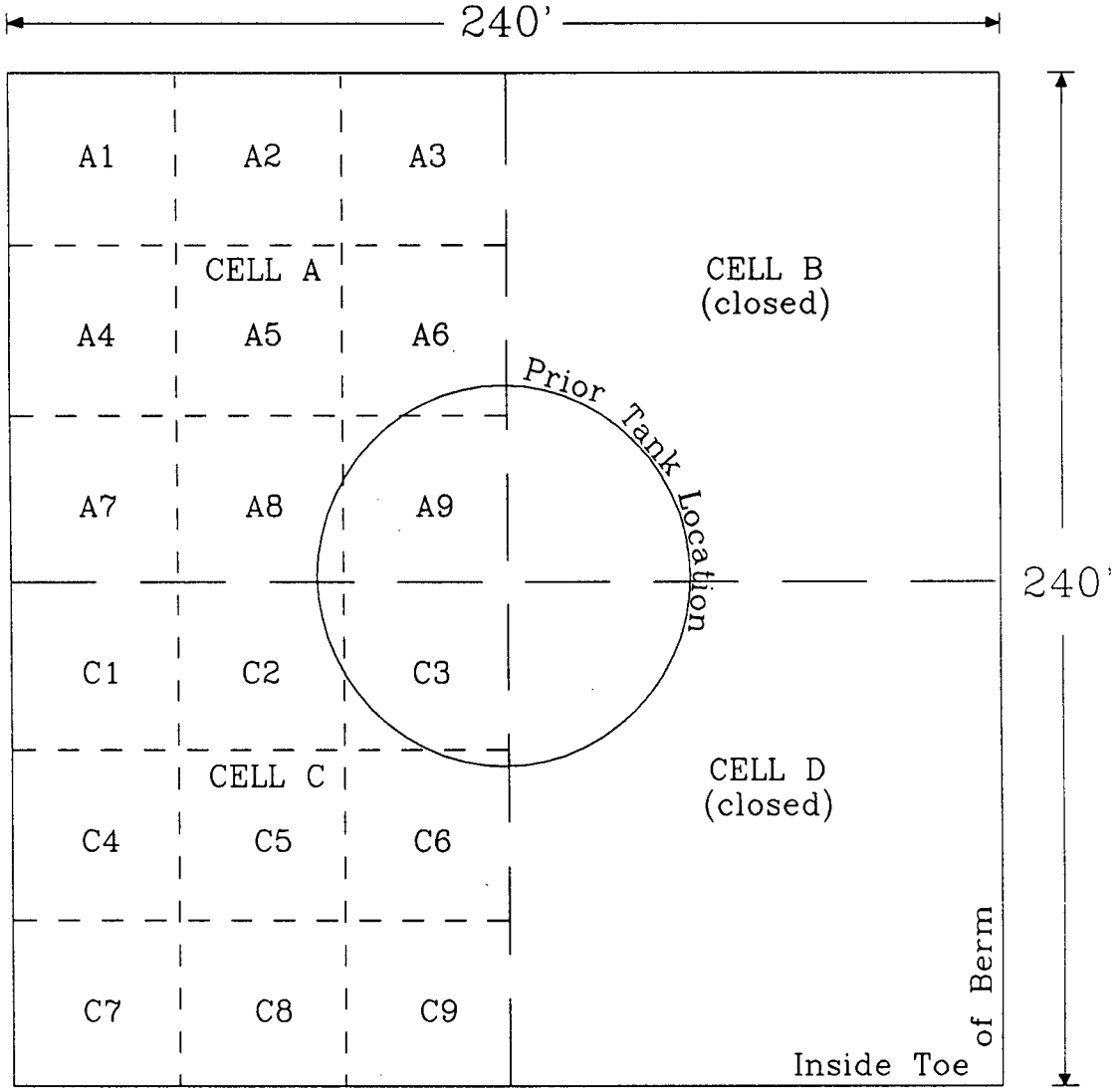
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

FIGURE 2
SITE
DIAGRAM

3/25/99

DRWN BY: JCB

FILE: BLMF4



LEGEND

A3 Designation of 5-point composite sample sub-cell

N

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BLOOMFIELD, NEW MEXICO

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BLOOMFIELD, NEW MEXICO 87413
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FIGURE 3
SAMPLE GRID
LAYOUT

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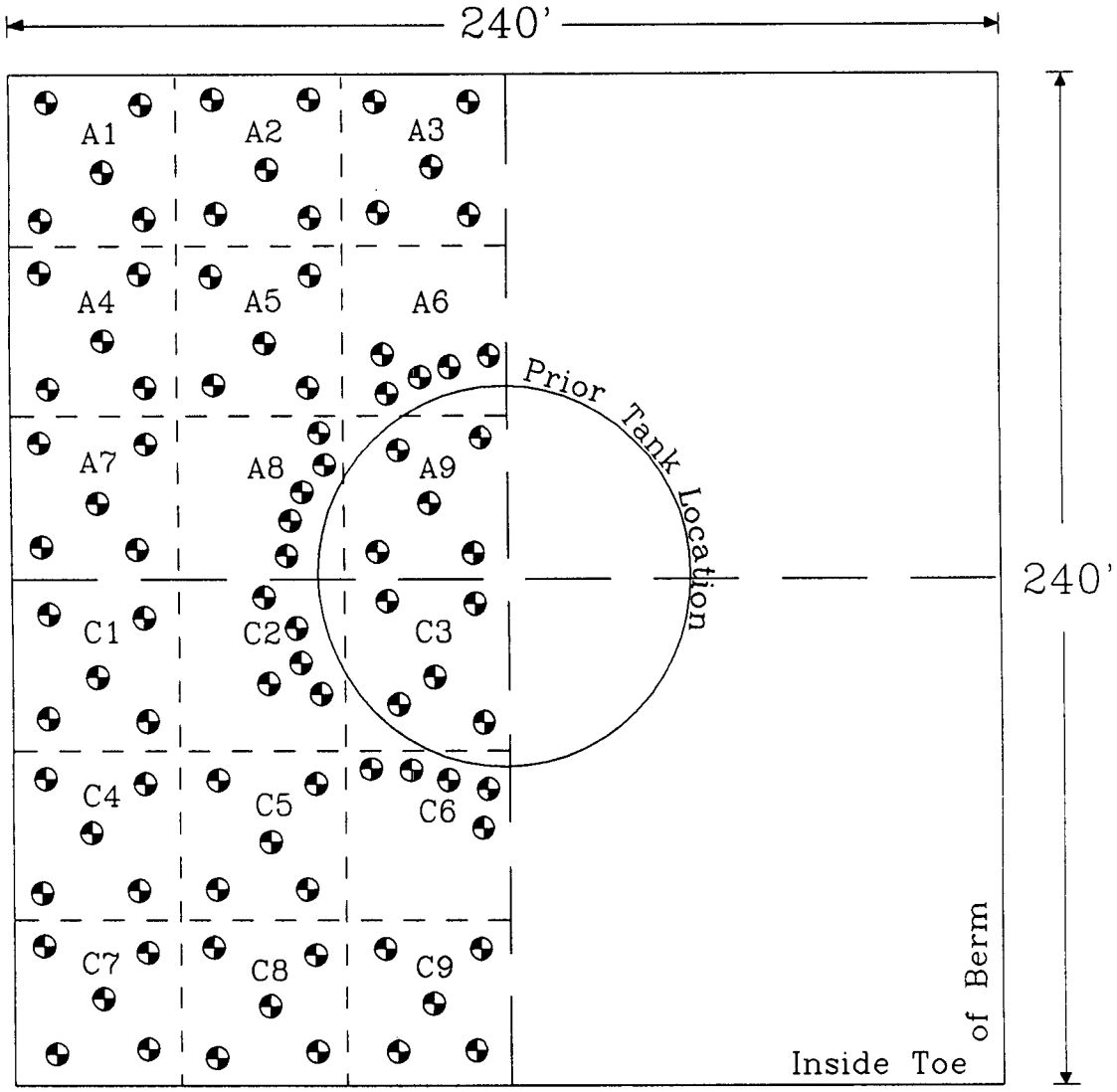
DRWN BY: JCB

FILE: BLMF5



LEGEND

A3 Designation of 5-point composite sample sub-cell

Sub-Cell Sample Point

N

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BLOOMFIELD, NEW MEXICO

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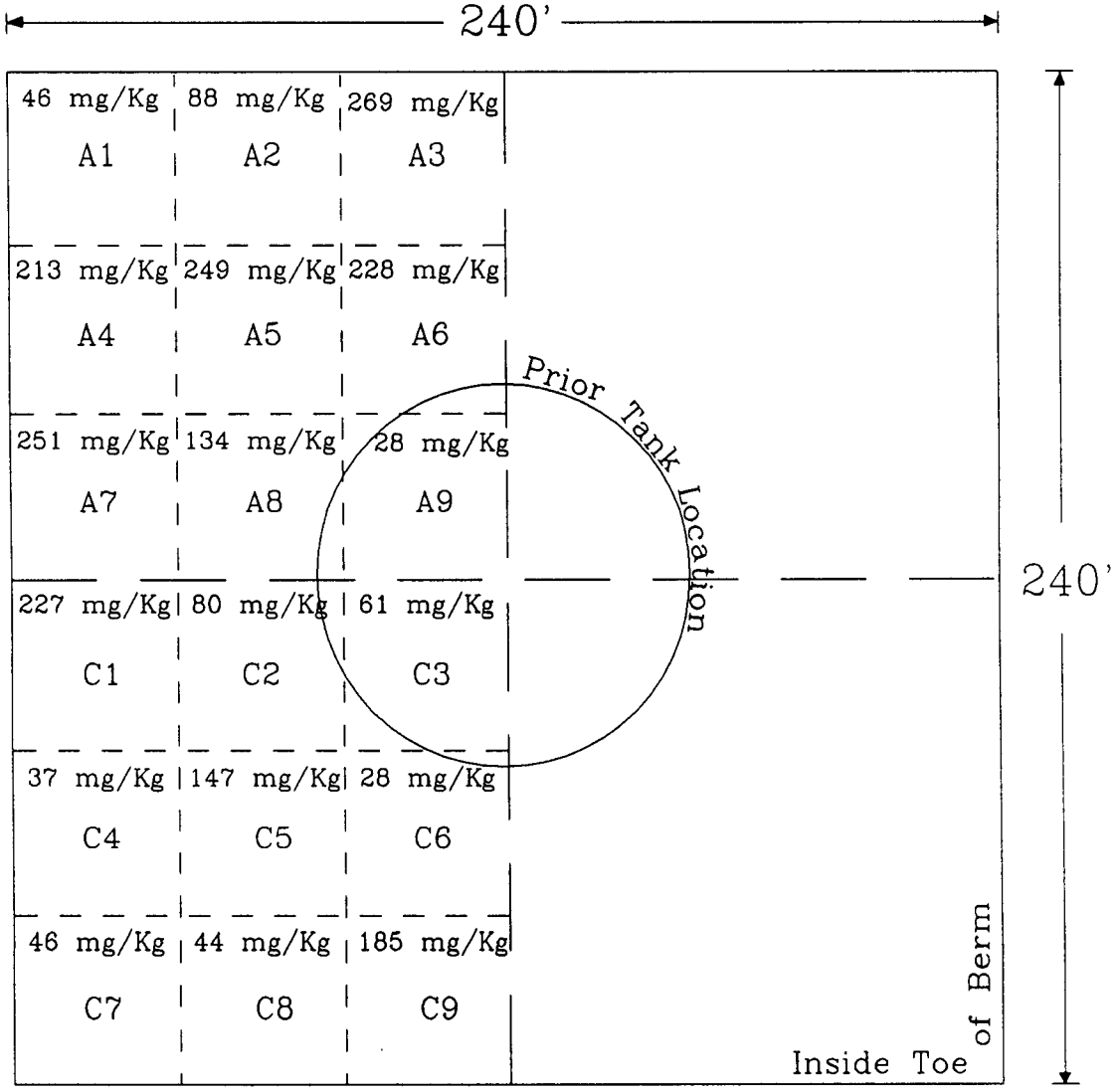
FIGURE 4
5-PT COMPOSITE
SAMPLE LOCATIONS

3/25/99

DRWN BY: JCB

FILE: BLMF6



Background No. 1 = 20 mg/Kg
Background No. 2 = 10 mg/Kg

LEGEND

A3 Designation of 5-point composite sample sub-cell

147 mg/Kg Results of 5-Point Composite Total Lead Analysis for Sub-Cell

N

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BLOOMFIELD CRUDE STATION
BLOOMFIELD, NEW MEXICO

MARCH 1999

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BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

FIGURE 5
SUMMARY LEAD TEST RESULTS

3/25/99

DRWN BY: JCB

FILE: BLMF3

APPENDIX B

Laboratory Analytical Reports

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

March 18, 1999

Jeff Blagg
Blagg Engineering
P.O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX

RE: Giant Bloomfield Crude Station Order No.: 9903022

Dear Jeff Blagg,

On Site Technologies, LTD. received 22 samples on 3/4/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Lead, Total in Soil (SW7420)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: *18-Mar-99*

CLIENT: Blagg Engineering
Project: Giant Bloomfield Crude Station
Lab Order: 9903022

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A1 5pt. Composite
Lab ID:	9903022-01A **Matrix:** SOIL	**Collection Date:**	3/4/99 8:26:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	46	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A2 5pt. Composite
Lab ID:	9903022-02A **Matrix:** SOIL	**Collection Date:**	3/4/99 8:31:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	88	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A3 5pt. Composite
Lab ID:	9903022-03A **Matrix:** SOIL	**Collection Date:**	3/4/99 8:39:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	269	10		mg/Kg	2	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A4 5pt. Composite
Lab ID:	9903022-04A **Matrix:** SOIL	**Collection Date:**	3/4/99 8:46:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	213	10		mg/Kg	2	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

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R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A5 5pt. Composite
Lab ID:	9903022-05A **Matrix:** SOIL	**Collection Date:**	3/4/99 8:52:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	249	10		mg/Kg	2	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A6 5pt. Composite
Lab ID:	9903022-06A **Matrix:** SOIL	**Collection Date:**	3/4/99 8:59:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	228	10		mg/Kg	2	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A7 5pt. Composite
Lab ID:	9903022-07A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:04:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	251	10		mg/Kg	2	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A8 5pt. Composite
Lab ID:	9903022-08A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:09:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	134	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	A9 5pt. Composite
Lab ID:	9903022-09A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:15:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	28	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C1 5pt. Composite
Lab ID:	9903022-10A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:22:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	227	10		mg/Kg	2	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C2 5pt. Composite
Lab ID:	9903022-11A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:27:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	80	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C3 5pt. Composite
Lab ID:	9903022-12A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:49:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	61	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C4 5pt. Composite
Lab ID:	9903022-13A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:54:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	37	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C5 5pt. Composite
Lab ID:	9903022-14A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:59:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	147	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C6 5pt. Composite
Lab ID:	9903022-15A **Matrix:** SOIL	**Collection Date:**	3/4/99 10:05:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	28	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C7 5pt. Composite
Lab ID:	9903022-16A **Matrix:** SOIL	**Collection Date:**	3/4/99 10:10:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	46	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C8 5pt. Composite
Lab ID:	9903022-17A **Matrix:** SOIL	**Collection Date:**	3/4/99 10:16:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	44	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	C9 5pt. Composite
Lab ID:	9903022-18A **Matrix:** SOIL	**Collection Date:**	3/4/99 10:21:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	185	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	BG1 5pt. Composite
Lab ID:	9903022-19A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:35:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	20	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	BG2 5pt. Composite
Lab ID:	9903022-20A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:41:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	10	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	DUP1 5pt. Composite
Lab ID:	9903022-21A **Matrix:** SOIL	**Collection Date:**	3/4/99 9:18:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	27	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Mar-99*

Client:	Blagg Engineering	**Client Sample Info:**	Giant Bloomfield Crude Sta.
Work Order:	9903022	**Client Sample ID:**	DUP2 5pt. Composite
Lab ID:	9903022-22A **Matrix:** SOIL	**Collection Date:**	3/4/99 10:13:00 AM
Project:	Giant Bloomfield Crude Station	**COC Record:**	4228/29

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
LEAD, TOTAL IN SOIL		**SW7420**				Analyst: **DM**
Lead	60	5		mg/Kg	1	3/17/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

4228

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 3-4-99

Page 1 of 2

Purchase Order No.:		Job No.	
SEND INVOICE TO	Name: JEFF BLAGG		
	Company: BLAGG ENGINEERING INC	Dept.	
	Address: P.O. BOX 87		
	City, State, Zip: BLOOMFIELD, NM 87413		
REPORT RESULTS TO	Name	Title	
	Company: SAME		
	Mailing Address		
	City, State, Zip		
	Telephone No.	Telefax No.	

Sampling Location: GIANT BLOOMFIELD CRUDE STA.

Sampler: JEFF BLAGG

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	TOTAL LEAD	LAB ID
A1 5 pt. COMPOSITE	3/4/99	0826	Soil	cool	1	X	990322-01N
A2 " "	"	0831	"	"	1	X	-02N
A3 " "	"	0839	"	"	1	X	-03N
A4 " "	"	0846	"	"	1	X	-04N
A5 " "	"	0852	"	"	1	X	-05N
A6 " "	"	0859	"	"	1	X	-06N
A7 " "	"	0904	"	"	1	X	-07N
A8 " "	"	0909	"	"	1	X	-08N
A9 " "	"	0915	"	"	1	X	-09N
C1 " "	"	0922	"	"	1	X	-10N
C2 " "	"	0927	"	"	1	X	-11N
C3 " "	"	0949	"	"	1	X	-12N

ANALYSIS REQUESTED

Relinquished by: J. C. Blagg	Date/Time 3/4/99 1124	Received by:	Date/Time 3/4/99 1124
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: J. C. Blagg Date 3-4-99
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

4229

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 3-4-99

Purchase Order No.:	Job No.		
SEND INVOICE TO: Name		REPORT RESULTS TO: Name	Title
Company: BLAGG ENGINEERING	Dept.	Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No.

Sampling Location: GIANT BLOOMFIELD CRUDE STA

Sampler: JEFF BLAGG

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: TOTAL LEAD	LAB ID
C4 5 pt. Composite	3/4/99	0954	soil	cool	1	X	903072-13
C5 " "	"	0959	"	"	1	X	-14
C6 " "	"	1005	"	"	1	X	-15
C7 " "	"	1010	"	"	1	X	-16
C8 " "	"	1016	"	"	1	X	-17
C9 " "	"	1021	"	"	1	X	-18
BG1 " "	"	0935	"	"	1	X	-19
BG2 " "	"	0941	"	"	1	X	-20
DUP 1 " "	"	0918	"	"	1	X	-21
DUP 2 " "	"	1013	"	"	1	X	-22

Relinquished by: J. C. Blagg	Date/Time 3/4/99 1124	Received by:	Date/Time 3/4/99 1124
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: J. C. Blagg Date 3-4-99
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

On Site Technologies, LTD.

Date: *18-Mar-99*

CLIENT: Blagg Engineering
Work Order: 9903022
Project: Giant Bloomfield Crude Station

QC SUMMARY REPORT

Method Blank

Sample ID: **MB-80** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	.9564	5									J

Sample ID: **MB2-80** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **9903022** Run ID: **AA_990317B** SeqNo: **12456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	.9858	5									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *18-Mar-99*

CLIENT: Blagg Engineering
Work Order: 9903022
Project: Giant Bloomfield Crude Station

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9903005-01AD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	284.5	25	0	0	0.0%	0	0	274.2	3.7%	15	

Sample ID: **9903022-12AD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **C3 5pt. Composit** **9903022** Run ID: **AA_990317B** SeqNo: **12459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	72.72	5	0	0	0.0%	0	0	60.64	18.1%	15	R

< 2.09
3/18/99
3/18/99

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *18-Mar-99*

CLIENT: Blagg Engineering
Work Order: 9903022
Project: Giant Bloomfield Crude Station

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **9903022-11AMS** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **C2 5pt. Composit** **9903022** Run ID: **AA_990317A** SeqNo: **12409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	183.9	5	98.61	80	105.4%	80	120				

Sample ID: **9903022-22AMS** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **DUP2 5pt. Compo** **9903022** Run ID: **AA_990317B** SeqNo: **12470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	161.6	5	97.92	60.27	103.4%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *18-Mar-99*

CLIENT: Blagg Engineering
Work Order: 9903022
Project: Giant Bloomfield Crude Station

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-80** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	101.7	5	99.23	0.9564	101.5%	80	120				

Sample ID: **LCS2-80** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date: **3/15/99**
Client ID: **9903022** Run ID: **AA_990317B** SeqNo: **12457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	117	5	98.74	0.9858	117.5%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *18-Mar-99*

CLIENT: Blagg Engineering
Work Order: 9903022
Project: Giant Bloomfield Crude Station

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.02	0.2	2	0	101.0%	80	120				

Sample ID: **CCV1 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317B** SeqNo: **12455**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.04	0.2	2	0	102.0%	80	120				

Sample ID: **CCV2 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.09	0.2	2	0	104.5%	80	120				

Sample ID: **CCV2 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317B** SeqNo: **12471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.01	0.2	2	0	100.5%	80	120				

Sample ID: **CCV3 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.09	0.2	2	0	104.5%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 9903022
Project: Giant Bloomfield Crude Station

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317B** SeqNo: **12472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.03	0.2	2	0	101.5%	80	120				

Sample ID: **CCV4 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317A** SeqNo: **12412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.08	0.2	2	0	104.0%	80	120				

Sample ID: **CCV4 5000-STD** Batch ID: **80** Test Code: **SW7420** Units: **mg/Kg** Analysis Date **3/17/99** Prep Date:
Client ID: **9903022** Run ID: **AA_990317B** SeqNo: **12473**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.02	0.2	2	0	101.0%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank