

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

HOBBS OCD

State of New Mexico
Energy Minerals and Natural Resources

JUN 17 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company	Jay Management Co., LLC	Contact	Karen Friday
Address	2425 W. Loop South, Ste 810, Houston, TX 77027	Telephone No.	713 456-7892
Facility Name	New Mexico State BB	Facility Type	Tank Battery

Surface Owner	Carl Lane Johnson	Mineral Owner	State of New Mexico	Lease No.	306237 / OG-93
---------------	-------------------	---------------	---------------------	-----------	----------------

LOCATION OF RELEASE

30 025 29027
21475

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	14	10S	32E	1980	South	2310	East	Lea

Latitude 33.44447 Longitude -103.64190

NATURE OF RELEASE

Type of Release	Oil Spill	Volume of Release	450	Volume Recovered	265
Source of Release	Oil Tank	Date and Hour of Occurrence	6/11/11 afternoon	Date and Hour of Discovery	6/11/11 3:20
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Maxey Brown		
By Whom?	Clarence Craig, pumper	Date and Hour	6/11/11 4:20pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

4" to 3" swedge developed 1/2" hole in nipple causing spill on surround ground around #2 well
Called for truck to empty tank.

Describe Area Affected and Cleanup Action Taken.*

Picked up 265 bbls of oil off ground. Brought in caliche to soak up more oil.
Carr Environmental contacted to inspect and perform soil samples.

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.

OIL CONSERVATION DIVISION

Signature: <i>Karen Friday</i>	Approved by District Supervisor:	
Printed Name: Karen Friday	Approval Date:	Expiration Date:
Title: Production Analyst	Conditions of Approval:	
E-mail Address: KarenF@isramco-jay.com	Attached <input type="checkbox"/>	
Date: 6/14/11 Phone: 713 456-7892		

* Attach Additional Sheets If Necessary

1 RP - 4362



HOBBS OCD

JAN 20 2012

RECEIVED

January 11, 2012

Mr. Geoffrey R. Leking
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

< 50 40'

Re: Additional Assessment Report and Remedial Action Plan
Jay Management, LLC
New Mexico State BB No. 1 Tank Battery
Mescalero Field - Lea County, New Mexico
NW1/4 SE1/4, Sec.14, T10S R32E

Dear Mr. Leking:

At the request of Jay Management, LLC (Jay Management), Carr Environmental Group, Inc. (CEG) has prepared this letter to document additional assessment activities and present remedial actions to address petroleum hydrocarbon impacted soils at the New Mexico BB State No. 1 Tank Battery in Lea County, New Mexico ('Site').

The Site is located approximately 5.5 miles northeast of Caprock, New Mexico (Figures 1 & 2). The surrounding area is characterized as flat to slightly sloping rural land used for cattle grazing and oil/gas production. According the United States Department of Agriculture – Natural Resource Conservation Division web soil survey of Lea County, New Mexico, soils at the Site consist of gravelly loam in the upper 6-inches underlain by cemented petrocalcic soil material to a depth of 20-inches.

Background

Impacts at the Site are a result of the failure of a swedge on the water leg of a 400 barrel (bbl) welded steel crude oil storage tank on 06/14/2010. The release resulted in the loss of approximately 190 bbl of crude. CEG performed an initial assessment at the Site on 06/20/2010 and the findings are documented in a letter titled *Assessment Report*, dated 08/01/2011.

Collection of Soil Samples

On 11/01/2011 and 11/02/2011, soil samples were collected at the Site to vertically and horizontally delineate impacts identified during the initial assessment. CEG advanced 4 soil borings and collected 9 soil samples using either geotechnical handauger or an air rotary drilling rig. Sampling equipment was decontaminated between samples using Alconox and de-ionized water to eliminate cross contamination. Sample locations are shown in Figure 3.

Sample Analysis

Soil samples were analyzed for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX). All samples were placed in laboratory-provided sample containers, stored on ice, and transported under proper chain-of-custody protocol to Accutest® Laboratories in Houston, Texas.

Laboratory reports containing analytical methods, results and chain-of-custody documents are attached. Analytical results are summarized in Table 1.

Table 1. Soil Analytical Results

Sample ID	Petroleum Hydrocarbons (mg/kg)						Chloride (mg/kg)
	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH 1005	
SB-1 0-6"	0.0024J	0.0037J	0.0052	0.0053J	0.0166J	<4.6	--
SB-2/SB-10 0-6"	0.0023J	0.003J	< 0.00076	< 0.0019	< 0.0053J	218	--
SB-2/SB-10 1-2'	0.001J	0.0082	0.0073	0.0075J	0.024J	417	--
SB-2/SB-10 3-4'	< 0.00047	< 0.00063	0.0011J	< 0.0017	0.0039J	5.48	--
SB-3 0-6"	0.0025J	0.0021J	0.00092J	< 0.0019	0.0046J	< 4.7	--
SB-4 0-6"	0.0328	0.0156	0.0061	0.0058J	0.0603J	203	--
SB-5 0-6"	0.0017J	0.0017J	0.00074J	< 0.0018	0.00414J	21.2J	--
SB-6 0-6"	0.00075J	0.0011J	< 0.00074	0.0022J	0.00185J	< 5.0	--
SB-7 0-6"	< 0.00059	0.00096J	< 0.00081	< 0.0021	0.00096J	< 5.4	--
SB8 1-2'	< 0.00052	0.0012J	0.0806	0.117	0.19932J	3,650	--
SB8 3-4'	< 0.00049	< 0.00066	0.001J	0.0022J	0.00435J	< 4.3	--
SB9 3-4'	0.0651J	1.78	5.6	4.04	11.5J	792	--
SB9 9-10'	0.0391J	0.735	2.3	1.62	4.6941	153	--
SB9 15-16'	--	--	--	--	--	151	--
SB11 0-6"	--	--	--	--	--	114	--
COMP No. 1	83.2	237	375	277	972.2	84,300	143
BG-1 0-6"	--	--	--	--	--	--	13.3
BG-2 0-6"	--	--	--	--	--	--	10.3
Remediation Action Levels	10	NA	NA	NA	50	100	250

-- exceeds regulatory limit
 -- -- not analyzed
 NA -- not applicable
 mg/kg -- milligram per kilogram
 BTEX -- benzene, toluene, ethylbenzene, and xylenes
 TPH -- total petroleum hydrocarbons
 J -- estimated value

The impacted area is illustrated and summarized in Figure 4.

Remediation Action Levels

The New Mexico Oil Conservation Division (OCD) has established remediation action levels for soils impacted by oilfield products or wastes, which are documented in the *Guidelines for Remediation of Leaks, Spills and Releases*. The closure criteria utilize a ranking system that scores the potential to contaminate based upon a site's distance to water resources. The ranking system is summarized in Table 2.

Table 2. OCD Ranking System

Category	Distance to Resource (ft)	Score
Depth to groundwater	< 50	20
	50 to 99	10
	> 100	0
Water Wellhead protection	< 200	20
	> 200	0
Surface water protection	< 200	20
	200 to 1,000	10
	> 1,000	0

Sites receive a score from each category. The three scores are summed to reach a total ranking score, which provides site-specific remediation action levels for individual sites. Based on prior environmental drilling activities at the Site, groundwater is first encountered approximately 40 ft bgs, which results in a score of 20. A surface water body identified on topographic maps is located within 1,000 ft of the Site, which results in a score of 10. No water wellheads are located within 200 ft of the Site, which results in a score of 0. Therefore, the total ranking score at the Site is 30.

The remediation action levels established by the OCD are presented in Table 3.

Table 3. OCD Cleanup Criteria by Total Ranking Score

Constituent	Total Ranking Score		
	> 19	10-19	0-9
	Cleanup Criteria (mg/kg)		
Benzene	10	10	10
Total BTEX	50	50	50
TPH	100	1,000	5,000
Chlorides	250	500	1,000

BTEX – benzene, toluene, ethylbenzene and xylenes
 TPH – total petroleum hydrocarbons
 mg/kg – milligrams per kilogram

Conclusions

Based on OCD cleanup criteria and analytical results, the following is concluded:

- Soils at the Site are impacted by TPH, benzene, and total BTEX.
- The horizontal extents of all COC have been delineated except TPH in the area west of the tank battery (SB-4).
- The vertical extents of benzene and total BTEX have been delineated.



- The vertical extent of TPH in the area of SB9 has not been delineated.
- Benzene and total BTEX impacted soil are confined to the upper 3 ft bgs.
- TPH impacts are confined to the upper 3 ft bgs of the tank battery in the area around and west of SB8.
- Heavily TPH impacted soils are confined to the upper 9 ft bgs in the eastern portion of the tank battery; however, TPH impacts have not been vertically delineated in this area.

Remedial Action Plan

In order to address petroleum hydrocarbon impacted soils at the Site, CEG proposes excavating and treating the shallow (i.e. < 4 ft bgs) impacted soils and treating the deep (i.e. > 4 ft bgs) impacts in place. Shallow impacts, shown in Figure 5, will be excavated to 3 ft bgs and placed into a 0.4 acre lined treatment cell to be constructed onsite. Following treatment of deep impacts, confirmation samples will be collected to ensure all impacted soils have been remediated to remediation action levels. Samples will be analyzed for BTEX and TPH.

Treatment Cell Construction

The treatment cell will be constructed just south of the tank battery and lined with a 6-mil low density polyethylene (LDPE) liner. Lined earthen berms will be erected around the perimeter of the treatment cell to prevent stormwater run-off and run-in. Any water accumulated within the treatment cell will be collected and disposed off in a permitted injection well. The proposed location of the treatment cell is shown in Figure 5.

Treatment Cell Management

Impacted soil will be evenly spread across the treatment cell area to a thickness not to exceed 8-in. Once spread, impacted soils will be treated with the appropriate amount of fertilizer to promote hydrocarbon biodegradation. The treatment cell will then be disked to ensure soil/amendment homogenization. The treatment cell will be disked monthly until petroleum hydrocarbon concentrations are below the applicable remediation action level.

Treatment Cell Monitoring and Closure

Treatment cell soils will be sampled semi-annually to monitor treatment effectiveness. One composite sample and four discrete samples will be collected for laboratory analysis during each semi-annual monitoring event. Samples will be analyzed for BTEX and TPH.

Once semi-annual sampling results are below the applicable remediation action level, the treatment cell will be closed. Remediated soils will be returned to the original excavation and the earthen berms will be removed. The area will then be returned to natural grade and re-vegetated in accordance with Paragraph (6) of Subsection A of 19.15.36.18 NMAC.

Mr. Leking
January 11, 2012
Page 5 of 5

Deep Impact Treatment

In order to address deep impacts at the Site, CEG will install an *in-situ* air injection system to supply impacted soil with ample oxygen to promote hydrocarbon biodegradation. The system will be comprised of six air injection points connected to a windmill with an air pressuring tank. The windmill will force air into the pressuring tank until the relief valve opens, forcing air into the injection points. The system and injection point are illustrated in Figures 6.

The injection points will be constructed of 1-inch diameter Schedule 40 PVC with 0.010-inch slotted screen. The PVC will be covered with a sock to prevent sediment from clogging the screen and preventing airflow.

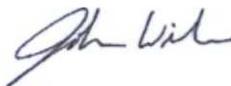
The system will be operated year round and deep impacted soils will be sampled semi-annually until COCs reach remediation action levels. Discrete soil samples will be collected from these soils and analyzed for BTEX and TPH.

If you have any questions regarding this letter or need further assistance, please call us at 281-872-9300.

Sincerely,
CEG, INC.



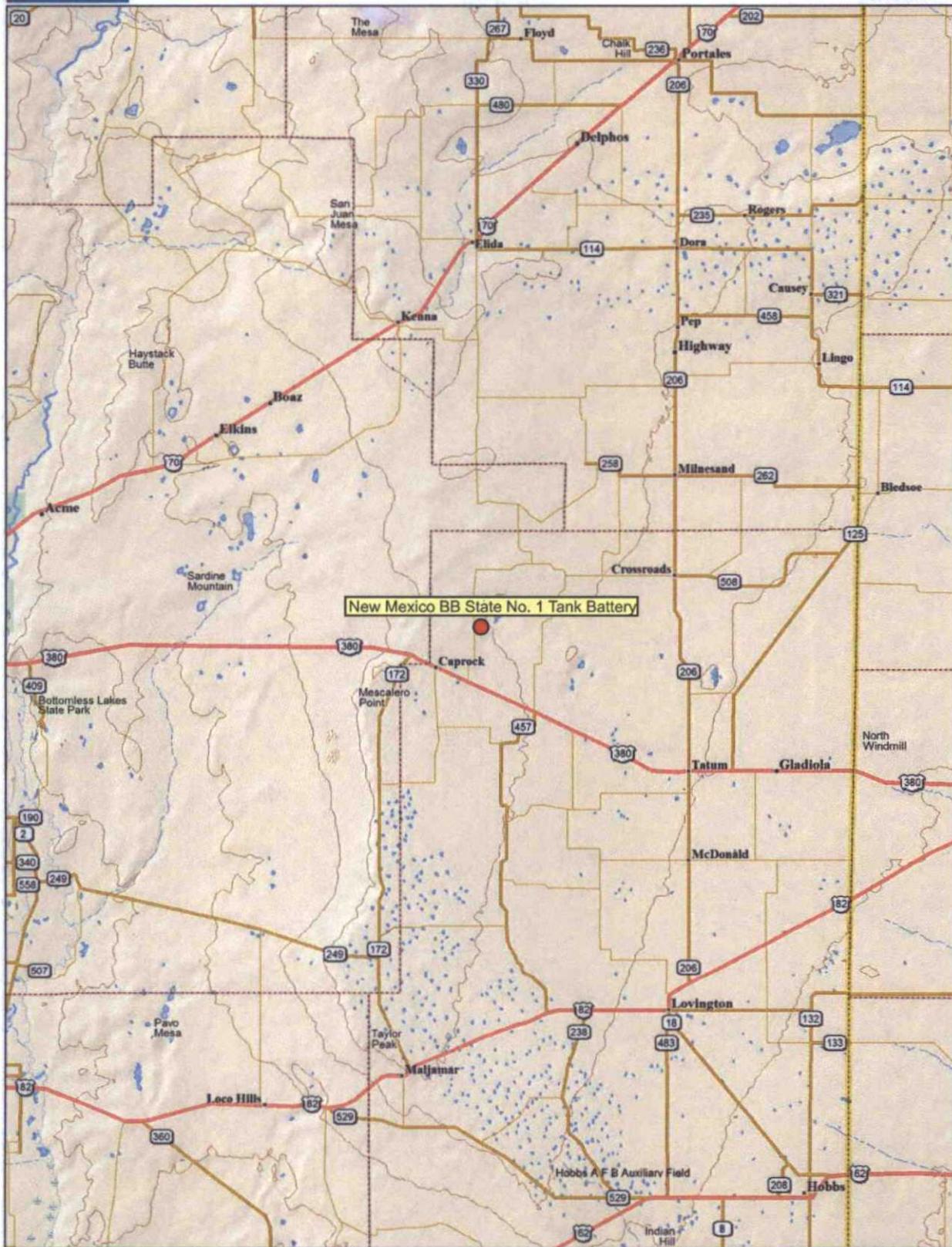
Gordon Banks
Project Manager



John Wilson
Senior Project Manager

Attachments – Figures
Laboratory Analytical Reports and Chain-of-Custody Documents

Cc: Amir Sanker, Jay Management
Ron Gilbreath, Jay Management



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Data Zoom 8-1

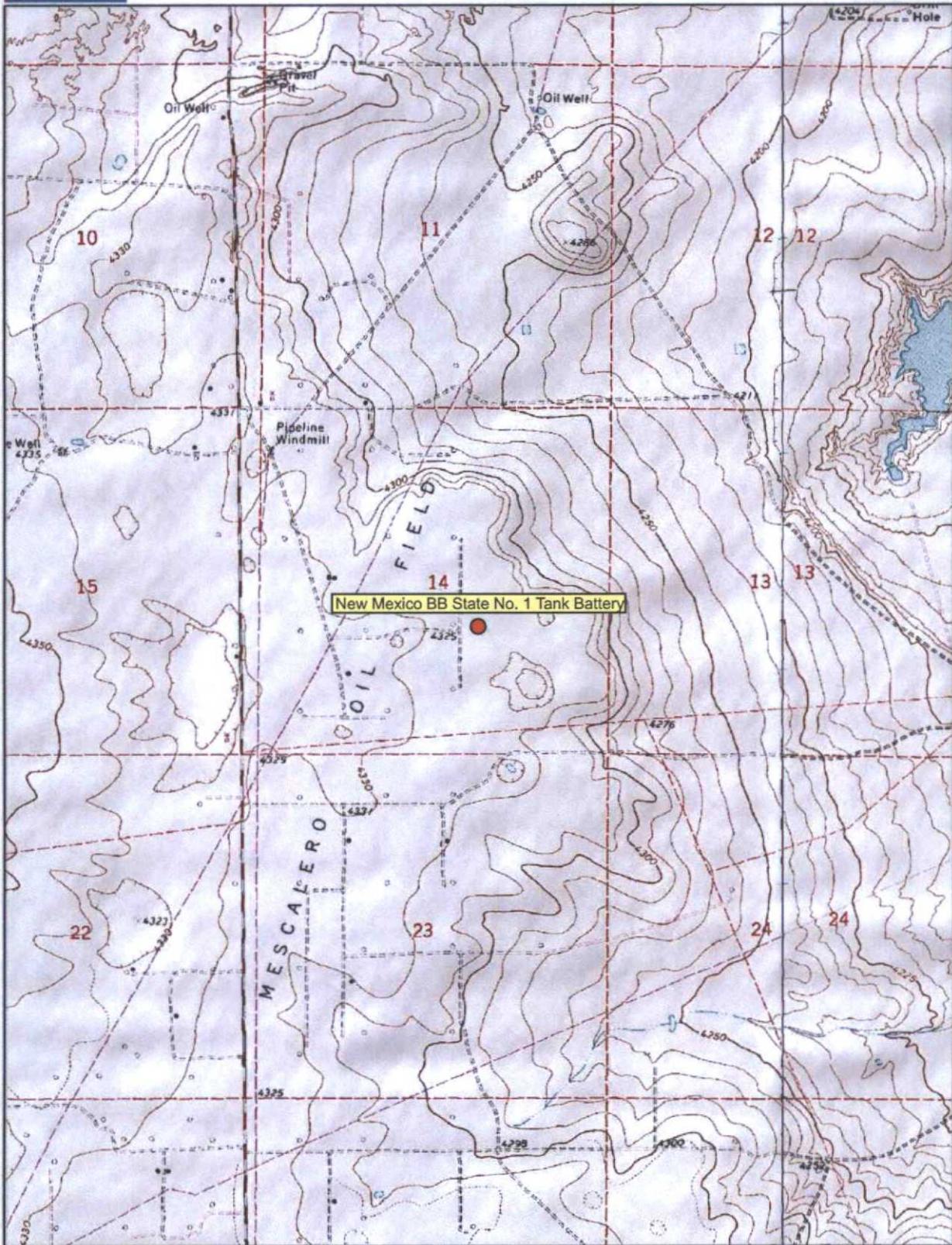
Prepared by:

 Date:
 12/08/2011

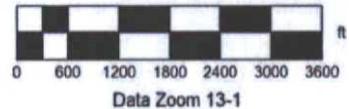
Additional Assessment Report and Remedial Action Plan
 Jay Management, LLC
 New Mexico State BB No. 1 Tank Battery
 Mescalero Field - Lea County, New Mexico
 NW1/4 SE1/4, Sec. 14, T10S R32E

**SITE
 LOCATION
 MAP**

Fig.
1



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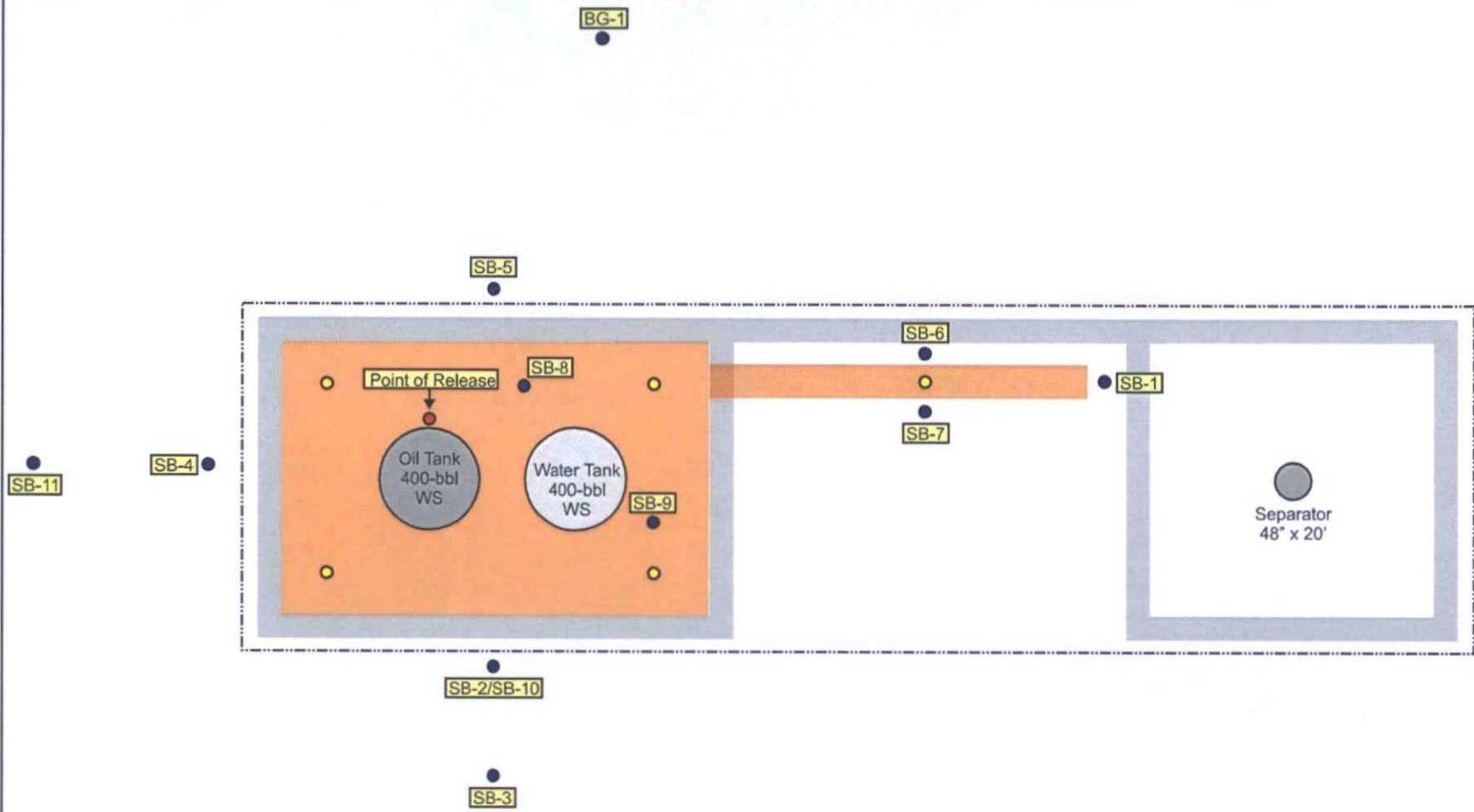
Prepared by:

 Date:
 12/08/2011

Additional Assessment Report and Remedial Action Plan
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 New Mexico State BB No. 1 Tank Battery
 Mescalero Field - Lea County, New Mexico
 NW1/4 SE1/4, Sec. 14, T10S R32E

**AREA
 MAP**

Fig.
2



LEGEND

- Point of Release
- Soil Boring
- Composite Sample "Comp No. 1" Soil Boring
- Impacted Soils
- Secondary Containment
- Fence

NOT TO SCALE

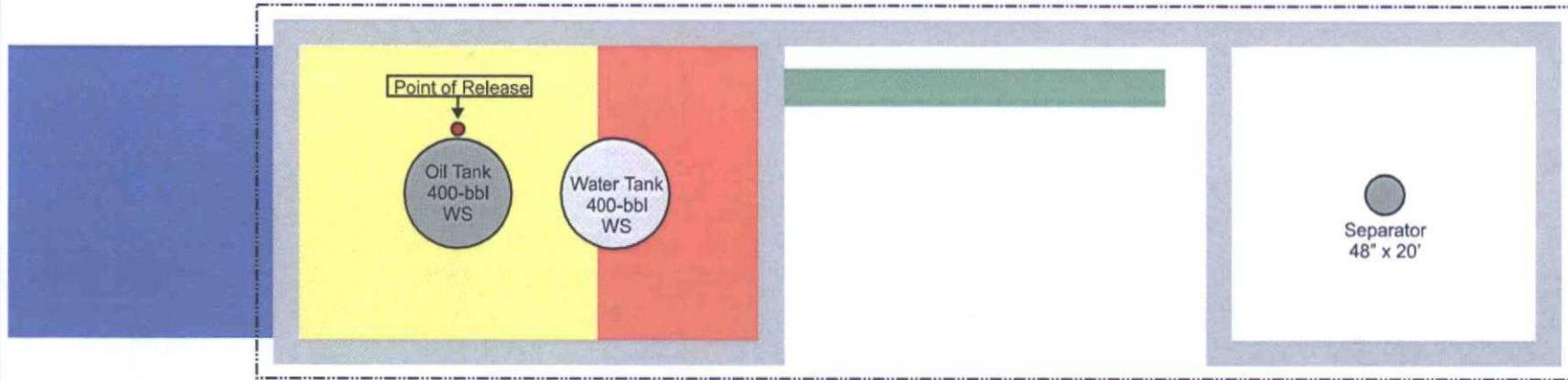
Prepared by:

CARR ENVIRONMENTAL GROUP, INC.
Date: 12/082011

Additional Assessment Report and Remedial Action Plan
Jay Management, LLC
New Mexico State BB No. 1 Tank Battery
Mescalero Field - Lea County, New Mexico
NW1/4 SE1/4, Sec. 14, T10S R32E

SAMPLE LOCATION MAP

Fig. **3**



LEGEND	
	Secondary Containment
	Fence
	Impacted to 2 Feet Below Ground Surface (ft bgs)
	Impacted to 1 ft bgs
	Impacted to 3 ft bgs
	Impacted to unknown depth

NOT TO SCALE



Date: 12/082011

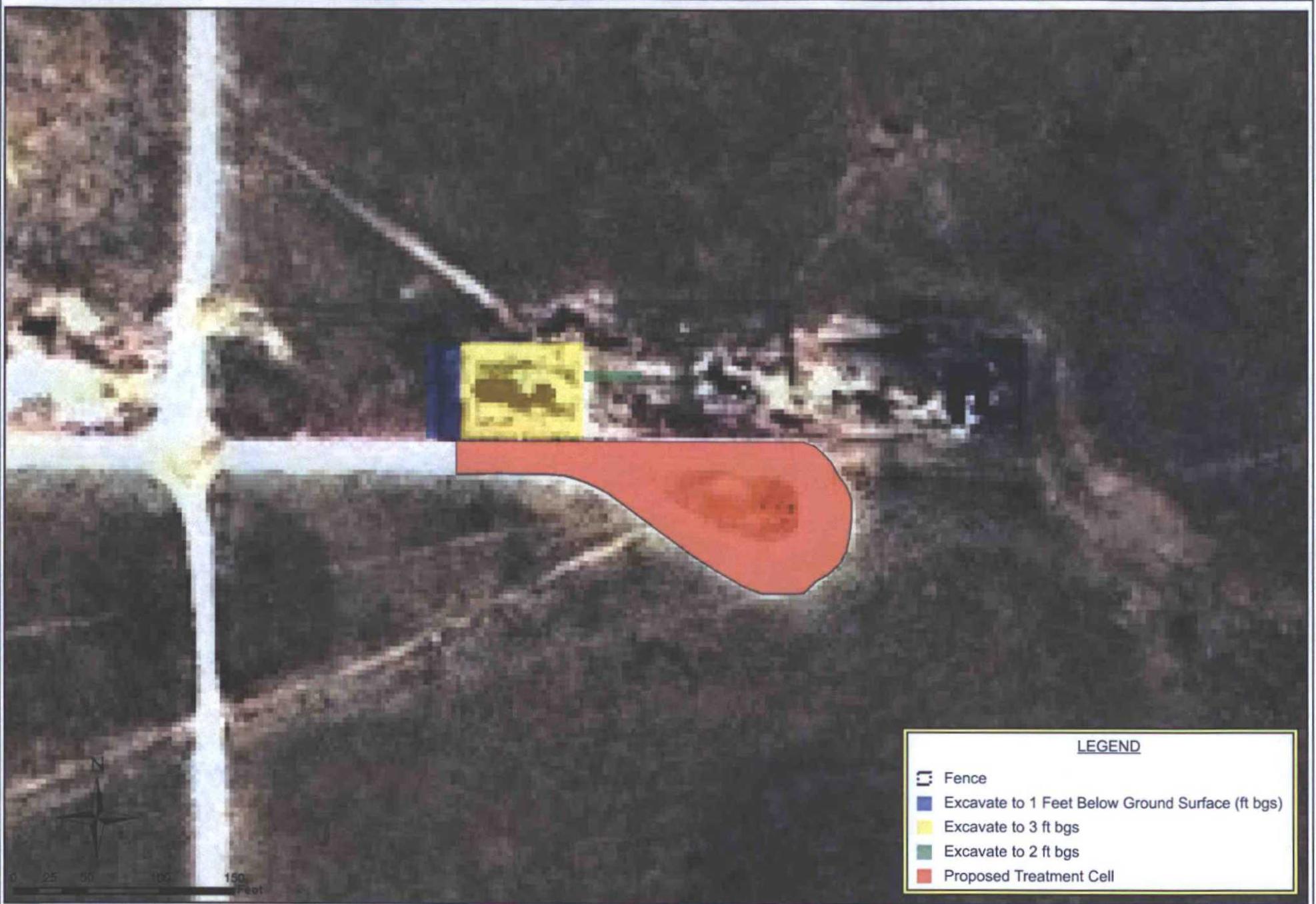
Additional Assessment Report and Remedial Action Plan

Jay Management, LLC
New Mexico State BB No. 1 Tank Battery
Mescalero Field - Lea County, New Mexico
NW1/4 SE1/4, Sec. 14, T10S R32E

**IMPACTED
AREA
MAP**

Fig.

4



LEGEND

-  Fence
-  Excavate to 1 Feet Below Ground Surface (ft bgs)
-  Excavate to 3 ft bgs
-  Excavate to 2 ft bgs
-  Proposed Treatment Cell

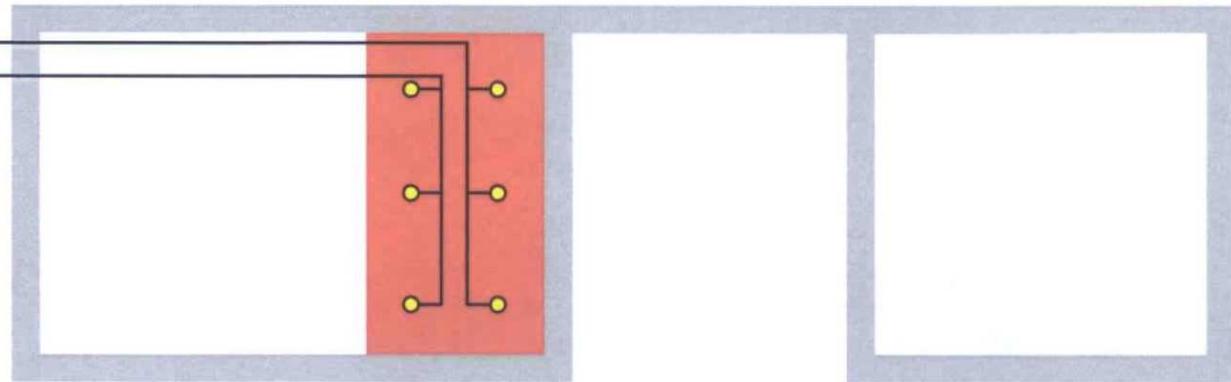
Prepared by:

 CARR ENVIRONMENTAL GROUP, INC.
 Date: 12/082011

Additional Assessment Report and Remedial Action Plan
 Jay Management, LLC
 New Mexico State BB No. 1 Tank Battery
 Mescalero Field - Lea County, New Mexico
 NW1/4 SE1/4, Sec. 14, T10S R32E

**EXCAVATION AND
 TREATMENT CELL
 LOCATION MAP**

Fig.
5



LEGEND	
	Secondary Containment
	Piping
	Air Injection Point
	Ball Valve
	Relief Valve
	Check Valve
	Deeper Impact Area

NOT TO SCALE



Date: 12/082011

Additional Assessment Report and Remedial Action Plan

Jay Management, LLC
New Mexico State BB No. 1 Tank Battery
Mescalero Field - Lea County, New Mexico
NW1/4 SE1/4, Sec. 14, T10S R32E

**AIR
INJECTION
SYSTEM**

Fig.

6

Technical Report for

Carr Environmental Group

ISR-11-457

Accutest Job Number: T91835

Sampling Dates: 11/01/11 - 11/02/11

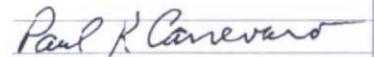
Report to:

Carr Environmental Group
504 Spring Hill Drive, Suite 300
Spring, TX 77386
jwilson@ceg-group.com; gbanks@ceg-group.com;
eborden@ceg-group.com; jfoster@ceg-group.com;
ATTN: Jim Foster

Total number of pages in report: 38



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.



Paul Canevaro
Laboratory Director

Client Service contact: Sonia West 713-271-4700

Certifications: TX (T104704220-11-5) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366)
LA (85695/04004) OK (211-035)

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Test results relate only to samples analyzed.

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Sample Summary

Carr Environmental Group

Job No: T91835

ISR-11-457

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
T91835-1	11/01/11	14:02	11/04/11	SO	Soil	SB8 1-2'
T91835-2	11/01/11	14:10	11/04/11	SO	Soil	SB8 3-4'
T91835-3	11/01/11	14:28	11/04/11	SO	Soil	SB8 9-10'
T91835-4	11/01/11	14:42	11/04/11	SO	Soil	SB8 12-13'
T91835-5	11/01/11	15:11	11/04/11	SO	Soil	SB9 3-4'
T91835-6	11/01/11	15:27	11/04/11	SO	Soil	SB9 9-10'
T91835-7	11/01/11	15:41	11/04/11	SO	Soil	SB9 15-16'
T91835-8	11/01/11	15:58	11/04/11	SO	Soil	SB10 1-2'
T91835-9	11/01/11	16:07	11/04/11	SO	Soil	SB10 3-4'
T91835-10	11/01/11	16:20	11/04/11	SO	Soil	SB10 9-10'
T91835-11	11/02/11	09:25	11/04/11	SO	Soil	SB11 0-6"

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Carr Environmental Group

Job No T91835

Site: ISR-11-457

Report Date 11/16/2011 4:13:31 PM

7 Samples were collected between 11/01/2011 and 11/02/2011 and received intact at Accutest on 11/04/2011 and properly preserved in 1 cooler at 5 Deg C. These Samples received an Accutest job number of T91835. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method SW846 8021B

Matrix	SO	Batch ID:	GKK1996
---------------	----	------------------	---------

- All samples were analyzed within the recommended method holding time.
- Sample(s) T91824-6MS, T91824-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- T91835-5, T91835-6: Sample was received unpreserved and outside the 48 hour preservation time.

Matrix	SO	Batch ID:	GKK1997
---------------	----	------------------	---------

- All samples were analyzed within the recommended method holding time.
- Sample(s) T91871-15MS, T91871-15MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample T91835-1 has surrogates outside control limits. Outside control limits due to matrix interference. Confirmed by re-analysis.
- T91835-1, T91835-2, T91835-8, T91835-9: Sample was received unpreserved and outside the 48 hour preservation time.

Extractables by GC By Method TNRCC 1005

Matrix	SO	Batch ID:	OP21012
---------------	----	------------------	---------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) T91824-10MS, T91824-10MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for TPH (>C12-C28), TPH (C6-C35) are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery for TPH (>C12-C28) is outside control limits. Probable cause due to matrix interference.
- Sample T91835-1 has surrogates outside control limits due to dilution.

Matrix	SO	Batch ID:	OP21071
---------------	----	------------------	---------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T91835-11MS, T91835-11MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for TPH (>C12-C28), TPH (C6-C35) are outside control limits. Probable cause due to matrix interference.

Wet Chemistry By Method SM 2540 G

Matrix SO

Batch ID: GN36659

- Sample T91969-16DUP was used as the QC sample for Solids, Percent.

Matrix SO

Batch ID: GN36660

- Sample T91818-10DUP was used as the QC sample for Solids, Percent.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: SB8 1-2'		Date Sampled: 11/01/11
Lab Sample ID: T91835-1		Date Received: 11/04/11
Matrix: SO - Soil		Percent Solids: 92.8
Method: SW846 8021B		
Project: ISR-11-457		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK042642.D	1	11/10/11	JL	n/a	n/a	GKK1997
Run #2 ^b	KK042629.D	1	11/10/11	JL	n/a	n/a	GKK1996

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.08 g	5.0 ml	
Run #2	5.04 g	5.0 ml	100 ul

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.2	0.52	ug/kg	
108-88-3	Toluene	1.2	4.2	0.69	ug/kg	J
100-41-4	Ethylbenzene	80.6	4.2	0.71	ug/kg	
1330-20-7	Xylenes (total)	117	13	1.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	15% ^c	92%	21-163%
98-08-8	aaa-Trifluorotoluene	26% ^c	123%	39-170%

- (a) Sample was received unpreserved and outside the 48 hour preservation time.
- (b) Confirmation run for surrogate recoveries.
- (c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: SB8 1-2'	Date Sampled: 11/01/11
Lab Sample ID: T91835-1	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 92.8
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JJ23422.D	10	11/08/11	GY	11/07/11	OP21012	GJF288
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	341	270	44	mg/kg	
	TPH (> C12-C28)	2820	270	44	mg/kg	
	TPH (> C28-C35)	492	270	44	mg/kg	
	TPH (C6-C35)	3650	270	44	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% ^a		70-130%
98-08-8	aaa-Trifluorotoluene	0% ^a		70-130%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: SB8 3-4'	Date Sampled: 11/01/11
Lab Sample ID: T91835-2	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 95.1
Method: SW846 8021B	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK042643.D	1	11/10/11	JL	n/a	n/a	GKK1997
Run #2							

	Initial Weight	Final Volume
Run #1	5.19 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.1	0.49	ug/kg	
108-88-3	Toluene	ND	4.1	0.66	ug/kg	
100-41-4	Ethylbenzene	1.0	4.1	0.68	ug/kg	J
1330-20-7	Xylenes (total)	2.2	12	1.7	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	79%		21-163%
98-08-8	aaa-Trifluorotoluene	116%		39-170%

(a) Sample was received unpreserved and outside the 48 hour preservation time.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: SB8 3-4'	Date Sampled: 11/01/11
Lab Sample ID: T91835-2	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 95.1
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JJ23567.D	1	11/09/11	GY	11/07/11	OP21012	GJB291
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	ND	26	4.3	mg/kg	
	TPH (> C12-C28)	ND	26	4.3	mg/kg	
	TPH (> C28-C35)	ND	26	4.3	mg/kg	
	TPH (C6-C35)	ND	26	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		70-130%
98-08-8	aaa-Trifluorotoluene	72%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB9 3-4'
 Lab Sample ID: T91835-5
 Matrix: SO - Soil
 Method: SW846 8021B
 Project: ISR-11-457

Date Sampled: 11/01/11
 Date Received: 11/04/11
 Percent Solids: 94.5

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK042626.D	2	11/10/11	JL	n/a	n/a	GKK1996
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.19 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	65.1	430	52	ug/kg	J
108-88-3	Toluene	1780	430	70	ug/kg	
100-41-4	Ethylbenzene	5600	430	72	ug/kg	
1330-20-7	Xylenes (total)	4040	1300	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		21-163%
98-08-8	aaa-Trifluorotoluene	122%		39-170%

(a) Sample was received unpreserved and outside the 48 hour preservation time.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

33
33

Client Sample ID: SB9 3-4'	Date Sampled: 11/01/11
Lab Sample ID: T91835-5	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 94.5
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL061642.D	1	11/11/11	NW	11/10/11	OP21071	GLB910
Run #2							

	Initial Weight	Final Volume
Run #1	10.5 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	88.4	25	4.2	mg/kg	
	TPH (> C12-C28)	560	25	4.2	mg/kg	
	TPH (> C28-C35)	144	25	4.2	mg/kg	
	TPH (C6-C35)	792	25	4.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	100%		70-130%
98-08-8	aaa-Trifluorotoluene	75%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB9 9-10'	Date Sampled: 11/01/11
Lab Sample ID: T91835-6	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 95.4
Method: SW846 8021B	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK042627.D	1	11/10/11	JL	n/a	n/a	GKK1996
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.90 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	39.1	190	23	ug/kg	J
108-88-3	Toluene	735	190	30	ug/kg	
100-41-4	Ethylbenzene	2300	190	31	ug/kg	
1330-20-7	Xylenes (total)	1620	560	80	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		21-163%
98-08-8	aaa-Trifluorotoluene	143%		39-170%

(a) Sample was received unpreserved and outside the 48 hour preservation time.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB9 9-10'	Date Sampled: 11/01/11
Lab Sample ID: T91835-6	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 95.4
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL061643.D	1	11/11/11	NW	11/10/11	OP21071	GLF910
Run #2							

	Initial Weight	Final Volume
Run #1	10.4 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	16.6	25	4.2	mg/kg	J
	TPH (> C12-C28)	136	25	4.2	mg/kg	
	TPH (> C28-C35)	ND	25	4.2	mg/kg	
	TPH (C6-C35)	153	25	4.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		70-130%
98-08-8	aaa-Trifluorotoluene	82%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: SB10 1-2'	Date Sampled: 11/01/11
Lab Sample ID: T91835-8	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 93.1
Method: SW846 8021B	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK042646.D	1	11/10/11	JL	n/a	n/a	GKK1997
Run #2							

	Initial Weight	Final Volume
Run #1	5.12 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.0	4.2	0.51	ug/kg	J
108-88-3	Toluene	8.2	4.2	0.68	ug/kg	
100-41-4	Ethylbenzene	7.3	4.2	0.70	ug/kg	
1330-20-7	Xylenes (total)	7.5	13	1.8	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		21-163%
98-08-8	aaa-Trifluorotoluene	139%		39-170%

(a) Sample was received unpreserved and outside the 48 hour preservation time.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: SB10 1-2'	Date Sampled: 11/01/11
Lab Sample ID: T91835-8	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 93.1
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JJ23620.D	1	11/10/11	GY	11/10/11	OP21071	GJF292
Run #2							

	Initial Weight	Final Volume
Run #1	10.4 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	30.0	26	4.3	mg/kg	
	TPH (> C12-C28)	287	26	4.3	mg/kg	
	TPH (> C28-C35)	99.6	26	4.3	mg/kg	
	TPH (C6-C35)	417	26	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	103%		70-130%
98-08-8	aaa-Trifluorotoluene	92%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.6
3

Client Sample ID: SB10 3-4'	Date Sampled: 11/01/11
Lab Sample ID: T91835-9	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 93.5
Method: SW846 8021B	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK042647.D	1	11/10/11	JL	n/a	n/a	GKK1997
Run #2							

	Initial Weight	Final Volume
Run #1	5.48 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	3.9	0.47	ug/kg	
108-88-3	Toluene	ND	3.9	0.63	ug/kg	
100-41-4	Ethylbenzene	1.1	3.9	0.65	ug/kg	J
1330-20-7	Xylenes (total)	ND	12	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	75%		21-163%
98-08-8	aaa-Trifluorotoluene	123%		39-170%

(a) Sample was received unpreserved and outside the 48 hour preservation time.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB10 3-4'	Date Sampled: 11/01/11
Lab Sample ID: T91835-9	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 93.5
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL061644.D	1	11/11/11	NW	11/10/11	OP21071	GLB910
Run #2							

	Initial Weight	Final Volume
Run #1	10.5 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	ND	25	4.2	mg/kg	
	TPH (> C12-C28)	5.48	25	4.2	mg/kg	J
	TPH (> C28-C35)	ND	25	4.2	mg/kg	
	TPH (C6-C35)	5.48	25	4.2	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		70-130%
98-08-8	aaa-Trifluorotoluene	75%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: SB11 0-6"		Date Sampled: 11/02/11
Lab Sample ID: T91835-11		Date Received: 11/04/11
Matrix: SO - Soil		Percent Solids: 87.6
Method: TNRCC 1005 TX1005		
Project: ISR-11-457		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JJ23622.D	1	11/10/11	GY	11/10/11	OP21071	GJF292
Run #2							

	Initial Weight	Final Volume
Run #1	10.5 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	ND	27	4.5	mg/kg	
	TPH (> C12-C28)	62.4	27	4.5	mg/kg	
	TPH (> C28-C35)	51.9	27	4.5	mg/kg	
	TPH (C6-C35)	114	27	4.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	98%		70-130%
98-08-8	aaa-Trifluorotoluene	86%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No.

305095

page 1 of 2

Client Name: CEG
 Address: 504 Spring Hill Dr. Ste. 300
 City: Spring State: TX Zip: 77738
 Phone/Fax: 281-872-9100 / 281-872-4521
 Client Contact: Gordon Banks Email: gbanks@ceg-group.com
 Project Name/No.: ISR-11-457
 Site Name: New Mexico BD State No. 1TB
 Site Location: Lea County, NM
 Invoice To: Debbie Carr Ph: 281-872-8200

matrix bottle size pres.
 W=water S=soil O=oil A=air SL=sludge E=encore X=other
 P=plastic A=amber glass V=vial X=other
 G=glass Y=4oz 40=vial
 1=1 liter 4=4oz 16=16oz X=other
 1=HCl 2=HNO3 3=H2SO4 X=other
 Number of Containers
 TPH 1005 BTEX Hold TPH 1005 Hold BTEX

SAMPLE ID	DATE	TIME	comp	grab	W	S	O	A	SL	E	X	P	A	G	1	4	16	1	2	3	TPH 1005	BTEX	Hold TPH 1005	Hold BTEX
1 SB8 1-2'	11-1-2011	1402		X	S	G	4	X	1												X	X		
2 SB8 3-4'		1410																			X	X		
3 SB8 9-10'		1428																					X	X
4 SB8 12-13'		1442																				X	X	
5 SB9 3-4'		1511																			X	X		
6 SB9 9-10'		1527																			X	X		
7 SB9 15-16'		1541																				X	X	
8 SB10 1-2'		1558																			X	X		
9 SB10 3-4'		1607																			X	X		
10 SB10 9-16'		1620																				X	X	

Client/Consultant Remarks: _____ Laboratory remarks: _____ Intact? Y N
 Ice? Y N
 Temp: _____

Requested TAT: 1 Business Day Contract 2 Business Days Standard 3 Business Days Other _____
 Rush TAT requires prior notice

Special Reporting Requirements Results: Fax Email PDF
 Standard QC Level 3 QC Level 4 QC TX TRRP LA RECAP

Special Detection Limits (specify): _____ PM review (initial): _____

1. Relinquished by Sampler: <u>NY</u>	date: <u>11-3-2011</u>	time: <u>1700</u>	2. Received by: <u>FedEx</u>
3. Relinquished by: <u>FedEx</u>	date: <u>11/4/2011</u>	time: <u>930</u>	4. Received by: <u>[Signature]</u>
5. Relinquished by: _____	date: _____	time: _____	6. Received by Laboratory: _____

8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777

T91835: Chain of Custody
Page 1 of 4

4.1
4



Accutest Job Number: T91835 Client: CEG Project: 1SR-11-457
 Date / Time Received: 11/4/2011 Delivery Method: Airbill #'s:
 No. Coolers: 1 Therm ID: IRGUN4; Temp Adjustment Factor: -0.3;
 Cooler Temps (Initial/Adjusted): #1: (5/4.7);

Cooler Security

1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Cooler Temperature

1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	

Quality Control Preservation

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>	<u>WTB</u>	<u>STB</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>			
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Sample Integrity - Documentation

1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Sample Integrity - Condition

1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Callahan

4.1 4

Job #: T91835

Date / Time Received: 11/4/2011 9:30:00 AM

Initials: EC

Client: CEG

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T91835-1	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-2	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-3	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-4	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-5	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-6	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-7	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-8	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-9	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-10	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-11	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7

4.1
4

T91835: Chain of Custody
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GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1996-MB	KK042605.D 1		11/09/11	JL	n/a	n/a	GKK1996

The QC reported here applies to the following samples:

Method: SW846 8021B

T91835-5, T91835-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.0	0.49	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	0.67	ug/kg	
108-88-3	Toluene	ND	4.0	0.65	ug/kg	
1330-20-7	Xylenes (total)	ND	12	1.7	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	74%	21-163%
98-08-8	aaa-Trifluorotoluene	118%	39-170%

5.1.1
5

Method Blank Summary

Page 1 of 1

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1997-MB	KK042636.D 1		11/10/11	JL	n/a	n/a	GKK1997

The QC reported here applies to the following samples:

Method: SW846 8021B

T91835-1, T91835-2, T91835-8, T91835-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.0	0.49	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	0.67	ug/kg	
108-88-3	Toluene	ND	4.0	0.65	ug/kg	
1330-20-7	Xylenes (total)	ND	12	1.7	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	84%	21-163%
98-08-8	aaa-Trifluorotoluene	121%	39-170%

5.1.2
5

Blank Spike Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1996-BS	KK042603.D 1		11/09/11	JL	n/a	n/a	GKK1996

The QC reported here applies to the following samples:

Method: SW846 8021B

T91835-5, T91835-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	20	21.2	106	73-132
100-41-4	Ethylbenzene	20	21.0	105	70-133
108-88-3	Toluene	20	19.5	98	74-133
1330-20-7	Xylenes (total)	60	64.5	108	73-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	92%	21-163%
98-08-8	aaa-Trifluorotoluene	136%	39-170%

5.2.1
5

Blank Spike Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1997-BS	KK042634.D 1		11/10/11	JL	n/a	n/a	GKK1997

The QC reported here applies to the following samples:

Method: SW846 8021B

T91835-1, T91835-2, T91835-8, T91835-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	20	20.6	103	73-132
100-41-4	Ethylbenzene	20	19.5	98	70-133
108-88-3	Toluene	20	19.9	100	74-133
1330-20-7	Xylenes (total)	60	60.8	101	73-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	94%	21-163%
98-08-8	aaa-Trifluorotoluene	135%	39-170%

5.2.2
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T91824-6MS	KK042607.D 1		11/09/11	JL	n/a	n/a	GKK1996
T91824-6MSD	KK042608.D 1		11/09/11	JL	n/a	n/a	GKK1996
T91824-6	KK042606.D 1		11/09/11	JL	n/a	n/a	GKK1996

The QC reported here applies to the following samples:

Method: SW846 8021B

T91835-5, T91835-6

CAS No.	Compound	T91824-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.93	J	21.3	14.8	65	19.1	88	25	41-129/33
100-41-4	Ethylbenzene	0.78	J	21.3	14.1	63	16.3	75	14	15-139/36
108-88-3	Toluene	2.3	J	21.3	14.8	59	18.2	77	21	26-141/38
1330-20-7	Xylenes (total)	2.8	J	63.9	40.5	59	46.5	71	14	22-132/33

CAS No.	Surrogate Recoveries	MS	MSD	T91824-6	Limits
460-00-4	4-Bromofluorobenzene	76%	96%	92%	21-163%
98-08-8	aaa-Trifluorotoluene	113%	136%	125%	39-170%

5.3.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T91871-15MS	KK042668.D 1		11/11/11	JL	n/a	n/a	GKK1997
T91871-15MSD	KK042669.D 1		11/11/11	JL	n/a	n/a	GKK1997
T91871-15	KK042667.D 1		11/11/11	JL	n/a	n/a	GKK1997

The QC reported here applies to the following samples:

Method: SW846 8021B

T91835-1, T91835-2, T91835-8, T91835-9

CAS No.	Compound	T91871-15 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		1320	1140	87	1150	87	1	41-129/33
100-41-4	Ethylbenzene	496		1320	1610	85	1600	84	1	15-139/36
108-88-3	Toluene	151	J	1320	1240	83	1250	83	1	26-141/38
1330-20-7	Xylenes (total)	2180		3950	5830	92	5550	85	5	22-132/33

CAS No.	Surrogate Recoveries	MS	MSD	T91871-15	Limits
460-00-4	4-Bromofluorobenzene	101%	100%	102%	21-163%
98-08-8	aaa-Trifluorotoluene	124%	126%	128%	39-170%

5.3.2
5



GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21012-MB	JJ23562.D	1	11/09/11	GY	11/07/11	OP21012	GJF291

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-1, T91835-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	ND	24	4.0	mg/kg	
	TPH (> C12-C28)	ND	24	4.0	mg/kg	
	TPH (> C28-C35)	ND	24	4.0	mg/kg	
	TPH (C6-C35)	ND	24	4.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	95%	70-130%
98-08-8	aaa-Trifluorotoluene	107%	70-130%

6.1.1
6

Method Blank Summary

Page 1 of 1

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21071-MB	JJ23614.D	1	11/10/11	GY	11/10/11	OP21071	GJF292

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-5, T91835-6, T91835-8, T91835-9, T91835-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	ND	25	4.1	mg/kg	
	TPH (> C12-C28)	ND	25	4.1	mg/kg	
	TPH (> C28-C35)	ND	25	4.1	mg/kg	
	TPH (C6-C35)	ND	25	4.1	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	81%	70-130%
98-08-8	aaa-Trifluorotoluene	79%	70-130%

6.1.2

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21012-BS	JJ23561.D	1	11/09/11	GY	11/07/11	OP21012	GJB291
OP21012-BSD	JJ23563.D	1	11/09/11	GY	11/07/11	OP21012	GJB291

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-1, T91835-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C6-C12)	242	294	121	283	116	4	75-125/25
	TPH (> C12-C28)	242	299	123	295	121	1	75-125/25
	TPH (C6-C35)	484	593	122	577	119	3	75-125/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	116%	111%	70-130%
98-08-8	aaa-Trifluorotoluene	108%	102%	70-130%

6.2.1
6

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21071-BS	JJ23613.D	1	11/10/11	GY	11/10/11	OP21071	GJB292
OP21071-BSD	JJ23615.D	1	11/10/11	GY	11/10/11	OP21071	GJB292

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-5, T91835-6, T91835-8, T91835-9, T91835-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C6-C12)	250	252	101	278	112	10	75-125/25
	TPH (> C12-C28)	250	302	121	304	122	1	75-125/25
	TPH (C6-C35)	499	554	111	581	117	5	75-125/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	92%	102%	70-130%
98-08-8	aaa-Trifluorotoluene	74%	80%	70-130%

6.2.2
6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21012-MS	JJ23398.D	1	11/07/11	GY	11/07/11	OP21012	GJF288
OP21012-MSD	JJ23400.D	1	11/07/11	GY	11/07/11	OP21012	GJF288
T91824-10	JJ23420.D	1	11/08/11	GY	11/07/11	OP21012	GJF288

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-1, T91835-2

CAS No.	Compound	T91824-10 mg/kg	Spike Q mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C6-C12)	61.8	254	356	116	361	114	1	75-125/25
	TPH (> C12-C28)	208	254	587	149*	580	141*	1	75-125/25
	TPH (C6-C35)	286	508	943	129*	941	124	0	75-125/25

CAS No.	Surrogate Recoveries	MS	MSD	T91824-10	Limits
84-15-1	o-Terphenyl	111%	107%	114%	70-130%
98-08-8	aaa-Trifluorotoluene	95%	94%	105%	70-130%

6.3.1
6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T91835
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21071-MS	JJ23616.D	1	11/10/11	GY	11/10/11	OP21071	GJF292
OP21071-MSD	JJ23618.D	1	11/10/11	GY	11/10/11	OP21071	GJF292
T91835-11	JJ23622.D	1	11/10/11	GY	11/10/11	OP21071	GJF292

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-5, T91835-6, T91835-8, T91835-9, T91835-11

CAS No.	Compound	T91835-11 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C6-C12)	ND	282	237	84	268	95	12	75-125/25
	TPH (> C12-C28)	62.4	282	254	68*	280	77	10	75-125/25
	TPH (C6-C35)	114	563	492	67*	547	77	11	75-125/25

CAS No.	Surrogate Recoveries	MS	MSD	T91835-11	Limits
84-15-1	o-Terphenyl	96%	106%	98%	70-130%
98-08-8	aaa-Trifluorotoluene	85%	101%	86%	70-130%

6.3.2
6

Technical Report for

Carr Environmental Group

ISR-11-457

Accutest Job Number: T91835R

Sampling Date: 11/01/11

Report to:

Carr Environmental Group
504 Spring Hill Drive, Suite 300
Spring, TX 77386
jwilson@ceg-group.com; gbanks@ceg-group.com;
eborden@ceg-group.com; jfoster@ceg-group.com;
ATTN: Jim Foster

Total number of pages in report: **15**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.



Paul Canevaro
Laboratory Director

Client Service contact: Sonia West 713-271-4700

Certifications: TX (T104704220-11-5) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366)
LA (85695/04004) OK (211-035)

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Test results relate only to samples analyzed.

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Sample Summary

Carr Environmental Group
ISR-11-457

Job No: T91835R

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
T91835-7R	11/01/11	15:41	11/04/11	SO	Soil	SB9 15-16'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Carr Environmental Group

Job No T91835R

Site: ISR-11-457

Report Date 11/21/2011 6:02:43 PM

1 Sample was collected on 11/01/2011 and received intact at Accutest on 11/04/2011 and properly preserved in at 4.7 Deg C. The sample received an Accutest job number of T91835R. A listing of the Laboratory Sample ID, Client Sample ID and date of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GC By Method TNRCC 1005

Matrix SO	Batch ID: OP21193
------------------	--------------------------

- All method blanks for this batch meet method specific criteria.
- Sample(s) T93145-10MS, T93145-10MSD were used as the QC samples indicated.
- The following sample was extracted and analyzed outside of holding time for method TNRCC 1005: T91835-7R. Sample extracted and analyzed beyond hold time per client request.

Wet Chemistry By Method SM 2540 G

Matrix SO	Batch ID: GN36899
------------------	--------------------------

- Sample T92481-77DUP was used as the QC sample for Solids, Percent.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used



Sample Results

Report of Analysis

Report of Analysis

3.1
3

Client Sample ID: SB9 15-16'	Date Sampled: 11/01/11
Lab Sample ID: T91835-7R	Date Received: 11/04/11
Matrix: SO - Soil	Percent Solids: 97.4
Method: TNRCC 1005 TX1005	
Project: ISR-11-457	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LL062075.D	1	11/21/11	NW	11/21/11	OP21193	GLF915
Run #2							

	Initial Weight	Final Volume
Run #1	10.6 g	10.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	12.9	24	4.0	mg/kg	J
	TPH (> C12-C28)	119	24	4.0	mg/kg	
	TPH (> C28-C35)	18.5	24	4.0	mg/kg	J
	TPH (C6-C35)	151	24	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		70-130%
98-08-8	aaa-Trifluorotoluene	86%		70-130%

(a) Sample extracted and analyzed beyond hold time per clients request.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No.

305095

page 1 of 2

Client Name: CEG
 Address: 504 Spring Hill Dr. Ste. 300
 City: Spring State: TX Zip: 77738
 Phone/Fax: 281-872-9300 / 281-872-4521
 Client Contact: Gordon Banks Email: gbanks@ceg-group.com
 Project Name/No.: ISR-11-457
 Site Name: New Mexico BD State No. 1 TB
 Site Location: Lea County, NM
 Invoice To: Debbie Carr Ph: 281-872-8200

matrix	bottle	size	pres.	Requested Analysis			
W=water S=soil O=oil A=air SL=sludge E=encore X=other	P=plastic A=amber glass G=glass V=vial X=other	1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other	1=HC1 2=HNO3 3=H2SO4 X=other	TPH 100S	BTEX	Hold TPH 100S	Hold BTEX

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	TPH 100S	BTEX	Hold TPH 100S	Hold BTEX
1 SB8 1-2'	11-1-2011	1402		X	S	G	4	X	1	X	X		
2 SB8 3-4'		1410								X	X		
3 SB8 9-10'		1428										X	X
4 SB8 12-13'		1442										X	X
5 SB9 3-4'		1511								X	X		
6 SB9 9-10'		1527								X	X		
7 SB9 15-16'		1541										X	X
8 SB10 1-2'		1558								X	X		
9 SB10 3-4'		1607								X	X		
10 SB10 9-10'		1620										X	X

Client/Consultant Remarks: _____ Laboratory remarks: _____ Intact? Y N
 Ice? Y N
 Temp: _____

Requested TAT
 1 Business Day Contract
 2 Business Days Standard
 3 Business Days
 Other _____
 Rush TAT requires prior notice

Special Reporting Requirements Results: Fax Email PDF
 Standard QC Level 3 QC Level 4 QC TX TRRP LA RECAP

Special Detection Limits (specify): _____ PM review (initial): _____

1. Relinquished by: <u>MI</u>	date: <u>11-3-2011</u>	time: <u>1700</u>	2. Received by: <u>FedEx</u>
3. Relinquished by: <u>FedEx</u>	date: <u>11/4/2011</u>	time: <u>930</u>	4. Received by: <u>[Signature]</u>
5. Relinquished by:	date:	time:	6. Received by Laboratory:

8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777

T91835R: Chain of Custody

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4.1
4



Accutest Job Number: T91835 Client: CEG Project: 1SR-11-457
 Date / Time Received: 11/4/2011 Delivery Method: Airbill #'s:
 No. Coolers: 1 Therm ID: IRGUN4; Temp Adjustment Factor: -0.3;
 Cooler Temps (Initial/Adjusted): #1: (5/4.7);

Cooler Security

	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		

Quality Control Preservation

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>	<u>WTB</u>	<u>STB</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>			
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Sample Integrity - Documentation

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

Sample Integrity - Instructions

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing Instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering Instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Call 11/4/11

4.1
4

Job #: T91835

Date / Time Received: 11/4/2011 9:30:00 AM

Initials: EC

Client: CEG

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T91835-1	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-2	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-3	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-4	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-5	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-6	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-7	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-8	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-9	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-10	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7
1	T91835-11	4oz	1	VR	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5	-0.3	4.7

4.1
4

T91835R: Chain of Custody
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GC Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T91835R
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21193-MB	LL062078.D	1	11/21/11	NW	11/21/11	OP21193	GLB915

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-7R

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C6-C12)	ND	24	4.0	mg/kg	
	TPH (> C12-C28)	ND	24	4.0	mg/kg	
	TPH (> C28-C35)	ND	24	4.0	mg/kg	
	TPH (C6-C35)	ND	24	4.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	102%	70-130%
98-08-8	aaa-Trifluorotoluene	106%	70-130%

5.1.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: T91835R
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21193-BS	LL062079.D	1	11/21/11	NW	11/21/11	OP21193	GLF915
OP21193-BSD	LL062081.D	1	11/21/11	NW	11/21/11	OP21193	GLF915

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-7R

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C6-C12)	239	238	100	237	101	0	75-125/25
	TPH (> C12-C28)	239	288	121	288	123	0	75-125/25
	TPH (C6-C35)	477	526	110	525	112	0	75-125/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	81%	94%	70-130%
98-08-8	aaa-Trifluorotoluene	99%	117%	70-130%

5.2.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T91835R
Account: CARR Carr Environmental Group
Project: ISR-11-457

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21193-MS	LL062080.D	1	11/21/11	NW	11/21/11	OP21193	GLB915
OP21193-MSD	LL062082.D	1	11/21/11	NW	11/21/11	OP21193	GLB915
T93145-10	LL062083.D	1	11/21/11	NW	11/21/11	OP21193	GLF915

The QC reported here applies to the following samples:

Method: TNRCC 1005

T91835-7R

CAS No.	Compound	T93145-10 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C6-C12)	29 U	286	312	109	337	120	8	75-125/25
	TPH (> C12-C28)	29 U	286	350	122	310	110	12	75-125/25
	TPH (C6-C35)	29 U	573	662	116	647	115	2	75-125/25

CAS No.	Surrogate Recoveries	MS	MSD	T93145-10	Limits
84-15-1	o-Terphenyl	94%	99%	85%	70-130%
98-08-8	aaa-Trifluorotoluene	86%	98%	111%	70-130%

5.3.1
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