District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

Initial Report **X Final Report**

Name of Company: Crain Hot Oil Service, Inc.	Contact: Todd Crain
Address: PO Box 5846, Granbury, Texas 76049	Telephone No.: 817-692-7333
Facility Name: Gulf Deep No. 1 SWD	Facility Type: SWD Disposal **API NO.: 30-005-01210**

Surface Owner: State of New Mexico	Mineral Owner:	Lease No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	34	14	31	660'	FNL	1980'	FWL	Chaves

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release: Hydrocarbon and produced water	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: 400 barrel tank overran because pump did not shut off.	Date and Hour of Occurrence: 12/11/12	Date and Hour of Discovery: 12/11/12
Was Immediate Notice Given? ☐ Yes **X No** ☐ Not Required	If YES, To Whom? Information unknown.	
By Whom? Information unknown.	Date and Hour: Information unknown.	
Was a Watercourse Reached? ☐ Yes **X No**	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The trucks were unloading into the 400 barrel tank located inside the battery. The pump was running per normal procedure but it failed to shut off and the tank began to run over. As soon as the drivers recognized there was a problem, they shut the pump down and immediately began to suck up the discharged fluid within the battery berms.

Describe Area Affected and Cleanup Action Taken.*

Please refer to the Initial C-141and CAP submitted to the NMOCD on July 1, 2013 for additional information. The contaminated material was completely removed, the area tested and the analytical results submitted to the NMOCD. Additionally, this area was also handled during the closure of the entire battery, which resulted in more sampling and excavation. Accompanying this Final C-141 is the FRR for the entire battery and associated areas.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Todd	OIL CONSERVATION DIVISION
Printed Name: Todd Crain	Approved by District Supervisor: Environmental Specialist
Title: President	Approval Date: 1/27/14 Expiration Date: —
E-mail Address: tcrain@crainhotoil.com	Conditions of Approval: — Attached ☐ IRP-7-13-2934
Date: January 10, 2014 Phone: 817-692-7333	

* Attach Additional Sheets If Necessary

IRP-10-13-2976

JAN 28 2014

Mr. Todd Crain, President
CRAIN HOT OIL SERVICE, INC.
PO Box 5846
Granbury, Texas 76049

January 10, 2014

Mr. Geoffrey Leking
NEW MEXICO OIL CONSERVATION DIVISION
1625 North French Drive
Hobbs, New Mexico 88240

Re: Gulf Deep No.1 SWD Battery Closure **API No.: 30-005-01210**
U/L C S34 T14S R31E 660' FNL 1980' FWL
Chaves County, New Mexico

FINAL REMEDIATION REPORT AND FINAL C-141

Dear Mr. Leking:

Crain Hot Oil Service, Inc. herewith submits its *Final Remediation Report* (FRR) and *Final C-141* form for the Gulf Deep No. 1 SWD remediation of the unauthorized discharge of approximately 50 barrels of hydrocarbon and produced water from the 400 bbl. gunbarrel tank on/or about December 11, 2012. These documents are being submitted along with the FRR for the permanent closure of this facility. Please refer back to the CAP and Initial C-141 for historic details of the specific discharge event.

Initially, delineation results and the presence of the geologically hardened infrastructure referred to as a "cap" dictated the depth for excavation of the contaminated materials located within or adjacent to the boundaries of the battery. This action resulted in the removal and haulage of greater than 1,800 yards of material to disposal at the Gandy Marley Disposal Facility. Following this, the NMOCD witnessed a sampling event that resulted in the further excavation of a restricted area within the battery itself, which had been contaminated by a fairly recent discharge prior to closure of the Gulf Deep State No. 1 SWD Battery. Once this was completed, a 3" to 4" layer of clay was laid down and compacted to ensure the clay liner had sufficient integrity to prevent seepage or any type of crossover from occurring. The entire area was then backfilled with clean caliche to a commensurate elevation matching the surrounding topography and melded in with the existing drilling pad for future use as such.

Crain Hot Oil Service closed and remediated its battery and associated facilities in December of 2013. NMOCD supervised the excavation activities and witnessed the sampling events, which took place during closure. Attached with this document are the laboratory analyticals for your reference.

Sincerely,

Todd Crain, President
Enclosures: Laboratory Analyticals

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR Initial Report **X Final Report**

Name of Company: Crain Hot Oil Service, Inc.	Contact: Todd Crain
Address: PO Box 5846, Granbury, Texas 76049	Telephone No.: 817-692-7333
Facility Name: Gulf Deep No. 1 SWD	Facility Type: SWD Disposal **API NO.: 30-005-01210**

Surface Owner: State of New Mexico	Mineral Owner:	Lease No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	34	14	31	660'	FNL	1980'	FWL	Chaves

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release: Hydrocarbon and produced water	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: 400 barrel tank overran because pump did not shut off.	Date and Hour of Occurrence: 12/11/12	Date and Hour of Discovery: 12/11/12
Was Immediate Notice Given? ☐ Yes **X No** ☐ Not Required	If YES, To Whom? Information unknown.	
By Whom? Information unknown.	Date and Hour: Information unknown.	
Was a Watercourse Reached? ☐ Yes **X No**	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The trucks were unloading into the 400 barrel tank located inside the battery. The pump was running per normal procedure but it failed to shut off and the tank began to run over. As soon as the drivers recognized there was a problem, they shut the pump down and immediately began to suck up the discharged fluid within the battery berms.

Describe Area Affected and Cleanup Action Taken.*

Please refer to the Initial C-141and CAP submitted to the NMOCD on July 1, 2013 for additional information. The contaminated material was completely removed, the area tested and the analytical results submitted to the NMOCD. Additionally, this area was also handled during the closure of the entire battery, which resulted in more sampling and excavation. Accompanying this Final C-141 is the FRR for the entire battery and associated areas.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Todd Crain

Printed Name: Todd Crain

Title: President

E-mail Address: tcrain@crainhotoil.com

Date: January 10, 2014 Phone: 817-692-7333

OIL CONSERVATION DIVISION

Approved by District Supervisor: Shelley LeRiwo Environmental Specialist

Approval Date: 1/27/14 Expiration Date: —

Conditions of Approval: —

Attached ☐

IRP-7-13-2934

* Attach Additional Sheets If Necessary

IRP-10-13-2976

Summary Report

(Corrected Report)

Todd Crain
Crain Hot Oil & Acidizing

P. O. Box 5846
Granbury, TX 76049

Report Date: July 5, 2013

Work Order: 13062134

Project Location: NM
Project Name: Gulf Deep No. 1 SWD
Project Number: Battery Delineation

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
332997	SW Hole @ 1'	soil	2013-06-20	09:02	2013-06-21
332998	SW Hole @ 3'	soil	2013-06-20	09:20	2013-06-21
332999	SW Hole @ 5'	soil	2013-06-20	09:27	2013-06-21
333000	Center Between 1 and 2 Tanks 4'	soil	2013-06-20	10:05	2013-06-21
333001	Center Between 1 and 2 Tanks 10'	soil	2013-06-20	10:16	2013-06-21
333002	Center Between 1 and 2 Tanks 15'	soil	2013-06-20	10:25	2013-06-21
333003	Center Between 1 and 2 Tanks 25'	soil	2013-06-20	11:00	2013-06-21
333004	Center Between 1 and 2 Tanks 30'	soil	2013-06-20	12:02	2013-06-21
333005	Center Between 1 and 2 Tanks 40'	soil	2013-06-20	16:27	2013-06-21
333006	Center Between 1 and 2 Tanks 50'	soil	2013-06-20	16:59	2013-06-21
333007	Center Between 1 and 2 Tanks 55'	soil	2013-06-20	17:14	2013-06-21
333008	Center Between 1 and 2 Tanks 65'	soil	2013-06-20	17:42	2013-06-21

	BTEX				TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
332997 - SW Hole @ 1'	<0.100 [1]	**0.462**	**7.39**	**19.1**	**439**	**356**
332998 - SW Hole @ 3'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
332999 - SW Hole @ 5'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333000 - Center Between 1 and 2 Tanks 4'	<0.100	<0.100	<0.100	<0.100	**56.3**	**71.5**
333001 - Center Between 1 and 2 Tanks 10'	<0.0200	<0.0200	<0.0200	**0.0279**	<50.0	<4.00
333002 - Center Between 1 and 2 Tanks 15'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333003 - Center Between 1 and 2 Tanks 25'	<0.0200	<0.0200	<0.0200	**0.0417**	<50.0	<4.00
333004 - Center Between 1 and 2 Tanks 30'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00

continued ...

[1] Dilution due to hydrocarbons.

This is only a summary. Please, refer to the complete report package for quality control data.

... continued

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
333005 - Center Between 1 and 2 Tanks 40'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333006 - Center Between 1 and 2 Tanks 50'	<0.0200	<0.0200	<0.0200	<0.0200	**55.5**	<4.00
333007 - Center Between 1 and 2 Tanks 55'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333008 - Center Between 1 and 2 Tanks 65'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00

Sample: 332997 - SW Hole @ 1'

Param	Flag	Result	Units	RL
Chloride		**2080**	mg/Kg	4

Sample: 332998 - SW Hole @ 3'

Param	Flag	Result	Units	RL
Chloride		**1650**	mg/Kg	4

Sample: 332999 - SW Hole @ 5'

Param	Flag	Result	Units	RL
Chloride		**1270**	mg/Kg	4

Sample: 333000 - Center Between 1 and 2 Tanks 4'

Param	Flag	Result	Units	RL
Chloride		**2200**	mg/Kg	4

Sample: 333001 - Center Between 1 and 2 Tanks 10'

Param	Flag	Result	Units	RL
Chloride		**265**	mg/Kg	4

Sample: 333002 - Center Between 1 and 2 Tanks 15'

Param	Flag	Result	Units	RL
Chloride		**99.5**	mg/Kg	4

Sample: 333003 - Center Between 1 and 2 Tanks 25'

Param	Flag	Result	Units	RL
Chloride		**123**	mg/Kg	4

Sample: 333004 - Center Between 1 and 2 Tanks 30'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 333005 - Center Between 1 and 2 Tanks 40'

Param	Flag	Result	Units	RL
Chloride		**56.9**	mg/Kg	4

Sample: 333006 - Center Between 1 and 2 Tanks 50'

Param	Flag	Result	Units	RL
Chloride		**52.1**	mg/Kg	4

Sample: 333007 - Center Between 1 and 2 Tanks 55'

Param	Flag	Result	Units	RL
Chloride		**52.5**	mg/Kg	4

Sample: 333008 - Center Between 1 and 2 Tanks 65'

Param	Flag	Result	Units	RL
Chloride		**47.8**	mg/Kg	4

Summary Report

(Corrected Report)

COPY

Todd Crain
Crain Hot Oil & Acidizing

P. O. Box 5846
Granbury, TX 76049

Report Date: July 5, 2013

Work Order: 13062603

Project Location: NM
Project Name: Gulf Deep No. 1 SWD
Project Number: Disposal Facility

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
333292	Injection Well @ 4'	soil	2013-06-24	08:31	2013-06-25
333293	Injection Well @ 10'	soil	2013-06-24	08:45	2013-06-25
333294	SE Corner Battery @ 5'	soil	2013-06-24	09:00	2013-06-25
333295	SE Corner Battery @ 10'	soil	2013-06-24	09:22	2013-06-25
333296	SE Corner Battery @ 15'	soil	2013-06-24	09:42	2013-06-25
333297	Battery W Side Hole #1 @ 5'	soil	2013-06-24	13:06	2013-06-25
333298	Battery W Side Hole #1 @ 10'	soil	2013-06-24	13:14	2013-06-25
333299	East Side Hole #5 @ 5'	soil	2013-06-24	12:05	2013-06-25
333300	East Side Hole #5 @ 10'	soil	2013-06-24	12:10	2013-06-25
333301	East Side Hole #6 @ 5'	soil	2013-06-24	13:24	2013-06-25
333302	East Side Hole #6 @ 10'	soil	2013-06-24	15:01	2013-06-25

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
333292 - Injection Well @ 4'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333293 - Injection Well @ 10'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333294 - SE Corner Battery @ 5'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333295 - SE Corner Battery @ 10'	<0.0400 [1]	<0.0400	**0.346**	**0.799**	**181**	**14.8**
333296 - SE Corner Battery @ 15'	<0.0400 [2]	<0.0400	**0.176**	**0.486**	**89.2**	**14.1**
333297 - Battery W Side Hole #1 @ 5'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333298 - Battery W Side Hole #1 @ 10'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333299 - East Side Hole #5 @ 5'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
333300 - East Side Hole #5 @ 10'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00

continued ...

[1]Dilution due to hydrocarbons.
[2]Dilution due to hydrocarbons.

... continued

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
333301 - East Side Hole #6 @ 5'	<0.100 [3]	<0.100	<0.100	<0.100	**307**	**24.4**
333302 - East Side Hole #6 @ 10'	<0.0200	<0.0200	<0.0200	<0.0200	**66.9**	**7.77**

Sample: 333292 - Injection Well @ 4'

Param	Flag	Result	Units	RL
Chloride		**1250**	mg/Kg	4

Sample: 333293 - Injection Well @ 10'

Param	Flag	Result	Units	RL
Chloride		**2260**	mg/Kg	4

Sample: 333294 - SE Corner Battery @ 5'

Param	Flag	Result	Units	RL
Chloride		**58.3**	mg/Kg	4

Sample: 333295 - SE Corner Battery @ 10'

Param	Flag	Result	Units	RL
Chloride		**1450**	mg/Kg	4

Sample: 333296 - SE Corner Battery @ 15'

Param	Flag	Result	Units	RL
Chloride		**722**	mg/Kg	4

Sample: 333297 - Battery W Side Hole #1 @ 5'

Param	Flag	Result	Units	RL
Chloride		**775**	mg/Kg	4

Sample: 333298 - Battery W Side Hole #1 @ 10'

[3] Dilution due to hydrocarbons.

Param	Flag	Result	Units	RL
Chloride		**136**	mg/Kg	4

Sample: 333299 - East Side Hole #5 @ 5'

Param	Flag	Result	Units	RL
Chloride		**1810**	mg/Kg	4

Sample: 333300 - East Side Hole #5 @ 10'

Param	Flag	Result	Units	RL
Chloride		**349**	mg/Kg	4

Sample: 333301 - East Side Hole #6 @ 5'

Param	Flag	Result	Units	RL
Chloride		**2830**	mg/Kg	4

Sample: 333302 - East Side Hole #6 @ 10'

Param	Flag	Result	Units	RL
Chloride		**2270**	mg/Kg	4

Summary Report

Todd Crain
Crain Hot Oil & Acidizing

P. O. Box 5846
Granbury, TX 76049

Report Date: July 30, 2013

Work Order: 13072435

Project Location: NM
Project Name: Gulf Deep No. 1 SWD
Project Number: New Tank Battery by Well

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
336122	Background	soil	2013-07-23	10:05	2013-07-24
336123	NE New Tank Area #1	soil	2013-07-23	10:10	2013-07-24
336124	Hole #2	soil	2013-07-23	10:15	2013-07-24
336125	Hole #3	soil	2013-07-23	10:20	2013-07-24
336126	Hole #4	soil	2013-07-23	10:26	2013-07-24
336127	Hole #5	soil	2013-07-23	10:30	2013-07-24
336128	Hole #6	soil	2013-07-23	10:40	2013-07-24
336129	Hole #7	soil	2013-07-23	10:48	2013-07-24

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
336122 - Background	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
336123 - NE New Tank Area #1	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.26**
336124 - Hole #2	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.06**
336125 - Hole #3	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.32**
336126 - Hole #4	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.08**
336127 - Hole #5	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.22**
336128 - Hole #6	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
336129 - Hole #7	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00

Sample: 336122 - Background

Param	Flag	Result	Units	RL
Chloride		**1120**	mg/Kg	4

Sample: 336123 - NE New Tank Area #1

Param	Flag	Result	Units	RL
Chloride		**1160**	mg/Kg	4

Sample: 336124 - Hole #2

Param	Flag	Result	Units	RL
Chloride		**1450**	mg/Kg	4

Sample: 336125 - Hole #3

Param	Flag	Result	Units	RL
Chloride		**1190**	mg/Kg	4

Sample: 336126 - Hole #4

Param	Flag	Result	Units	RL
Chloride		**1480**	mg/Kg	4

Sample: 336127 - Hole #5

Param	Flag	Result	Units	RL
Chloride		**1820**	mg/Kg	4

Sample: 336128 - Hole #6

Param	Flag	Result	Units	RL
Chloride		**2210**	mg/Kg	4

Sample: 336129 - Hole #7

Param	Flag	Result	Units	RL
Chloride		**1590**	mg/Kg	4

Summary Report

Todd Crain
Crain Hot Oil & Acidizing

P. O. Box 5846
Granbury, TX 76049

Report Date: July 30, 2013

Work Order: 13072433

Project Location: NM
Project Name: Gulf Deep No. 1 SWD
Project Number: Battery South End

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
336115	South End 6"	soil	2013-07-23	08:00	2013-07-24
336116	South End 3'	soil	2013-07-23	08:10	2013-07-24

	BTEX				TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
336115 - South End 6"	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.23**
336116 - South End 3'	<0.0200	<0.0200	<0.0200	<0.0200	**60.2**	**4.35**

Sample: 336115 - South End 6"

Param	Flag	Result	Units	RL
Chloride		**196**	mg/Kg	4

Sample: 336116 - South End 3'

Param	Flag	Result	Units	RL
Chloride		**152**	mg/Kg	4

Summary Report

Todd Crain
Crain Hot Oil Services

P. O. Box 5846
Granbury, TX 76049

Report Date: November 27, 2013

Work Order: 13112226

Project Location: NM
Project Name: Gulf Deep No. 1 SWD - Old Batt. Del.
Project Number: Gulf Deep No. 1 SWD

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
347376	Hole No. 7 @ 5'	soil	2013-11-21	10:25	2013-11-22
347377	Hole No. 7 @ 9'	soil	2013-11-21	10:33	2013-11-22
347378	Hole No. 7 @ 12'	soil	2013-11-21	10:48	2013-11-22
347379	Hole No. 7 @ 15'	soil	2013-11-21	10:55	2013-11-22
347380	Hole No. 7 @ 20'	soil	2013-11-21	11:03	2013-11-22
347381	Hole No. 7 @ 30'	soil	2013-11-21	11:34	2013-11-22
347382	Hole No. 1 @ 5'	soil	2013-11-21	10:15	2013-11-22
347383	Hole No. 1 @ 9'	soil	2013-11-21	10:19	2013-11-22
347384	Hole No. 4 @ 5'	soil	2013-11-21	11:37	2013-11-22
347385	Hole No. 4 @ 10'	soil	2013-11-21	11:46	2013-11-22
347386	Hole No. 8 @ 5'	soil	2013-11-21	11:54	2013-11-22
347387	Hole No. 8 @ 10'	soil	2013-11-21	12:02	2013-11-22

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
347376 - Hole No. 7 @ 5'	<0.0200	<0.0200	<0.0200	**0.820**	<50.0	**31.0**
347377 - Hole No. 7 @ 9'	<0.0200	<0.0200	**0.898**	**1.71**	**99.2**	**57.3**
347378 - Hole No. 7 @ 12'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
347379 - Hole No. 7 @ 15'	<0.0200	<0.0200	<0.0200	<0.0200	**72.3**	<4.00
347380 - Hole No. 7 @ 20'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
347381 - Hole No. 7 @ 30'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
347382 - Hole No. 1 @ 5'	<0.0400	<0.0400	<0.0400	<0.0400	<50.0	<8.00
347383 - Hole No. 1 @ 9'	<0.0400	<0.0400	<0.0400	<0.0400	<50.0	<8.00
347384 - Hole No. 4 @ 5'	<0.100	**0.741**	**0.240**	**5.76**	**148**	**262**
347385 - Hole No. 4 @ 10'	**0.0964**	**2.08**	**0.0766**	**5.77**	**114**	**182**
347386 - Hole No. 8 @ 5'	**0.668**	**17.6**	**23.4**	**53.1**	**1240**	**1470**
347387 - Hole No. 8 @ 10'	<0.0400	**0.0415**	**0.0551**	**0.539**	**269**	**38.9**

Sample: 347376 - Hole No. 7 @ 5'

Param	Flag	Result	Units	RL
Chloride		**111**	mg/Kg	4

Sample: 347377 - Hole No. 7 @ 9'

Param	Flag	Result	Units	RL
Chloride		**226**	mg/Kg	4

Sample: 347378 - Hole No. 7 @ 12'

Param	Flag	Result	Units	RL
Chloride		**23.5**	mg/Kg	4

Sample: 347379 - Hole No. 7 @ 15'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 347380 - Hole No. 7 @ 20'

Param	Flag	Result	Units	RL
Chloride		**32.8**	mg/Kg	4

Sample: 347381 - Hole No. 7 @ 30'

Param	Flag	Result	Units	RL
Chloride		**65.7**	mg/Kg	4

Sample: 347382 - Hole No. 1 @ 5'

Param	Flag	Result	Units	RL
Chloride		**732**	mg/Kg	4

Sample: 347383 - Hole No. 1 @ 9'

Param	Flag	Result	Units	RL
Chloride		**464**	mg/Kg	4

Sample: 347384 - Hole No. 4 @ 5'

Param	Flag	Result	Units	RL
Chloride		**1130**	mg/Kg	4

Sample: 347385 - Hole No. 4 @ 10'

Param	Flag	Result	Units	RL
Chloride		**741**	mg/Kg	4

Sample: 347386 - Hole No. 8 @ 5'

Param	Flag	Result	Units	RL
Chloride		**704**	mg/Kg	4

Sample: 347387 - Hole No. 8 @ 10'

Param	Flag	Result	Units	RL
Chloride		**70.4**	mg/Kg	4

Summary Report

Todd Crain
Crain Hot Oil Services

P. O. Box 5846
Granbury, TX 76049

Report Date: September 17, 2013

Work Order: 13081909

Project Location: NM
Project Name: Gulf Deep No. 1 SWD-New Batt. at Sites Wellsite
Project Number: New Battery at Sites Wellsite

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
338947	N Sideline Site Hole No. 1	soil	2013-08-16	09:15	2013-08-19
338948	N Sideline Site Hole No. 2	soil	2013-08-16	08:37	2013-08-19
338949	N Sideline Site Hole No. 3	soil	2013-08-16	08:50	2013-08-19
338950	N Sideline Site Hole No. 4	soil	2013-08-16	08:58	2013-08-19
338951	N Sideline Site Hole No. 5	soil	2013-08-16	09:11	2013-08-19
338952	Pad N Side of Battery Site N Corner	soil	2013-08-16	09:45	2013-08-19
338953	Pad N Side of Battery Site S Corner	soil	2013-08-16	10:00	2013-08-19
338954	Pad N Side of Battery Site E Corner	soil	2013-08-16	10:21	2013-08-19
338955	Pad N Side of Battery Site W Corner	soil	2013-08-16	10:38	2013-08-19
338956	Pad N Side of Battery Site Center Pad	soil	2013-08-16	10:12	2013-08-19

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
338947 - N Sideline Site Hole No. 1	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00 Qs
338948 - N Sideline Site Hole No. 2	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<20.0 [1]
338949 - N Sideline Site Hole No. 3	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Qs
338950 - N Sideline Site Hole No. 4	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Qs
338951 - N Sideline Site Hole No. 5	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
338952 - Pad N Side of Battery Site N Corner	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<20.0 [2]
338953 - Pad N Side of Battery Site S Corner	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00 Qs
338954 - Pad N Side of Battery Site E Corner	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Qs
338955 - Pad N Side of Battery Site W Corner	<0.100 [3]	<0.100	<0.100	<0.100	<50.0	<20.0 [4]

continued . . .

[1]Sample dilution due to surfactants.
[2]Sample dilution due to surfactants.
[3]Sample dilution due to surfactants.
[4]Sample dilution due to surfactants.

This is only a summary. Please, refer to the complete report package for quality control data.

... continued

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
338956 - Pad N Side of Battery Site Center Pad	<0.100 [5]	<0.100	<0.100	<0.100	<50.0	<20.0 [6]

Sample: 338947 - N Sideline Site Hole No. 1

Param	Flag	Result	Units	RL
Chloride		**2110**	mg/Kg	4

Sample: 338948 - N Sideline Site Hole No. 2

Param	Flag	Result	Units	RL
Chloride		**1970**	mg/Kg	4

Sample: 338949 - N Sideline Site Hole No. 3

Param	Flag	Result	Units	RL
Chloride		**642**	mg/Kg	4

Sample: 338950 - N Sideline Site Hole No. 4

Param	Flag	Result	Units	RL
Chloride		**1040**	mg/Kg	4

Sample: 338951 - N Sideline Site Hole No. 5

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 338952 - Pad N Side of Battery Site N Corner

Param	Flag	Result	Units	RL
Chloride		**114**	mg/Kg	4

Sample: 338953 - Pad N Side of Battery Site S Corner

[5]Sample dilution due to surfactants.
[6]Sample dilution due to surfactants.

Param	Flag	Result	Units	RL
Chloride		**281**	mg/Kg	4

Sample: 338954 - Pad N Side of Battery Site E Corner

Param	Flag	Result	Units	RL
Chloride		**681**	mg/Kg	4

Sample: 338955 - Pad N Side of Battery Site W Corner

Param	Flag	Result	Units	RL
Chloride		**611**	mg/Kg	4

Sample: 338956 - Pad N Side of Battery Site Center Pad

Param	Flag	Result	Units	RL
Chloride		**666**	mg/Kg	4