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 R	eport	X Final	Repor	
		rain Hot Oil				Contact: To		122				
Address: PO Box 5846, Granbury, Texas 76049 Facility Name: Gulf Deep No. 1 SWD					Telephone No.: 817-692-7333 Facility Type: SWD Disposal API NO.: 30-005-01210							
racinty Nar	ne. Guit D	еср 140. 1 5	w D			racility Typ	e: SWD Dispos	sal	APIN	U.: 30-	· <u>vu5-v1210</u>	
Surface Ow	Surface Owner: State of New Mexico Mineral Owne				ral Owner:				Lease N	٧o.:		
				LC	CATIO	N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from t	he North	South Line	Feet from the	East	/West Line		County	
С	34	14	31	660'		FNL	1980'		FWL		Chaves	
			La	titude	l	Longitud	le	1		L		- War
				N	ATURE	OF RELI	EASE		•			
		carbon and pro		ater		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Release: Unknow	wn	Volume I	Recovered	l: Unknown	
	lease: 400 l	parrel tank over	erran beca	iuse pump die	d not shut		Iour of Occurrent	ce:			Discovery:	
off. Was Immedia	ate Notice C	liven?				12/11/ If YES, To		<u>-</u> ,	12/11/12	2		
TT AS IHIIIÇUI	aio Nonce C		Yes X	No 🗆 No	t Required	11 1125, 10	Information	unknov	wn.			
By Whom?	Information				-	Date and H	łour:					
•							Information	unknov	wn.			
Was a Water	course Reac	hed?				If YES Vo	olume Impacting	the W	atercourse	·····		
as a mater	TOURSE MORE		Yes X	Was a Watercourse Reached? Yes X No			If YES, Volume Impacting the Watercourse. N/A					
If a Watercon	irse was Imi	nacted. Descri	ibe Fully.*				,					
If a Watercou	ırse was Im	pacted, Descri	ibe Fully.*			<u> </u>	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		····			
Describe Cau	ise of Proble	N/A em and Remed	dial Action	* n Taken.*								
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the	ere unloadir orun over. A he battery b a Affected a o the Initial area tested	N/A em and Remeding into the 400 As soon as the erms. and Cleanup A C-141and CA and the analytic	dial Action barrel ta chrivers re Action Tak AP submitt	n Taken.* nk located in ecognized the cen.* ted to the NM ts submitted to	MOCD on Julto the NMOC	ly 1, 2013 for CD. Addition	up was running pe nut the pump dow additional inforn ally, this area wa 141 is the FRR fo	n and i	The contain	ninated mang the clo	suck up the disc aterial was com sure of the enti	harge
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the battery, whic I hereby certi regulations a public health should their c or the environ	ere unloadir run over. A he battery b a Affected a o the Initial area tested h resulted ir fy that the i ll operators or the envir operations h	N/A em and Remed ng into the 400 As soon as the erms. and Cleanup A C-141and CA and the analyte more samplia information gi are required to comment. The ave failed to a	dial Action barrel tag drivers re Action Tak AP submitt tical result ng and exceptance acceptance acceptance	n Taken.* nk located in ecognized the ecognized the econ.* ted to the NM ts submitted to cavation. Acceptate and cond/or file certice of a C-141 investigate a	MOCD on Jule to the NMOC companying complete to the ain release in report by the and remediate.	ly 1, 2013 for CD. Addition this Final C-1 he best of my otifications are NMOCD me contaminati	additional infornally, this area wa	n and in and in antion. s also in the eminderst ctive active acti	The contament that pure cand that pure cand that pure cand to the cand that pure	ninated mang the clo and assoc suant to N teases white ieve the o	aterial was com sure of the enti- iated areas. MOCD rules a ch may endang perator of liabil	pletely re nd er ity
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the battery, whic I hereby certi regulations a public health should their c or the environ	ere unloadir run over. A he battery b a Affected a o the Initial area tested h resulted ir fy that the i ll operators or the envir operations h	N/A em and Remed ng into the 400 As soon as the erms. and Cleanup A C-141and CA and the analyt n more sampli nformation gir are required to ronment. The ave failed to a ddition, NMO	dial Action barrel tag drivers re Action Tak AP submitt tical result ng and exceptance acceptance adequately OCD accep	n Taken.* nk located in ecognized the ecognized the econ.* ted to the NM ts submitted to cavation. Acceptate and cond/or file certice of a C-141 investigate a	MOCD on Jule to the NMOC companying complete to the ain release in report by the and remediate.	ly 1, 2013 for CD. Addition this Final C-1 he best of my otifications are NMOCD me contaminati	additional informally, this area wall41 is the FRR for knowledge and und perform correctarked as "Final Rion that pose a thr	nation. s also r the en inderst ctive active	The contamental than dead during the lattery and that pursections for relations for relations and water assibility for contamental than the latter than the la	ninated mang the clo and assoc suant to N eases whi ieve the o r, surface compliance	aterial was comsure of the entitiated areas. MOCD rules a ch may endang perator of liabil water, human he with any othe	pletely re nd er ity
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the battery, whic I hereby certi regulations a public health should their c or the environ federal, state	ere unloadir run over. A he battery b a Affected a o the Initial area tested h resulted ir fy that the i ll operators or the envir operations h	N/A em and Remed ng into the 400 As soon as the erms. and Cleanup A C-141and CA and the analyt n more sampli nformation gir are required to ronment. The ave failed to a ddition, NMO	dial Action barrel tag drivers re Action Tak AP submitt tical result ng and exceptance acceptance adequately OCD accep	n Taken.* nk located in ecognized the ecognized the econ.* ted to the NM ts submitted to cavation. Acceptate and cond/or file certice of a C-141 investigate a	MOCD on Jule to the NMOC companying complete to the ain release in report by the and remediate.	ly 1, 2013 for CD. Addition this Final C-1 he best of my otifications are NMOCD me contaminati	additional informally, this area was 141 is the FRR for knowledge and und perform correctarked as "Final Rion that pose a three the operator of	nation. s also r the en inderst ctive active	The contamental than dead during the lattery and that pursections for relations for relations and water assibility for contamental than the latter than the la	ninated mang the clo and assoc suant to N eases whi ieve the o r, surface compliance	aterial was comsure of the entitiated areas. MOCD rules a ch may endang perator of liabil water, human he with any othe	pletely re nd er ity
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the battery, whic I hereby certi regulations a public health should their c or the environ	a Affected a othe Initial area tested in fy that the ill operators or the enviroperations hument. In a cor local law	N/A em and Remed ng into the 400 As soon as the erms. and Cleanup A C-141 and CA and the analyte n more sampli information gi are required to ronnent. The ave failed to a ddition, NMO ws.and/or.regu	dial Action barrel tag drivers re Action Tak AP submitt tical result ng and exceptance acceptance adequately OCD accep	n Taken.* nk located in ecognized the ecognized the econ.* ted to the NM ts submitted to cavation. Acceptate and cond/or file certice of a C-141 investigate a	MOCD on Julto the NMOC companying complete to train release in report by the and remediate 141 report d	ly 1, 2013 for CD. Addition this Final C-1 he best of my totifications are NMOCD me contaminations not reliev	additional informally, this area was 141 is the FRR for knowledge and und perform correct that do not that pose a thing the operator of OIL CON	nation. s also r the enumberst ctive action action reat to respon	The contament handled during the battery and that pursections for religious motion water is in the battery of t	ninated mang the clo and assoc suant to N eases whi ieve the or, surface compliance	aterial was comsure of the entitiated areas. MOCD rules a ch may endang perator of liabil water, human he with any othe	pletely re nd er ity ealth
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the battery, whic I hereby certi regulations a public health should their c or the environ federal, state	a Affected a othe Initial area tested in the environment. In a correct or the environment or the envir	N/A em and Remed ng into the 400 As soon as the erms. and Cleanup A C-141 and CA and the analyte n more sampli information gi are required to ronnent. The ave failed to a ddition, NMO ws.and/or.regu	dial Action barrel tag drivers re Action Tak AP submitt tical result ng and exceptance acceptance adequately OCD accep	n Taken.* nk located in ecognized the ecognized the econ.* ted to the NM ts submitted to cavation. Acceptate and cond/or file certice of a C-141 investigate a	MOCD on Julto the NMOC companying complete to train release in report by the and remediated 141 report description.	ly 1, 2013 for CD. Addition this Final C-1 he best of my otifications are NMOCD me contaminations not relieved.	additional informally, this area was 141 is the FRR for knowledge and und perform correctarked as "Final Rion that pose a three the operator of	nation. s also r the enderstee to resport SER	The contament handled during the battery and that pursections for religious motion water is in the battery of t	ninated mang the clo and assoc suant to N leases whi ieve the or, surface compliance DIVIS	aterial was comsure of the entitiated areas. MOCD rules a ch may endang perator of liabil water, human he with any othe	pletely re nd er ity ealth
Describe Cau The trucks w tank began to fluid within t Describe Are Please refer t removed, the battery, whic I hereby certi regulations a public health should their c or the environ federal, state Signature: Printed Name Title: Presid	a Affected a othe Initial area tested h resulted in the environment. In a corlocal law e: Todd Craent	N/A em and Remed ng into the 400 As soon as the erms. and Cleanup A C-141 and CA and the analyte n more sampli information gi are required to ronnent. The ave failed to a ddition, NMO ws.and/or.regu	dial Action barrel tan c drivers re Action Tak AP submitt tical result ng and exc ven above o report ar acceptance adequately OCD accep ulations.	n Taken.* nk located in ecognized the ecognized the econ.* ted to the NM ts submitted to cavation. Acceptate and cond/or file certice of a C-141 investigate a	MOCD on Julito the NMOC companying complete to train release in report by the and remediated 141 report d	ly 1, 2013 for CD. Addition this Final C-1 he best of my otifications are NMOCD me contaminations not relieved.	additional informally, this area was 141 is the FRR formally, the FRR formal Representation that pose a thing the operator of OIL CON District Supervise:	nation. s also r the enderstee to resport SER	The contamental designation of	ninated mang the clo and assoc suant to N leases whi ieve the or, surface compliance DIVIS	aterial was comsure of the entitiated areas. MOCD rules a ch may endang perator of liability water, human he with any othe liQN alist	pletely e nd er ity

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
U/L C S34 T14S R31E 660' FNL 1980' FWL
Chaves County, New Mexico

FINAL REMEDIATION REPORT AND FINAL C-141

API No.: 30-005-01210

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

<u>District I</u> 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

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

side of form

Revised October 10, 2003

Form C-141

Release Notification and Corrective Action

					C	PERAT	OR		Initial Re	eport	X Final Report
Name of Co	mpany: C	rain Hot Oil	Service,	nc.		Contact: Todd Crain					
Address: PC	Box 584	6, Granbury,	Texas 76	049		Telephone 1	No.: 817-692-7 3	33			
Facility Nan	ne: Gulf D	eep No. 1 S	WD			Facility Typ	e: SWD Dispos	sal	API NO	D.: 30-	005-01210
	~			1 5 2 2 1					T		
Surface Own	ner: State	of New Mex	100	Mineral (Owner:				Lease N	10.:	
					ATIO	OF RE	LEASE	4			
Unit Letter C	Section 34	Township 14	Range 31	Feet from the 660'	1	South Line FNL	Feet from the 1980'		West Line WL		County Chaves
LatitudeLongitude											
					TURE	OF REL			T		
Type of Relea							Release: Unknow				: Unknown
Source of Rel	lease: 400	barrel tank ov	erran beca	use pump did no	t shut	Date and E	lour of Occurrent	e:	Date and 1 12/11/12		Discovery:
Was Immedia	te Notice (Given?		·		If YES, To			1 12/11/12		
			Yes X	No 🔲 Not Re	equired		Information	unknow	n.		
By Whom?	Information	unknown.				Date and H					
							Information	unknow	n.		
Was a Watero	course Reac	hed?		**************************************		If YES, Vo	olume Impacting	the Wat	ercourse.		
			Yes X	No		N/A					
If a Watercou	rse was Im	pacted, Descr	ibe Fully.*	······································		l	***************************************				
		N/A					,				
Describe Cau	se of Proble		dial Action	Taken.*					·		
tank began to fluid within th	run over. Ane battery b	As soon as the erms.	drivers re	cognized there v							led to shut off and the suck up the discharged
removed, the	the Initial area tested	C-141and CA and the analy	AP submitt tical result	ed to the NMOC s submitted to th	ie NMOC	D. Addition	additional inform ally, this area wa 41 is the FRR for	s also ha	andled durir	ng the clo	
regulations al public health should their o or the enviror	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.					ch may endanger perator of liability water, human health					
Signature: Printed Name: Todd Crain					OIL CONSERVATION DIVISION Approved by District Supervisor Environmental Specialist						
								i			,
Title: Preside	:nt					Approvai Dai	e: 1/27/14		Expiration I	Date:	
E-mail Addre	ss: tcrain@	crainhotoil.c	om			Conditions of	Approval: -	-		Attach	
Date: Januar	y 10, 2014		Phone: 81	7-692-7333						IRP	- 7-13-2934

Report Date: July 5, 2013 Work Order: 13062134 Page Number: 1 of 3

Summary Report

(Corrected Report)



Todd Crain Crain Hot Oil & Acidizing

P. O. Box 5846 Granbury, TX 76049

Project Location: NM

Project Name: Gulf Deep No. 1 SWD Project Number: Battery Delineation Report Date: July 5, 2013

Work Order: 13062134

The same

D.4.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	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

		ВТ	EX		TPH DRO - NEW	TPH GRO
	Benzene To	luene E	thylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg) (m	g/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	0.100	< 0.100	< 0.100	56.3	71.5
333001 - Center Between 1 and 2 Tanks 10'	< 0.0200 < 0	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	0.0200	< 0.0200	< 0.0200	< 50.0	<4.00

continued ...

Daka

¹Dilution due to hydrocarbons.



Report Date: July 5, 2013 Work Order: 13062134 Page Number: 2 of 3

 $\dots continued$

	BTEX			TPH DRO - NEW	TPH GRO
	Benzene Toluene I	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg) (mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(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	${ m mg/Kg}$	4

Sample: 332999 - SW Hole @ 5'

Param	Flag	Result	${f Units}$	RL
Chloride		1270	mg/Kg	4

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

Param	Flag	Result	Units	RL
Chloride		2200	${ m mg/Kg}$	4

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

Param	Flag	Result	Units	RL
Chloride		265	${ m mg/Kg}$	4

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

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

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



Report Date: July 5, 20	13	Work Order: 13062134	Page	Page Number: 3 of 3	
Param Chloride	Flag	Result 123	Units mg/Kg	RL 4	
Sample: 333004 - Cer	nter Between 1 a	and 2 Tanks 30'			
Param Chloride	Flag	Result <20.0	$\frac{\rm Units}{\rm mg/Kg}$	$\frac{\mathrm{RL}}{4}$	
Sample: 333005 - Cer	nter Between 1 a	and 2 Tanks 40'			
Param	Flag	Result	Units	RL	
Chloride		56.9	mg/Kg	4	
Sample: 333006 - Cer Param Chloride	nter Between 1 a	and 2 Tanks 50' Result 52.1	Units mg/Kg	RL 4	
Sample: 333007 - Cer					
Param Chloride	Flag	Result 52.5	Units	$\frac{\text{RL}}{4}$	
Sample: 333008 - Cer	nter Between 1 a		mg/Kg	4	
Param	Flag	Result	Units	RL	
Chloride	0	47.8	mg/Kg	4	

Report Date: July 5, 2013 Work Order: 13062603 Page Number: 1 of 3

Summary Report

(Corrected Report)



Todd Crain Crain Hot Oil & Acidizing

P. O. Box 5846 Granbury, TX 76049

Project Location: NM

Project Name: Gulf Deep No. 1 SWD

Project Number: Disposal Facility

Report Date: July 5, 2013

Work Order: 13062603

			Date	$_{ m Time}$	Date
Sample	Description	Matrix	Taken	Taken	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

	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)
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 ...

¹Dilution due to hydrocarbons.

²Dilution due to hydrocarbons.



Report Date: July 5, 2013 Work Order: 13062603 Page Number: 2 of 3

 \dots continued

		BTEX			TPH DRO - NEW	TPH GRO
	Benzene	Benzene Toluene Ethylbenzene Xylene			DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(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	${f Units}$	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	m mg/Kg	4

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

³Dilution due to hydrocarbons.

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



Report Date: July	5, 2013	Work Order: 13062603	Page I	Number: 3 of 3
Param	Flag	Result	Units	m RL
Chloride		136	mg/Kg	4
Sample: 333299	- East Side Hole #5	@ 5'		
Param	Flag	Result	Units	RL
Chloride		1810	m mg/Kg	4
Sample: 333300	- East Side Hole #5	@ 10'		·
Param	Flag	Result	Units	RL
Chloride		349	mg/Kg	4
G 1 499901	Frank Cida Hala ##6	⋒ 5'		
Sample: 333301	- East Side Hole #6			
Param		Result	Units	RL
-	Flag		$\begin{array}{c} \text{Units} \\ \text{mg/Kg} \end{array}$	RL 4
Param Chloride		Result 2830		
Param Chloride	Flag	Result 2830		



Report Date: July 30, 2013 Work Order: 13072435

Summary Report

Todd Crain

Crain Hot Oil & Acidizing

P. O. Box 5846 Granbury, TX 76049

Project Location: NM

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

Report Date: July 30, 2013

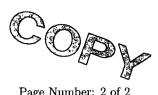
Work Order: 13072435

			Date	\mathbf{Time}	Date
Sample	Description	Matrix	Taken	Taken	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
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(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	${f Units}$	RL
Chloride		1120	${ m mg/Kg}$	4



Report Date: July 30, 2013 Work Order: 13072435 Page Number: 2 of 2

Report Date: July 3	0, 2013	Work Order: 13072435	Page Number: 2 of 2				
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	m 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	m mg/Kg	4			
Sample: 336129 -	Hole #7						
Param	Flag	Result	Units	RL			
Chloride		1590	mg/Kg	4			



Report Date: July 30, 2013 Work Order: 13072433 Page Number: 1 of 1

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	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	${f Units}$	m RL
Chloride		152	m mg/Kg	4

Page Number: 1 of

Report Date: November 27, 2013 Work Order: 13112226

Summary Report

Todd Crain Crain Hot Oil Services

P. O. Box 5846 Granbury, TX 76049 Report Date: November 27, 2013

Work Order: 13112226

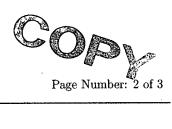
Project Location: NM

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

Project Number: Gulf Deep No. 1 SWD

			Date	\mathbf{Time}	Date
Sample	Description	Matrix	Taken	Taken	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

		j	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)
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



Report Date: November 27, 2013 Work Order: 13112226

Report Date. November 27, 2013	Work Order. 10112220		age rumber. 2 or o
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	m mg/Kg	4
Sample: 347380 - Hole No. 7 @ 20'			
Param Flag	Result	Units	RL
Chloride	32.8	mg/Kg	4
Samula, 247281 - Hala Na. 7, @ 001			
Sample: 347381 - Hole No. 7 @ 30' Param Flag	D could	Units	זמ
Param Flag Chloride	Result 65.7	mg/Kg	$\frac{\text{RL}}{4}$
Sample: 347382 - Hole No. 1 @ 5'			
Param Flag	Result	Units	RL
Chloride	732	m mg/Kg	4
Sample: 347383 - Hole No. 1 @ 9'			
Param Flag	Result	Units	RL
Chloride	464	mg/Kg	4



Report Date: November 27, 2013 Work Order: 13112226 Page Number: 3 of 3

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

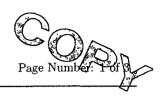
Sample: 347386 - Hole No. 8 @ 5'

Param	Flag	\mathbf{Result}	Units	${ m RL}$
Chloride		704	mg/Kg	4

Sample: 347387 - Hole No. 8 @ 10'

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

Report Date: September 17, 2013 Work Order: 13081909



Summary Report

Todd Crain Crain Hot Oil Services

P. O. Box 5846 Granbury, TX 76049

Project Location: NM

Project Name: Gulf Deep No. 1 SWD-New Batt. at Sites Wellsite

Project Number: New Battery at Sites Wellsite

Work Order: 13081909

Report Date: September 17, 2013

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	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

	<u> </u>	В	TEX		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)
338947 - N Sideline Site Hole No. 1	<0.0200 Qs	<0.0200 Q	<0.0200 Qs	<0.0200 Q.	< 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 Q.	<0.0200 Qa	<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

 $continued \dots$

¹Sample dilution due to surfactants.

²Sample dilution due to surfactants.

³Sample dilution due to surfactants.

 $^{^4}$ Sample dilution due to surfactants.



Report Date: September 17, 2013 Work Order: 13081909 Page Number: 2 of 3

 \dots continued

		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)
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	m 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	${f Units}$	RL
Chloride		< 20.0	mg/Kg	4

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

Param	Flag	Result	Units	RL
Chloride		114	$_{ m mg/Kg}$	4

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

⁵Sample dilution due to surfactants.

⁶Sample dilution due to surfactants.

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

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



Report Date: September 17, 2013		Work Order: 13081909	Page	Page Number: 3 of 3	
Param	Flag	Result	Units	RL	
Chloride		281	${ m mg/Kg}$	4	
Sample: 338954	- Pad N Side of Batter	ry Site E Corner			
Param	Flag	Result	Units	RL	
Chloride		681	${ m mg/Kg}$	4	
Sample: 338955 Param	- Pad N Side of Batter Flag	ry Site W Corner	$\mathbf{U}\mathbf{nits}$	m RL	
Chloride		611	mg/Kg	4	
Sample: 338956 Param	- Pad N Side of Batter Flag	ry Site Center Pad Result	Units	RL	
Chloride	- 2005	666	mg/Kg	4	