

District I
1625 N French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised August 1, 2011

Permit

HOBBS OCD

DEC 02 2011

RECEIVED

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address Crain's Hot Oil Service, Inc. P.O. Box 613 Lovington, New Mexico 88260		OGRID Number 189886
		API Number 30-005-01210
Property Code 37601	Property Name Gulf Deep	Well No. 1

Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
C	34	14S	31E		660'	North	1980'	W	Chaves

Pool Information

SWD-Devonian (Pool Code-96101)

Additional Well Information

Work Type E	Well Type S	Cable/Rotary R	Lease Type S	Ground Level Elevation 4,415'
Multiple N	Proposed Depth 13,230'	Formation Devonian	Contractor	Spud Date ASAP
Depth to Ground water 260 Feet		Distance from nearest fresh water well 1 Mile		Distance to nearest surface water N/A

Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	17 1/2"	13 3/8"	35 & 48	428'	550	Surface
Intermediate	12 1/4"	9 5/8"	36	3,817'	1950	Surface
Production	8 1/2"	5 1/2"	17 & 20	13,230'	1 st -900 2 nd -500	3,600'

Casing/Cement Program: Additional Comments

DV Tool will be set at a depth of 7,000. Will use sufficient cement to tie back 200' into the intermediate casing. (See attached procedure)

Proposed Blowout Prevention Program

Type Manual	Working Pressure 3,000 PSI	Test Pressure	Manufacturer
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Permit Expires 2 Years From Approval

Date Unless Drilling Underway

Re-Entry

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input type="checkbox"/> , a general permit <input checked="" type="checkbox"/> , or an (attached) alternative OCD-approved plan <input checked="" type="checkbox"/> . <i>David Catanach</i>		OIL CONSERVATION DIVISION	
Printed name: David Catanach		Approved By: <i>[Signature]</i>	
Title: Agent for Crain's Hot Oil Service, Inc.		Title: <i>[Signature]</i>	
E-mail Address: drcatanach@netscape.com		Approved Date: DEC 07 2011	
Date: 11/30/11		Expiration Date: DEC 07 2013	
Phone: (505) 690-9453		"CONDITION FOR APPROVAL" Approval for Drilling only. CANNOT Dispose into the wellbore without a Disposal order approved by the Santa Fe OCD Office	

DEC 08 2011

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Attachment to Form C-101
Proposed Workover Procedure
Gulf Deep Well No. 1
API No. 30-005-01210
660' FNL & 1980' FWL (Unit C), Section 34, T-14S, R-31E

The Gulf Deep Well No. 1 is currently completed as a produced water disposal well in the San Andres formation through the open-hole interval from 3,817 feet to 4,750 feet (See attached current wellbore schematic). Crain's Hot Oil Service, Inc., proposes to abandon the San Andres as the injection interval in the well, drill out cement plugs to total depth of 13,230 feet, and complete the well as a Devonian produced water disposal well through the estimated perforated interval from 12,920 feet to 13,230 feet in accordance with the following procedure (See attached proposed wellbore schematic):

1. Rig up pulling unit, POOH with 3 1/2" IPC tubing. TIH w/7 7/8" bit and tubing.
2. Drill cement plugs at 4,750', 8,700', 9,700' and 13,030'. Circulate well clean to TD.
3. Spot 1000 Gal 15% HCL acid from 13,230' to 12,700'. POOH with tubing and bit.
4. TIH w/open-hole packer. Set packer at 12,600' and pump acid into Devonian formation. Pump 1000 bbls of water into formation for pump in test.
5. TOH w/packer and tubing. Pick up 2,000' of 5 1/2" 20# N-80 casing, 10,230' of 5 1/2" 17# N-80 casing and 1000' of 5 1/2" 20# N-80 casing. Set DV tool at 7,000'.
6. RU cementers. Pump 900 sx. Class H cement from 13,230' to 7,000'. Open DV tool and circulate hole for 4 hrs. Pump 500 sx. Class H cement from 7,000' to 3,600' (cement will be 200' inside of 9 5/8" casing). NU 5 1/2" casing head.
7. TIH w/4 3/4" bit and tubing. Drill out cement at DV tool and casing to 13,230'. Run cement bond log. Perforate Devonian formation (approximately 12,920' to 13,230'). Acidize w/ 10,000 gal. acid.
8. Run 3 1/2" & 2 7/8" IPC split tubing string and set in an Arrowset packer at approximately 12,820' or 100 feet or less above the uppermost injection perforations.

(Note: A Form C-108 application will be submitted to the Santa Fe office of the NMOCD for approval of the Devonian injection interval.)

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1301 W. Grand Avenue, Artesia, NM 88210
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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

HOBBS OCD

Form C-102
Revised July 16, 2010
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

DEC 02 2011

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-005-01210	Pool Code 96101	Pool Name RECEIVED SWD Devonian
Property Code 37601	Property Name Gulf Deep	Well Number 001
OGRID No. 189886	Operator Name Crain's Hot Oil Service, Inc.	Elevation 4,415'


Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	34	14 South	31 East		660'	North	1980'	West	Chaves

Bottom Hole Location If Different From Surface

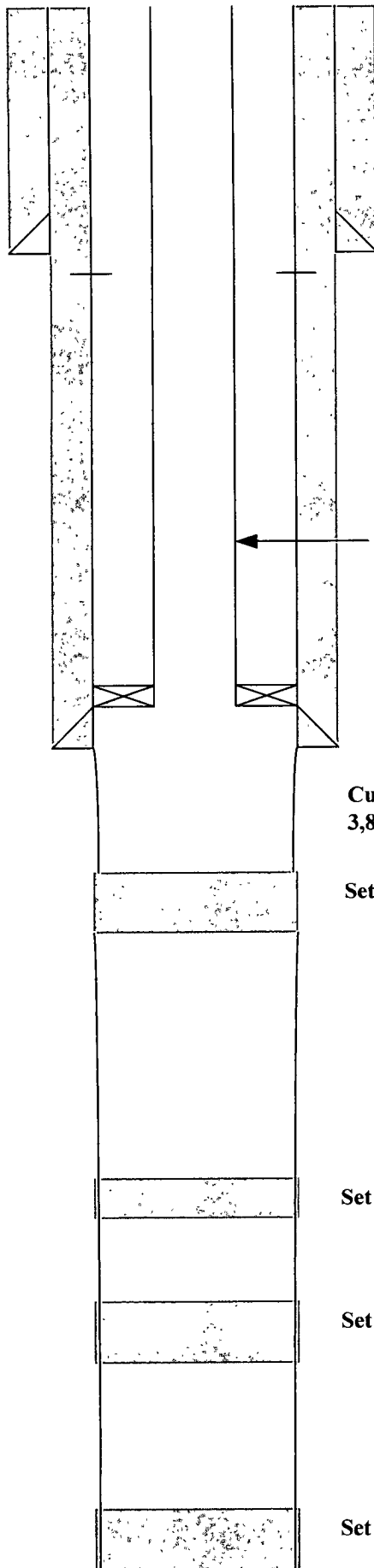
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres N/A	Joint or Infill	Consolidate Code	Order No.						

No Allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the Division

1980'	660'			OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottomhole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofor entered by the Division.</i>  11/30/11 Signature Date David Catanach, Agent Printed Name drcatanach@netscape.com E-mail Address
	Gulf Deep No. 1			
				SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i> Date of Survey Signature and Seal of Professional Surveyor: Certificate Number

Current Completion

Crain's Hot Oil Service, Inc.
Gulf Deep No. 1
API No. 30-005-01210
660' FNL & 1980' FWL (Unit C)
Section 34, T-14 South, R-31 East, NMPM



17 1/2" Hole; Set 13 3/8" Csg @ 428'
Cemented w/550 Sx.
Cement circulated to Surface

Perf. 2 Holes @ 457' & squeeze
perfs w/65 Sx.

3 1/2" IPC Tubing Set @ 3,769'
Arrowset Packer @ 3,775'

12 1/4" Hole; Set 9 5/8" Csg @ 3,817'
Cemented w/1950 Sx.
Cement circulated to surface

Current Open-Hole Injection Interval:
3,817'-4,750' San Andres Formation

Set 118 Sx. cement plug 4,750'-5,200'

Set 37 Sx. cement plug 8,700'-8,800'

Set 44 Sx. cement plug 9,700'-9,800'

Set 59 Sx. cement plug 13,030'-13,230'

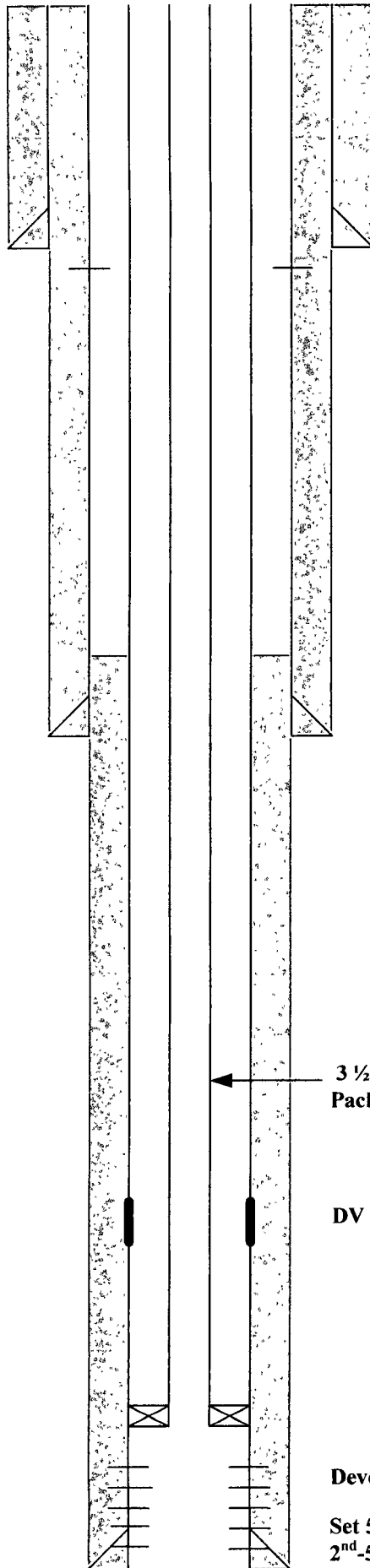
T. D. 13,230'

Drilled 8 1/2" Hole to T.D. of 13,230'

Drilled: 11/1958
Plugged: 4/1959
Re-Entered: 3/2008
Re-plugged: 7/2008
Re-entered: 10/2009

Proposed Completion

Crain's Hot Oil Service, Inc.
Gulf Deep No. 1
API No. 30-005-01210
660' FNL & 1980' FWL (Unit C)
Section 34, T-14 South, R-31 East, NMPM



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Perf. 2 Holes @ 457' & squeeze
perfs w/65 Sx.

Drilled: 11/1958

Plugged: 4/1959

Re-Entered: 3/2008

Re-plugged: 7/2008

Re-entered: 10/2009

12 1/4" Hole; Set 9 5/8" Csg @ 3,817'
Cemented w/1950 Sx.
Cement circulated to surface

3 1/2" & 2 7/8" IPC split tubing string set in Arrowset
Packer @ 12,820'

DV Tool @ 7,000'

Devonian Perforations: 12,920'-13,230' (Estimated)

Set 5 1/2" 17# & 20# N-80 Csg. @ 13,230'. Stage cement: 1st-900 sx.
2nd-500 Sx. DV Tool @ 7,000'. Cement 200' into the 9 5/8" Intermediate
casing. Proposed TOC @ approximately 3,600'

T. D. 13,230'