ENGINEER PRG

08/09/₁₃

SWD

APP NO PRG 1322160820

ABOVE THIS LINE FOR DIVISION USE ONLY

ADMINISTRATIVE APPLICATION CHECKLIST

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE **Application Acronyms:** [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication] [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response] [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A] Location - Spacing Unit - Simultaneous Dedication □ NSL □ NSP □ SD tasken Grænstane Feel Com *1 30-025-34677 Check One Only for [B] or [C] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM Injection - Disposal - Pressure Increase - Enhanced Oil Recovery [C] □ WFX □ PMX X SWD □ IPI □ EOR □ PPR [D] Other: Specify NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply [2] Working, Royalty or Overriding Royalty Interest Owners [A] [B] X Offset Operators, Leaseholders or Surface Owner [C] X Application is One Which Requires Published Legal Notice Notification and/or Concurrent Approval by BLM or SLO [D] U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office [E] X For all of the above, Proof of Notification or Publication is Attached, and/or, [F] Waivers are Attached SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE [3] OF APPLICATION INDICATED ABOVE. **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative [4]

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Kim Tyson
Print or Type Name
Regulatory Analyst
Title
Date
kimt@forl.com

approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this

application until the required information and notifications are submitted to the Division.

e-mail Address

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108 Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? X Yes No							
H.	OPERATOR: Fasken 0il and Ranch, Ltd.							
	ADDRESS: 6101 Holiday Hill Road, Midland, TX 79707							
	CONTACT PARTY: Kim Tyson PHONE: 432-687-1777							
Ш.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.							
IV.	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:							
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.							
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.							
VII.	Attach data on the proposed operation, including:							
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.). 							
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.							
IX.	Describe the proposed stimulation program, if any.							
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).							
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.							
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.							
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.							
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.							
	NAME: Kim Tyson TITLE: Regulatory Analyst							
	NAME: Kim Tyson TITLE: Regulatory Analyst SIGNATURE: 1200 DATE: 8-5-2013							
*	E-MAIL ADDRESS: kimt@forl.com If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:							

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.
 - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

III. Well Data

A) Tabular Well Data

- Greenstone Federal Com No. 1 Surface: 480' FSL & 1600' FEL Bottom Hole: 962' FSL & 1587' FEL Sec. 19, T-20-S, R-34-E
- 2. <u>Surface Casing</u>: 13-3/8" 54.5# J-55 set @ 520' & cemented to surface (circulated cement) w/ 235 sx 35:65:6 + 200 sx "C"

Intermediate Casing: 9-5/8" 40# S-95 @ 5515'. DV @ 3132'. Cemented to surface (circulated cement) w/ 2,120 sx 35:65:6 + 500 sx "C".

Production Casing: 5-1/2" 17# SP-110 @ 13,902'. DV @ 8526'. Cemented with 1675 sx "C" + 650 sx "H", TOC @ 3828' by cement bond log.

<u>Scab Liner:</u> 4 ½" 11.6# AB-FLAS – Top @ 12,508' & Bottom @ 12,684'. Cemented with 50 sx.

- 3. 2-7/8" poly-lined to 5560'
- 4. Packer Type 5-1/2" x 2-7/8" nickel plated Weatherford Arrowset 1-X Double Grip Casing Packer with T-2 on/off tool, 316 SS Top Sub and 2-7/8" x 2.25" "F" SS seal nipple. Packer will be set at 5560'.
- B) Proposed Injection Formation Data
 - 1. Injection Formation Name: Delaware
 - 2. Injection Interval 5,645' to 8,256' perforated.
 - 3. Original Purpose of Well Atoka gas producer.
 - 4. Perforated Intervals see attached wellbore diagrams.
 - 5. Next Higher Oil/Gas Productive Zone Yates @ 3,270' (est. no logs) Next Lower Oil/Gas Productive Zone – Bone Springs @ 8,462'

VII. Proposed Operation

- Average Daily Rate 5,000 BPD
 Maximum Daily Rate 10,000 BPD
 Volume of Fluids to be Injected 7,000,000 bbls
- 2. This will be a closed system.
- Average Injection Pressure 800 psi Maximum Injection Pressure – 1,129 psi

- 4. Produced water from the Bone Springs, Wolfcamp, Strawn, Atoka, Delaware, and Morrow formations will be injected into the Delaware interval. (See attached compatibility analysis) Strawn and Atoka water samples are unavailable due to the lack of wells producing from these formations in this area at this time.
- 5. See attached Delaware chemical analysis.

VIII. Geologic Data

1

1. Formation Tops

Formation Name	Measured Depth (ft.)
The Control	
Rustler	1,515
Yates	3,270
Delaware	5,439
Bone Spring	8,462
1st Bone Spring	9,552
2nd Bone Spring	9,859
3rd Bone Spring	10,634
Strawn	12,344
Atoka	12,619
Morrow	13,284
Lower Morrow	13,548
Barnett	13,900

2. Injection Zone Lithology

The injection interval of 5,645'-8,256' is the Delaware formation of the Permian age. Its lithology primarily consists of sand and contains shale and dolomite stringers. The top of the Delaware formation in this wellbore starts at 5,439' MD and ends at the top of the Bone Springs located at 8,462' MD.

3. The Ogallala formation is the only freshwater zone believed to be within this area. The base of this formation runs to a depth of 150'. This information was verified by Paul Kautz with the OCD. This formation is sealed off from the wellbore with 520' of 13-3/8" 54.5# J-55 casing that was cemented to surface with 235 sx 35:65:6 + 200 sx "C" cement. The 9-5/8" 40# intermediate string was run to 5,515' and circulated to surface with 2,620 sx cement and provides a second seal against this formation.

IX. Stimulation Program

This interval will be acidized with 7-1/2% NEFE HCL acid.

X. Logging and Test Data

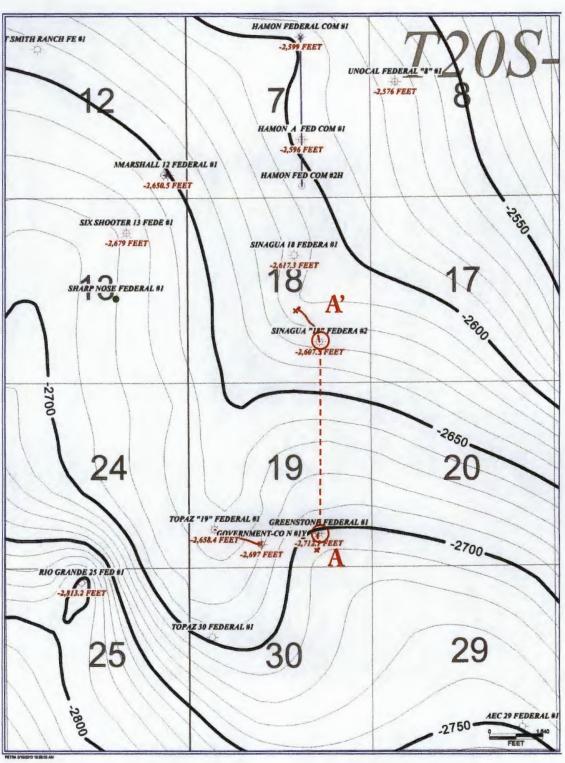
1. Logging data previously filed with Commission.

2. Test data previously filed with Commission.

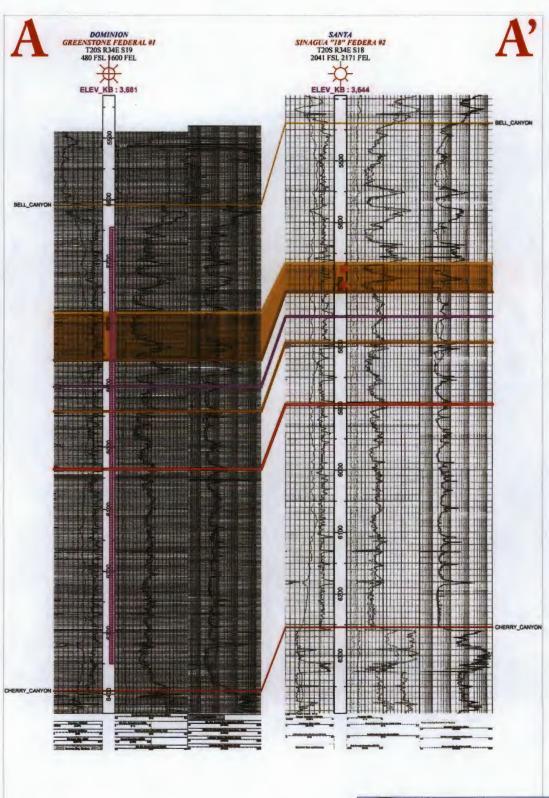
XI. Affirmative Statement

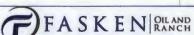
Upon examination of the available geologic and engineering data, no evidence of open faults or any other hydraulic connection between the disposal zones and an underground source of drinking water was found.

deff Bryden, Sr. Geologist









Cherry Canyon

Structural Cross-Section

T20S-R34E

Lea County, New Mexico

Horizontal Scale = 720.1 Vertical Scale = 40.0 Vertical Exaggeration = 18.0x

By: JDRB

March 15,2013 11:17 AM

INJECTION WELL DATA SHEET

VELL LOCATION: 480' FSL & 1600' FEL	0	19	20S	34E
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
<u>WELLBORE SCHEMATIC</u>		WELL C Surface	ONSTRUCTION DATE Casing	<u>ra</u>
Scab Liner -	Hole Size: 17 1	/2"	Casing Size: 13	3/8", 54.5# @ 52
4 1/2", 11.6#, Top liner @ 12,508' & bottom of liner @ 12,684'. Cemented	Cemented with:	435 sx.	or	ft ³
w/ 50 sx cmt.	Top of Cement: Su	rface	Method Determine	d: Circulated
		Intermedia	ate Casing	
	Hole Size: 12 1	/4"	Casing Size: 9 5/	8", 40# @ 5515'
	Cemented with:2	620sx.	or	ft ³
	Top of Cement: <u>Su</u>	rface	Method Determine	d: Circulated
		Production	n Casing	
	Hole Size: 8 1/	2"	Casing Size: 5 1	/2", 17# @ 13,90 Too1 @ 8526'
	Cemented with:2	sx.	or	ft³
	Top of Cement:	3828'	Method Determine	d: <u>Cement Bond</u> I
	Total Depth:1	3,902'		
		Injection	Interval	

INJECTION WELL DATA SHEET

Tub	oing Size: 2 7/8" Lining Material: Polylined
Тур	De of Packer: 5 1/2" X 2 7/8" Weatherford Arrowset 1X Double Grip Nickle Plated
Pac	ker Setting Depth:5560'
Oth	ner Type of Tubing/Casing Seal (if applicable): N/A
	Additional Data
1.	Is this a new well drilled for injection? Yes X No
	If no, for what purpose was the well originally drilled? Atoka Gas Well
2.	Name of the Injection Formation: Delaware
3.	Name of Field or Pool (if applicable): Teas; Delaware, Southeast
4.	Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. Yes, see attached wellbore schematic.
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Yates - 3270' - 3350', Delaware - 5439' - 5666',
	Bone Spring - 8462' - 10,992', Strawn - 12,344' - 12,444',
	Atoka - 12,619' - 12,853', and Morrow - 13,284' - 13,675'

Greenstone Fed Com No. 1 Well: Operator: **Dominion Oklahoma Texas Expl & Prod** Surface: 480' FSL and 1600' FEL Location: Bottom Hole: 962' FSL & 1587' FEL Sec 19, T20S, R34E Lea County, NM Compl.: 11/30/1999 API#: 30-025-34677 TD: 13,902 13-3/8" 54.5# J-55 @ 520' Casing: w/ 235 sx 35:65:6 + 200 sx. "C" 9-5/8" S-95 40# @ 5515' w/ 2120 sx 35:65:6 + 500 sx "C" TOC surface, circ 480 sx. DV @ 3132' 5-1/2" SP-110 17# @ 13,902' 1675 sx "C" + 650 sx "H" DV @ 8,526' TOC: 5-1/2" TOC 3828' by CBL Scab Liner: 4-1/2" 11.6# AB-FL4S (165') 12,508'-684' cmt w/ 50 sx. Re-Perf Atoka 12,662'-68' Cement Plugs: Surface -570' 3026'-3132' 5137'-5565' 8351'-8576' 10275'-10500 CIBP: 13,640 w/ 35' cmt on top 13,405' w/35' cmt on top 12,480 w/70' cmt on top 12,662'-68' Perfs: 13,430'-44' 13,660'-69" Hole Sizes: 17-1/2" Surf-520'

> 12-1/4' 520'-5,515' 8-1/2" 5,515'-13,902'

Proposed G.L. 3659' 13-3/8" 54.5# J-55 @ 520' DV @ 3132' in 9-5/8" 5-1/2" TOC 3828' by CBL 9-5/8" S-95 40# @ 5515" 2-7/8" Poly Lined to 5560' Proposed 5-1/2" x 2-7/8" Injection Packer @ 5560' Proposed Delaware Injection Interval: 5645'-8256' DV @ 8,526' 25 sx 25 sx class "H" plug @ 8,576'-8351' (calc) 25 sx class "H" plug @ 10,500-10,275' (calc) 25 sx XXX CIBP: 12,480' w/ 70' on top 4-1/2" Scab Liner 12,508'-684' 12,662'-68' Atoka: XXXCIBP: 13,405' Morrow: 13,430'-44' CIBP: 13,640' L. Morrow 13,660'-69' TD: 13,902

5-1/2" SP-110 17# @ 13,902'

Well: Greenstone Fed Com No. 1

Operator:

Dominion Oklahoma Texas Expl & Prod

Location:

Surface: 480' FSL and 1600' FEL Bottom Hole: 962' FSL & 1587' FEL

Sec 19, T20S, R34E Lea County, NM

Compl.: API#: 11/30/1999 30-025-34677

TD:

13,902"

Casing:

13-3/8" 54.5# J-55 @ 520' w/ 235 sx 35:65:6 + 200 sx. "C" 9-5/8" S-95 40# @ 5515' w/ 2120 sx 35:65:6 + 500 sx "C" TOC surface, circ 480 sx.

DV @ 3132'

5-1/2" SP-110 17# @ 13,902' 1675 sx "C" + 650 sx "H"

DV @ 8,526'

TOC:

5-1/2" TOC 3828' by CBL

Scab Liner:

4-1/2" 11.6# AB-FL4S (165') 12,508'-684' cmt w/ 50 sx. Re-Perf Atoka 12,662'-68'

Cement Plugs: Surface -570'

3026'-3132' 5137'-5565' 8351'-8576' 10275'-10500

CIBP:

13,640

w/ 35' cmt on top w/35' cmt on top

13,405¹ 12,480¹

w/70' cmt on top

Perfs:

12,662'-68' 13,430'-44'

13,660'-69'

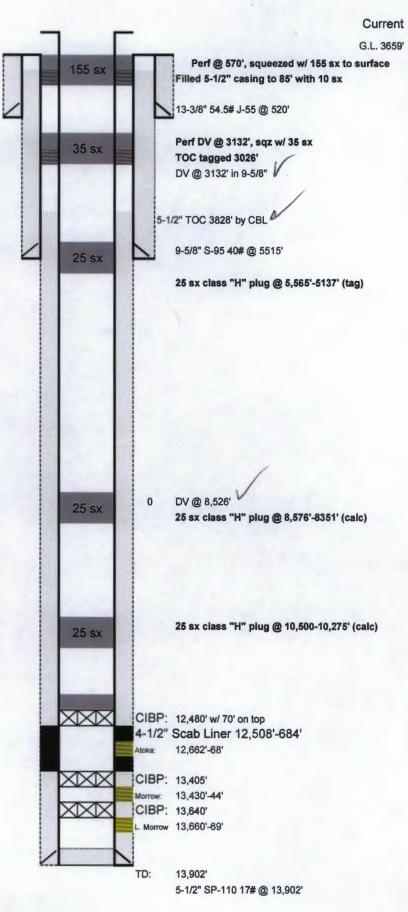
Hole Sizes:

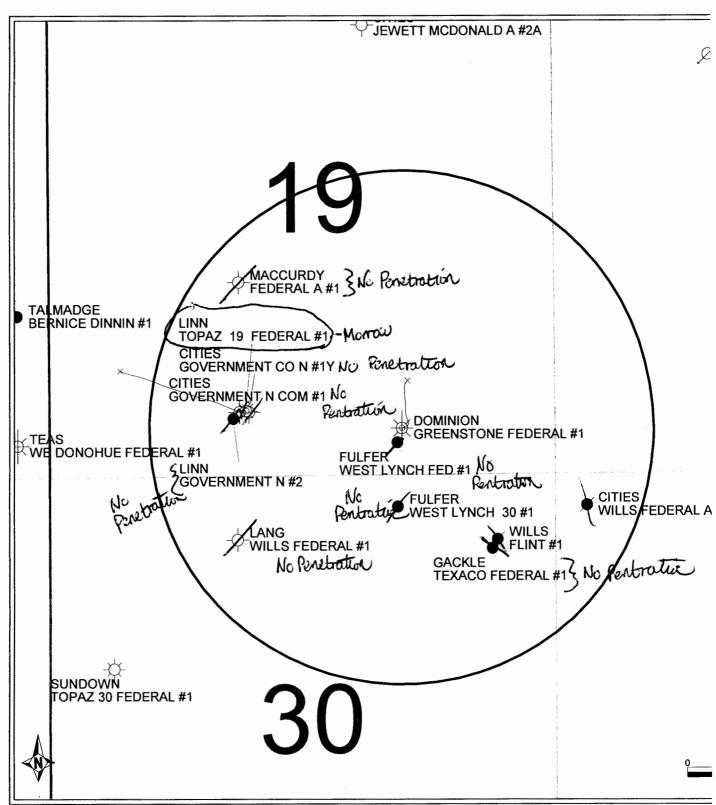
17-1/2" Surf-520' 12-1/4' 520'-5,515'

8-1/2" 5,515'-13,902'

2,508'-684'
12,662'-68'

top
top





PETRA 6/25/2013 2:21:12 PM

Fasken Oil and Ranch, Ltd. Greenstone Federal Com No. 1 480' FSL & 1600' FEL Sec. 19, T20S, R34E Lea County

Fasken Oil and Ranch, Ltd.

Greenstone Federal Com No. 1

Table of Well Data within 1/2 Mile

<u>Operator</u>	Well Name and Number	API Number	Oil or <u>Gas</u>	Spud <u>Date</u>	Total <u>Depth</u>	Formation and Perfs
M.R. Mocurdy	Federal "A" No. 1	30-025-23577	P&A Dry Hole	09/19/1970	3600'	N/A
Location:	1980' FSL & 1980' FWI Sec. 19, T20S, R34E					
Casing:	Well does not penetrate the	ne proposed injection	interval.			
Linn Operating,	Inc. Topaz 19 Federal	30-025-22564	Gas	05/16/1968	15,137'	Morrow
Limi Operating,	Com No. 1	30-023-22304	Ous	03/10/1700	13,137	13,686' – 13,763'
Location:	SHL - 660' FSL & 2083' BHL - 1074' FSL & 769					

Casing:

20" at 177' w/ 450 sx - TOC @ Surface

Sec. 19, T20S, R34E

13 5/8" at 3198' w/ 2450 sx – TOC @ Surface 9 5/8" at 5700' w/ 1675 sx – TOC @ Surface

5 ½" at 13,828', DV Tool @ 9678' w/ 940 sx – TOC @ 4800' TS

<u>Operator</u>	Well Name and Number	API Number	Oil or <u>Gas</u>	Spud <u>Date</u>	Total <u>Depth</u>	Formation <u>and Perfs</u>
Cities Service Oil Company	Government N Com No. 1	30-025-22516	P&A Dry Hole	04/22/1968	1545'	N/A
Location:	660' FSL & 1984' FW Sec. 19, T20S, R34E	L				
Casing:	Well does not penetrate	e the proposed injection i	nterval.			
Linn Operating,	, Inc. Government N No.	. 2 30-025-23122	2 Oil	04/30/1969	3492'	Yates Seven Rivers' 3344' – 3382'
Location:	590' FSL & 1913' FW Sec. 19, T20S, R34E	'L				
Casing:	Well does not penetrat	e the proposed injection	invterval.			
Lang & Unger	Wills-Federal No.	1 30-025-02483	P&A Dry Hole	09/07/1956	3192'	N/A
Location:	6 60' FNL & 1980' FWI Sec. 30, T20S, R34E					

Well does not penetrate the proposed injection interval.

Casing:

Operator	Well Name and Number	API Number	Oil or <u>Gas</u>	Spud <u>Date</u>	Total <u>Depth</u>	Formation and Pefs
Fulfer Oil & Cattle LLC	West Lynch Federal No.1	30-025-26625	Oil	04/17/1980	3528'	Yates 3270' – 3350'
Location:	330' FSL & 1650' FEL Sec. 19, T20S, R34E					
Casing:	Well does not penetrate th	e proposed injection	interval.			
Fulfer Oil & Cattle LLC	West Lynch 30 Federal No. 1	30-025-28297	Oil	08/17/1983	3519'	Yates 3299' – 3494'
Location:	330' FNL & 1650' FEL Sec. 30, T20S, R34E					
Casing:	Well does not penetrate pr	roposed injection into	erval.			
Gackle Drilling Company, Inc.	g Texaco-Federal No.	1 30-025-02482	Plugged Oil Well	06/16/1961	3526'	Yates 3326' – 3484'
Location:	760' FNL & 660' FEL					

Sec. 30, T20S, R34E

Casing:

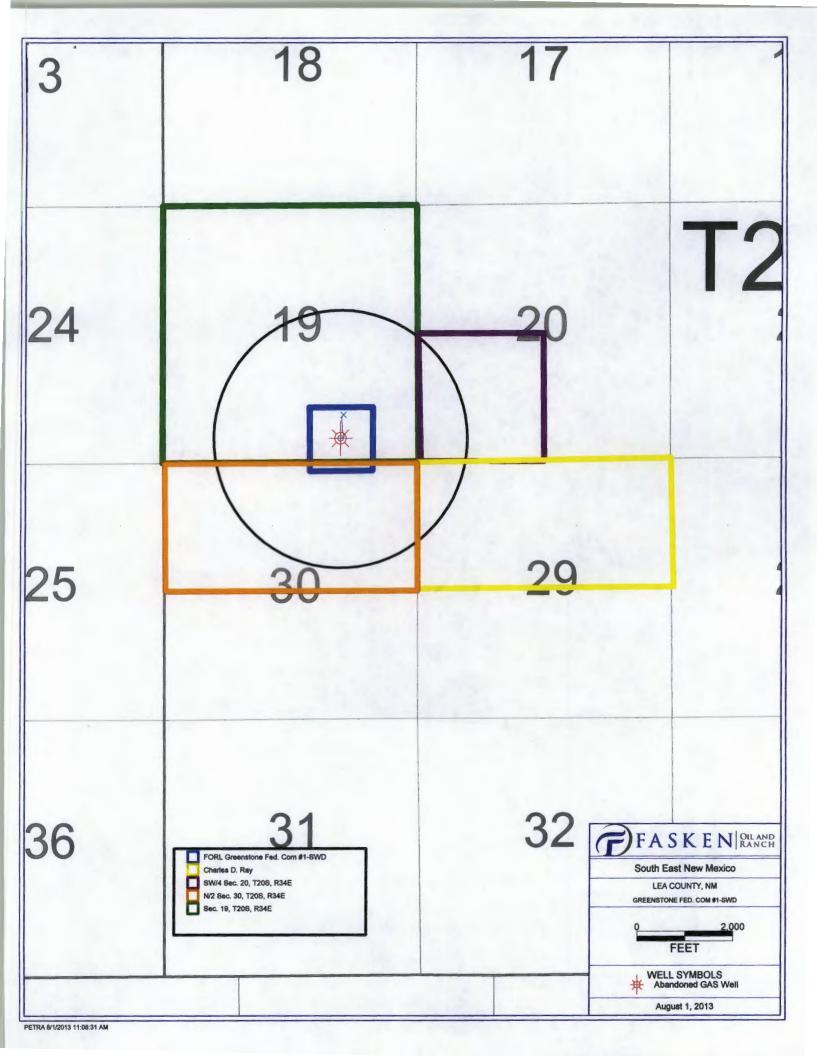
Well does not penetrate proposed injection interval.

Operator	Well Name and Number	API Number	Oil or <u>Gas</u>	Spud <u>Date</u>	Total <u>Depth</u>	Formation and Pefs	
NeilWills	Flint No. 1	30-025-02484	P&A Dry Hole	05/22/1943	3547'	N/A	
Location:	660' FNL & 660' FEL Sec. 30, T20S, R34E						
Casing:	Well does not penetrate th	ne proposed injection in	nterval.				
Cities Service Oil Company		30-025-02478	Plugged — Oil Well	07/04/1961	3541'	Yates 3356' – 3524'	

330' FNL & 330' FWL Sec. 29, T20S, R34E

Casing:

Well does not penetrate the proposed injection interval.



Fasken Oil and Ranch, Ltd. Greenstone Federal Com No. 1 SWD Application

SW/4 of Section 20, T20S, R34E Leasehold Owners

OXY USA WTP, LP

John H. Hendrix Corporation

MJK Mineral Properties, Ltd.

Ronnie H. Westbrook

Doyle Hartman

James A. Davidson Estate

Larry A. Nermyr

James E. Burr

Jack Fletcher Estate

Ruth Sutton

Chevron USA, Inc.

Fasken Oil and Ranch, Ltd. Greenstone Federal Com No. 1 **SWD** Application List of Notified Parties - 18+22+18 (58)

Leasehold Owners and Offset Operators within a 1/2 mile radius

Charles D. Ray P.O. Box 51608 Midland, TX 79710

Colkelan Corp. P.O. Box 25663 Albuquerque, NM 87125

Collins & Ware, Inc. 508 W. Wall Street, Ste. 1200 Midland, TX 79701

Curtis Anderson Estate 165 Scenic Valley Rd., Lot 76 Kerrville, TX 78028

Devon Energy Production Co. LP 333 W. Sheridan Ave. Oklahoma City, OK 73102

Ed Orr Estate 7222 S. Birmingham Ave. Tulsa, OK 74136

EGL Resources P.O. Box 10886 Midland, TX 79702

Explorers Petroluem 500 N. Main Street Roswell, NM 88201

Fulfer Oil & Cattle / Gregg Fulfer P.O. Box 578 Jal, NM 88252

Harvard Petroleum Co., LLC 13455 Noel Rd., #2000 Dallas, TX 75240

Harvey E. Yates Co. P.O. Box 1933 Roswell, NM 88202

James E. Yates P.O. Box 1933 Roswell, NM 88202

Khody Land & Minerals Co. 210 Park Avenue, Ste. 900 Oklahoma City, OK 73102

Logic Energy Holdings, LLC P.O. Box 10886 Midland, TX 79702

Nadel & Gussman Capitan, LLC 601 N. Marienfeld Midland, TX 79701

Patraitis Oil & Gas, LLC P.O. Box 10886 Midland, TX 79702

Placer Ltd. P.O. Box 10886 Midland, TX 79702

Prints II, LC P.O. Box 10886 Midland, TX 79702 Spiral Inc. P.O. Box 1933 Roswell, NM 88202

Sundown Petroleum, LLC 13455 Noel Rd., #2000 Dallas, TX 75240

Yates Energy Corp. P.O. Box 2323 Roswell, NM 88202

Oxy USA WTP, LP 6 Desta Drive, Suite 6000 Midland, TX 79705

John H. Hendrix Corporation P.O. Box 3040 Midland, TX 79702

MJK Mineral Properties, Ltd. 500 W. Texas Ave., Ste. 1230 Midland, TX 79701

Ronnie H. Westbrook P.O. Box 3171 Midland, TX 79707

Doyle Hartman P.O. Box 10426 Midland, TX 79702

James A. Davidson Estate P.O. Box 494 Midland, TX 79702

Larry A. Nermyr HC 57 Box 4106 Sidney, MT 59270

James E. Burr 3803 Wedgwood Ct. Midland, TX 79707 Jack Fletcher Estate 510 Storey Ave. Midland, TX 79701

Ruth Sutton 2826 Moss Ave. Midland, TX 79705

Chevron USA, Inc. P.O. Box 1150 Midland, TX 79702

Arrowhead Energy Dev. Program 1979 P.O. Box 936 Roswell, NM 88201

Bob Blundell, Jr. 1212 Miehls Drive Carlsbad, NM 88220

Dakota Resources, Inc. P.O. Box 10033 Midland, TX 79702

Davis Land & Minerals, Inc. P.O. Box 79188 Houston, TX 77279

Desert Rainbow, LLC P.O. Box 1837 Roswell, NM 28202

Devon SFS Operating, Inc. 20 N. Broadway Oklahoma City, OK 73102

Drilmor Inc. 4914 N. Midkiff Rd. Midland, TX 79705

Ed Orr 201 W. 5th, Ste. 500 Roswell, NM 74103



Enerstar Oil & Gas 410 N. Main St. Midland, TX 79701

Fasken Land & Minerals, Ltd. 6101 Holiday Hill Road Midland, TX 79707

Fulfer Oil & Cattle, LLC P.O. Box 755 Hobbs, NM 88242

George M. Yates P.O. Box 1933 Roswell, NM 88201

Harvard & LeMay Exploration, Ltd. P.O. Box 936 Roswell, NM 88201

J. Cleo Thompson 325 N. Saint Paul, Ste. 4300 Dallas, TX 75201

James C. Thompson, Jr. 6915 Baltimore Dr. Dallas, TX 75205

Larry A. Mizel 2400 E. Cherry Creek South Dr. Denver, CO 80209

Linn Operating Inc. Linn Energy Holdings, LLC 600 Travis, Ste. 5100 Houston, TX 77002

Merit Energy 12222 Merit Dr., Ste. 1500 Dallas, TX 75251

Mizel Resources 5801 E. 41st St., Ste. 104 Tulsa, OK 74135 Nadel & Gussman Capital LLC 15 East 5th Street, Ste. 3200 Tulsa, OK 74103



Petro-Quest Exploration P.O. Box 10016 Midland, TX 79702

Purdential-Bache Energy Income Prod. Partnership VP 18 P.O. Box 3134 Covington, LA 70434

Shirley Wallace, Trustee of the Culberson Management Trust 2507 Sinclair Ave.
Midland, TX 79705

Southwestern Energy Production Co. 2350 N. Sam Houston Pkwy., Ste. 125 Houston, TX 77032

Tommy Folsom 2014 Patricia Dr. Carlsbad, NM 88220

Viking Oil & Gas Exploration Co. P.O. Box 936 Roswell, NM 88201

Surface Owner

Bureau of Land Management 620 E. Greene St. Carlsbad, NM 88220

Other Notified Parties

New Mexico Oil Conservation Division 1625 N. French Dr. Hobbs, NM 88240

Fasken Oil and Ranch, Ltd. Greenstone Federal Com No. 1 SWD Application

N/2 of Section 30, T20S, R34E Leasehold Owners

Colkelan Corp.

Sundown Production, LLC

Collins & Ware, Inc.

Yates Energy Corp.

Curtis Anderson Estate

Devon Energy Production Co. LP

Ed Orr Estate

EGL Resources

Explorers Petroleum

Fulfer Oil & Cattle / Gregg Fulfer

Harvard Petroleum Co., LLC

Harvey E. Yates Co.

James E. Yates

Khody Land & Minerals Co.

Logic Energy Holdings, LLC

Nadel & Gussman Capitan, LLC

Patraitis Oil & Gas, LLC

Placer Ltd

Printz II, LC

Spiral Inc.

Fasken Oil and Ranch, Ltd. Greenstone Federal Com No. 1 SWD Application

Section 19, T20S, R34E Leasehold Owners and Offset Operators

Arrowhead Energy Dev. Program 1979

James C. Thompson

Bob Blundell, Jr.

James A. Davidson Estate

Dakota Resources, Inc.

John H. Hendrix Corporation

Davis Land & Minerals, Inc.

Khody Land & Minerals Co.

Desert Rainbow, LLC

Larry A. Mizel

Devon SFS Operating, Inc.

Larry A. Nermyr

Doyle Hartman

Linn Operating Inc.

Linn Energy Holdings, LLC

Drilmor Inc.

Merit Energy

Ed Orr

MJK Mineral Properties, Ltd.

Enerstar Oil & Gas

Mizel Resources

Fasken Land & Minerals, Ltd.

Nadel & Gussman Capital LLC

Fulfer Oil & Cattle, LLC

OXY USA WTP, LP

George M. Yates

Petro-Quest Exploration

Harvard & LeMay Exploration, Ltd.

Purdential-Bache Energy Income Prod.

Partnership VP 18

Harvey E. Yates Co.

Ronnie H. Westbrook

J. Cleo Thompson

Jack Fletcher Estate

Ruth Sutton

James E. Burr

Shirley Wallace, Trustee of the Culberson Management Trust

Southwestern Energy Production Co.

Spiral, Inc.

Tommy Folsom

Viking Oil & Gas Exploration Co.

Yates Energy Corp.



Martin Water Laboratories, Inc.

Analysts & Consultants since 1953 Bacterial & Chemical Analysis

To: Clay Lamb

6101 Holiday Hill Road Midland, TX 79707 Laboratory No.

0713-539

Sample Received

7-29-13

Results Reported

7-29-13

Company:

Fasken Oil & Ranch

County:

Lea, NM

Clay Lamb:

Using the submitted analyses of Bone Springs (CESI Chemical Analysis), Wolfcamp (Endura Analysis), Morrow (Halliburton Analysis), and Delaware (Halliburton Analysis), I have hypothetically combined them in various proportions and attempted to determine the potential for scale and/or precipitation to occur with the mixtures. None of the combinations would likely result in barium sulfate scale, but I have to assume no barium to be present in the Delaware and Morrow samples (barium was not tested for). An equal combination shows no supersaturation to calcium sulfate and therefore no significant gypsum would be expected. Due to insufficient information provided by these analyses, I am unable to determine an accurate calcium carbonate scale potential or iron sulfide precipitation at this time. However, the low bicarbonate and pH levels suggest low carbonate tendencies.

In summary of the above, and based only on the information provided by these analyses, these waters appear to be compatible when combined.

Greg Ogden, B.S.

....

HALLIBURTON DIVISION LABORATO

HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

APR 1 0 1939	Water Analysis file
JED SEG	Water Analysis

No. 062

		Ву
Analyst: Suy Bladio		HALLIBURTON COMPANY
Jay Bradfor	•	ully submitted,
· ·		
Remarks:		*Milligrams per liter
	31, 350	7 ₂ , \$30
Soluble Iron (Fe)		Nil
Bicarbonates (HCO ₃)		80
Sulfates (SO ₄)	Light	Light
Chlorides (CI)	27,000	9,000
Magnesium (Mg)	Ni1	Ni1
Calcium (Ca)		
pH		6.6
Specific Gravity	1.050	1.010
Resistivity	0.238 @ 70°	0.667 @ 70°
Use This Sample	Ling Fed #1	Ling Fed #2
County	Field	Source
Well No	Depth	Formation Morrow
Submitted by		Date Rec. 4-4-89
		course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.
Midland TX 79701		it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management it may however, be used in the
303 West Wall Ave S	Suite 1901	This report is the property of Halliburton Company and neither
To Barbara Fasken		Date 4-4-89

H. BURTON DIVISION LABORATORY

HALLIBURTON SERVICES MIDLAND DIVISION HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W83-078

To David Fasken		Date	1-20-83
807 lst Nation	al B ank B uilding	it nor any part thereof or disclosed without fir of laboratory managem course of regular busing	erty of Halliburton Company and neither inor a copy thereof is to be published st securing the express written approval nent; it may however, be used in the ess operations by any person or concern receiving such report from Halliburton
Submitted by		Date Rec	1-20-83
Well No. Ling Feder	al. #1 Depth 6,236 t	Formatio	n Delaware
CountyLea	Field. W. Hobbs	Source	DST #1
	Sampler	Tool Top	Top of Fluid
Resistivity	0.167 @ 70°F.	0.168 @ 70°F.	0.220 @ 60°F.
Specific Gravity	1.035	-	
	7.9		
Calcium (Ca)	3,200		*MPL
Magnesium (Mg)			
Chlorides (Cl)	25,000	24,000	18,500
Sulfates (SO ₄)	3,300		
Bicarbonates (HCO ₃)	120		
Soluble Iron (Fe)	Nil		
Pit Sample →	Res. @ 70°F 0.247	Chļorides, mpl - 15	,000
Remarks:			*Milligrams per liter
	Respectfully	submitted,	
Analyst: Brewer		HALLIBÚRTC	ON COMPANY
cc:		ву Ш. Х.	Brewer

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.



1004 S. Plainsman Road Marlow, OK 73055 Ph.: 800- 256-4703

Fx.: (580)-658-3223

Test: Date: FS-0032-0213 2/1/2013

Company:

Cudd Pumping-Fasken Oil

Submitted By: Bill Ford

Bill Ford

Depth:

Location: Leigh County, NM

Well Name:

Formation: Bonespring Shale

Source:

Date Taken:

THE SAMPLE CONTAINED:

ANALYSIS OF WATER

% by Vol. **CALCIUM** 5,727 mg/L WATER % by Vol. 1,093 mg/L OIL MAGNESIUM **SOLIDS** % by Vol. BARIUM 0 mg/L **EMULSION** % by Vol. IRON² 17 mg/L **POTASSIUM** mg/L 89,000 mg/L ANALYSIS OF OIL: **CHLORIDES BICARBONATES** 153 mg/L BS&W % by Wt. **CARBONATES** mg/L API Gr. ° @ 60 °F **HYDROXIDES** mg/L

 BS&W
 % by Wt.
 CARBONATES
 mg/L

 API Gr.
 ° @ 60 °F
 HYDROXIDES
 mg/L

 PARAFFIN
 % by Wt.
 SULFATES
 275 mg/L

 ASPHALTENES
 % by Wt.
 SODIUM (Calc.)
 44,933 mg/L

 CLOUD POINT
 °F
 TDS (Calc.)
 137,770 mg/L

 POUR POINT
 °F
 IONIDES (Out)

POUR POINT °F IODIDES (Qual.)

pH 6.37 Sp. Gr. 1.0961

Rw 0.070 Ohm-Meters

TEMPERATURE 70 ° F

COMMENTS:

The sodium and TDS are calculated using the French Creek

DownHole SAT.

Respectfully submitted,

ANALYSIS OF SOLIDS:

Name

Sherry Gaskins Chemist

Sheny Baskis

Title

NOTICE: This report is for information only and the content is limited to the sample described. CESI Chemical makes no warranties, express or implied, as to the accuracy of the contents or results. Any user of this report agrees CESI Chemical shall not be liable for any loss or damage, regardless of cause, including any act or omission of CESI Chemical, resulting from the use thereof.

Endura Products Corporation P.O. Box 3394, Midland, Texas 79702

Phone (432) 684-4233 Fax (432) 684-4277

WATER ANALYSIS

Date 10/7/2009 Sampling Point/Date well Company Fasken Oil and Formation		Code 10114034 State New Mexico County Lea Well #4 Wolfcamp Water
DISSOLVED SOLIDS		
CATIONS Sodium, Na+ (Calc.)	mg/l 24,127	me/l 1 ,049
Total Hardness as Ca++ Calcium Ca++	5,272 5,176	0 259
Magnesium, Mg++ Barium, Ba++ Iron (Total) Fe+++*	59 0 21	5 0 1
ANIONS		
Chlorides, Cl-Sulfate, SO4-Carbonate, CO3-Bicarbonates, HCO3-Sulfide, S-* Total Dissolved Solid	46,550 96 0 49 0 76,078	1,311 2 0 1 0
OTHER PROPERTIES		
pH* Specific Gravity,60/60 F. Turbidity	6.470 1.076 266	

SCALING INDICIES

TEMP, F	CA CO3	<u>CASO4*2H2O</u>	<u>CA SO4</u>	BA SO4
80	-0.9152	-1.2275	-1.4135	-29.0795
120	-0.6052	-1.2350	-1.2405	-29.3083
160	-0.1294	-1.2274	-1.0602	-29.5321

PERFORATIONS

Affidavit of Publication

State of New Mexico, County of Lea.

I, DANIEL RUSSELL **PUBLISHER**

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period

of 1 issue(s). Beginning with the issue dated June 29, 2013 and ending with the issue dated June 29, 2013

PUBLISHER

Sworn and subscribed to before me this 1st day of July, 2013

hisse Black

Notary Public

My commission expires January 29, 2015 (Seal)



OFFICIAL SEAL **GUSSIE BLACK** Notary Public State of New Mexico Ely Commission Expires 1-29-15

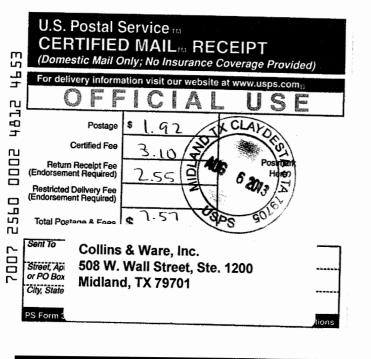
This newspaper is duly qualified to publish legal notices or advertisments within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said publication has been made.

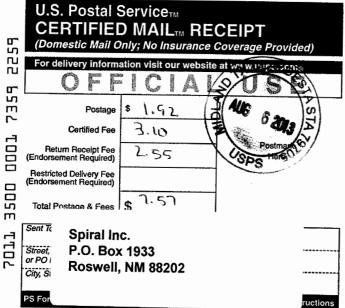


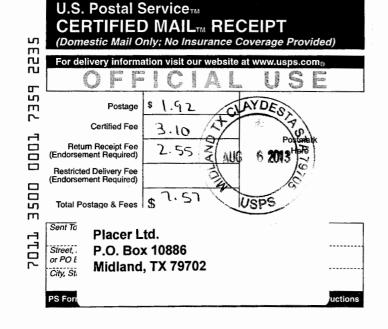
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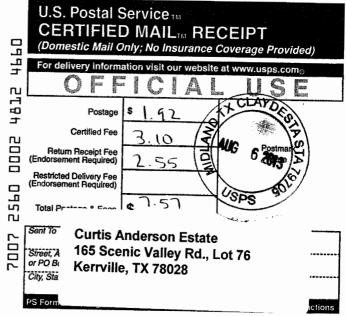
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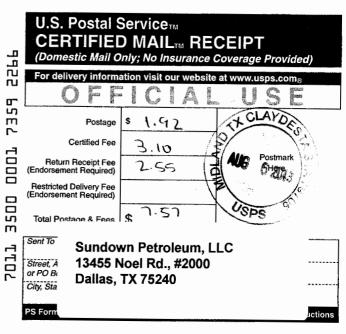
KIM TYSON FASKEN OIL AND RANCH, LTD 6101 HOLIDAY HILL ROAD MIDLAND, TX 79707











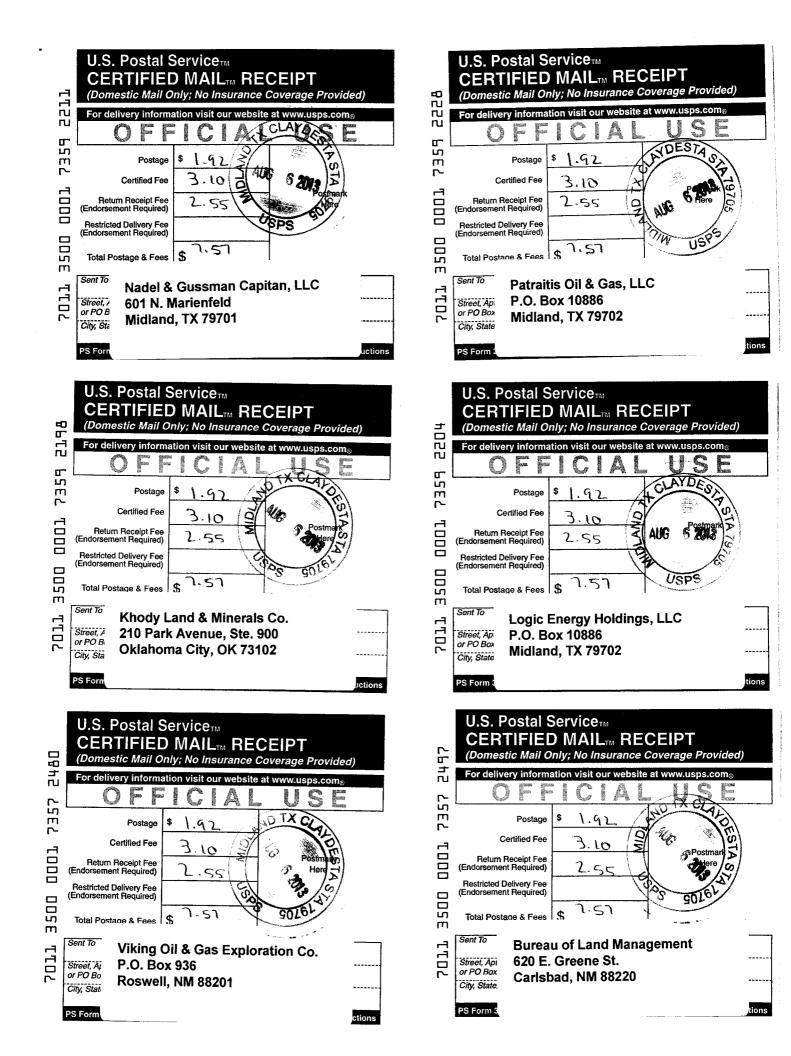


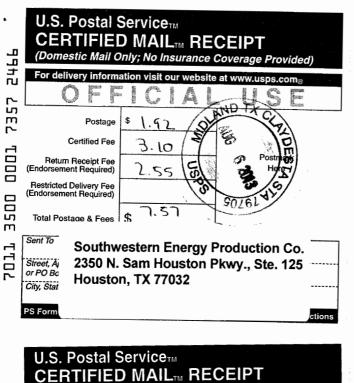
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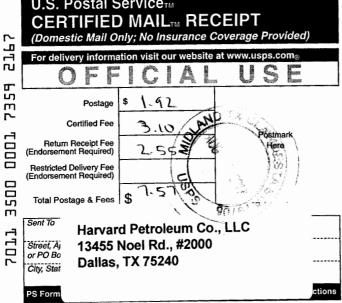
Midland, TX 79702

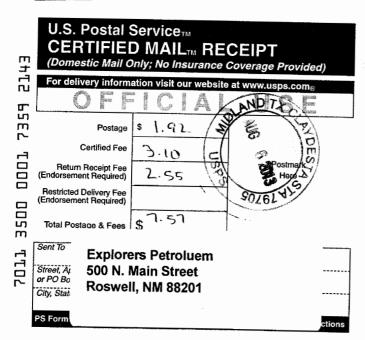
City, Sta

PS Form

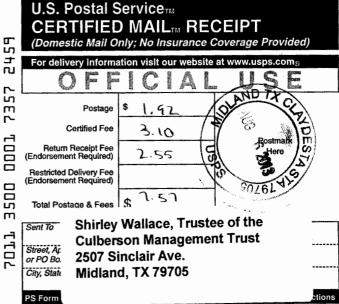














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Postage \$ 1.42.

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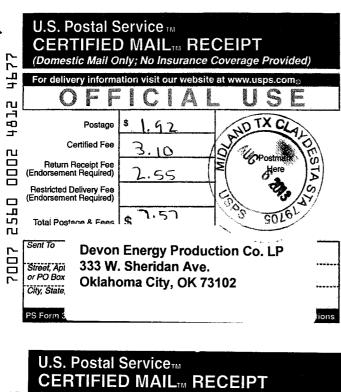
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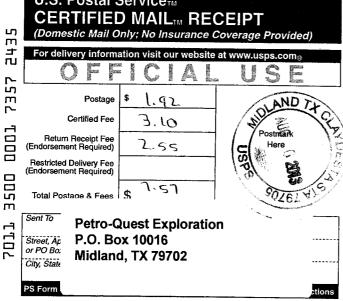
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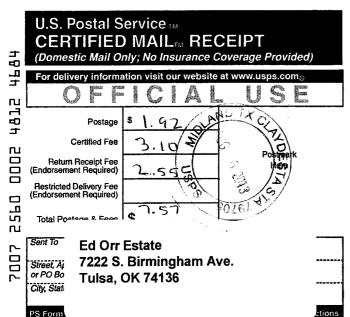
Sent To Street, Ap or PO Box City, State	Fulfer Oil & Cattle / Gregg Fulfer P.O. Box 578 Jal, NM 88252
DC Form	

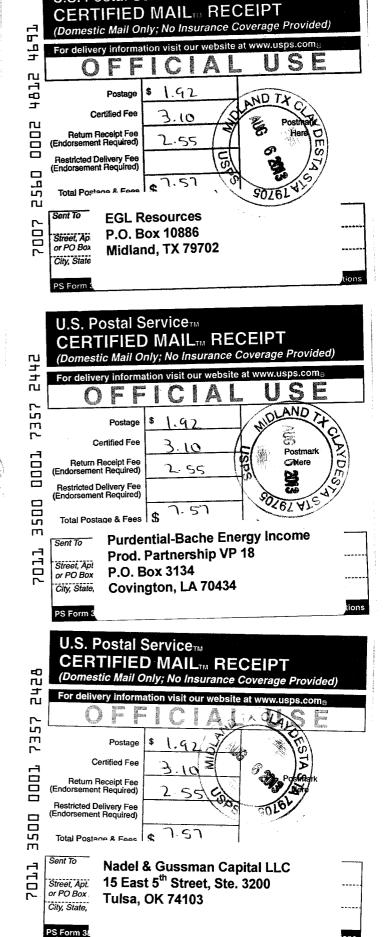
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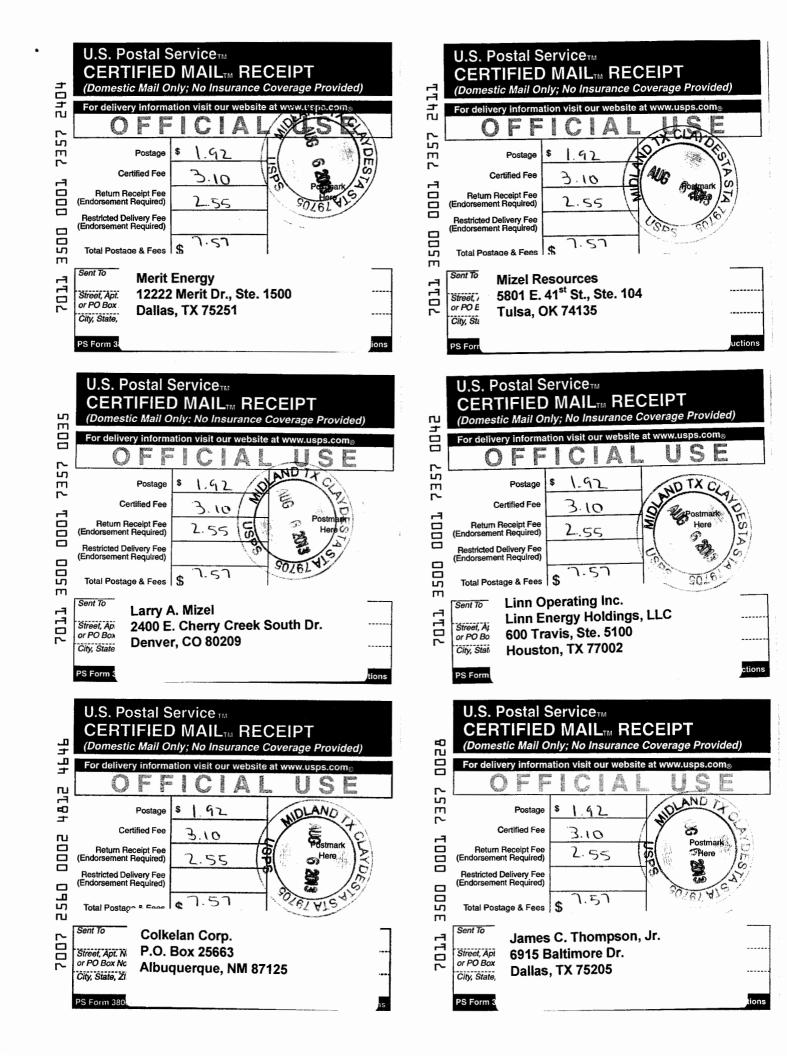


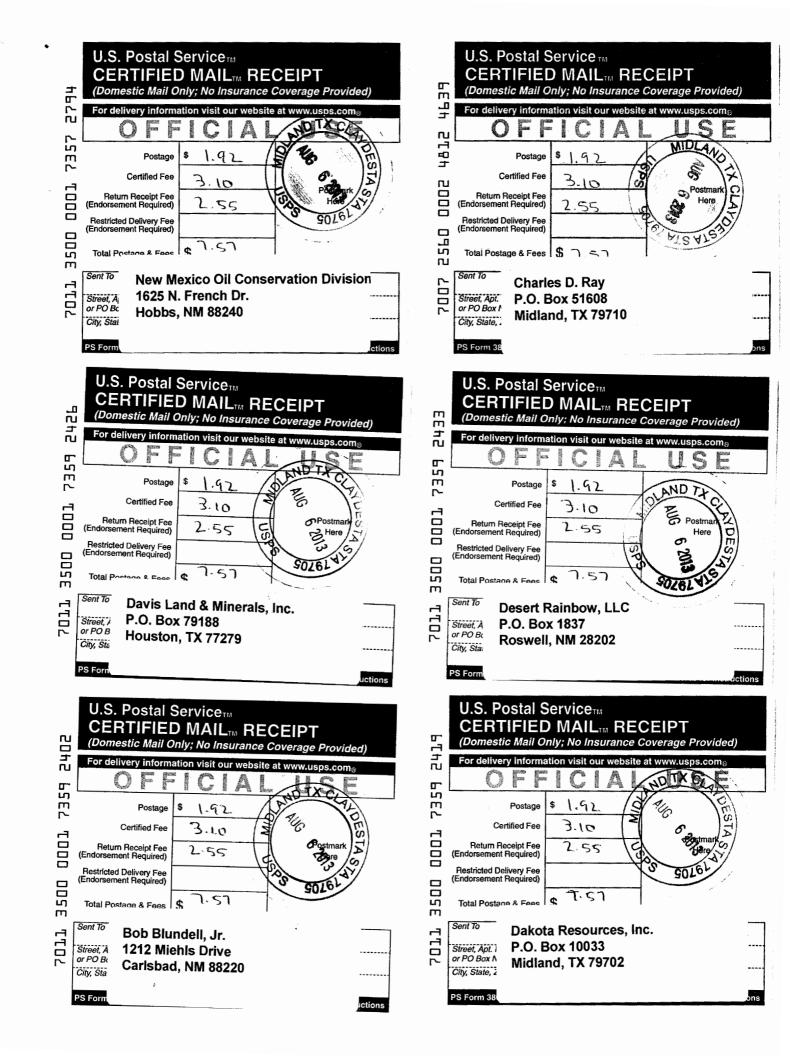


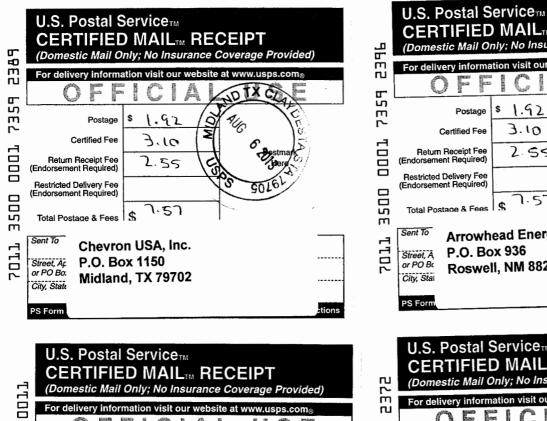


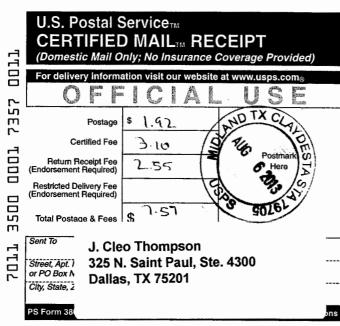


U.S. Postal Service m

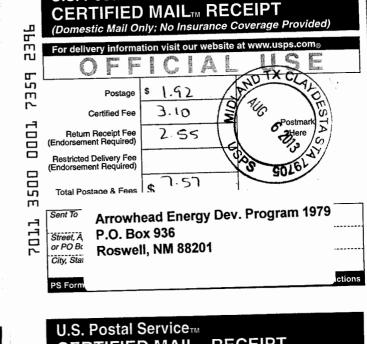




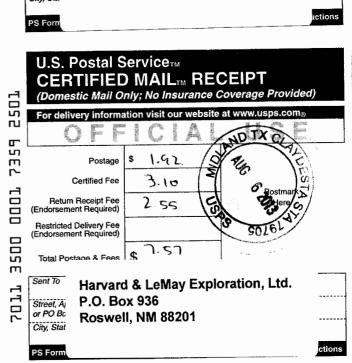


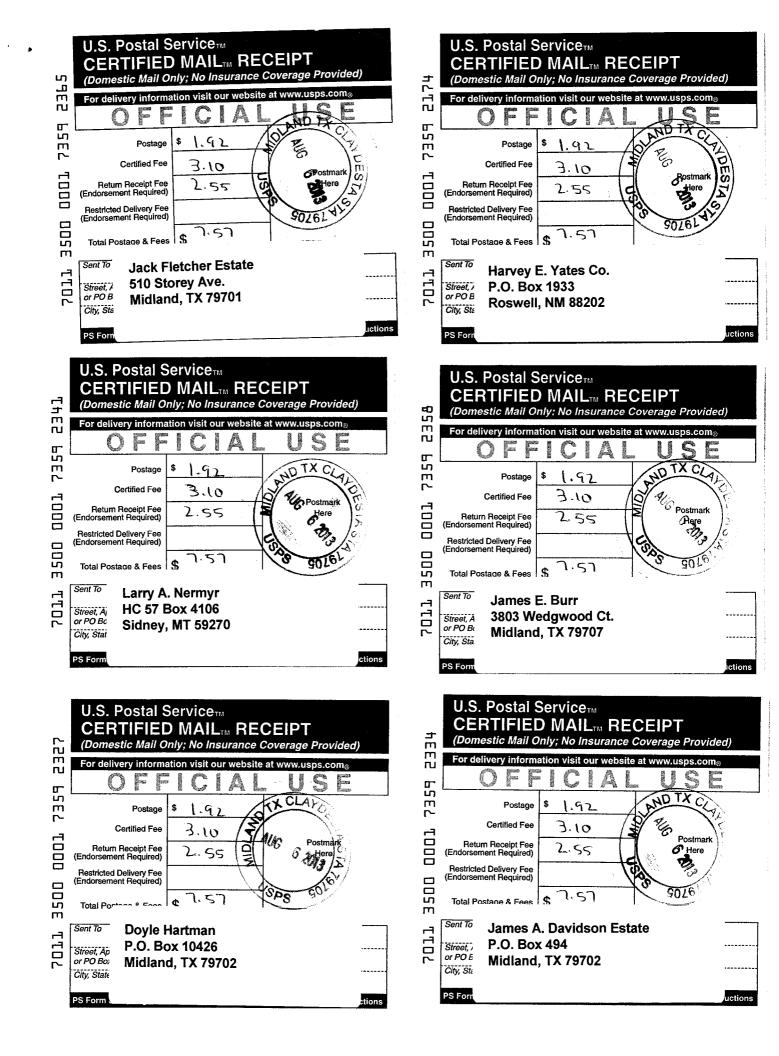


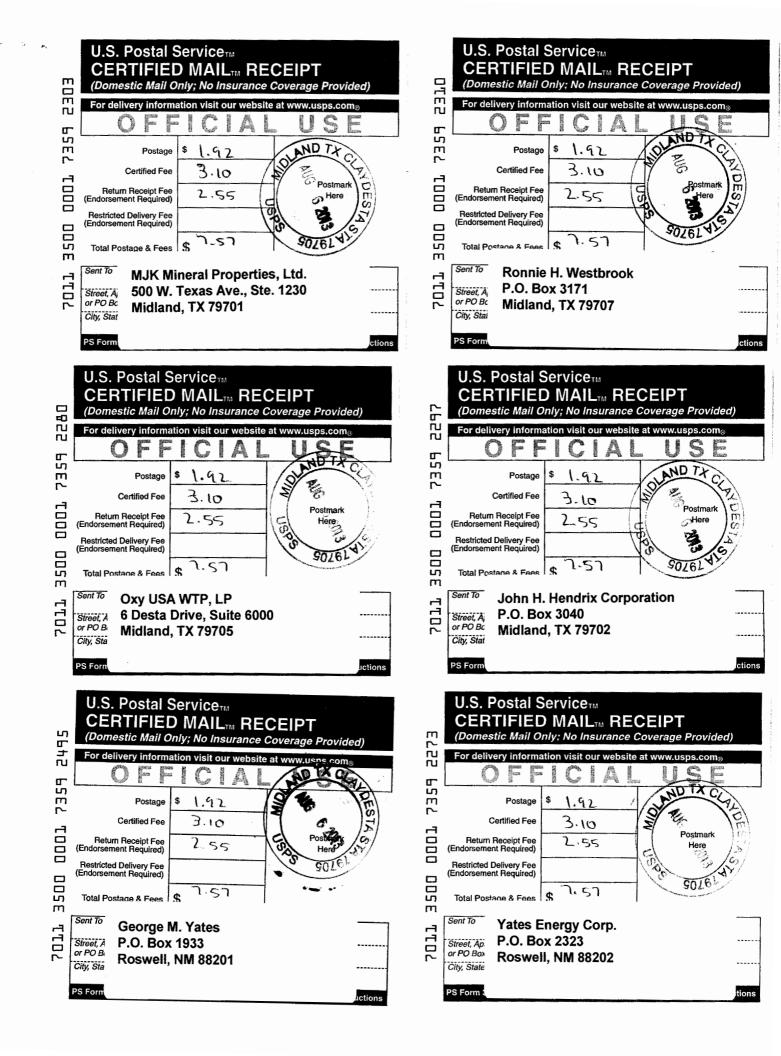


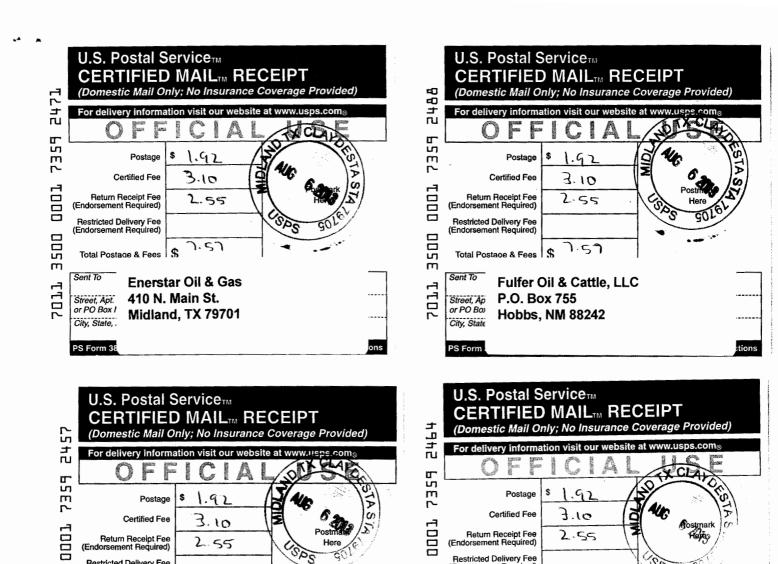












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Street, Apt.

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City, State,

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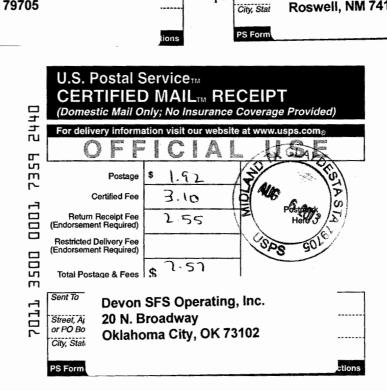
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Drilmor Inc.

4914 N. Midkiff Rd.

Midland, TX 79705

500



Restricted Delivery Fee (Endorsement Required)

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or PO Bc

1-57

ctions

201 W. 5th, Ste. 500

Roswell, NM 74103

50

FASKEN OIL AND RANCH, LTD.

6101 Holiday Hill Road MIDLAND, TEXAS 79707

> (432) 687-1777 kimt@forl.com

> > Klim Tyson Regulatory Analyst

October 2, 2013

Mr. Martin Litt

Intrepid Potash – New Mexico, LLC Intrepid Potash, Inc. 707 17th Street, Suite 4200 Denver, CO 80202

Dear Mr. Litt,

Re: Greenstone Federal Com No. 1

SWD Application

Teas; Delaware, Southeast Pool

API No. 30-025-34677 Lea County, New Mexico

Please find enclosed an application to convert to SWD for the Greenstone Federal Com No. 1. This letter and SWD application is being sent to let you know what Fasken's plans are concerning this well.

If you have any questions or need any additional information please e-mail me at <u>kimt@forl.com</u> or call me at (432) 687-1777.

Thanks for your help concerning this matter.

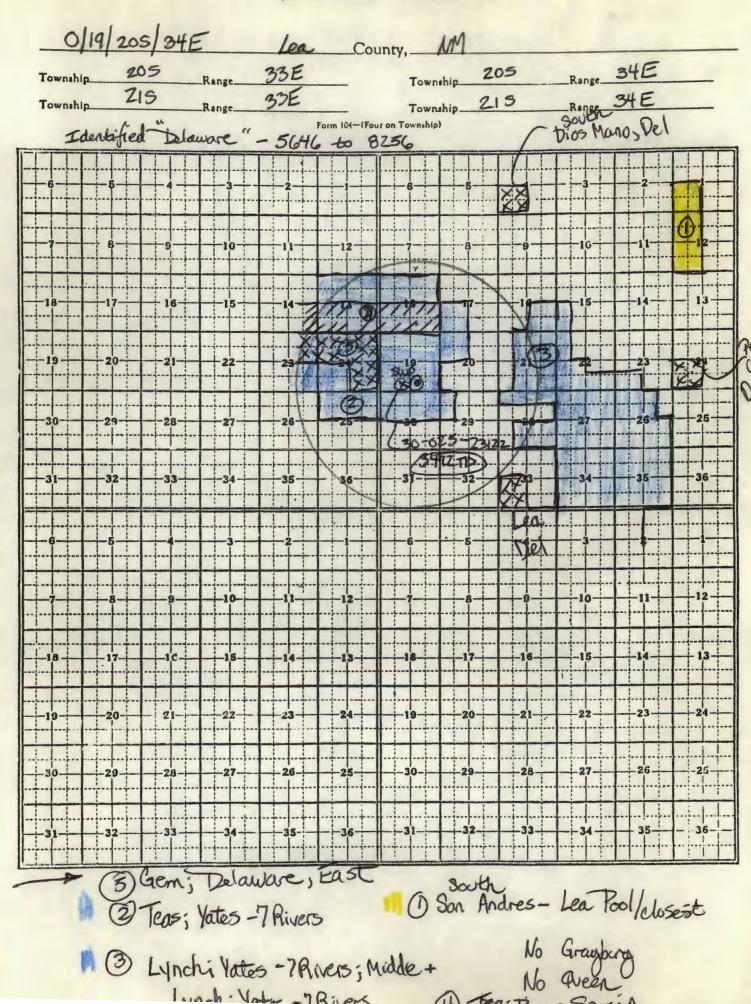
Yours truly,

Kimberley A. Tyson Regulatory Analyst



_		Do lool	ini I	Noticed	09/30/13 - 10/2/12				
C-108 Review	Checklist: Re	ceived 6/08/ Add. Reque	st: 10/0i/13	Reply Date 10/02/13	Suspended: [Ver 10]				
PERMIT TYPE: WE	X / PMX SWD NL	08 08 Add. Reque	it Date: 16	Legacy Permit	s/Orders:				
Well No. 1 Well Name(s): Greenstone Federal Com									
API: 30-0 25 - 34677 Spud Date: 08/27/99 New or Old: New (UIC Class II Primacy 03/07/1982) SL: 480 FSL/1600 FEL									
SL: 480 FSL / 1600 FEL Footages BHL: 962 184 1587 FEL Lot — Unit O Sec 19 Tsp 205 Rge 34E County Lea General Location: South of US 180 / Pearl Oil field Pool: Lynch; Morrow Pool No.: 80850									
and only of 1	15180 100 at	Oil field pool i	WG : A	toka (uma)	Pool No : 80850				
Operator: Fasker Oil	one freat	between Hobbs	Yand .	- ::)	FOOI NO				
COMPLIANCE RULE 5.9: Inactive V	/ells:Tota	al Wells: 133 Fincl	Assur: Ye	5 Compl. Order?	10 IS 5.9 OK? OK				
Well File Reviewed & Current Status: formerly Aboka gas producer Additional data provide by e-mail - Well Diagrams: NEW: Proposed () RE-ENTER: Before Conv. () After Conv. () Are Elogs in Imaging?:									
Well Diagrams: NFW: Proposed (BE-ENTER: Before	e Conv. After Conv. (Are Elogs	top of Bell Carry	for the transfer				
Planned Rehab Work to Well: Perf introd done cont plug at 8351 / after drill out									
Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)		Cement Sx)or Cf	Cement Top and Determination Method				
Plannedor ExistingConductor		Deptirs (it)	Stage	- CS, C, C,	_				
Planned _or Existing Surface	17/2/133/8	0 60 520	Tool	435	Circi to surface				
Planned_or Existing / Intern/Prod	2.		W 3132	2620 (total)	Circ. to surface				
Planned_or Existing Prod/Interm		10 to 13912	DV8826	- A	3828 / CBL				
Planned_or Existing \(\int \text{iner} \text{Prod}		12508 to 12689		50	Colculation				
Planned or Existing OH PER	51/z	5646-8256	Inj Length	Completion	Operation Details:				
Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops?	Drilled TD <u>13872</u>	.710 PBTD 13342 TVD				
Adjacent Unit: Litho. Struc. Por.		Tansil 5	-31907	NEW 78 NA	NEW PBTD NA				
Confining Unit: Litho. Struc. Por.	-6	Yotes 32th	3300 5	NEW Open Hole	or NEW Perfs (1)				
Proposed Inj Interval TOP:		Bell Corson m/	5640		in. Inter Coated? 125				
Proposed Inj Interval BOTTOM:		Delaware		Proposed Packer De					
Confining Unit: Litho. Struc. Por.	+276	Bone Spring	8576		5546 (100-ft limit)				
Adjacent Unit: Litho. Struc. Por.		Wolfcampo_	1/138	·	ace Press. 1129 psi				
AOR: Hydrologic و	The second of th				(0.2 psi per ft)				
POTASH: R-111-P O Noticed									
FRESH WATER: Formation	_	- A	•		_				
Disposal Fluid: Formation Source(s) Bure Spring 3	strawn/ Worfcampana	lysis? Yes (On Lease Operator	Only or Commercial				
Disposal Interval: Injection Rate (A	Atoka (کا کر ریg/Max BWPD):	5000 TUO OOProtectab	le Waters: _	No CAPITAN	REEF: thru adj NA				
H/C Potential: Producing Interval?	Formerly Pr	roducing? Yes-Atoke	od: E Log /M	ludlog/DST/Depleted/0	Other Reguest Swab				
	Vac	Vos - Delauch	e-unkne	ren ,					
AOR Wells: 1/2-M Radius Map? Yes Well List? Yes Total No. Wells Penetrating Interval: Horizontals? Diagrams? No. Active Wells No. Active Wells on which well(s)? Diagrams?									
Penetrating Wells: No. P&A Wells		i i			Diagrams? NA				
NOTICE: Newspaper Date <u>6.1/6</u>			Surface C)wner	N. Date				
NOTICE: Newspaper Date 0 1/01/13 Mineral Owner Surface Owner N. Date Notes 101/045CO/ Private lease Notes N. Date N. Date Notes 101/045CO/ Private lease Notes N. Date 08/08/13									
Permit Conditions: Issues:	Sequired potos		swab s		get water sample				
Add Permit Cond: (1) Sunt perfs (2) water sangle (3) tay for at cont plug below									
	,	, (in the	the internal	10C				

Greenstone Federal Com #1



Goetze, Phillip, EMNRD

From: Jimmy Carlile <jimmyc@forl.com>
Sent: Monday, March 04, 2013 11:43 AM

To: Goetze, Phillip, EMNRD; Jones, William V., EMNRD **Subject:** Fasken Oil and Ranch, Ltd. - Proposal for SWD Well

Phillip/Will,

I had talked briefly with Phillip earlier this morning on a proposal that Fasken wants to move forward. We plan on reentering the plugged Greenstone Federal No. 1 (API 30-025-34677) located at 480' FSL, 1600' FEL, Section 19, T20S, R34E and make it an SWD in the Delaware. My question is there is an active Delaware well, the Sinagua 18 Federal No. 2, located about 1 ½ miles north of this well. It is located at 2041' FSL, 2171' FEL, Section 18, T20S, R34E. I do not believe this poses any complications to our application, but wanted to make sure prior to filing the paperwork with you. Also, I believe this should be filed as an SWD, not a Secondary Recovery or Pressure Maintenance. Please let me know the answer to this. If you have any questions please let me know.

Jimmy D. Carlile
Regulatory Affairs Coordinator



(432) 687-1777