

RECEIVED: <u>07/04/2018</u>	REVIEWER: <u>PRG</u>	TYPE: <u>SWD</u>	APP NO: <u>DMA18184 33528</u>
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: Rice Operating Co

OGRID Number: 019174

Well Name: O-34

API: 30-025-Pending

Pool: San Andres

Pool Code: 96121

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location – Spacing Unit – Simultaneous Dedication

☐ NSL

☐ NSP (PROJECT AREA)

☐ NSP (PRORATION UNIT)

☐ SD

B. Check one only for [I] or [II]

[I] Commingling – Storage – Measurement

☐ DHC

☐ CTB

☐ PLC

☐ PC

☐ OLS

☐ OLM

[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery

☐ WFX

☐ PMX

☒ SWD

☐ IPI

☐ EOR

☐ PPR

2) NOTIFICATION REQUIRED TO: Check those which apply.

A. ☒ Offset operators or lease holders

B. ☐ Royalty, overriding royalty owners, revenue owners

C. ☒ Application requires published notice

D. ☒ Notification and/or concurrent approval by SLO

E. ☐ Notification and/or concurrent approval by BLM

F. ☒ Surface owner

G. ☒ For all of the above, proof of notification or publication is attached, and/or,

H. ☐ No notice required

FOR OCD ONLY

☐ Notice Complete

☐ Application
Content
Complete

3) CERTIFICATION: I hereby certify that the information submitted with this application for administrative 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.

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

Hayden Holub

Print or Type Name

Hayden Holub
Signature

06-29-2018

Date

575-393-9174

Phone Number

hholub@riceswd.com

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance ☒ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No
- II. OPERATOR: Rice Operating Co.
ADDRESS: 112 W Taylor Hobbs, Nm 88240
CONTACT PARTY: Hayden Holub PHONE: 575-393-9174
- III. 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 ☒ 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:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. 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: Hayden Holub TITLE: Field Foreman
SIGNATURE: [Signature] DATE: 06-29-2018
E-MAIL ADDRESS: hholub@riceswd.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.

- I. Disposal
- II. Operator: Rice Operating Co. Address: 112 W Taylor, Hobbs, Nm 88240
Contact Party: Hayden Holub Phone: 575-393-9174
- III. Attached
- IV. No
- V. Attached
- VI. No wells penetrate inj. interval within .5 mi AoR
- VII.
1. 15-30K BBLS/day
 2. Closed
 3. 0-1500 psi or the max allowed by the OCD
 4. All fluid is produced water
 5. No known disposal zone formation water available within the one mile of the proposed swd well. Attached is analysis of closest known formation water location approx. 4.88 mi SE of swd well. The Rice Operating SWD well M-33, located approx. 1.65 mi due west in ul-M - Sec 33 - 20S - 37E, has been disposing millions of barrels of produced water into the San Andres formation per year since the early 1960s without problems.
- VIII. Attached / San Andres / 1231' / 4001'-5232'
Monument Draw ground water estimated to be no deeper than 300' (no known wells within 1 mi radius of proposed well.
No known sources of drinking water underlying the injection zone
- IX. Acidize w/ 5,000 gal HCL 15% NEFE as needed
- X. New Drill
- XI. No known water wells within 1 mile radius of proposed well
- XII. I, Hayden Holub, have examined all available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zones and any underground source of drinking water pertaining to this well.
- XIII. Attached
- XIV. Name: Hayden Holub Title: Field Foreman
Signature:  Date: 06-30-2018
Email: hholub@riceswd.com

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) 746-1263 Fax: (575) 746-9720

DISTRICT III
1000 Rio Brazos Rd., 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 Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name 0-34 SWD	Well Number
OGRID No.	Operator Name RICE OPERATING COMPANY	Elevation 3512'

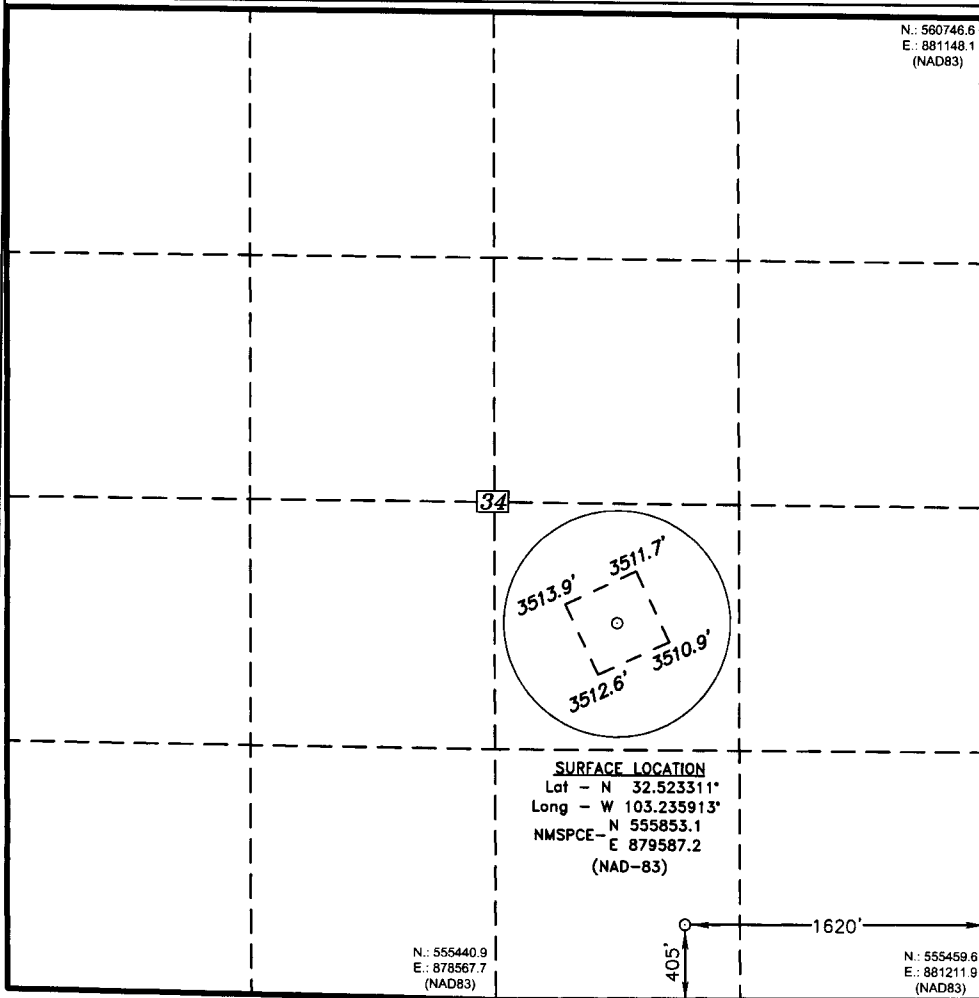
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	34	20 S	37 E		405	SOUTH	1620	EAST	LEA

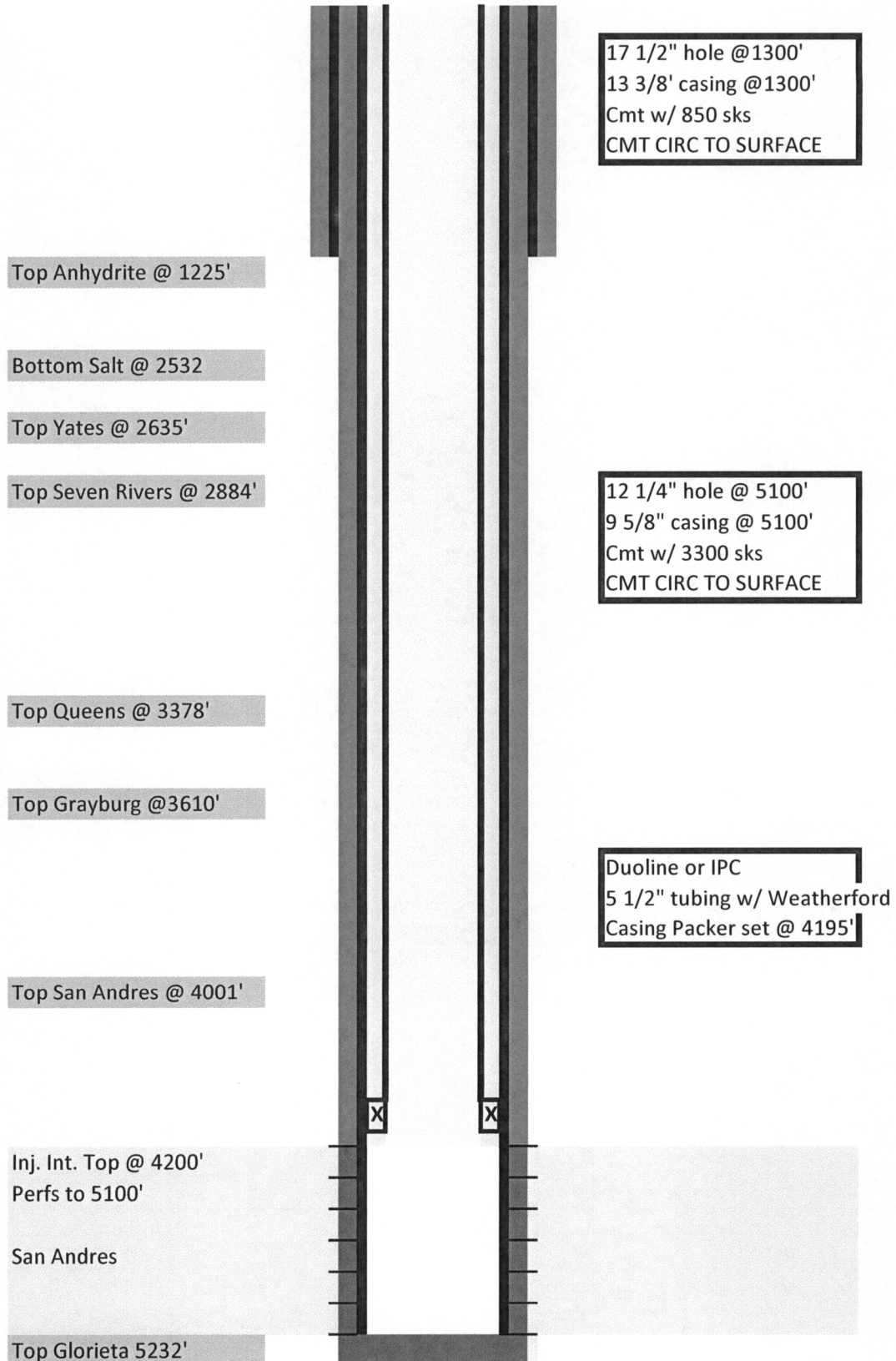
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation 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

 <p>N.: 560746.6 E.: 881148.1 (NAD83)</p> <p>34</p> <p>3513.9' - 3511.7' 3512.6' - 3510.9'</p> <p>SURFACE LOCATION Lat - N 32.523311° Long - W 103.235913° NMSPCE - N 555853.1 E 879587.2 (NAD-83)</p> <p>N.: 555440.9 E.: 878567.7 (NAD83)</p> <p>1620'</p> <p>405'</p> <p>N.: 555459.6 E.: 881211.9 (NAD83)</p>	<p>OPERATOR CERTIFICATION</p> <p>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 undivided mineral interest in the land including the proposed bottom hole 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 heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>Email Address _____</p>
	<p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date Surveyed _____</p> <p>Signature & Seal of Professional Surveyor _____</p> <p>Certificate No. _____</p> <p>7977</p> <p>Scale: 1" = 1000'</p> <p>WO Num.: 33848</p>
	<p>DATE 27, JAN 2012</p> <p>NEW MEXICO</p> <p>7977</p> <p>PROFESSIONAL SURVEYOR</p> <p>GOV. GARY REGAN</p>
	<p>0' 500' 1000' 1500' 2000'</p> <p>SCALE: 1" = 1000'</p> <p>WO Num.: 33848</p>

Rice Operating Co.
DRILLING FOR INJECTION SWD 0-34
UL O SEC 34 T20S R37E
405' FSL 1620' FEL



INJECTION WELL DATA SHEET

OPERATOR: RICE OPERATING COMPANY

WELL NAME & NUMBER: O-34

WELL LOCATION: 405' FSL 1620' FEL O 34 20S 37E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

SURFACE CASING

Hole Size: 17 1/2" Casing Size: 13 3/8"

Cemented with: 850 sx. or ft3

Top of Cement: Surface Method Determined: Sight/Circ.

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. or ft3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 12 1/4" Casing Size: 9 5/8"

Cemented with: 3300 sx. or ft3

Top of Cement: Circ Method Determined: Sight

Total Depth: 5100'

Injection Interval

4200' feet to 5100' perforated

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 5 1/2" _____ Lining Material: IPC or Duoline _____

Type of Packer: Weatherford Casing Packer _____

Packer Setting Depth: 4195' _____

Other Type of Tubing/Casing Seal (if applicable): N/A _____

Additional Data

1. Is this a new well drilled for injection? X Yes No

If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: San Andres _____

3. Name of Field or Pool (if applicable): _____

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. N/A _____

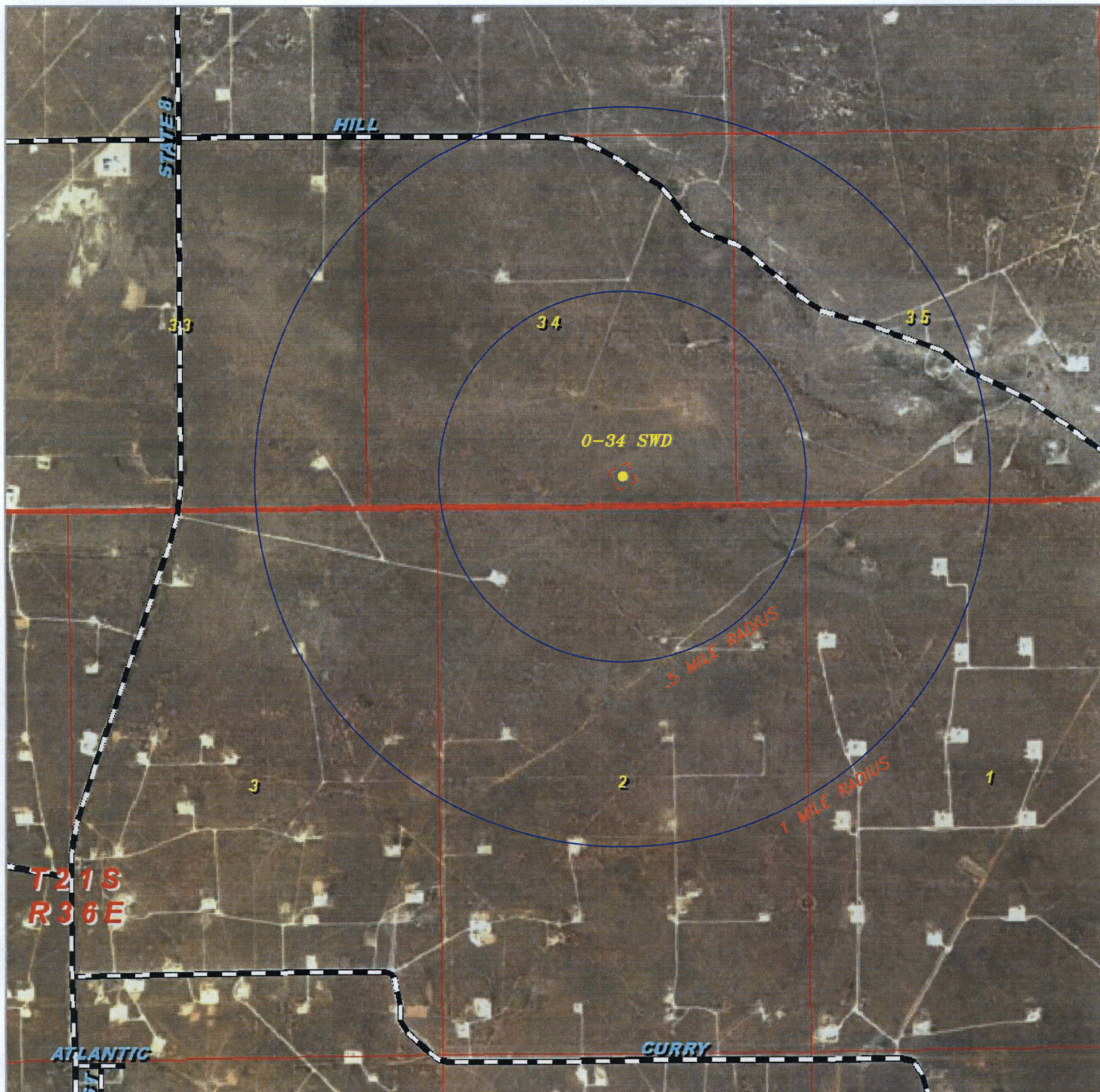
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed

Injection zone in this area: _____

Grayburg 3610' _____

Glorieta 5232' _____

[illegible]



0-34 SWD

Located 405' FSL and 1620' FEL
 Section 34, Township 20 South, Range 37 East,
 N.M.P.M., Lea County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

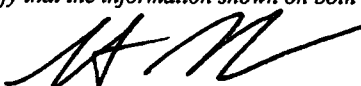
W.O. Number: JG 33848

Survey Date: 6-14-2018

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND



RICE
OPERATING
COMPANY

Submit To Appropriate District Office State Lease - 6 copies Fee Lease - 5 copies <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 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-105 Revised June 10, 2003 WELL API NO. 30-025-37146 5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> State Oil & Gas Lease No. B11349
WELL COMPLETION OR RECOMPLETION REPORT AND LOG		
1a. Type of Well: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> OTHER _____ b. Type of Completion: NEW <input checked="" type="checkbox"/> WORK <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG <input type="checkbox"/> DIFF. WELL OVER BACK RESVR. <input type="checkbox"/> OTHER _____		7. Lease Name or Unit Agreement Name STATE 10
2. Name of Operator LEWIS B. BURLESON, INC.		8. Well No. 4
3. Address of Operator P.O. BOX 2479 MIDLAND, TEXAS 79702		9. Pool name or Wildcat HARE (SAN ANDRES) EAST
4. Well Location Unit Letter D 467 Feet From The N Line and 467 Feet From The W Line Section 10 Township 21S Range 37E NMPM LEA County		
10. Date Spudded 05/25/2005	11. Date T.D. Reached 06/05/2005	12. Date Compl. (Ready to Prod.) 10/01/2005
13. Elevations (DF& RKB, RT, GR, etc.) 3469 GR		14. Elev. Casinghead
15. Total Depth 5510	16. Plug Back T.D. 4325	17. If Multiple Compl. How Many Zones? _____
18. Intervals Drilled By CAP STAR X		Rotary Tools _____
19. Producing Interval(s), of this completion - Top, Bottom, Name 4011-4113 SAN ANDRES Used for formation sample		20. Was Directional Survey Made YES
21. Type Electric and Other Logs Run GRN		22. Was Well Cored _____
23. CASING RECORD (Report all strings set in well)		
CASING SIZE	WEIGHT LB./FT.	DEPTH SET
8-5/8	24#	1284
5-1/2	15.5#	5510
24. LINER RECORD		25. TUBING RECORD
SIZE	TOP	SIZE
		2-3/8
BOTTOM	SACKS CEMENT	DEPTH SET
		4150
		PACKER SET
26. Perforation record (interval, size, and number) 4011-4113 21 HOLES		27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.
		DEPTH INTERVAL
		4011-4113
		AMOUNT AND KIND MATERIAL USED
		10,000 GAL ACID
28. PRODUCTION		
Date First Production 10/01/2005		Production Method (Flowing, gas lift, pumping - Size and type pump) PUMPING 2-1/2X2X16 RHBC
		Well Status (Prod. or Shut-in) PROD
Date of Test 10/01/2005	Hours Tested 24	Choke Size
		10
Flow Tubing Press. N/A	Casing Pressure 65	Calculated 24-Hour Rate
		10
		40
		285
		32
29. Disposition of Gas (Sold, used for fuel, vented, etc.) SOLD		Test Witnessed By STEVEN L. BURLESON
30. List Attachments		
31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief		
Signature 	Printed Name STEVEN L. BURLESON	Title VICE-PRESIDENT
E-mail Address GEOTTECH@PRODIGY.NET	Date 10/20/2005	



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 26, 2018

HAYDEN HOLUB

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: O-34 SWD WELL

Enclosed are the results of analyses for samples received by the laboratory on 06/20/18 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

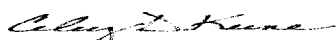
Analytical Results For:Rice Operating Company
112 W. Taylor
Hobbs NM, 88240Project: O-34 SWD WELL
Project Number: SEC. 34, T20S, R37E
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471Reported:
26-Jun-18 11:00

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SAN ANDRES FORMATION WATER	H801687-01	Wastewater	19-Jun-18 17:30	20-Jun-18 15:20

Cardinal Laboratories

*==Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
112 W. Taylor
Hobbs NM, 88240

Project: O-34 SWD WELL
Project Number: SEC. 34, T20S, R37E
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
26-Jun-18 11:00

SAN ANDRES FORMATION WATER
H801687-01 (Wastewater)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories
Inorganic Compounds

Alkalinity, Bicarbonate	2760		5.00	mg/L	1	8061805	AC	22-Jun-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8061805	AC	22-Jun-18	310.1	
Chloride*	9200		4.00	mg/L	1	8062006	AC	21-Jun-18	4500-Cl-B	
Conductivity*	26900		1.00	uS/cm	1	8062108	AC	21-Jun-18	120.1	
pH*	7.96		0.100	pH Units	1	8062108	AC	21-Jun-18	150.1	
Resistivity	0.372			Ohms/m	1	8062108	AC	21-Jun-18	120.1	
Specific Gravity @ 60° F	1.012		0.000	[blank]	1	8062110	AC	22-Jun-18	SM 2710F	
Sulfate*	55.0		25.0	mg/L	2.5	8062112	AC	22-Jun-18	375.4	
Chloride*	17700.1		5.00	mg/L	1	8062115	AC	25-Jun-18	160.1	
Alkalinity, Total*	2270		4.00	mg/L	1	8061805	AC	22-Jun-18	310.1	

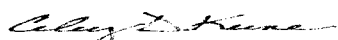
Green Analytical Laboratories
Total Recoverable Metals by ICP (E200.7)

Barium*	4.91		2.50	mg/L	50	B806183	JDA	22-Jun-18	EPA200.7	
Calcium*	561		5.00	mg/L	50	B806183	JDA	22-Jun-18	EPA200.7	
Iron*	<2.50		2.50	mg/L	50	B806183	JDA	22-Jun-18	EPA200.7	
Magnesium*	260		5.00	mg/L	50	B806183	JDA	22-Jun-18	EPA200.7	
Potassium*	271		50.0	mg/L	50	B806183	JDA	22-Jun-18	EPA200.7	
Sodium*	4950		50.0	mg/L	50	B806183	JDA	22-Jun-18	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
112 W. Taylor
Hobbs NM, 88240

Project: O-34 SWD WELL
Project Number: SEC. 34, T20S, R37E
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
26-Jun-18 11:00

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 8061805 - General Prep - Wet Chem

Blank (8061805-BLK1)

Prepared: 18-Jun-18 Analyzed: 19-Jun-18

Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	10.0	5.00	mg/L							
Alkalinity, Total	8.00	4.00	mg/L							

LCS (8061805-BS1)

Prepared: 18-Jun-18 Analyzed: 19-Jun-18

Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120			
Alkalinity, Total	260	10.0	mg/L	250		104	80-120			

LCS Dup (8061805-BSD1)

Prepared: 18-Jun-18 Analyzed: 19-Jun-18

Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120	0.00	20	
Alkalinity, Total	260	10.0	mg/L	250		104	80-120	0.00	20	

Batch 8062006 - General Prep - Wet Chem

Blank (8062006-BLK1)

Prepared: 20-Jun-18 Analyzed: 21-Jun-18

Chloride	ND	4.00	mg/L							
----------	----	------	------	--	--	--	--	--	--	--

LCS (8062006-BS1)

Prepared: 20-Jun-18 Analyzed: 21-Jun-18

Chloride	100	4.00	mg/L	100		100	80-120			
----------	-----	------	------	-----	--	-----	--------	--	--	--

LCS Dup (8062006-BSD1)

Prepared: 20-Jun-18 Analyzed: 21-Jun-18

Chloride	100	4.00	mg/L	100		100	80-120	0.00	20	
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Batch 8062108 - General Prep - Wet Chem

LCS (8062108-BS1)

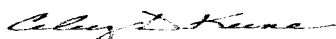
Prepared & Analyzed: 21-Jun-18

Conductivity	97300		uS/cm	100000		97.3	80-120			
pH	7.09		pH Units	7.00		101	90-110			

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
112 W. Taylor
Hobbs NM, 88240

Project: O-34 SWD WELL
Project Number: SEC. 34, T20S, R37E
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
26-Jun-18 11:00

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 8062108 - General Prep - Wet Chem

Duplicate (8062108-DUP1)		Source: H801687-01		Prepared & Analyzed: 21-Jun-18						
pH	8.00	0.100	pH Units		7.96			0.501	20	
Conductivity	26800	1.00	uS/cm		26900			0.298	20	
Resistivity	0.373		Ohms/m		0.372			0.298	20	

Batch 8062110 - General Prep - Wet Chem

Duplicate (8062110-DUP1)		Source: H801687-01		Prepared: 21-Jun-18 Analyzed: 22-Jun-18						
Specific Gravity @ 60° F	1.011	0.000	[blank]		1.012			0.131	20	

Batch 8062112 - General Prep - Wet Chem

Blank (8062112-BLK1)		Prepared: 21-Jun-18 Analyzed: 22-Jun-18								
Sulfate	ND	10.0	mg/L							
LCS (8062112-BS1)		Prepared: 21-Jun-18 Analyzed: 22-Jun-18								
Sulfate	19.0	10.0	mg/L	20.0		95.2	80-120			
LCS Dup (8062112-BSD1)		Prepared: 21-Jun-18 Analyzed: 22-Jun-18								
Sulfate	19.4	10.0	mg/L	20.0		97.2	80-120	2.13	20	

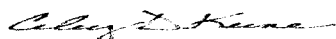
Batch 8062115 - Filtration

Blank (8062115-BLK1)		Prepared: 20-Jun-18 Analyzed: 21-Jun-18								
TDS	ND	5.00	mg/L							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
112 W. Taylor
Hobbs NM, 88240

Project: O-34 SWD WELL
Project Number: SEC. 34, T20S, R37E
Project Manager: HAYDEN HOLUB
Fax To: (575) 397-1471

Reported:
26-Jun-18 11:00

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8062115 - Filtration

LCS (8062115-BS1)

Prepared: 20-Jun-18 Analyzed: 21-Jun-18

TDS	456	5.00	mg/L	527	86.5	80-120
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Duplicate (8062115-DUP1)

Source: H801667-03

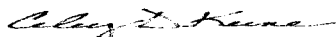
Prepared: 20-Jun-18 Analyzed: 21-Jun-18

TDS	938	5.00	mg/L	946	0.849	20
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 112 W. Taylor
 Hobbs NM, 88240

 Project: O-34 SWD WELL
 Project Number: SEC. 34, T20S, R37E
 Project Manager: HAYDEN HOLUB
 Fax To: (575) 397-1471

 Reported:
 26-Jun-18 11:00

Total Recoverable Metals by ICP (E200.7) - Quality Control
Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B806183 - Total Rec. 200.7/200.8/200.2
Blank (B806183-BLK1)

Prepared: 21-Jun-18 Analyzed: 22-Jun-18

Iron	ND	0.050	mg/L							
Barium	ND	0.050	mg/L							
Potassium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							

LCS (B806183-BS1)

Prepared: 21-Jun-18 Analyzed: 22-Jun-18

Sodium	3.22	1.00	mg/L	3.24		99.2	85-115			
Potassium	7.83	1.00	mg/L	8.00		97.8	85-115			
Magnesium	19.1	0.100	mg/L	20.0		95.6	85-115			
Iron	3.81	0.050	mg/L	4.00		95.2	85-115			
Calcium	3.83	0.100	mg/L	4.00		95.7	85-115			
Barium	2.01	0.050	mg/L	2.00		100	85-115			

LCS Dup (B806183-BSD1)

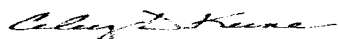
Prepared: 21-Jun-18 Analyzed: 22-Jun-18

Magnesium	19.4	0.100	mg/L	20.0		96.8	85-115	1.30	20	
Barium	2.02	0.050	mg/L	2.00		101	85-115	0.698	20	
Potassium	7.85	1.00	mg/L	8.00		98.2	85-115	0.354	20	
Calcium	3.89	0.100	mg/L	4.00		97.1	85-115	1.50	20	
Sodium	3.23	1.00	mg/L	3.24		99.7	85-115	0.493	20	
Iron	3.82	0.050	mg/L	4.00		95.6	85-115	0.400	20	

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Celey D. Keene, Lab Director/Quality Manager

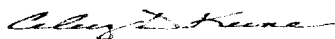
Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES
SCALE INDEX WATER ANALYSIS REPORT

Company : RICE OPERATING COMPANY	Date Sampled : 06/19/18
Lease Name : O-34 SWD WELL	Company Rep. : HAYDEN HOLUB
Well Number : SAN ANDRES FORMATION WATER (H801687-01)	
Location : SEC 34, T20S, R37E	

ANALYSIS

- | | | |
|---|--------|------------------------------------|
| 1. pH | 7.96 | |
| 2. Specific Gravity @ 60/60 F. | 1.0120 | |
| 3. CaCO ₃ Saturation Index @ 80 F. | +1.142 | 'Calcium Carbonate Scale Possible' |
| @ 140 F. | +2.012 | 'Calcium Carbonate Scale Possible' |

Dissolved Gasses

- | | | |
|---------------------|----|-----|
| 4. Hydrogen Sulfide | ND | PPM |
| 5. Carbon Dioxide | ND | PPM |
| 6. Dissolved Oxygen | ND | PPM |

Cations

- | | | / | Eq. Wt. | = | MEQ/L |
|---------------------|--------|---|---------|---|--------|
| 7. Calcium (Ca++) | 561.00 | / | 20.1 | = | 27.91 |
| 8. Magnesium (Mg++) | 260.00 | / | 12.2 | = | 21.31 |
| 9. Sodium (Na+) | 4,950 | / | 23.0 | = | 256.23 |
| 10. Barium (Ba++) | 4.910 | / | 68.7 | = | 0.07 |

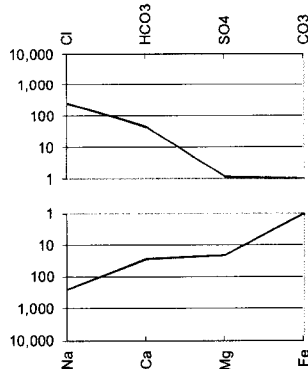
Anions

- | | | | | | |
|--------------------------------------|-------|---|------|---|--------|
| 11. Hydroxyl (OH-) | 0 | / | 17.0 | = | 0.00 |
| 12. Carbonate (CO ₃ =) | 0 | / | 30.0 | = | 0.00 |
| 13. Bicarbonate (HCO ₃ -) | 2,760 | / | 61.1 | = | 45.17 |
| 14. Sulfate (SO ₄ =) | 55 | / | 48.8 | = | 1.13 |
| 15. Chloride (Cl-) | 9,200 | / | 35.5 | = | 259.15 |

Other

- | | | | | | |
|---|---------|------------|------|-------------|------|
| 16. Total Iron (Fe) | 0.000 | / | 18.2 | = | 0.00 |
| 17. Total Dissolved Solids | 2,471.0 | | | | |
| 18. Total Hardness As CaCO ₃ | 2,821 | | | | |
| 19. Calcium Sulfate Solubility @ 90 F. | 0.372 | | | | |
| 20. Resistivity (Measured) | 0.372 | Ohm/Meters | @ 77 | Degrees (F) | |

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO ₃) ₂	81.04	X	27.91	=	2,262
CaSO ₄	68.07	X	0.00	=	0
CaCl ₂	55.50	X	0.00	=	0
Mg(HCO ₃) ₂	73.17	X	17.26	=	1,263
MgSO ₄	60.19	X	0.00	=	0
MgCl ₂	47.62	X	4.05	=	193
NaHCO ₃	84.00	X	0.00	=	0
NaSO ₄	71.03	X	1.13	=	80
NaCl	58.46	X	255.10	=	14,913

ND = Not Determined



CARDINAL
Laboratories

RUSH!!

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Rice Operating Company Project Manager: Hayden Hobbs Address: 112 W. Taylor City: Hobbs Phone #: 575-393-9174 Fax #: 575-393-1471 State: NM Zip: 88240 Project #: Project Name: O-34 SWD Well Project Location: Sec. 34, T20S, R37E Sampler Name: Hayden Hobbs		P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:																																																																		
FOR LAB USE ONLY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width:20%;">Lab I.D. H8D1687</td> <td rowspan="2" style="width:30%;">Sample I.D. San Andres formation water 30-025-37146</td> <td style="width:10%;">(G)RAB OR (C)OMP.</td> <td style="width:10%;"># CONTAINERS</td> <td rowspan="2" style="width:10%;">DATE 6/19</td> <td rowspan="2" style="width:10%;">TIME 17:30</td> </tr> <tr> <td colspan="2"> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">MATRIX</td> </tr> <tr> <td>GROUNDWATER</td> <td></td> </tr> <tr> <td>WASTEWATER</td> <td></td> </tr> <tr> <td>SOIL</td> <td></td> </tr> <tr> <td>OIL</td> <td></td> </tr> <tr> <td>SLUDGE</td> <td></td> </tr> <tr> <td>OTHER :</td> <td></td> </tr> <tr> <td colspan="2">PRESERV</td> </tr> <tr> <td>ACID/BASE:</td> <td></td> </tr> <tr> <td>ICE / COOL</td> <td></td> </tr> <tr> <td>OTHER :</td> <td></td> </tr> </table> </td> <td rowspan="2" style="width:10%;">SAMPLING</td> </tr> </table>		Lab I.D. H8D1687	Sample I.D. San Andres formation water 30-025-37146	(G)RAB OR (C)OMP.	# CONTAINERS	DATE 6/19	TIME 17:30	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">MATRIX</td> </tr> <tr> <td>GROUNDWATER</td> <td></td> </tr> <tr> <td>WASTEWATER</td> <td></td> </tr> <tr> <td>SOIL</td> <td></td> </tr> <tr> <td>OIL</td> <td></td> </tr> <tr> <td>SLUDGE</td> <td></td> </tr> <tr> <td>OTHER :</td> <td></td> </tr> <tr> <td colspan="2">PRESERV</td> </tr> <tr> <td>ACID/BASE:</td> <td></td> </tr> <tr> <td>ICE / COOL</td> <td></td> </tr> <tr> <td>OTHER :</td> <td></td> </tr> </table>		MATRIX		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		PRESERV		ACID/BASE:		ICE / COOL		OTHER :		SAMPLING	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">BILL TO</th> <th colspan="10">ANALYSIS REQUEST</th> </tr> <tr> <td colspan="2" rowspan="2" style="vertical-align: top;"> Complete Water Analysis scale </td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		BILL TO		ANALYSIS REQUEST										Complete Water Analysis scale																					
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Relinquished By: HEC/1 Date: 6/20/18 Time: 13:20 Received By: [Signature] Relinquished By: [Signature]		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: REMARKS: Email results! h.hobbs@riceSWD.com scurth@riceSWD.com																																																																		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: SD.10 / 30.DSD Sample Condition: Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> CHECKED BY: [Signature]																																																																				

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

RECORD OF DRILL-STEM AND SPECIAL TESTS

If drill-stem or other special tests or deviation surveys were made, submit report on separate sheet and attach hereto

TOOLS USED

Rotary tools were used from 0 feet to 11,050 feet, and from feet to feet.
Cable tools were used from feet to feet, and from feet to feet.

PRODUCTION

Put to Producing MA, 19.

OIL WELL: The production during the first 24 hours was barrels of liquid of which % was oil; % was emulsion; % water; and % was sediment. A.P.I. Gravity.

GAS WELL: The production during the first 24 hours was M.C.F. plus barrels of liquid Hydrocarbon. Shut in Pressure lbs.

Length of Time Shut in

PLEASE INDICATE BELOW FORMATION TOPS (IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE):

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy.		T. Devonian	8433
T. Salt		T. Silurian	
B. Salt		T. Montoya	10,210
T. Yates	2,675	T. Simpson	10,559
T. 7 Rivers	2,937	T. McKee	10,786
T. Queen	3,433	T. Ellenburger	
T. Grayburg	3,716	T. Gr. Wash.	
T. San Andres		T. Granite	
T. Glorieta	5,244	T. Welfoamp	7806
T. Drinkard		T. Fusselman	9724
T. Tubbs	6,423	T. McKee Pay	10,860
T. Abo	7,042	T.	
T. Penn.		T.	
T. Miss.		T.	

FORMATION RECORD

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	1280	1280	Surface sds. & red beds	9740	9840	100	Dolo. & chert
1280	1400	120	Anhy.	9840	10250	410	Dolo.
1400	2550	1150	Salt	10250	10550	300	lime & chert
2550	2680	130	Anhy.	10550	10860	310	Lime, shale & sand
2680	2850	170	Anhy, sand, dolo.	10860	11000	140	sand
2850	3430	580	dolo, anhy, tr. sand	11000	11050	50	shale, lime & sand
3430	3660	230	sand & dolo, tr. anhy				
3660	5240	1580	dolo				
5240	5320	80	sand & dolo				
5320	5650	330	dolo				
5650	5840	190	sand & dolo				
5840	6430	590	dolo				
6430	6580	150	sand & dolo				
6580	7110	530	dolo & lime				
7110	7830	720	dolo, lime & shale				
7830	7890	60	lime, dolo, chert				
7890	8400	510	lime, chert & shale				
8400	8430	30	shale				
8430	9740	1310	dolo				

API # 30-025-20379

1980' FNL 660' FEL

2 215 36E

Located APPROX: 3050' SE

ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

March 18, 1964

Company or Operator Continental Oil Company

Address Box 460, Hobbs, N. M.

Name

Position or Title Staff Supervisor

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF: CORED INTERVALS, AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
			<i>No Commercial oil or gas zone.</i>
			ADJ # 30-025-23178
			1980 FUL 1980 FUL
			UL F SE 34, T20S R37E
			APPROX 3400' N.W.

38.

GEOLOGIC MARKERS

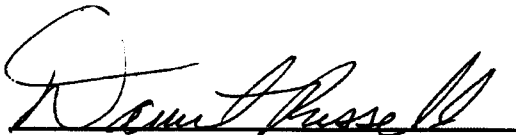
NAME	MEAS. DEPTH	TRUE VERT. DEPTH
YATES	2635	
7-R	2884	
QUEEN	3378	
PEN	3497	
GAB	3610	
SR	4001	
GLOR	5232	
BUNARY	5772	
TUBG	6404	
DEINK	6544	
ABO	7020	

Affidavit of Publication

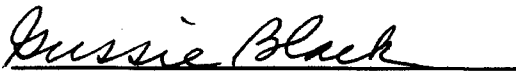
STATE OF NEW MEXICO
COUNTY OF LEA

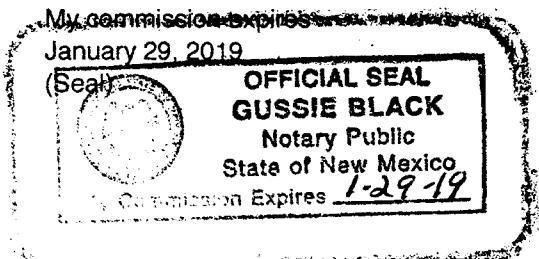
I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
June 15, 2018
and ending with the issue dated
June 15, 2018.


Publisher

Sworn and subscribed to before me this
15th day of June 2018.


Business Manager



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE June 15, 2018

Public Notice for State O-34 SWD (API--): Rice Operating Company, 122 West Taylor, Hobbs, NM 88240 (575) 393-9174 Contact Party: Hayden Holub (575) 393-9174. The intended purpose of this injection well is for disposal of produced water associated with oil and gas production activities. This well is a permitted disposal well into the San Andres formation. This application is made to utilize the well for commercial use. The location of the well is 440 feet from the South Line and 1590 feet from the East Line of Section 34, Township 20S, Range 37E, which is in the SW/4 of the SE/4 of the aforementioned section. The formation name is the San Andres; injection intervals to be between a depth of 4,200' to 5,100'; a maximum injection rate of 30,000 barrels per day with maximum pressure of 1000 PSI. Interested parties must file objections or request a hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days, by Friday the 29th of June. #32926

01104367

00213449

BEGIE BONDS
RICE OPERATING COMPANY
112 WEST TAYLOR
HOBBS, NM 88240

SURFACE OWNER, GRAZING LESSEE, LEASE OWNER,
AND OFFSET OPERATORS

O-34 SWD

405' FSL AND 1620' FEL, SEC. 34, T20S, R37E

LEA COUNTY, NM

Surface Owner of Well Site

State of New Mexico
Commissioner of Public Lands
Attention: Faith Crosby
PO Box 1148
Santa Fe, NM 87504

Grazing Lessee of Well Site

Lease #GO-2365-0102
Millard Deck Estate
Attention: Terry Richie
Southwest Bank
4800 E. 42nd St.
Odessa, TX 79762

Operators of Record

Chevron USA Inc.
Attention: Linda McMurry
6301 Deauville Blvd.
Midland, TX 79706

Special Energy Corp.
Attention: Gary Bond
PO Drawer 369
Stillwater, OK 74076

Burgundy Oil & Gas of NM, Inc.
Attention: Ben Taylor
400 W. Texas, Suite 1003
Midland, TX 79701

Oil & Gas Lessees of Record

Chevron USA, Inc.
Attention: Linda McMurry
6301 Deauville Blvd.
Midland, TX 79706

Occidental Permian, Ltd.
Attention: Kelley Montgomery
PO Box 4294
Houston, TX 77210

EOG Resources, Inc.
Attention: Stan Wagner
PO Box 2267
Midland, TX 79702

Oxy USA WTP LP
Attention: Kelley Montgomery
PO Box 4294
Houston, TX 77210

Magnum Hunter Production/
Occidental Permian Ltd.
600 N Marienfeld St., Ste. #600
Midland, TX 79701

Leaco NM Expl. & Prod., LLC
Attention: Peggy Clark
2000 Post Oak Blvd., #100
Houston, TX 77056

Apache Corporation
Attention: Reesa Fisher
303 Veterans Airpark Ln.
Ste. #1000
Midland, TX 79705

Apache Corporation
Attention: Travis Carnes
2350 W. Marland St.
Hobbs, NM 88240

John H. Hendrix Corporation
Attention: Carolyn Haynes
PO Box 3040
Midland, TX 79702

XTO Energy, Inc.
Attention: DeeAnn Kemp
6401 Holiday Hill Rd., #5
Midland, TX 79707

Zachary Oil Operating Co.
PO Box 1969
Eunice, NM 88231

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Apache Corporation
Attention: Reesa Fisher
303 Veterans Airpark Ln., Ste. #1000
Midland, TX 79705

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

To Whom it May Concern:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108 Application for Authorization to Inject into the above captioned well.

Any questions about the permit can be directed to Hayden Holub at 575-393-9174. Any objections or request for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the date received. The OCD address is 1220 S. St. Francis Dr., Santa Fe, NM 87505.

Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

6661 0561 1950 1999

7016 0340 0000 9702

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Extra Services & Fees (check box, add fee as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy) \$ 3.75	
<input type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 1.84	
Total Postage and Fees \$ 8.04	
Sent To Apache Corporation #1000 303 Veterans Airpark Ln Midland TX 79705	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Apache Corporation
Attention: Travis Carnes
2350 W. Marland St.
Hobbs, NM 88240

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

2016 0340 0000 1950 2002

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<input type="checkbox"/> Return Receipt (hardcopy) \$ 2.75	
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<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 1.84	
Total Postage and Fees \$ 8.04	
Sent to Apache Corp 2350 W Marland St Hobbs NM 88240	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Burgundy Oil & Gas of NM, Inc.
Attention: Ben Taylor
400 W. Texas, Suite #1003
Midland, TX 79701

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

2661 0561 0000 0460 9102

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<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.75
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$ 3.45
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$ 8.04
Total Postage and Fees	\$
Sent To Burgundy Oil & Gas of NM Street and Apt. No., or P.O. Box No. 400 W. Texas, Ste #1003 City, State, ZIP+4® Midland TX 79701	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240

Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Chevron USA, Inc.
Attention: Linda McMurry
6301 Deauville Blvd.
Midland, TX 79706

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

7016 0340 0000 036T 1913

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<input type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 1.84	
Total Postage and Fees \$ 8.04	
Sent to Chevron USA Inc Street and Apt. No., or PO Box No. 6301 Deauville Blvd City, State, ZIP+4 Midland TX 79706	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240

Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

EOG Resources, Inc.

Attention: Stan Wagner

PO Box 2267

Midland, TX 79702

RE: O-34 SWD

U/L O, Section 34, T20S, R37E

405' FSL and 1620' FEL

Lea County, NM

7561 0561 1951 0000 0340 0400 9102

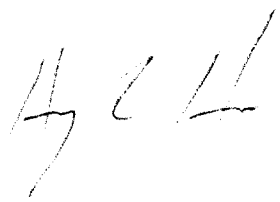
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Certified Mail Fee \$ 3.46	Postmark Here
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<input checked="" type="checkbox"/> Return Receipt (hardcopy) \$ 2.75	
<input type="checkbox"/> Return Receipt (electronic) \$	
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<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 1.84	
Total Postage and Fees \$ 8.04	
Sent To EOG Resources, Inc.	
Street and Apt. No., or PO Box No. PO Box 2267	
City, State, ZIP+4® Midland TX 79702	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

To Whom it May Concern:

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Thank You,



Hayden Holub

Field Foreman

Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

John H. Hendrix Corporation
Attention: Carolyn Haynes
PO Box 3040
Midland, TX 79702

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

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<input checked="" type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$ 3.45
<input type="checkbox"/> Adult Signature Restricted Delivery	\$

Postage \$

Total Postage and Fees \$ 8.04

Sent to John H. Hendrix Corporation

Street and Apt. No., or PO Box No. PO Box 3040

City, State, ZIP+4® Midland TX 79703

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Leaco NM Exploration & Production, LLC.
Attention: Peggy Clark
2000 Post Oak Blvd., #100
Houston, TX 77056

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

2961 0561 1950 1982 7016 0561 0000 0460 9102

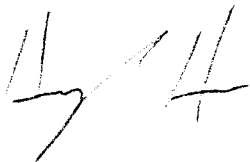
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Extra Services & Fees (check box, add fees as appropriate)	\$ 2.75
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$ 1.84
Total Postage and Fees	\$ 8.04
Send To: Street and Apt. No., or PO Box No. 2000 POST OAK BLVD #100 City, State, ZIP+4® HOUSTON TX 77056	
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Thank You,



Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Magnum Hunter Production/Occidental Permian, Ltd.
600 N. Marienfeld St., Ste. #600
Midland, TX 79701

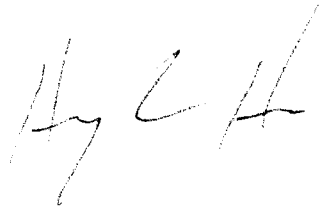
RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

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Thank You,



Hayden Holub
Field Foreman
Rice Operating Company

7016 0340 0000 0400 1950 1975

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<input checked="" type="checkbox"/> Return Receipt (hardcopy) \$ <u>2.75</u>	
<input type="checkbox"/> Return Receipt (electronic) \$ _____	
<input type="checkbox"/> Certified Mail Restricted Delivery \$ _____	
<input type="checkbox"/> Adult Signature Required \$ _____	
<input type="checkbox"/> Adult Signature Restricted Delivery \$ _____	
Postage \$ <u>1.84</u>	
Total Postage and Fees \$ <u>8.04</u>	
Sent To <u>Magnum Hunter/Occidental</u> Street and Apt. No., or PO Box No. <u>600 N. Marienfeld St. #600</u> City, State, ZIP+4® <u>Midland TX 79701</u>	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Occidental Permian, Ltd.
Attention: Kelley Montgomery
PO Box 4294
Houston, TX 77210

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

To Whom it May Concern:

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

7016 0340 0000 1950 1944

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<input checked="" type="checkbox"/> Return Receipt (hardcopy) \$ 2.75	
<input checked="" type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 1.84	
Total Postage and Fees \$ 8.04	
Sent To Occidental Permian Ltd	
Street and Apt. No., or P.O. Box No. PO Box 4294	
City, State, ZIP+4® Houston, TX 77210	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Oxy USA WTP, LP
Attention: Kelley Montgomery
PO Box 4294
Houston, TX 77210

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

7016 0561 1950 0000 04ED 9T02

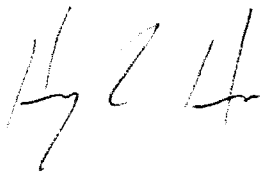
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OFFICIAL USE	
Certified Mail Fee \$ 3.45	Postmark Here
Extra Services & Fees (check box, add fees as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy) \$ 2.75	
<input type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 184	
Total Postage and Fees \$ 187.45	
Sent To Oxy USA WTP, LP	
Street and Apt. No., or PO Box No. PO Box 4294	
City, State, ZIP+4® Houston Tx 77210	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

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Thank You,



Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Southwest Bank
Attention: Terry Richie , Millard Deck Estate
4800 E. 42nd St
Odessa, TX 79762

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

To Whom it May Concern:

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

9067 0567 1906 1906 0000 0000 0340 0400 9102

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RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Special Energy Corp.
Attention: Gary Bond
PO Drawer 369
Stillwater, OK 74076

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

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<input type="checkbox"/> Certified Mail Restricted Delivery	\$
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Postage \$ 1.84

Total Postage and Fees \$ 5.29

Sent by Special Energy Corp

Street and Apt. No., or PO Box No. PO Drawer 369

City, State, ZIP+4® Stillwater OK 74076

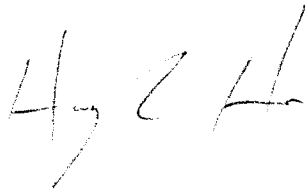
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

To Whom it May Concern:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108 Application for Authorization to Inject into the above captioned well.

Any questions about the permit can be directed to Hayden Holub at 575-393-9174. Any objections or request for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the date received. The OCD address is 1220 S. St. Francis Dr., Santa Fe, NM 87505.

Thank You,



Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

State of New Mexico
Commissioner of Public Lands
PO Box 1148
Santa Fe, NM 87504

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

7016 0340 0000 1950 2026

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<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$ 1.84	
Total Postage and Fees \$ 8.04	
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Street and Apt. No., or PO Box No. PO Box 1148	
City, State, ZIP+4® Santa Fe NM 87504	
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To Whom it May Concern:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108 Application for Authorization to Inject into the above captioned well.

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Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

XTO Energy, Inc.
Attention: DeeAnn Kemp
6401 Holliday Hill Rd., Building #5
Midland, TX 79707

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

7017 0530 0001 0372 9247

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<input type="checkbox"/> Return Receipt (electronic)	\$0.75
<input checked="" type="checkbox"/> Certified Mail Restricted Delivery	\$3.45
<input type="checkbox"/> Adult Signature Required	
<input type="checkbox"/> Adult Signature Restricted Delivery	
Postage	\$
Total Postage and Fees	\$8.04
Sent to	XTO Energy, Inc.
Street and Apt. No. for PO Box No.	6401 Holliday Hill Rd #5
City, State, ZIP+4	Midland TX 79707
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

To Whom it May Concern:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108 Application for Authorization to Inject into the above captioned well.

Any questions about the permit can be directed to Hayden Holub at 575-393-9174. Any objections or request for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the date received. The OCD address is 1220 S. St. Francis Dr., Santa Fe, NM 87505.

Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax (575) 397-1471

JUNE 29, 2018

Zachary Oil Operating Co.
PO Box 1969
Eunice, NM 88231

RE: O-34 SWD
U/L O, Section 34, T20S, R37E
405' FSL and 1620' FEL
Lea County, NM

To Whom it May Concern:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108 Application for Authorization to Inject into the above captioned well.

Any questions about the permit can be directed to Hayden Holub at 575-393-9174. Any objections or request for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the date received. The OCD address is 1220 S. St. Francis Dr., Santa Fe, NM 87505.

Thank You,

Hayden Holub
Field Foreman
Rice Operating Company

4526 2530 0001 0372 9254

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<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$	2.80
<input type="checkbox"/> Return Receipt (electronic)	\$	2.75
<input checked="" type="checkbox"/> Certified Mail Restricted Delivery	\$	
<input type="checkbox"/> Adult Signature Required	\$	3.45
<input type="checkbox"/> Adult Signature Restricted Delivery	\$	
Postage	\$	8.04
Total Postage and Fees	\$	8.04

Sent To: Zachary Oil Operating Co
Street and Apt. No., or PO Box No.: PO Box 1969
City, State, ZIP+4: Eunice NM 88231

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Postmark Here



June 29, 2018

Scott Curtis
Rice Operating Company
122 W Taylor St.
Hobbs, New Mexico 88240

RE: Rice Operating 0-34 SWD Well Permit

Mr. Curtis:

Tasman Geosciences, Inc. (Tasman) conducted a hydrogeologic investigation on behalf of Rice Operating Company (Rice) related to the proposed injection well 0-34 SWD well permit located in Lea County, New Mexico (Site [Figure 1]). The scope of the investigation was to determine if there is a hydrologic connection between the proposed injection interval and local sources of underground drinking water. The basis of the investigation was in response to the well permit requirement that the applicant makes the following statement:

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.

During the investigation Tasman utilized three main sources to determine if there was a hydrologic connection between the injection zone, which is between 4,200 and 5,100 feet below ground surface (bgs) in the Permian-Guadalupe San Andreas Formation, and local sources of drinking water estimated to be between 50 and 150 feet bgs within the Tertiary Ogallala Formation (High Plains aquifer).

The sources utilized in the investigation include the following and are included as attachments:

- Geologic Map of New Mexico (Anderson et al., 1996);
- Regional Cross Sections – Central Basin Platform, West Texas (Bebout et al., 1985); and
- Geohydrology of the High Plains Aquifer in Southeastern New Mexico (Hart et al., 1985)

HYDROGEOLOGIC EVALUATION AND RESULTS

Based on a review of these sources and information provided by Rice, the following lines of evidence indicates that there is not a “hydrologic connection between the disposal zone and underground sources of drinking water”.

- Approximately 4,000 feet of bedrock between the top of the injection interval and the base of the High Plains aquifer;



- Geologic map of New Mexico illustrates no major regional faults or structural features indicating a connection between the San Andreas Formation and the Ogallala Formation (High Plains aquifer);
- Cross section B-B' at point 2 and 3, which are near the injection Site, indicates there are no major faults that trend vertically between the Permian San Andreas Formation and the Tertiary Ogallala Formation;
- Plate 1 – Geohydrology of the High Plains aquifer illustrates the contact between the base of the High Plains aquifer and the underlying bedrock is approximately 65 feet bgs in the location of the injection Site; and
- Information provided by Rice Operating Company – Closest known ground water well is 1.2 miles east in the Ogallala (High Plains aquifer) with the top being 51 feet bgs and the base at approximately 150 feet bgs.

SUMMARY

Based on these lines of evidence and as a licensed Professional Geologist, I am confident that Rice Operating Company can provide the 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".

Please feel free to contact me with any questions or comments at (970) 317-0130.

Sincerely,

Brent Everett, PG
Tasman Geosciences

Enclosures:

- Figure 1 – Site Location Map
- Geologic Map of New Mexico
- Regional Cross Sections – Central Basin Platform, West Texas (modified A-A' and B-B')
- Geohydrology of the High Plains Aquifer Southeast New Mexico

References:

Anderson, O.J., Jones, G.E., and Green, G.N., 1996, Geologic Map of New Mexico, Scale 1:500,000.

Bebout, D.G., and Meador, K.J., 1985, Regional Cross Sections – Central Basin Platform, West Texas: The University of Texas at Austin, Bureau of Economic Geology.

Hart, D.L., and McAda, D.P., 1985, Geohydrology of the High Plains Aquifer in Southeastern New Mexico, Hydrologic Atlas 679.

wellname	api	township	range	formation	tds_mgL
EUNICE MONUMENT SOUTH UNIT #260	3002504463	21S	36E	GRAYBURG/SAN ANDRES	13534
A J ADKINS #008	3002520700	21S	36E	BLINEBRY	147118
ANTELOPE RIDGE UNIT #003	3002521082	23S	34E	DEVONIAN	80187
BELL LAKE UNIT #009	3002520261	23S	34E	BONE SPRING	204652
NORTHEAST DRINKARD UNIT #306	3002506507	21S	37E	BLINEBRY/TUBB/DRINKARD	19094.4
BELLOQ 2 STATE #002H	3001542895	23S	31E	WOLFCAMP	119471.8
NORTH PURE GOLD 5 FEDERAL #003H	3001535892	23S	31E	DELAWARE-BRUSHY CANYON	278201.6
WASHINGTON 33 STATE #024	3001530334	17S	28E	GLORIETA/YESO	206471



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 07/02/2014 Admin Complete: _____ or Suspended: _____ Add. Request/Reply: _____

ORDER TYPE: WFX / PMX / SWD Number: _____ Order Date: _____ Legacy Permits/Orders: _____

Well No. 1 Well Name(s): O-34 SWD

API : 30-0 25-Pending Spud Date: TBD New or Old (EPA): 1 (UIC Class II Primacy 03/07/1982)

Footages 403 FSL 1620 FEL Lot _____ or Unit 0 Sec 34 Tsp 20S Rge 37E County LEC

General Location: 3.10 miles NW 1/4 mile Pool: Swiisen Andrus Pool No.: 9621

BLM 100K Map: H0655 Operator: _____ OGRID: _____ Contact: _____

COMPLIANCE RULE 5.9: Total Wells: _____ Inactive: _____ Fincl Assur: _____ Compl. Order? _____ IS 5.9 OK? _____ Date: _____

WELL FILE REVIEWED ☐ Current Status: Proposed

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details		Sizes (in)	Setting	Cement	Cement Top and
		Borehole / Pipe	Depths (ft)	Sx or Cf	Determination Method
Planned _____ or Existing _____ Surface		<u>17 1/2" / 13 7/8"</u>	<u>1300</u>	<u>850</u>	<u>Surface</u>
Planned _____ or Existing _____ Interm/Prod		<u>12 1/4" / 9 5/8"</u>			
Planned _____ or Existing _____ Interm/Prod					
Planned _____ or Existing _____ Prod/Liner					
Planned _____ or Existing _____ Liner					
Planned _____ or Existing _____ OH / PERF		<u>4200 / 5710</u>			

Injection Lithostratigraphic Units:		Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.			<u>SA</u>	<u>5400</u>
Confining Unit: Litho. Struc. Por.			<u>G-1</u>	<u>5232</u>
Proposed Inj Interval TOP:				
Proposed Inj Interval BOTTOM:				
Confining Unit: Litho. Struc. Por.				
Adjacent Unit: Litho. Struc. Por.				

Completion/Operation Details:

Drilled TD _____ PBTD _____
NEW TD 540 NEW PBTD _____
NEW Open Hole ☐ or NEW Perfs ☒
Tubing Size 4 1/2 in. Inter Coated? _____
Proposed Packer Depth 4195 ft
Min. Packer Depth 4195 (100-ft limit)
Proposed Max. Surface Press. 1000 psi
Admin. Inj. Press. 440 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P Noticed? BLM Sec Ord ☐ WIPP ☐ Noticed? _____ Salt/Salado T: _____ B: 2532 NW: Cliff House fm _____
FRESH WATER: Aquifer _____ Max Depth _____ HYDRO AFFIRM STATEMENT By Qualified Person ☐
NMOSE Basin: _____ CAPITAN REEF: thru _____ adj _____ NA _____ No. GW Wells in 1-Mile Radius? 0 FW Analysis? _____
Disposal Fluid: Formation Source(s) _____ Analysis? _____ On Lease ☐ Operator Only ☐ or Commercial ☐
Disposal Interval: Inject Rate (Avg/Max BWPD): 15K / 30K Protectable Waters? _____ Source: _____ System: Closed or Open
HC Potential: Producing Interval? _____ Formerly Producing? _____ Method: Logs/DST/P&A/Other _____ 2-Mi Radius Pool Map ☐
AOR Wells: 1/2-M Radius Map and Well List? _____ No. Penetrating Wells: 0 [AOR Horizontals: _____ AOR SWDs: _____]
Penetrating Wells: No. Active Wells _____ Num Repairs? _____ on which well(s)? _____ Diagrams? _____
Penetrating Wells: No. P&A Wells _____ Num Repairs? _____ on which well(s)? _____ Diagrams? _____

NOTICE: Newspaper Date 675-448 Mineral Owner NMSLO Surface Owner NMSLO N. Date 625

RULE 26.7(A): Identified Tracts? _____ Affected Persons: Apache, Bury, and others N. Date 625

Order Conditions: Issues: Circulate Consent 6/4 casing

Additional COAs: _____