

DATE IN 1/10/17	SUSPENSE	ENGINEER	LOGGED IN 4/10/17	TYPE SWD	APP NO. PRG 1701333805
-----------------	----------	----------	-------------------	----------	------------------------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- 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.

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]

- [A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One-Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☒ Offset Operators, Leaseholders or Surface Owner
 [C] ☒ Application is One Which Requires Published Legal Notice
 [D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **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.

Ben Stone		Agent for Ray Westall Operating, Inc. 1/05/17
Print or Type Name	Signature	Title
		ben@sosconsulting.us
		e-mail Address

SWD 1664
 Amended Application
 [Penn. Strawn only]
 Greenwood Pre-Grayburg
 Fed. Com. Well No. 1
 30-015-22601
 Ray Westall Operating

RECEIVED
 2017 JAN - 9 PM 3:30



January 5, 2017

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

Attn: Mr. David Catanach, Director

Re: Application of Ray Westall Operating, Inc. to permit for salt water disposal in the Greenwood Federal SWD Well No.1 (aka Greenwood (P-GB Unit No.1), API No. 30-015-22601, located in Section 27, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico.

Dear Mr. Catanach,

Please find enclosed form C-108 Application for Authority to Inject, supporting the above-referenced request to convert for disposal, the Greenwood Federal No.1. Subsequent to approval of this application, Ray Westall will submit a sundry to change the name of the well to the Greenwood Federal SWD No.1.

Ray Westall Operating seeks to optimize efficiency, both economically and operationally, of its operations. Approval of this application is consistent with that goal as well as the NMOCD's mission of preventing waste and protection of correlative rights.

Published legal notice ran in the January 4, 2017 edition of the Artesia Daily Press and all offset operators and other interested parties have been notified individually. The legal notice affidavit is included in this application package. This application also includes wellbore schematics, area of review maps, leaseholder plats and other required information for a complete Form C-108. The well is located on state land and minerals and a copy of this application has been submitted to the Bureau of Land Management, CFO Oil and Gas Division.

I respectfully request that the approval of this salt water disposal well proceed swiftly and if you or your staff requires additional information or has any questions, please do not hesitate to call or email me.

Best regards,

Ben Stone, Partner
SOS Consulting, LLC
Agent for Ray Westall Operating, Inc.

Cc: Application attachment and file

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: **Salt Water Disposal** and the application *qualifies* for administrative approval.
- II. OPERATOR: **Ray Westall Operating, Inc. Ogrid - 119305**
ADDRESS: **P.O. Box 4, Loco Hills, NM 88255**

CONTACT PARTY: **Donnie Mathews (575) 677-2372**
Agent: SOS Consulting, LLC - Ben Stone (903) 488-9850
- III. WELL DATA: **All well data and applicable wellbore diagrams are ATTACHED hereto.**
- IV. **This is not an expansion of an existing project.**
- V. **A map is ATTACHED** 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. **A tabulation is ATTACHED** of data on all wells of public record within the area of review which penetrate the proposed injection zone. **(2 AOR wells penetrate the subject interval - 1 P&A penetrates.)** The data includes a description of each well's type, construction, date drilled, location, depth, and a schematic of any plugged well illustrating all plugging detail.
- VII. **The following data is ATTACHED** 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. **Appropriate geologic data on the injection zone is ATTACHED** 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. **The well may be acidized to clean perforations and formation wall w/ 15% HCl w/ up to 5000 gals/1000'.**
- *X. **There is no applicable test data on the well however, any previous well logs have been filed with the Division and they need not be resubmitted. A log strip of subject interval is ATTACHED.**
- *XI. **State Engineer's records indicate there are NO water wells within one mile the proposed salt water disposal well.**
- XII. **An affirmative statement is ATTACHED that available geologic and engineering data has been examined and no evidence was found** of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. **"Proof of Notice" section on the next page of this form has been completed and ATTACHED.**
There are 8 offset lessees and/or operators plus state minerals within one mile - all have been noticed.
- 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: **Ben Stone** TITLE: **SOS Consulting, LLC agent / consultant for Ray Westall Operating, Inc.**

SIGNATURE:  DATE: **1/05/2017**

E-MAIL ADDRESS: **ben@sosconsulting.us**

* 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 – The following information and data is included and ATTACHED:

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 pursuant to the following criteria is ATTACHED.

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.

C-108 - Items III, IV, V

Item III - Subject Well Data

1. Wellbore Schematic – PROPOSED
2. Wellbore Schematic – CURRENT

Item IV – Tabulation of AOR Wells

Tabulation includes all construction data for all wells within a one-half mile Radius of the subject well and which penetrate the proposed interval.

Item V – Area of Review Maps

1. Two Mile AOR Map with One-Mile Fresh Water Well Radius
2. One-Half Mile AOR Map

All Above Exhibits follow this page.



WELL SCHEMATIC - PROPOSED Greenwood Federal SWD Well No.1

SWD; Penn-Strawn (PROPOSED)

API 30-015-22601

1980' FSL & 660' FWL, SEC. 27-T18S-R31E
EDDY COUNTY, NEW MEXICO

Spud Date: 12/06/1978

Config SWD Dt (Est): ~2/15/2

Annulus Monitored
or open to atmosphere

Injection Pressure Regulated
and Volumes Reported
2043 psi Max. Surface (0.2 psi/ft)

Surface Casing

13.375", 54.5# Csg. (17.5" Hole) @ 724'
800 sx - 65 sx Circulated to Surface

Intermediate Casing

9.625", 36.0# K-55 Csg. (12.25" Hole) @ 4644'
1800 sx - 75 sx Circulated to Surface

RAY WESTALL OPERATING, INC.

Convert to SWD: Pull any remaining production
equipment; RIH w/ guage ring/jnk bskt.
Set CIBP @ ~11,000 w/ 35' Cmt cap.
Perf Intervals as Determined from Logs Between
Max Top 10214' and Max Btm 10,892'.
Acidize w/ 15% HCl; Swab Clean.
Run PC Tubing and PKR - Conduct MIT.
Commence Disposal Operations.

Annulus Loaded
w/ Inert Packer Fluid

3.5" IC Tubing (or smaller)

PKR ~10114' Note: PKR Set 100' Above Final Uppermost Perf Interval.

Perf PENN (Max Top 10214')

Specific Perf Intervals To Be Determined
Between Max Top 10214' and Max Bottom 10892'

Perf STRWN (Max Btm 10892')

Set CIBP @ 11,000'
(Cap w/ 35' Cmt.)

Org. Perfs: 11594'-11762'

11,950'

DTD @ 11950'

Production Casing

5.5", 17.0/20.0# N-80 Csg. (7.875" Hole) @ 11,950'
2300 sx - TOC @ 2180' by Temp

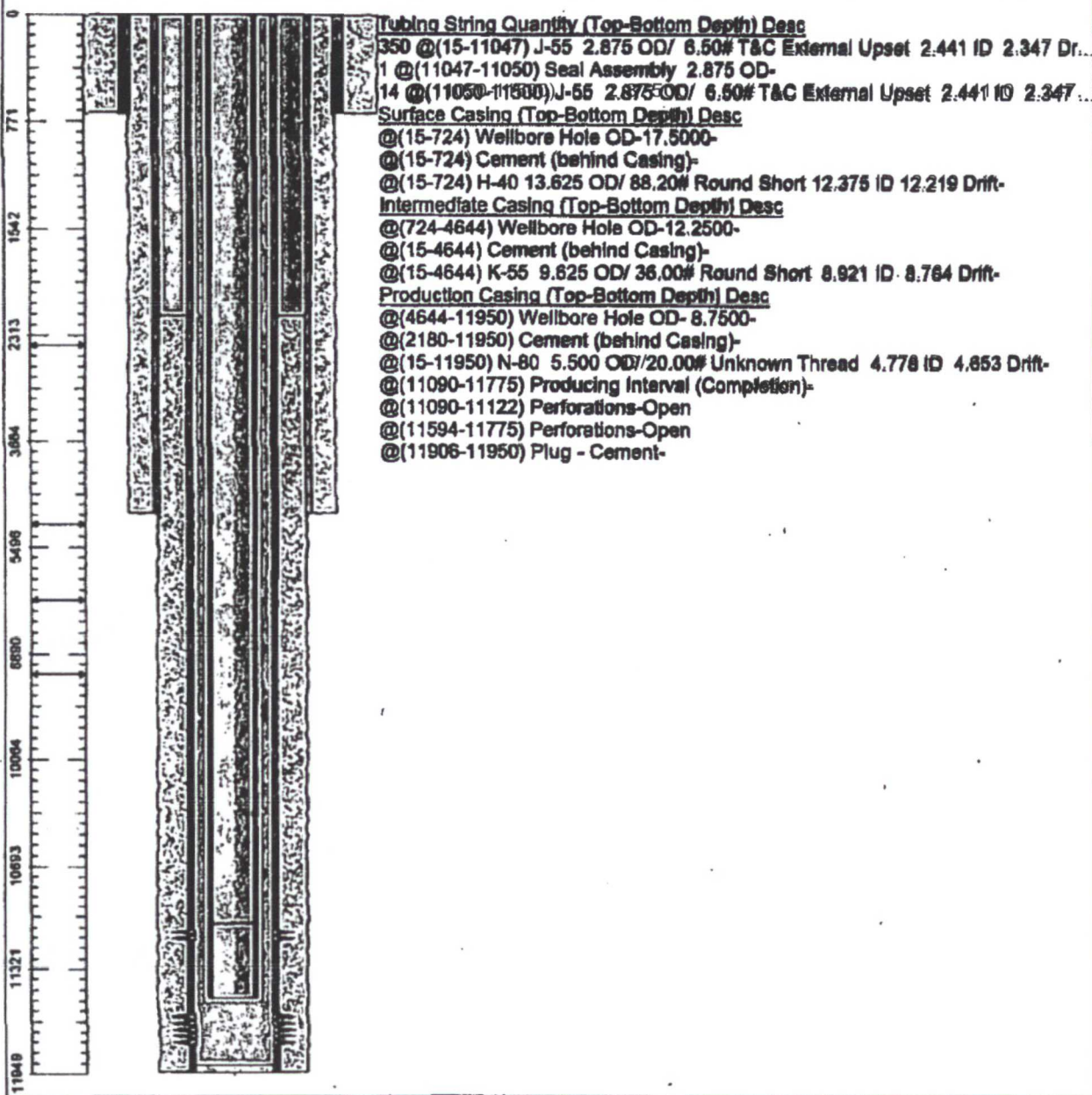
Drawn by: Ben Stone, Rvs'd 1/03/2017



CURRENT WELLBORE DIAGRAM

Chevron U.S.A. Inc. Wellbore Diagram : GNWD P-G 1C

Lease: OEU EUNICE FMT	Well No.: GREENWOOD PRE-GRAYB 1 COM E 1	Field: SHUGART
Location: 1980FSL660FWL	Sec.: N/A	Bik: Survey: N/A
County: Eddy	St.: New Mexico	Refno: EQ2569
Section: E031	Township: 27	API: 9001522001
Current Status: ACTIVE		East Center: UCR310700
		Range: S018
Directions:		Dead Man Anchors Test Date: 08/04/2014



Ground Elevation (MSL): 3614.00	Spud Date: 12/06/1978	Compl. Date: 01/01/1800
Well Depth Datum: Kelly Bushing	Elevation (MSL): 3629.00	Correction Factor: 15.00
Last Updated by: tri	Date: 09/08/2014	

Form C-108 Item VI - Tabulation of AOR Wells

Top of Proposed PENN Interval 10,214'

2 Wells Penetrate Proposed Interval.

API	Current Operator	Well Name	Well No.	Type	Lease	Status	ULSTR	Depth	Plug Dt.
<i>Subject Well</i>									
30-015-22601	[119305] RAY WESTALL OPERATING, INC	GREENWOOD PRE GRAYBURG UT FED COM	#001	Gas	Federal	Exp TA	L-27-18S-31E	12220'	
See attached CURRENT and PROPOSED Wellbore Diagrams.									
<i>Section 27 Wells</i>									
30-015-32616	[4323] CHEVRON U S A INC	PRINCIPLE FEDERAL	#001	Oil	Federal	Active	C-27-18S-31E	6395'	
30-015-10592	[26478] SOUTHLAND ROYALTY CO	HINKLE F	#003	Oil	Federal	P&A-R	C-27-18S-31E	3976'	12/13/1992
30-015-05616	[4323] CHEVRON U S A INC	GREENWOOD PRE-GRAYBURG UNIT	#004	Oil	Federal	Active	D-27-18S-31E	5250'	
30-015-10594	[196069] MOMENTUM OPERATING CO INC	HINKLE F	#005	Oil	Federal	Active	D-27-18S-31E	3948'	
30-015-30680	[4323] CHEVRON U S A INC	GREENWOOD FEDERAL COM	#002	Gas	Federal	P&A-R	D-27-18S-31E	12000'	8/19/2014
See attached P&A diagram.									
30-015-32894	[4323] CHEVRON U S A INC	PRINCIPLE FEDERAL	#004	Oil	Federal	Active	E-27-18S-31E	6367'	
30-015-10593	[196069] MOMENTUM OPERATING CO INC	HINKLE F	#004	Oil	Federal	P&A-R	E-27-18S-31E	3966'	1/15/2014
30-015-10111	[4323] CHEVRON U S A INC	HINKLE FEDERAL	#001	Oil	Federal	P&A-R	E-27-18S-31E	5162'	1/5/2014
30-015-05617	[196069] MOMENTUM OPERATING CO INC	HINKLE F	#001	Injection	Federal	Active	F-27-18S-31E	5188'	
30-015-32843	[4323] CHEVRON U S A INC	PRINCIPLE FEDERAL	#002	Oil	Federal	Active	F-27-18S-31E	6350'	
30-015-31615	[4323] CHEVRON U S A INC	GREENWOOD PRE-GRAYBURG UNIT	#014	Oil	Federal	Active	I-27-18S-31E	13958'	
Ellenburger (Ordovician) Perfs: 13,750'-13,790'; 13.375" (17.5" hole) @ 651' w 530 sx - circ.; 9.625 (12.25" hole) @ 4028' w/ 1300 sx - circ.; 7.0" (8.75" hole) @ 12446' w/ 1476 sx - TOC @ 3450' by Calc.; 4.5" LNR @ 12070'-13958' w/ 280 sx.									
30-015-32515	[4323] CHEVRON U S A INC	GREENWOOD PRE-GRAYBURG UNIT	#016	Gas	Federal	Active	J-27-18S-31E	9976'	
30-015-25815	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#020	Oil	Federal	Active	J-27-18S-31E	4300'	
30-015-10607	[196069] MOMENTUM OPERATING CO INC	HINKLE F	#006	Oil	Federal	Active	K-27-18S-31E	3978'	
30-015-10760	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#008	Oil	Federal	P&A-R	L-27-18S-31E	3953'	1/1/1900
30-015-10106	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#009	Oil		P&A-R	L-27-18S-31E	5120'	1/1/1900
30-015-21273	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#003	Oil	Federal	Active	M-27-18S-31E	3600'	
30-015-22363	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#010	Oil	Federal	Active	M-27-18S-31E	3650'	
30-015-20982	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#002	Oil	Federal	Active	N-27-18S-31E	3643'	
30-015-10737	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#017	Oil	Federal	Active	N-27-18S-31E	3984'	
<i>Section 28 Wells</i>									
30-015-05627	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil		P&A-R	A-28-18S-31E	3868'	1/1/1900
30-015-20172	[196069] MOMENTUM OPERATING CO INC	GULF	#001	Oil	Federal	P&A-R	A-27-18S-31E	3927'	1/28/2010

Form C-108 Item VI - Tabulation of AOR Wells (cont.)

Section 28 Wells (cont.)

30-015-20196	[196069] MOMENTUM OPERATING CO INC	GULF	#002	Injection	Federal	Active	H-27-18S-31E	3935'	
30-015-10288	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#002	Injection	Federal	P&A-R	H-27-18S-31E	4800'	1/1/1900
30-015-05626	[214263] PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil		P&A-R	I-27-18S-31E	3940'	1/1/1900

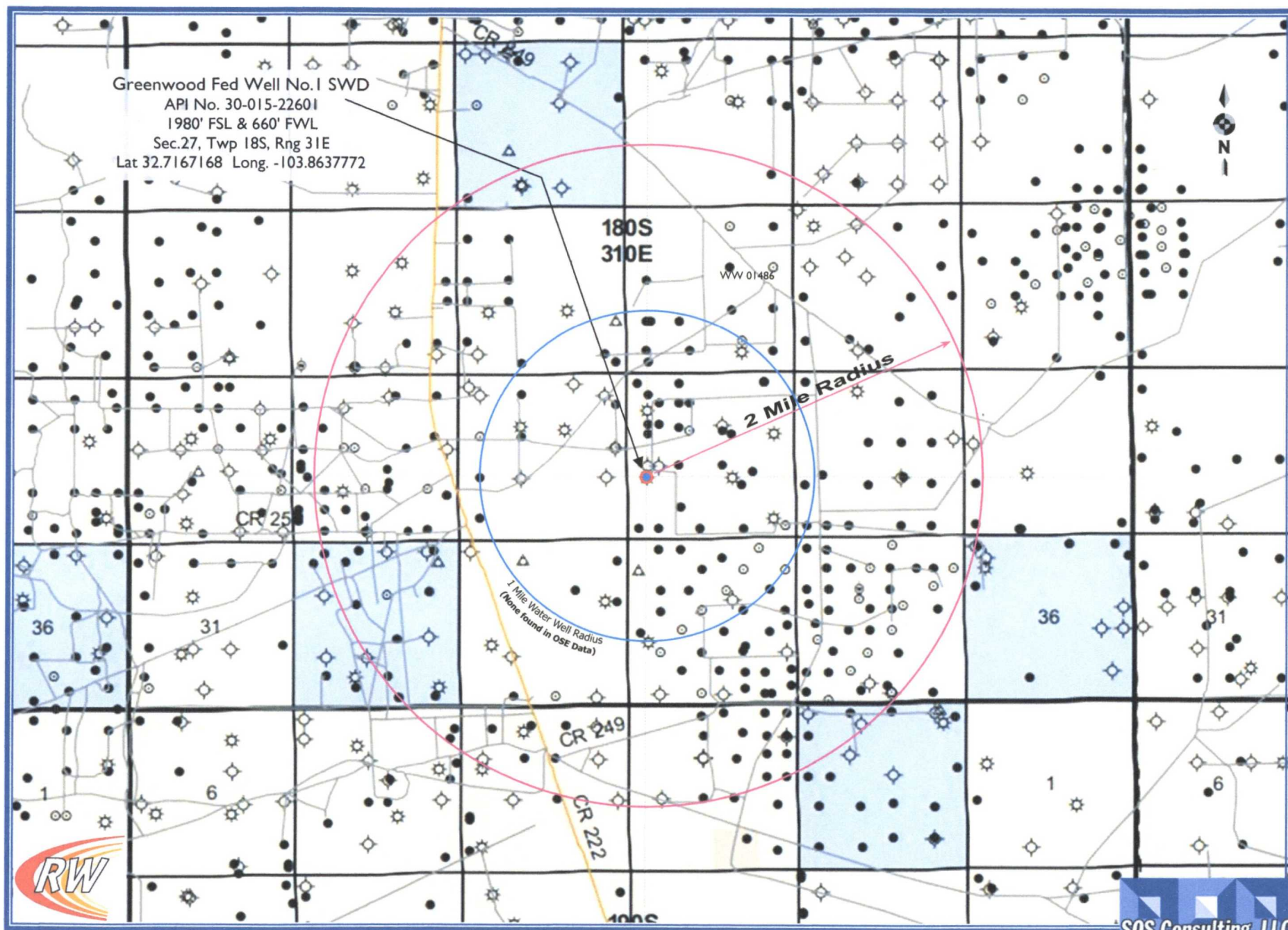
Section 34 Wells

30-015-21697	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#006	Oil	Federal	Active	C-34-18S-31E	4493'	
30-015-21613	[265378] GEORGE A CHASE JR DBA G AND C SERV.	HINKLE B FEDERAL	#005	Oil	Federal	Active	D-34-18S-31E	3634'	

SUMMARY: 2 wells penetrate proposed disposal interval. 1 P&A.

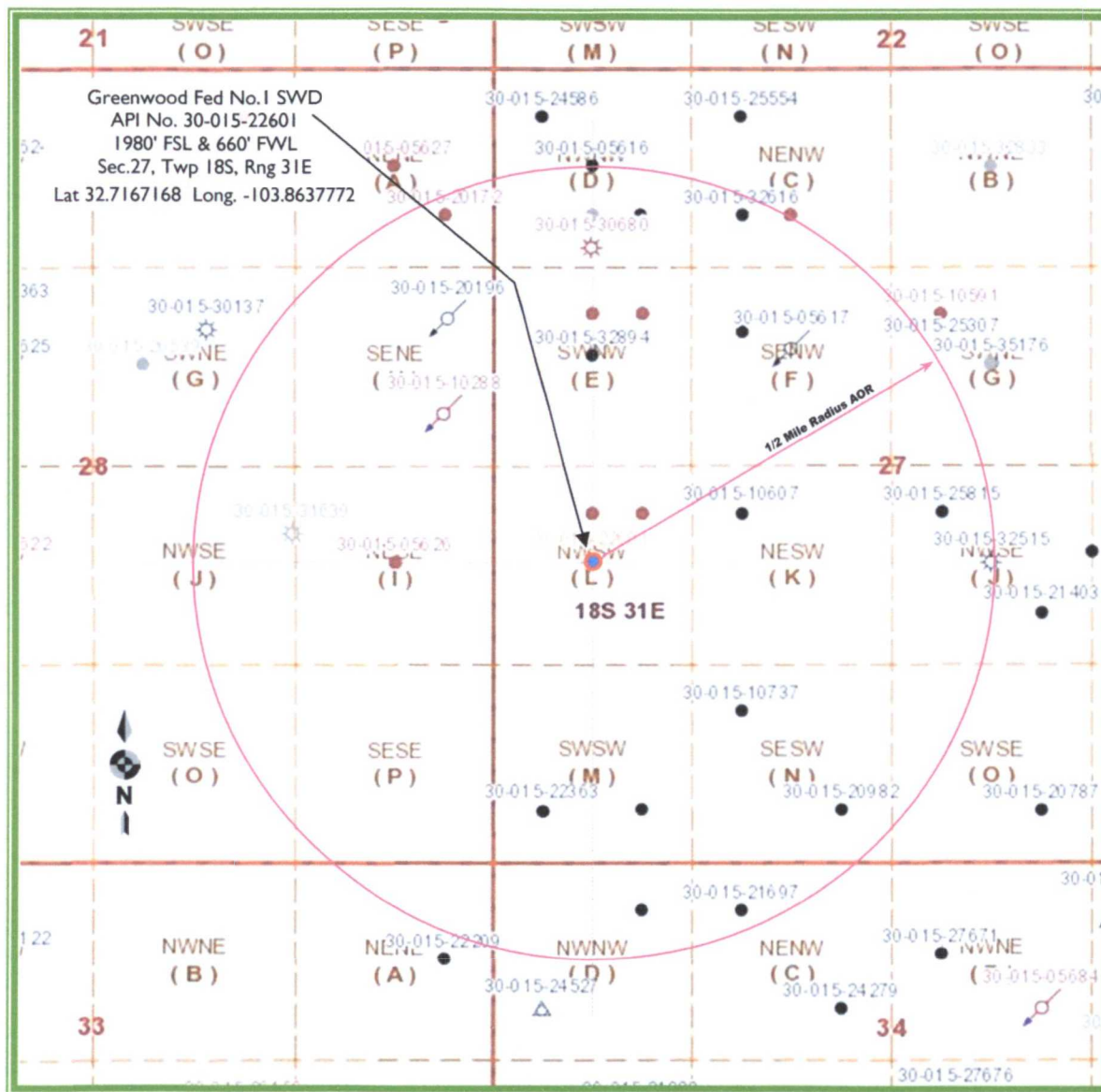
Greenwood Fed Well No.1 SWD - Area of Review / 2 Miles

(Attachment to NMOCD Form C-108 - Item V)

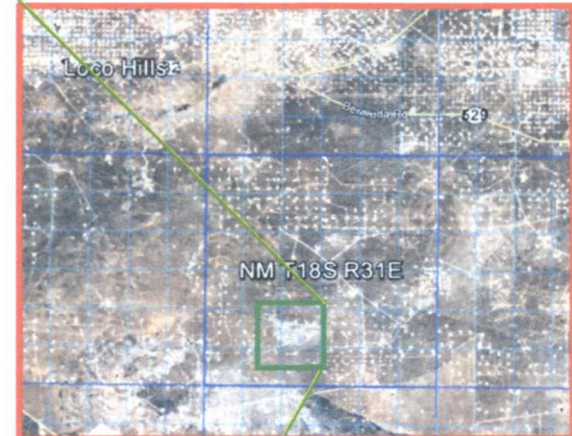


Greenwood Fed Well No.1 SWD - Area of Review / Overview Map

(Attachment to NMOCD Form C-108 - Item V)



9.7 miles Southeast
of Loco Hills, NM



RAY WESTALL OPERATING, INC.



C-108 ITEM VI – AOR WELL INFORMATION

Plugged Well Schematics

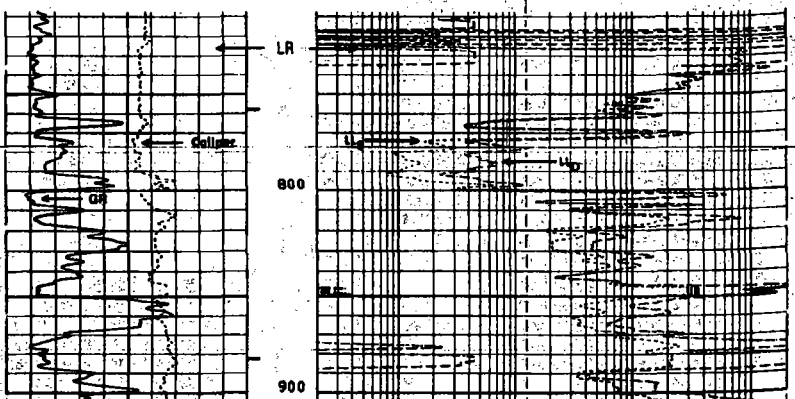
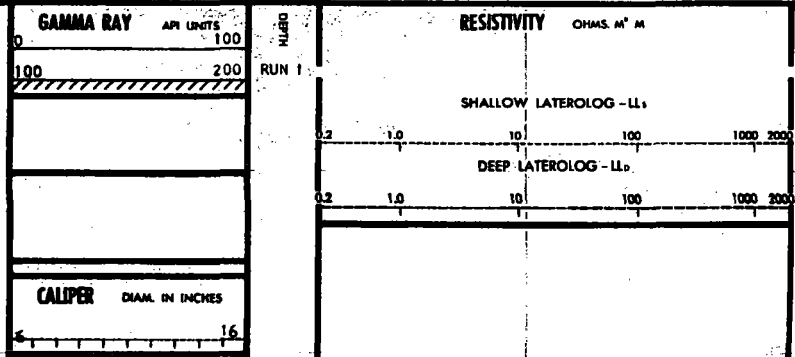
C-108 ITEM X – LOGS and AVAILABLE TEST DATA

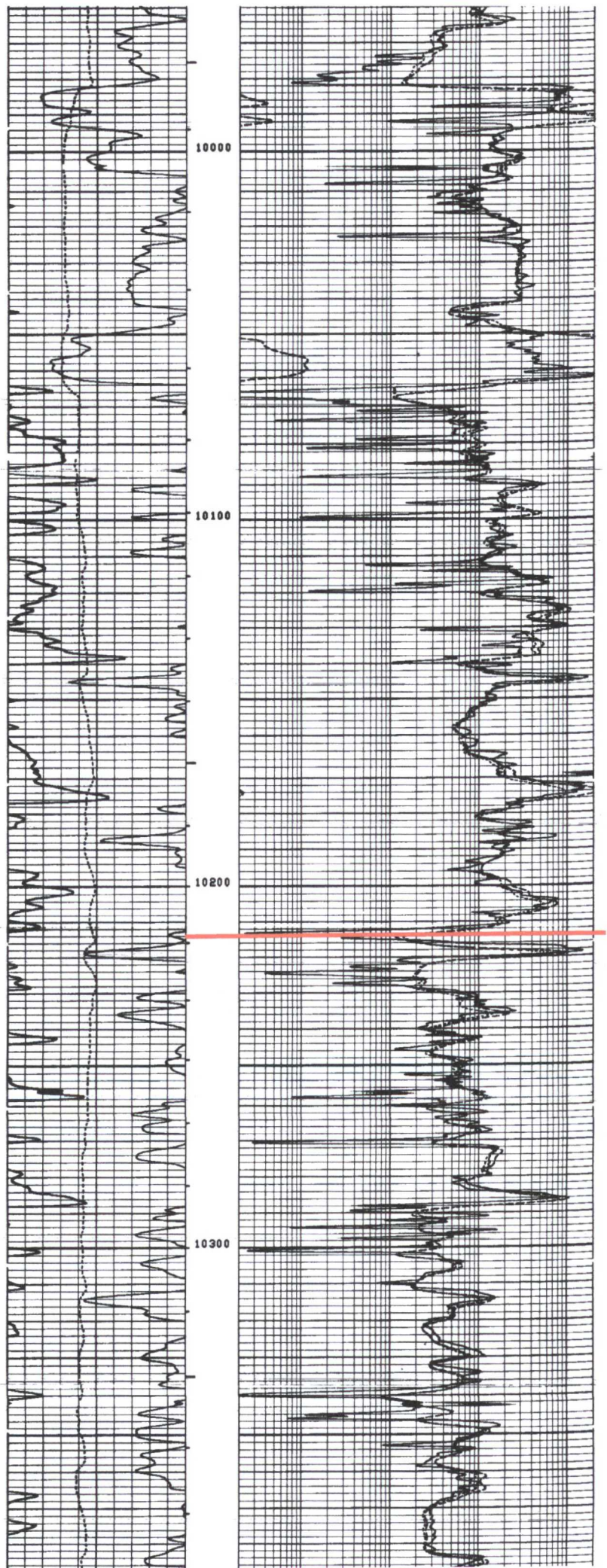
A log strip from subject well is attached.

LOG STRIP FOLLOWS

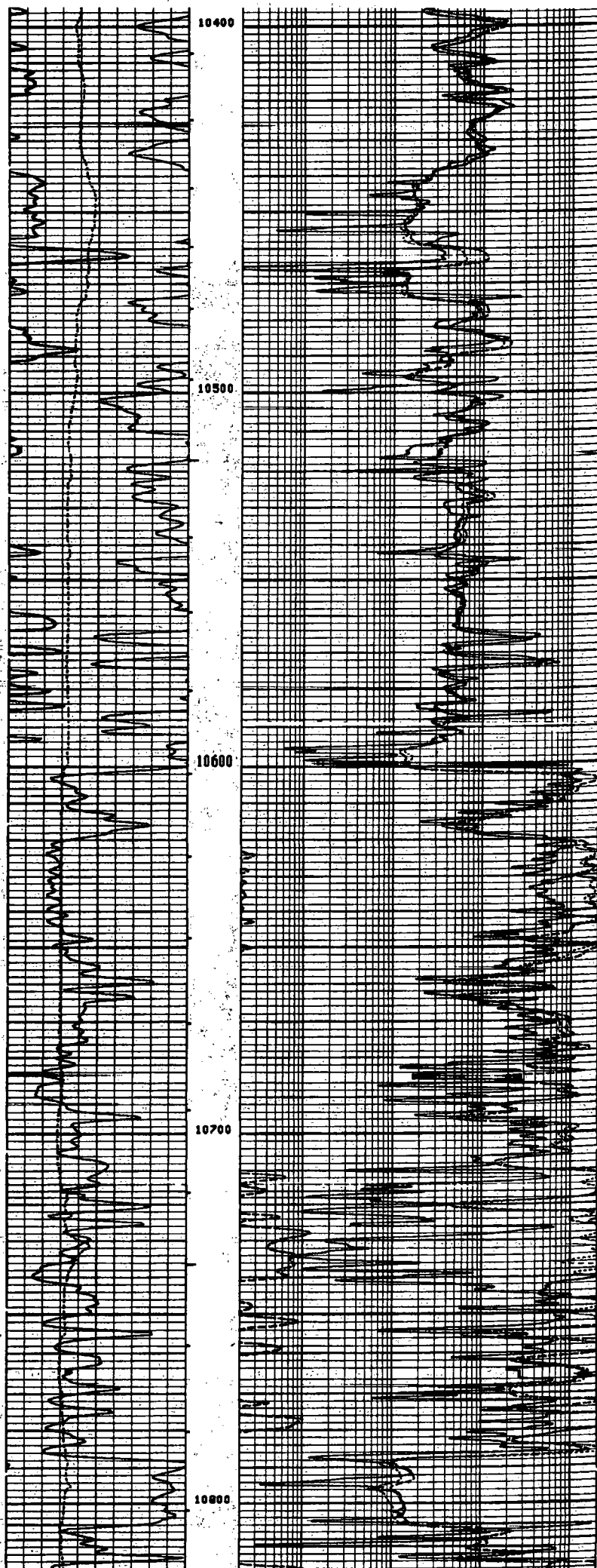
COUNTY: EDDY FIELD: SHUGART LOCATION: GREENWOOD UNIT FED WELL: 210 COMPANY: AMOCO PROD. CO.		COMPANY: AMOCO PRODUCTION COMPANY API #30-0-15-22601 WELL: GREENWOOD FEDERAL UNIT A10 FIELD: SHUGART COUNTY: EDDY STATE: NEW MEXICO	
LOCATION: 660' FM. E. 1980' FSL SEC. 27 TWP. 18-S. RANGE 31-E ORDER SERVICES: CNE-FDC BNC CIBERL OOK		Log Interval: ROB 15 ft. Above True Depth Log Interval: ROB 15 ft. Above True Depth Log Interval: ROB 15 ft. Above True Depth	

Run No. ONE TWO Service Order No. 59458 Fluid Level FULL Solubility 195000 24000 (MUR REPORT)		SCALE CHANGES Type Log _____ Depth _____ Scale Up Hole _____ Scale Down Hole _____	
EQUIPMENT DATA Panel (DLP) 754 805 Panel (SRP) 729 Cartridge (DLC) 940 Cartridge (SR) 826 118 Sonda (DLS) 987 Sonda (SR) 944 Lower Electrode (DLE) _____ Membrane Panel _____ Tape Recorder (TR) _____ Depth Encoder (DRE) _____ Pressure Wheel (CPW) _____ Control: _____ Type ++ CME-Z No. 2 Standoff: 1 EACH CENTRALIZED In-line, or Name 8.0 inches		**CENTERLINE OF 2" BRADENHEAD **OUTLET **RUN 1 TYPE - CME-Z & CALIPER RUN 2 - REPEAT SECTION TO Y.D. MAIN SURVEY DID NOT GO TO BOTTOM AT CUSTOMER'S REQUEST.	
CALIBRATION DATA GR BKG. CPS 25 30 Source CPS 100 210		LOGGING DATA GR Sensitivity 165 165 Scale-100 Div. 100 100 T.C. sec _____	
LOGGING DATA Speed FPM 40 50		BOTTOM HOLE TEMPERATURE Time Entering Hole 1130 Time Bottom Reached 1200 Time Last Off Bottom 1230 Time Out of Hole 1500 Distance TD to Therm. 97 Thermometer #1 96 °F Thermometer #2 96 °F Thermometer #3 96 °F	
FROM DRILL STEAM TEST DST #1 - to 100' DM DM DM DM DST #2 - to 100' DM DM DM DM		All interpretations are opinions based on information from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents, or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.	

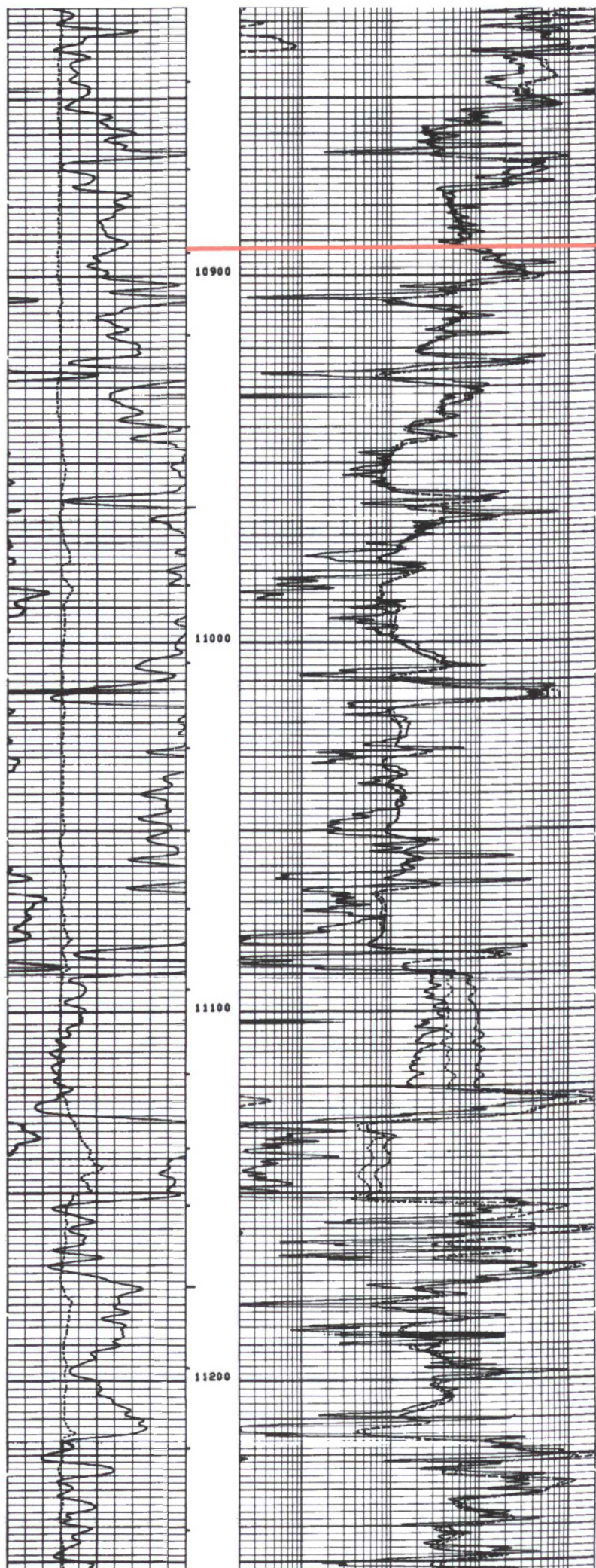




Top of Proposed
Penn Interval
10214'



Bottom of Proposed
Strawn Interval
10892'



C-108 ITEM VII – PRODUCED WATER ANALYSES

Item VII.4 – Water Analysis of Source Zone Water

**San Andres
Delaware
Morrow**

Item VII.5 – Water Analysis of Disposal Zone Water

Penn (Canyon)

Water Analyses follow this page.

C-108 - Item VII.5

Water Analysis - Disposal Zone



BJ SERVICES

Water Analysis

Date: 2/24/2005

2401 Sirey, Artesia NM 88210
Phone (505) 746-3160 Fax (505) 746-2293

Analyzed For

Company	Well Name	County	State
Westall	State G#1	Sandoz	New Mexico

Sample Source

Sample

1

Formation

Canyon

Depth

Specific Gravity	1.050	SG @ 60 °F	1.051
pH	6.30	Sulfides	Not Tested
Temperature (°F)	65	Reducing Agents	Not Tested

Cations

Sodium (Calc)	in Mg/L	9,518	in PPM	9,056
Calcium	in Mg/L	5,600	in PPM	5,328
Magnesium	in Mg/L	240	in PPM	228
Soluble Iron (FE2)	in Mg/L	300.0	in PPM	285

Anions

Chlorides	in Mg/L	24,000	in PPM	22,835
Sulfates	in Mg/L	2,000	in PPM	1,903
Bicarbonates	in Mg/L	186	in PPM	178
Total Hardness (as CaCO3)	in Mg/L	15,000	in PPM	14,272
Total Dissolved Solids (Calc)	in Mg/L	41,844	in PPM	39,813
Equivalent NaCl Concentration	in Mg/L	38,410	in PPM	36,546

Scaling Tendencies

*Calcium Carbonate Index **1,033,464**

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

*Calcium Sulfate (Gyp) Index **11,200,000**

Below 500,000 Remote / 500,000 - 10,000,000 Possible / Above 10,000,000 Probable

This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks FAX 877-2381

C-108 - Item VII.4

Water Analysis - Source Water - SAN ANDRES

B J Services Water Analysis

Artista District Laboratory
(505)-746-3140

Date: 6-Nov-00 Test #:
Company: SDX Resources Well #:
Lease: Chalk Federal #2 County: Eddy
State: N.M. Formation San Andres
Depth: 2900 Source:

pH: 8.51 Temp (F): 84.3
Specific Gravity: 1.12

CATIONS	mg/l	meq/l	ppm
Sodium (calc.)	64502	2370.7	48662
Calcium	3208	160.1	2884
Magnesium	1458	120.0	1302
Barium	< 25	—	—
Potassium	< 10	—	—
Iron	3	0.1	2

ANIONS	mg/l	meq/l	ppm
Chloride	93000	2823.4	83036
Sulfate	1071	22.3	957
Carbonate	< 1	—	—
Bicarbonate	878	14.4	784

Total Dissolved Solids(calc.) 154120 137607

Total Hardness as CaCO3 14014 280.0 12513

COMMENTS:

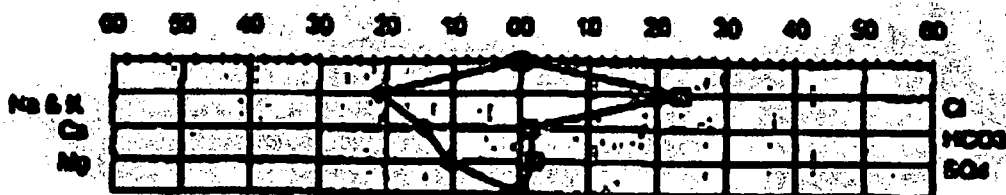
Res = 0.0047 @ 51.1 deg.

SCALE ANALYSIS:

CaCO3 Factor 2817807 Calcium Carbonate Scale Probability →
CaSO4 Factor 3848800 Calcium Sulfate Scale Probability →

Probabl
Remote

SDR Plot



C-108 - Item VII.4

Water Analysis - Source Water - DELAWARE



Water Analysis

Date: 11-Jan-05

2700 West County Road, Hobbs NM 88240

Phone (505) 392-3336 Fax (505) 392-7307

Analyzed For

Location	Sample	Depth
Devon	Spud 16 State #1	Lea New Mexico

Sample Source

Sample

Sample #

1

Formation

Depth

Specific Gravity

1.185

SG @ 60 °F

1.185

pH

8.98

Sulfides

Absent

Temperature (°F)

65

Reducing Agents

Cations

Sodium (Calc)

In Mg/L

73,885

In PPM

61,880

Calcium

In Mg/L

34,000

In PPM

28,428

Magnesium

In Mg/L

5,040

In PPM

4,214

Soluble Iron (FE2)

In Mg/L

50.8

In PPM

42

Anions

Chlorides

In Mg/L

188,000

In PPM

157,191

Sulfates

In Mg/L

650

In PPM

460

Bicarbonates

In Mg/L

78

In PPM

63

Total Hardness (as CaCO3)

In Mg/L

188,600

In PPM

88,620

Total Dissolved Solids (Calc)

In Mg/L

301,703

In PPM

252,260

Equivalent NaCl Concentration

In Mg/L

254,733

In PPM

212,938

Scaling Tendencies

*Calcium Carbonate Index

2,854,720

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

*Calcium Sulfate (Gyp) Index

18,700,000

Below 500,000 Remote / 500,000 - 10,000,000 Possible / Above 10,000,000 Probable

*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks

FW=0.40@63f

C-108 - Item VII.4

Water Analysis - Source Water - MORROW



HALLIBURTON

CENTRAL OPERATIONS LABORATORY
WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

COMPANY Morco

REPORT WD2-128
DATE June 18, 2002
DISTRICT Hobbs

SUBMITTED BY Jim Trele

WELL Ruger St. #1 DEPTH FORMATION
COUNTY FIELD SOURCE

SAMPLE Morrow Prod. Water

Sample Temp.	<u>84</u>	°F				
RESISTIVITY	<u>0.13</u>					
SPECIFIC GR.	<u>1.040</u>					
pH	<u>8.53</u>					
CALCIUM	<u>4.500</u>	mg/l				
MAGNESIUM	<u>6.300</u>	mg/l				
CHLORIDE	<u>34.863</u>	mg/l				
SULFATES	<u>0.01</u>	mg/l				
BICARBONATES	<u>18</u>	mg/l				
SOLUBLE IRON	<u>0</u>	mg/l				
Sodium		mg/l	<u>0</u>		<u>0</u>	
TDS		mg/l	<u>0</u>		<u>0</u>	
OIL GRAVITY	<u>0</u>		<u>0</u>		<u>0</u>	

REMARKS

MPL = Milligrams per liter
Resistivity measured in: Ohm-cm

This report is the property of Halliburton Company and neither 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 course of regular business operations by any person or persons and employees thereof receiving such report from Halliburton Co.

ANALYST: Mike Armstrong

C-108 - Item VIII

Geological Data

The Pennsylvanian formation consists of similarly medium-grained carbonates, primarily dolomite and porous and permeable sandstone interbedded with shale and is generally 150 to 200 feet in thickness.

The Strawn consists of thin beds of isolated biohermal limestone and generally ranges from 200 to 500 feet thick and limited in areal extent. The porosity zones in these formations can be limited, averaging 2% to 9% but permeability can be fairly high.

The combined zones offer possibly exploitable porosity in the proposed injection interval located from 10,214 feet to 10,892 feet with some good porosity interspersed throughout the overall interval.

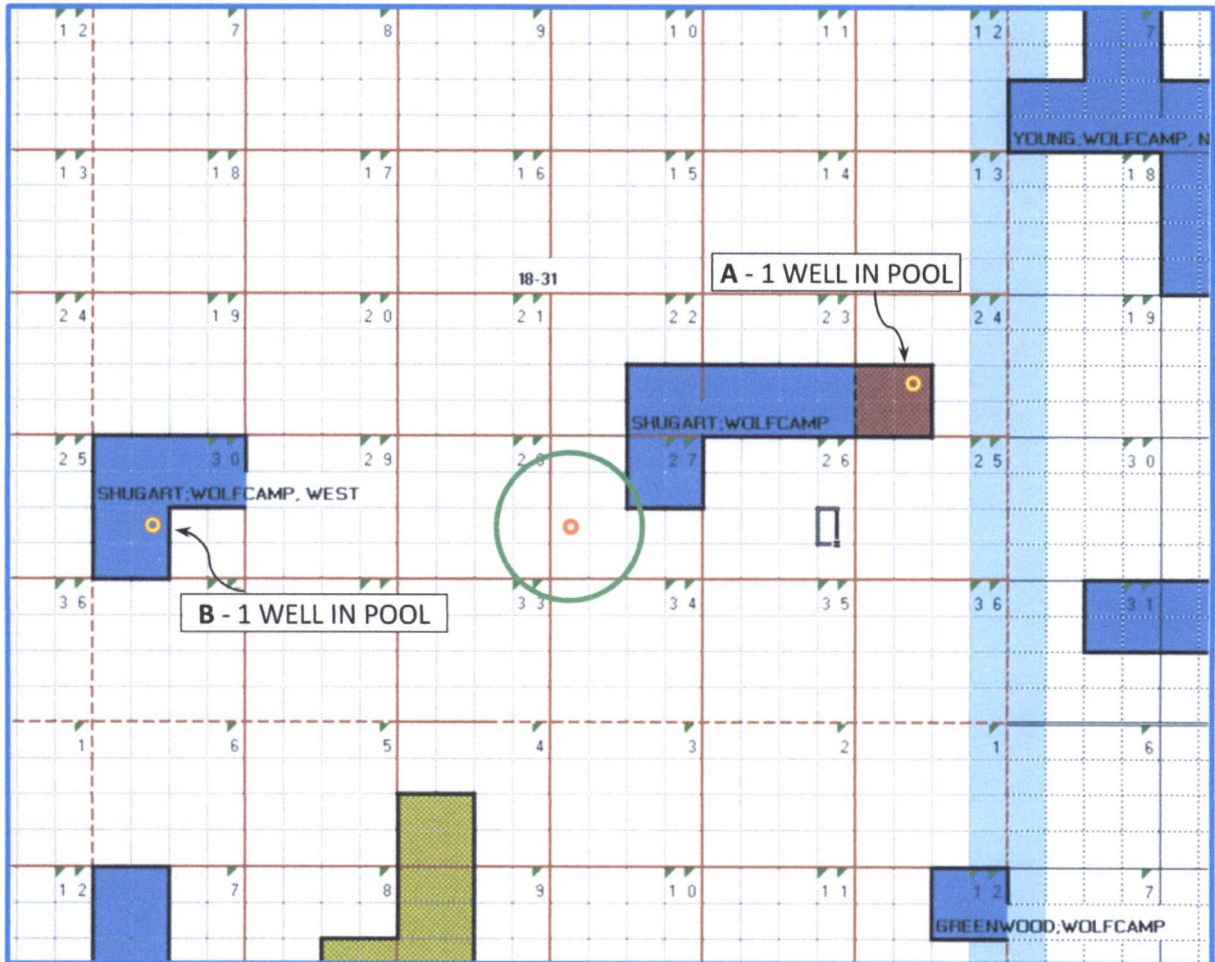
The Penn is overlain by the Wolfcamp and the Strawn is underlain by the Atoka. (See Pool Map and Data exhibit included.)

Fresh water in the area is generally available from the Santa Rosa formation (Capitan Basin). Based on State Engineer's records for a water well in Twp 18S, Rng 31E, groundwater is at a depth to water of 300 feet or greater.

There are no water wells located within one mile of the proposed SWD.

C-108 – Item VIII – Geologic Data
SUPPLEMENTAL INFORMATION – POOL DATA

WOLFCAMP POOLS IN REGION



There are only 2 Wolfcamp completions in the vicinity; both are more than 2.5 miles from the subject well.

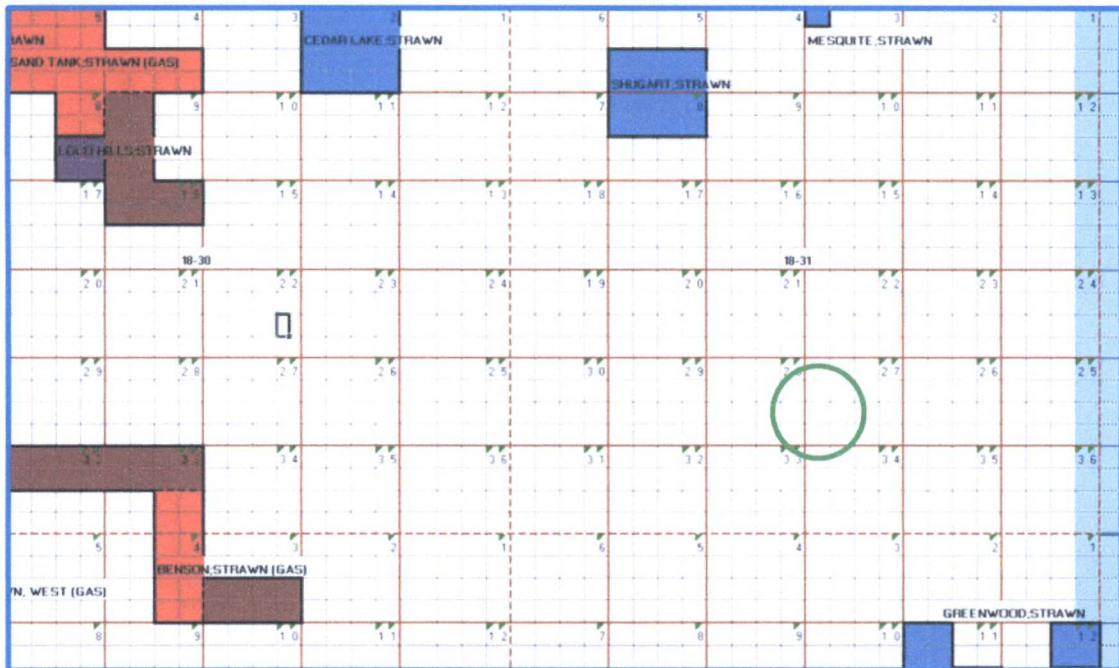
A – 1 WELL IN SHUGART WOLFCAMP POOL (56427): 30-015-34501 GERONIMO 24 FEDERAL #001;
MEWBOURNE OIL CO.

B – 1 WELL IN SHUGART WOLFCAMP WEST POOL (96686): 30-015-29429 WEST SHUGART 30 FEDERAL #009;
DEVON ENERGY PRODUCTION CO.

C-108 – Item VIII – Geologic Data SUPPLEMENTAL INFORMATION – POOL DATA

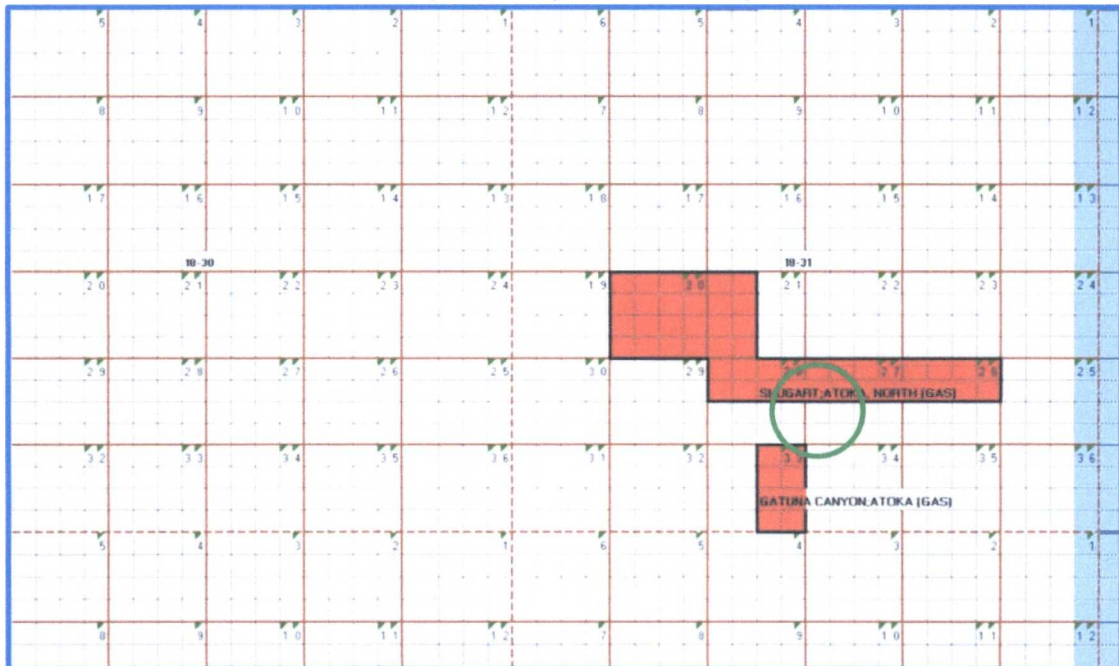
STRAWN POOLS IN REGION

(Disposal Formation)



ATOKA POOLS IN REGION

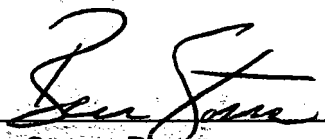
(Below Disposal Formation)



Pool Maps Courtesy of Paul Kautz

C-108 ITEM XII – GEOLOGIC AFFIRMATION

We have examined available geologic and engineering data and have found no evidence of open faults or other hydrologic connection between the disposal interval and any underground sources of drinking water.


Ben Stone, Partner
SOS Consulting, LLC

Project: Ray Westall Operating, Inc.
Greenwood Fed No.1 SWD
Reviewed 11/03/2016

C-108 ITEM XI – WATER WELLS IN AOR

Office of State Engineer data indicated no water wells
within one mile of the proposed SWD.



New Mexico Office of the State Engineer **Active & Inactive Points of Diversion** (with Ownership Information)

No PODs found.

PLSS Search:

Section(s): 21, 22, 27, 28, Township: 18S Range: 31E
33, 34

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/31/16 3:45 PM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION

C-108 ITEM XI – WATER WELLS IN AOR

Depth to Groundwater

Office of State Engineer data indicate only one water well
in the township with a depth of 300 feet.



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q Q Q	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00849		LE		3	1	3	35	18S	31E	608012	3618757*	300

Average Depth to Water: -

Minimum Depth: -

Maximum Depth: -

Record Count: 1

PLSS Search:

Township: 18S

Range: 31E

C-108 ITEM XIII – PROOF OF NOTIFICATION

IDENTIFICATION AND NOTIFICATION OF INTERESTED PARTIES

Exhibits for Section

Leasehold Plat

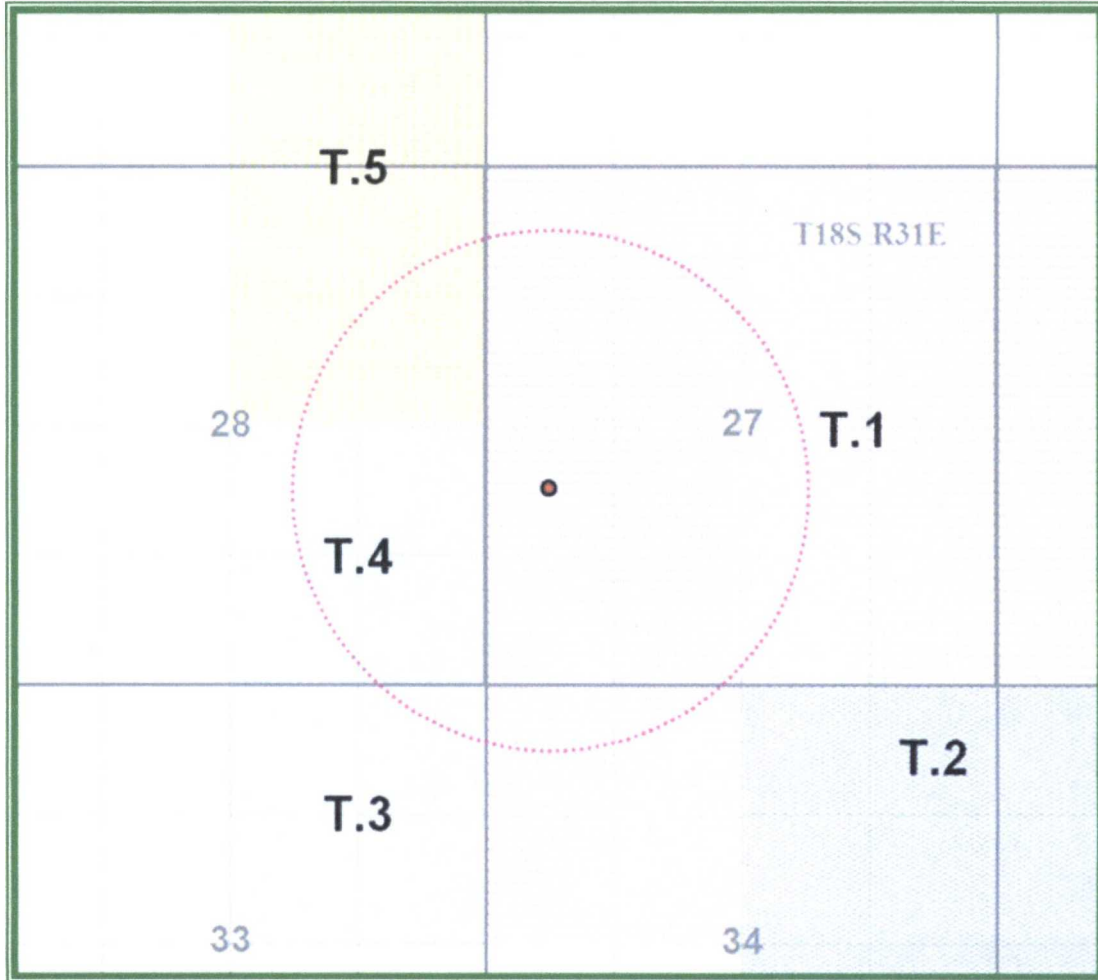
List of Interested Parties

Notification Letter to Interested Parties

Proof of Certified Mailing

Published Legal Notice

Greenwood Fed Well No.1 SWD - Leasehold Plat
(Attachment to NMOCD Form C-108, Application for Authority to Inject.)



RAY WESTALL OPERATING, INC.

LEGEND

- T.1 – NMLC-0029392B – 18-31, Inc.
- T.2 – NMLC-0029392A – 18-31, Inc.
- T.3 – NMNM-028790 – Devon Energy Production, Energen Resources,
Fidelity Exploration & Production
- T.4 – NMLC-029390A – Marathon Oil Company
- T.5 – NMNM-012212 – Devon Energy Production, Energen Resources,
Fidelity Exploration & Production

**C-108 ITEM XIII – PROOF OF NOTIFICATION
INTERESTED PARTIES LIST**

SURFACE OWNER

U.S. DEPARTMENT OF INTERIOR (USPS Certified Mail)
Bureau of Land Management
Oil & Gas Division
620 E. Greene St.
Carlsbad, NM 88220

OFFSET OPERATORS (All Notified via USPS Certified Mail)

(Lessees to be notified where an operator is absent; per OCD rules NMAC 19.15.26.7, A. and 19.15.26.8, B.2)

Federal Leases NMLC-0029392B; NMLC-0029392A (T.1 and T.2 on plat)

- Operators***
- 1 MOMENTUM OPERATING COMPANY
224 South Main St.
Albany, TX 76430
 - 2 CHEVRON, USA
1400 Smith
Houston, TX 77002
 - 3 GEORGE A. CHASE, JR dba G AND C SERVICE COMPANY
P.O. Box 1618
Artesia, NM 88211

Federal Leases NMNM-028790; NMNM-012212 (T.3 and T.5 on plat)

Operator
MOMENTUM OPERATING COMPANY
P.O. Box 2249
Wichita Falls, TX 76307

Federal Lease NMNM-029390A (T.4 on plat)

- Operator***
- 4 DEVON ENERGY PRODUCTION COMPANY, LP
333 W. Sheridan Ave.
Oklahoma City, OK 73102-5010

**C-108 ITEM XIII – PROOF OF NOTIFICATION
INTERESTED PARTIES LIST (cont.)**

REGULATORY

NEW MEXICO OIL CONSERVATION DIVISION (FedEx'ed original and copy)
1220 S. St. Francis Dr.
Santa Fe, NM 87505

NEW MEXICO OIL CONSERVATION DIVISION (FedEx'ed copy)
811 S. First St.
Artesia, NM 88210

- 5 BUREAU OF LAND MANAGEMENT (USPS Certified Mail)
Oil & Gas Division
620 E. Greene St.
Carlsbad, NM 88220



January 3, 2017

NOTIFICATION TO INTERESTED PARTIES
via U.S. Certified Mail

To Whom It May Concern:

Ray Westall Operating, Inc., Loco Hills, New Mexico, has made application to the New Mexico Oil Conservation Division to convert for salt water disposal the Greenwood Federal (P-GB) Well No.1 and upon approval, will rename the well to Greenwood Federal SWD No.1. The proposed commercial operation will be for produced water disposal from area operators. As indicated in the notice below, the well is located in Section 27, Township 18 South, Range 31 East in Eddy County, New Mexico.

Please note that this is a revision of a previously submitted C-108 for which you were also notified. Except for the removal of the Wolfcamp formation from consideration, all other details are the same as before. While there were no objections to the original C-108, OCD would not consider the Wolfcamp as a viable disposal candidate in the subject area.

Following is the notice published in the Artesia Daily Press, Artesia, New Mexico on or about January 4, 2017.

LEGAL NOTICE

In a REVISION of a previous application, Ray Westall, Inc., P.O. Box 4, Loco Hills, NM 88255 is filing Form C-108 (Application for Authority to Inject) with the New Mexico Oil Conservation Division for administrative approval to permit for salt water disposal in its Greenwood Pre-GB Unit Well No.1. The well, API No.30-015-22601 is located 1980 FSL & 660 FWL in Section 27, Township 18 South, Range 31 East in Eddy County, New Mexico. Produced water from area production will be commercially disposed into the Penn and Strawn formations through selected perforated intervals between a maximum applied for top of 10,214 feet to maximum depth of 10,892 feet and based on further log analysis. Maximum injection pressure will be 2043 psi with a maximum rate limited only by such pressure. The well will be renamed the Greenwood Federal SWD No.1.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, NM 87505, (505)476-3460 within 15 days of the date of this notice. Additional information may be obtained from the applicant's agent, SOS Consulting, LLC, (903)488-9850 or, email info@sosconsulting.us.

You have been identified as a party who may be interested as an offset operator or lessee.

You are entitled to a full copy of the application. A full copy in PDF format on a mini-CD will be arriving within a few days of this notice. If you do not receive it, please call or email SOS Consulting, LLC at 903-488-9850, info@sosconsulting.us, and a copy will be expedited to you and may also be sent via email if preferred.

Thank you for your attention in this matter.

Best regards,

A handwritten signature in black ink, appearing to read "Ben Stone".

Ben Stone, SOS Consulting, LLC
Agent for Ray Westall Operating, Inc.

Cc: Application File

C-108 - Item XIV

Proof of Notice (Certified Mail Receipts)

7015 0640 0007 9482 7720

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

OFFICIAL USE

Certified Mail Fee \$ 3.30

Extra Services & Fees (check box, add fee as appropriate)

☒ Return Receipt (hardcopy) \$ 2.15

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$.47

Total Postage and Fees \$ 6.47

Sent To

Street MOMENTUM OPERATING COMPANY

City, St Albany, TX 76430

PS Form 38

For delivery information, visit our website at www.usps.com®

OFFICIAL USE

Certified Mail Fee \$ 3.30

Extra Services & Fees (check box, add fee as appropriate)

☒ Return Receipt (hardcopy) \$ 2.15

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$.47

Total Postage and Fees \$ 6.47

Sent To

Street GEORGE A. CHASE, JR

City, St dba G AND C SERVICE COMPANY

City, St P.O. Box 1618

City, St Artesia, NM 88211

PS Form 38

7015 0640 0007 9482 7787

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

OFFICIAL USE

Certified Mail Fee \$ 3.30

Extra Services & Fees (check box, add fee as appropriate)

☒ Return Receipt (hardcopy) \$ 2.15

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$.47

Total Postage and Fees \$ 6.47

Sent To

Street CHEVRON, USA

City, St 1400 Smith

City, St Houston, TX 77002

PS Form 38

For delivery information, visit our website at www.usps.com®

OFFICIAL USE

Certified Mail Fee \$ 3.30

Extra Services & Fees (check box, add fee as appropriate)

☒ Return Receipt (hardcopy) \$ 2.15

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$.47

Total Postage and Fees \$ 6.47

Sent To

Street DEVON ENERGY PROD. CO., LP

City, St 333 W. Sheridan Avenue

City, St OKC, OK 73102-5010

PS Form 38

7015 0640 0007 9482 77

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®

OFFICIAL USE

Certified Mail Fee \$ 3.30

Extra Services & Fees (check box, add fee as appropriate)

☒ Return Receipt (hardcopy) \$ 2.15

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$.47

Total Postage and Fees \$ 6.47

Sent To

Street BUREAU OF LAND MANAGEMENT

City, St Oil & Gas Division

City, St 620 E. Greene St.

City, St Carlsbad, NM 88220

PS Form 38

C-108 - Item XIV

Proof of Notice – Legal Notice Newspaper of General Circulation

Legal Notice

In a REVISION of a previous application, Ray Westall, Inc., P.O. Box 4, Loco Hills, NM 88255 is filing Form C-108 (Application for Authority to Inject) with the New Mexico Oil Conservation Division for administrative approval to permit for salt water disposal in its Greenwood Pre-GB Unit Well No.1. The well, API No.30-015-22601 is located 1980 FSL & 660 FWL in Section 27, Township 18 South, Range 31 East in Eddy County, New Mexico. Produced water from area production will be commercially disposed into the Penn and Strawn formations through selected perforated intervals between a maximum applied for top of 10,214 feet to maximum depth of 10,892 feet and based on further log analysis. Maximum injection pressure will be 2043 psi with a maximum rate limited only by such pressure. The well will be renamed the Greenwood Federal SWD No.1.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, NM 87505, (505)476-3460 within 15 days of the date of this notice. Additional information may be obtained from the applicant's agent, SOS Consulting, LLC, (903)488-9850 or, email info@sosconsulting.us.

Published in the Artesia Daily Press, Artesia, N.M., Jan. 4
2017 Legal No. 24155.

The above is the "Proof Copy" sent from the Artesia Daily Press.
The affidavit of publication will be forwarded as soon as it is received.

C-108 - Item XIV

Proof of Notice
(Certified Mail Delivery Confirmation – USPS.com)

Ray Westall Operating, Inc. - Greenwood SWD No.1

USPS Tracking®

Still Have Questions?
(Browse our FAQs.)



Get Easy Tracking Updates!
Sign up for My USPS.

Momentum

Tracking Number: 9114999944314062020380

Delivered

On Time

Updated Delivery Day: Wednesday, January 11, 2017

George Chase

Tracking Number: 9114999944314062020371

Delivered

Updated Delivery Day: Wednesday, January 11, 2017

Chevron

Tracking Number: 9114999944314062020384

Delivered

Updated Delivery Day: Thursday, January 12, 2017

Devon

Tracking Number: 9114999944314062020367

Delivered

Updated Delivery Day: Thursday, January 12, 2017

BLM

Tracking Number: 9114999944314062020340

Delivered

Updated Delivery Day: Wednesday, January 11, 2017

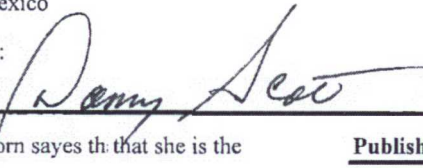
Affidavit of Publication

No. 24155

State of New Mexico

County of Eddy:

Danny Scott



being duly sworn says that she is the

Publisher

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/day on the same

day as follows:

First Publication January 4, 2017

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Subscribed and sworn before me this

5th day of January 2017



OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2019



Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

Legal Notice

In a REVISION of a previous application, Ray Westall, Inc., P.O. Box 4, Loco Hills, NM 88255 is filing Form C-108 (Application for Authority to Inject) with the New Mexico Oil Conservation Division for administrative approval to permit for salt water disposal in its Greenwood Pre-GB Unit Well No.1. The well, API No.30-015-22601 is located 1980 FSL & 660 FWL in Section 27, Township 18 South, Range 31 East in Eddy County, New Mexico. Produced water from area production will be commercially disposed into the Penn and Strawn formations through selected perforated intervals between a maximum applied for top of 10,214 feet to maximum depth of 10,892 feet and based on further log analysis. Maximum injection pressure will be 2043 psi with a maximum rate limited only by such pressure. The well will be renamed the Greenwood Federal SWD No.1.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, NM 87505, (505)476-3460 within 15 days of the date of this notice. Additional information may be obtained from the applicant's agent, SOS Consulting, LLC, (903)488-9850 or, email info@sosconsulting.us.

Published in the Artesia Daily Press, Artesia, N.M., Jan. 4 2017 Legal No. 24155.

**C-108 Review Checklist:**Received 1/10/2017 Add. Request: 1/18/2017 Reply Date: 1/18/2017 Suspended: _____ [Ver 15]ORDER TYPE: WFX / PMX SWP Number: _____ Order Date: _____ Legacy Permits/Orders: _____Well No. 1 Well Name(s): Greenwood Fed/SWD (2 miles)API: 30-0 15-22601 Spud Date: 12/6/1978 New or Old: 0 (UIC Class II Primacy 03/07/1982)Footages 1980 FSL
660 FWL Lot _____ or Unit L Sec 27 Tsp 18S Rge 31E County EddyGeneral Location: 210 miles S/MALAMAR Pool: SWD; PENN Pool No.: 96113BLM 100K Map: Hobbs Operator: RAY weston operating, Inc OGRID: 119305 Contact: Bennett AgentCOMPLIANCE RULE 5.9: Total Wells: 97 Inactive: 1 Finc'l Assur: OK Compl. Order? MA IS 5.9 OK? _____ Date: _____WELL FILE REVIEWED ☒ Current Status: PTA T/AWELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☒ After Conv. ☒ Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement (S) or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface		<u>17 1/2 / 13 3/4</u>	<u>724</u>	<u>800</u>	<u>SURFACE / VISUAL</u>
Planned ___ or Existing ___ Interm/Prod		<u>11 1/4 / 9 5/8</u>	<u>4644</u>	<u>2000</u>	<u>SURFACE / VISUAL</u>
Planned ___ or Existing ___ Interm/Prod		<u>8 3/4 / 5 1/2</u>	<u>1195</u>	<u>2300</u>	<u>2180 / TS</u>
Planned ___ or Existing ___ Prod/Liner					
Planned ___ or Existing ___ Liner					
Planned ___ or Existing ___ OH <u>PERF</u>		<u>102 1/4 / 109 1/2</u>			
			Inj Length <u>678'</u>		
Injection Lithostratigraphic Units:		Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.			<u>ML</u>	<u>9670</u>	Drilled TD <u>11950</u> PBTD <u>11620</u>
Confining Unit: Litho. Struc. Por.			<u>PENN</u>	<u>10214</u>	NEW TD _____ NEW PBTD <u>11000</u>
Proposed Inj Interval TOP:			<u>Atok</u>	<u>11152</u>	NEW Open Hole <input type="checkbox"/> or NEW Perfs <input checked="" type="checkbox"/>
Proposed Inj Interval BOTTOM:					Tubing Size <u>3 1/2</u> in. Inter Coated? _____
Confining Unit: Litho. Struc. Por.					Proposed Packer Depth <u>1014</u> ft
Adjacent Unit: Litho. Struc. Por.					Min. Packer Depth <u>1014</u> (100-ft limit)
					Proposed Max. Surface Press. <u>2043</u> psi
					Admin. Inj. Press. <u>2043</u> (0.2 psi per ft)
AOR: Hydrologic and Geologic Information					
POTASH: R-111-P <u>MA</u> Noticed? <input checked="" type="checkbox"/> BLM Sec Ord <input type="checkbox"/> WIPP <input type="checkbox"/> Noticed? <input type="checkbox"/> Salt/Salado T: <u>Brown</u> NW: Cliff House fm _____					
FRESH WATER: Aquifer <u>Guthrie</u> Max Depth <u>1520</u> HYDRO AFFIRM STATEMENT By Qualified Person <input checked="" type="checkbox"/>					
NMOSE Basin: <u>CAPITAN</u> CAPITAN REEF: thru adj <u>NA</u> No. Wells within 1-Mile Radius? _____ FW Analysis _____					
Disposal Fluid: Formation Source(s) <u>Murrow</u> Analysis? <input checked="" type="checkbox"/> On Lease <input type="checkbox"/> Operator Only <input type="checkbox"/> or Commercial <input checked="" type="checkbox"/>					
Disposal Int: Inject Rate (Avg/Max BWPD): <u>Ltd / pri</u> Protectable Waters? <input checked="" type="checkbox"/> Source: _____ System: Closed or Open					
HC Potential: Producing Interval? <u>N/A</u> Formerly Producing? _____ Method: Logs/DST/P&A/Other <u>regional</u> 2-Mile Radius Pool Map <input type="checkbox"/>					
AOR Wells: 1/2-M Radius Map? <input checked="" type="checkbox"/> Well List? <input checked="" type="checkbox"/> Total No. Wells Penetrating Interval: <u>2</u> Horizontals? <u>N/A</u>					
Penetrating Wells: No. Active Wells <u>0</u> Num Repairs? _____ on which well(s)? _____ Diagrams? _____					
Penetrating Wells: No. P&A Wells <u>0</u> Num Repairs? _____ on which well(s)? _____ Diagrams? <input checked="" type="checkbox"/>					
NOTICE: Newspaper Date <u>1-4-2017</u> Mineral Owner <u>BLM</u> Surface Owner <u>BLM</u> N. Date <u>11-2017</u>					
RULE 26.7(A): Identified Tracts? <input checked="" type="checkbox"/> Affected Persons: <u>Devon, momentum, George</u> N. Date <u>1-12-2017</u>					

Order Conditions: Issues: _____

Add Order Cond: 1st sub cut well



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<u>L 00335</u>		L	LE	4	1	3	35	18S	35E	646843	3619253*	124	45	79
<u>L 01225 POD1</u>		L	LE	1	2	3	35	18S	35E	647047	3619458*	97	50	47
<u>L 02520</u>		L	LE	4	1	23	18S	35E	35E	647088	3622989*	134	78	56
<u>L 02678</u>		L	LE	3	4	22	18S	35E	35E	645890	3622166*	200	58	142
<u>L 02678</u>	R	L	LE	3	4	22	18S	35E	35E	645890	3622166*	200	58	142
<u>L 02678 POD2</u>	R	L	LE	3	4	22	18S	35E	35E	645890	3622166*	185	58	127
<u>L 02678 POD3</u>		L	LE	3	4	22	18S	35E	35E	645890	3622166*	190	154	36
<u>L 02679</u>		L	LE	4	4	21	18S	35E	35E	644680	3622151*	200	68	132
<u>L 02679</u>	R	L	LE	4	4	21	18S	35E	35E	644680	3622151*	200	68	132
<u>L 02679 POD2</u>	R	L	LE	3	2	22	18S	35E	35E	645876	3622973*	187	65	122
<u>L 02680</u>		L	LE	1	2	21	18S	35E	35E	644257	3623357*	190	59	131
<u>L 03678</u>		L	LE				35	18S	35E	647354	3619554*	115	60	55
<u>L 03772</u>		L	LE	2	2	21	18S	35E	35E	644659	3623361*	130	60	70
<u>L 03783</u>		L	LE				27	18S	35E	645710	3621138*	115	65	50
<u>L 03866</u>		L	LE	3	3	22	18S	35E	35E	645082	3622155*	127	65	62
<u>L 03963</u>		L	LE	1	2	27	18S	35E	35E	645896	3621762*	127	70	57
<u>L 04399</u>		L	LE	3	3	22	18S	35E	35E	645082	3622155*	90	75	15
<u>L 05810</u>		L	LE	2	3	22	18S	35E	35E	645479	3622564*	145	95	50
<u>L 06868</u>		L	LE	1	4	3	26	18S	35E	647026	3620666*	110	57	53
<u>L 06869</u>		L	LE	1	3	26	18S	35E	35E	646717	3620966*	125	60	65
<u>L 07129</u>		L	LE	4	3	3	34	18S	35E	645237	3618830*	60	40	20
<u>L 09373</u>		L	LE	1	1	26	18S	35E	35E	646704	3621773*	120	60	60
<u>L 09524</u>		L	LE	1	4	35	18S	35E	35E	647552	3619364*	140	57	83
<u>L 09745</u>		L	LE	2	4	3	35	18S	35E	647254	3619055*	106	65	41
<u>L 09762</u>		L	LE	3	3	33	18S	35E	35E	643526	3618913*	160	80	80
<u>L 09958</u>		L	LE	4	2	2	35	18S	35E	648040	3620074*	150	55	95
<u>L 13988 POD1</u>		L	LE	1	3	4	34	18S	35E	645839	3618945	110	38	72

Average Depth to Water: 65 feet

Minimum Depth: 38 feet

Maximum Depth: 154 feet

Record Count: 27

PLSS Search:

Section(s): 21-23, 26-28, 33-35 Township: 18S Range: 35E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

1/18/17 12:26 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

McMillan, Michael, EMNRD

From: Kautz, Paul, EMNRD
Sent: Thursday, February 2, 2017 9:21 AM
To: McMillan, Michael, EMNRD; Podany, Raymond, EMNRD
Subject: RE: Proposed SWD Greenwood Federal SWD Well No. 1, Ray Westall Operating

I have no objections.

Paul

From: McMillan, Michael, EMNRD
Sent: Thursday, February 2, 2017 8:23 AM
To: Kautz, Paul, EMNRD <paul.kautz@state.nm.us>; Podany, Raymond, EMNRD <Raymond.Podany@state.nm.us>
Subject: Proposed SWD Greenwood Federal SWD Well No. 1, Ray Westall Operating

Ray and Paul:

Do you have any objection to inject into the Wolfcamp and Strawn formations in the Greenwood Federal (API 30-015-22601) from 10214 feet to 10892 feet.

Initially Ray Westall wanted the Cisco through Strawn; however, the well file showed that the Cisco had a show in it, and then they reapplied for the Wolfcamp and Strawn

Mike

MICHAEL A. MCMILLAN

Engineering Bureau, Oil Conservation Division
1220 south St. Francis Dr., Santa Fe NM 87505
O: 505.476.3448
Michael.McMillan@state.nm.us