

9/08/2015 DATE IN	SUSPENSE	PRG ENGINEER	9/08/2015 LOGGED IN	IPI TYPE	PHAN1525158228 APP NO.
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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 \_\_\_\_\_

- IPI 500  
- Ray Westall operating, Inc  
119305  
- well  
- Portenhouse SWD #1  
30-015-32682  
Pool  
- SWD, Grayburg -  
San Andres  
96110

[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	9/08/15
Print or Type Name	Signature	Title	Date
		ben@sosconsulting.us	
		e-mail Address	



Oil & Gas Accounting, Regulatory Processing Assistance, Oil Field Technical Assistance



September 4, 2015

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

Attn: Mr. Phillip Goetze, Engineering Bureau

*Re: Request of Ray Westall Operating, Inc. for an injection pressure increase on Porter-house State Com No.1 SWD located in Section 32, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico.*

Dear Mr. Goetze,

Ray Westall Operating, Inc. recently conducted a step rate test on the subject well, permitted by SWD-1479 and currently injecting at the authorized surface pressure of 783 psi.

The step rate test was conducted on August 24, 2015 by Cardinal Surveys Company. This test was routine in application and indicated a formation parting pressure of approximately 3449 psi bottom hole which correlated to 1698 psi at the surface.

Ray Westall Operating seeks to optimize efficiency, both economically and operationally, of its operations and approval of an increase in surface injection pressure would be in line with that goal. Based on the results of the step rate test, we hereby request that maximum permitted surface injection pressure be increased to 1648 psi, keeping the well set 50 psi below what these data indicate and thereby preventing any damage to the formation.

Included in this request is a copy of the delivered step rate presentation from Cardinal Surveys and a current wellbore schematic. I respectfully request that the approval of this injection pressure increase proceed swiftly and if you require additional information or have 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

# Step Rate Test



Cardinal Surveys Company

24-Aug-15

Ray Westall Operating Company

Well: Porter House No. 1 SWD

Field:

County: Lea County, NM

SC70468

File No. 22,306

Intercept @ 1,303 BPD, 3,449.1 BH PSIA & Surface Intercept @ 1,698 PSIA

Downhole PSI Tool Ser. No. CSC2604

Surface PSI Gauge Ser. No. CSC 2701

Tool @ 4,050'

	Start	End	Rate
1	9:21 AM	9:45 AM	0 4,050'
2	10:15 AM	10:45 AM	200
3	10:45 AM	11:15 AM	400
4	11:15 AM	11:45 AM	600
5	11:45 AM	12:15 PM	900
6	12:15 PM	12:45 PM	1200
7	12:45 PM	1:15 PM	1500
8	1:15 PM	1:45 PM	1800
9	1:45 PM	2:15 PM	2100
10	2:15 PM	2:35 PM	0 FALL OFF
11			
12			
13			
14			
15			
16			
17			
18			

**Step Rate Test**  
**24-Aug-15**

**Ray Westall Operating Company**  
**Well: Porter House No. 1 SWD**  
**Field:**  
**Location: Lea County, NM**

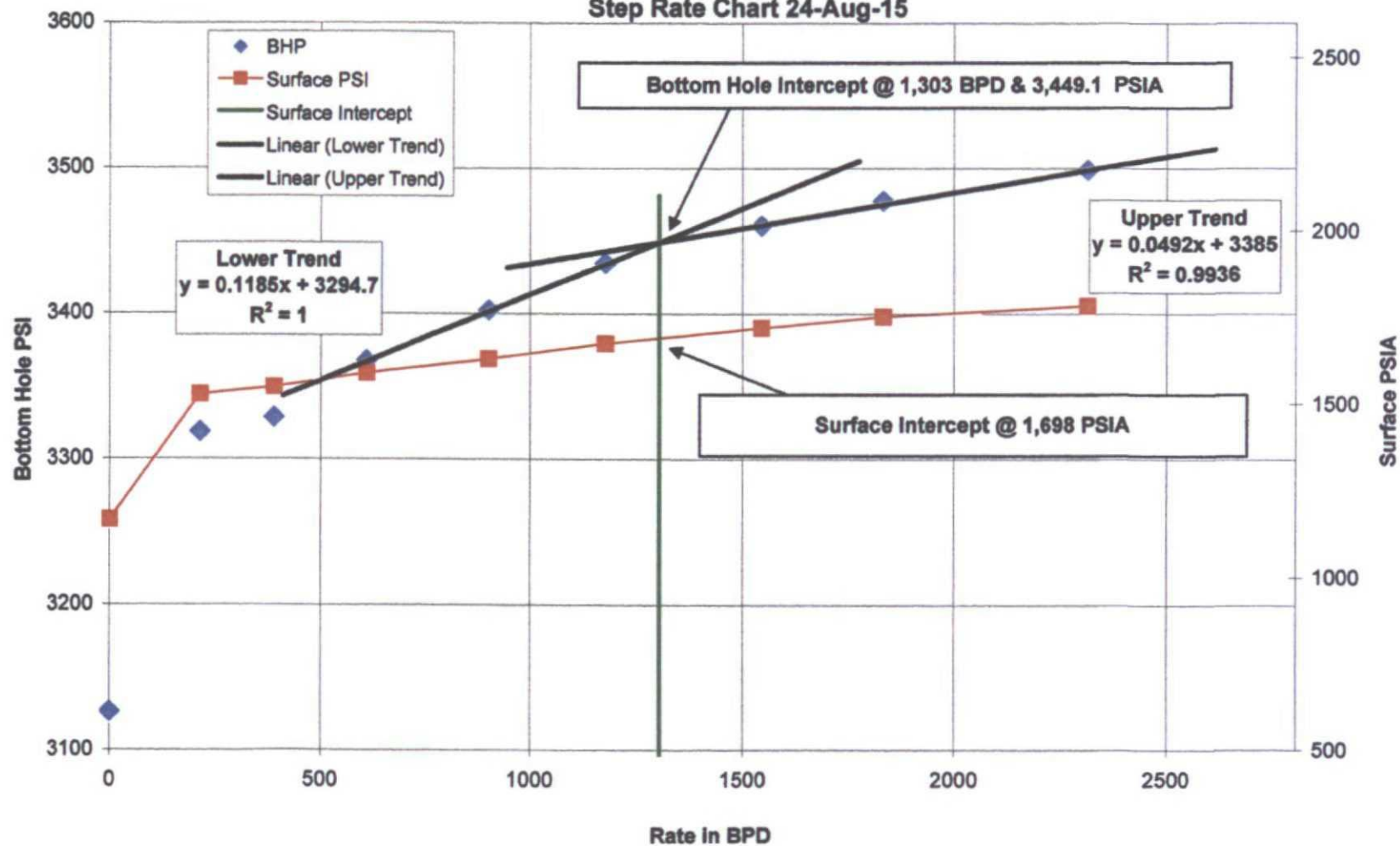


	S Time	E Time	D Time Min	Last Rate BPD	Step BPD	BHP PSIA	Surf PSIA	Cum BBL	Delta BBL	Avg. BPD	Lower Trend	Upper Trend
1	9:21 AM	9:45 AM	24	0	0	3125.6	1161	0	0	0		
2	10:15 AM	10:45 AM	30	200	200	3317.9	1523	4.4	4.4	211		
3	10:45 AM	11:15 AM	30	400	200	3327.7	1544	12.5	8.1	389		
4	11:15 AM	11:45 AM	30	600	200	3366.9	1585	25.2	12.7	610	3366.9	
5	11:45 AM	12:15 PM	30	900	300	3401.5	1626	44	18.8	902	3401.5	
6	12:15 PM	12:45 PM	30	1200	300	3434	1671	68.5	24.5	1176	3434	
7	12:45 PM	1:15 PM	30	1500	300	3459.9	1716	100.7	32.2	1546		3459.9
8	1:15 PM	1:45 PM	30	1800	300	3476.9	1748.3	138.9	38.2	1834		3476.9
9	1:45 PM	2:15 PM	30	2100	300	3498.1	1779.9	187.1	48.2	2314		3498.1
10	2:15 PM	2:35 PM	20	0	0	3437.3	1663	187.1	0	0		
11												
12												
13												
14												
15												
16												

upper trend	0.0492	3388
lower trend	0.1185	3294.7
Intersect	1303.0303	BPD
BHP PSI	3449.10909	PSIA

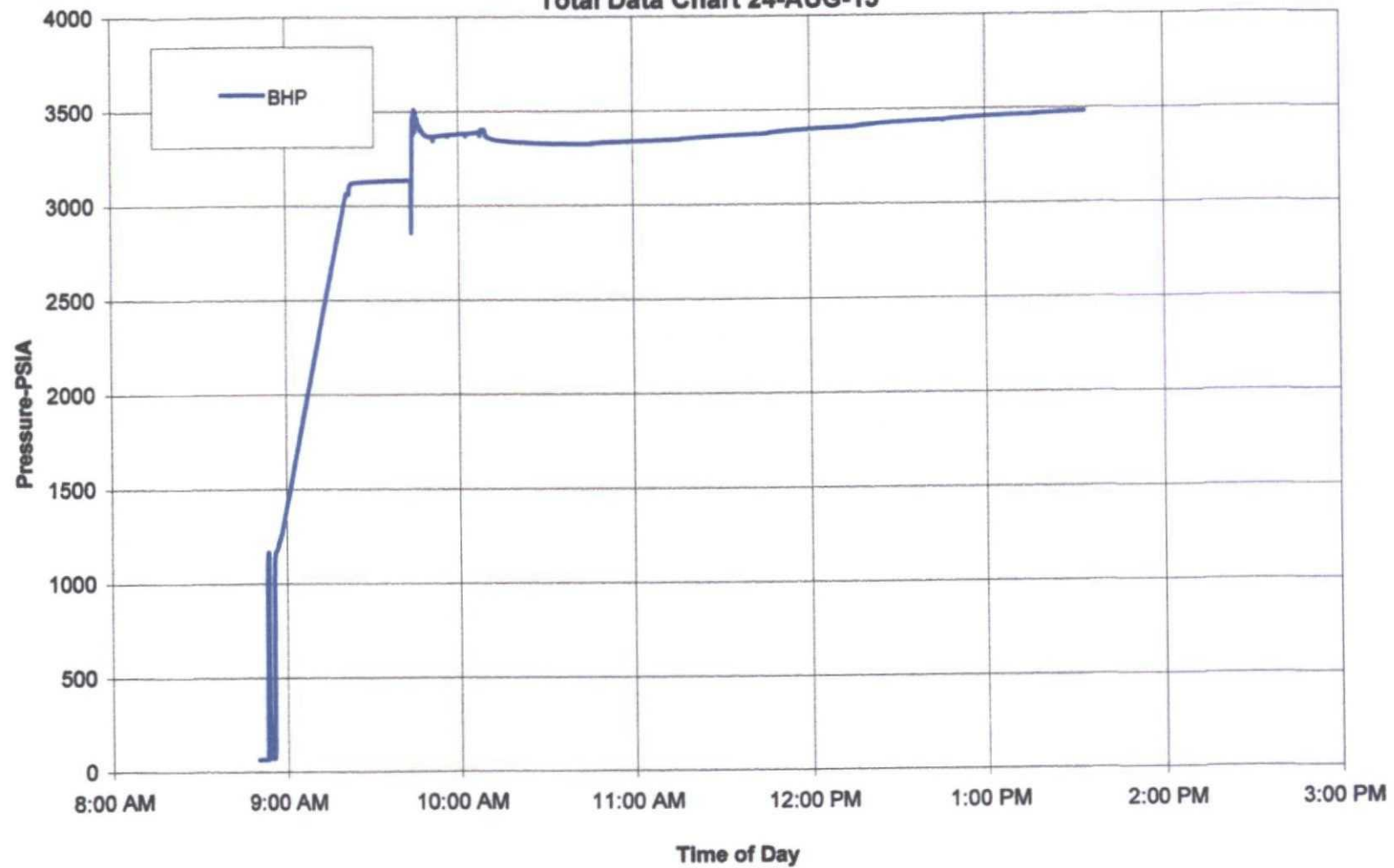


Ray Westall Operating Company  
Porter House No. 1 SWD  
Step Rate Chart 24-Aug-15





Ray Westall Operating, Company  
Porter House No. 1 SWD  
Total Data Chart 24-AUG-15





# WELL SCHEMATIC - PROPOSED Porterhouse State Com Well No.1 SWD

API 30-015-32682

660' FNL & 660' FEL, SEC. 32-T18S-R31E  
EDDY COUNTY, NEW MEXICO

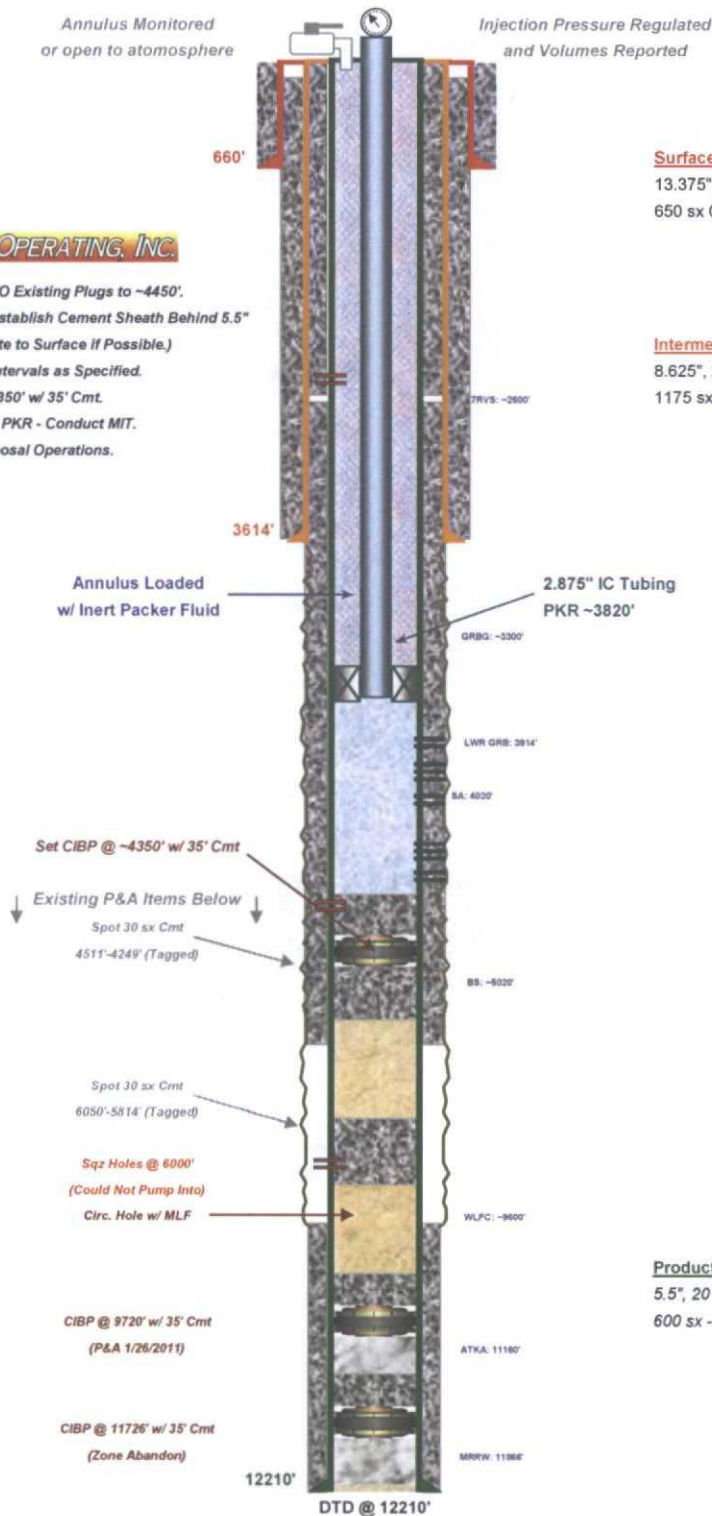
Spud Date: 3/29/2003

P&A Date: 1/28/2011

Re-Entry Date: ~3/01/2014

## RAY WESTALL OPERATING, INC.

Convert to SWD: D/O & C/O Existing Plugs to ~4450'.  
Perf & Sqz as Necessary to Establish Cement Sheath Behind 5.5"  
(Minimum 3400' - Circulate to Surface if Possible.)  
Perforate Disposal Intervals as Specified.  
Set CIBP @ ~4350' w/ 35' Cmt.  
Run PC Tubing and PKR - Conduct MIT.  
Commence Disposal Operations.



### Surface Casing

13.375", 54.5# Csg. (17.5" Hole) @ 660'  
650 sx CIs 'C' - 100 sx - Circulated to Surface

### Intermediate Casing

8.625", 26.0# csg. (11.0" Hole) @ 3614'  
1175 sx Calc. to Circ - Not Rpt'd

### Production Casing

5.5", 20 & 17.0# Csg (7.785" hole) @ 12210'  
600 sx - TOC @ 9034' by Calc.



Drawn by: Ben Stone, 12/29/2013



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

Oil Conservation Division

February 12, 2007

Division Order No. IPI-279

Judah Oil, LLC  
P.O. Box 568  
Artesia, New Mexico 88211-0568

Attn: Mr. James B. Campanella

**RE: Injection Pressure Increase  
Oxy T-Bone Federal Well No. 1  
Eddy County, New Mexico**

*IPI 253 (Surface well) = 1400 PSI*

Dear Mr. Campanella:

Reference is made to your request dated January 19, 2007, to increase the surface injection pressure on the Oxy T-Bone Federal Well No. 1. This request is based on a step rate injection test that was conducted on the well on November 10, 2005. The step rate test data shows that approval of the request will not result in the fracturing of the injection formation and confining strata.

You are therefore authorized to increase the surface injection pressure on the following well:

Well Name & Number	Maximum Surface Injection Pressure
Oxy T-Bone Federal Well No. 1 API No. 30-015-32122 Unit C, Section 33, Township 18 South, Range 31 East, Eddy County, New Mexico	1750 PSIG

*Perf*  
*3198 - 7*  
*4275*  
*SWD-950*  
*3980 -*  
*4315*

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected fluid is not being confined to the injection zone or is endangering any fresh water aquifers.

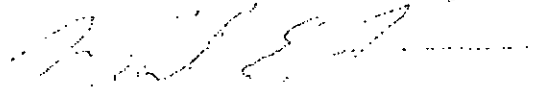
*SWD-950 → GRAYBUNG - S A Fm*  
*Perf 3 980-4310*



*Administrative Order IPI-279*  
*Judah Oil, LLC*  
*February 12, 2007*  
*Page 2*

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Sincerely,

A handwritten signature in dark ink, appearing to read 'Mark E. Fesmire', is written over a dotted line.

Mark E. Fesmire, P.E.  
Director

cc: Oil Conservation Division - Artesia  
File: SWD-950

State of New Mexico  
Energy, Minerals and Natural Resources Department

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Susana Martinez  
Governor

David Martin  
Cabinet Secretary

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

David R. Catanach, Division Director  
Oil Conservation Division



Administrative Order SWD-1479-B  
May 2, 2015

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, Ray Westall Operating, Incorporated (the "operator") seeks re-instatement of the original administrative order to re-enter and recomplete its Porterhouse State Com. Well No. 1 with a location of 660 feet from the North line and 660 feet from the East line, Unit letter A of Section 32, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, for commercial disposal of produced water.

The applicant, Ray Westall Operating, Inc., requested the re-instatement of the injection interval (lower Grayburg and San Andres formations) approved in Administrative Order SWD-1479. This Order supersedes Administrative Order SWD-1479-A, issued on August 11, 2014, for disposal into the Devonian formation; therefore, Administrative Order SWD-1479-A is cancelled.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of 19.15.26.8B, NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Ray Westall Operating, Inc. (OGRID 119305), is hereby authorized to utilize its Porterhouse State Com. Well No. 1 (API 30-015-32682) with a location of 660 feet from the North line and 660 feet from the East line, Unit letter A of Section 32, Township 18 South, Range 31 East, NMPM, Eddy County, for commercial disposal of oil field produced water (UIC Class II only) through perforations into the lower Grayburg and San Andres formations from 3914 feet to 4250 feet. Injection will occur through internally-coated, 2 7/8-inch or smaller tubing and a packer set within 100 feet of the top perforation of the approved disposal interval.

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the

surface. This includes the well construction proposed and described in the application.

*If the operator is unable to successfully squeeze cement the annulus of the 5½-inch casing to surface, the operator shall provide, prior to commencing injection, a radial cement bond log (or equivalent) presenting that the final top of cement is at or above the minimum depth of 3400 feet. The operator shall supply both the Division's District II office and Santa Fe Bureau office with a copy of the log.*

*The operator shall run an initial injection survey (tracer/temperature or equivalent) of the injection interval within two (2) years after commencing disposal into this well. The operator will supply both the Division's District II office and Santa Fe Bureau office with a copy of each survey log.*

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The maximum surface injection pressure on the well shall be limited to **no more than 783 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's District II office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District II office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District II office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



DAVID R. CATANACH  
Director

DRC/prg

cc: Oil Conservation Division – Artesia District Office  
State Land Office – Oil, Gas and Minerals Division