

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION  
- Engineering Bureau -

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



Mack Energy

RECEIVED 2010 MAR 22 PM 1:23 Shad Raf SWD #7

**ADMINISTRATIVE APPLICATION CHECKLIST**

30-015-34415

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.

Jerry W. Sherrell	<i>Jerry W. Sherrell</i>	Production Clerk	3-18-2010
Print or Type Name	Signature	Title	Date

jerrys@mackenergycorp.com  
e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance X \_\_\_\_\_ Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? X \_\_\_\_\_ Yes \_\_\_\_\_ No

II OPERATOR: Mack Energy Corporation

ADDRESS: P.O. Box 960 Artesia, NM 88211-0960

CONTACT PARTY: Jerry W. Sherrell PHONE: (575)748-1288

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 X \_\_\_\_\_ No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

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 freshwater from two or more freshwater 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: Jerry W. Sherrell TITLE: Production Clerk

SIGNATURE: Jerry W. Sherrell DATE: 3-18-2010

\* 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: \_\_\_\_\_

OPERATOR: Mack Energy Corporation

WELL NAME & NUMBER: Shad Rap SWD #1

WELL LOCATION: 1310 FSL & 800 FWL

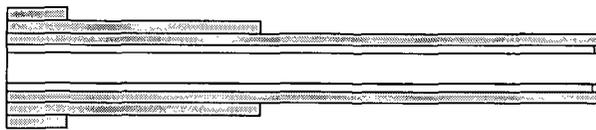
M 24 20S 25E  
UNIT LETTER SECTION TOWNSHIP RANGE

FOOTAGE LOCATION

WELL CONSTRUCTION DATA  
Surface Casing

WELLBORE SCHEMATIC

Shad Rap SWD #1  
Sec. 24 T20S R25E  
1310' FSL 800' FWL



13 3/8" casing @ 392'; cem w/400sx; circ

8 5/8" casing @ 2375'; cem w/1050sx; circ

5 1/2" casing @ 11,930'; cem w/ 1825sx; circ

Hole Size: 17 1/2 Casing Size: 13 3/8 @ 392'

Cemented with: 400sx or \_\_\_\_\_ ft

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Cemented with: 1050sx or \_\_\_\_\_ ft

Top of Cement: Surface Method Determined: Circulated

Production Casing

Hole Size: 7 7/8 Casing Size: 5 1/2 @ 11,930'

Cemented with: 1825sx or \_\_\_\_\_ ft

Top of Cement: Surface Method Determined: Circulated

Total Depth: 11,930'

Injection Interval  
10,805' 11,530'  
11,530' feet to 11,730'

TD @ 11,930'

Packer @ 10,705'

Perfs @ 10,805-11,503'  
Perfs @ 11,530-11,730'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: Plastic Coated

Type of Packer: Arrow Set 10K Nickel Plated Packer

Packer Setting Depth: 10,705'

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

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

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

2. Name of the Injection Formation: Devonian & Montoya

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. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Overlying- Woodford 10,780' Underlying- Simpson 11,730'

DATE: \_\_\_\_\_



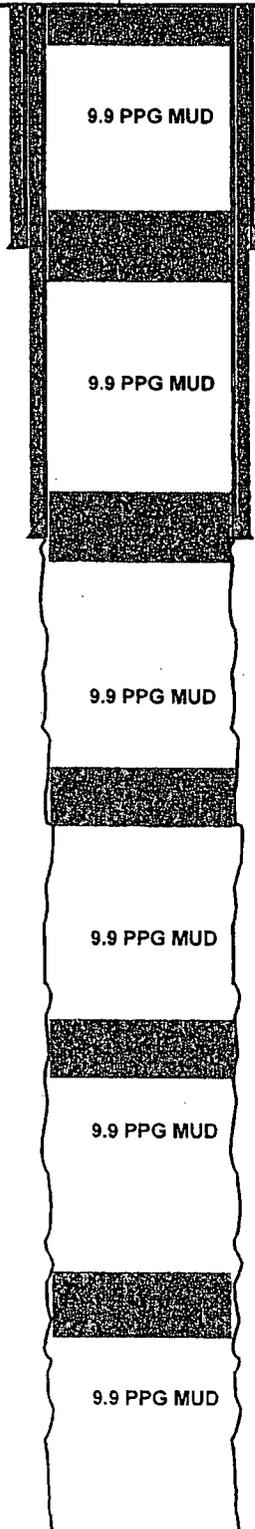
**DEVON ENERGY PRODUCTION COMPANY LP**

Well Name: WILLOW DRAW 24 FED #1		Field: BUBBLING SPRINGS WEST	
Location: 1310 FSL & 800' FWL; SEC 24-205-25E		County: EDDY	State: NM
Elevation: 3506' KB; 3483' GL		Spud Date: 12/22/05	Compl Date: P&A 1/24/06
API#: 30-015-34415	Prepared by: Ronnie Slack	Date: 1/24/06	Rev:

**WELL PLUGGED & ABANDONED 1/24/06**  
 Cement plugs witnessed by Bill Clark w/BLM  
 Dry Hole Marker set 1/24/06

17-1/2" hole  
13-3/8", 48#, H4O, ST&C, @ 392'  
 Cmt'd w/400 sx to surf

12-1/4" hole  
8-5/8", 32#, J55, LT&C, @ 2375'  
 Cmt'd w/1050 sx to surf



25 SX CL C Surface plug 0 - 60'

30 SX CL C Cement Plug @ 340' - 440'

*from ocd files*

Tagged cement @ 2281'  
 50 SX CL C Cement Plug @ 2325' - 2425'

55 SX Cl C Cement Plug @ 4800' - 4950'

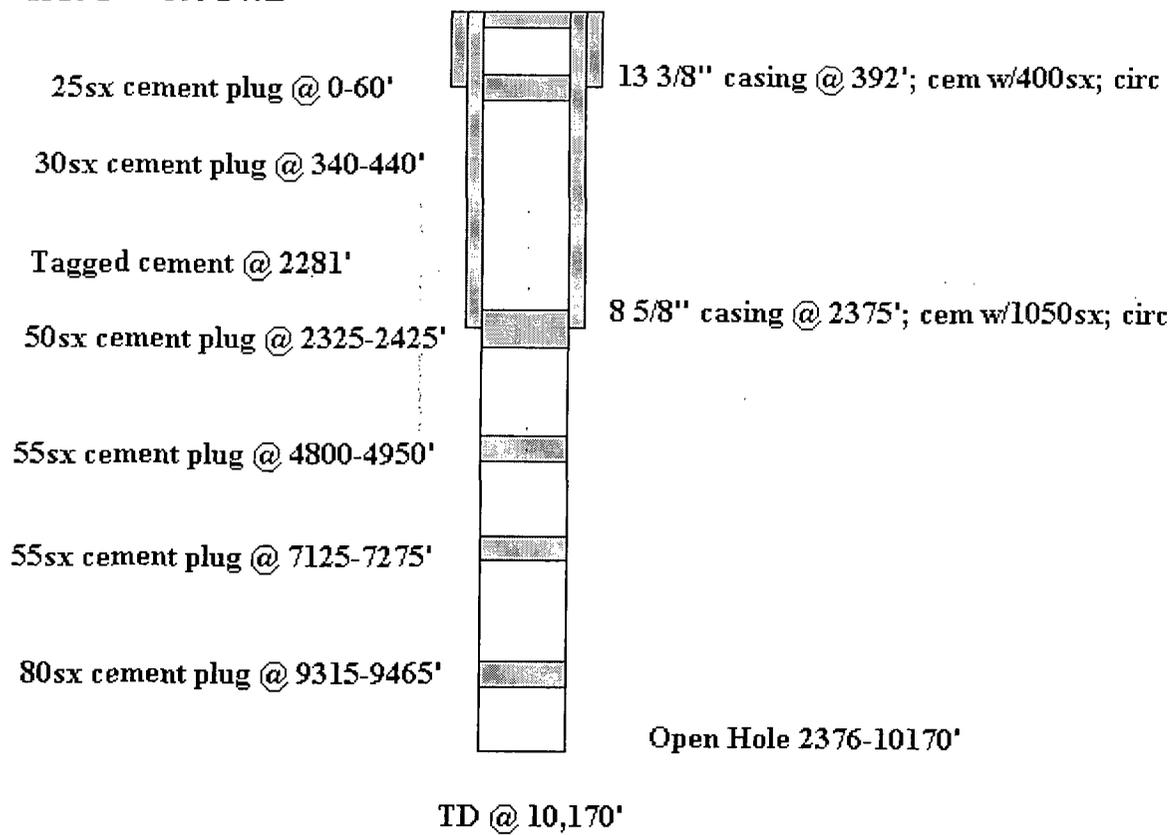
55 SX CL H Cement Plug @ 7125' - 7275'

80 SX CL H Cement Plug @ 9315' - 9465'

Open hole from 2376' to 10170'

TD @ 10170'

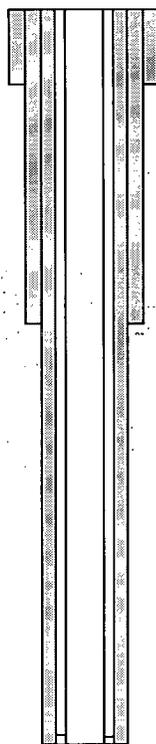
Shad Rap SWD #1  
Sec. 24 T20S R25E  
1310 FSL 800 FWL



Shad Rap SWD #1  
Sec. 24 T20S R25E  
1310' FSL 800' FWL

2 7/8" TUBING

Packer @ 10,705'  
Perfs @ 10,805-11,503'  
Perfs @ 11,530-11,730'



13 3/8" casing @ 392'; cem w/400sx; circ

8 5/8" casing @ 2375'; cem w/1050sx; circ

5 1/2" casing @ 11,930'; cem w/ 1825sx; circ

TD @ 11,930'



## VII. DATA SHEET: PROPOSED OPERATIONS

1. Proposed average and maximum daily rate and volume of fluids to be injected;  
**Average 1000/Maximum 4000 BWPD**
2. The system is closed or open;  
**Closed**
3. Proposed average and maximum injection pressure;  
**0-2010#**
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than re-injected produced water;  
**We will be re-injecting produced water**
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;  
**N/A**

## VIII. GEOLOGICAL DATA

### Devonian

1. Lithologic Detail; **Dolomite**
2. Geological Name; **Devonian**
3. Thickness; **725'**
4. Depth; **10,805-11,530'**

### Montoya

5. Lithologic Detail; **Dolomite**
6. Geological Name; **Montoya**
7. Thickness; **200'**
8. Depth; **11,530-11,730'**

## IX. PROPOSED STIMULATION PROGRAM

1. To be treated with 10,000 gallons 15% acid

## X. LOGS AND TEST DATA

1. Well data will be filed with OCD.

## XI. ANALYSIS OF FRESHWATER WELLS

1. Pending

Additional Information  
Waters Injected: San Andres

Shad Rap SWD #1  
1310 FSL & 800 FWL, Sec. 24 T20S R25E  
Formation Tops

	<u>Surface</u>	
<u>Quaternary</u>	404'	
Queen	1095'	
San Andres	2946'	
Glorieta	3780'	
Bone Spring	7216'	
Wolfcamp	7938'	
Cisco	8362'	
Canyon	8577'	
Strawn	9270'	
Atoka	9596'	
Morrow	9969'	
Barnett	10,780'	
Woodford	10,805'	
Devonian	11,530'	
Montoya	11,730'	
Simpson		

Legal Notice

Mack Energy Corporation, Post Office Box 960, Artesia, NM 88211-0960, has filed an Application with the New Mexico Oil Conservation Division seeking authorization to inject produced water into the Shad Rap SWD #1 1310 FSL & 800 FWL of Section 24, T20S R25E, NMPM, Eddy County, New Mexico. The water will be injected into the Devonian and Montoya formation at a disposal depth of 10,805-11,530' and 11,530-11,730'. Water will be injected at a maximum surface pressure of 2010 pounds and a maximum injection rate of 4000 BWPD. Any interested party with questions or comments may contact Jerry W. Sherrell at Mack Energy Corporation, Post Office Box 960, Artesia, New Mexico 88211-0960 or call (575) 748-1288. Objections to this application or requests for hearing must be filed with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, within fifteen days of the date of the publication of this notice.

**Leasehold/Working Interest Owners:**

**Surface:**

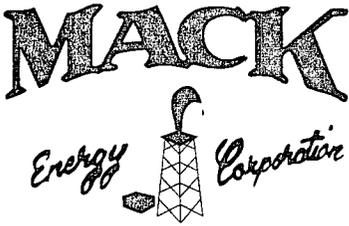
Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene Street  
Carlsbad, NM 88220-6292

**Operators:**

Chase Oil Corporation

Chesapeake Exploration LP  
P.O. Box 18496  
Oklahoma City, OK 73154

Wise Oil & Gas No. 4 Ltd  
6851 NE Loop 820 #110  
North Richland Hills, TX 76180



Post Office Box 960  
Artesia, NM 88211-0960  
Office (575) 748-1288  
Fax (575) 746-9539

March 18, 2010

**VIA CERTIFIED MAIL 7009 2820 0003 6387 5987**  
**RETURN RECEIPT REQUESTED**

Wise Oil & Gas No. 4 Ltd  
6851 NE Loop 820 #110  
North Richland Hills, TX 76180

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian & Montoya SWD well. Produced water will be injected at a proposed depth of 10,805-11,530' and 11,530-11,730'. The Shad Rap SWD #1, located 1310 FSL & 800 FWL, Sec. 24, T24S R25E, Eddy County.

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to drill this water disposal well. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen (15) days of receiving this letter.

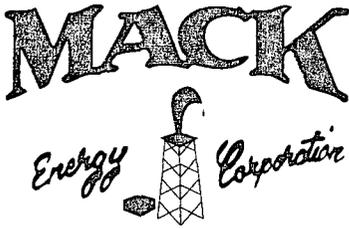
Sincerely,

MACK ENERGY CORPORATION

A handwritten signature in cursive script that reads "Jerry W. Sherrell".

Jerry W. Sherrell  
Production Clerk

JWSldw



Post Office Box 960  
Artesia, NM 88211-0960  
Office (575) 748-1288  
Fax (575) 746-9539

March 18, 2010

**VIA CERTIFIED MAIL 7009 2820 0003 6387 5970**  
**RETURN RECEIPT REQUESTED**

Chesapeake Exploration LP  
P.O. Box 18496  
Oklahoma City, OK 73154

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian & Montoya SWD well. Produced water will be injected at a proposed depth of 10,805-11,530' and 11,530-11,730'. The Shad Rap SWD #1, located 1310 FSL & 800 FWL, Sec. 24, T24S R25E, Eddy County.

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to drill this water disposal well. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen (15) days of receiving this letter.

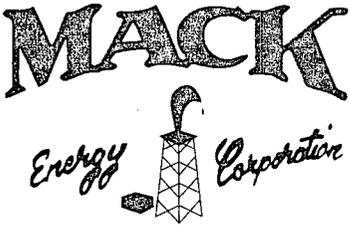
Sincerely,

MACK ENERGY CORPORATION

A handwritten signature in cursive script that reads "Jerry W. Sherrell".

Jerry W. Sherrell  
Production Clerk

JWS\dw



Post Office Box 960  
Artesia, NM 88211-0960  
Office (575) 748-1288  
Fax (575) 746-9539

March 18, 2010

**VIA CERTIFIED MAIL 7009 2820 0003 6387 5963**  
**RETURN RECEIPT REQUESTED**

Bureau of Land Management  
620 E Greene Street  
Carlsbad, NM 88220-6292

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian & Montoya SWD well. Produced water will be injected at a proposed depth of 10,805-11,530' and 11,530-11,730'. The Shad Rap SWD #1, located 1310 FSL & 800 FWL, Sec. 24, T24S R25E, Eddy County.

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to drill this water disposal well. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen (15) days of receiving this letter.

Sincerely,

MACK ENERGY CORPORATION

A handwritten signature in cursive script that reads "Jerry W. Sherrell".

Jerry W. Sherrell  
Production Clerk

JWS\dw

## XII. AFFIRMATIVE STATEMENT

RE: Shad Rap SWD #1

We have examined the available geologic and engineering data and find no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water.

Mack Energy Corporation

Date: 3/18/10

  
\_\_\_\_\_  
Charles Sadler, Geologist

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg SI	Csg. Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg SI	Csg. Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	

(See instructions and spaces for additional data on reverse side)

Disposition of Gas (Sold, used for fuel, vented, etc.)

Sold

Summary of Porous Zones (Include Aquifers):

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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				Queen	358'
				Grayburg	546'
				San Andres	771'
				BSPG Lm	3755'
				2nd BSPG Lm	4843'
				3rd BSPG Lm	5572'
				3rd BSPG Sn	6750'
				Wolfcamp	7140'
				Cisco	7938'
				Strawn	8434'
				Atoka	8860'
				Morrow Clastics	9738'
				Lower Morrow	9931'
				Barnett	10023'

Additional remarks (include plugging procedure):

Drilling & Plugging Summary: 12/14/06 - 01/24/06

12/14/06 MIRU. Rig move witnessed by BLM (Jerry Blakley).  
 12/21/06 BLM Notified of intent to spud.  
 12/23/06 TD 17 1/2" hole @ 392'. Ran in 9 jts 13 3/8", 48#, H-40 ST&C csg & set @ 392'. Cmt lead w/200 sx 35/65 Poz C, tail w/200 sx CI "C". Circ 108 sx to res pit. WOC 18 hrs.  
 12/29/05 TD 12 1/4" hole @ 2375'. Ran in w/53 jts 8 5/8" 32# J-55 LT&C csg @ 2375'. Cmt 1st stage w/750 sx 35/65 Class C, tail w/300 sx 60/40 Class C. Circ 122 sx to res pit. WOC 18 hrs.  
 12/31/06 Tst csg to 1200# - ok. BOP test witnessed by BLM (Paul Swartz).  
 01/20/06 TD 7 7/8" hole @ 10,170'. No shows.  
 01/21/06 TIH open ended to set plugs. BLM notified of P&A. BLM engineer picked plug depths: 9315' - 9465'; 7125' - 7275'; 4800' - 4950'; 2325' - 2425'; 340' - 440'; 0' - 60'  
 1/23/06 Set plug @ 9315'-9465'; 80 sx Class H. Set plug @ 7125'-7275'; 55 sx Class H. Set plug @ 4800'-4950'; 55 sx Class C. Set plug @ 2325'-2425'; 50 sx Class C. TOH 5 stands & WOC. TIH & tag cmt @ 2281'. TOH laying dwn DP, set plug @ 340'-440'; 30 sx Class C. Set surface plug 0'-60'; 25 sx Class C. Circ 8 sx to surface. Rig dwn PU/LD machine. ND BOP. All plugs witnessed by Bill Clark w/BLM.  
 01/24/06 Finish ND BOP, cut off section, weld plate over csg. Install dry hole mrkr. Jet & clean pits. Rig rtsd.

See attached wellbore skematic.

Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7. Other

I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)\*

Name (Please print) Stephanie A. Ysasaga Title Sr. Staff Engineering Technician

Signature [Signature] Date 2/9/2006

18 U.S.C Section 1007 and Title 45 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false,

## Jones, William V., EMNRD

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**From:** Roger\_Hall@blm.gov  
**Sent:** Monday, April 26, 2010 1:45 PM  
**To:** Jones, William V., EMNRD  
**Cc:** Wesley\_Ingram@blm.gov  
**Subject:** Fw: Disposal application from Mack Energy Corp: Shad Rap SWD #1 30-015-34415 Devonian and Montoya  
**Attachments:** SWD Appl- Mack Energy - Shad Rap SWD #1 032910.docx

Hi Will,

Wesley forwarded this email to me. The BLM does not object to this well being reentered/deepened and used for injection purposes. I'm attaching my comments on this well. They have sent the BLM an APD for this well. I can answer part of part d. for you. All of Section 24 except for the SE/4 is leased by Chase (NMNM113395). Most of Section 25 and the SE/4 of Sec 24 are leased by Wise (NMNM97111). All of Section 23 and most of Sec 28 (except the SW/4) are leased by Chesapeake (NMNM108452). I don't know about Section 13 as it is Fee land. If you have any other questions don't hesitate to call or email.

---

----- Forwarded by Wesley W Ingram/CFO/NM/BLM/DOI on 04/26/2010 11:10 AM -----

"Jones, William V., EMNRD"  
<William.V.Jones@state.nm.us>

To <jerrys@mec.com>, <jerrys@mackenergycorp.com>

cc "Ezeanyim, Richard, EMNRD" <richard.ezeanyim@state.nm.us>,  
<Wesley\_Ingram@blm.gov>, "Reeves, Jacqueta, EMNRD"  
<Jacqueta.Reeves@state.nm.us>

04/26/2010 09:21 AM

Subject Disposal application from Mack Energy Corp: Shad Rap SWD #1 30-015-34415  
Devonian and Montoya

Hello Jerry:

Looks like you plan to re-enter a relatively new, plugged Morrow test drilled by Devon in 2005 and deepen it for SWD purposes. The well is located NW of Carlsbad, and NW of the Reef, with 7 Rivers formation on the surface.

- a. How will you folks test these new intervals for productivity before installing disposal equipment? Is there any Devonian/Montoya structures near here?
- b. When will you send info/analysis on local fresh water?
- c. Did the BLM get a complete C-108 application? Do you have any comments from them?
- d. This area was a Morrow play for a while but there may have been a depth severance.... Do the parties you noticed control mineral interests in the Devonian/Montoya? Can you tell which acreage around this well is controlled by Chase and which by Wise Oil and Chesapeake – breakdown where these folks own the minerals. Is there any unleased acreage in the AOR?

Otherwise this looks OK.

William V. Jones PE  
New Mexico Oil Conservation Division  
1220 South St. Francis  
Santa Fe, NM 87505  
505-476-3448

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

March 29, 2010

RE : Class II SWD injection well application for Mack Energy Company, the Shad Rap SWD #1, 1310' FSL & 800' FWL (Ut M) Section 24-20S-25E, Eddy County, New Mexico. This is the former Willow Draw 24 Fed #1 that was drilled to 10170 ft, then plugged & abandoned (P&A) on 1/24/2006. It will be reentered and deepened to 11,930' and perforated in the Devonian & Montoya from approximately 10805-11730'. The well has existing 13-3/8" surface casing set at 392 ft with cement circulated to surface and 8-5/8" intermediate set at 2375 ft with cement circulated to surface. The injection / long string casing will be 5-1/2" with cement circulated to surface, with 2-7/8" plastic lined tubing with a nickel plated Arrow packer set at approximately 10705 ft (100 ft above the injection zone). The source of the disposal water will be wells in the area operated by Mack Energy, with the produced water coming from the San Andres zone. The produced water will be injected at a maximum injection pressure of 2010 psi ( 0.19 psi/ft ), with an average of zero / vacuum and a maximum rate of 4,000 BWPD, average 1,000 BWPD.

Comments: From an engineering standpoint the well will be structurally sound with 3 casing strings; all being cemented to surface. The injection zones are approximately 900 ft below the Morrow, the predominant production zone in the area and will have approximately 25 ft of Woodford Shale overlying them for confinement. There are no producing wells or P&A wells in the ½ mile or 1 mile area of review (AOR) that penetrate the injection zone. There are four P&A wells within the ½ mile AOR and four just outside the 1 mile AOR (most of these were Morrow producers); also 1 Morrow production well and one that has not been drilled yet.

## Jones, William V., EMNRD

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**From:** Deana Weaver [dweaver@mec.com]  
**Sent:** Monday, April 26, 2010 10:58 AM  
**To:** Jones, William V., EMNRD  
**Cc:** Jerry Sherrell  
**Subject:** FW: Disposal application from Mack Energy Corp: Shad Rap SWD #1 30-015-34415 Devonian and Montoya

Will

Below are the answers to your questions. Please let me know if you need anything else.

Thank you

Deana Weaver

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**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]  
**Sent:** Monday, April 26, 2010 9:22 AM  
**To:** Jerry Sherrell; Jerry Sherrell  
**Cc:** Ezeanyim, Richard, EMNRD; Wesley\_Ingram@blm.gov; Reeves, Jacqueta, EMNRD  
**Subject:** Disposal application from Mack Energy Corp: Shad Rap SWD #1 30-015-34415 Devonian and Montoya

Hello Jerry:

Looks like you plan to re-enter a relatively new, plugged Morrow test drilled by Devon in 2005 and deepen it for SWD purposes. The well is located NW of Carlsbad, and NW of the Reef, with 7 Rivers formation on the surface.

- a. How will you folks test these new intervals for productivity before installing disposal equipment? Is there any Devonian/Montoya structures near here?  
we will run mudlogs and electrical logs. Based on well control, there is no evidence of a Devonian/Montoya structure near our proposed SWD.
- b. When will you send info/analysis on local fresh water?  
Still waiting on report, as soon as we receive it I will forward it to you.
- c. Did the BLM get a complete C-108 application? Do you have any comments from them?  
Yes C-108 application was sent and no comments were made
- d. This area was a Morrow play for a while but there may have been a depth severance.... Do the parties you noticed control mineral interests in the Devonian/Montoya? Can you tell which acreage around this well is controlled by Chase and which by Wise Oil and Chesapeake – breakdown where these folks own the minerals. Is there any unleased acreage in the AOR?

T20S, R25E

23:	E/2:	Chesapeake Exploration LP, PO Box 18496, OKC OK 73154
24:	SE/4:	Wise Oil & Gas No. 4 Ltd., 6851 NE Loop 820, #110, North Richland Hills TX 76180
25:	N/2N/2:	Wise Oil & Gas No. 4 Ltd.
26:	NE/4:	Chesapeake Exploration LP

N/2 and SW/4 of 24 is Chase Oil Corporation.

Ownership in each tract is for all depths.

Surface appears to be federal.

Otherwise this looks OK.

William V. Jones PE  
New Mexico Oil Conservation Division  
1220 South St. Francis  
Santa Fe, NM 87505  
505-476-3448

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## Jones, William V., EMNRD

---

**From:** Jones, William V., EMNRD  
**Sent:** Monday, April 26, 2010 9:22 AM  
**To:** 'jerrys@mec.com'; 'jerrys@mackenergycorp.com'  
**Cc:** Ezeanyim, Richard, EMNRD; 'Wesley\_Ingram@blm.gov'; Reeves, Jacqueta, EMNRD  
**Subject:** Disposal application from Mack Energy Corp: Shad Rap SWD #1 30-015-34415 Devonian and Montoya

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Otherwise this looks OK.

William V. Jones PE  
New Mexico Oil Conservation Division  
1220 South St. Francis  
Santa Fe, NM 87505  
505-476-3448

Tracking:

**Recipient**

'jerrys@mec.com'

'jerrys@mackenergycorp.com'

Ezeanyim, Richard, EMNRD

'Wesley\_Ingram@blm.gov'

Reeves, Jacqueta, EMNRD

**Read**

Read: 4/26/2010 9:28 AM

Injection Permit Checklist (03/15/2010)

Case 129 R- SWD WFX PMX IPI Permit Date 4/26/10 UIC Qtr (A)(M)(A)

# Wells 1 Well Name: SHAD RAP SWD #1

API Num: (30-) 015-34415 Spud Date 12/22/05 New/Old: N (UIC primacy March 7, 1982)

Footages 1310 FSL/800 FWL Unit M Sec 24 Tsp 20S Rge 25E County: EDDY

Operator: MACK ENERGY Corp. Contact: Jerry W. Sherrill

OGRID: 13837 RULE 5.9 Compliance (Wells) 0/351 (Finan Assur) IS 5.9 OK? OK

Operator Address: P.O. BOX 960 ARTESA, NM 88211-0960

Current Status: P&AED (Willow DRAW Fed #1)

Planned Work to Well: Re-order, Deepen Planned Tubing Size/Depth: 2 7/8 @ 10,705'

	Sizes Hole.....Pipe	Setting Depths	Cement Sx or Cf	Cement Top and Determination Method
Existing <input checked="" type="checkbox"/> Surface	17 1/2 13 3/8	392	400SX	CIRC
Existing <input checked="" type="checkbox"/> Intermediate	12 1/4 8 5/8	2375	1050 SX	CIRC
Existing <input checked="" type="checkbox"/> Long String	7 7/8 5 1/2	11930	1825 SX	CIRC

DV Tool Liner Open Hole Total Depth 11,930 Planned ID

Well File Reviewed Yes

Diagrams: Before Conversion  After Conversion  Elogs in Imaging File:  new will be filed

Intervals:	Depths	Formation	Producing (Yes/No)
Above (Name and Top)			
Above (Name and Top)	10780	MONROE	
Injection.....	10805-11530	DEV.	
Interval TOP:			
Injection.....	11530-11730	MONROE (RD)	
Interval BOTTOM:			
Below (Name and Top)	11730	SIMPSON (RD)	

GENERAL LOCATION  
NW of Carlsbad

2,161 PSI Max. WHIP  
Open Hole (Y/N)  
Deviated Hole?

Sensitive Areas: Capitan Reef Cliff House Salt Depths 7KRS on Surface

0-150' Potash Area (R-111-P) Pending Noticed?

Fresh Water: Depths 0-150' Wells Pending Analysis? Yes Affirmative Statement

Disposal Fluid Sources: San Andres Analysis?

Disposal Interval Production Potential/Testing/Analysis Analysis: ?

Notice: Newspaper(Y/N)  Surface Owner BCM Mineral Owner(s)

RULE 26.7(A) Affected Parties: Chaco Oil Co / Chaco Service Co

Area of Review: Adequate Map (Y/N)  and Well List (Y/N)

Active Wells 0 Num Repairs 0 Producing in Injection Interval in AOR 0

P&A Wells 0 Num Repairs 0 All Wellbore Diagrams Included? 0

Questions/Required Work:  
Notice?  
Stem Prod = ?  
Test method?

Request Sent      Reply:       
Request Sent      Reply:       
Request Sent      Reply:     

11 was in Down the well Test

18055  
21610  
3  
0