

ABOVE THIS LINE FOR DIVISION USE ONLY

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



MAK Energy
14 ans and 12 hrs
SHELD AND SWD #1

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 _____

RECEIVED
2008 MAR 17 PM 2 12

[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
Print or Type Name

Jerry W. Sherrell
Signature

Production Clerk
Title

3/14/08
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: (505)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.).

*VII. 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: 

DATE: 3/13/08

* 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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

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

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

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

OPERATOR: Mack Energy CorporationWELL NAME & NUMBER: Shetland SWD #1WELL LOCATION: 1980 FSL & 1980 FWL**K**

FOOTAGE LOCATION

UNIT LETTER

18

SECTION

18S

TOWNSHIP

35E

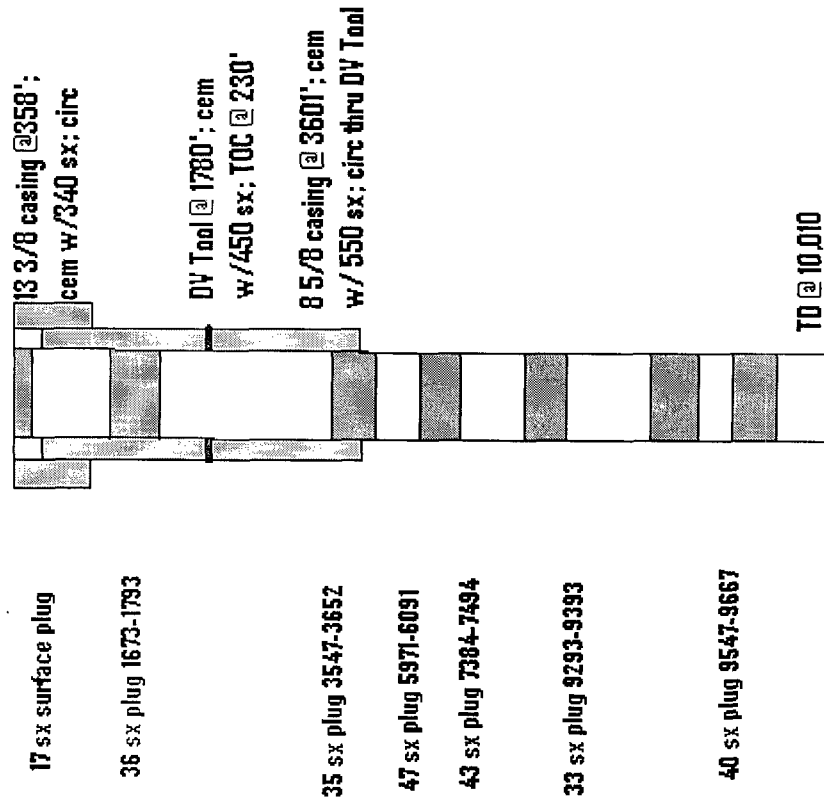
RANGE

WELL CONSTRUCTION DATASurface CasingWELLS Schematic

Shetland SWD #1

30-025-25991

Sec 18-T18S-R35E

Hole Size: 17 1/2Casing Size: 13 3/8 @ 358'Cemented with: 340 sx. or _____Top of Cement: SurfaceMethod Determined: CirculatedIntermediate CasingHole Size: 11Casing Size: 8 5/8 @ 3601'Cemented with: 1000 sx. or _____Top of Cement: 230'Method Determined: temp surveyProduction CasingHole Size: 7 7/8Casing Size: NoneCemented with: N/A sx. or _____Top of Cement: 0' P & A'd

Method Determined: _____

Total Depth: 10,010'Injection Interval9700feet to 11,050' perforated

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 2 7/8" Lining Material: Plastic CoatedType of Packer: Halliburton Trump PackerPacker Setting Depth: ~~8700~~

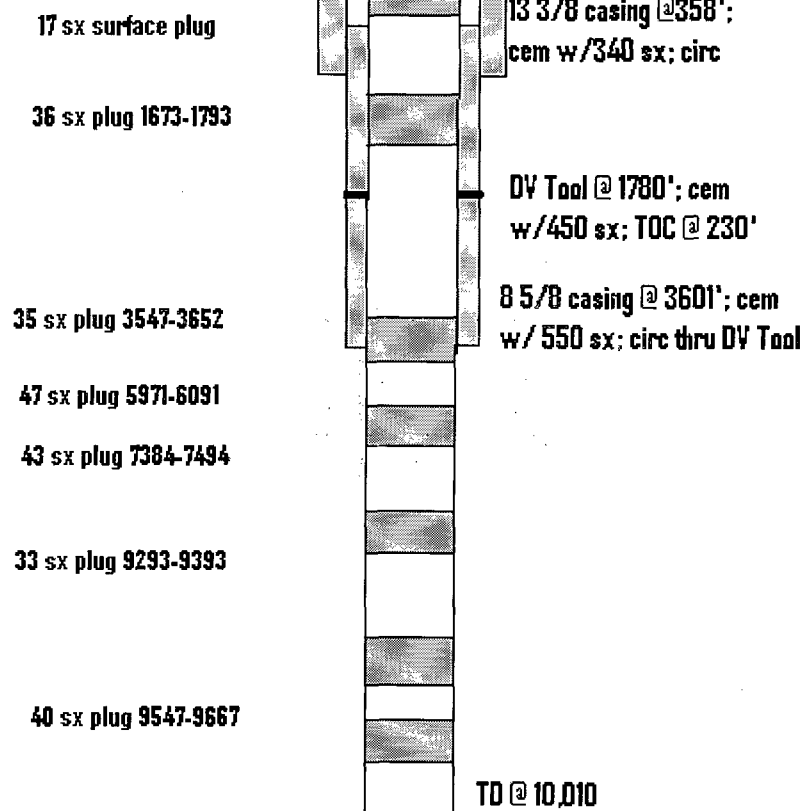
Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data1. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Abn2. Name of the Injection Formation: Wolfcamp3. Name of Field or Pool (if applicable): SWD; Wolfcamp4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. N/A5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Overlying-Bone Spring, Underlying-Pennsylvanian

Shetland SWD #1

30-025-25991

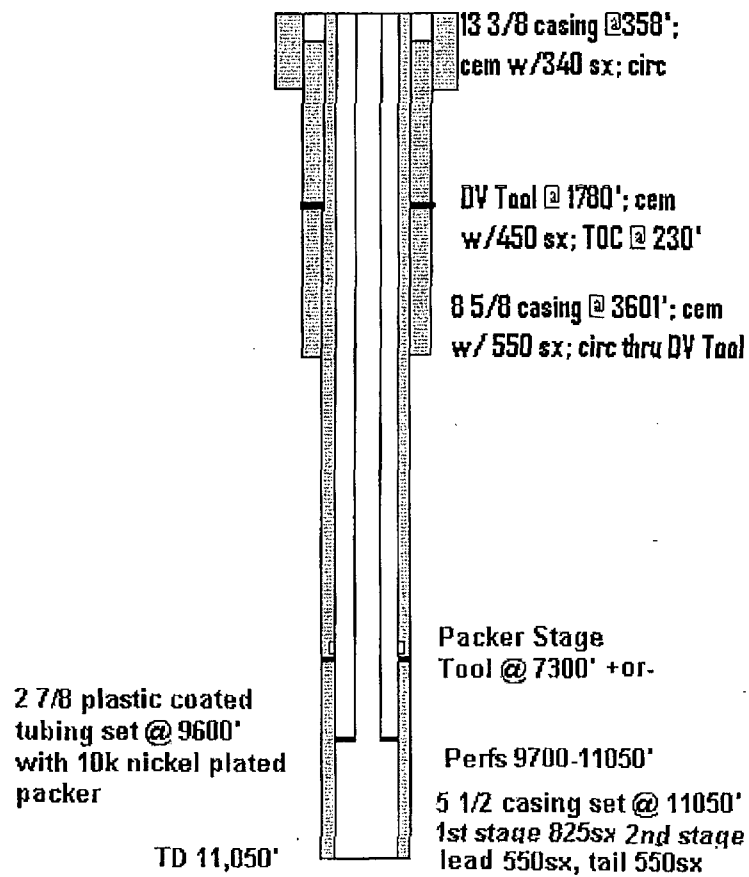
Sec 18-T18S-R35E



Shetland SWD #1

30-025-25991

Sec 18-T18S-R35E



VII. DATA SHEET: PROPOSED OPERATIONS

1. Proposed average and maximum daily rate and volume of fluids to be injected;
Respectively, 2000 BWPD and 4000 BWPD
2. The system is closed or open;
Closed
3. Proposed average and maximum injection pressure;
0-1940#
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

Wolfcamp

1. Lithologic Detail; **Carbonate**
2. Geological Name; **Wolfcamp**
3. Thickness; **1350'**
4. Depth; **9700-11050'**

IX. PROPOSED STIMULATION PROGRAM

1. To be treated with 10000 gallons 15% acid

X. LOGS AND TEST DATA

1. Well data has been previously filed with the OCD, new data will be filed with OCD.

XI. ANALYSIS OF FRESHWATER WELLS

1. Attached

Additional Information

Waters Injected: Bone Spring Blinbry, Yeso, Drinkard and San Andres

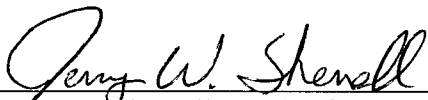
XII. AFFIRMATIVE STATEMENT

RE: Shetland 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: 3-14-08



Jerry W. Sherrell, Production Clerk

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 Shetland SWD #1 NE/4 of the SW/4 of Section 18 T18S R35E, NMPM, Lea County, New Mexico. The water will be injected into the Wolfcamp formation at a disposal depth of 9700 feet to 11,050 feet. Water will be injected at a maximum surface pressure of 1984 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.

AFFIDAVIT OF PUBLICATION

State of New Mexico.
County of Lea.

I, KATHI BEARDEN

PUBLISHER

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

of 1 weeks.

Beginning with the issue dated

March 18

2008

and ending with the issue dated

March 18

2008

Kathi Bearden

PUBLISHER

Sworn and subscribed to before

me this 18th day of

March

2008

Notary Public.

My Commission expires
February 07, 2009
(Seal)



OFFICIAL SEAL
DORA MONTZ
NOTARY PUBLIC
STATE OF NEW MEXICO

My Commission Expires: _____

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

LEGAL NOTICE

March 18, 2008

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 Shofield SWD #1 NE/4 of the SW/4 of Section 18 T18S R35E, NMPM, Lea County, New Mexico. The water will be injected into the Wolfcamp formation at a disposal depth of 9700 feet to 11,050 feet. Water will be injected at a maximum surface pressure of 1984 pounds and a maximum injection rate of 4000 BWPD. Any interested party with questions or comments may contact Jerry W. Shinnell 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.
#23919

67100900000

67549766

MACK ENERGY CORPORATION
PO BOX 960
ARTESIA, NM 88211-0960

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street Artesia, NM 88210-1404
District III
1000 Rio Brazos Rd, Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-101
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address Mack Energy Corporation P.O. Box 960 Artesia, NM 88211-0960		OGRID Number 013837
		API Number 30-025-25991
Property Code	Property Name Shetland SWD	Well No. 1

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	18	18S	35E		1980	South	1980	West	Lea

Proposed Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Proposed Pool 1 SWD;Wolfcamp					Proposed Pool 2				

Work Type Code E Multiple No	Well Type Code S Proposed Depth 11050	Cable/Rotary R Formation Wolfcamp	Lease Type Code S Contractor	Ground Level Elevation 3964 Spud Date 4/15/08
---------------------------------------	--	--	------------------------------------	--

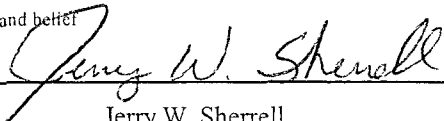
Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/4	13 3/8	48	358	340sx	Surface
11	8 5/8	32	3601	1000sx	230
7 7/8	5 1/2	17	11050	2300sx	Surface

Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Mack Energy Corporation proposes to Re-enter the Shetland SWD #1 to a depth of 11,050', run 5 1/2 casing and cement to surface. Perforate the Wolfcamp formation for a SWD well.

Well will be drilled using a closed loop system.

I hereby certify that the information given above is true and complete to the best of my knowledge and belief Signature 		OIL CONSERVATION DIVISION	
Printed name: Jerry W. Sherrell		Approval by:	
Title: Production Clerk		Title:	
Date: 3/14/08		Approval Date:	Expiration Date:
Phone: (575)748-1288		Conditions of Approval: Attached <input type="checkbox"/>	

District I

1625 N. French Dr., Hobbs, NM 88240

District II

811 South First, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
EnerRy, Minerals & Natural ResourcesOIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102

Revised March 17, 1999

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number 30-025-25991	'Pool Code 96135	'Pool Name SWD;Wolfcamp
'Property Code	'Property Name Shetland SWD	'Well Number 1
'OGRID No. 013837	'Operator Name Mack Energy Corporation	'Elevation 3964

H Surface Location

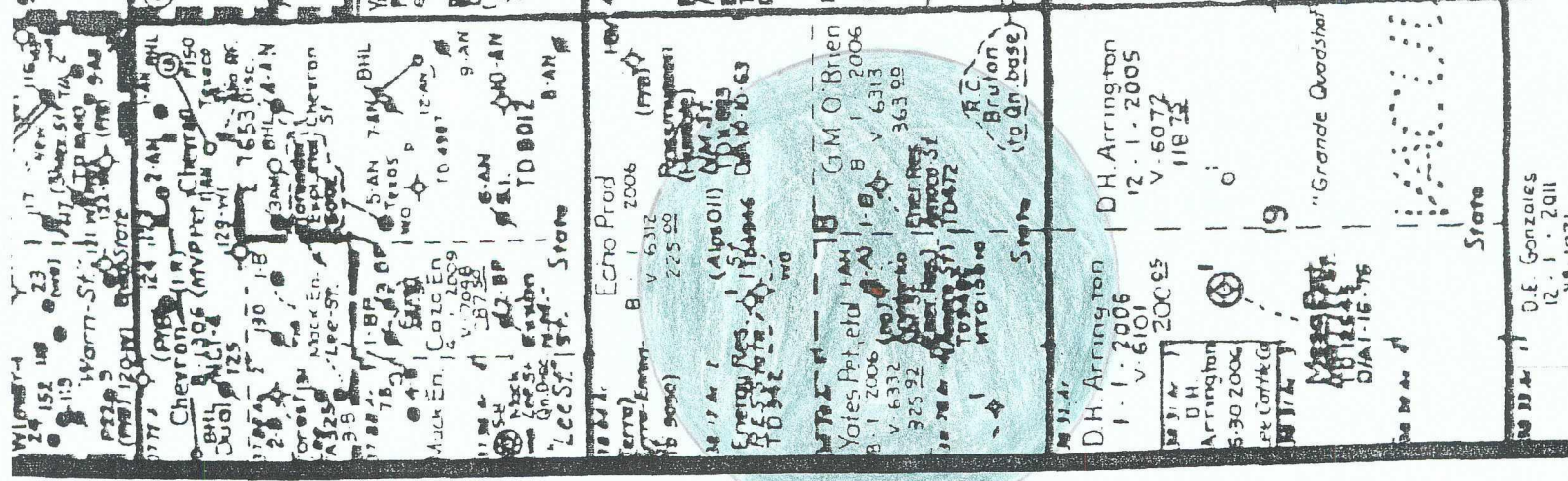
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	18	18S	35E		1980	South	1980	West	Lea

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
" Dedicated Acres 40	" joint or Infill	" Consolidation Code	" Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL XL INTERESTS HAVE BEEN CONSOLIDATED OR A
NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16					OPERATOR CERTIFICATION <i>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>	
					Signature <i>Jerry W. Sherrell</i> Printed Name Jerry W. Sherrell Title Production Clerk Date 3/14/08	
					"SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i>	
					Date of Survey Signature and Seal of Professional Surveyer.	
					Certificate Number	



AREA OF REVIEW WELL DATA

[illegible]

Jerry Sherrell

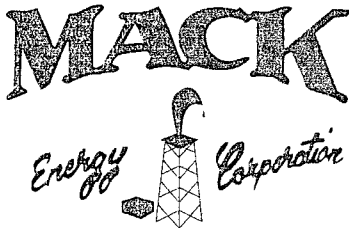
From: Ron Lanning
Sent: Wednesday, March 12, 2008 10:30 AM
To: Jerry Sherrell
Cc: Charles Sadler; Matt Brewer; Chris Lanning
Subject: Shetland SWD

E/2NE/4 13-18-34: Echo Production Inc., PO Box 1210, Graham, TX 76450 *ok ✓*
E/2SE/4 13-18-34, All 18-18-35: Chase Oil Corporation *ok*
N/2N/2 19-18-35: State of New Mexico (unleased), PO Box 1148, Santa Fe, NM *ok ✓*
87504

Surface: State of New Mexico *ok*
Grazing Lessee: Lee Cattle Company Limited Partnership *ok ✓*
HC 60, Box 465
Lovington, NM 88260

Ronald W. Lanning
Land Manager
Mack Energy Corporation
Chase Oil Corporation
Chase Farms LLC
575-748-1288 office
575-748-7374 fax
575-746-7608 cell

4/25/2008



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

March 14, 2008

VIA CERTIFIED MAIL 7006 0100 0002 8524 6317
RETURN RECEIPT REQUESTED

Lee Cattle Co.
176 Lee Ranch Road
Lovington, NM 88260
Attn.: Bill Lee

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Wolfcamp SWD well. Produced water will be injected at a proposed depth of 9700-11,050'. The Shetland SWD #1 located 1980 FSL & 1980 FWL, Sec. 18 T18S R35E, Lea County.

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to convert this well into a water disposal well. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at ~~PO Box 1148, Santa Fe, NM 87504~~ within fifteen (15) days of receiving this letter.

Sincerely,

MACK ENERGY CORPORATION

Jerry W. Sherrell
Production Clerk

JWS\dw



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

March 14, 2008

VIA CERTIFIED MAIL 7006 0100 0002 8524 6294
RETURN RECEIPT REQUESTED

Echo Production Inc.
PO Box 1210
Graham, TX 76450

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Wolfcamp SWD well. Produced water will be injected at a proposed depth of 9700-11,050'. The Shetland SWD #1 located 1980 FSL & 1980 FWL, Sec. 18 T18S R35E, Lea County.

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to convert this well into a water disposal well. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at PO Box 1148, Santa Fe, NM 87504 within fifteen (15) days of receiving this letter.

Sincerely,

MACK ENERGY CORPORATION

Jerry W. Sherrell
Production Clerk

JWS\dw



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

March 14, 2008

VIA CERTIFIED MAIL 7006 0100 0002 8524 6287
RETURN RECEIPT REQUESTED

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

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Wolfcamp SWD well. Produced water will be injected at a proposed depth of 9700-11,050'. The Shetland SWD #1 located 1980 FSL & 1980 FWL, Sec. 18 T18S R35E, Lea County.

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Sincerely,

MACK ENERGY CORPORATION

Jerry W. Sherrell
Production Clerk

JWS\dw



Water Analysis Report

Company:	Mack Energy Corporation	Sample #:	9502
Area:	Artesia	Analysis ID #:	738
Lease:	B LEE		
Location:	1		0
Sample Point:	Wellhead		

BLUEBRY

		Anions		mg/l	meq/l	Cations		mg/l	meq/l
Sampling Date:	2/13/08	Chloride:		95304.7	2688.2	Sodium:		56877.4	2474.03
Analysis Date:	2/14/08	Bicarbonate:		183.3	3.	Magnesium:		1137.0	93.53
Analyst:	Mitchell Labs	Carbonate:				Calcium:		3362.7	167.3
TDS (mg/l or g/m3):	158957	Sulfate:		2100.0	43.72	Strontium:			
Density (g/cm3):	1.111					Barium:			
						Iron:	1.5		0.05
Hydrogen Sulfide:	82					Manganese:	0.350		0.01
Carbon Dioxide:	22								
Comments:		pH at time of sampling:			7				
		pH at time of analysis:							
		pH used in Calculation:			7				
		Temperature @ lab conditions (F):			75	Conductivity (micro-ohms/cm):			198200
						Resistivity (ohm meter):			.0505

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp		Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount		
80	0.50	7.81	-0.18	0.00	-0.18	0.00	0.00	0.00	0.00	0.00	0.00	
100	0.55	9.61	-0.25	0.00	-0.18	0.00	0.00	0.00	0.00	0.00	0.00	
120	0.59	11.41	-0.31	0.00	-0.16	0.00	0.00	0.00	0.00	0.00	0.00	
140	0.62	13.52	-0.36	0.00	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	



Water Analysis Report

Company:	Mack Energy Corporation	Sample #:	9503
Area:	Artesia	Analysis ID #:	739
Lease:	B LEE		
Location:	7		0
Sample Point:	Wellhead		

BLUEBRY

		Anions		Cations	
		mg/l	meq/l	mg/l	meq/l
Sampling Date:	2/13/08	Chloride:	102813.0	Sodium:	61580.1
Analysis Date:	2/14/08	Bicarbonate:	537.7	Magnesium:	595.4
Analyst:	Mitchell Labs	Carbonate:		Calcium:	4381.8
TDS (mg/l or g/m3):	171709.5	Sulfate:	1800.0	Strontium:	
Density (g/cm3):	1.119			Barium:	
				Iron:	1.0
Hydrogen Sulfide:	61			Manganese:	0.510
Carbon Dioxide:	42				
Comments:		pH at time of sampling:	7		
		pH at time of analysis:			
		pH used in Calculation:	7		
		Temperature @ lab conditions (F):	75	Conductivity (micro-ohms/cm):	208100
				Resistivity (ohm meter):	.0481

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO ₃		Gypsum CaSO ₄ *2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
	°F	Index Amount	Index Amount	Index Amount	Index Amount	Index Amount	Index Amount	Index Amount		
80	1.10	56.97	-0.15	0.00	-0.14	0.00	0.00	0.00	0.00	0.00
100	1.14	62.31	-0.22	0.00	-0.14	0.00	0.00	0.00	0.00	0.00
120	1.16	67.65	-0.29	0.00	-0.13	0.00	0.00	0.00	0.00	0.00
140	1.19	73.59	-0.34	0.00	-0.09	0.00	0.00	0.00	0.00	0.00



Fresh water
well within
1 mile of the
Shetland SWD#1

Water Analysis Report

Company:	Mack Energy Corporation	Sample #:	10132
Area:	Artesia	Analysis ID #:	920
Lease:	National Well		
Location:	1 FW		0
Sample Point:	Wellhead		

Sampling Date:	4/29/08	Anions	mg/l	mcq/l	Cations	mg/l	meq/l
Analysis Date:	5/2/08	Chloride:	167.2	4.72	Sodium:	65.6	2.85
Analyst:	Mitchell	Bicarbonate:	146.6	2.4	Magnesium:	19.7	1.62
TDS (mg/l or g/m3):	493.2	Carbonate:			Calcium:	65.1	3.25
Density (g/cm3):	1	Sulfate:	29.0	0.6	Strontium:		
Hydrogen Sulfide:					Barium:		
Carbon Dioxide:					Iron:		
Comments:					Manganese:		
		pH at time of sampling:		7			
		pH at time of analysis:					
		pH used in Calculation:		7			
		Temperature @ lab conditions (F):		75	Conductivity (micro-ohms/cm):		704
					Resistivity (ohm meter):		14.2045

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.50	0.00	-2.16	0.00	-2.23	0.00	0.00	0.00	0.00	0.00
100	-0.36	0.00	-2.16	0.00	-2.16	0.00	0.00	0.00	0.00	0.00
120	-0.21	0.00	-2.14	0.00	-2.07	0.00	0.00	0.00	0.00	0.00
140	-0.04	0.00	-2.11	0.00	-1.95	0.00	0.00	0.00	0.00	0.00

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Tuesday, April 22, 2008 8:54 AM
To: 'Jerry Sherrell'
Cc: Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD
Subject: SWD application on behalf of Mack Energy Corp: Shetland SWD #1 (formerly Amoco "A" State #1 and NM "AH" State #1) (API No. 30-025-25991) Proposed Wolfcamp injection

Hello again Mr. Jerry:

After reviewing this application, I have the following questions:

- 1) Send a copy of the notice as published in the newspaper.
The notices sent to the three parties have the State Land Office address in them - you should send corrected letters to them, don't have to send them certified. Who controls the minerals in the N/2 N/2 of Section 19? Please let me know who and if they were notified.
- 2) Send a listing of all types of waters (the source Pools) to be disposed into this well and water analysis of each of these. Will you confirm that this well be taking water from "off-lease"? I assume it will from your application.
- 3) Your app said a fresh water analysis was included, but I can't find it. Send a fresh water analysis from the nearest water well (windmill, etc) to this location.
How deep is the fresh water in this area? 85'
- 4) Send an "AFTER" wellbore diagram showing the planned casing/cement/DV tool and tubing/packer as it will look like after Mack re-enters the well.
- 5) Ask your geologist to pick the top of the Pennsylvanian.
- 6) What Pools are producing in this area or the nearest Pools?

Inactive wells and financial assurance looks OK as of today.

Let me know your schedule on obtaining this requested info.

Thank You,

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

Cancel 4/22/08

4/22/2008

Mack Energy Corporation
Shetland SWD #1

1. I have attached the affidavit of legal notice. Copies of all parties with interest. Letter was sent to the State Land office because the minerals were unleased.
2. Water analysis of Blinbry attached. Yes water will be taken from Mack Energy leases in the area.
3. The Fresh water analysis will be sent ASAP. Depth to groundwater is 85'.
4. Attached "AFTER" wellbore diagram.
5. Top of Pennsylvanian is 11,225'.
6. Producing pools in this area are Blinbry, Grayburg, Abo and Devonian.

(~~not~~ WOLF CAMP)

Injection Permit Checklist 2/8/07

SWD Order Number 1125 Dates: Division Approved _____ District Approved Amoco A State #1
 Well Name/Num: SHELAND SWD #1 Date Spudded: was NM AH State #1
 API Num: (30-) 025-25991 County: LEA 9/29/78 SPUD

Footages 1980 FSL/1980 FWL Sec 18 Tsp 18 S Rge 35 E
 Operator Name: MACK ENERGY CORP. Contact Jerry W. Sherrill

Operator Address: P.O. Box 960, ARTESIA, NM, 88211-0960

Current Status of Well: DEA ABO Test Planned Work: Re-enter to 11950 Inj. Tubing Size: 27/8" PCP

	Hole/Pipe Sizes	Depths	Cement	Top/Method
Surface	17 1/2 13 3/8	358	340	CIRC.
Intermediate	11 8 3/8	3601	1000	230' T.S. (DVE 1780)
Production	7 7/8 NONE	11		
Last DV Tool	will RES	12 1/4		
Open Hole/Liner				
Plug Back Depth		(10,010 TD)		

Diagrams Included (Y/N): Before Conversion ☒ After Conversion ☒

Checks (Y/N): Well File Reviewed ☒ ELogs in Imaging ☒

Intervals:	Depths	Formation	Producing (Yes/No)
Salt/Potash	1945 TO	~3200	
Capitan Reef			
Cliff House, Etc:			
Formation Above	9343-9388	ABODO CONCRETE	
Top Inj Interval	9700	WC	
Bottom Inj Interval	11050	WC	
Formation Below	11225	Penn	

origin due to 9486 only
 DEA
 Re-entered 2/89
 Drilled to 10,010'
 RE-PLUGGED

Vacuum ABO Reef

1940 PSI Max. WHIP

NO Open Hole (Y/N)

Deviated Hole (Y/N)

Fresh Water: Depths: 190- Wells (Y/N) Y Analysis Included (Y/N) Y Affirmative Statement ☒

Salt Water Analysis: Injection Zone (Y/N/NA) _____ Disp Waters (Y/N/NA) _____ Types: Bluish, etc

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

Other Affected Parties: Lee Cole Co, Echo Prod, SLO

AOR/Repairs: NumActiveWells 0 Repairs? _____ Producing in Injection Interval in AOR NO

AOR Num of P&A Wells 0 Repairs? _____ Diagrams Included? _____ RBDMS Updated (Y/N) ☒

Well Table Adequate (Y/N) Y AOR STRs: Sec 18 Tsp all Rge _____ UIC Form Completed (Y/N) ☒

New AOR Table Filename _____ Sec 13 Tsp E2 E/2 Rge _____ This Form completed ☒

Conditions of Approval: Sec 19 Tsp 1/2 N/2 Rge _____ Data Request Sent Y

Boo ocd address to Lee Cole/Echo Prod/SLO

→ LOG the new well if prepared, because it will be prepared!

AOR Required Work: _____

Required Work to this Well: _____