

DATE IN 7/2/03	SUSPENSE 7/17/03	ENGINEER DCE	LOGGED IN DCE	TYPE SWD	APP NO. PDRC0318936833
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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



RECEIVED

JUL 2 2003

Oil Conservation Division

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]

885

[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 _____

API No.
30-025-36098

[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.

William F. Carr
Print or Type Name

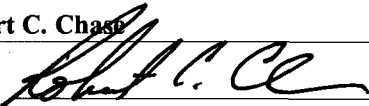
William F. Carr
Signature

ADDREY
Title

JUL 2, 2003
Date

wcarr@hollandhart.com
e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

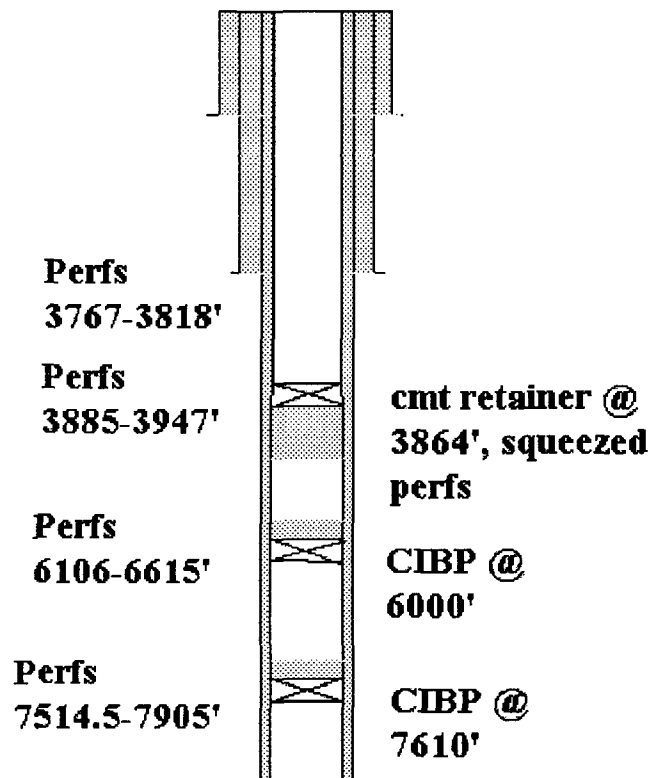
- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X _____ Disposal _____ Storage
Application qualifies for administrative approval? X Yes _____ No
- II. OPERATOR: Mack Energy Corporation
ADDRESS: P.O. Box 960, Artesia, NM 88211-0960
CONTACT PARTY: Jerry W. Sherrell PHONE: (505)748-1288
- 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.).
- *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: Robert C. Chase TITLE: Vice President
SIGNATURE:  DATE: 5/6/2003
- * 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: _____

Side I

INJECTION WELL DATA SHEET

OPERATOR: Mack Energy CorporationWELL NAME & NUMBER: Sapphire State #3

WELL LOCATION: <u>1650 FNL & 330 FWL</u>	<u>E</u>	<u>11</u>	<u>23S</u>	<u>36E</u>
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 17 1/2 Casing Size: 13 3/8Cemented with: 350 sx sx. or _____ ftTop of Cement: Surface Method Determined: CirculatedIntermediate CasingHole Size: 12 1/4 Casing Size: 9 5/8Cemented with: 1600 sx sx. or _____ ftTop of Cement: Surface Method Determined: CirculatedProduction CasingHole Size: 7 7/8 Casing Size: 5 1/2Cemented with: 1980 sx sx. or _____ ftTop of Cement: Surface Method Determined: CirculatedTotal Depth: 8647'Injection Interval4350 feet to 5800

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 2 7/8" Lining Material: Plastic CoatedType of Packer: Haliburton Trump PackerPacker Setting Depth: 4250'

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? Abo Test2. Name of the Injection Formation: San Andres, Glorieta, Paddock

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. See attached

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: underlying Blinbry, overlying Grayburg

INJECTION WELL DATA SHEET

4.

03/08/2003 Perforated 7514.5'-7905'.

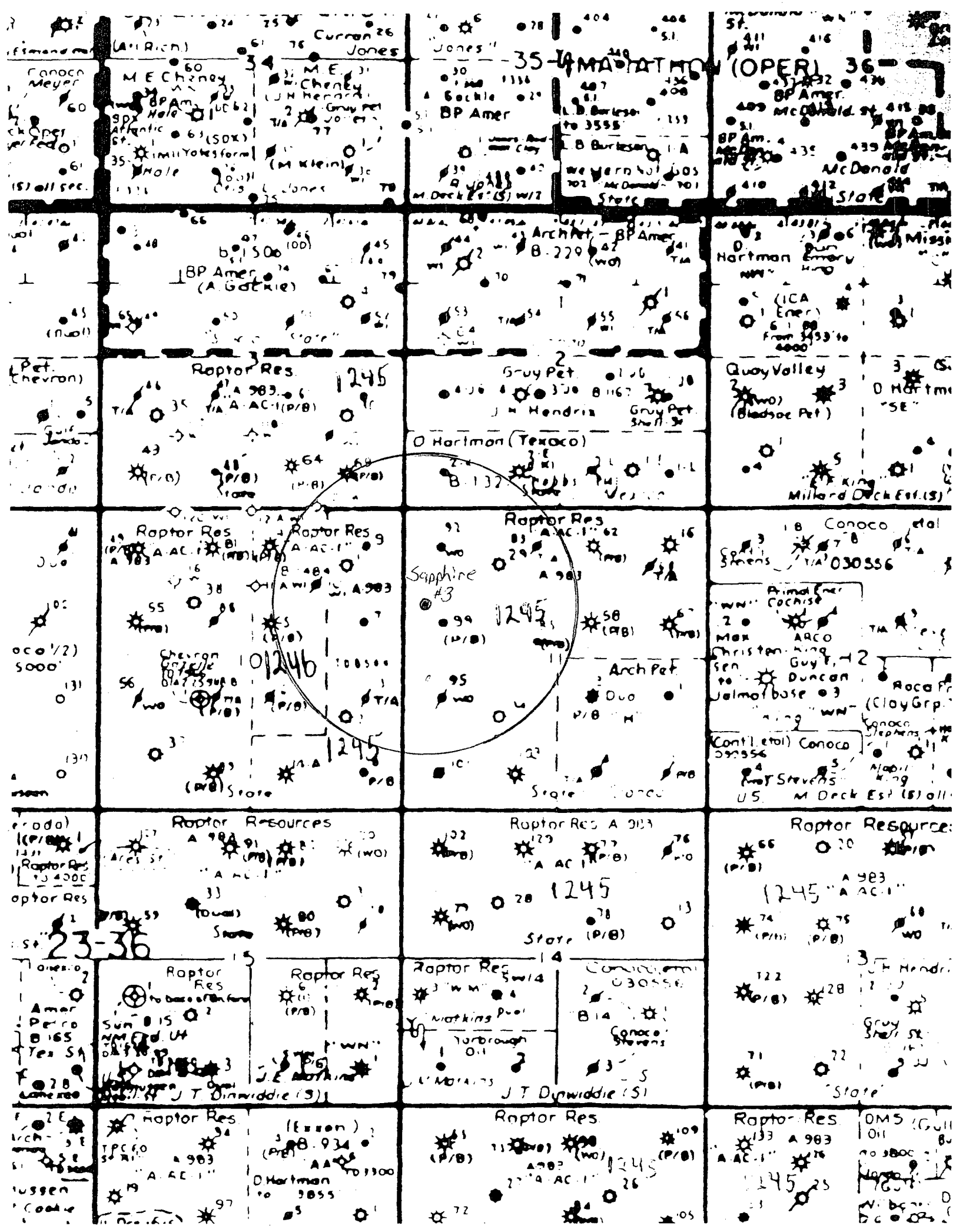
03/24/2003 CIBP set @ 7610'w/35' cement cap. Perforated 6106-6615'.

03/26/2003 CIBP set @ 6000' w/35' cement cap. Perforated 3885-3947'.

04/18/2003 Squeezed perfs 3870-3947' w/200 sx Class C, 2% CC. Set Cement Retainer @ 3864'.

04/21/2003 Perforated 3767-3818'.

04/24/2003 Squeezed perfs 3767-3818' w/200 sx Class C, 2% CC.



VI. TABULATION OF DATA OF AREA OF REVIEW

See Attached

AREA OF REVIEW WELL DATA

[illegible]

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;
Vaccum-100#
3. 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

Lithologic Detail
Dolomite

Geological Name
San Andres, Glorieta, Paddock

Thickness
1450'

Depth
4350-5800'

IX. PROPOSED STIMULATION PROGRAM

To be treated with 1000 gallons 15% acid

X. LOGS AND TEST DATA

Well data has been filed with the OCD

XI. ANALYSIS OF FRESHWATER WELLS

There are no freshwater wells within one mile of this well


XII. AFFIRMATIVE STATEMENT

RE: Sapphire State #3

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: 5-6-2003



Robert C Chase, Vice President

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

May 23 2003
and ending with the issue dated

May 23 2003

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 23rd day of

May 2003

Jodi Benson

Notary Public.

My Commission expires
October 18, 2004
(Seal)

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

LEGAL NOTICE
May 23, 2003

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 salt water in the Sapphire State #3 located 1650 feet from the North line and 330 feet from the West line of Section 11, Township 23 South, Range 36 East, NMPM, Lea County, New Mexico. The source of the disposed water will be from wells in the area, which produce from the Grayburg and Abo formation. The water will be injected into the San Andres, Glorieta, and Paddock formation at a disposal depth of 4350 feet to 5800 feet, a maximum surface injection pressure of 100 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 (505) 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. ***Published in the Hobbs News-Sun, Hobbs, New Mexico.*** #19844

67100754000 02564082
Holland & Hart LLC
Post Office Box 2208
Santa Fe, NM 87504-2208

HOLLAND & HART^{LLP}
ATTORNEYS AT LAW

DENVER • ASPEN
BOULDER • COLORADO SPRINGS
DENVER TECH CENTER
BILLINGS • BOISE
CHEYENNE • JACKSON HOLE
SALT LAKE CITY • SANTA FE
WASHINGTON, D.C.

P.O. BOX 2208
SANTA FE, NEW MEXICO 87504-2208
110 NORTH GUADALUPE, SUITE 1
SANTA FE, NEW MEXICO 87501-6525

TELEPHONE (505) 988-4421
FACSIMILE (505) 983-6043

William F. Carr

wcarr@hollandhart.com

July 2, 2003

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Chevron U.S.A. Inc.
15 Smith Road
Midland, Texas 79705

Attention: Mike Mullins

Re: Application of Mack Energy Corporation for administrative approval of
salt water disposal, Lea County, New Mexico.

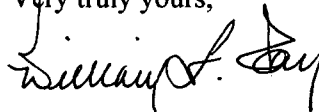
Ladies and Gentlemen:

This letter is to advise you that Mack Energy Corporation has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water in its Sapphire State Well No. 3 located 1650 feet from the North line and 330 feet from the West line of Section 11, Township 23 South, Range 36 East, NMPM, Lea County, New Mexico. Mack Energy Corporation proposes to inject into the San Andres, Glorieta and Paddock formations through an injection interval from 4350 feet to 5800 feet. The initial injection will be by vacuum and a maximum surface injection pressure of 100 pounds is proposed by Mack Energy Corporation. The average daily injection rate will be 2000 barrels of water and the maximum daily injection rate will be 4000 barrels of water.

If you have questions concerning this application, you may contact Jerry W. Sherrell at Mack Energy Corporation, Post Office Box 960, Artesia, New Mexico 88211-0960, telephone number (505) 48-1288.

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 15 days of the date of this letter.

Very truly yours,



William F. Carr
Attorney for Mack Energy Corporation

Enclosure

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-103
(Rev 3-55)

MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

Name of Company Texas Pacific Coal & Oil Company		Address P. O. Box 1688 Hobbs, New Mexico			
Lease State "A" A/o-3	Well No. 3	Unit Letter I	Section 10	Township 23S	Range 36E
Date Work Performed 7/18/59	Pool Wildest			County Lea	

THIS IS A REPORT OF: (Check appropriate block)

- ☐ Beginning Drilling Operations ☐ Casing Test and Cement Job ☐ Other (Explain):
☒ Plugging ☐ Remedial Work **Verbal Permission 7/17/59**

Detailed account of work done, nature and quantity of materials used, and results obtained.

1. Spotted 25 sms. reg. neat at 8500'.
2. Spotted 20 sms. reg. neat at 7660'.
3. Spotted 20 sms. reg. neat at 6800'.
4. Spotted 20 sms. reg. neat at 6500'.
5. Spotted 20 sms. reg. neat at 5500'.
6. Spotted 20 sms. reg. neat at 4300'.
7. Spotted 20 sms. reg. neat at 3900'.
8. Set Baker Cast iron bridge plug at 3810' in 8-5/8" casing.
9. Spotted 15 sms. reg. neat on bridge plug and reversed out cement to 3803'.

Witnessed by Jerry Eskew	Position Petroleum Engineer	Company Texas Pacific Coal & Oil Company
------------------------------------	---------------------------------------	--

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

ORIGINAL WELL DATA

D F Elev.	T D	P B T D	Producing Interval	Completion Date
Tubing Diameter	Tubing Depth	Oil String Diameter	Oil String Depth	

Perforated Interval(s)

Open Hole Interval

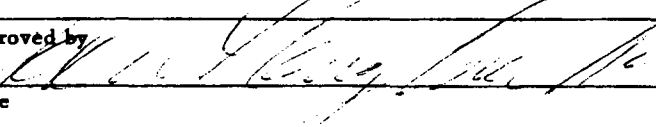
Producing Formation(s)

RESULTS OF WORKOVER

Test	Date of Test	Oil Production BPD	Gas Production MCFPD	Water Production BPD	GOR Cubic feet/Bbl	Gas Well Potential MCFPD
Before Workover						
After Workover						

OIL CONSERVATION COMMISSION

I hereby certify that the information given above is true and complete to the best of my knowledge.

Approved by 	Name Jerry Eskew
Title	Position Petroleum Engineer
Date	Company Texas Pacific Coal & Oil Company

Catanach, David

From: Kautz, Paul
Sent: Tuesday, July 22, 2003 9:18 AM
To: Catanach, David
Subject: RE: SWD

David

The San Andres, Glorieta & Paddock interval from 4350 - 5800 looks ok to me.

-----Original Message-----

From: Catanach, David
Sent: Tuesday, July 22, 2003 8:08 AM
To: Kautz, Paul
Subject: SWD

Paul, I've got an SWD application from Mack Energy for their Sapphire State No. 3 (30-025-36098) in Section 11, 23S, 36E. They want to inject into the San Andres, Glorieta and Paddock 4,350-5,800. It looks ok to me. See any problem?

David

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-103
(Rev 3-55)

MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

Name of Company Texas Pacific Coal & Oil Company		Address P. O. Box 1688 Hobbs, New Mexico			
Lease State "A" A/o-3	Well No. 3	Unit Letter I	Section 10	Township 23S	Range 36E
Date Work Performed 6/6/59	Pool Wildest		County Lea		

THIS IS A REPORT OF: (Check appropriate block)

- ☐ Beginning Drilling Operations ☒ Casing Test and Cement Job ☐ Other (Explain):
☐ Plugging ☐ Remedial Work

Detailed account of work done, nature and quantity of materials used, and results obtained.

Drilled to 3846' in line. Ran 3836' (120 joints) 8-5/8" 32# J-55 ST&C cmls. casing, set at 3846' with float shoe and float collar on top of second joint. Cemented w/375 sacks regular w/4% gel. Pumped plug to 3782' at 6:50 p.m., 6/6/59. Ran temperature survey in 12 hours. Top of cement at 2450'. Tested pipe for thirty minutes at 925 psi in 24 hours - test o.k.

Witnessed by B. D. Baker	Position District Engineer	Company Texas Pacific Coal & Oil Company
------------------------------------	--------------------------------------	--

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

ORIGINAL WELL DATA

D F Elev.	T D	P B T D	Producing Interval	Completion Date
Tubing Diameter	Tubing Depth	Oil String Diameter	Oil String Depth	

Perforated Interval(s)

Open Hole Interval

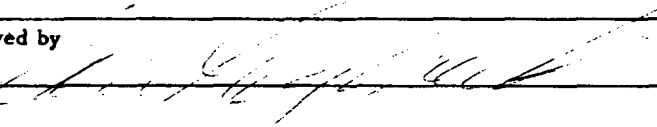
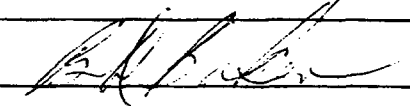
Producing Formation(s)

RESULTS OF WORKOVER

Test	Date of Test	Oil Production BPD	Gas Production MCFPD	Water Production BPD	GOR Cubic feet/Bbl	Gas Well Potential MCFPD
Before Workover						
After Workover						

OIL CONSERVATION COMMISSION

I hereby certify that the information given above is true and complete to the best of my knowledge.

Approved by 	Name 
Title District Engineer	Position District Engineer
Date	Company Texas Pacific Coal & Oil Company

Mack Energy Corp

Post Office Box 960,

Artesia, NM 88211-0960

JWD-PP5

FAXDate: 7-23-2003Number of pages including cover sheet: 3

To:

OCD-Santa FeAttn: David Catanach

Phone:

Fax phone: 505-476-3462

CC:

From:

Mack Energy CorpJerry W. Sherrell

Phone:

(505)748-1288

Fax phone:

(505)746-9539

REMARKS:

☐ Urgent☐ For your review☐ Reply ASAP☐ Please comment

David

Here is a copy of a water analysis on the Sapphire State #1. I also sent a revised copy of the Data sheet, the first copy was a mistake on my part. The sacks of cement are correct on this sheet. Sorry for the confusion

Jerry W. Sherrell

APR-02-2003(WED) 15:49 BJ ARTESIA

P.001/002

Attn: Malt Brewer
Fax # 746-9539**B J Services Water Analysis**Artesia District Laboratory
(505)-746-3140

Date: 2-Apr-03 Test #:
 Company: Mack Energy Well #: #1
 Lease: Sapphire State County: Lea
 State: NM Formation:
 Depth: Source:

pH	6.38	Temp (F):	84.2
Specific Gravity	1.003		

CATIONS

	mg/l	me/l	ppm
Sodium (calc.)	2085	90.7	2079
Calcium	521	26.0	520
Magnesium	292	24.0	291
Barium	< 25	—	—
Potassium	< 10	—	—
Iron	1	0.0	1

ANIONS

Chloride	4000	112.8	3988
Sulfate	60	1.2	60
Carbonate	< 1	—	—
Bicarbonate	1647	27.0	1642

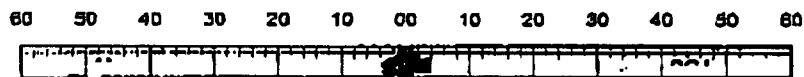
Total Dissolved Solids(calc.)	8605		8580
-------------------------------	------	--	------

Total Hardness as CaCO3	2502	50.0	2495
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COMMENTS: Resistivity (ohm-meters-calc.) 0.688877

SCALE ANALYSIS:

CaCO3 Factor 858581.1 Calcium Carbonate Scale Probability →
 CaSO4 Factor 31278 Calcium Sulfate Scale Probability →

Possible
Remote**Stiff Plot**

AREA OF REVIEW WELL DATA

LEASE/API	WELL#	LOCATION	TD (PBSD)	TYPE & DATE DRILLED	HOLE SIZE	CASING SIZE & WEIGHT	SETTING DEPTH	SX CMT	TOC	PERFS
Sapphire State 30-025-36098	3	1650' FNL 330' FWL 11-23S-36E	8647' 8619'	Oil 1/18/2003	17 1/2 12 1/4 7 7/8	13 3/8 5/8 1/2	9 5 8633'	310' 3418' 1980	350 1600 1980	circ circ circ 3767-7905'
Sapphire State 30-025-36103	4	1650' FNL 1650' FWL 11-23S-36E	8030' 8486'	Oil 2/16/2003	17 1/2 12 1/4 7 7/8	13 3/8 5/8 1/2	9 5 6496'	312' 3696' 1625	350 1550 1625	circ circ circ 3744.5-3779'
Sapphire State 30-025-35979	1	2310' FSL 330' FWL 11-23S-36E	8110' 8075'	Oil 9/22/2002	17 1/2 12 1/4 7 7/8	13 3/8 5/8 1/2	9 5 8088'	320' 1231' 2800	325 675 2800	circ circ circ 7526.5-7921.5
State A A/C 30-025-09301	3	1980' FSL 660' FEL 10-23S-36E	8500' 3846'	Oil 5/24/1959	N/A	13 3/8 8 5/8	341' 3846'	350 375	N/A	3652-3677'