

DATE IN 8/25/06	SUSPENSE 9/10/06	ENGINEER WILL JONES	LOGGED IN 8/28/06	TYPE SWD 1042	APP NO. PTDS0624051012
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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 _____

[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.

Print or Type Name

Signature

Title

Date

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage
Application qualifies for administrative approval? ☒ Yes No
- II. OPERATOR: MARBOB ENERGY CORPORATION
ADDRESS: P O BOX 227, ARTESIA, NM 88211-0227
CONTACT PARTY: BRIAN COLLINS, ENGINEER PHONE: 505-748-3303
- 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 ☒ 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 fresh water from two or more fresh water 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: BRIAN COLLINS

TITLE: ENGINEER

SIGNATURE: 

DATE: AUG 7, 2006

E-MAIL ADDRESS: engineering@marbob.com

* 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: _____

Application for Authorization to Inject
Lusk Deep Unit 2 SWD
Unit O, Section 18-T19S-R32E

- V. Map is attached.
- VI. Three wells within the 1/2 mile radius area of review penetrate the proposed injection zone. A wellbore diagram of each one is attached.
- VII.
 - 1. Proposed average daily rate = 2500 BWPD
Proposed maximum daily rate = 10000 BWPD
 - 2. Proposed maximum injection pressure = 2244 psi (0.2 psi/ft)
 - 3. System is closed
 - 4. Majority of injected water will be Bone Spring produced water. Analysis of produced water is attached.
 - 5. Analysis of disposal zone water is attached. The Strawn is depleted and is not productive within a mile of the Lusk Deep Unit 2. There is a Strawn disposal well just east of the proposed well (Lusk Deep Unit A-19, N-17-19S-32E, SWD-821.)
- VIII. The injection zone is the Strawn limestone from 11220' to 11250'. Underground sources of drinking water will be shallower than 850 feet deep.
- IX. The proposed injection zone will be acidized with 10,000 gallons 15% HCL acid, if necessary.
- X. Logs are filed with the Division. A section of the sonic log is attached.
- XI. There are no fresh water wells within one mile of the Lusk Deep Unit 2.
- XII. After examining available geologic and engineering data, there is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Proof of Notice is attached.

III.

WELL DATA

OPERATOR: Marbob Energy Corp.WELL NAME & NUMBER: Lusk Deep Unit 2WELL LOCATION: 660' FSL, 1980' FEL

FOOTAGE LOCATION

UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLBORE SCHEMATICAttached

Propose to reenter well, clean out to top 5" liner @ 11299', run 5 1/2" 17 ppF P110 casing to 11299', cement with sufficient Super H cement to bring TOC to 9000'± and perforate the original Strawn zone 11220'-11250' for SWD service.

WELL CONSTRUCTION DATASurface CasingHole Size: 17 1/2" Casing Size: 13 3/8" @ 4462'Cemented with: 3400 sx. or ft³Top of Cement: Surface Method Determined: CirculatedIntermediate CasingHole Size: 12 1/4" Casing Size: 9 5/8" 4462'-11400'Cemented with: 525 sx. or ft³Top of Cement: 8990' Method Determined: TemperatureProduction CasingHole Size: 8 3/8" Casing Size: 5" 11299'-13551'Cemented with: 717 sx. or ft³Top of Cement: 11299' Method Determined: to liner top 11299'Total Depth: 13974'Injection Interval11220' feet to 11250'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: PlasticType of Packer: Nickel plated 10K double grip retrievablePacker Setting Depth: 11175' ±Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

1. Is this a new well drilled for injection? Yes X NoIf no, for what purpose was the well originally drilled? Oil and gas production.2. Name of the Injection Formation: Strawn3. Name of Field or Pool (if applicable): Lusk4. 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. YesSee attached well bore schematic.

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

Overlying: Yates Seven Rivers ± 2500', Delaware ± 4800'Bone Spring ± 8000', Wolfcamp ± 10400'Underlying: Aftoka ± 11600', Morrow ± 12100'

Lusk Deep Unit 2
 660' FSL, 1980' FEL
 Sec. 18-19S-32E
 Lea Co., NM

22-141 50 SHEETS
 22-142 100 SHEETS
 22-144 200 SHEETS

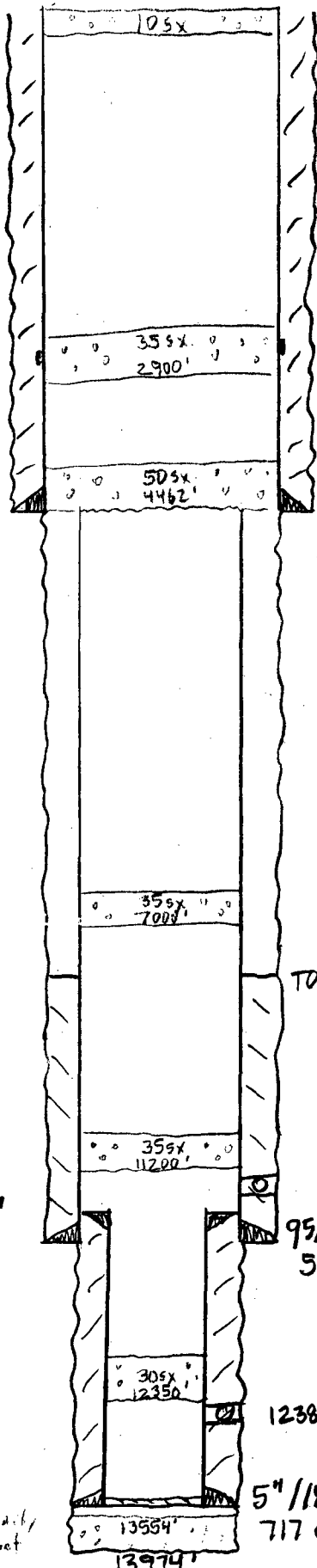


17 1/2"

BEFORE

95 7/8" cut 4462'?

12 1/4"



DV 2887'

13 3/8" / 72' / N80 @ 4462'
 3400 3x. (Circ.) 2005x

TOC 8990'

TOL 11299'

11220-11250' Strawn

95 7/8" / 53.5, 47, 43.5 / P110 / BTC @ 11400'
 525 3x Trinity

8 3/4"

12380-12398' Mrw

5" / 18' / N80 Liner 11299-13551'
 717 CF TLW

PB 2705x Trinity
 Inferno Stove

13974'

Lusk Deep Unit 2
 660' FSL, 1980' FEL
 Sec. 18-19S-32E
 Lea Co., NM

AFTER

50 SHEETS
 22-141
 100 SHEETS
 22-142
 200 SHEETS
 22-143



17 1/2"

12 1/4"

DV 2887'

13 3/8" / 72 / N80 @ 4462'
 3400 SX. (Circ. 200 SX)

2 7/8" IRC Inj. Tbg.

Design TOC ± 9000'

TOC 8990'

5 1/2" @ 11299' ±
 TOL 11299'

Nickel Plated Inj. Pkr. ± 11175'

11220-11250' Strawn

9 5/8" / 53.5, 47, 43.5 / P110 / BTC @ 11400'
 525 SX Trinity

8 3/8"

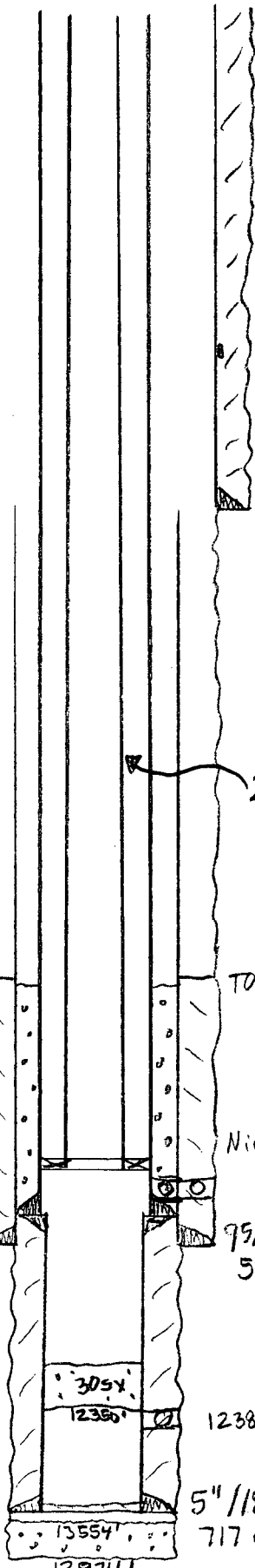
12380 - 12398'

Mrrw (Free 10,000' 20140' + 5,000' 12/20 glass brk)

5" / 18 / N80
 717 CF TLW

Liner 11299-13551'

PB 270% Trinity
 In Firm Gloget



V.

MAP

**Wells within 1/2
Mile Radius**

VI.

Well Data on Wells Penetrating Strawn within 1/2 Mile Radius Area of Review

Well: Lusk Deep Unit A-1

Zero: 23' AGL

Location: 660' FML, 660' FEL
A-19-19s-32e
Lea NM

KB: 3603'

GL: 3580'

Casing Program:

Size	Wt.	Grade	Conn.	Depth
13 3/8"	54.5			835'
9 5/8"	43.5, 40			5430'
7"	32			11232'
5"	17.93	C75	H5FJ	10861-12450'
2 3/8"	4.7	N80	Reg + Reel	11900'

DST #1 6625-6656'

DST #2 7394-7454'

DST #3 8280-8375'

DST #4 8757-8825'

DST #5 8825-8895'

DST #6 9007-9056'

DST #7 10408-10469'

DST #8 11114-11148'

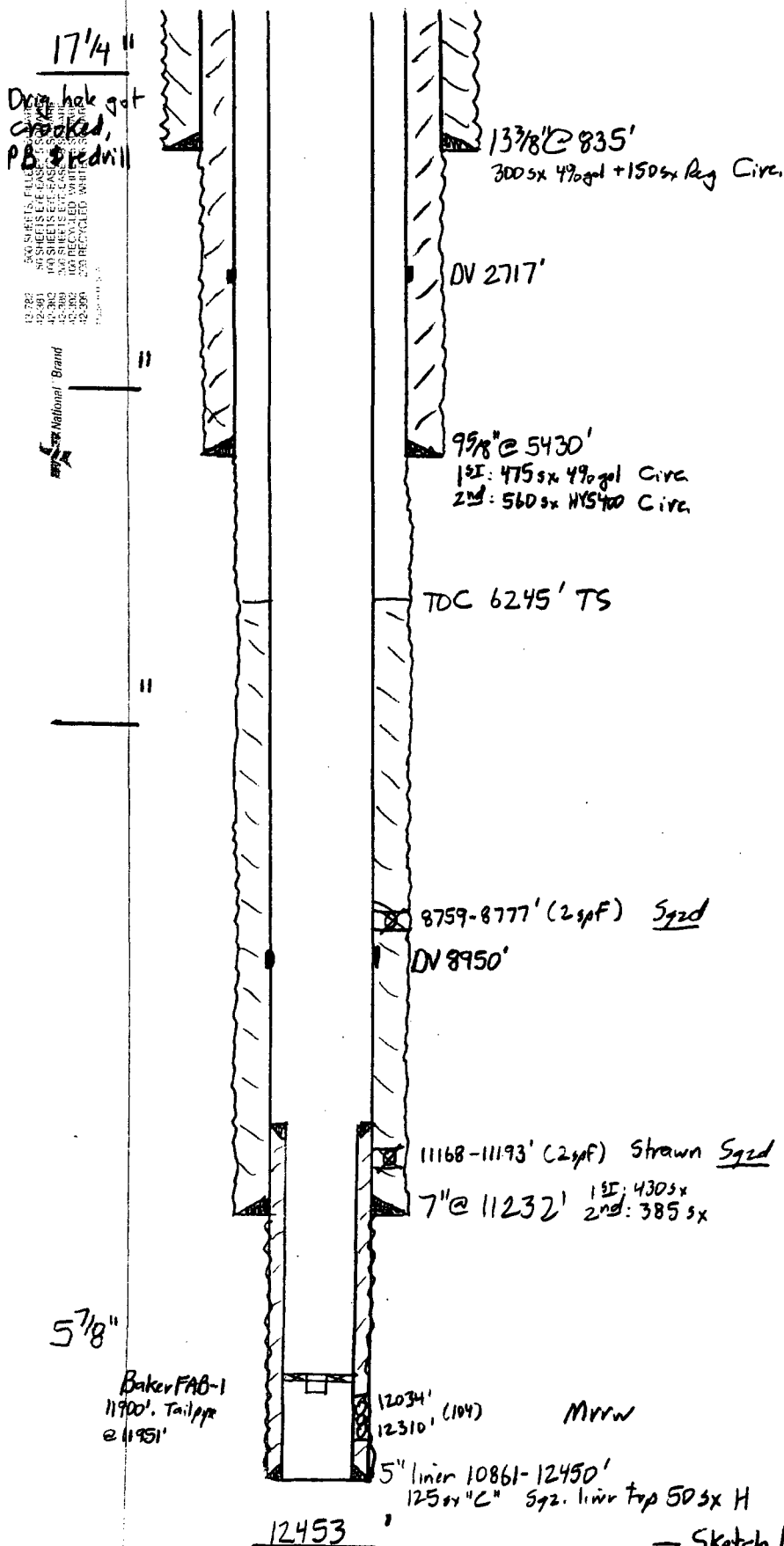
DST #9 11173-11198'

DST #10 11198-11223'

Core: 11148-11173'

11173-11198'

11198-11223'



- Sketch Not To Scale -

KBCollins / 7 Dec 00

Well: Lusk Deep Unit A13

Zero: 23' AGL

Location: 1980' FSL, 1980' FWL

KB: 3610'

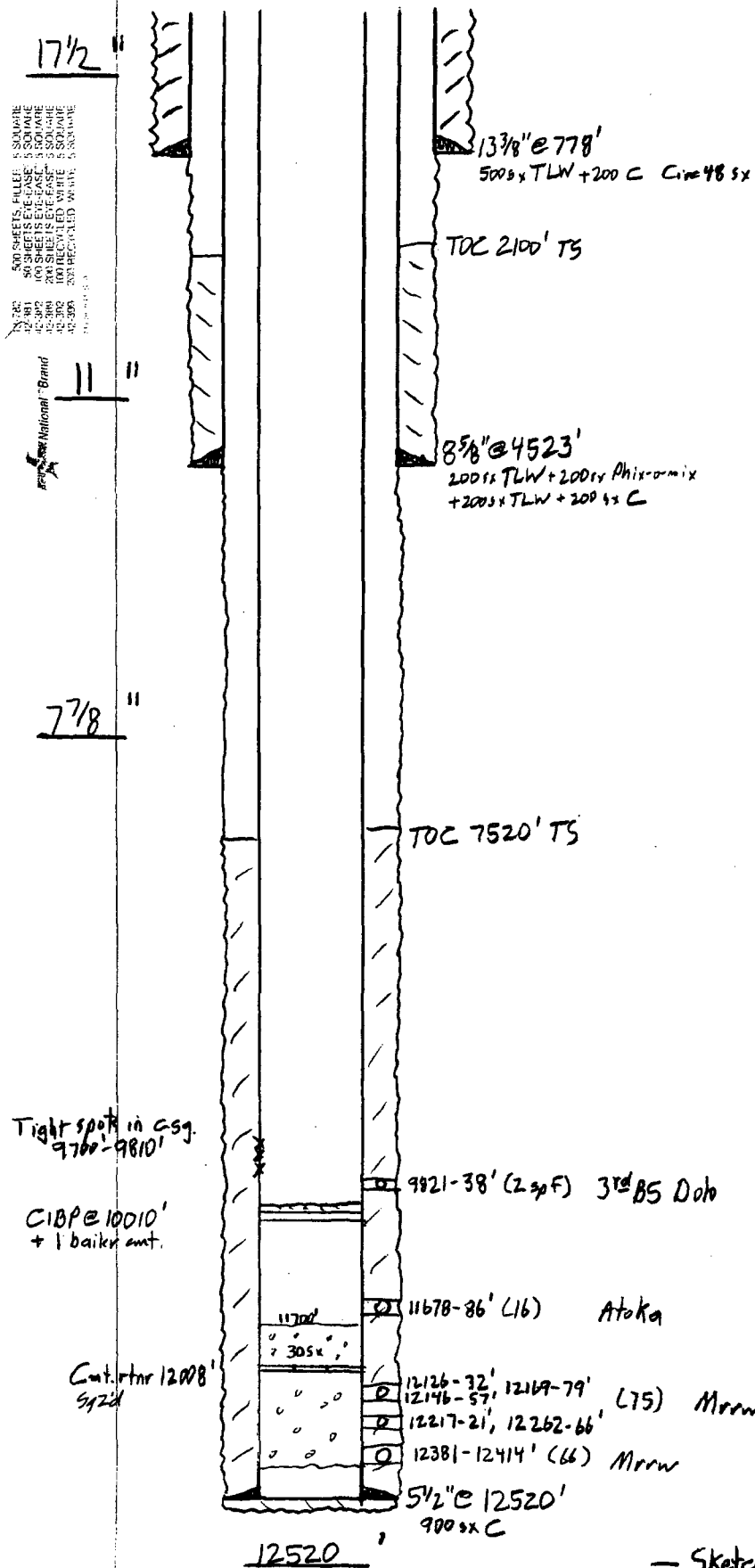
GL: 3587'

K-18-19s-32e

Lea NM

Casing Program:

Size	Wt.	Grade	Conn.	Depth
13 3/8"	31.5	K55	STC	778'
8 5/8"	32	K55	LTC	4523'
5 1/2"	17	N80	BTC	5270'
	17	N80	MW.LTC	9620'
	20	N80	LTC	12520'
2 7/8"	6.5	N80	EVE	



- Sketch Not To Scale -

KBCollins/

Lusk Deep Unit A-16

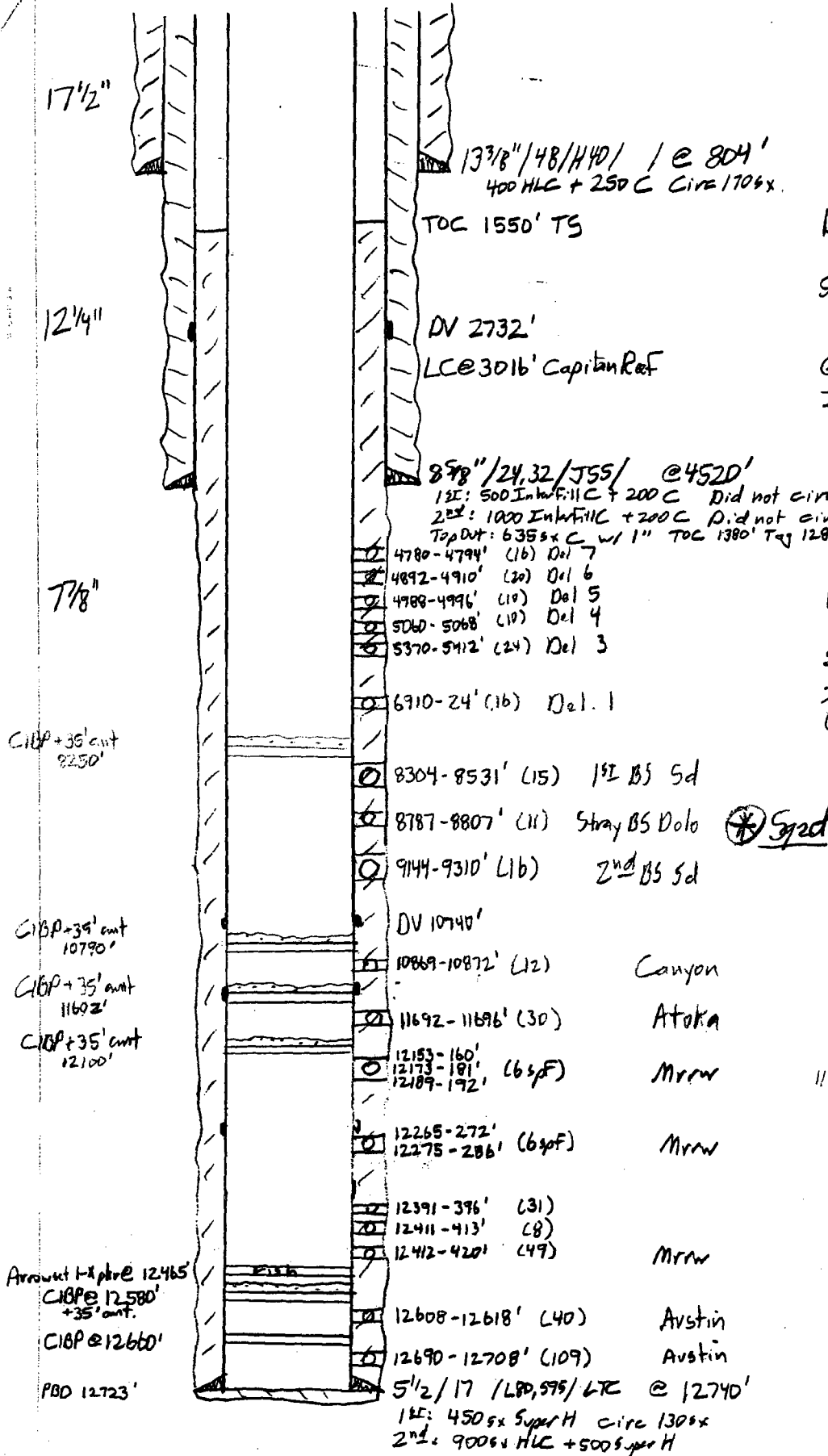
785' FSL, 660' FWL
M-18-196-32e
Lea Co., NM

KB = 3595'
GL = 3578'
Zero = 17' AGL

5 1/2" / 17 / 595 / LTC 0-1442'
1 17 / L80 / LTC 1442'-11031'
1 17 / 595 / LTC 11031'-12740'

DST #1 BoneSpr. 9798-9844'
DP: 102 BW w/oil skinn 96000CI-
Sampler: 0.15 cFg
1000cc wtr 96000CI-
GTS 8" into Final Flow 4' Flare
ISI = 3708 BHT = 149°F

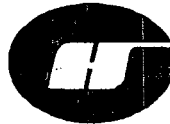
DST #2 Mrrw 12118-12208'
DP: Gas
Sampler: 12.25 cFg Press = 1825psi
ISI = 5236 FSI = 5183 BHT = 170°F
Qmax = 2376 MCPD



VII.

WATER ANALYSIS

Injection Water



HALLIBURTON

CENTRAL OPERATIONS LABORATORY
WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

COMPANY Marbob

REPORT

W01-112

DATE

November 26, 2001

DISTRICT

Artesia/Hobbs

Produced Water

SUBMITTED BY

WELL
COUNTYDEPTH
FIELDFORMATION
SOURCE

SAMPLE

Luske 13

Lusk 19

WPB 1

Sample Temp.

66 °F

WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

66 °F

66 °F

RESISTIVITY

0.058

0.06

0.058

SPECIFIC GR.

1.135

1.120

1.135

pH

6.14

6.19

6.54

CALCIUM

7,600

8,200

4,100

MAGNESIUM

5,160

6,900

3,000

CHLORIDE

134,355

106,470

129,285

SULFATES

Mod

light

Light

BICARBONATES

31

61

122

SOLUBLE IRON

light

light

light

Sodium

mpl

mpl

0

TDS

mpl

mpl

0

OIL GRAVITY

@

@

SOURCE

@

REMARKS

Injection Zone
Water

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Co.

ANALYST

MPL = Milligrams per liter
Resistivity measured in: Ohm/m2/m

John E. Bank

Produced and injection zone waters
are very similar to one another.
No compatibility problems anticipated.

X.

LOG SECTION

Strawn Disposal Zone

18-19-32T

4

Dev

E 3605
R 732+2873
Y 2500+1025
71 2500+700
11 2500+135

Dev/4405-880
BSLm 7024-3419
1858320-4715
385 9834-6229
We Carb 10334-6729
B/We Carb 615-7010
ShuLm 11104-7499
B/StrnLm 11280-7675

AtoKa 11504-7899
AtoKaLm 11762-8157
Mcr A 12064-8459
Mcr E 12150-8545
Mcr C 12332-8727
Bjc 12410-8805
Ches 12508-8903
L.Miss 12752-9147
Dev. 13420-9815

		SONIC LOG <small>SCHLUMBERGER WELL SURVEYING CORPORATION</small>	
COUNTY LEA FIELD WILDCAT LOCATION LUSK DEEP UNIT #2 COMPANY EL PASO NAT. GAS CO.	COMPANY EL PASO NATURAL GAS COMPANY		Other Surveys IES-HL CDM
	WELL LUSK DEEP UNIT #2		Location of Well 1980' FEL 660' FSL
	FIELD WILDCAT		
	LOCATION SEC. 18-19S-32E		
	COUNTY LEA STATE NEW MEXICO		Elevation: K.B.: 3605 D.F.: or G.L.: 3585
Log Depths Measured From K.B. = 19.6 Ft. above GROUND LEVEL			
RUN No.	1	2	3
Date	11-1-65	1-26-61	3-14-61
First Reading	4458	11396	11397
Last Reading	88	4465	11396
Feet Measured	4370	6931	2575
Csg. Schlum.	-	4465	11397
Csg. Driller	88	4462	11400
Depth Reached	4461	11399	11374
Bottom Driller	4462	11400	11374
Mud Not.	SALT GEL	GEL-CRISCOSE-CAUSTIC-SPERSENE	
Dens. Visc.	9.2 @ 41	11.4 @ 50	10.4 @ 63
Mud Resist.	.075 @ 78 °F	1.62 @ 92 °F	1.2 @ 58 °F
Res. BHT	.059 @ 99 °F	.9 @ 161 °F	.38 @ 182 °F
pH	- @ °F	11.5 @ °F	12 @ °F
Wtr. Loss	- CC 30 min	5.6 CC 30 min	5 CC 30 min
Rmf M	.058 @ 78 °F	1.03 @ 60 °F	.78 @ 63 °F
Bit Size	12 1/4"	12 1/4"	8 3/8"
Spacing:			
T-1 R-1 R-2	CSG To 4458	4465 To 11396	11396 To 11374
T-1 R-1 R-2	To	To	To
Op. Log Time	3 HOURS	5 HOURS	4 HOURS
Truck No.	2522 ARTESIA	1555 ARTESIA	2522 ARTESIA
Recorded By	HURST	EASLEY	HURST
Witness	LINDAU	LINDAU	LINDAU

West Texas Electrical Log Service
Dallas 2, Texas

REFERENCE W-1870-H



29 COMPLETION RECORD Dual Comp } mor "C" 4000 MCF
Strn FG 40 B3

SPUD DATE

3/31/61

COMP DATE

PTH 9/24/71

DST RECORD

CASING RECORD

PERFORATING RECORD

ACID. FRAC SHOT

IP

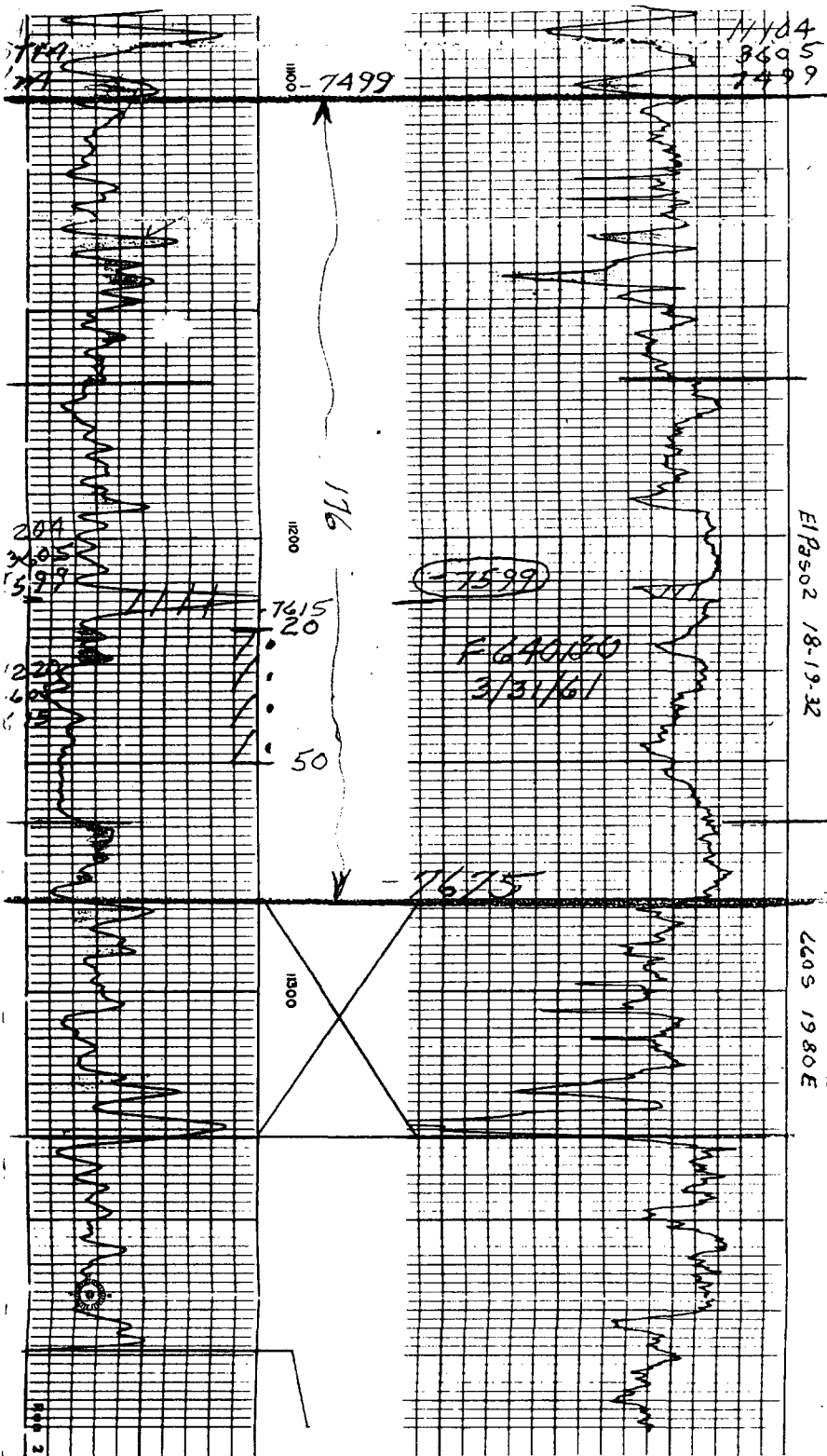
GOR

GR

TP

CP

Account
626605
GO



DOWNHOLE CALIBRATION - AFTER SURVEY



August 7, 2006

Hobbs News-Sun
201 N. Thorp
Hobbs, NM 88240

Re: Legal Notice
Salt Water Disposal Well

Gentlemen:

Enclosed is a legal notice regarding New Mexico Oil Conservation Division C-108 Application for Authorization to Inject for a salt water disposal well.

Please run this notice and return the proof of notice to the undersigned at Marbob Energy Corporation, P. O. Box 227, Artesia, NM 88211-0227.

Sincerely,

Brian Collins
Petroleum Engineer

BC/dlw

enclosure

ARTESIA DAILY PRESS
LEGAL NOTICES

Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico, 88211-0227, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Lusk Deep Unit No. 2 is located 660' FSL and 1980' FEL, Section 18, Township 19 South, Range 32 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Bone Spring formation. The disposal water will be injected into the Strawn formation at a depth of 11220' - 11250' at a maximum surface pressure of 2244 psi and a maximum rate of 10,000 BWPD. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico 88211-0227, or call 505-748-3303.

Published in the Hobbs News-Sun, Hobbs, New Mexico, on _____, 2006.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other

2. Name of Operator **MARBOB ENERGY CORPORATION**

3a. Address
P O BOX 227, ARTESIA, NM 88211-0227

3b. Phone No. (include area code)
505-748-3303

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

**SEC. 18-T19S-R32E, UNIT O
660 FSL 1980 FEL, SW/4SE/4**

5. Lease Serial No.

NMLC064198A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No

LUSK DEEP UNIT 2 SWD

9. API Well No.

30-025-00900

10. Field and Pool, or Exploratory Area

LUSK STRAWN

11. County or Parish, State

LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)


SUBMITTED FORM C-108 TO NMOCD - COPY ATTACHED

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

BRIAN COLLINS

Title **ENGINEER**

Signature



Date

08/07/2006

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 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, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)



August 7, 2006

Bureau of Land Management
2909 W. 2nd St.
Roswell, NM 88201

Re: Application to Inject
Lusk Deep Unit 2 SWD
Township 19 South, Range 32 East, NMPM
Section 18: 660 FSL 1980 FEL
Lea County, New Mexico

Gentlemen:

Enclosed for your review is a copy of Marbob Energy Corporation's application to convert the referenced well into a saltwater disposal well. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter. If you have no objections to our application, please indicate below and return one copy of this letter to our office.

Please do not hesitate to contact us should you have any questions.

Sincerely,

Brian Collins
Petroleum Engineer

BC/dlw
enclosure

Bureau of Land Management has no objection to the proposed disposal well:

By: _____
Title: _____
Date: _____



August 7, 2006

Tom R. Cone
1304 W. Broadway Pl.
Hobbs, NM 88240

Re: Application to Inject
Lusk Deep Unit 2 SWD
660 FSL 1980 FEL, Sec. 18
Township 19 South, Range 32 East, NMPM
Lea County, New Mexico

Gentlemen:

Enclosed for your review is a copy of Marbob Energy Corporation's application to convert the referenced well into a water injection well. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner within a one-half mile radius of one or more of the referenced wells. Please note this is a courtesy notification, as the proposed injection zone is not within the depth rights that you own.

Please do not hesitate to contact us should you have any questions.

Sincerely,

Brian Collins
Engineer

BC/dlw
enclosures



August 7, 2006

Cimarex Energy
1700 Lincoln St., Ste. 1800
Denver, CO 80203

Re: Application to Inject
Lusk Deep Unit 2 SWD
660 FSL 1980 FEL, Sec. 18
Township 19 South, Range 32 East, NMPM
Lea County, New Mexico

Gentlemen:

Enclosed for your review is a copy of Marbob Energy Corporation's application to convert the referenced well into a water injection well. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner within a one-half mile radius of one or more of the referenced wells. Please note this is a courtesy notification, as the proposed injection zone is not within the depth rights that you own.

Please do not hesitate to contact us should you have any questions.

Sincerely,

Brian Collins
Engineer

BC/dlw
enclosures

Jones, William V., EMNRD

From: Brian Collins [engineering@marbob.com]
Sent: Friday, September 01, 2006 9:29 AM
To: Jones, William V., EMNRD
Subject: Re: SWD Application: Lusk Deep Unit #2 API No. 30-025-00900 Strawn Oil Zone Injection Proposal

Will: I've got answers to your questions on the Lusk 2 SWD proposal.

- 1) Logs: We sent a copy of the small scale porosity and resistivity logs to Hobbs OCD.
- 2) FW sources: There are no fresh water wells within a mile of the Lusk 2.
- 3) Salt: Top of salt is 860', base of salt is 2350'. Per our geologist, the Capitan reef is not developed in this well. This is confirmed by the fact that the 13-3/8" surface casing was set at 4462' and cemented to surface.
- 4) Delaware: The top of the Delaware Sand is 4495' in the Lusk 2. The 4800' depth I used reflects the approximate depth of the uppermost Delaware sands tested for oil and gas production in the area.
- 5) Corrosion: Corrosion in the Bone Spring and Delaware doesn't seem to be a problem in this area, at least in our wells. The Lusk 2 has 9-5/8" casing in place, but not cemented, from 9000' to 4462'. This is a barrier to any potential corrosion of the 5-1/2" casing. The Lusk Deep 13 and 16 don't have any pressure or flows from the bradenhead or other annuli.
- 6) Strawn Production: Historically there were 42 wells that were tested and/or produced from the Strawn within a 2 mile radius of the Lusk 2 (15.6 MMBO, 66.6 BCFG, 1.8 MMBW cumulative production -- approximately 60 MM bbls reservoir voidage). Currently four wells produce from the Strawn within this area. The nearest, our Lusk Unit 17 (M-20-19s-32e), is 1.1 miles south. The Elliott Hall A-1 (A-30-19s-32e) is 1.23 miles south, the Delhi Fed 1 (C-30-19s-32e) is 1.21 miles south and the Continental Fed 1 (O-6-19s-32e) is 2 miles north. At these distances, I don't expect disposal into the Lusk 2 or 16 to affect the existing producing wells. If the injection did affect a producing well, it's not unreasonable to think that the water would sweep new oil to the producing well. The Strawn oil is high gravity (42.5 deg API) and would have a favorable mobility ratio due to its low viscosity.
- 7) Ownership: The BLM is the surface owner and Marbob is the operator of the Strawn rights within the half mile radius area of review.

We currently operate a Strawn SWD, the Lusk Deep 19, located in N-17-19s-32e. Injection into this well has not affected any of the existing producing wells. Let me know if you have more questions. Hope things are going well for you. Take care.

Brian Collins
 Marbob Energy

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

From: Jones, William V., EMNRD
To: engineering@marbob.com
Cc: Ezeanyim, Richard, EMNRD
Sent: Tuesday, August 29, 2006 9:19 PM
Subject: SWD Application: Lusk Deep Unit #2 API No. 30-025-00900 Strawn Oil Zone Injection Proposal

Hello Brian:

A few minor picky questions and requests. The application seems fine.

- 1) The logs do not appear on our web site. Please send a copy of the logs to the Hobbs district office.
- 2) Are there any windmills or other fresh water wells within 1 mile? If so, please send an analysis.

9/1/2006

- 3) Please send the estimated top and bottom of the Salado Fm and the top and bottom of the Capitan Reef in this well.
- 4) The C-108 says the Delaware starts at 4800 feet but most wells here seem to have a casing set at 4400 or 4500 feet. Why did they set there?
- 5) I understand that this well and two other nearby wells are not/ will not be cemented over an interval in the Delaware. Are you not worried about future corrosion to your new 5-1/2 inch P-110 casing above 9000 feet? Does the LDU A-13 or the LDU A-16 have any bradenhead flows or constant pressure?
- 6) The Strawn oil is depleted in this well. Is the Strawn still a producer in any nearby wells and if so, will this injection harm or help that production? (Usually I ask for a short PE statement if injecting into a producing interval).
- 7) Is BLM the surface owner and Marbob the only "operator of record" or "lessee" of the Pennsylvanian (Strawn) within the 1/2 mile radius?

Thanks for always sending a readable application and good luck with the well.

William V. Jones

Engineering Bureau

Oil Conservation Division

Santa Fe

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Injection Permit Checklist

SWD Order Number 1042 Dates: Division Approved _____ District Approved _____

Information Request Letter or Email sent _____

Well Name/Num: LUCK DEEP UNIT #2

Date Spudded: 1961 Plugged in 1971

API Num: (30-) 025-00900 County: LEA

Footages 660 FSL, 1980 FEL Sec 18 Tsp 19S Rge 32e

Operator Name: Marble Energy Corporation

Contact Brian Collins

Operator Address: PO BOX 230 Artesia NM 88211-0227

	Hole/Pipe Sizes	Depths	Cement	Top/Method
Surface	17 1/2 13 3/8	4462	3400	CIRC (DV @ 2887')
Intermediate	12 1/4 9 5/8	4412-11400	525	8990 T.S.
Production	8 3/8 5"	11299-13551	717-FC	11299 ✓
Last DV Tool				
Open Hole/Liner				
Plug Back Depth		13974 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			✓ @ 2500'
Capitan Reef	✓		✓ @ 4800'
Cliff House Etc			
Formation Above	10400	W.C.	
Top Inj Interval	11220	STRAWN	2244 PSI Max. WHIP
Bottom Inj Interval	11250	"	NO Open Hole (Y/N)
Formation Below	11600	ATOKA	NO Deviated Hole (Y/N)

Fresh Water Site Exists (Y/N) _____ Analysis Included (Y/N): _____

Salt Water Analysis: Injection Zone (Y/N/NA) ☒ Disposal Waters (Y/N/NA) ☒ Types: Bone Springs

Affirmative Statement Included (Y/N): ☒ Newspaper Notice Adequate (Y/N) ☒ Well Table Adequate (Y/N) ☒

Surface Owner BLM Noticed (Y/N) ☒ Mineral Owner(s) BLM

AOR Owners: None in Noticed (Y/N) _____

CID/Potash/Etc Owners: _____ Noticed (Y/N) _____

AOR Num Active Wells 3 Repairs? ☒ Producing in Injection Interval in AOR NO

AOR Num of P&A Wells 0 Repairs? ☒ Diagrams Included? ☒

Data to Generate New AOR Table

NO New Table Generated? (Y/N)

	STR	E-W Footages	N-S Footages
Wellsite			
Northeast			
North			
Northwest			
West			
Southwest			
South			
Southeast			
East			

Conditions of Approval:

1. Send logs to Hubble ✓
2. F.W. analysis? ✓
3. TOP/BOTTOM of Salt ✓
4. TOP/BOTTOM of Reef ✓

RBDMS Updated (Y/N) _____

UIC Form Completed (Y/N) ☒

This Form completed _____

Inactive Well List

Total Well Count:1033 Inactive Well Count:0 Since:6/8/2005

Printed On: Friday, September 01 2006

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	Days in TA
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WHERE Ogrid:14049, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15