

DATE IN <u>5-6-10</u>	SUSPENSE	ENGINEER <u>WJ</u>	LOGGED IN <u>5-6-10</u>	TYPE <u>SWD</u>	APP NO. <u>1012657572</u>
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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 OGD  
 Marbob  
 MAY 15 P 5:00  
 Tuna 28 SWD #1

**ADMINISTRATIVE APPLICATION CHECKLIST**

30-015-21614

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,  
*to follow by e-mail*
- [F]  Waivers are Attached

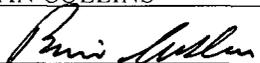
[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[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.

BRIAN COLLINS		PETROLEUM ENGINEER	4 May 10
Print or Type Name	Signature	Title	Date
		<u>bcollins@marbob.com</u>	
		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:  MARBOB ENERGY CORPORATION   
ADDRESS:  P O BOX 227, ARTESIA, NM 88211-0227   
CONTACT PARTY:  BRIAN COLLINS, PETROLEUM ENGINEER  PHONE:  575-748-3303
- 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  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 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:  PETROLEUM ENGINEER   
SIGNATURE:    DATE:  4 May 10   
E-MAIL ADDRESS:  bcollins@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: \_\_\_\_\_

C-108 Application for Authorization to Inject  
Tuna 28 SWD No. 1  
2080' FNL, 1980' FWL  
F-28-T26S-R25E, Eddy County

30-015-21614

Marbob Energy Corporation proposes re-enter the captioned well for salt water disposal service into the Delaware Sand from 3430' to 4425'. We propose to clean out to 4550', tie back 8 5/8" 0-2356', cement tie back to surface, set CIBP at 4550' and convert well to SWD service.

- V. Map is attached.
- VI. There are no wells located within the 1/2 mile radius area of review.
- VII.
  1. Proposed average daily injection rate = 2000 BWPD  
Proposed maximum daily injection rate = 5000 BWPD
  2. Closed system
  3. Proposed maximum injection pressure = 686 psi  
(0.2 psi/ft. x 3430' ft.)
  4. Source of injected water will be Delaware Sand and Bone Spring Sand produced water. No compatibility problems are expected. Analyses of Delaware and Bone Spring waters from analogous wells are attached. We have numerous Delaware SWD's in this area and have not encountered any compatibility issues with our Delaware and Bone Spring injected waters.
- VIII. The injection zone is the Delaware Sandstone, a fine-grained sandstone from 3430' to 4425'. Any underground water sources will be shallower than 426'.  
*BRUSHY Canyon*
- IX. The Delaware sand injection interval will be acidized with approximately 20 gal/ft of 7 1/2 % HCl acid. If necessary, the injection interval may be fraced with up to 300,000 lbs. of 20/40 mesh sand.
- X. Well logs are filed with the Division. A section of the sonic porosity log showing the injection interval is attached.
- XI. There is a stock tank within a mile of the proposed SWD well. Water analysis is attached.
- XII. After examining the available geologic and engineering data, no evidence was found 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

INJECTION WELL DATA SHEET

OPERATOR: Marbob Energy Corp.

WELL NAME & NUMBER: Tuna 28 SWD No. 1 (Formerly Black River Federal 1)

WELL LOCATION: 2080' FNL 1980' FNL

UNIT LETTER: F SECTION: 28 TOWNSHIP: 26S RANGE: 25E

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA  
Surface Casing

Hole Size: 17 1/2" Casing Size: 13 3/8" @ 426'

Cemented with: 400 sx. or - ft<sup>3</sup>

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: 11" Casing Size: 8 7/8" @ 4752'  
Cemented with: 500 sx. or - ft<sup>3</sup>  
(cut @ pulled @ 2356')

Top of Cement: ± 2356' Method Determined: Casing cut @ pulled @ 2356'

Production Casing

Hole Size: 7 7/8" Casing Size: 4 1/2" @ 9171'  
Cemented with: 400 sx. or - ft<sup>3</sup>  
(cut @ pulled @ 6700')

Top of Cement: 7475' Method Determined: Estimated

Total Depth: 12136'

Injection Interval  
3430' feet to 4425'

See attached "Before" and "After" wellbore schematics

(Perforated) or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: IPC or Duoline 20  
 Type of Packer: 10K nickel plated double grip retrievable  
 Packer Setting Depth: ± 3380'  
 Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

1. Is this a new well drilled for injection? Yes  No   
 If no, for what purpose was the well originally drilled? Oil and gas

2. Name of the Injection Formation: Delaware Sand (Barshly Congen)  
 3. Name of Field or Pool (if applicable): Co Hanwood Spring  
 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. Yes  
See attached wellbore schematic.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:  
Overlying: None  
Underlying: Bone Spring 4900-5400'

30-015-21614

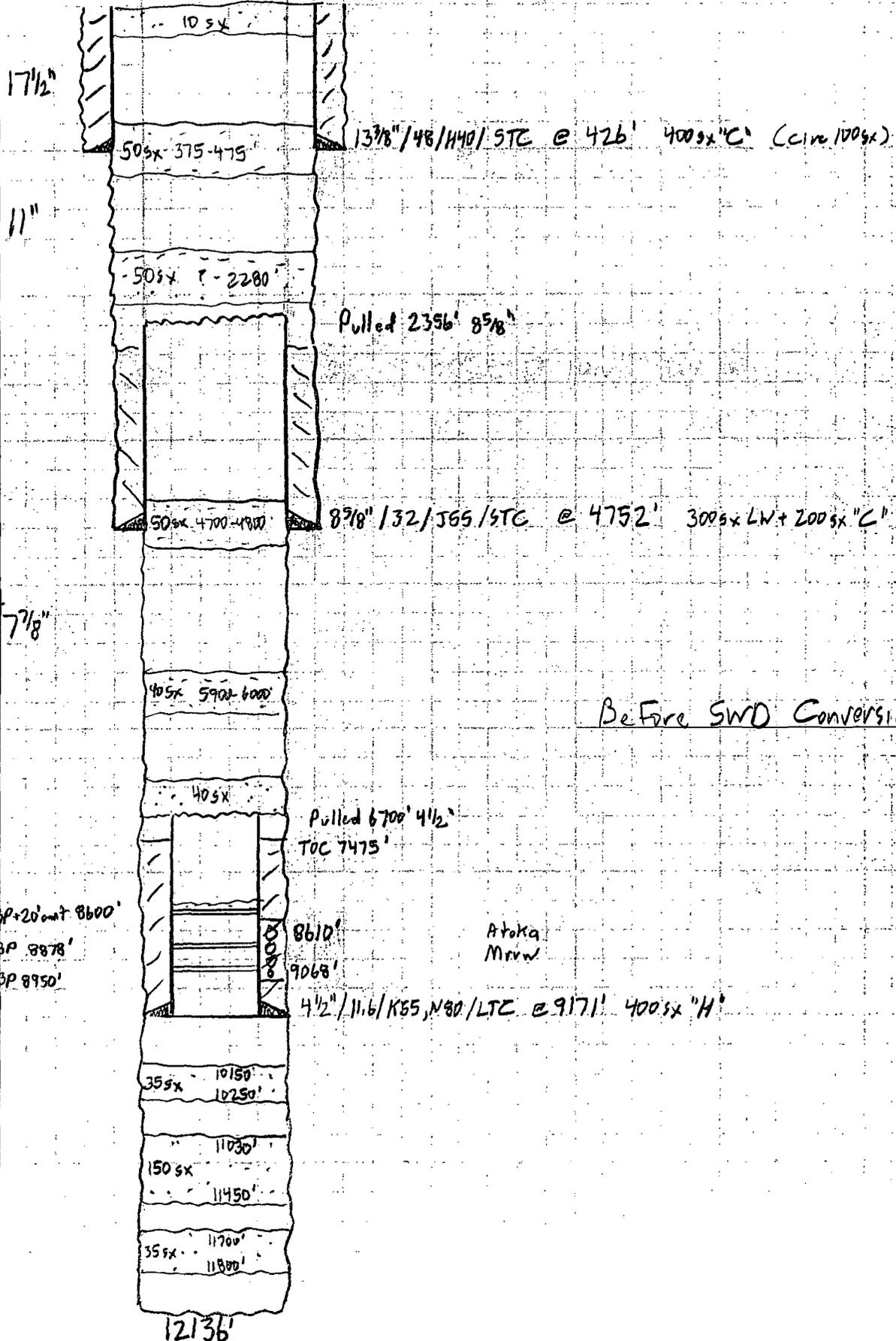
(Formerly Black River Fed. 1)

2080' FNL, 1980' FNL

F-28-26s-25e

Eddy NM

6L: 3704'



30-015-21614

# Tuna ZB SWD No. 1

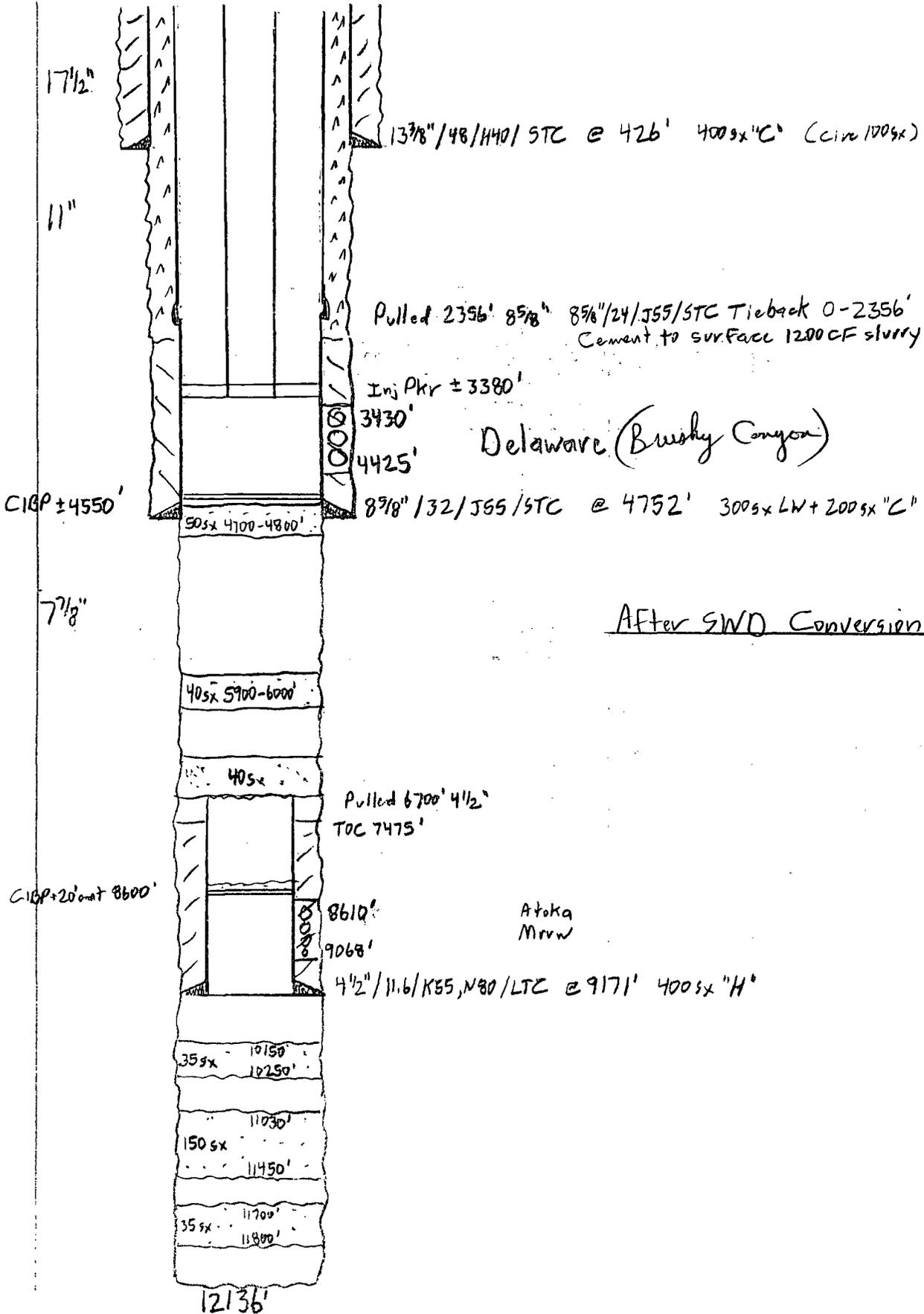
(Formerly Black River Fed. 1)

2080' FNL, 1980' FNL

F-28-26s-25e

Eddy NM

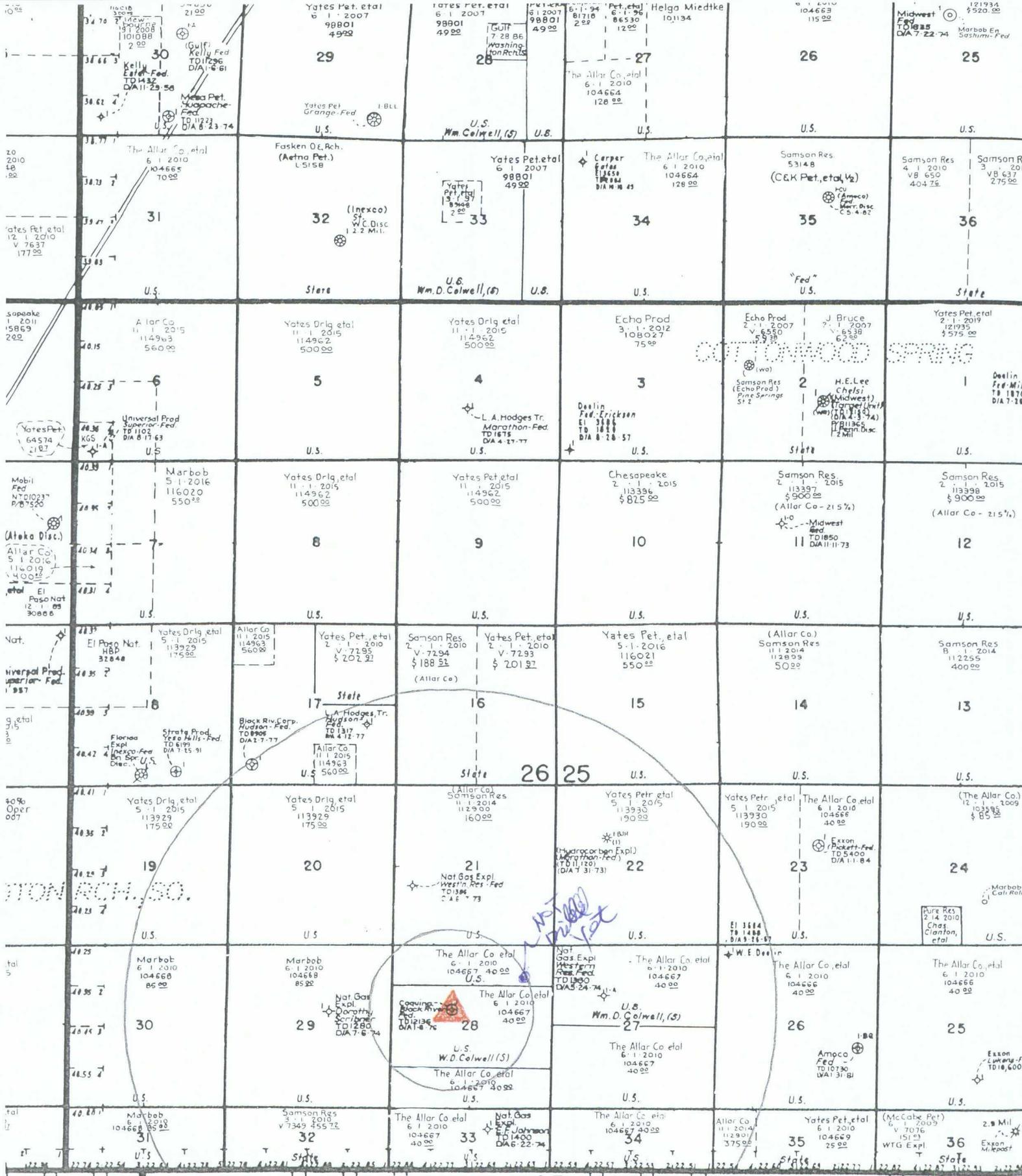
GL: 3704'



After SWD Conversion

V.

MAP



Ownership Map

West Port of

# **VII.**

## **Water Analysis Produced and Receiving Formation Water**

# Water Analysis Produced Water

..... Forwarded by Bill Polk/BJSR/SERVICES on 02/11/2010 07:56 AM .....

Analytical Laboratory Report for:	 BJ Chemical Services
MARBOB ENERGY CORPORATION	Account Representative: William D Polk

## Production Water Analysis

Listed below please find water analysis report from: Sro, State Unit Com Well #2

Lab Test No:	2010106750	Sample Date:	02/01/2010
Specific Gravity:	1.135		
TDS:	207535		
pH:	6.25		
Resistivity:	.095@73F	ohms/M	

Cations:	mg/L	as:
Calcium	3281	(Ca <sup>++</sup> )
Magnesium	1376	(Mg <sup>++</sup> )
Sodium	75076	(Na <sup>+</sup> )
Iron	22.44	(Fe <sup>++</sup> )
Potassium	1592.0	(K <sup>+</sup> )
Barium	3.51	(Ba <sup>++</sup> )
Strontium	975.00	(Sr <sup>++</sup> )
Manganese	1.21	(Mn <sup>++</sup> )
Anions:	mg/L	as:
Bicarbonate	708	(HCO <sub>3</sub> <sup>-</sup> )
Sulfate	500	(SO <sub>4</sub> <sup>=</sup> )
Chloride	124000	(Cl <sup>-</sup> )
Gases:		
Carbon Dioxide	410	(CO <sub>2</sub> )
Hydrogen Sulfide	0	(H <sub>2</sub> S)

MARBOB Lab Test  
ENERGY No:  
CORPORATION 2010106750

DownHole SAT™  
Scale Prediction  
@ 100 deg. F

# Water Analysis Receiving Formation

<b>Analytical Laboratory Report for:</b> <b>MARBOB ENERGY CORPORATION</b>	 <b>Chemical Services</b> Account Representative: Polk, Bill
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## Partial Water Analysis

Listed below please find water analysis report from: WILLOW STATE, 2

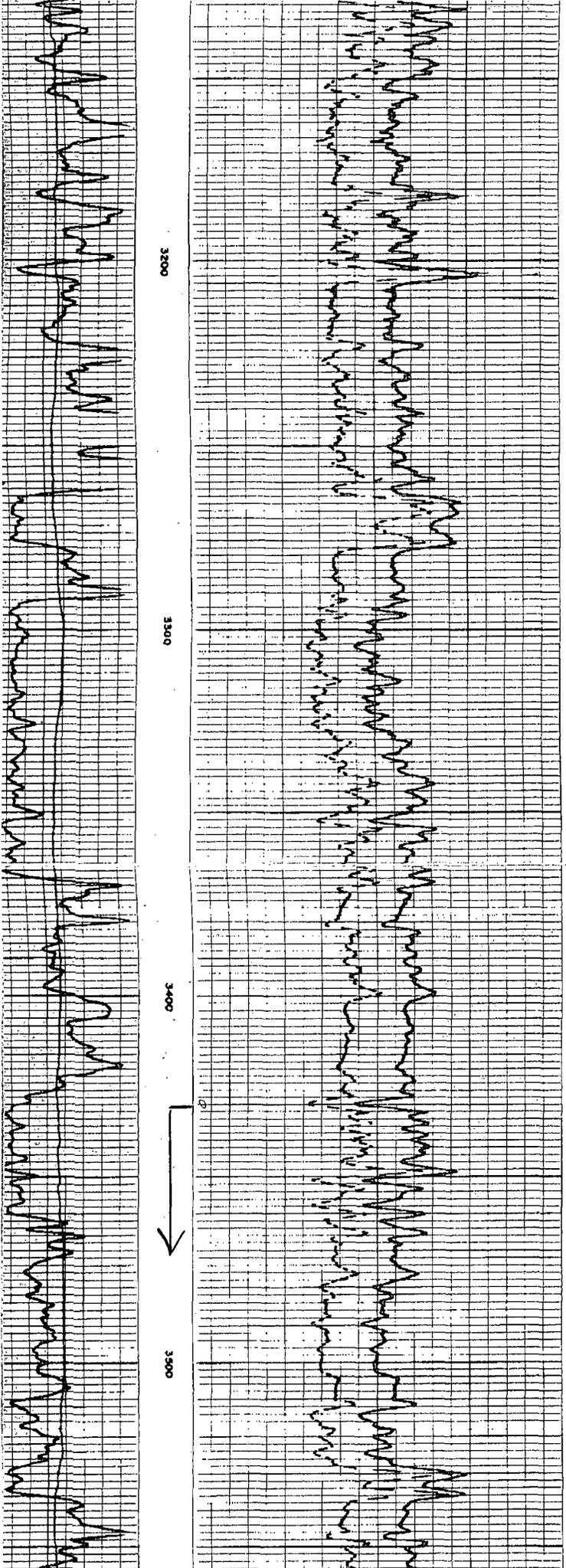
Lab Test No: 2008125125 Sample Date: 06/24/2008

Cations:	mg/L	as:
Calcium	30900.00	(Ca <sup>++</sup> )
Magnesium	4910.00	(Mg <sup>++</sup> )
Sodium	60300	(Na <sup>+</sup> )
Iron	23.00	(Fe <sup>++</sup> )
Potassium	1260.0	(K <sup>+</sup> )
Barium	1.76	(Ba <sup>++</sup> )
Strontium	981.00	(Sr <sup>++</sup> )
Manganese	10.50	(Mn <sup>++</sup> )
Anions:	mg/L	as:
Sulfate	0	(SO <sub>4</sub> <sup>=</sup> )
Chloride	229000	(Cl <sup>-</sup> )
Gases:		
Carbon Dioxide		(CO <sub>2</sub> )
Hydrogen Sulfide		(H <sub>2</sub> S)

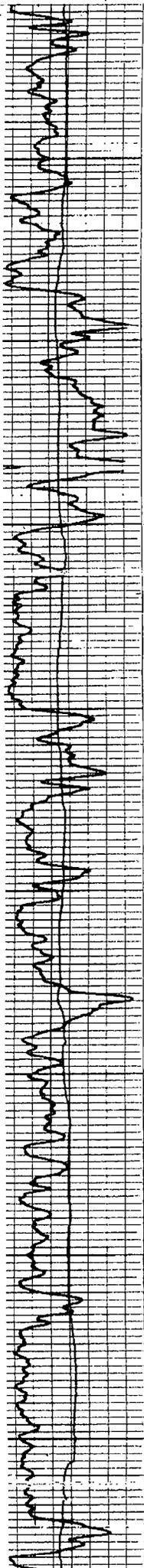
**X.**

**Sonic Log Across  
Proposed Delaware  
Sand Injection Interval**





Gross Delaware  
SWD Interval  
3430 - 4425'

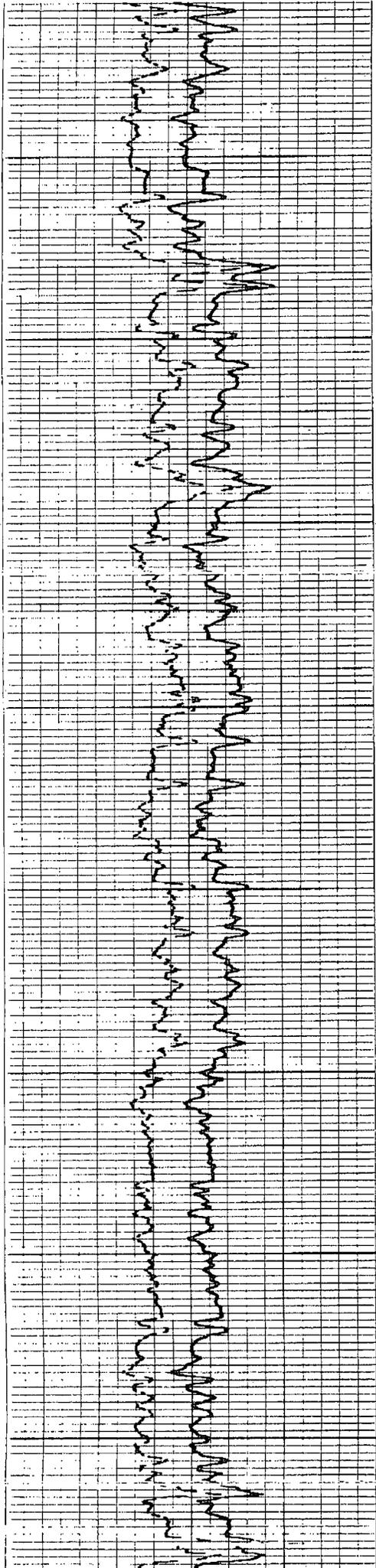


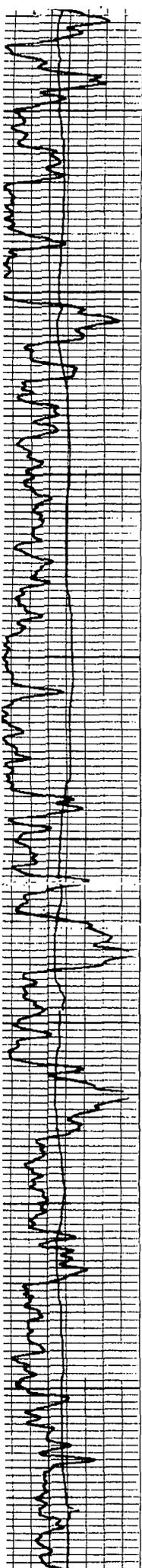
3500

3600 *Bushy Camp*

3700

3800





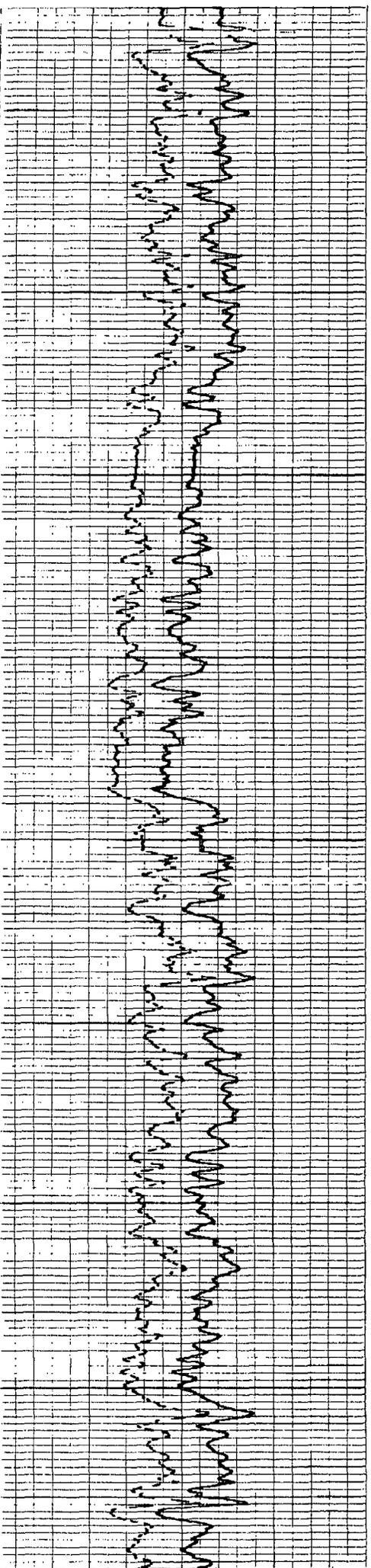
3900

4000

4100

4200

43





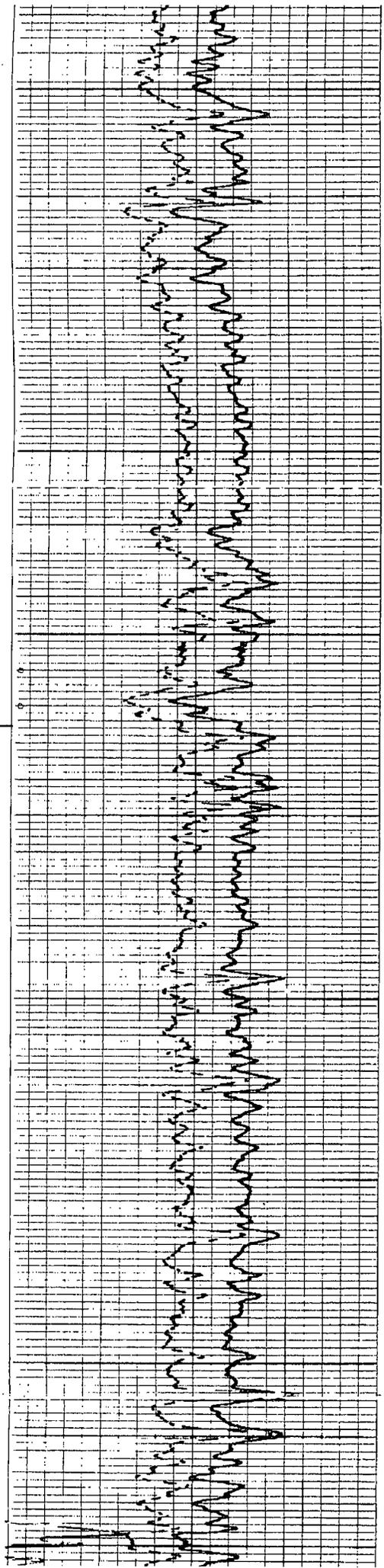
4300



4400

4500

4600



**XI.**

**Fresh Water Sample  
Analyses**



# New Mexico Office of the State Engineer

## Point of Diversion by Location

(with Owner Information)

(quarters are 1=NW 2=NE 3=SW 4=SE)  
 (quarters are smallest to largest) (NAD83 UTM in meters)

Sub basin Use Diversion Owner (acre ft per annum) Grant County POD Number Source q q q  
 STK 3 TOMMY D. WATSON ED C 02369 6416 4 Sec Tws Rng X Y  
 3 1 27 26S 25E 557611 3542260\*

**Record Count:** 1

**PLSS Search:**

Section(s): 20, 21, 22, 27, Township: 26S Range: 25E  
 28, 29, 32, 33,  
 34

**Sorted by:** File Number

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



Stock Tank Well  
 SW/4 NW/4 27-265-25e

Date: 04/22/10

2708 West County Road, Hobbs NM 88240  
 Phone (505) 392-5556 Fax (505) 392-7307

**Source Water**

1

**Analyzed For**

Company	Well Name	County	State
Marbob	SESESE 5-265-25E	Eddy	New Mexico

Specific Gravity	1.005	SG @ 80 °F	1.007
pH	7.79	Sulfides	Not Tested
Temperature (°F)	72	Reducing Agents	Not Tested

**Cations**

Sodium (Calc)	in Mg/L	1,722	in PPM	1,710
Calcium	in Mg/L	292	in PPM	290
Magnesium	in Mg/L	22	in PPM	21
Soluable Iron (FE2)	in Mg/L	0.0	in PPM	0

**Anions**

Chlorides	in Mg/L	160	in PPM	159
Sulfates	in Mg/L	4,000	in PPM	3,971
Bicarbonates	in Mg/L	210	in PPM	208

Total Hardness (as CaCO3)	in Mg/L	820	in PPM	814
Total Dissolved Solids (Calc)	in Mg/L	6,406	in PPM	6,359

**Remarks** Fresh Water  
 RW = .95 @ 75F

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**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.**

5. Lease Serial No.  
NMNM104667

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

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

1. Type of Well  
 Oil Well     Gas Well     Other SWD

8. Well Name and No.  
TUNA 28 SWD #1

2. Name of Operator  
MARBOB ENERGY CORPORATION

9. API Well No.  
30-015-21614

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

3b. Phone No. (include area code)  
575-748-3303

10. Field and Pool or Exploratory Area  
DELAWARE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SEC. 28-T26S-R25E, SE/4NW/4  
2080 FNL 1980 FWL, UNIT F

11. Country or Parish, State  
EDDY COUNTY, NM

**12. CHECK THE 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 checked="" type="checkbox"/> Other <u>CONVERT TO SWD</u>
	<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 type="checkbox"/> Water Disposal	

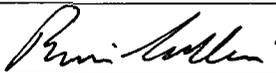
13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must 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 PETROLEUM ENGINEER

Signature 

Date 4 May 10

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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.

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.



**marbob**  
energy corporation

May 4, 2010

Artesia Daily Press  
P. O. Box 190  
Artesia, NM 88211-0190

Re: Legal Notice  
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 Tuna 28 SWD #1, is located 2080' FNL 1980' FWL, Sec. 28, Township 26 South, Range 25 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware and Bone Spring formations. The disposal water will be injected into the Delaware formation at a depth of 3430-4425' at a maximum surface pressure of 686 psi and a maximum rate of 5000 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 575-748-3303.

Published in the Artesia Daily Press, Artesia, New Mexico  
\_\_\_\_\_, 2010.



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**marbob**  
energy corporation

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May 4, 2010

Cimarex Energy Company  
15 E. 5<sup>th</sup> Street, Ste. #1000  
Tulsa, OK 74103-4346

Re: Application to Inject  
Tuna 28 SWD No. 1  
Township 26 South, Range 25 East, NMPM  
Section 28: 2080 FNL 1980 FWL, Unit F  
Eddy County, New Mexico

Ladies and Gentlemen:

Enclosed for your review is a copy of Marbob Energy Corporation's application to convert the referenced well to salt water disposal. 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.

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

Sincerely,

Brian Collins  
Petroleum Engineer

BC/dlw  
enclosure



**marbob**  
energy corporation

May 4, 2010

Samson Resources Company  
2 W. Second Street  
Tulsa, OK 74103

Re: Application to Inject  
Tuna 28 SWD No. 1  
Township 26 South, Range 25 East, NMPM  
Section 28: 2080 FNL 1980 FWL, Unit F  
Eddy County, New Mexico

Ladies and Gentlemen:

Enclosed for your review is a copy of Marbob Energy Corporation's application to convert the referenced well to salt water disposal. 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.

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

Sincerely,

Brian Collins  
Petroleum Engineer

BC/dlw  
enclosure



**5. Proposed Cement Program:** *See COA*

- a. 13 3/8" Surf Cement to surface with 350 sk "C" wt 14.8 ppg yield 1.34.
- b. 9 5/8" Int *See COA* Cement to surface with 200 sk "C" Light wt 12.7 yield 1.91, tail in with 100 sk "C" wt 14.8 yield 1.34
- d. 5 1/2" Prod *See COA* Cement 1<sup>st</sup> stage with 600 sk "H" Light wt 12.7 yield 1.91, Tail in with 200 sk "H" wt 13.0 yield 1.64  
Cement 2<sup>nd</sup> stage with 700 sk "C" Light wt 12.7 yield 1.91 Tail in with 100 sk "H" wt 13.0 yield 1.64. DV @ 5600'. TOC 600'

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 200' above the 9 5/8" casing shoe. **All casing is new and API approved.**

**6. Minimum Specifications for Pressure Control:**

Nipple up on 13 3/8" with 2m system and test to 2000# with independent tester. Nipple up on 9 5/8" with 5m system and test to 5000# with ind. Tester.

BOP will be operationally checked each 24 hour period. BOP will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and a 3" choke line will be included in the drilling spool located below the BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 5000 psi WP rating.

**7. Estimated BHP:** 4,409.6 psi

*See COA*

**8. Mud Program:** The applicable depths and properties of this system are as follows:

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 300'	Fresh Water	8.4	29	N.C.
300' - 1200'	Brine	9.9 - 10.0	29	N.C.
1200' - 9200'	Cut Brine	8.9 - 9.0	29	N.C.
9200' - 10600'	Cut Brine	8.9 - 9.0	29-30	6CC

The necessary mud products for weight addition and fluid loss control will be on location at all times.

**9. Auxiliary Well Control and Monitoring Equipment:**

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**SAMSON RESOURCES COMPANY  
2 W SECOND STREET  
TULSA OK 74103**

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 *Jim Pfeiffer*  Agent  
 Addressee

B. Received by (Printed Name)  
**Jim Pfeiffer**

C. Date of Delivery  
**MAY 14 2010**

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number 7006 0810 0000 8979 7145  
 (Transfer from service label)

PS Form 3811, February 2004 *DW* Domestic Return Receipt *Tuna 28 SWD* 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**CIMAREX ENERGY CORPORATION  
15 E 5TH STREET, STE. #1000  
TULSA, OK 74103-4346**

**SENDER: COMPLETE THIS SECTION**

A. Signature  
 *[Signature]*  Agent  
 Addressee

B. Received by (Printed Name)  
**[Printed Name]**

C. Date of Delivery  
**MAY 10 2010**

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 *[Signature]*  Agent  
 Addressee

B. Received by (Printed Name)  
**[Printed Name]**

C. Date of Delivery  
**MAY 10 2010**

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
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 Insured Mail  C.O.D.

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 *[Signature]*  Agent  
 Addressee

B. Received by (Printed Name)  
**[Printed Name]**

C. Date of Delivery  
**MAY 10 2010**

D. Is delivery address different from item 1?  Yes  
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 (Transfer from service label)

PS Form 3811, February 2004 *DW* Domestic Return Receipt *Tuna 28 SWD* 102595-02-M-1540

# Affidavit of Publication

NO. 21158

# Copy of Publication:

STATE OF NEW MEXICO

County of Eddy:

GARY D. SCOTT being duly

sworn, says: That he is the PUBLISHER of The

Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and county and state, and that the here to attached

### Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 Consecutive week/days on the same

day as follows:

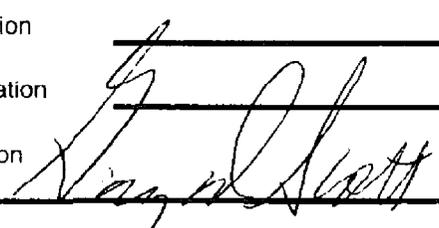
First Publication May 7, 2010

Second Publication \_\_\_\_\_

Third Publication \_\_\_\_\_

Fourth Publication \_\_\_\_\_

Fifth Publication \_\_\_\_\_



Subscribed and sworn to before me this

7 Day May 2010

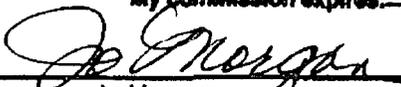
Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico, 88211-0227, has filed Form C-100 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Tuna 28 SWD #1, is located 2080' FNL 1000' FWL, Sec. 28, Township 28 South, Range 25 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware and Bone Spring formations. The disposal water will be injected into the Delaware formation at a depth of 3430-4425' at a maximum surface pressure of 686 psi and a maximum rate of 5000 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 eleven (11) 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 575-748-3303. Published in the Artesia Daily Press, Artesia, NM May 7, 2010. Legal No. 21158

MAY 12 2010



OFFICIAL SEAL  
Jo Morgan  
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 6/16/2012



Jo Morgan  
Notary Public, Eddy County, New Mexico

**Injection Permit Checklist (03/15/2010)**

Case \_\_\_\_\_ R- \_\_\_\_\_ SWD 1225 WFX \_\_\_\_\_ PMX \_\_\_\_\_ IPI \_\_\_\_\_ Permit Date 6/8/10 UIC Qtr (A/M/J)  
 # Wells 1 Well Name: Tuna 28 SWD #1 (was Black River Fed #1)  
 API Num: (30-) 05-21614 Spud Date: 8/10/75 New/Old: 0 (UIC primacy March 7, 1982)  
 Footages 2080 FNL/1980 FUL Unit F Sec 28 Tsp 265 Rge 25E County Eddy  
 Operator: Marble Energy Corp Contact Brian Colwell  
 OGRID: 14049 RULE 5.9 Compliance (Wells) 4/1300 (Finan Assur) OK IS 5.9 OK? OK  
 Operator Address: P.O. Box 227, Artesia, NM 88211-0227  
 Current Status: PEA 1976

Planned Work to Well: Clamout, Tieback 8 5/8 Planned Tubing Size/Depth: 2 7/8 @ 3380

	Sizes Hole.....Pipe	Setting Depths	Cement Sx or Cf	Cement Top and Determination Method
Existing Surface	17 1/2 13 3/8	426	400	CRC
Existing Intermediate	11 8 5/8	2356 4752	500	2356 ext.
Existing Long String	7 7/8 4 1/2	6700-9171	400	7475 ext.

DV Tool \_\_\_\_\_ Liner \_\_\_\_\_ Oper Hole \_\_\_\_\_ Total Depth 13136

Well File Reviewed   
 Diagrams: Before Conversion  After Conversion  Elogs in Imaging File:

Intervals:	Depths	Formation	Producing (Yes/No)
Above (Name and Top)	1250	Del.	
Above (Name and Top)	2130	Cherry C.	
Injection Interval TOP:	3260	Del (Brushy)	Brushy
Injection Interval BOTTOM:	3430	Del (Brushy)	Brushy
Injection Interval BOTTOM:	4425	Del (Brushy)	
Below (Name and Top)	4900-5400	B.S.	
	4668	TOP B.S.	

GENERAL LOCATION  
S. of WHITE CITY  
686 PSI Max. WHIP  
 Open Hole (Y/N) \_\_\_\_\_  
 Deviated Hole? \_\_\_\_\_

Sensitive Areas: Capitan Reef Cliff House Salt Depths \_\_\_\_\_  
 Potash Area (R-111-P) \_\_\_\_\_ Potash Lessee \_\_\_\_\_ Noticed? \_\_\_\_\_

Fresh Water: Depths: \_\_\_\_\_ Wells 1 Analysis? Yes Affirmative Statement

Disposal Fluid Sources: Del / BS Analysis?

Disposal Interval Production Potential/Testing/Analysis: well was PEAED 1976

Notice: Newspaper (Y/N)  Surface Owner BLM Mineral Owner(s) \_\_\_\_\_

RULE 26.7(A) Affected Parties: Allan or Sanson C. Maxwell

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

Active Wells  Num Repairs \_\_\_\_\_ Producing in Injection Interval in AOR \_\_\_\_\_

P&A Wells  Num Repairs \_\_\_\_\_ All Wellbore Diagrams Included? \_\_\_\_\_

Questions/Required Work: one well planned not drilled yet NE

Report Testing TO DIVISION

*[Signature]*

Request Sent \_\_\_\_\_ Reply: \_\_\_\_\_  
 Request Sent \_\_\_\_\_ Reply: \_\_\_\_\_  
 Request Sent \_\_\_\_\_ Reply: \_\_\_\_\_