

APR - 4 2000

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New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505

Attn: Ben Stone NMOCD Engineering Bureau

Dear Mr. Stone:

Please find the enclosed Application for Authorization to Inject regarding Marbob Energy Corporation's Bobby Fee No. 1 proposed saltwater disposal is located at 2252' FSL and 990' FWL in Section 25 of Township 9 South, Range 36 East in Lea County, New Mexico.

Application is made pursuant to Rule 701C of the Division Rules and Regulations for Administrative Approval for Disposal. Proposed injection formation is the Devonian at 12,288' (open hole). The waters to be disposed of will consist of produced waters from the Devonian formations.

Publication of Marbob Energy Corporation's intent to utilize the proposed well for disposal purposes has been made in the Lovington Daily Leader, and a copy of this Application has been mailed via certified mail to the effected landowners and leasehold operators. All future proof of notification will be forwarded to your office upon receipt.

Thank you for your assistance with this matter. Please do not hesitate to contact me should you have any questions or require any additional information. Any assistance you or your staff could provide to expedite this

P.O. Box 227 Artesia, New Mexico 88211-0227 (505) 748-3303 Fax (505) 746-2523

application would be greatly appreciated.

Marbob Energy Corporation respectfully requests your approval of the before mentioned Application at the expiration of the fifteen day waiting period.

Sincerely,

201 11 111 Dean Chumbley

Land Department

DC/mm Enclosures

### BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION FOR ADMINISTRATIVE APPROVALOF MARBOB ENERGY CORPORATION APPLICATION FOR AUTHORIZATION TO INJECT

### **BOBBY FEE No. 1**

### **TABLE OF CONTENTS**

Form C-108 Injection Well Data Sheet Attachment to the Injection Well Data Sheet Area of Review Map (Attachment A) Area of Review Tabulation Data Proposed Operation Data Section VIII through Section XI Geologic Affirmative Statement Injection Zone Water Analysis (Exhibit One) Produced Water Analysis (Exhibit Two) Proof of Notice

### OIL CONSERVATION DIVISION 2040 SOUTH PACHECO SANTA FE, NEW MEXICO 87505

### APPLICATION FOR AUTHORIZATION TO INJECT

/ <b>I</b> .	PURPOSE:       Secondary Recovery       Pressure Maintenance       x       Disposal       Storage         Application qualifies for administrative approval?      Yes      No
7 <b>II.</b>	OPERATOR: Marbob Energy Corporation
	ADDRESS: Post Office Box 227, Artesia, NM 88211-0227
	CONTACT PARTY: Dean Chumbley 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.
ν <b>ίν</b> .	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:
۶ <b>V</b> .	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:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> </ol>
⁺ *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: Dean Chymbley // //
	SIGNATURE: Man Min My DATE: 4-3-2000

\* 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; anc,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, 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.

(30-025-34765)	25 9S 36E UNIT LETTER SECTION TOWNSHIP RANGE	WELL CONSTRUCTION DATA Surface Casing	Hole Size:       17       1/2"       Casing Size:       13       3/8"         Cemented with:       475       sx.       or       ff <sup>3</sup> Top of Cement:       surface       Method Determined:       circulated         Intermediate Casing       Intermediate Casing	Hole Size:121/4"Casing Size:85/8"Cemented with:1465sx.orft³Top of Cement:surfaceMethod Determined:circulated	Production Casing       Hole Size:     7 7/8"       Casing Size:     5 1/2"	Cemented with: 250 sx. or ft <sup>3</sup> Top of Cement: 10,750 Method Determined: Temp Survey Total Depth: 12,288	Injection Interval       Open Hole @ 12,288'     feet to       (Perforated or Open Hole; indicate which)
OPERATOR: Marbob Energy Corporation WELL NAME & NUMBER: Bobby Fee No. 1	WELL LOCATION: 2252' FSL and 990' FWL FOOTAGE LOCATION	WELLBORE SCHEMATIC	(See Attachments)				

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**INJECTION WELL DATA SHEET** 

Side 1

## INJECTION WELL DATA SHEET

Tubir	Tubing Size: 2 7/8" Lining Material: Plastic Coated
Туре	Type of Packer: Halliburton RTTS
Packe	Packer Setting Depth: 12.250
Other	Other Type of Tubing/Casing Seal (if applicable):
	Additional Data
<u>.</u>	Is this a new well drilled for injection? Yes X No
	If no, for what purpose was the well originally drilled?
	Devonian Test
2.	Name of the Injection Formation: <u>Devonian</u>
÷	Name of Field or Pool (if applicable): Crossroads
<u>4</u>	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. Perforated
	Atoka zone at 11,531' - 11,537' and 11,542' - 11,548'. Non productive,
5.	squeezed with 50 sxs. Give the name and depths of any oil or gas zones underlying or overlying the proposed

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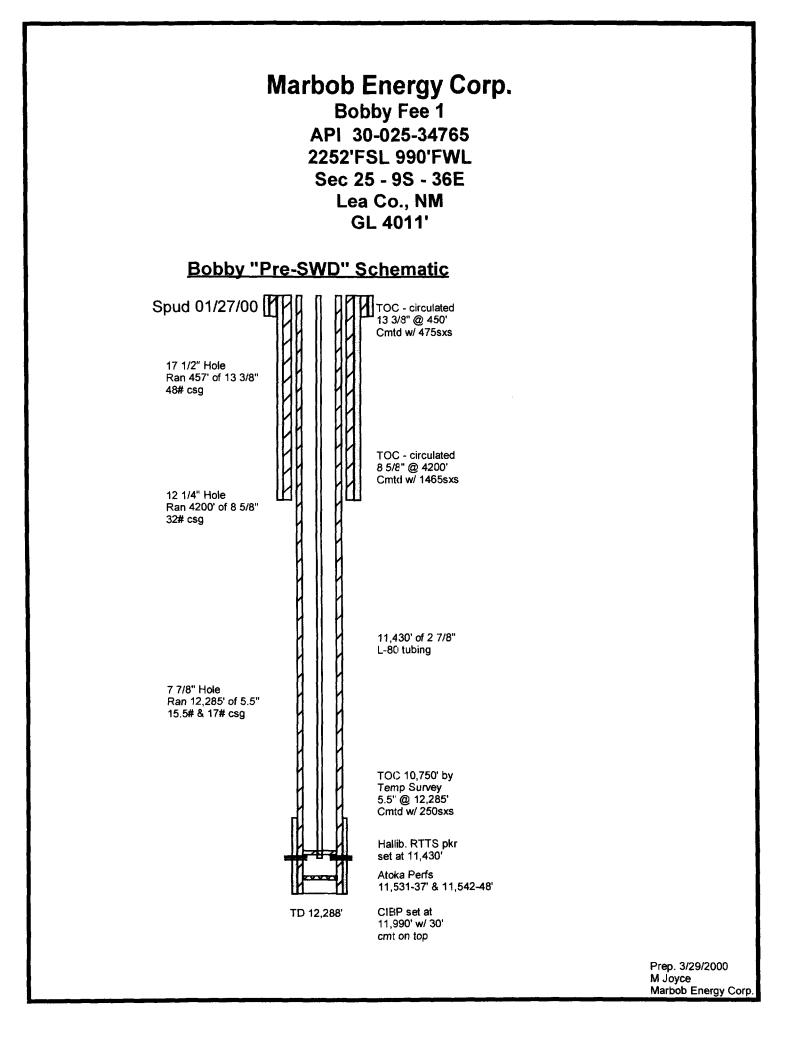
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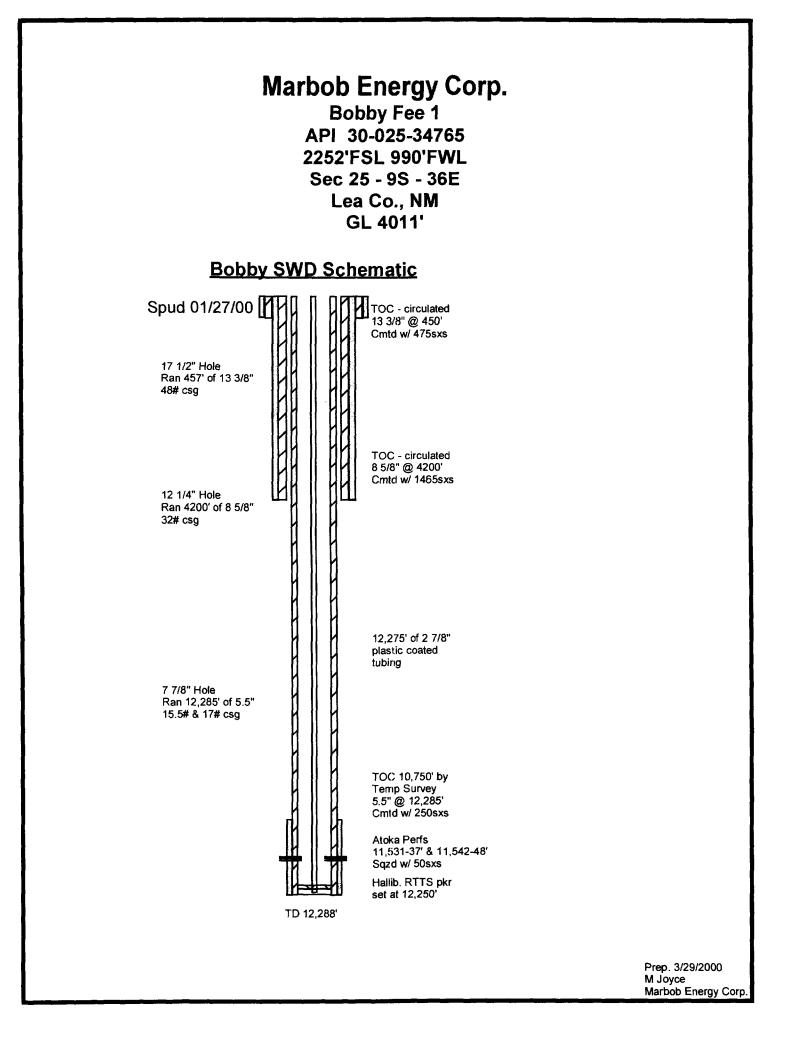
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injection zone in this area:

San Andres 5000' - 5100'

Side 2





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Map identifing leases and well within two miles of Marbob Energys Bobby Fee No. 1 located at 2252'FSL & 990'FWL in 25-T9s-R36e

Map identifing the one-half mile area of review for the Bobby Fee No. 1

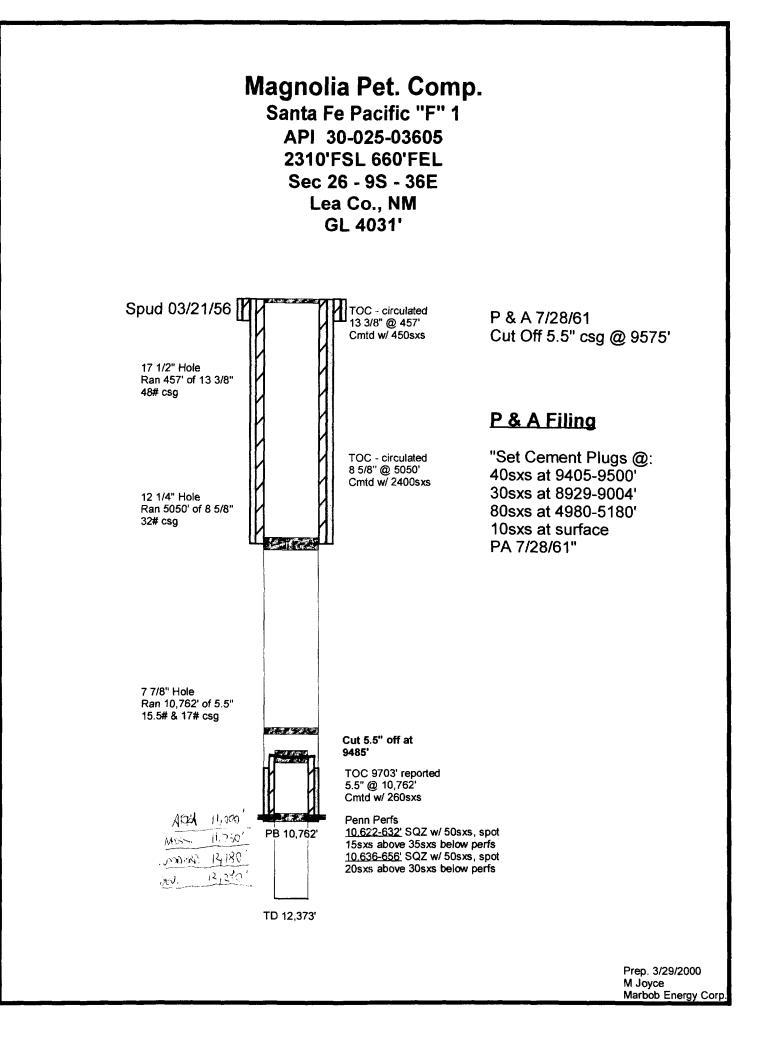
### Attachment A

# TABULATION OF WELLS WITHIN THE AREA OF REVIEW

### BOBBY FEE #1

CASING PROGRAM	See Attached Schematic	
FORMATION	Pennsylvanian	
INTERVAL	N/A	
TD/PBTD	TD-12373' РВТD - 10762'	
COMPLETED TD/PBTD INTERVAL	Dry Hole	
DNAS	03/21/56	
TYPE	Ρξ <sub>i</sub> A	
LOCATION TYPE	2310' FSL - 660' FEL SECTION 26-95-36E	
OPERATOR	Magnolia Petroleum	Company
WELL NAME	Santa Fe Pacific "F" #1	30-025-03605

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### AUTHORIZATION TO INJECT MARBOB ENERGY CORPORATION

BOBBY FEE No. 1

### AFFIRMATIVE STATEMENT

I have examined all geologic and engineering data available for the Crossroads field and find no evidence of open faults and other hydrologic connection between the disposal zone and any underground drinking water sources.

Name: <u>Martin Joyce</u> Date: <u>4/3/2000</u>

Signature: Muliu fulfe \_\_\_\_\_ Title: \_\_\_\_\_ Geologist

### AUTHORIZATION TO INJECT MARBOB ENERGY CORPORATION

### BOBBY FEE No. 1

### VII Proposed Operation Data:

### 1. Proposed Rate of Injection:

- A. Average daily rate of injection: 1,000 barrels
- B. Maximum daily rate of injection: 10,000 barrels

### 2. Type of System:

System will be closed

### 3. Anticipated Injection Pressure:

It is anticipated that the injection pressure will be nominal but in no event would the pressure exceed 0.2 psi per foot of depth to the top of the injection zone at 12,288 feet or 2458 psi.

### 4. Source of Injection Water:

The produced water that is to be disposed of is sourced from wells producing from the Devonian formation. These wells are located in Sections 30 and 31 of Township 9 South, Range 36 East. An analysis of water to be disposed of is attached as Exhibit 2.

5. Disposal Zone Water Analysis:

See attached Exhibit 1.

Authorization to Inject continued Marbob Energy Corporation Bobby Fee No. 1 Well

### VIII Geologic Data

- A. Injection Zone
  - 1. Name: Devonian
  - 2. Lithology: Dolomite
  - 3. Thickness: <u>+</u> 300'
  - 4. Depth: <u>+</u> 12200'

### IX Proposed Conversions / Stimulation Program

- 1. Move in, rig up work over unit, nipple up 3000 Psi manual blow out preventer, Pull out of hole with tubing. Pick up 5 ½" cement retainer, run in hole & set at 11,500' +-, & squeeze perfs @ 11531'-37', 11542'-48'. If squeeze is obtained, sting out of cement retainer and reverse out, pull out of hole with tubing, lay down setting tool. Pick up 4 3/4" mill tooth bit, 6-DC'S, run in hole with tubing and drill out cement retainer and cement. Test squeeze hole to 500 Psi. If test is okay, drill out cement and cast iron bridge plug at 11990' and clean out to total depth. Pull out of hole laying down tubing drill collars and bit. Pick up 5 ½" plastic coated Inj packer and internal plastic coated tubing. Run in hole to 12200' +-, circulate packer fluid down casing, nipple down blow out preventer, flange up wellhead, and test packer to 500 Psi. If test is okay, prep for disposal. Rig down move out work over unit, clean location.
- X Logging Data

Logs for these wells have been filed with the Division

XI Fresh Water Analysis

A search of the New Mexico State Engineer's records at the Roswell, NM District Office resulted in finding no permitted fresh water wells within the one mile area of review.



### CENTRAL OPERATIONS LABORATORY WATER ANALYSIS REPORT HOMBS, NEW MEXICO

COMPANY	Marbob					REPORT		W00-050	
						DATE		March 17,	2000
						DISTRICT	•	Hobbs	
	FAX : 505	- 746 - 2	523	·					
SUBMITTED BY	Bobby G	unnels			- 1		<u> </u>		
WELL Bob	by Fee 1		DEPTH			FORMATI	ON		
COUNTY			FIELD	<u> </u>	······································	SOURCE		3-17-00 Swab	runs
SAMPLE	2:00 pm Run 4	42	2:4:	pm Run 4	45	4:00 pm Run 51			
Sample Temp.	71	۴F		70	°F	70	۴		۴
RESISTIVITY	0.093	<u> </u>		0.094		0.097	_		
SPECIFIC GR.	1.060			1.060		1.060			
рH	5.91			5.95		6.11			
CALCIUM	3,250	mpi		3,500	nıpl	3,400	mpl		m
MAGNESIUM	2,550	mpl		3,750	mpl	2,760	mpl		mp
CHLORIDE	53,350	mpi		52,520	mpl	52,015	mpl		mp
SULFATES	4,550	mpi		4,600	mpl	4,649	mpl		ini
BICARBONATES	98	mpl		122	mpl	122	mpl		i, t
SOLUBLE IRON	500 +	mpi		500+	npl	500+			17:p
Sodium	28265	 mpi		25204	iqrn	26887	- mpl	(	
TDS ·	92,063	mpl		89,696	mpl	89,833	mpi	(	0 mp
OIL GRAVITY	@	ج°		@		@	°F		9°F
REMARKS									
							·····		

This report is the property of Halliburton Company and no ther 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.

Resitivity measured in: Ohm/m2/m

ANALYST: John En bank

### **Permian Treating Chemicals** WATER ANALYSIS REPORT

### SAMPLE

Oil Co. : Marbob Energy Lease : Lewis Fee Well No.: # 1 Lab No. : 090298.002

### ANALYSIS

### Sample Loc. : Date Analyzed: 02-September-1998 Date Sampled :

SEP 1 4 1998

1. pH 2. Specific Gravity 60/60 3. CaCO <sub>3</sub> Saturation Index	6.530 F. 1.043 @ 80 F0.210 @ 140 F. +0.700			
Dissolved Gasses	MG/L	EQ. WT.	*MEQ/L	
4. Hydrogen Sulfide 5. Carbon Dioxide 6. Dissolved Oxygen	Not Present Not Determined Not Determined			
Cations7. Calcium(Ca++)8. Magnesium(Mg++)9. Sodium(Na+)10. Barium(Ba++)	2,084 442 alculated) 20,399 Not Determined	/ 20.1 = / 12.2 = / 23.0 =	103.68 36.23 886.91	
Anions 11. Hydroxyl (OH <sup>-</sup> ) 12. Carbonate (CO <sub>3</sub> <sup>=</sup> ) 13. Bicarbonate (HCO <sub>3</sub> <sup>-</sup> ) 14. Sulfate (SO <sub>4</sub> <sup>=</sup> ) 15. Chloride (C1 <sup>-</sup> )	0 0 513 1,550 34,992	/ 17.0 = / 30.0 = / 61.1 = / 48.8 = / 35.5 =	0.00 0.00 8.40 31.76 985.69	
<ol> <li>Total Dissolved Solids</li> <li>Total Iron (Fe)</li> <li>Total Hardness As CaCO</li> <li>Resistivity @ 75 F. (Cartering)</li> </ol>	<b>59,980</b> 7 3 alculated) <b>0.161</b> /cm.	/ 18.2 =	0.36	
LOGARITHMIC WATER PATT *meq/L.	ERN PROB. COMPOUND	ABLE MINERAI EQ. WT. X	L COMPOSIT K *meq/L =	ION mg/L.
Na	#	) <sub>2</sub> 81.04	8.40	680
	HIIIII HCO3 CaSO4	68.07	31.76	2,162
	SO4 CaCl <sub>2</sub>	55.50	63.52	3,526
	н нин соз мg (нсо <sub>3</sub>	) <sub>2</sub> 73.17	0.00	0
Calcium Sulfate Solubility	MgSO4	60.19	0.00	0
	MgCL <sub>2</sub>	47.62	36.23	1,725
3220 3200 3188	NaHCO3	84.00	0.00	0
y 3168 / 3148 L 3128	NaSO4	71.03	0.00	0
3100 3000 3060 Temp *F. 50 70 90 110 130 150	NaCl *Mil:	58.46 li Equivalen		51,792 <b>ter</b>

This water is slightly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts in solution.

### AUTHORIZATION TO INJECT MARBOB ENERGY CORPORATION

### BOBBY FEE No. 1

### PROOF OF NOTICE

A copy of this application has been furnished to the land owner of the land on which the proposed well is located and the leasehold operators within the area of review. Also, a notice has been published in the Lovington Daily Leader, Lovington, New Mexico. Copies of such are attached.

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### LOVINGTON DAILY LEADER 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 Bobby Fee No. 1 is located 2252 feet from the south line and 990 feet from the west line, Section 25, Township 9 South, Range 36 East, Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Devonian formation. The disposal water will be injected into the Devonian formation at a depth 12,288'. A maximum surface pressure of 2458 psi, and a maximum rate of 10,000 Any interested party who has an BWPD. objection to this must give notice in writing to the Oil Conservation Division, 2040 South Pacheco Street, Santa Fe, New Mexico 87505 within fifteen (15) days of this notice. Any interested party with questions or comments may contact Dean Chumbley at Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico 88211-0227 or call (505) 748-3303.

Published in the Lovington Daily Leader, Lovington, New Mexico \_\_\_\_\_, 2000.



Santa Fe Snyder Corporation 550 West Texas, Suite 1330 Midland, Texas 79701

> RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-95-36E Lea County, New Mexico

Gentlemen:

Enclosed, for your review, is a copy of Marbob Energy Corporation's Application for converting the Bobby Fee No. 1 into a produced water disposal well.

As a requirement of the New Mexico Oil Conservation Division, we are required to notify any offset operators, as well as surface and mineral owners, of our proposal to convert the before mentioned well into a disposal well. If you have any objections, you must notify the Oil Conservation Division of Santa Fe in writing within fifteen (15) days of this letter. If you have no objections to the proposed disposal well, please sign below and return a copy to our offices.

Thank you for your cooperation in this matter. Do not hesitate to contact us should you have any questions concerning this matter.

Dean Chumbley Land Department

Santa Fe Snyder Corporation has no objection to the proposed disposal well.

By:	
Title:	
Date:	



G.W. Ainsworth 314 Falcon Court Coppell, Texas 75019

### RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-9S-36E Lea County, New Mexico

Gentlemen:

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Sinderelv

Øean Chumbley Land Department

G. W. Ainsworth has no objection to the proposed disposal well.

By:	
Title:	
Date:	



Santa Fe Pacific Gold Corporation 1700 Lincoln Street Denver, Colorado 80203

### RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-9S-36E Lea County, New Mexico

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Dean Chumbley Land Department

Santa Fe Pacific Gold Corporation has no objection to the proposed disposal well.

By:	
Title:	
Date:	



William Schwartz 306 West Wall, Suite 1020 Midland, Texas 79701

### RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-9S-36E Lea County, New Mexico

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Sinterely

Dean Chumbley/ Land Department

William Schwartz has no objection to the proposed disposal well.

By:	
Title:	
Date:	



KCS Medallion Resources, Inc. 7130 S. Lewis Ave., Suite 700 Tulsa, Oklahoma 74136-5489

> RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-9S-36E Lea County, New Mexico

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Dean Chumbley Land Department

KCS Medallion Resources has no objection to the proposed disposal well.

By:	
Title:	
Date:	



Atlantic Richfield Company Post Office Box 1610 Midland, Texas 79702

### RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-9S-36E Lea County, New Mexico

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Sinderely

Dean Chumbley Land Department

Atlantic Richfield Company has no objection to the proposed disposal well.

By:	
Title:	
Date:	



Williams Ranch HC 65, Box 30 Crossroads, New Mexico 88114

### RE: Conversion to Disposal Well - Bobby Fee No. 1 2252' FSL and 990' FWL, Section 25-9S-36E Lea County, New Mexico

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Sincerely

Dean Chumbley Land Department

Williams Ranch has no objection to the proposed disposal well.

By:	
Title:	
Date:	