

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

OCD-ARTESIA Revised June 10, 2003

FORM C-108

PPLICATION FOR AUTHORIZATION TO INJECT

1.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? X Yes No							
И.	OPERATOR: MARBOB ENERGY CORPORATION							
	ADDRESS: P O BOX 227, ARTESIA, NM 88211-0227							
	CONTACT PARTY: Brian Collins 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 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:							
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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							
	NAME: Brian Collins TITLE: Engineer SIGNATURE: DATE: 17 July 07							
*	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:							

C-108 Application for Authorization to Inject High Net SWD No. 1 (Formerly Marbob High Net Federal No. 1) 100' FNL 2140' FEL B-2-25S-28E, Eddy County

Marbob Energy Corporation proposes to re-enter the captioned well, deepen to 8100' and convert it to salt water disposal service into the Delaware Sand and Bone Spring Sand from 5200' to 8000'.

- V. Map is attached.
- VI. Wellbore schematics are attached for all the wells that penetrate the proposed injection zone within the 1/2 mile radius area of review.
- VII. 1. Proposed average daily injection rate = 1000 BWPD
 Proposed maximum daily injection rate = 3000 BWPD
 - 2. Closed system
 - 3. Proposed maximum injection pressure = 1040 psi (0.2 psi/ft. x 5200 ft.)
 - 4. Source of injected water will be Delaware Sand produced water. The Delaware produced water is the same as the Delaware water in the receiving formation. There is an active Bone Spring SWD well taking Delaware produced water about a mile west of the proposed SWD (State MA-1, H-3-25S-28E). No compatibility problems are expected. An analysis of Delaware water from an analogous field is attached.
 - 5. Disposal zone formation water is essentially the same as the injection water.
- VIII. The injection zone is the Delaware and Bone Spring Sandstone, a fine-grained sandstone from 5200' to 8000'. Any underground water sources will be shallower than 600'.
 - IX. The Delaware/Bone Spring sand injection interval will be acidized with approximately 20 gals/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 have been filed with the Division. Will file logs across Bone Spring after well has been deepened.
- XI. There is a windmill located NE/4NE/4, Sec. 3, T25S-R28E about 4100' southwest of the proposed SWD well. The 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.

Hole Size:

Total Depth: __ = \$100 '

5200

Top of Cement: Method Determined:

Top of Cement: Surface Method Determined: By design

Injection Interval

((Perforated) or Open Hole; indicate which)

Cemented with: sx. or + 4000

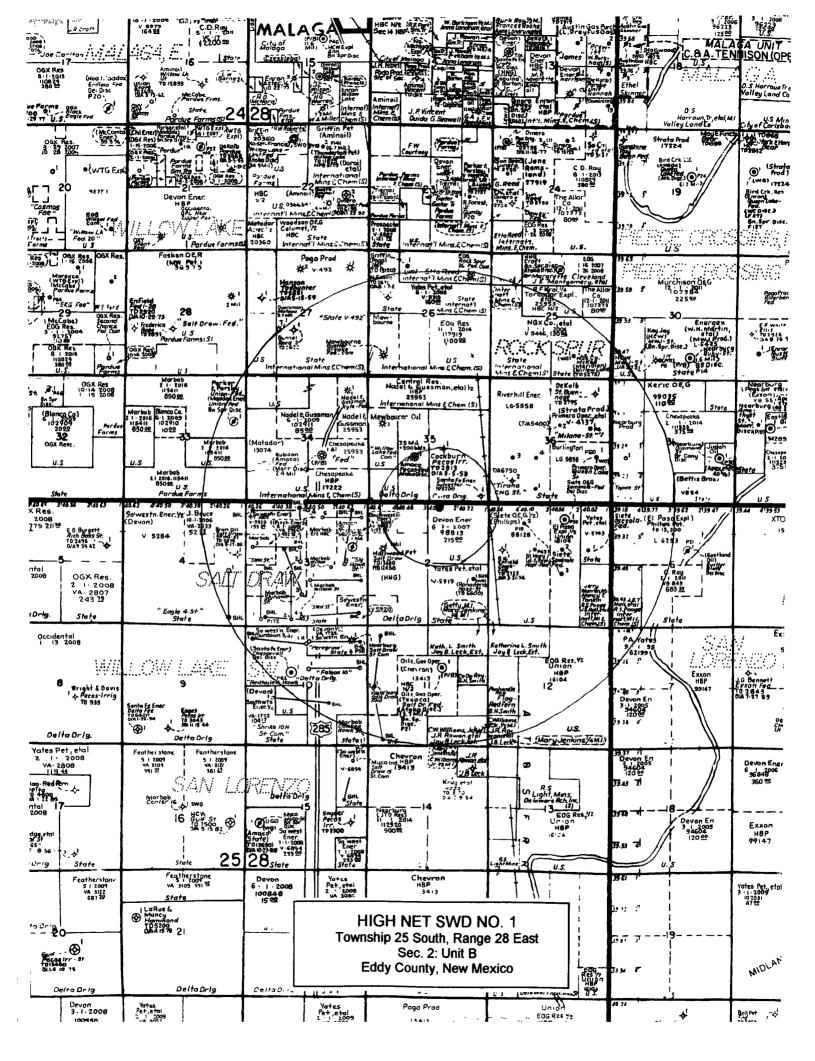
93/4" ×77/8" Casing Size: 51/2" e ±8100'

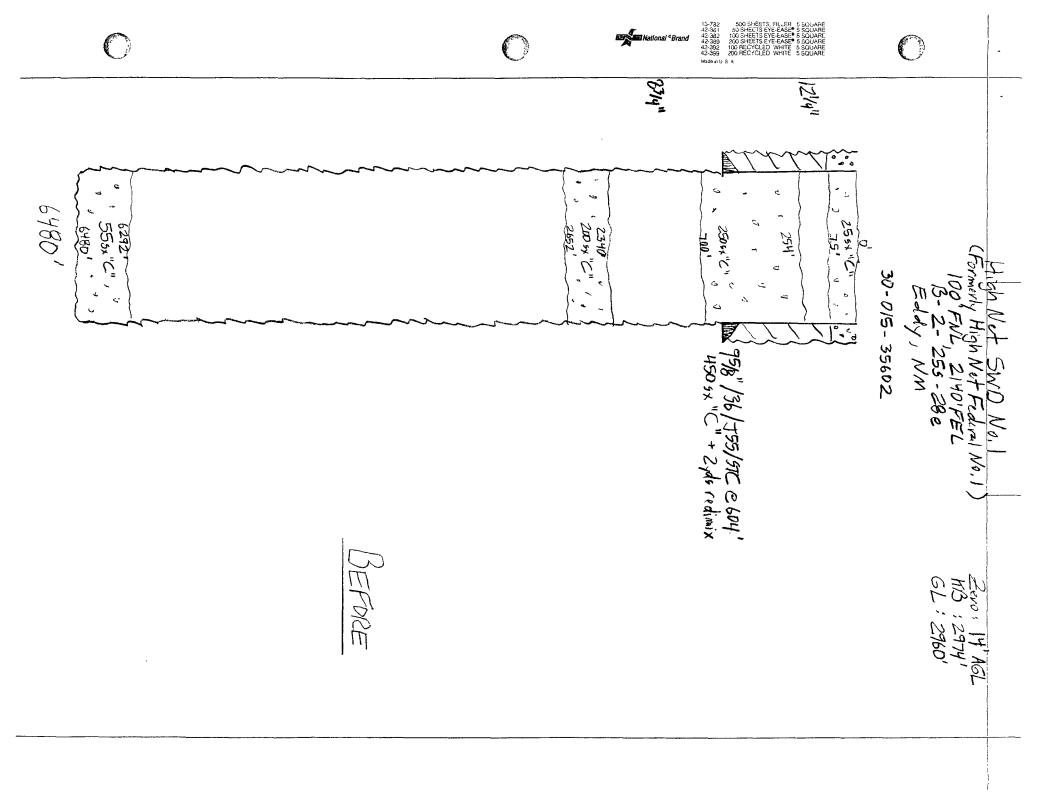
INJECTION WELL DATA SHEET

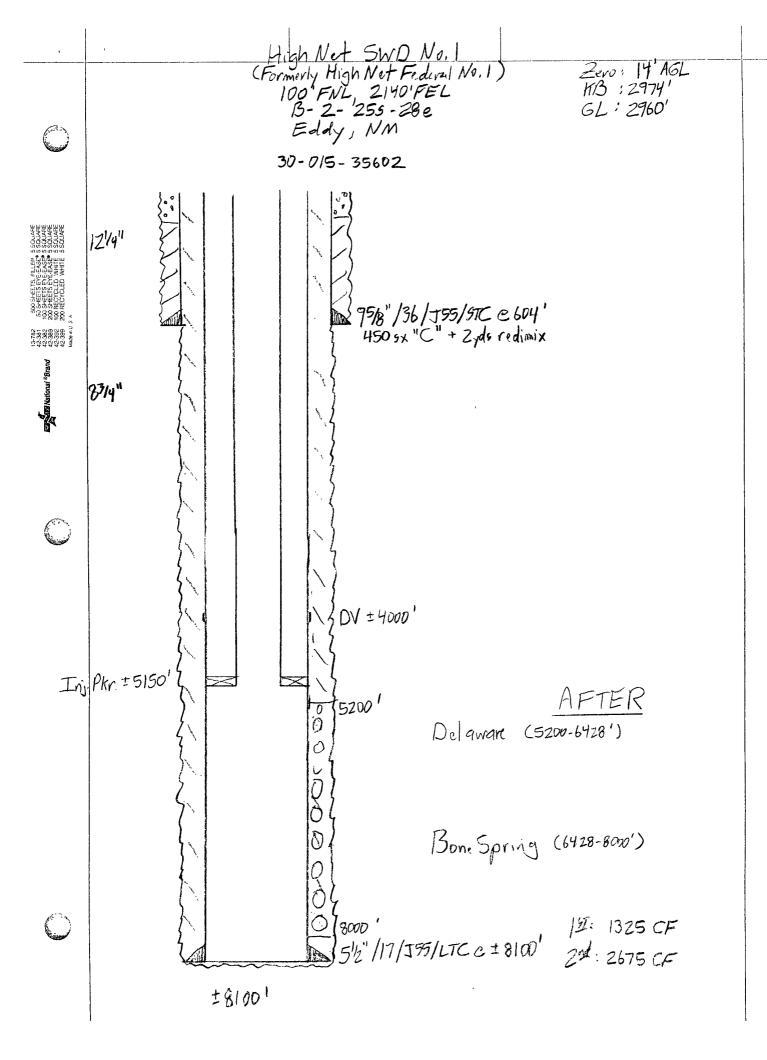
Tubing	Size: 27/8" Lining Material: Plastic or Duoline 20
Туре	of Packer: Nichel plated 10K ratrievable double grip
Packer	Setting Depth: ± 5/50'
Other	Гуре of Tubing/Casing Seal (if applicable):
	Additional Data
1.	Is this a new well drilled for injection? YesNo
	If no, for what purpose was the well originally drilled?
 3. 	Name of the Injection Formation: Bone Spring & Delaware Name of Field or Pool (if applicable): Salf Draw
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
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: Atoka ± 11800' Scattered Bone Spring ± 7000-8000' range
	Delaware ±4600-5000' to the east (±4000' away) ±4800-4900' to the west (±4000' away)
	1 7000-7700 to the West C= 7000 away)

V.

MAP

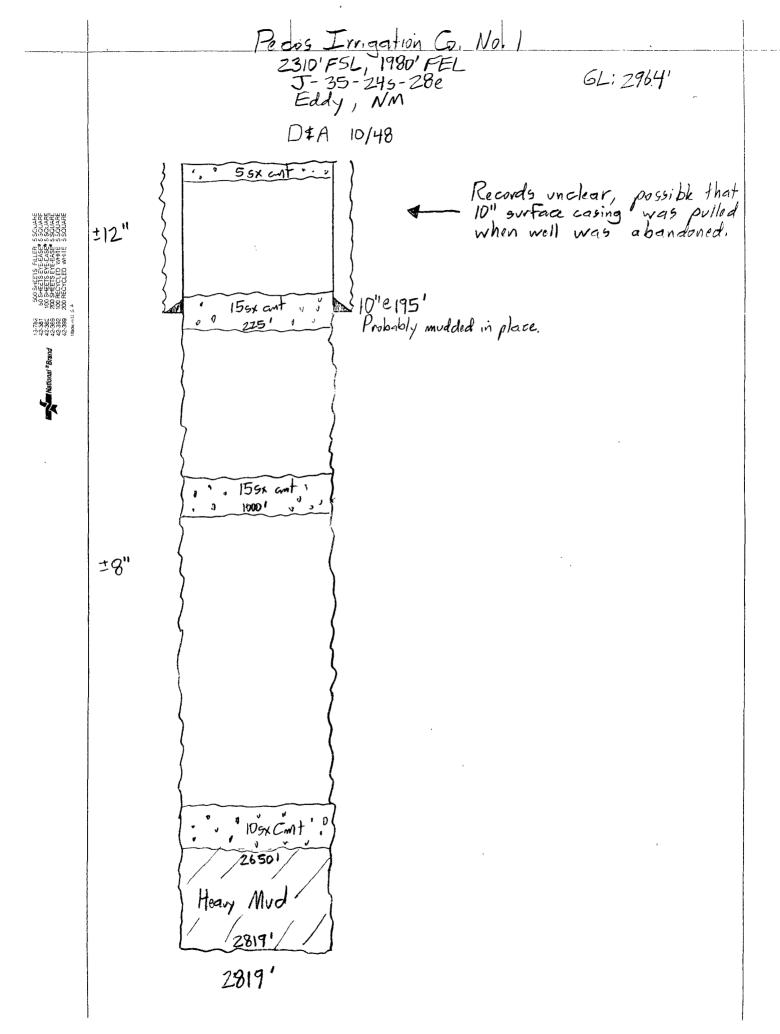


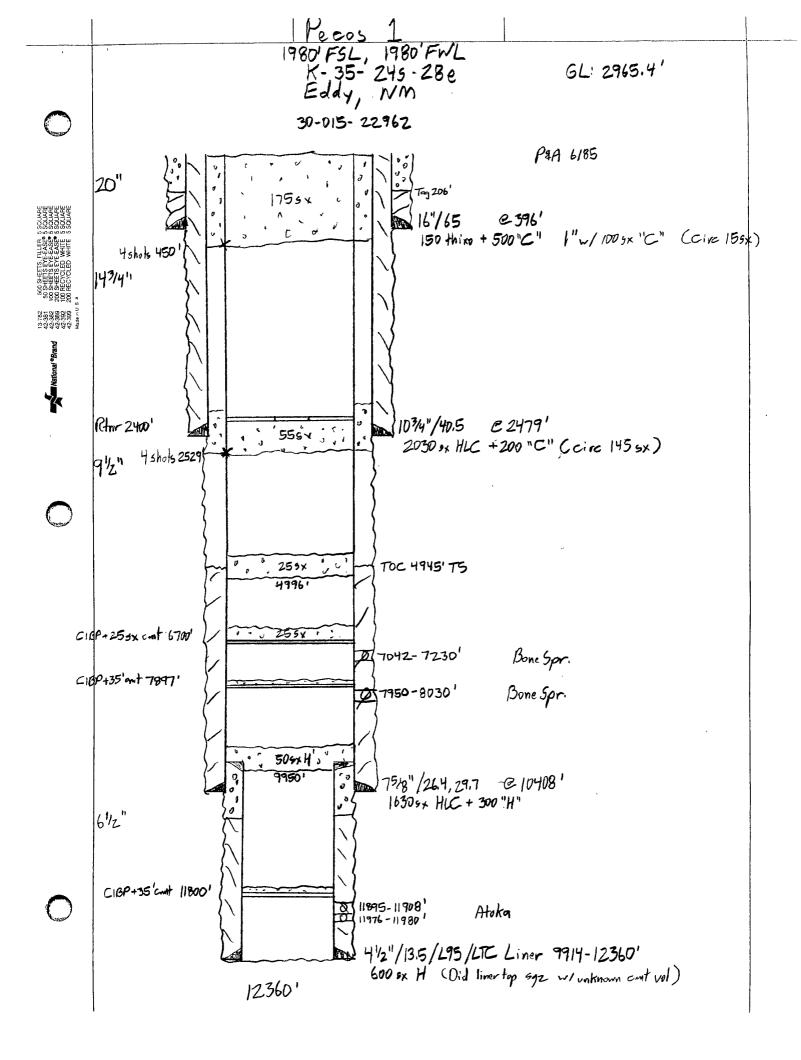




VI.

Wells Within 1/2
Mile Area of
Review That
Penetrate
Proposed
Disposal Zone





VII.

WATER ANALYSIS

HALLIBURTON DIVISION LABORAT/ 'Y

EALLIBURTON SERVICES ARTESIA DISTRICT

	LAB	ORATORY R	EPORT	No	W45-93	
Managan Pet	roleum		-	Date	February 7, 1993	
P. O. Box 1	1737		. .			
Roswell, NN	1 88201		Peredian s o Pe serves w used in the cou	opy thereof, is to be pub risen approved all labor rise all regular business (on Services and neither 4 har any p hated or declased without first secur stary management, 4 may havever, sparations by any person or concern a get from Hallowton Services	3
Submitted by			Date 1	Rec		_
Well No. Gehrig #2		Depth	5050'	Formati	on Delaware	-
Field Brushy Draw	9-26s-29e	County	Eddy	Source	Produced Water	=
- Resistivity	.052					-
Specific Gravity	1.1856		Nater A	nalysis	Representat	w
e	7.0		of Prod	red Do	laware Wat	er
Calcium					d and of	
lagnesium	9,000			Ψ .	in the	
hlorides	170,000				tion Interve	
Sulfates	250	•				
Sicarbonates	350					
Soluble Iron	+ 500					
د من						
lemarks:						

Respectfully submitted Analyst: Art Carrasco - Technical Advisor

HALLIBURTON SERVICES

NOTICE:

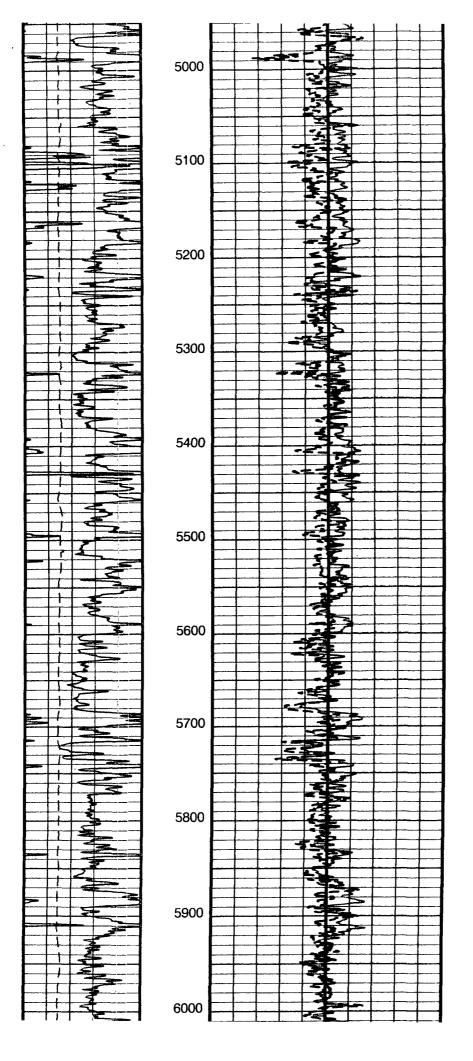
This report is for information only and the content is limited to the sample described. Haliburton makes no warranties, express or implied, as to the accuracy of the contents or results. Any user of this report agrees Haliburton shall not be fiable for any loss or damage, regardless of cause, including any act or omission of Haliburton, resulting from the use hereof

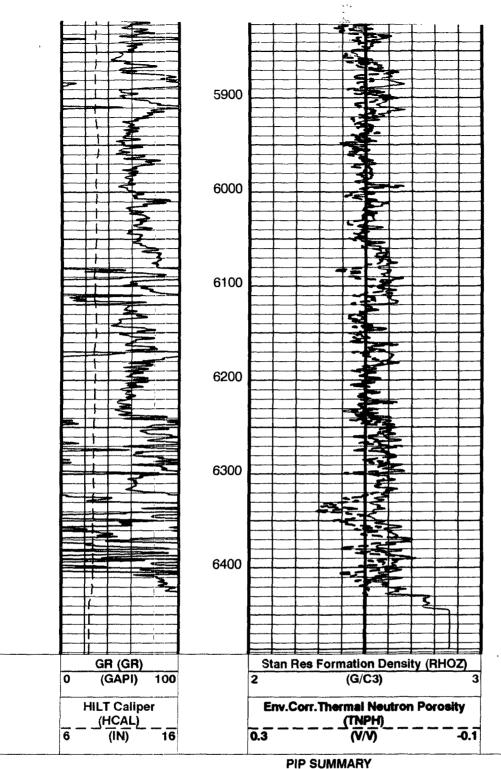
X.

NEUTRON DENSITY LOG

Across Proposed
Delaware Sand
Portion of
Injection Interval

WELL: H	igh No	et Feder	al #		erropide (· 47								
FIELD: W	/illow	State, D	elav	vare								-}		
														
County: E	ddy		State	2:	New	M	exic	0						
		The second section of			Casta (Carlo Carlo Carlo)	7.00								
ر الله الله الله الله الله الله الله الل	i grafi i pro-		Plat	form	Express			tarrilli (i. Liitoreen ja				+-		┼
laware FEL II #1 Corporation	SCHIUT	berger	Th	ree D	etector l	itt	no-Dei	nsity						
are 1								_				1-		1
Eddy Willow State, Delaware 100' FNL & 2150' FEL High Net Federal #1 Marbob Energy Corpo	A STATE OF THE STA	iki ili saa Maaliish		ипрег	sated N			GH						
tate, Dela R 2150 Federal Energy C	0' FNL & 215	O' FEL		1	Elev.: K.	.B.	2974 ft							
ate,					G	i.L.	2960 ft							1_
Se de la Caracter de			_		ם	F.	2973 ft							—
Eddy Willow State 100' FNL & High Net Fe Marbob En LOCATION	rmanent Dat	um: Grou	nd Level		Elev.: 29	960 1	ft							┼—
Eddy Willov 100' F High Marb	g Measured	From: Kelly	Bushing		14.0 ft al	bove	e Perm. Da	- atum						+-
. 1 1	illing Measur		Bushing										··········	1
iti : tk				7										
County: Field: Location: Well: Company:	API Ser		1 1		Township	'		nge						
	30-015-			2	25S		28E		Lassias Data					ļ
Logging Date	•	5-Jun-2007 One							Logging Date Run Number					
Run Number Depth Driller		6480 ft						···	Depth Driller					
Schlumberger Depth		6476 ft			· · · · · · · · · · · · · · · · · · ·				Schlumberger I	Depth				-
Bottom Log Interval		6428 ft							Bottom Log Inte					-
Top Log Interval		200 ft		·					Top Log Interva					
Casing Driller Size @ Do	epth	9.625 in	@	615 ft			@		Casing Driller	Size @ Depth		@		1
Casing Schlumberger		610 ft							Casing Schlum	berger				
Bit Size		8.750 in							Bit Size					ļ
Type Fluid In Hole		Brine	00 -				·		Type Fluid In H					-
Density Visco	osity	10 lbm/gal	29 s						Density Fluid Loss	Viscosity PH				-
Fluid Loss PH Source Of Sample		Circulation Tank	L	····			L		Source Of San				***************************************	1—
RM @ Measured Tempe	0.045 ohm.m		74 degF			@		RM @ Measure			@		+-	
RMF @ Measured Temp		0.045 ohm.m		74 degF			@			ed Temperature		@		—
RMC @ Measured Temp			@				@			red Temperature				
Source RMF RMC		Measured					Source RMF	RMC						
	RMF @ MRT		@	RM @ MRT	RMF @ MRT	@			1					
	m Recorded Temperatures 110 degF				orded Temperatures				-					
Circulation Stopped Time 5-Jun-2007 Logger On Bottom Time 5-Jun-2007				6:00 14:17					Circulation Sto Logger On Bot					
Logger On Bottom Unit Number L	5-Jun-2007 2357 Roswe	<u></u>	14:17					Unit Number	om Time Location					
Recorded By	ocation	John Thibodeau	_		<u>_</u>				Recorded By	Location				-
Witnessed By		Martin Joyce	**						Witnessed By					





Time Mark Every 60 S

ormat: 1_nuc Vertical Scale: 1" per 100' Graphics File Created: 05-Jun-2007 15:54

OP System Version: 14C0-302

MCM

MRT-B TC-H 14C0-302

SKK-3066-EDTCB

HILTB-FTB

14C0-302

Output DLIS Files

DEFAULT CMR_TLD_MCFL_CNL_014LUP

FN:13

PRODUCER

05-Jun-2007 15:54

XI.

FRESH WATER WELL ANALYSIS

Windmill NE/4NE/4 Sec. 3

HALLIBURTON

PERMAIN BASIN OPERATIONS LABORATORY
WATER ANALYSIS REPORT
HOBBS, NEW MEXICO

OMPANY	Marbob				REPOF DATE DISTRI		W03-189 September 10, 200 Hobbs	3
	Eddy Idmill NEM NE/4	D F1	eter Analyse EPTH IELD Widdmill NE/4	18/4 Sec.4	28e FORMA			
SAMPLE Sample Temp. ESISTIVITY PECIFIC GR. H :ALCIUM IAGNESIUM HLORIDE ULFATES ICARBONATES OLUBLE IRON	78 3.34 1.001 7.71 900 540 90 light 92 0	- °F - mpl	78 2.99 1.001 7.42 1,250 135 473 light 61 0	"F"		°F mpl mpl mpl mpl mpl mpl		°F mpl mpl mpl mpl mpl mpl
CL Godium 'DS)IL GRAVITY REMARKS	@	mpl mpl °F	@	mpl mpl °F	0 0 @	mpl mpl °F	0 0 @	mpl mpl °F

MPL = Milligrams per litter
Resitivity measured in: Ohm/m2/m

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

ANALYST:	Mike Armstrong



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 water injection 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 High Net SWD No. 1 (formerly the Marbob High Net Federal No. 1) is located 100' FNL and 2140' FEL, Section 2, Township 25 South, Range 28 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware formation. The disposal water will be injected into the Delaware and Bone Spring formations at a depth of 5200' - 8000' at a maximum surface pressure of 1040 psi and a maximum rate of 3000 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 Artesia Daily Press, Artesia, New Mexico
, 2007.



——— energy corporation—

July 16, 2007

Devon Energy Corporation 20 N. Broadway Oklahoma City, OK 73102-8260

Re: Application to Inject

High Net Federal #1 Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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

Devon Energy Corporation has no objection to the proposed disposal well:



energy corporation-

July 16, 2007

RKI Exploration & Production 3817 NW Expressway, Ste. 950 Oklahoma City, OK 73112

Re: Application to Inject High Net Federal #1

Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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.

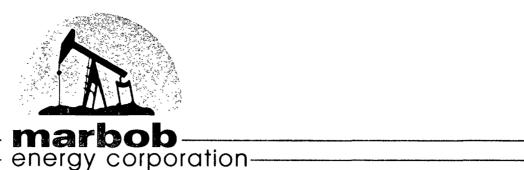
Please do not hesitate to contact us should you have any questions.

Sincerely,

Brian Collins
Petroleum Engineer

BC/dlw enclosure

RKI Exploration & Production has no objection to the proposed disposal well:



St. Mary Land & Exploration 1776 Lincoln St., Ste. 1100 Denver, CO 80203-0180

> Re: Application to Inject High Net Federal #1

> > Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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.

Brian Collins
Petroleum Engineer

BC/dlw enclosure

St. Mary Land & Exploration has no objection to the proposed disposal well:

By:
Title:
Date:



marbob ———energy corporation—

July 16, 2007

Vernon E. Faulconer, Inc. P. O Box 7995 Tyler, TX 75711

> Re: Application to Inject High Net Federal #1

> > Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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

Sincerely

Brian Collins

Petroleum Engineer

BC/dlw enclosure

Vernon E. Faulconer, Inc. has no objection to the proposed disposal well:

By: ______
Title: _____
Date:



NM State Land Office Oil, Gas & Mineral Division P. O. Box 1158 Santa Fe, NM 87504-1148

> Re: Application to Inject High Net Federal #1

> > Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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,

Sincerely,

Brian Collins

Petroleum Engineer

BC/dlw enclosure

NM State Land Office has no objection to the proposed disposal well:

By:

Title:

Date: ____



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

> Re: Application to Inject High Net Federal #1

> > Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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.



Mewbourne Oil Company P. O. Box 7698 Tyler, TX 75711

> Re: Application to Inject High Net Federal #1

> > Township 25 South, Range 28 East, NMPM

Section 2: 100 FNL 2140 FEL Eddy 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

Mewbourne Oil Company has no objection to the proposed disposal well:

By:
Title:
Date: