21613463I SWD 6/22/02

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123
74

JUN - 7

June 4, 2002

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

RE: Cooper "4" #1
Application for Authorization to Inject
Sec. 4, T20S, R37E
Lea County

Gentlemen:

Please find enclosed the application for Authorization to Inject for the above-referenced well. The affidavit of publication will be forwarded to your office under separate cover.

If additional information is needed, please do not hesitate to contact me at (214) 987-7174.

Sincerely,

Sharon Cook

Sharon Cook
Regulatory Analyst

/sc
cc: Hobbs Office/OCD
Surface Owners/Offset Operators as listed

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: Matador Operating Company

ADDRESS: 310 W. Wall, Suite 906 Midland, TX 79701

CONTACT PARTY: Russ Mathis PHONE: 915-687-5955

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: Sharon Cook TITLE: Regulatory Analyst

SIGNATURE: Sharon Cook DATE: June 4, 2002

* 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; and,

(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.

Side 1

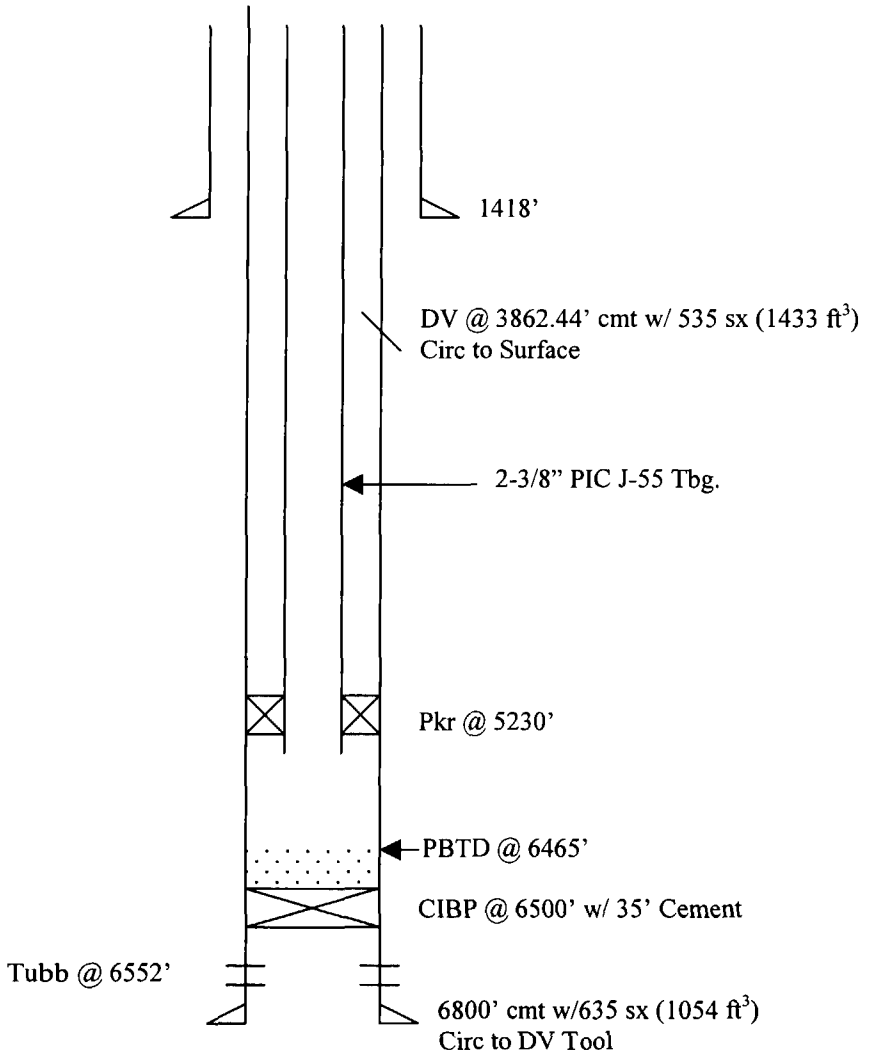
INJECTION WELL DATA SHEET

OPERATOR: Matador Operating Company

WELL NAME & NUMBER: Cooper 4 #1

WELL LOCATION:	660 FNL & 1845 FWL	C	4	20S	37E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12-1/4 Casing Size: 8-5/8

Cemented with: 640 sx. ***or*** 1174 ft^3

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 7-7/8 Casing Size: 4-1/2

Cemented with: 1160 sx. ***or*** 2487 ft^3

Top of Cement: Surface Method Determined: Circulated

Total Depth: 6800'

Injection Interval

5328 feet to 5921

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2-3/8 Lining Material: Plastic TK7

Type of Packer: Arrowset

Packer Setting Depth: 5230'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____Yes ___X___No

   If no, for what purpose was the well originally drilled? Production

   _____

2. Name of the Injection Formation: Glorieta, Paddock, Blinebry

3. Name of Field or Pool (if applicable): NA

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. Perforated Tubb from 6552-58, 6564-70, 6610-25. Plug w/ CIBP @ 6500' and cap with 35' of cement.

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

   Tubb – 6552, Grayburg - 3675

   _____

   _____

APPLICATION FOR AUTHORIZATION TO INJECT
COOPER "4" SWD, WELL #1

ITEM I

The purpose of this application is for disposal

ITEM II

Matador Operating Company
310 W. Wall, Ste. 906
Midland, TX 79701

ITEM III

See attached Injection Well Data Sheet

ITEM IV

This is not an expansion of an existing project.

ITEM V

See map attached

ITEM VI

See attached "Tabulation of Wells"

ITEM VII

1. Daily average injection rate is expected to be 1000 BPD. Maximum daily injection rate would be approximately 2000 BWPD.
2. The system will be closed.
3. The proposed average and maximum injection pressure are both expected to be 1400 psi.
4. Attached are "Tubb" water analysis from six producing wells in the surrounding area of the proposed disposal. Also attached is one water analysis of the "Glorieta" from the Williams 34 #3 and a Drinkard water analysis from the Shelley 35 #2. Compatibility test were performed on the water from the Williams 34 #3 (Glorieta) and the Shelley 35 #2 (Drinkard), and the waters were compatible. The attached water analysis indicates that the Tubb waters are generally very similar to the Tubb waters and will be compatible with the Glorieta as well.
5. The Williams 34 #3 is producing from the Glorieta. The water analysis is attached. No water could be located from the Paddock and Blinebry. However, the overlying Glorieta is from the same Permian Age group and have similar depositional environments as the Paddock and Blinebry. The Paddock and Blinebry is therfore expected to have similar waters to the Glorieta.

VIII.

Matador's Cooper lease is located in the Eunice-Monument area of southeastern Lea County, New Mexico on the western flank of the Central Basin Platform.

Matador has several wells that produce formation water from oil and gas completions in the Lower Permian Tubb and Drinkard reservoirs. Matador proposes to inject associated formation water from Tubb/Drinkard completions into the Upper Permian Glorieta, Paddock, and Blinebry Formations. The proposed zones of interest are all platform carbonates that are predominately porous dolomites. The top depth of proposed injection zone is the Glorieta Formation, at approximately 5300 feet measured depth. The lowest proposed zone of injection is in the Blinebry Formation, at approximately 5950 feet measured depth. The dolomites of the proposed zones are cryptocrystalline to course crystalline, with porosities ranging from 3-25%. Water saturations, calculated from open-hole logs, are high (60-100%) with high bulk volume water in the proposed zones of injection. The high water saturations combined with the high bulk volume water indicate highly mobile formation water.

Evaporites of the Rustler-Salado Formations overlie the Upper Permian stratigraphic section in the area. The top of the evaporites is found at approximately 1250 feet measured depth. All sources of drinking water are situated above the evaporites. No sources of drinking water are found below the top of the evaporites or below the proposed zones of injection.

Proposed Zones on Injection	**Gross Thickness**	**Lithology**	**Top**
U. Permian Glorieta Formation	100 ft.	Dolomite	5328'
U. Permian Paddock Formation	400 ft.	Dolomite	5411'
U. Permian Blinebry Formation	600 ft.	Dolomite	5820'

ITEM IX

Each of the proposed intervals will be treated with acid.

ITEM X

Logs and sundry notices for subsequent report of drilling operations are attached.

ITEM XI

Attached are four water analysis from fresh water wells located near the proposed Cooper "4" SWD #1. Three (3) samples were collected from the Davis Ranch at each of the three (3) water wells. One (1) sample was collected from the Coombes Ranch Wind Mill pond.

ITEM XII

The geological and engineering staff for Matador Petroleum Corporation have examined available geological and engineering data and have found no evidence of open faults or any other hydrological connection between the disposal zone and any underground souces of drinking water.

ITEM XIII

A copy of the notice of application has been furnished to:

Jimmy Cooper
P O Box 55
Monumnet, NM 88265-0055

Jimmie Baum Cooper
P O Box 36
Monument, NM 88265-0036

Amerada Hess Corporation
P O Box 2040
Houston, TX 77252-2040

Chevron USA, Inc.
P O Box 1150
Midland, TX 79702-1150

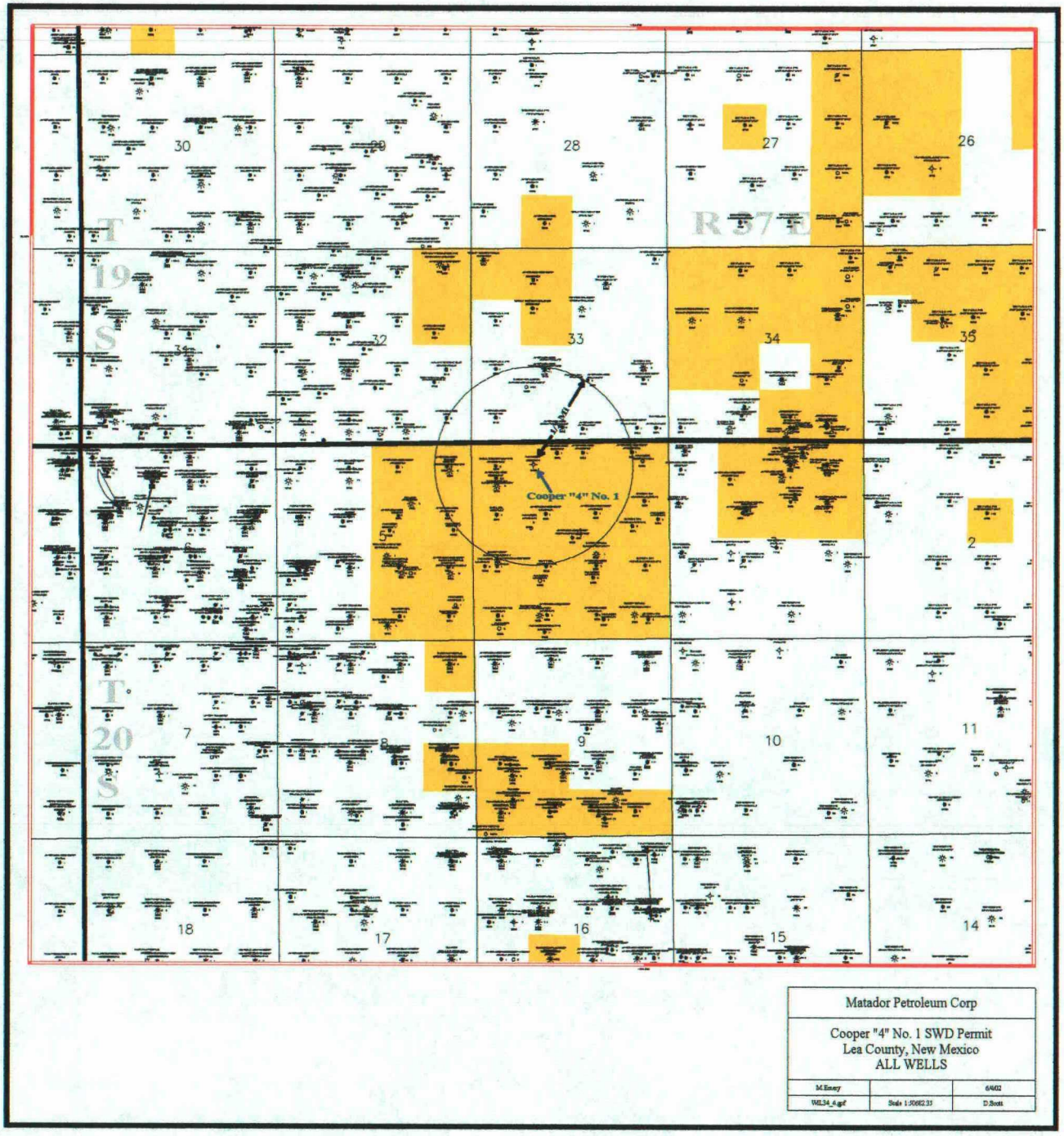
Exxon Mobil Corporation
P O Box 4697
Houston, TX 77210-4697

Magnum Hunter Production, Inc.
600 Las Colinas Boulevard East, Suite 1100
Irving, TX 75039-5635

Occidental Permian Limited Partnership
P O Box 50250
Midland, TX 79707-0250

Samson Resources Company
Two West Second Street
Tulsa, OK 74103-3103

Texaco Exploration and Production, Inc.
P O Box 1150
Midland, TX 79702-1150



Matador Petroleum Corp		
Cooper "4" No. 1 SWD Permit Lea County, New Mexico ALL WELLS		
M.Emery		6/402
WL34_4.gif	Scale 1:50682.33	D.Scott

Application for Authorization to Inject
Cooper '4' #1 SWD
Sec. 4 T20S R37E
Lea County, New Mexico

Wells within the ½ mile radius (Area of Review) which penetrate the proposed injection zone.

Well Name	Location	Status	Prod Csg & Cmt	Spud Date	Comp Date	TD	Record of Completion
Laughlin #6	2310' FNL & 1820' FWL, Sec.4, T20S R37E	Producing	4 ½ @ 6800 w/ 1455 sx	12/28/01	1/24/02	6800	PERF Tubb 6526-6530, 6564-6568, 6596-6600; Frac w/ 214,000 lbs.

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 87240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-103
Revised March 25, 1999

WELL API NO.
30-025-35794

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name:
Cooper "4"

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

2. Name of Operator
Matador Operating Company

8. Well No.
1

3. Address of Operator
8340 Meadow Road #150, Dallas, TX 75231

9. Pool name or Wildcat
Monument; Drinkard

4. Well Location

Unit Letter C : 660 feet from the North line and 1845 feet from the West line

Section 4 Township 20S Range 37E NMPM Lea County

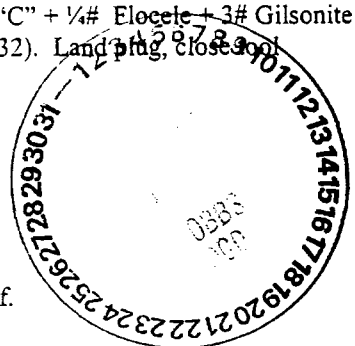
10. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3555' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	PLUG AND ABANDONMENT	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPLETION	☐	CASING TEST AND CEMENT JOB	☒		
OTHER:	☐			OTHER:			☐

12. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompilation.

- Drill 7-7/8" hole to 6800'. Logged well. Run #1-LLD Laterolog Deep-Full Waveform Sonic. Run #2-SGR Spectral Gamma Ray-DNL Porosity.
- Run 160 jts. 4-1/2" 11.6# N-80, LT& C casing on 2/14/02 (total 6818.52', set @ 6800'). Cement 1st stage w/635 sx Super "H" + 4/10% CFR-3 +5/10% Halad-344 +3# salt (13.0 ppg – yield 1.66). Land plug w/600 over – release pressure. Float OK. Drop bomb – open DV Tool. Circulate 118 sx to pit. Cement 2nd stage w/525 Interfill "C" + ¼# Flocele + 3# Gilsonite + 2/10% Halad-322 (11.5 ppg – yield 2.73). Tail w/100 sx Class C Neat (14.8 ppg – yield 1.32). Land plug, close tool w/2350 psi. Release pressure (tool holding); had trace of cement to pit.
- ND BOP. Set slips w/73,000#. Cut off 4-1/2" casing. Install tubing head.
- Released rig 2/15/02.



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

SIGNATURE Sharon Cook TITLE Regulatory Analyst DATE 2/27/02

Type or print name Sharon Cook Telephone No. 214-987-7174

(This space for State use)

APPPROVED BY _____ TITLE ORIGINAL SIGNED BY PAUL F. KAUTZ PETROLEUM ENGINEER DATE MAR 04 2002

Conditions of approval, if any:

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 87240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-103
Revised March 25, 1999

WELL API NO.
30-025-35794

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name:
Cooper "4"

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

2. Name of Operator
Matador Operating Company

8. Well No.
1

3. Address of Operator
8340 Meadow Road #150, Dallas, TX 75231

9. Pool name or Wildcat
Monument; Drinkard

4. Well Location

Unit Letter C : 660 feet from the North line and 1845 feet from the West line

Section 4 Township 20S Range 37E NMPM Lea County

10. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3555' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	PLUG AND ABANDONMENT	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPLETION	☐	CASING TEST AND CEMENT JOB	☒		
OTHER:	☐			OTHER:			☐

12. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompilation.

Spudded well on 2/20/02 @ 21:30 CST. Drilled 12-1/4" hole to 1420'. On 2/3/02 ran 33 jts. of 8-5/8" 24# J55 ST&C casing (set @ 1420'). Cement w/440 sx Class "C" Lite + 6 pps salt + 0.25 pps Flocele (12.5 ppg, yield 2.06). Tail w/200 sx Class C + 2% CaCl2(14.8 ppg, yield 1.34). Displace w/fresh water. Bump plug w/500 psi over. Check float (did not hold-had slight trickle flow). Circulate 141 sx to pits.

Test blind rams to 1000 psi.

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

SIGNATURE Sharon Cook TITLE Regulatory Analyst DATE 2/27/02

Type or print name Sharon Cook Telephone No. 214-987-7174

(This space for State use)

APPPROVED BY _____ TITLE ORIGINAL SIGNED BY PAUL F. KAUTZ PETROLEUM ENGINEER DATE MAR 04 2002

Conditions of approval, if any:

RECEIVED
FEB 07 2002

Pro-Kem, Inc.

WATER ANALYSIS REPORT

SAMPLE

Tubb Formation

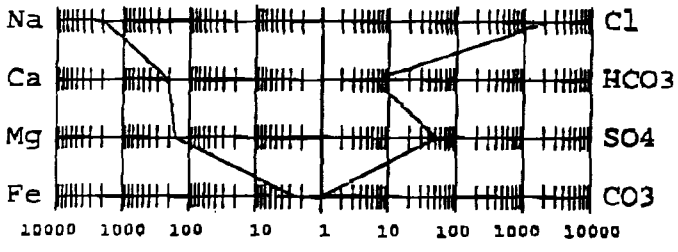
Oil Co. : Matador Operating
Lease : Shelley St. 35
Well No. : # 1
Lab No. : F:\ANALYSES\Jan3002.001

Sample Loc. :
Date Analyzed: 30-January-2002
Date Sampled : 11-January-2002

ANALYSIS

			MG/L	EQ. WT.	*MEQ/L
1.	pH		6.500		
2.	Specific Gravity 60/60 F.		1.090		
3.	$CaCO_3$ Saturation Index	@ 80 F.	+0.111		
		@ 140 F.	+1.001		
	Dissolved Gasses				
4.	Hydrogen Sulfide		0		
5.	Carbon Dioxide		180		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	4,136	/ 20.1 =	205.77
8.	Magnesium	(Mg^{++})	1,882	/ 12.2 =	154.26
9.	Sodium	(Na^{+}) (Calculated)	43,527	/ 23.0 =	1,892.48
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	366	/ 61.1 =	5.99
14.	Sulfate	($SO_4^{=}$)	2,350	/ 48.8 =	48.16
15.	Chloride	(Cl^{-})	77,982	/ 35.5 =	2,196.68
16.	Total Dissolved Solids		130,243		
17.	Total Iron (Fe)		45	/ 18.2 =	2.47
18.	Total Hardness As $CaCO_3$		18,076		
19.	Resistivity @ 75 F. (Calculated)		0.056 /cm.		

LOGARITHMIC WATER PATTERN
*meq/L.

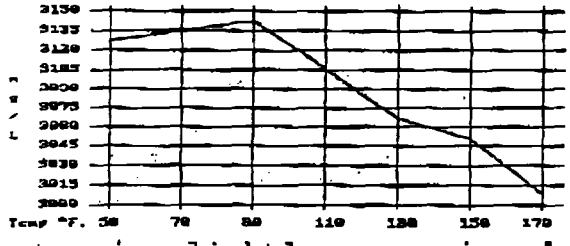


PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	5.99	485
$CaSO_4$	68.07	48.16	3,278
$CaCl_2$	55.50	151.63	8,415
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	154.26	7,346
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,890.79	110,535

*Milli Equivalents per Liter

Calcium Sulfate Solubility Profile



This water is slightly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of, CO2 in solution.

Pro-Kem, Inc.

WATER ANALYSIS REPORT

RECEIVED
MAR 19 2002

SAMPLE

Oil Co. : **Matador Operating**
Lease : **Laughlin**
Well No.: **# 6**
Location:
Attention:

Date Sampled : **25-February-2002**
Date Analyzed: **13-March-2002**
Lab ID Number: **Mar1302.001- 6**
Salesperson :

Tubb Formation

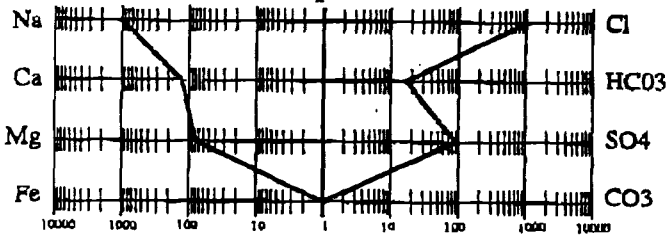
File Name : **F:\ANALYSES\Mar1302.001**

ANALYSIS

				MG/L.	EQ. WT.	*MEQ/L
1.	Ph			6.400		
2.	Specific Gravity 60/60 F.			1.053		
3.	CACO3 Saturation Index	@ 80F		0.026		
		@140F		0.946		
	Dissolved Gasses					
4.	Hydrogen Sulfide			0		
5.	Carbon Dioxide			30		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		2,505	/ 20.1 =	124.63
8.	Magnesium	(Mg++)		912	/ 12.2 =	74.75
9.	Sodium	(Na+)	(Calculated)	22,478	/ 23.0 =	977.30
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		1,015	/ 61.1 =	16.61
14.	Sulfate	(SO4=)		4,300	/ 48.8 =	88.11
15.	Chloride	(Cl-)		37,991	/ 35.5 =	1,070.17
16.	Total Dissolved Solids			69,201		
17.	Total Iron	(Fe)		13	/ 18.2 =	0.71
18.	Total Hardness as CaCO3			10,009		
19.	Resistivity @ 75 F. (Calculated)			0.145 /cm.		

LOGARITHMIC WATER PATTERN

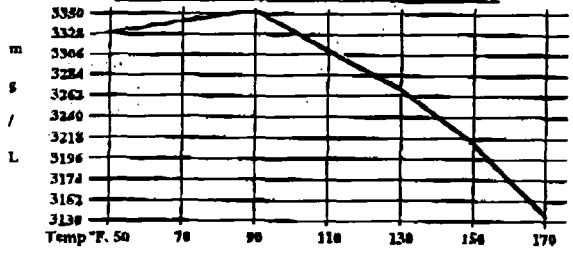
*meq / L.



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L	=	mg/L.
Ca(HCO3)2	81.04		16.61		1,346
CaSO4	68.07		88.11		5,998
CaCl2	55.50		19.90		1,104
Mg(HCO3)2	73.17		0.00		0
MgSO4	60.19		0.00		0
MgCl2	47.62		74.75		3,560
NaHCO3	84.00		0.00		0
NaSO4	71.03		0.00		0
NaCl	58.46		975.51		57,029

Calcium Sulfate Solubility Profile



Pro-Kem, Inc.

WATER ANALYSIS REPORT

SAMPLE

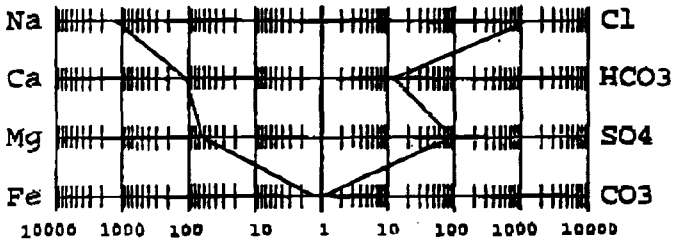
Oil Co. : Matador Operating
Lease : Cooper '5'
Well No. : # 7
Lab No. : F:\ANALYSES\Jul1301.001

Sample Loc. : Tubb Formation
Date Analyzed: 13-July-2001
Date Sampled : 10-July-2001

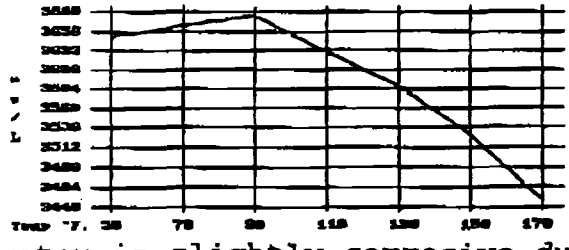
ANALYSIS

1.	pH		6.400		
2.	Specific Gravity 60/60 F.		1.058		
3.	$CaCO_3$ Saturation Index	@ 80 F.	-0.188		
		@ 140 F.	+0.730		
	Dissolved Gasses		**MG/L**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide		0		
5.	Carbon Dioxide		100		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	2,099	/ 20.1 =	104.43
8.	Magnesium	(Mg^{++})	752	/ 12.2 =	61.64
9.	Sodium	(Na^{+}) (Calculated)	27,632	/ 23.0 =	1,201.39
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	737	/ 61.1 =	12.06
14.	Sulfate	($SO_4^{=}$)	4,200	/ 48.8 =	86.07
15.	Chloride	(Cl^{-})	44,990	/ 35.5 =	1,267.32
16.	Total Dissolved Solids		80,410		
17.	Total Iron (Fe)		21	/ 18.2 =	1.15
18.	Total Hardness As $CaCO_3$		8,337		
19.	Resistivity @ 75 F. (Calculated)		0.124 /cm.		

LOGARITHMIC WATER PATTERN
***meq/L.**



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	12.06	978
$CaSO_4$	68.07	86.07	5,858
$CaCl_2$	55.50	6.30	350
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	61.64	2,935
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,199.38	70,116

*Milli Equivalents per Liter

This water is slightly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of, CO2 in solution.

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Pro-Kem, Inc.

WATER ANALYSIS REPORT

SAMPLE

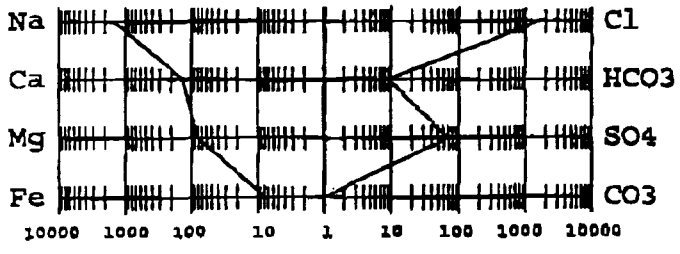
Oil Co. : Matador Operating
Lease : Laughlin
Well No.: # 1
Lab No. : F:\ANALYSES\Jul1301.001

Sample Loc. : Tubb Formation
Date Analyzed: 13-July-2001
Date Sampled : 10-July-2001

ANALYSIS

1.	pH		6.800		
2.	Specific Gravity 60/60 F.		1.063		
3.	$CaCO_3$ Saturation Index	@ 80 F.	+0.206		
		@ 140 F.	+1.126		
	Dissolved Gasses		**MG/L**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide		0		
5.	Carbon Dioxide		60		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	2,576	/ 20.1 =	128.16
8.	Magnesium	(Mg^{++})	926	/ 12.2 =	75.90
9.	Sodium	(Na^{+}) (Calculated)	32,711	/ 23.0 =	1,422.22
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	542	/ 61.1 =	8.87
14.	Sulfate	($SO_4^{=}$)	3,250	/ 48.8 =	66.60
15.	Chloride	(Cl^{-})	54,988	/ 35.5 =	1,548.96
16.	Total Dissolved Solids		94,993		
17.	Total Iron (Fe)		131	/ 18.2 =	7.20
18.	Total Hardness As $CaCO_3$		10,243		
19.	Resistivity @ 75 F. (Calculated)		0.100 /cm.		

LOGARITHMIC WATER PATTERN
*meq/L.



Calcium Sulfate Solubility Profile

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	8.87	719
$CaSO_4$	68.07	66.60	4,533
$CaCl_2$	55.50	52.69	2,924
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	75.90	3,614
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,420.37	83,035

*Milli Equivalents per Liter

This water is slightly corrosive due to the pH observed on analysis. The corrogivity is increased by the content of mineral salts, and the presence of, CO2 in solution.

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Pro-Kem, Inc.

WATER ANALYSIS REPORT

SAMPLE

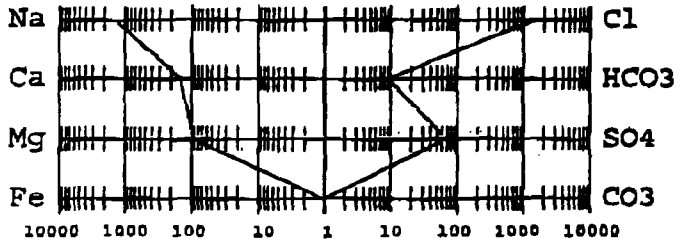
Oil Co. : Matador Operating
Lease : Laughlin
Well No. : # 3
Lab No. : F:\ANALYSES\Jul1301.001

Sample Loc. : Tubb Formation
Date Analyzed: 13-July-2001
Date Sampled : 10-July-2001

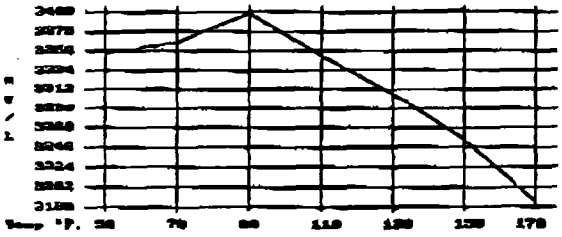
ANALYSIS

1.	pH		6.200		
2.	Specific Gravity 60/60 F.		1.063		
3.	$CaCO_3$ Saturation Index	@ 80 F.	-0.348		
		@ 140 F.	+0.572		
	Dissolved Gasses		**MG/L**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide		0		
5.	Carbon Dioxide		100		
6.	Dissolved Oxygen		Not Determined		
	Cations				
7.	Calcium	(Ca^{++})	2,862	/ 20.1 =	142.39
8.	Magnesium	(Mg^{++})	1,099	/ 12.2 =	90.08
9.	Sodium	(Na^{+}) (Calculated)	31,335	/ 23.0 =	1,362.39
10.	Barium	(Ba^{++})	Not Determined		
	Anions				
11.	Hydroxyl	(OH^{-})	0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)	0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})	542	/ 61.1 =	8.87
14.	Sulfate	($SO_4^{=}$)	3,100	/ 48.8 =	63.52
15.	Chloride	(Cl^{-})	53,988	/ 35.5 =	1,520.79
16.	Total Dissolved Solids		92,926		
17.	Total Iron (Fe)		2	/ 18.2 =	0.12
18.	Total Hardness As $CaCO_3$		11,672		
19.	Resistivity @ 75 F. (Calculated)		0.103 /cm.		

LOGARITHMIC WATER PATTERN
*meq/L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L	= mg/L.
$Ca(HCO_3)_2$	81.04	8.87	719
$CaSO_4$	68.07	63.52	4,324
$CaCl_2$	55.50	69.99	3,885
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	90.08	4,290
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	1,360.71	79,547

*Milli Equivalents per Liter

This water is slightly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of, CO2 in solution.

Pro-Kem

WATER ANALYSIS REPORT

SAMPLE

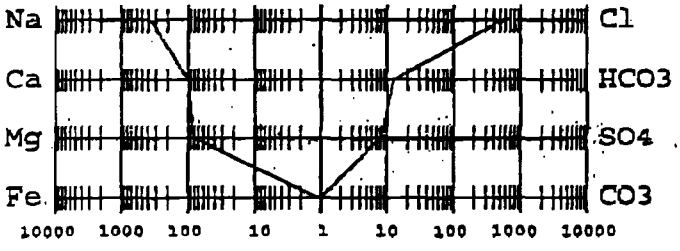
Oil Co. : Matador Operating
Lease : Cooper '5'
Well No.: 6
Lab No. : F:\ANALYSES\Oct3001.002

Sample Loc. : Tubb Formation
Date Analyzed: 30-October-2001
Date Sampled :

ANALYSIS

1.	pH			7.200		
2.	Specific Gravity 60/60 F.			1.056		
3.	$CaCO_3$ Saturation Index		@ 80 F.	+0.636		
			@ 140 F.	+1.606		
	Dissolved Gasses			**MG/L**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide			0		
5.	Carbon Dioxide			40		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca^{++})		1,908	/ 20.1 =	94.93
8.	Magnesium	(Mg^{++})		984	/ 12.2 =	80.66
9.	Sodium	(Na^{+})	(Calculated)	8,078	/ 23.0 =	351.22
10.	Barium	(Ba^{++})		Not Determined		
	Anions					
11.	Hydroxyl	(OH^{-})		0	/ 17.0 =	0.00
12.	Carbonate	($CO_3^{=}$)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO_3^{-})		732	/ 61.1 =	11.98
14.	Sulfate	($SO_4^{=}$)		380	/ 48.8 =	7.79
15.	Chloride	(Cl^{-})		17,996	/ 35.5 =	506.93
16.	Total Dissolved Solids			30,078		
17.	Total Iron (Fe)			19	/ 18.2 =	1.04
18.	Total Hardness As $CaCO_3$			8,814		
19.	Resistivity @ 75 F. (Calculated)			0.251 /cm.		

LOGARITHMIC WATER PATTERN
*meq/L.



Calcium Sulfate Solubility Profile

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT. X	*meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	11.98	971
$CaSO_4$	68.07	7.79	530
$CaCl_2$	55.50	75.16	4,171
$Mg(HCO_3)_2$	73.17	0.00	0
$MgSO_4$	60.19	0.00	0
$MgCL_2$	47.62	80.66	3,841
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.00	0
NaCl	58.46	351.12	20,526

*Milli Equivalents per Liter

This water is mildly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of, CO2 in solution.

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2001

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : Matador Operating
Lease : Davis Ranch 'Corral'
Well No.: # 3
Location: Sec 5, T20S, R37E, Unit E
Attention: Russ Mathis

Date Sampled :
Date Analyzed: 28-May-2002
Lab ID Number: May2802.001-3
Salesperson : Max

Fresh Water

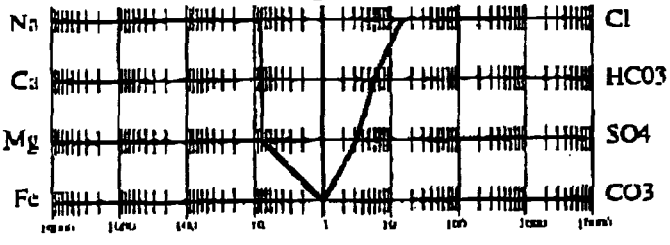
File Name : F:\ANALYSES\May2802.001

ANALYSIS

1.	Ph			7.390		
2.	Specific Gravity 60/60 F.			1.006		
3.	CACO3 Saturation Index		@ 80F	0.464		
			@140F	1.164		
	Dissolved Gasses			**MG/L.**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide			Not Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		150	/ 20.1 =	7.46
8.	Magnesium	(Mg++)		91	/ 12.2 =	7.46
9.	Sodium	(Na+)	(Calculated)	181	/ 23.0 =	7.87
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		342	/ 61.1 =	5.60
14.	Sulfate	(SO4=)		150	/ 48.8 =	3.07
15.	Chloride	(Cl-)		500	/ 35.5 =	14.08
16.	Total Dissolved Solids			1,414		
17.	Total Iron	(Fe)		2	/ 18.2 =	0.11
18.	Total Hardness as CaCO3			751		
19.	Resistivity @ 75 F. (Calculated)			4.604 /cm.		

LOGARITHMIC WATER PATTERN

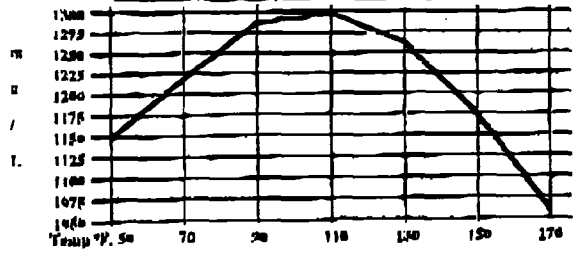
*meq / L.



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L	=	mg/L.
Ca(HCO3)2	81.04		5.60		454
CaSO4	68.07		1.87		127
CaCl2	55.50		0.00		0
Mg(HCO3)2	73.17		0.00		0
MgSO4	60.19		1.21		73
MgCl2	47.62		6.25		298
NaHCO3	84.00		0.00		0
NaSO4	71.03		0.00		0
NaCl	58.46		7.83		458

Calcium Sulfate Solubility Profile



PRO-KEM, INC.

WATER ANALYSIS REPORT

SAMPLE

Oil Co.: **Matador Operating**
Lease : **Davis Ranch 'Yard'**
Well No.: **# 2**
Location: sec 5, T20S, R37E, Unit A
Attention: **Russ Mathis**

Date Sampled : Fresh Water
Date Analyzed: **28-May-2002**
Lab ID Number: **May2802.001- 2**
Salesperson : **Max**

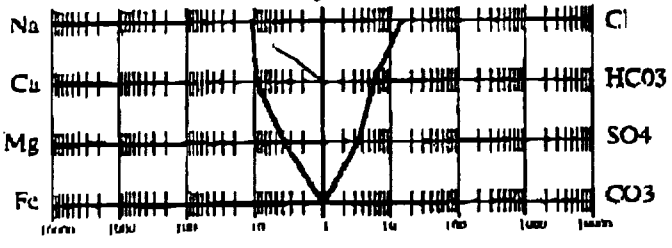
File Name : **F:\ANALYSES\May2802.001**

ANALYSIS

1.	Ph			7.090		
2.	Specific Gravity 60/60 F.			1.006		
3.	CACO3 Saturation Index		@ 80F	0.243		
			@140F	0.943		
	Dissolved Gasses			**MG/L.**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide			Not Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		180	/ 20.1 =	8.96
8.	Magnesium	(Mg++)		43	/ 12.2 =	3.52
9.	Sodium	(Na+)	(Calculated)	242	/ 23.0 =	10.52
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		342	/ 61.1 =	5.60
14.	Sulfate	(SO4=)		160	/ 48.8 =	3.28
15.	Chloride	(Cl-)		500	/ 35.5 =	14.08
16.	Total Dissolved Solids			1,467		
17.	Total Iron	(Fe)		3	/ 18.2 =	0.14
18.	Total Hardness as CaCO3			626		
19.	Resistivity @ 75 F. (Calculated)			4.608 /cm.		

LOGARITHMIC WATER PATTERN

*meq / L



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L	=	mg/L.
Ca(HCO3)2	81.04		5.60		454
CaSO4	68.07		3.28		223
CaCl2	55.50		0.08		4
Mg(HCO3)2	73.17		0.00		0
MgSO4	60.19		0.00		0
MgCl2	47.62		3.52		168
NaHCO3	84.00		0.00		0
NaSO4	71.03		0.00		0
NaCl	58.46		10.48		613

Calcium Sulfate Solubility Profile

WATER ANALYSIS REPORT

SAMPLE

Fresh Water

Oil Co. : Matador Operating
Lease : Davis Ranch
Well No.: # 1
Location: Sec 5, T20 S, R37E, Unit A
Attention: Russ Mathis

Date Sampled :
Date Analyzed: 28-May-2002
Lab ID Number: May2802.001- 1
Salesperson : Max

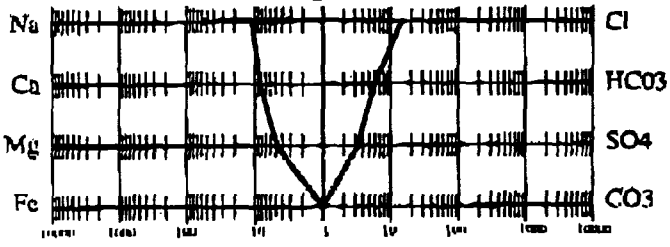
File Name : F:\ANALYSES\May2802.001

ANALYSIS

1.	Ph			7.050		
2.	Specific Gravity 60/60 F.			1.008		
3.	CACO3 Saturation Index		@ 80F	0.152		
			@140F	0.852		
	Dissolved Gasses			**MG/L.**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide			Not Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		160	/ 20.1 =	7.96
8.	Magnesium	(Mg++)		55	/ 12.2 =	4.51
9.	Sodium	(Na+)	(Calculated)	240	/ 23.0 =	10.43
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		342	/ 61.1 =	5.60
14.	Sulfate	(SO4=)		155	/ 48.8 =	3.18
15.	Chloride	(Cl-)		500	/ 35.5 =	14.08
16.	Total Dissolved Solids			1,452		
17.	Total Iron	(Fe)		3	/ 18.2 =	0.14
18.	Total Hardness as CaCO3			626		
19.	Resistivity @ 75 F. (Calculated)			4.606 /cm.		

LOGARITHMIC WATER PATTERN

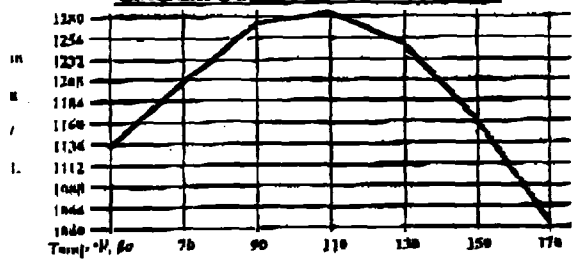
*meq / L.



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L	=	mg/L
Ca(HCO3)2	81.04		5.60		454
CaSO4	68.07		2.36		161
CaCl2	55.50		0.00		0
Mg(HCO3)2	73.17		0.00		0
MgSO4	60.19		0.81		49
MgCl2	47.62		3.69		176
NaHCO3	84.00		0.00		0
NaSO4	71.03		0.00		0
NaCl	58.46		10.39		607

Calcium Sulfate Solubility Profile



PRO-KEM, INC.

WATER ANALYSIS REPORT

SAMPLE

Oil Co.: **Matador Operating**
Lease : **Coombes**
Well No.: **N/A**
Location: Sec 4, T20S, R37E, Unit N
Attention: **Russ Mathis**

Date Sampled : Fresh Water
Date Analyzed: **28-May-2002**
Lab ID Number: **May2802.001-4**
Salesperson : **Max**

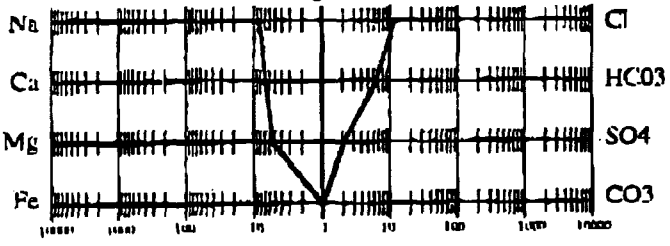
File Name : **F:\ANALYSES\May2802.001**

ANALYSIS

				MG/L.	EQ. WT.	*MEQ/L
1.	Ph			7.150		
2.	Specific Gravity 60/60 F.			1.003		
3.	CACO3 Saturation Index		@ 80F	0.204		
			@140F	0.904		
	Dissolved Gasses					
4.	Hydrogen Sulfide			Not Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		130	/ 20.1 =	6.47
8.	Magnesium	(Mg++)		61	/ 12.2 =	5.00
9.	Sodium	(Na+)	(Calculated)	184	/ 23.0 =	8.00
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		376	/ 61.1 =	6.15
14.	Sulfate	(SO4=)		100	/ 48.8 =	2.05
15	Chloride	(Cl-)		400	/ 35.5 =	11.27
16.	Total Dissolved Solids			1,251		
17.	Total Iron	(Fe)		2	/ 18.2 =	0.08
18.	Total Hardness as CaCO3			576		
19.	Resistivity @ 75 F. (Calculated)			2.992 /cm.		

LOGARITHMIC WATER PATTERN

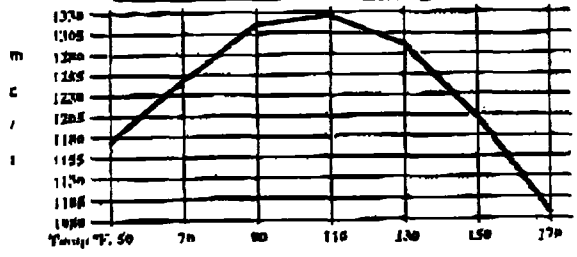
*meq / L.



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X *meq/L	= mg/L
Ca(HCO3)2	81.04	6.15	499
CaSO4	68.07	0.31	21
CaCl2	55.50	0.00	0
Mg(HCO3)2	73.17	0.00	0
MgSO4	60.19	1.74	104
MgCl2	47.62	3.26	155
NaHCO3	84.00	0.00	0
NaSO4	71.03	0.00	0
NaCl	58.46	8.00	468

Calcium Sulfate Solubility Profile



PETROLITE, INC.

WATER ANALYSIS REPORT

SAMPLE

Glorieta Formation

Oil Co. : Matador Operating
Lease : Williams '34'
Well No.: # 3
Location:
Attention: Russ Mathis

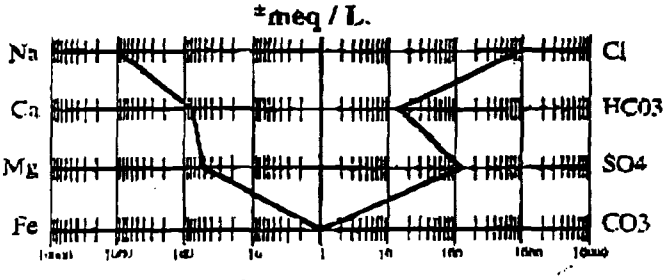
Date Sampled : 05-April-2002
Date Analyzed: 08-April-2002
Lab ID Number: Apr0802.001- 1
Salesperson :

File Name : F:\ANALYSES\Apr0802.001

ANALYSIS

1.	Ph			6.420		
2.	Specific Gravity 60/60 F.			1.048		
3.	CACO3 Saturation Index		@ 80F	-0.253		
			@140F	0.657		
	Dissolved Gasses			**MG/L.**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide			Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		1,503	/ 20.1 =	74.78
8.	Magnesium	(Mg++)		608	/ 12.2 =	49.84
9.	Sodium	(Na+)	(Calculated)	21,609	/ 23.0 =	939.52
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		830	/ 61.1 =	13.58
14.	Sulfate	(SO4=)		5,800	/ 48.8 =	118.85
15.	Chloride	(Cl-)		32,993	/ 35.5 =	929.38
16.	Total Dissolved Solids			63,343		
17.	Total Iron	(Fe)		3	/ 18.2 =	0.14
18.	Total Hardness as CaCO3			6,256		
19.	Resistivity @ 75 F. (Calculated)			0.159 /cm.		

LOGARITHMIC WATER PATTERN



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L	=	mg/L
Ca(HCO3)2	81.04		13.58		1,101
CaSO4	68.07		61.19		4,165
CaCl2	55.50		0.00		0
Mg(HCO3)2	73.17		0.00		0
MgSO4	60.19		49.84		3,000
MgCl2	47.62		0.00		0
NaHCO3	84.00		0.00		0
NaSO4	71.03		7.82		556
NaCl	58.46		929.38		54,332

Calcium Sulfate Solubility Profile

PRO-KEM, INC.

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : **Matador Operating**
Lease : **Shelley St. 35**
Well No.: **# 2**
Location:
Attention: **Russ Mathis**

Date Sampled : **05-April-2002**
Date Analyzed: **08-April-2002**
Lab ID Number: **Apr0802.001- 2**
Salesperson :

Drinkard Formation

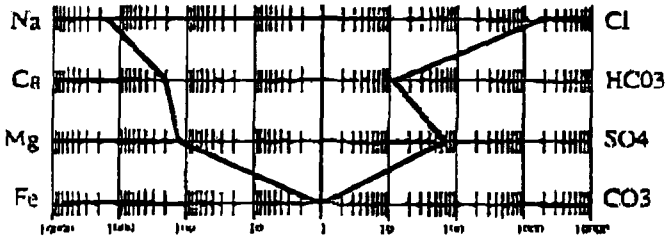
File Name : **F:\ANALYSES\Apr0802.001**

ANALYSIS

				MG/L.	EQ. WT.	*MEQ/L
1.	Ph			6.620		
2.	Specific Gravity 60/60 F.			1.078		
3.	CACO3 Saturation Index		@ 80F	0.364		
			@140F	1.299		
	Dissolved Gasses					
4.	Hydrogen Sulfide			Not Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		4,008	/ 20.1 =	199.40
8.	Magnesium	(Mg++)		1,520	/ 12.2 =	124.59
9.	Sodium	(Na+)	(Calculated)	33,195	/ 23.0 =	1,443.26
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH+)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		693	/ 61.1 =	11.34
14.	Sulfate	(SO4=)		3,150	/ 48.8 =	64.55
15.	Chloride	(Cl-)		59,986	/ 35.5 =	1,689.75
16.	Total Dissolved Solids			102,552		
17.	Total Iron	(Fe)		6	/ 18.2 =	0.33
18.	Total Hardness as CaCO3			16,265		
19.	Resistivity @ 75 F. (Calculated)			0.089 /cm.		

LOGARITHMIC WATER PATTERN

*meq / L.



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L	=	mg/L.
Ca(HCO3)2	81.04		11.34		919
CaSO4	68.07		64.55		4,394
CaCl2	55.50		123.51		6,855
Mg(HCO3)2	73.17		0.00		0
MgSO4	60.19		0.00		0
MgCl2	47.62		124.59		5,933
NaHCO3	84.00		0.00		0
NaSO4	71.03		0.00		0
NaCl	58.46		1,441.64		84,279

Calcium Sulfate Solubility Profile

Comparison Between Two Waters

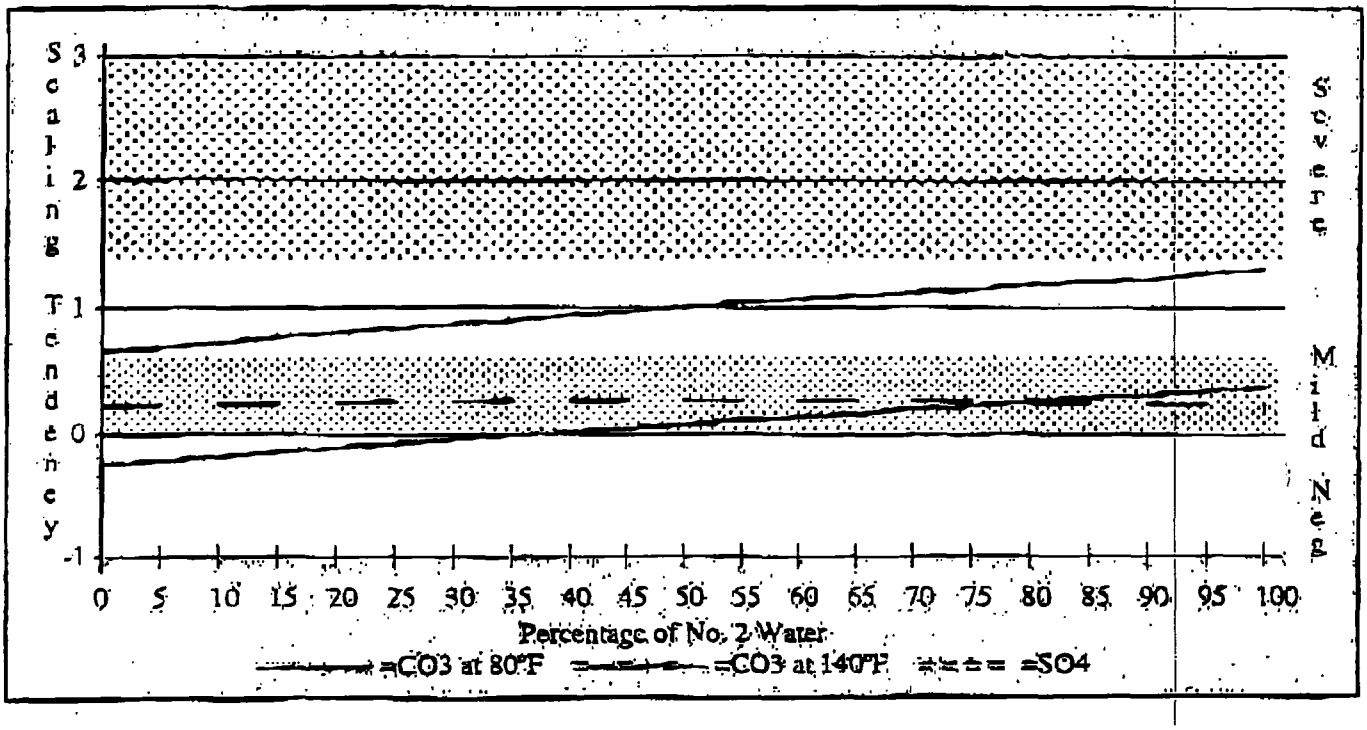
Pro-Kem, Inc.

Sample No. 1
Matador Operating
Williams 34 # 3
08-April-2002

Compatibility Test

Sample No. 2
Matador Operating
Shelley St. 35 # 2
08-April-2002

Percent of #1 & #2	pH	TDS	SpGr	CaCO3 Saturation @80°F.	CaCO3 Saturation @140°F.	Calcium Sulfate Scaling Potential
100 - 00	6.420	63,343	1.048	-0.253	0.657	Mild to Moderate
95 - 05	6.430	65.303	1.050	-0.222	0.688	Mild to Moderate
90 - 10	6.440	67,264	1.051	-0.183	0.727	Mild to Moderate
85 - 15	6.450	69,224	1.053	-0.147	0.773	Mild to Moderate
80 - 20	6.460	71,185	1.054	-0.113	0.807	Mild to Moderate
75 - 25	6.470	73.145	1.056	-0.080	0.840	Mild to Moderate
70 - 30	6.480	75,106	1.057	-0.047	0.871	Mild to Moderate
65 - 35	6.490	77,066	1.059	-0.017	0.901	Mild to Moderate
60 - 40	6.500	79,027	1.060	0.014	0.939	Mild to Moderate
55 - 45	6.510	80,987	1.062	0.041	0.966	Mild to Moderate
50 - 50	6.520	82.948	1.063	0.068	0.993	Mild to Moderate
45 - 55	6.530	84,908	1.065	0.108	1.038	Mild to Moderate
40 - 60	6.540	86,868	1.066	0.132	1.063	Mild to Moderate
35 - 65	6.550	88.829	1.068	0.156	1.086	Mild to Moderate
30 - 70	6.560	90.789	1.069	0.199	1.119	Mild to Moderate
25 - 75	6.570	92,750	1.071	0.222	1.142	Mild to Moderate
20 - 80	6.580	94,710	1.072	0.263	1.183	Mild to Moderate
15 - 85	6.590	96,671	1.074	0.284	1.204	Mild to Moderate
10 - 90	6.600	98,631	1.075	0.305	1.225	Mild to Moderate
05 - 95	6.610	100.592	1.077	0.345	1.280	Mild to Moderate
00 - 100	6.620	102,552	1.078	0.364	1.299	Mild to Moderate



MATADOR PETROLEUM CORPORATION
310 W. Wall, Ste. 906
Midland, TX 79701
(915) 687-5955
(915) 687-4809 Fax

Diane Kuykendall
Production Analyst

Writer's Direct Line
(915) 687-5957

June 18, 2002

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

RE: Cooper 4 #1 SWD
API #30-025-35794
Sec 4, T20S, R37E
Lea County, NM

Dear Sir:

Attached is the affidavit of publication which should complete our application for injection on the above reference well.

If you have any further questions, please feel free to call.

Sincerely,

Diane Kuykendall
Production Analyst

/dk
Attachment

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

June 6 2002

and ending with the issue dated

June 6 2002

Kathi Bearden

Publisher

Sworn and subscribed to before me this 6th day of June 2002

Notary Public.

My Commission expires
October 18, 2004
(Seal)

LEGAL NOTICE
June 6, 2002

Matador Operating Company, 310 W. Wall, Ste. 906, Midland, TX 79701 (915) 687-5955, Russ Mathis, Production Manager, is applying for authorization to inject into the Cooper "4" #1 salt water disposal well located 660' FNL and 1845' FWL; Section 4, Township 20S, Range 37E, Lea County, New Mexico. Disposal will be in the Upper Permian Glorieta, Paddock and Blinebry formations from 5300' to 5950' with a maximum injection rate of 2000 BWPD at a maximum pressure of 1400 psi. Persons wishing to object or request a hearing should contact Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, NM 87504 within 15 days.
#19023

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

01101892000 02556281

Matador Operating Company
310 W. Wall, Suite 906
Midland, TX 79701

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Jimmy Cooper
P O Box 55
Monument, NM 88265-0055

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Dear Mr. Cooper:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Jimmie Baum Cooper
P O Box 36
Monument, NM 88265-0036

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Dear Mr. Cooper:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Amerada Hess Corporation
P O Box 2040
Houston, TX 77252-2040

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION

SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Chevron USA, Inc.
P O Box 1150
Midland, TX 79702-1150

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____

Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Exxon Mobil Corporation
P O Box 4697
Houston, TX 77210-4697

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Magnum Hunter Production, Inc.
600 Las Colinas Boulevard East, Suite 1100
Irving, TX 75039-5635

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Occidental Permian Limited Partnership
P O Box 50250
Midland, TX 79707-0250

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Samson Resources Company
Two West Second Street
Tulsa, OK 74103-3103

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

MATADOR PETROLEUM CORPORATION
SUITE 150, PECAN CREEK
8340 MEADOW ROAD
DALLAS, TEXAS 75231-3751
(214) 987-3650
FAX: (214) 987-7123

June 4, 2002

Texaco Exploration and Production, Inc.
P O Box 1150
Midland, TX 79702-1150

RE: Cooper "4" #1
Sec. 4, T20S, R37E
Lea County, NM

Gentlemen:

Please find enclosed a copy of Matador Operating Company's Application for Authorization to Inject. Form C-108 requires notification to surface owners and operators within one-quarter mile of record.

If there are no objections to the application, please execute waiver below and mail to Matador Operating Company at the above-address or fax to me at (214) 987-7123. Any objections must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days from the date of the application.

Sincerely,

Sharon Cook
Regulatory Analyst

_____ has no objection to Matador's Application for Authorization to Inject into the Cooper "4" #1 well located in Sec. 4, T20S, R37E, Lea County, New Mexico.

_____ _____
Signature Printed Name

Jim Kramer (Mack Energy)

Matador Petroleum Corp = Cooper "4" No. 1 SWD Permit Application

API	WELL NAME	Short Operator	NS	EW	UL1	UL2	Sec	Tsp	Rge	TVD	LAND	WELL	Orig FORM (or NOTES)	PLUG	STATUS	POOL	GAS2002	OIL2002	WAT2002	GAS2001	OIL2001	WAT2001
30-025-05790	N MONUMENT G/SA UNIT #016	Amerada	660S	660E	P	P	32	19S	37E	3898	P	O			SHUT IN	EUNICE MONUMENT;G-SA	722	1265	6679	3056	4183	24561
30-025-05813	N MONUMENT G/SA UNIT #010	Amerada	1650S	2160E	J	J	33	19S	37E	3899	P	O			T/A		0	0	0	0	0	0
30-025-21496	E M E SWD #033	RICE	1485S	1485W	K	K	33	19S	37E	5000	P	S	SAN ANDRES		ACTIVE	SWD;SA	0	0	0	0	0	0
30-025-31502	N MONUMENT G/SA UNIT #011	Amerada	1929S	1980W	K	K	33	19S	37E	4138	P	O			ACTIVE	EUNICE MONUMENT;G-SA	1292	164	5955	4051	526	23554
30-025-05803	N MONUMENT G/SA UNIT #289	Amerada	1980S	660W	L	L	33	19S	37E	0	P	O	GRAYBURG-SAN ANDRES		NO COMPL		0	0	0	0	0	0
30-025-05798	N MONUMENT G/SA UNIT #013	Amerada	660S	660W	M	M	33	19S	37E	3910	P	O			T/A		0	0	0	0	0	0
30-025-05799	N MONUMENT G/SA UNIT #014	Amerada	330S	2310W	N	N	33	19S	37E	3910	P	O	G/SA		T/A		0	0	0	0	0	0
30-025-05810	N MONUMENT G/SA UNIT #015	Amerada	330S	2310E	O	O	33	19S	37E	3915	P	O			T/A		0	0	0	0	0	0
30-025-05893	N MONUMENT G/SA UNIT #001	Amerada	330N	990E	A	1	4	20S	37E	3910	P	O	G/SA		ACTIVE		0	0	0	0	0	5798
30-025-35837	COOPER 4 #002 5900'	MATADOR	925N	750E	A	A	4	20S	37E	0	P	O	DRINKARD OUT of AOR		NO COMPL		0	0	0	0	0	0
30-025-09891	N MONUMENT G/SA UNIT #002	Amerada	330N	2310E	B	2	4	20S	37E		P	O			T/A	3700' cmt'd w/ 1100'	0	0	0	0	0	0
30-025-09892	N MONUMENT G/SA UNIT #003	Amerada	330N	2310W	C	3	4	20S	37E		P	O			ACTIVE	3638	0	0	0	904	184	168
30-025-35794	COOPER 4 #001	MATADOR	660N	1845W	C	C	4	20S	37E	0	P	O	DRINKARD		NO COMPL		0	0	0	0	0	0
30-025-24081	N MONUMENT G/SA UNIT #004Y	Amerada	990N	660W	D	4	4	20S	37E		P	O	3831'		ACTIVE	EUNICE MONUMENT;G-SA	654	1276	7166	2441	5387	30060
30-025-31812	EUMONT GAS COM NO 1 #004	EXXON MOBIL	1191N	674W	D	4	4	20S	37E	3650	P	G	SEVEN RIVERS-QUEEN		ACTIVE	EUMONT;YATES-7 RVRS-Qn (PRO GAS)	5664	0	0	24520	0	0
30-025-05897	N MONUMENT G/SA UNIT #005	Amerada	1980N	660W	E	E	4	20S	37E		P	O	3700'		ACTIVE	EUNICE MONUMENT;G-SA	573	1580	10707	2146	6231	42099
30-025-05899	N MONUMENT G/SA UNIT #006	Amerada	1980N	1980W	F	F	4	20S	37E		P	G	3890'		T/A		0	0	0	0	0	0
30-025-33019	N MONUMENT G/SA UNIT #284	Amerada	2650N	2630W	F	F	4	20S	37E	4042	P	O	G/SA		ACTIVE	EUNICE MONUMENT;G-SA	365	94	674	2009	509	3641
30-025-35676	LAUGHLIN #006	MATADOR	2310N	1820W	F	F	4	20S	37E	6800	P	O	DRINKARD		ACTIVE	MONUMENT;TUBB	17062	2608	3795	0	0	0
30-025-05888	N MONUMENT G/SA UNIT #007	Amerada	1980N	1980E	G	G	4	20S	37E	3883	P	G	G/SA		SHUT IN	EUNICE MONUMENT;G-SA	213	143	336	1593	1021	2902
30-025-05920	N MONUMENT G/SA UNIT #001	Amerada	660N	660E	A	1	5	20S	37E	3900	P	I	GBG-SA / CONV TO WIW		ACTIVE	EUNICE MONUMENT;G-SA	0	0	0	0	0	0
30-025-32956	COOPER LOVE #002	TEXACO	860N	660E	A	1	5	20S	37E	3620	P	G	QUEEN		ACTIVE	EUMONT;YATES-7 RVRS-Qn (PRO GAS)	8145	0	0	35973	0	0
30-025-05922	N MONUMENT G/SA UNIT #008	Amerada	1980N	660E	H	H	5	20S	37E		P	O			ACTIVE	EUNICE MONUMENT;G-SA	121	487	3666	1651	1468	13433
30-025-35399	COOPER 5 #007 (OUT of AOR)	MATADOR	2310N	660E	H	H	5	20S	37E	6802	P	O	DRINKARD		ACTIVE	MONUMENT;TUBB	30724	6071	1039	149254	42996	6393

Monument (ABO) Sec 5, 6, 7

Monument (Paddock) in Sec 5, 6, 7, 8

Monument (TUBB)

Monument (DRINKARD) = (NE/4 Sec 5)

Skaggs (DRINKARD) = (S½/SE, SESW) Sec 4

Weir (Blinebry) E/4 Sec 3

Monument (Blinebry) W/2, 5, & 6

SWD-839

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

Oil Conservation Division
1220 S. Francis Drive
Santa Fe, NM 87505

RE: Proposed:
MC_____
DHC_____
NSL_____
NSP_____
SWD X
WFX_____
PMX_____

Gentlemen:

I have examined the application for the:

Matador Operating Co Cooper 4 #1-C, 4-20s-37e
Operator Lease & Well No. Unit S-T-R Api #30-025-35794

and my recommendations are as follows:

No well bore construction data for well in AOR

Yours very truly,

Chris Williams
Chris Williams
Supervisor, District 1