

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: MARALO, INC.
Address: P. O. BOX 832, MIDLAND, TEXAS 79702
Contact party: RICHARD A. GILL, PETROLEUM ENGINEER Phone: (915) 684-7441
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- * VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological 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 source 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 source 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: DOROTHEA LOGAN Title: REGULATORY ANALYST
Signature: *Dorothea Logan* Date: APRIL 19, 1996
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

Application For Authorization To Inject
Maralo, Inc
Schenck Well #1
A 20-13S-38E
Lea County, New Mexico

- I. The purpose of completing this well is to make a disposal well for produced Wolfcamp water into the Devonian formation.

Maralo, Inc. plans to convert this well to a water disposal well into the Devonian formation.

- II. Operator: Maralo, Inc.
P. O. Box 832
Midland, TX 79702
Richard A. Gill (915) 684-7441

- III. Well Data : See Attachment A

- IV. This is not an expansion of an existing project.

- V. See attached map, Attachment B

- VI. There are 2 wells within the area of review which penetrate the proposed injection zone. (Attachment B1 and Attachment B2)

- VII. 1. Proposed average daily injection volume approximately 1800 BWPd.
Maximum Daily injection volume approximately 2000 BWPd.
2. This will be a closed system.
3. Proposed average injection pressure-unknown
Proposed maximum injection pressure--2000 psi.
4. Sources of injected water would be produced water from the Wolfcamp. (Attachment C)
5. See Attachment C.

- VIII. The proposed injection interval is the portion of the Devonian formation consisting of porous Dolomite from estimated depths:

12,464 - 12,530'

Application for Authorization to Inject
Schenck #1

-2-

continued

Fresh water zones overlies the proposed injection formations at depths of approximately 100 feet. There are no fresh water zones underlying the formation.

- IX. The proposed disposal interval may be acidized with 15% HCL acid.
- X. Well Log is filed at the Hobbs/OCD office with copy of this C-108 application.
- XI. The location of fresh water wells and windmills existing within a one mile radius of the subject location are noted on the map. Water Analysis (Attachment D).
- XII. Maralo, Inc. has examined geologic and engineering data and has found that there is no evidence of faulting in the proposed interval.
- XIII. Proof of Notice
 - A. Certified letter sent to the Surface Owner. There are no Offset Operators. (Attachment E)
 - B. Copy of legal advertisement (Attachment F) attached.
- XIV. Certification is signed.

MARALO, INC.
SCHENCK #1
A 20-13S-38E
LEA COUNTY, NEW MEXICO

Attachment A

Page 1

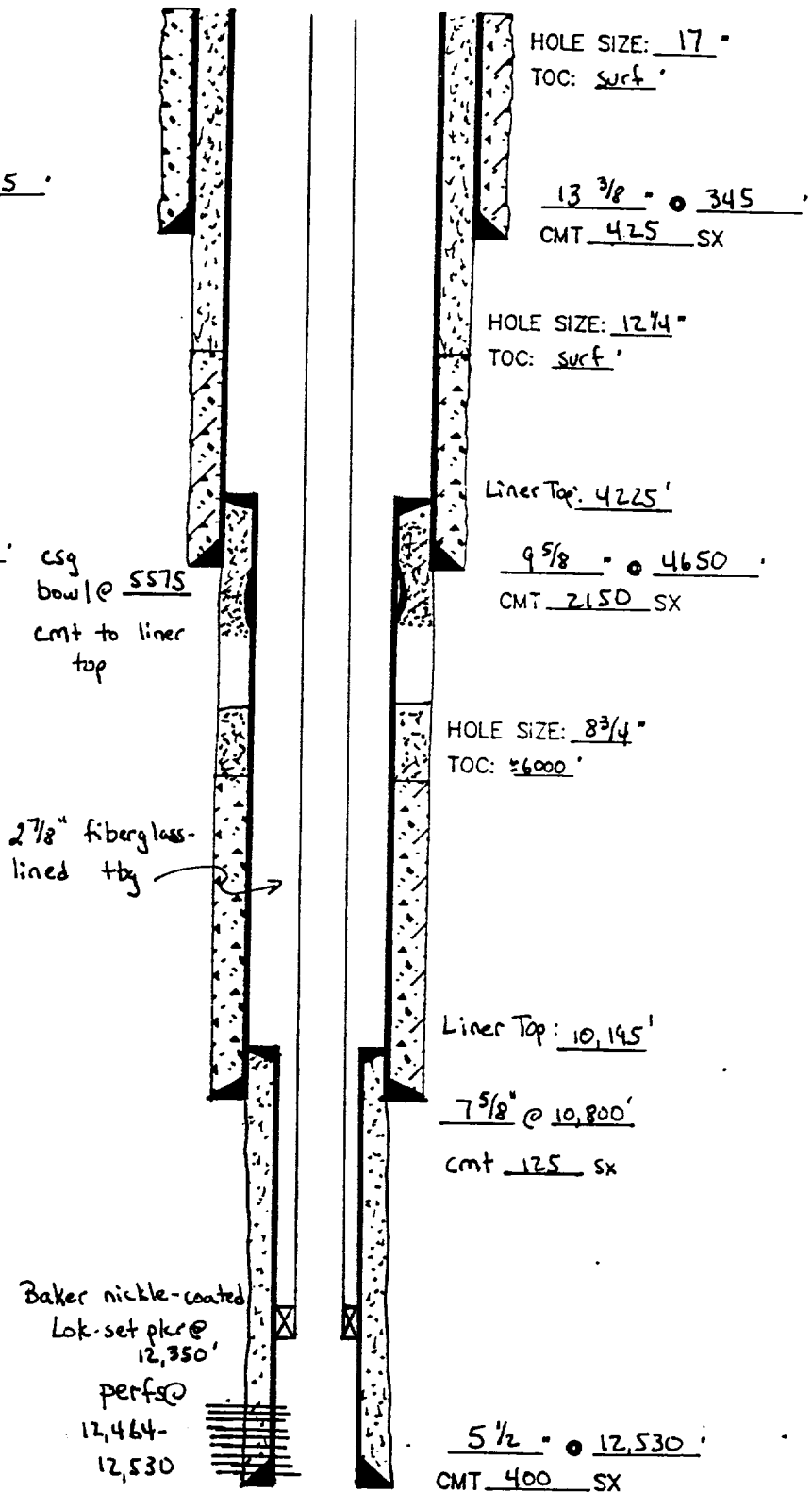
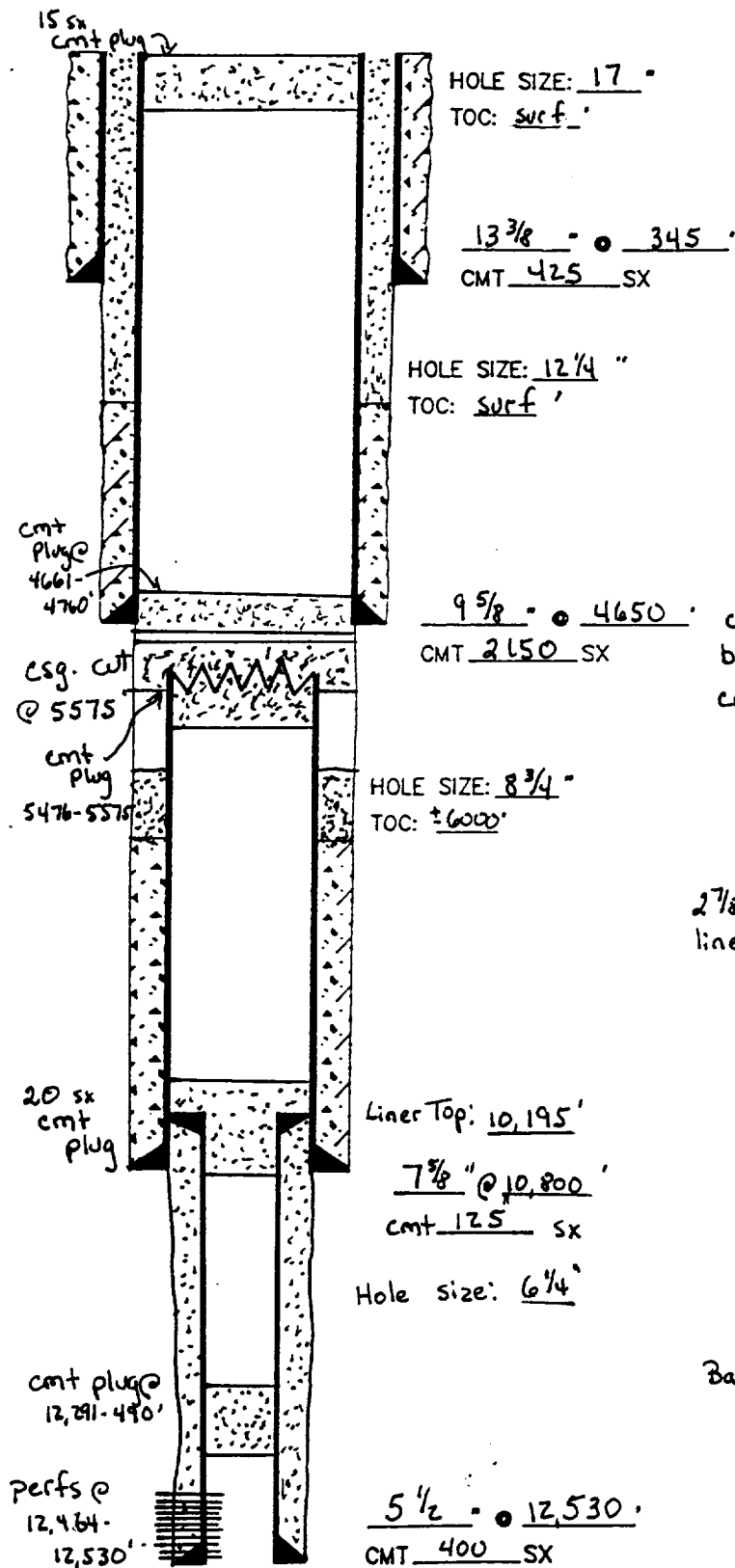
III. Well Data

- A. 1. Lease Name/Location
Schenck, Well #1
A 20-13S-38E
660' FNL & 660' FEL
2. Casing Strings:
Present Well Condition:
13-3/8" 48# H40 @ 345' w/425 sx (circ)
9-5/8" 36# J55 @ 4650' w/2150 sx (circ)
7-5/8" 26, 29 & 33# @10,800 w/125 sx
5-1/2" 20# N-80 Liner Top @ 10,195', set
at 12,530' TD w/400 sxs.
3. Proposed well condition:
Casing and Liner same as above.
2-7/8" 6.5# K-55 duo-line plastic coated
injection tubing @ +/- 12,350.
4. Propose to use Baker nickel-plated Loc-Set
packer set at +/- 12,350'.
- B. 1. Injection Formation: Devonian Dolomite
Field/Pool: Wildcat
2. Injection Interval will be through
perforations at approximately 12,464 - 12,530'.
3. Well was original drilled as a Devonian Wildcat
oil well. Tests proved well to be non-
commercial. Well will be Devonian Dolomite
Water disposal well (12,464 - 12,530') when work
is completed.
4. Additional Perforations: None
5. There is higher Wolfcamp (9400') but no lower
oil or gas zones within the area of interest.

LEASE & WELL NAME: Schenk #1
 FIELD: ONCO, SW COUNTY: Lea ST.: NM
 LOCATION: 660' FNL : 660' FEL, Sec. 20,
T-13-S, R-38-E
 DATE: 4/16/96 BY: RAG REV.: _____ BY: _____

CURRENT

PROPOSED



UL. "A", SECTION 20, T 13 S - R 38 E

UL. "A", SECTION 20, T 13 S - R 38 E

MARALO, INC.
A COUNTY, NEW MEXICO
LAND MAP
SCALE : 1" = 4,000'

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-105
Revised 1-1-89

Submit to Appropriate
District Office
State Lease -- 6 copies
Fee Lease -- 5 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO.
30-025-32860

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well:
OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER _____

b. Type of Completion:
NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF RESVR ☐ OTHER _____

2. Name of Operator
MARALO, INC.

3. Address of Operator
P. O. BOX 832, MIDLAND, TX 79702

4. Well Location
Unit Letter B : 350 Feet From The NORTH Line and 1550 Feet From The EAST Line
Section 20 Township 13S Range 38E NMPM LEA County

10. Date Spudded 05/26/95 11. Date T.D. Reached 07/13/95 12. Date Compl. (Ready to Prod.) 08/24/95 13. Elevations (DF& RKB, RT, GR, etc.) 3827' 14. Elev. Casinghead -

15. Total Depth 12,537' 16. Plug Back T.D. 12,365' 17. If Multiple Compl. How Many Zones? 18. Intervals Drilled By Rotary Tools 0-TD Cable Tools

19. Producing Interval(s), of this completion - Top, Bottom, Name 9754 - 9861' (WOLFCAMP) 20. Was Directional Survey Made YES

21. Type Electric and Other Logs Run CNL/LD/GR, CNL/GR/CCL, CNL/LDT/NGT, AIT/GR, CBL/GR/CCL 22. Was Well Cored NO

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB/FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.50#	567'	17-1/2"	650 SXS "C"	
8-5/8"	32#	4624'	11"	900 SXS HOWCO LT + 250 SXS "C"	
5-1/2"	17# & 20#	12470'	7-7/8"	535 SXS 50/50 +110 HALCO LT	
		DV @ 9882'		2ND STG. 400 SXS 50/50 POZ MX.	

24. LINER RECORD					25. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2-7/8"	9608'	9608'

26. Perforation record (interval, size, and number)				27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.	
12,454 - 12,470' (64 HOLES)				DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
9,754 - 9,894' (80 HOLES)				12,400'	5 1/2" CIBP SET W/35' CNT CAP
				9754 - 9894'	ACDZ'D W/4300 GALS 15% NEFE ACID
				9872'	RBP SET

28. PRODUCTION							
Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)	
08/24/95		FLOWING				SI	
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
09/28/95	24 HRS.	48/64"		683	900	729	1318
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)	
250 PSI	-					40.0	

29. Disposition of Gas (Sold, used for fuel, vented, etc.) W/O GAS LINE Test Witnessed By PHILLIP SMITH

30. List Attachments
DEVIATION SURVEY, TEMPERATURE SURVEY, C-104, LOGS (2) C-123 + C-102

31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature Dorothea Logan Printed Name DOROTHEA LOGAN Title REGULATORY ANALYST Date 10/02/95

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy _____	T. Canyon _____	T. Ojo Alamo _____	T. Penn. "B" _____
T. Salt _____	T. Strawn _____	T. Kirtland-Fruitland _____	T. Penn. "C" _____
B. Salt _____	T. Atoka _____ 11,206	T. Pictured Cliffs _____	T. Penn. "D" _____
T. Yates _____	T. Miss _____ 11,696	T. Cliff House _____	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____ 12,446	T. Menefee _____	T. Madison _____
T. Queen _____	T. Silurian _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup _____	T. Ignacio Otzte _____
T. Glorieta _____	T. McKee _____	Base Greenhorn _____	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____	T. _____
T. Blinberry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____	T. Delaware Sand _____	T. Todilto _____	T. _____
T. Drinkard _____	T. Bone Springs _____	T. Entrada _____	T. _____
T. Abo _____	T. _____	T. Wingate _____	T. _____
T. Wolfcamp XX 9434	T. _____	T. Chinle _____	T. _____
T. Penn _____	T. _____	T. Permian _____	T. _____
T. Cisco (Bough C) _____	T. _____	T. Penn "A" _____	T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from _____ to _____
 No. 2, from _____ to _____
 No. 3, from _____ to _____
 No. 4, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from _____ to _____ feet
 No. 2, from _____ to _____ feet
 No. 3, from _____ to _____ feet

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness in Feet	Lithology	From	To	Thickness in Feet	Lithology
40	567	527	SURFACE ROCK & REDBED				
567	1576	1009	SALT & ANHY				
1576	2709	1133	SALT, REDBED & ANHY				
2709	4624	1915	SALT & ANHY				
4624	4890	266	DOLO & ANHY				
4890	5674	784	DOLO				
5674	6445	771	DOLO & LIME				
6445	7985	1540	DOLO				
7985	9431	1446	DOLO & SHALE				
9431	9467	36	DOLO & LIME				
9467	9636	169	DOLO, LIME & SHALE				
9636	9735	99	LIME & SHALE				
9735	11135	1400	DOLO & LIME				
11135	11650	515	LIME & SHALE				
11650	11880	230	SHALE, LIME & CHERT				
11880	12350	470	SHALE & LIME				
12350	12470	120	DOLO				

ELEV.: GL 3819 " , _____ ' ABOVE _____

LEASE & WELL NAME: Inexco #1 Williams

FIELD: _____ COUNTY: Lea ST.: NM

LOCATION: 660' FSL & 660' FWL, Sec. 16-135-38E

DATE: 4/17/96 BY: Rag REV.: _____ BY: _____

cmt plug
0-25'

HOLE SIZE: NA "
TOC: NA "

TOC - NA

13 3/8 " @ 400
CMT 425 SX

cmt plug
1500-1600

cmt plug
4760-4860'

9 5/8 " @ 4732'
cmt 1450 SX

cmt plug 6100-6200'

cmt plug - 9300-9400'

cmt plug - 10,570 - 10,750

cmt plug - 10,790 - 894'

TD: 12,510' PBD: _____

CASING RECORD

SURFACE CASING

O.D.	WT/FT	GRADE	SET AT
<u>13 3/8</u> "	<u>NA</u>	<u>NA</u>	<u>400'</u>
<u>9 5/8</u> "	<u>NA</u>	<u>NA</u>	<u>4732'</u>

PRODUCTION CASING

<u>NONE</u>			

TUBING

NO. JTS.	O.D.	THD.	TYPE	WT.	GDE.	SET AT
<u>NONE</u>						

WELL HISTORY:

9/21/80 Spud well

12/4/80 Well P & A 1/2 . D & A

By _____
Waylan C. Martin, M.A.

ATTACHMENT C-2

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Bill Hunt LABORATORY NO. 296196
P O Box 832, Midland, TX 79702 SAMPLE RECEIVED 2-29-96
RESULTS REPORTED 2-1-96

COMPANY Maralo, Inc. LEASE Lowe "20"
FIELD OR POOL Bronco, South
SECTION BLOCK SURVEY COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Lowe "20" #2. 2-28-96

NO. 2

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0355			
pH When Sampled				
pH When Received	6.75			
Bicarbonate as HCO ₃	1,122			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	12,400			
Calcium as Ca	3,520			
Magnesium as Mg	875			
Sodium and/or Potassium	11,883			
Sulfate as SO ₄	2,658			
Chloride as Cl	24,502			
Iron as Fe	192			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	44,560			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	424			
Resistivity, ohms/m at 77° F.	0.185			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks The above results reveal a significant increase in calcium, slight increase in chloride, and a slight decline in sulfate as compared to the last water recovered from this well on 2-10-96 and reported on laboratory #29655. However, it still shows to have basically the same characteristics as previously encountered and does not correlate with what we would anticipate from Wolfcamp in this area.				

Form No. 3

Copy: Bill / Dick / Richard / Sharon
3/4/96
Waylan C. Martin, M.A.

ATTACHMENT "D"

Martin Water Laboratories, Inc.

P. O. BOX 1488
MONAHAN, TEXAS 79758
PH. 843-5234 OR 843 1040

700 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Bill Hunt LABORATORY NO. 1095182
P. O. Box 832, Midland, TX 79702 SAMPLE RECEIVED 10-27-95
RESULTS REPORTED 10-31-95

COMPANY Maraio, Inc. LEASE November 16 #1

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

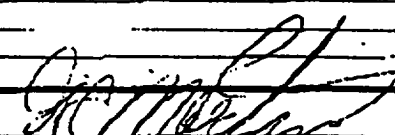
- X1 NO.1 Raw water - taken from section 16 windmill well. 10-25-95
X2 NO.2 Raw water - taken from Harris Orchard water well. 10-25-95
X3 NO.3 Raw water - taken from North Townsend windmill well. 10-25-95
X4 NO.4 Raw water - taken from R. N. Williams house windmill well (section 16). 10-25-95

REMARKS: _____

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0021	1.0020	1.0018	1.0014
pH When Sampled				
pH When Received	6.92	6.68	6.95	6.92
Bicarbonate as HCO ₃	220	271	259	259
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	480	616	292	252
Calcium as Ca	146	178	84	82
Magnesium as Mg	28	42	20	12
Sodium and/or Potassium	53	86	101	67
Sulfate as SO ₄	202	288	169	123
Chloride as Cl	145	200	88	41
Iron as Fe	0.04	0.04	0.16	0.08
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	793	1,065	721	584
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohm-cm at 77° F.	8.96	6.69	11.08	14.86
Suspended Oil				
Filterable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	4.8	8.2	3.5	1.8

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.


Waylan C. Martin, M.A.

ATTACHMENT "E"

SCHENCK WELL #1

OFFSET OPERATORS:

THERE ARE NOT OFFSET OPERATORS

SURFACE OWNER:

MS MARY RUTH MCCRORY
P. O. BOX 25764
ALBUQUERQUE, NEW MEXICO 87125

(copy of certified letter attached)

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

Publisher

of the Hobbs Daily News-Sun, a daily 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

March 24 _____, 1996

and ending with the issue dated

March 24 _____, 1996

Kathi Bearden
Publisher

Sworn and subscribed to before

me this 5th day of

April, 1996

Marilyn B. Ruggiero
Notary Public.

My Commission expires
March 24, 1998

(Seal)

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.

LEGAL NOTICE
March 24, 1996

Maralo, Inc., P. O. Box 832, Midland, Texas 79702, is filing Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for injection well. The proposed well, the Schenck #1, is located 660' FNL and 660' FEL, Section 20, Township 13 South, Range 38 East, Lea County, New Mexico, will be used for saltwater disposal. Disposal waters from the Wolfcamp formation will be injected into the Devonian formation at a depth of 12,464 - 12,530 feet with a maximum pressure of 2000 psi and a maximum rate of 2000 BWPD.

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, P. O. Box 6429, Santa Fe, New Mexico, 87504-6429, within 15 days. Additional information can be obtained by contacting R. A. Lowery at (915) 684-7441.
#14455



April 19, 1996

CERTIFIED MAIL - RETURN RECEIPT

Ms. Mary Ruth McCrory
P. O. Box 25764
Albuquerque, New Mexico 87125

Dear Sir:

In accordance with Item XIV (Proof of Notice) Side 2, on the enclosed Form C-108 (New Mexico OCD Application for Authority to Inject), Maralo Inc. hereby furnishes notice to the surface owner of the Schenck Lease, Well #1 located 660 feet from the North line and 660 feet from the East line (Unit A) of Section 20, Township 13 South, Range 32 East, NMPM, Lea County, New Mexico.

Should you have any questions, please feel free to contact me at (915) 684-7441.

Sincerely,

A handwritten signature in cursive script that reads "Dorothea Logan".

Dorothea Logan
Regulatory Analyst

Enclosure

✓cc: Oil Conservation Division
Santa Fe, New Mexico

