

Chama Petroleum Company

Exploration and Production
P.O. Box 31405
5447 Glen Lakes Drive
Dallas, Texas 75231
214-739-1778

October 10, 1985

BEFORE EXAMINER STOGNER

Oil Conservation Division

CHAMA Exhibit No. 1

Case No. 8738

Mr. Les Clements
New Mexico Oil Conservation Division
324 West Main Street
Artesia, New Mexico 88210

Re: Salt Water Disposal Well Application
Fanning #1 SWD
Section 4, 19S, 26E
Eddy County, New Mexico

Dear Mr. Clements:

Please find attached a Form C-108, Application to Dispose of Salt Water by Injection into a Porous Formation. We have scheduled a hearing on this proposed disposal well for October 23, 1985.

Please contact me if further information is required.

Yours truly,

CHAMA PETROLEUM COMPANY



T.R. MacDonald
Engineering Manager

TRM/srs
Attachment

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: Chama Petroleum Company

Address: P.O. Box 31405 Dallas, Texas 75231

Contact party: Mark K. Nearburg Phone: (214) 739-1778

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: T.R. Mac DONALD Title: ENGINEERING MANAGER

Signature: T.R. Mac Donald Date: 10/10/85

If the information requested under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstances of the earlier submission.

Filed under Samedan Oil Corporation - Fanning Unit #1

#1 SWD

WELL NO.

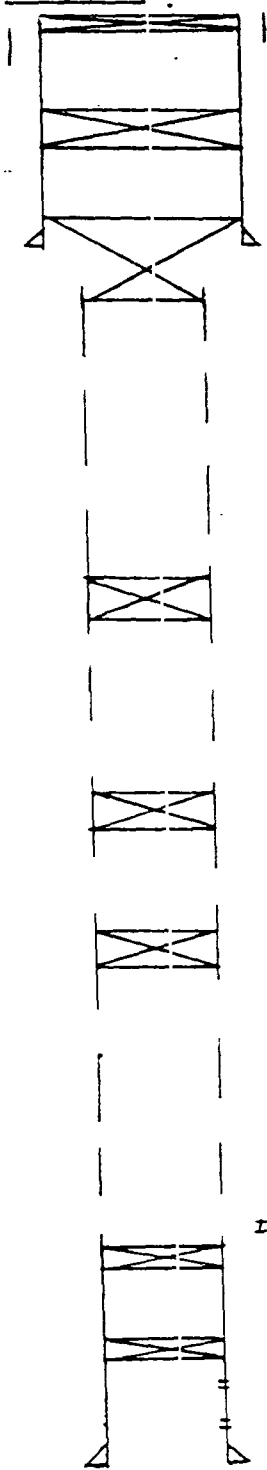
TOWNSHIP LOCATION

SECTION

TOWNSHIP

RANGE

Schematic



Tubular Data

Surface Casing

Size 8-5/8" Cemented with 900 sx.TOC -- feet determined by --Hole size 12-1/4"

Intermediate Casing (NA)

Size -- Cemented with -- sx.TOC -- feet determined by --Hole size --

Long string

Size 4-1/2" Cemented with 250 sx.TOC --- feet determined by ---Hole size 7-7/8"Total depth 9461'

Injection interval

8023' feet to 8136 feet
(perforated or open-hole, indicate which)

Well P&A'd 12/28/78 as follows:

- 1) Set CIBP at 9190' with 35 sx on top of plug
- 2) Set 50 sx plug at 8030', tagged at 7863'.
- 3) Set 35 sx plug at 6350'
- 4) Set 35 sx plug at 4170'
- 5) Set 35 sx plug at 2650'
- 6) Set 50 sx plug at 1545', tagged at 1430'
- 7) Set 50 sx plug at 545'
- 8) 10 sx to surface

Recovered 7995' of 4-1/2" csg. Hole loaded with 9.5 ppg mud.

Casing size 2-7/8" lined with Tuboscope TK-69 or equivalent set in 6
(material)Baker Model AD- Tension (Nickel Plated) packer at 7923' feet
(brand and model)

(describe any other casing-tubing seal).

Log Data

Name of the injection formation Canyon DolomiteName of Field or Pool (if applicable) West 4-Mile Draw (Morrow)Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Originally drilled as a MorrowGas well 11/73, P&A'd 12/78.Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give flowing details (blocks of cement or bridge plug(s) used) yes9207' - 9214' & 9221' - 9233' CIBP at 9190' with 35 sx on top of plug.

List all zones and parts of any overlying and/or underlying oil or gas zone (perforated or not)

GEOLOGICAL DATA
CHAMA PETROLEUM COMPANY FANNING #1 SWD

The formation into which we propose to inject is the Canyon Dolomite, which is 448 feet thick in the Fanning well and is comprised of fine to medium crystalline dolomites and locally dolomitic limestones. These dolomites are locally porous due to the presence of vugs and vertically-limited fractures. Permeable zones are separated from one another by tens of feet of impermeable carbonates, with no probable vertical communication between zones.

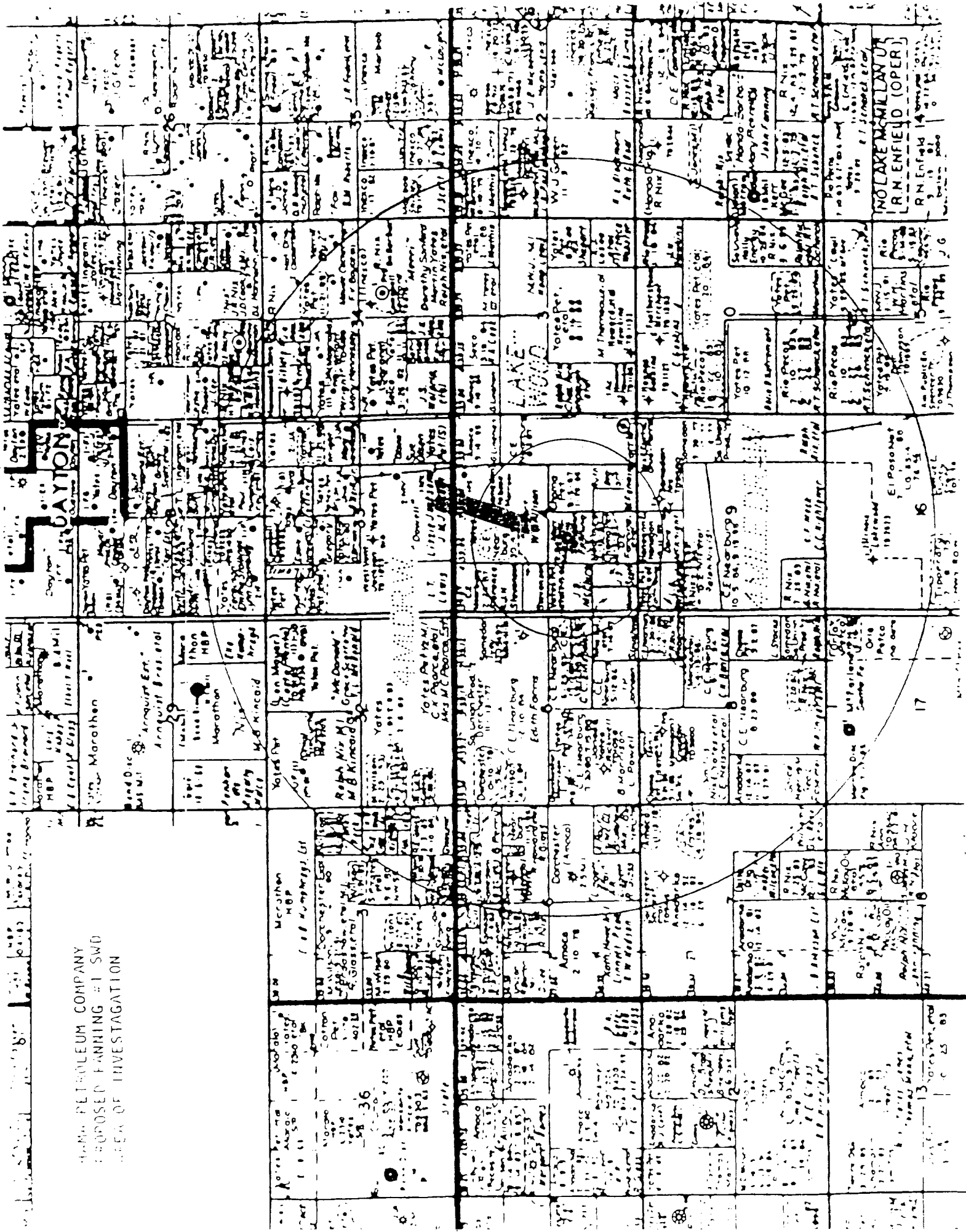
The Canyon Dolomite ranges from 7833 to 8281 feet depth in the well and is considered not economically productive of hydrocarbons at that location. The closest Canyon production is several miles to the west in the Penasco and Dagger Draw Fields. The Canyon is overlain by 80 feet of generally tight dolomite of the Cisco Formation and underlain by shalier carbonates of the Strawn Formation. None of these formations are sources of potable water in the area.

PROPOSED OPERATIONS

CHAMA PETROLEUM COMPANY FANNING #1 SWD

We propose to re-enter the subject well (originally drilled the Samedan Fanning Com #1) by drilling out and running 5-1/2" casing with a 4-1/2" change over to tie back into the original 4-1/2" production casing. After cementing, we then propose to perforate the intervals from 8023' - 8046' and 8120' - 8136' and stimulate with acid if necessary.

TEXAS PETROLEUM COMPANY
 PROPOSED FARMING #1 SMD
 AREA OF INVESTIGATION



Chama Petroleum Company

Exploration and Production
P.O. Box 31405
5447 Glen Lakes Drive
Dallas, Texas 75231
214-739-1778

September 20, 1985

Mr. Bill McCaw
Ralph Nix Oil Company
7th & Main
Artesia, New Mexico 88210

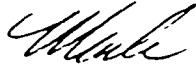
CERTIFIED
RETURN RECEIPT REQUESTED

Re: Salt Water Disposal Application
Eddy County, New Mexico

Dear Mr. McCaw:

Chama Petroleum Company plans to re-enter the plugged and abandoned Samedan Fanning #1 for conversion to a salt water disposal well. This well is located 1980 feet from the south and west lines of Section 4, T-19-S, R-26-E. We plan to inject into the Cisco-Canyon formation. This letter is being provided as per the notice requirements of the State of New Mexico, Oil Conservation Division, Rule 701 et seq.

Yours truly,



Mark K. Nearburg
Landman

MKN/kc

SENDING Complete Series 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 Add your address in the RETURN TO - field on receipt.		CONSULT POSTMASTER FOR FEES 1. The following service is requested (check one): ☒ Show to whom and date delivered. ☐ Show to whom, date, and address (delivery). ☐ RESTRICTED DELIVERY. (The restricted delivery fee is charged in addition to the return receipt fee.)		TOTAL \$	
ARTICLE ADDRESS TO Ralph Nix Oil Company 7th & Main Artesia, N.M. 88210		ARTICLE NUMBER 13147			
4. TYPE OF SERVICE: ☐ REGISTERED ☐ INSURED ☐ CERTIFIED ☐ COD ☐ EXPRESS MAIL (Always obtain signature of addressee or agent.)		5. I have received the article described above. SIGNATURE  DATE OF DELIVERY 9-24-85		POSTMARK	
6. ADDRESSEE'S ADDRESS (only if return requested)		7. UNABLE TO DELIVER REASON		8. EMPLOYER'S INITIALS	

Chama Petroleum Company

Exploration and Production
P.O. Box 31405
5447 Glen Lakes Drive
Dallas, Texas 75231
214-739-1778

September 20, 1985

Mr. Randy Patterson
Yates Petroleum Corporation
207 South 4th Street
Artesia, New Mexico 88210

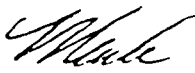
CERTIFIED
RETURN RECEIPT REQUESTED

Re: Salt Water Disposal Application
Eddy County, New Mexico

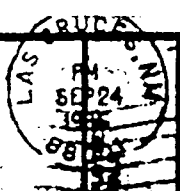
Dear Mr. Patterson:

Chama Petroleum Company plans to re-enter the plugged and abandoned Samedan Fanning #1 for conversion to a salt water disposal well. This well is located 1980 feet from the south and west lines of Section 4, T-19-S, R-26-E. We plan to inject into the Cisco-Canyon formation. This letter is being provided as per the notice requirements of the State of New Mexico, Oil Conservation Division, Rule 701 et seq.

Yours truly,


Mark K. Nearburg
Landman

MKN/kc

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.		CONSULT POSTMASTER FOR FEES. The following services are requested: ☒ Registered Mail, ☒ Return Receipt, ☒ Restricted Delivery.		STORY TO WHOM AND DATE DELIVERED: Mr. Randy Patterson 207 S. 4th St. Artesia, NM 88210		TOTAL \$ 3.10	
RESTRICTED DELIVERY (The restricted delivery fee is charged in addition to the return receipt fee.)		TYPE OF SERVICE: ☐ REGISTERED ☐ INSURED ☒ CERTIFIED ☐ COS ☒ EXPRESS MAIL		DATE OF DELIVERY: 9/23/85		SIGNATURE: 	
ALWAYS obtain signature of addressee or agent. Have received the article described above.		ADDRESS: 		DATE OF DELIVERY: 9-26-85		ADDRESSEE'S ADDRESS (Not Filled)	
UNABLE TO DELIVER BECAUSE:							

Chama Petroleum Company

Exploration and Production
P.O. Box 31405
5447 Glen Lakes Drive
Dallas, Texas 75231
214-739-1778

September 20, 1985

Mrs. Lois F. Clayton
902 West Texas
Artesia, New Mexico 88210

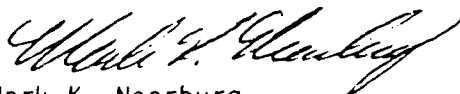
CERTIFIED
RETURN RECEIPT REQUESTED

Re: Salt Water Disposal Application
Eddy County, New Mexico

Dear Mrs. Clayton:

Chama Petroleum Company plans to re-enter the plugged and abandoned Samedan Fanning #1 for conversion to a salt water disposal well. This well is located 1980 feet from the south and west lines of Section 4, T-19-S, R-26-E. We plan to inject into the Cisco-Canyon formation. This letter is being provided as per the notice requirements of the State of New Mexico, Oil Conservation Division, Rule 701 et seq.

Yours truly,


Mark K. Nearburg
Landman

MKN/kc

● SENDER: Complete Items 1, 2, 3, and 4. Add your address in the RETURN TO: space on reverse.		(CONSULT POSTMASTER FOR FEES) This following service is requested: ☒ Show to whom and date delivered. ☐ Show to whom, date, and address of delivery. ☐ RESTRICTED DELIVERY. (The restricted delivery fee is charged in addition to the return receipt fee.)		TOTAL \$	
ARTICLE ADDRESSED TO: Mrs. Lois F. Clayton 502 West Texas Artesia, N.M. 88210					
TYPE OF SERVICE: ☐ REGISTERED ☐ INSURED ☒ CERTIFIED ☐ COB ☐ EXPRESS MAIL		ARTICLE NUMBER 9124331480			
(Always obtain signature of addressee or agent.) I have received this article described above. SIGNATURE ☐ Addressee ☒ Authorized agent Lois Clayton					
DATE OF DELIVERY 9-24-85		POSTMARK			
ADDRESSEE'S ADDRESS (Only if required)					
UNABLE TO DELIVER BECAUSE					
REASON					

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

RECEIVED SEP 25 1985

No. W160-83

To Charles Nearburg

Date December 23, 1983

Chama Petroleum

Box 31405

Dallas, TX 75231

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Burl Reynolds

Date Rec. December 23, 1983

Well No. South Blvd #1

Depth 7735' - 7746'

Formation Canyon

County Eddy

Field

Source Swab

Resistivity 2.2 @ 69°

Specific Gravity 1.03 @ 60°

pH 6.5

Calcium (Ca) 4,430

*MPL

Magnesium (Mg) 2,420

Chlorides (Cl) 25,000

Sulfates (SO₄) Medium 480-960Bicarbonates (HCO₃) 600

Soluble Iron (Fe) Heavy 600+

KCL 4%

Remarks:

*Milligrams per liter

Rocky Chambers
Respectfully submitted,

Analyst Rocky Chambers - Field Engineer

HALLIBURTON COMPANY

cc:

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

RECEIVED SEP 25 1985

No. W123-83

To Chama PetroleumDate December 10, 1983P. O. Box 31405Dallas, TX 75231

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management. It may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Charles NearburgDate Rec. December 10, 1983Well No. South Boyd #1 Depth 7850' Formation Canyon (Bottom ZorCounty _____ Field Undesignated Source SwabResistivity36 @ 68°Specific Gravity 1.042 @ 60°pH 7.0Calcium (Ca) 5.500 *MPLMagnesium (Mg) 7.000Chlorides (Cl) 31.000Sulfates (SO₄) MediumBicarbonates (HCO₃) 900Soluble Iron (Fe) Heavy

Remarks:

*Milligrams per liter

Warren Lane

Respectfully submitted,

Analyst: Warren Lane, EIT

HALLIBURTON COMPANY

cc:

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

RECEIVED SEP 20 1985

No. W136-83

To Chama PetroleumDate December 13, 1983P. O. Box 31405Dallas, TX 75231

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Charles NearburgDate Rec. December 13, 1983Well No. South Boyd #1 Depth 7795' - 7813' Formation Canyon

County _____ Field _____ Source _____

Resistivity	.199 @ 68°	
Specific Gravity	1.027 @ 60°	
pH	7.7	
Calcium (Ca)	1,800	*MPL
Magnesium (Mg)	700	
Chlorides (Cl)	16,000	
Sulfates (SO ₄)	483	
Bicarbonates (HCO ₃)	900	
Soluble Iron (Fe)	Nil	
KCL	Nil	

Remarks: Not enough oil for gravity hydrometer

*Milligrams per liter

Est. API 41 (dead oil)

Warren Lane

Respectfully submitted,

Analyst: Warren Lane, EIT
cc:

HALLIBURTON COMPANY

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

RECEIVED SEP 25 1985

No. W65-84

To Discovery OperatingDate February 12, 1984800 N. Marienfield, Suite 100Midland, TX 79701

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management. It may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by _____ Date Rec _____

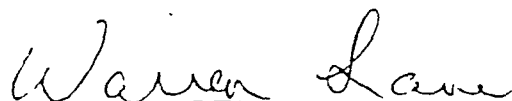
Well No. Walt Canyon Fed. 5 #1 Depth 7400' Formation _____County Eddy Field Cisco Source _____ Swab _____Resistivity185 @ 68°Specific Gravity 1.032 @ 60°pH 6.5Calcium (Ca) 2,800 *MPLMagnesium (Mg) 1,400Chlorides (Cl) 24,000Sulfates (SO₄) MediumBicarbonates (HCO₃) 150Soluble Iron (Fe) Medium

.....

.....

.....

Remarks: _____ *Milligrams per liter



Respectfully submitted,

Analyst: Warren Lane, EIT

cc:

HALLIBURTON COMPANY

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

RECEIVED SEP 20 1985

No. W611-84

To Robert EnfieldDate December 12, 1984O'Brien EngineeringP. O. Box 10487Midland, TX 79702

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Bill LentzDate Rec. December 11, 1984Well No. Douglas #1 Depth Formation CiscoCounty Field Source

Resistivity	<u>.52 @ 65°</u>		
Specific Gravity	<u>1.01 @ 60°</u>		
pH	<u>6.0</u>		
Calcium (Ca)	<u>1,800</u>		<u>*MPL</u>
Magnesium (Mg)	<u>900</u>		
Chlorides (Cl)	<u>12,000</u>		
Sulfates (SO ₄)	<u>Medium</u>		
Bicarbonates (HCO ₃)	<u>150</u>		
Soluble Iron (Fe)	<u>Light</u>		
KCL	<u>Nil</u>		

Remarks:

*Milligrams per liter

Warren Lane

Respectfully submitted,

Analyst: Warren Lane - Field Engineer

HALLIBURTON COMPANY

CC:

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

RECEIVED SEP 20 1985

MIDLAND DIVISION

APTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

No. W601-84

To Sage EnergyDate December 4, 1984P. O. Box 3068Midland, TX 79701

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Danny RobertsDate Rec. December 3, 1984Well No. Antelope Sink #2 Depth 6300'Formation Cisco

County _____ Field _____

Source Flow LineResistivity12 @ 65°Specific Gravity 1.08 @ 60°pH 6.9Calcium (Ca) 17,300

*MPL

Magnesium (Mg) 1,750Chlorides (Cl) 75,000Sulfates (SO₄) LightBicarbonates (HCO₃) 300Soluble Iron (Fe) MediumKCl 1%

Remarks:

*Milligrams per liter

Warren Lane

Respectfully submitted,

Analyst: Warren Lane - Field Engineer

HALLIBURTON COMPANY

cc:

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

RECEIVED SEP 25 1985

No. W572, W573, & W574-8

To Chama Petroleum

Date September 21, 1985

P. O. Box 31405

Dallas, TX 75231

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by

Date Rec. September 20, 1985

Well No.

Depth

Formation

County

Field

Source

MORRISON COM. #1

CURIO SHOP

JOHN SHERRELL

Resistivity	.055 @ 70°	8.7 @ 70°	9.2 @ 70°
Specific Gravity	1.12 @ 60°	1.00 @ 60°	1.00 @ 60°
pH	6.9	7.0	6.7
Calcium (Ca)	3,330	670	610 *MPL
Magnesium (Mg)	1,010	170	200
Chlorides (Cl)	111,000	Less Than 1,000	Less Than 1,000
Sulfates (SO ₄)	Heavy	Heavy	Heavy
Bicarbonates (HCC ₃)	90	180	120
Soluble Iron (Fe)	Nil	Nil	Nil

Remarks:

*Milligrams per liter



Respectfully submitted,

Analyst: Warren Lane - Field Engineer

cc:

HALLIBURTON COMPANY

NOTICE

This report is the property of Halliburton Company