STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Case 8756

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Cibola Energy Corporation

Address: P. O. Box 1668, Albuquerque, NM 87103

Contact party: Phelps White Phone: (505) 843-6762

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. None available

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.

III. 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: Phelps White Title Vice President

Signature: _____ Date: 10/25/85

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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division 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 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, P. O. Box 2088, Santa Fe, New Mexico 87501 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.

Tubing size_____ lined with_____ set in a
(material)

_____ packer at_____ feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation San Andres

2. Name of Field or Pool (if applicable) Wildcat

3. Is this a new well drilled for injection? ____ Yes X No

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

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Well was never perforated,

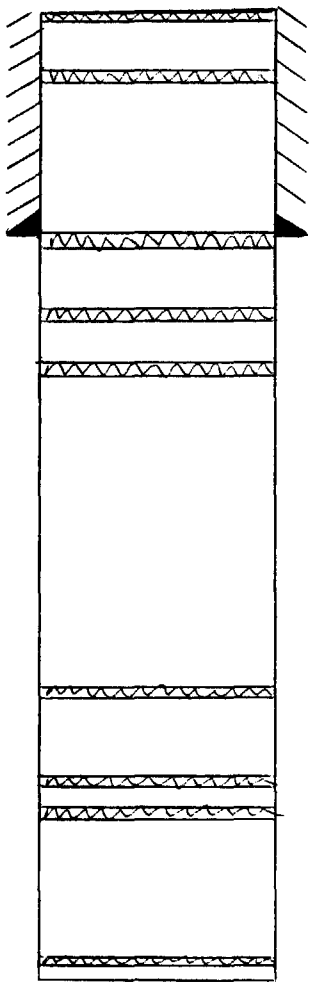
   1st plug 7060-6990, 35 sx
   2nd plug 5950-5850, 35 sx
   3rd plug 5706-5606, 35 sx
   4th plug 5060-4960, 35 sx
   5th plug 2650-2550, 35 sx
   6th plug 2250, 35 sx
   7th plug 1700, 50 sx
   8th plug 450, 35 sx
   9th plug surface, 10 sx

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. None

INJECTION WELL DATA SHEET SIDE 1

Cibola Energy Corporation	Aciete Negra #2			
OPERATOR	LEASE			
2	1650 FSL & 1200 FEL	12	9S	27E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" " Cemented with 650 sx.

TOC Surface feet determined by sight

Hole size 10".

Intermediate Casing

Size _____" Cemented with _____sx.

TOC _____feet determined by _____

Hole size _____.

Long String

Size _____" Cemented with _____sx.

TOC _____feet determined by _____

Hole size _____.

Total Depth _____.

Injection Interval

_____feet to _____feet

(perforated or open-hole, indicate which)

R27E R28E

T 8 S
T 9 S

ELK OIL
Graham St Com
TD 6620
PB to 2400
8-2-82
SA 2372

READ & STEVENS
Palma Mesa Fed
TD 2425
SA 2296

CIBOLA
Aguo Negra
TD 8183
SA 2182

CIBOLA
Aciete Negra
TD 7150
SA 2301

CIBOLA
4-85
TD 6996

CIBOLA
Aguo Negra

CIBOLA
Sardine Com
TD 1335
8-2-82

CIBOLA
Aciete Negra
TD 2310

CONOCO
White 19

2 1 6 5
11 12 7 8
14 13 18 17
23 24 19 20

9/27

Albuquerque New Mexico

ACIETE NEGRA 2
PROPOSED INJECTION WELL

Date 10-85 Scale 1:34300 aprx. County Chaves
By K. Azar State NM

Drawn by J. Grimm

C108 APPLICATION FOR AUTHORIZATION TO INJECT

Cibola Energy Corporation
P. O. Box 1668
Albuquerque, NM 87103

Aciete Negra #2
1650 FSL & 1200 FEL
Sec. 12-9S-27E
Chaves Co., NM

VII

1. This field is currently producing approximately 170 Barrels of water per day. We plan put the Aciete Negra #4 on a pipeline allowing a constant flow of approximately 170 barrels per day.

2. With the exception of adding anti-scale agents to the disposal water, this will be a closed system.

3. Injection pressures are estimated to be low. We do not plan to inject fluids at more than 1000 psi.

4. We plan to inject fluids from the Aciete Negra #4 which is producing from the Siluro Devonian Formation at 6485-6510'. A water sample from this zone will be submitted as soon as possible.

5. Attached is a chemical analysis of San Andres Formation water collected from the Race Track Field located 7 miles south of the proposed injection well.

IX

We plan to drill out the plugs from surface through 2250'. Then we will run 4 1/2" casing to approximately 2320 to be cemented with 125 sx of cement in order to bring cement to 8 5/8" surface casing. We will then perforate 2234-52, 2270-78, 2282-88, 2294-98 with 2 spf. We will then acidize this zone with approximately 7200 gallons of 28% acid with anti-scaling additives before injecting any disposal fluids.

X

Logs for the Aciete Negra #2 well were submitted to the NMOCD with the original C-105.

XII

We, A.D. Turquette and Steve Jensen, 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.

C108 APPLICATION FOR AUTHORIZATION TO INJECT

Aciete Negra #2
1650 FSL & 1200 FEL
Sec. 12-9S-27E
Chaves Co., New Mexico

VIII A mudlog is enclosed to show lithology of the injection zone.

INJECTION ZONE - The injection zone is a dolomite in the San Andres Formation. Approximately 36 feet of this formation will be the injection zone.

DRINKING WATER 0-450' Santa Rosa Sand

AFFIDAVIT OF PUBLICATION

County of Chaves
State of New Mexico,

I, ...

.....

Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico, do solemnly swear that the clipping hereto attached was published once a week in the regular and entire issue of said paper and not in a supplement thereof for a period

of .....

..... weeks

beginning with the issue dated .....

....., 19..

and ending with the issue dated .....

....., 19..

.....
Manager

Sworn and subscribed to before me

this ..... day of .....

....., 19..

.....
Notary Public

My commission expires .....

....., 19..

(Seal)

Publish October 11, 1985.

NOTICE OF APPLICATION

Cibola Energy Corporation, P.O. Box 1668, ABQ, NM 87103, has filed to the Oil Conservation Division to convert to Aciete Negra #2 to an injection well. The Aciete Negra #2, 1650 FSL & 1200 FEL, Sec. 12-9S-27E, Chaves Co., will be converted for the purpose of salt water disposal into the San Andres Formation 2200-2400'. The maximum inject will be 320 Bbls/day; max pressure 1000#. Any questions should be directed to Phelps White at (505) 843-6762. Interested parties must file objections or requests for hearing with N-MOCD, P.O. Box 2088, Santa Fe, NM 87501 within 15 days.

ILLEGIBLE

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

BUREAU OF LAND MANAGEMENT
NOV 10 1983
ROSWELL, NEW MEXICO
DIST. 8 N. M.

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 ☐ DEEP- EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other Plug & Abandon

2. NAME OF OPERATOR: Cibola Energy Corporation

3. ADDRESS OF OPERATOR: P. O. Box 1668, Albuquerque, New Mexico 87103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 1650 FSL & 1200 FEL
At top prod. interval reported below
At total depth

5. LEASE DESIGNATION AND SERIAL NO.: NM 18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Aciete Negra

8. FARM OR LEASE NAME: Aciete Negra

9. WELL NO.: 2

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 12-9S-27E

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Chaves | 13. STATE: New Mexico

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
12/30/82	1-29-83	P & A'd 10/28/83	3891.0	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
7150	2550		→	40-7150	0-40'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

25. WAS DIRECTIONAL SURVEY MADE: yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: DLL MLL GR, BHC Acoustilog GRN, CD

27. WAS WELL CORED: No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	1645'	10"	650 sx BJ Lite, 150 sx Class C cmt	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	2050'	-

31. PERFORATION RECORD (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

ACCEPTED FOR RECORD
David R. Glass
NOV 17 1983
RECEIVED
NOV 21 1983
ROSWELL, NEW MEXICO

WITNESSED BY

35. LIST OF ATTACHMENTS: DLL MLL GR, BHC Acoustilog GRN, CD

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

SIGNED Karen Ozan TITLE Drilling Secretary DATE 11/04/83

CIBOLA ENERGY CORP.

*(See Instructions and Spaces for Additional Data on Reverse Side)

Form 9-331
Dec 1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☒ other

2. NAME OF OPERATOR
Cibola Energy Corporation

3. ADDRESS OF OPERATOR
P. O. Box 1668, Albuquerque, NM 87103

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE:
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
NM-18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Aciete Negra

8. FARM OR LEASE NAME
Aciete Negra

9. WELL NO.
2

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 12-9S-27E

12. COUNTY OR PARISH
Chaves

13. STATE
NM

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3891.0

RECEIVED
MAY 21 1984
CIBOLA ENERGY CORP.

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☒
(other) Plug and Abandon			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

BUREAU OF LAND MANAGEMENT
RECEIVED
NOV 10 1983
DIST. 6 N. M.
ROSWELL, NEW MEXICO

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

We circulated the hole with f/w gell and plugged as follows:

1st plug 2250' 35 sacks cmt
2nd plug 1700' 50 sacks cmt
3rd plug 450' 35 sacks cmt
4th plug 10 sacks at surface with dry hole marker.

The location will be cleaned off and leveled for inspection.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Drilling Secretary DATE 11/4/83

(This space for Federal or State office use)

APPROVED
APPROVED BY [signature] TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

MAY 18 1984

See Instructions on Reverse Side

Form 9-331
Dec. 1973

OPERATOR'S COPY

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☒ other

2. NAME OF OPERATOR
Cibola Energy Corporation

3. ADDRESS OF OPERATOR
P.O. Box 1668, Albuquerque, NM 87103

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1650 FSL & 1200 FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
NM 18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Aciete Negra

8. FARM OR LEASE NAME
Aciete Negra

9. WELL NO.
2

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 12-9S-27E

12. COUNTY OR PARISH
Chaves

13. STATE
New Mexico

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3891.0

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☐
(other) Plug back			

RECEIVED
FEB 17 1983
OIL & GAS
MINERALS MGMT. SERVICE
ROSWELL, NEW MEXICO

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Reached TD at 7150' on January 29, 1983.

Plugged back to 2550'.

These are the following plugs: 2-2-83

1st plug 7060-6990', 35 sacks Class C Cement with 2% CaCl,
2nd plug 5950-5850', 35 sacks Class C Cement with 2% CaCl,
3rd plug 5706-5606', 35 sacks Class C Cement with 2% CaCl,
4th plug 5060-4960', 35 sacks Class C Cement with 2% CaCl,
5th plug 2650-2550', 35 sacks Class C Cement with 2% CaCl.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Drlg. Sec. DATE 2-15-83

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

APPROVED
MAR 28 1983
JAMES A. GILLHAM
DISTRICT SUPERVISOR

*See Instructions on Reverse Side

MAR 31 19[illegible]
CIBOLA ENERGY CORP.

330
5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM 18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [X] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

7. UNIT AGREEMENT NAME: Aciete Negra

8. FARM OR LEASE NAME: Aciete Negra

2. NAME OF OPERATOR: Cibola Energy Corporation

9. WELL NO.: 4

3. ADDRESS OF OPERATOR: P. O. Box 1668, Albuquerque, New Mexico 87103

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 330 FSL & 940 FEL
At top prod. interval reported below
At total depth: Same

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 12-9S-27E

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Chaves | 13. STATE: NM

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
3-7-85	3-25-85	6-22-85	3880.2 GL	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
6996	6512		→	0-6996	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: Devonian 6485-6499

25. WAS DIRECTIONAL SURVEY MADE: yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: Comp Neutron, Long Spaced Sonic, Cement Bond Log

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	1643	12¼"	600 sx lite wt 3 w/2% CaCl	
				200 sx Class C w/2% CaCl	
5 ½"	15.5	6995	7 7/8"	250 sx self stress	
				450 sx Dowell lite st	5

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8"	6311	

31. PERFORATION RECORD (*Interval, size and number*)
6485 (2 shots)
6491 (2 shots)
6497-99 (8 shots)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6485-6499	500 gal 15% MSR acid
	1000 gal 20% HCL acid
	*SEE EXPLAINATION

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
4-27-85	Pumping	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
6-24-85	24			80	TSTM	64	

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
			80	TSTM	64	

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*): Vented

TEST WITNESSED BY: Billy Walker

35. LIST OF ATTACHMENTS
* Explaination

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Karen Azar TITLE Drilling Secretary DATE 6/26/85

*(See Instructions and Spaces for Additional Data on Reverse Side)

Form 9-331
Dec. 1973

RECEIVED
SEP 13 1985
CIBOLA ENERGY CORP.

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

AUG 22 1985
ROSWELL, NEW MEXICO

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 Form 9-331-C for such proposals.)

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR
Cibola Energy Corporation

3. ADDRESS OF OPERATOR
P. O. Box 1668, Albuquerque, NM 87103

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 330 FSL & 940 FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
NM 18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Aciete Negra

8. FARM OR LEASE NAME
Aciete Negra

9. WELL NO.
4

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 12-9S-27E

12. COUNTY OR PARISH
Chaves

13. STATE
NM

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3880.2

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[XX]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]
(other)			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

8/7/85 Perforate 6506 & 6510 (2 shots each).

8/9/85 Acidize with 10,000 gallons 20% acid.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Karen Azar TITLE Drlg Secretary DATE 8/22/85

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD
PETER W. CHESTER
SEP 10 1985
BUREAU OF LAND MANAGEMENT
ROSWELL RESOURCE AREA

*See Instructions on Reverse Side

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM 14472

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

7. UNIT AGREEMENT NAME: Agua Negra

8. FARM OR LEASE NAME: Agua Negra

2. NAME OF OPERATOR: Cibola Energy Corporation

9. WELL NO.: 2

3. ADDRESS OF OPERATOR: P. O. Box 1668, Albuquerque, New Mexico

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 2310 FNL & 990 FEL
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 18-9S-28E

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Chaves | 13. STATE: NM

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
10/1/85	10/8/85	P & A 10/13/85	3889 GL	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
2450'			→	0-2450'	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

25. WAS DIRECTIONAL SURVEY MADE: yes 1 degree

26. TYPE ELECTRIC AND OTHER LOGS RUN: CNL Densilog, Induction Gamma Ray

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	23#	527'	12 ¼"	260 sx Cl C cmt w/2% CaCl2	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (*Interval, size and number*)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
		P & A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: CNL Densilog, Induction Gamma Ray

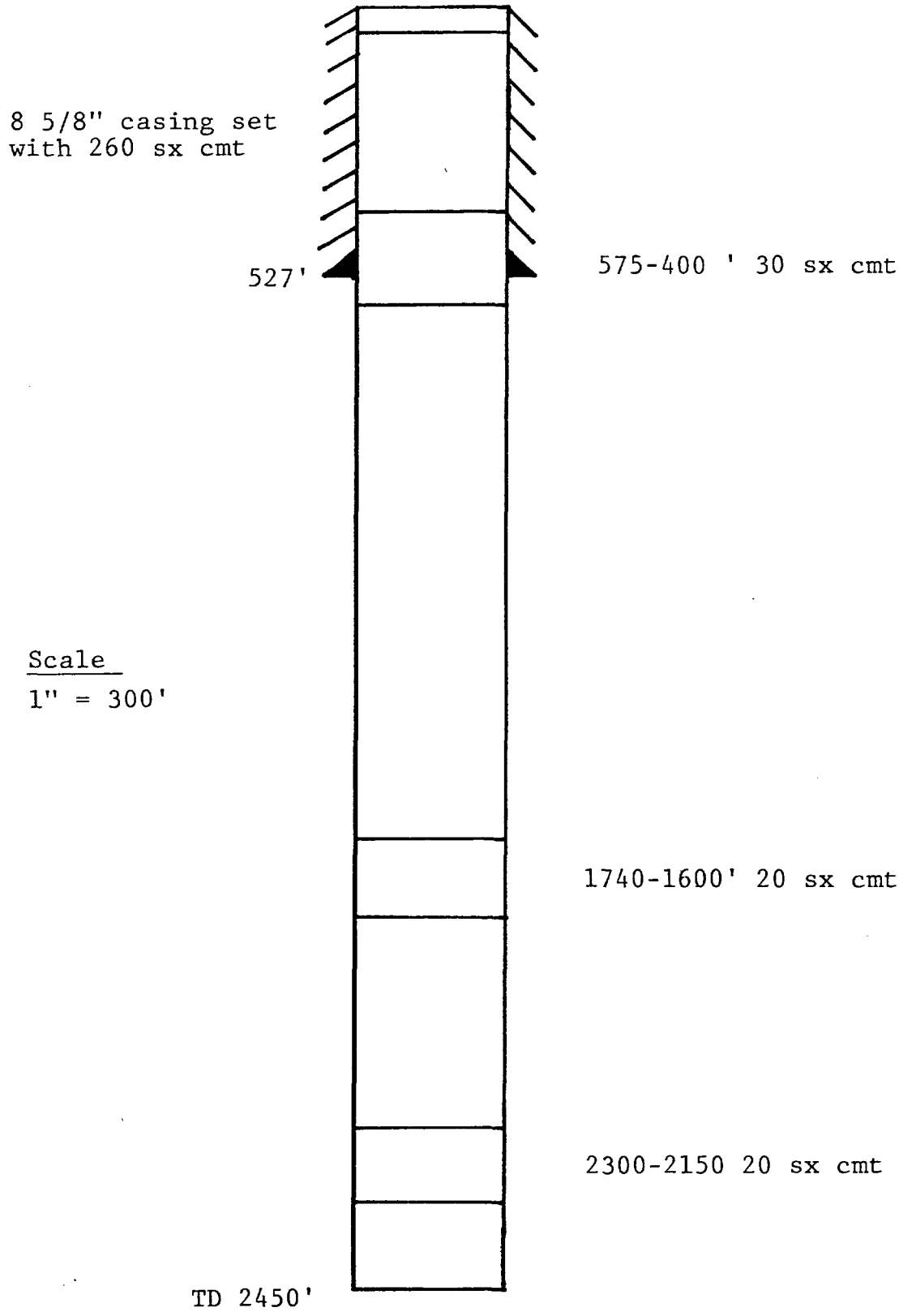
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Karen Azar TITLE Drilling Secretary DATE 10/14/85

*(See Instructions and Spaces for Additional Data on Reverse Side)

AGUA NEGRA #2

Plugging Schematic



Form 9-331
Dec. 1973

Form Approved
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well [XX] gas well [ ] other

2. NAME OF OPERATOR
Cibola Energy Corporation

3. ADDRESS OF OPERATOR
P. O. Box 1668, Albuquerque, NM 87103

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 2310 FNL & 990 FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
NM 14472

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Agua Negra

8. FARM OR LEASE NAME
Agua Negra

9. WELL NO.
2

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 18-9S-28E

12. COUNTY OR PARISH
Chaves

13. STATE
NM

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3889 GR

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[XX]
(other)			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

10/13/85 P & A well as follows:

1st plug 2300-2150', 20 sx
2nd plug 1740-1600', 20 sx
3rd plug 575-400', 30 sx
4th plug 50' to surface

Dry hole marker will be set and the location will be cleaned off and leveled for inspection.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Karen Agin TITLE Drilling Secretary DATE 10/14/85

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-330
(Rev. 5-63)

BUREAU OF LAND MANAGEMENT
RECEIVED
NOV 16 1983
DIST. 6 N. M.
ROSWELL, NEW MEXICO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM-18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other Plug & Abandon

8. FARM OR LEASE NAME: Aciete Negra

2. NAME OF OPERATOR: Cibola Energy Corporation

9. WELL NO.: 3

3. ADDRESS OF OPERATOR: P.O. Box 1668, Albuquerque, New Mexico 87103

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface 990 FSL & 330 FEL
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 13-9S-27E

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Chaves | 13. STATE: NM

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
6/29/83	8/13/83	P & A 10/27/83	3874.8	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
2310	2310		→		0-2310

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN: CNLFDC, Induction Log

27. WAS WELL CORED

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	23#	425'	10"	250 sx Class C w/2% CaCl	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (*Interval, size and number*)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

ACCEPTED FOR RECORD
David R. Glass
NOV 17 1983
ROSWELL, NEW MEXICO

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: CNLFDC, Induction Log

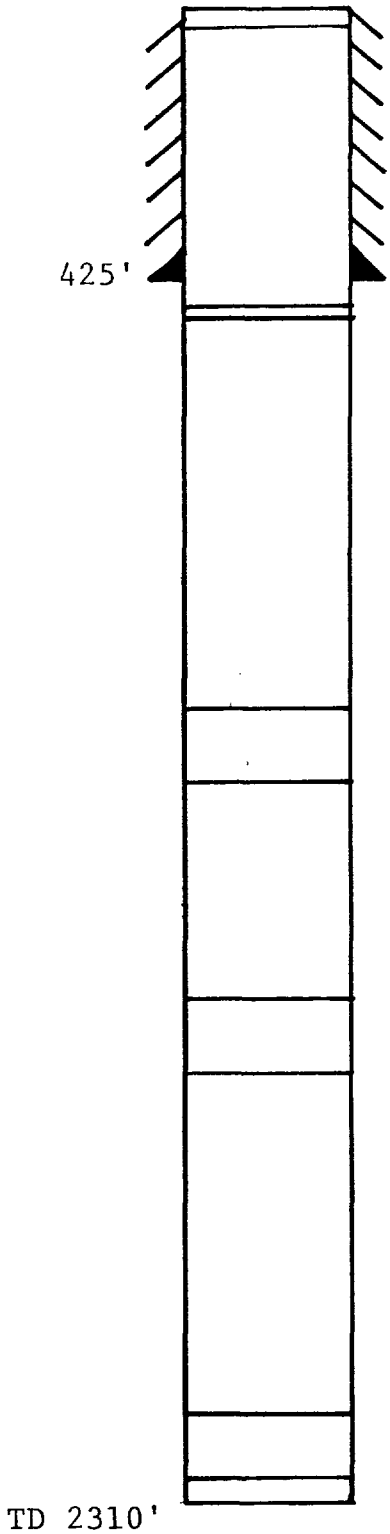
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Karen Ogan TITLE Drilling Secretary DATE 10/28/83

*(See Instructions and Spaces for Additional Data on Reverse Side)

ACIETE NEGRA #3

Plugging Schematic



10 sx at surface

8 5/8" casing set with 250 sx cmt

473-464' 3 sx

1204-1090' 35 sx

1647-1533' 35 sx

Scale
1" = 300'

2307-2186' 40 sx

Form 9-331
Dec 1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR
Cibola Energy Corporation

3. ADDRESS OF OPERATOR
P.O. Box 1668, Albuquerque, NM 87103

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 990 FSL & 330 FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
NM-18611

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Aciete Negra

9. WELL NO.
3

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 13-9S-27E

12. COUNTY OR PARISH
Chaves

13. STATE
NM

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3874.8

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☒
(other) Plug & Abandon			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

BUREAU OF LAND MANAGEMENT
RECEIVED
NOV 10 1983
DIST. 6 N. M.
ROSWELL, NEW MEXICO

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

10/27/83

We circulated the hole with f/w gell and plugged as follows:

1st plug 2307' 40 sacks cmt
2nd plug 1647' 35 sacks cmt
3rd plug 1204' 35 sacks cmt
4th plug 473' 3 sacks cmt
5th plug, 10 sacks cement at surface with dry hole marker.

Location will be cleaned off and leveled for inspection.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Karen Ogle TITLE Drilling Secretary DATE 10/28/83

(This space for Federal or State office use)

APPROVED
APPROVED BY Peter W. Chester TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

MAY 18 1984

*See Instructions on Reverse Side

NEW MEXICO OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

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LAND OFFICE	
OPERATOR	

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease: State [ ] Fee [X]

5. State Oil & Gas Lease No.

7. Unit Agreement Name

8. Farm or Lease Name: Sardine Can

9. Well No.: 1

10. Field and Pool, or Wildcat: Wildcat San Andres

12. County: Chaves

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [XX] OTHER

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER Plug and Abandon

2. Name of Operator: Cibola Energy Corporation

3. Address of Operator: P.O. Box 1668, Albuquerque, New Mexico 87103

4. Location of Well: UNIT LETTER J LOCATED 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE OF SEC. 18 TWP. 9S RGE. 28E NMPM

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
04-01-82	04-28-82	7-24-82 P & A	3888.9 Gr.	

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
1355'			→		0-1355'

24. Producing Interval(s), of this completion — Top, Bottom, Name

25. Was Directional Survey Made

26. Type Electric and Other Logs Run: Garma Ray

27. Was Well Cored

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

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	20#	400'	10"	150 sx Class C Cmt w/3% CaCl	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET

31. Perforation Record (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
		P & A

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas — Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

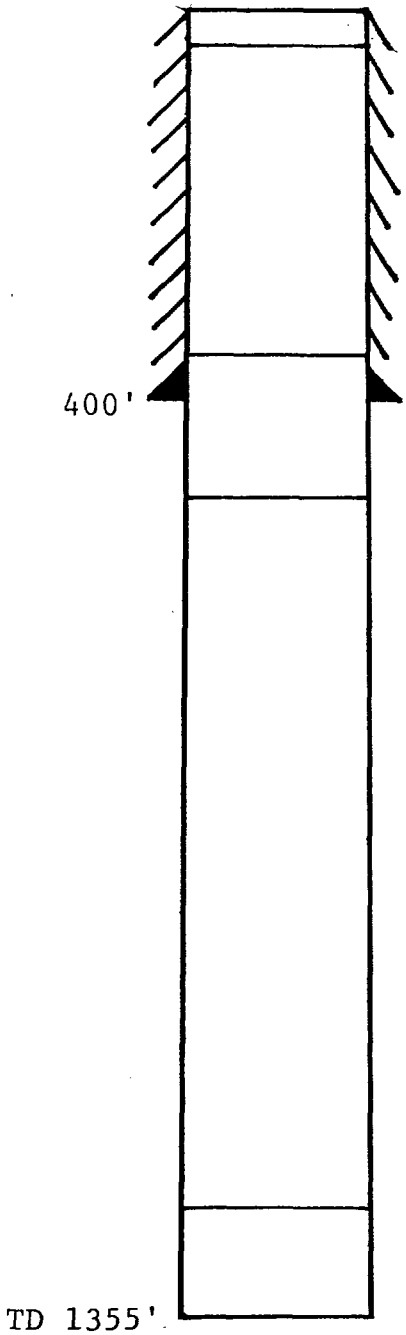
35. List of Attachments: Log

36. 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.

SIGNED Anita Wigil TITLE Drilling Secretary DATE 07-27-82

SARDINE CAN #1

Plugging Schematic



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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LAND OFFICE		
OPERATOR		

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-7

5a. Indicate Type of Lease: State ☐ Fee ☒

5. 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.)

1. OIL WELL ☒ GAS WELL ☐ OTHER-

7. Unit Agreement Name

2. Name of Operator: Cibola Energy Corporation

8. Farm or Lease Name: Sardine Can

3. Address of Operator: P.O. Box 1668, Albuquerque, New Mexico 87103

9. Well No.: 1

4. Location of Well: UNIT LETTER J, 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE, SECTION 18 TOWNSHIP 9S RANGE 28E NMPM.

10. Field and Pool, or Wildcat: Wildcat San Andres

15. Elevation (Show whether DF, RT, GR, etc.): 3888.9 Gr.

12. County: Chaves

16. 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 ☐		COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☒
PULL OR ALTER CASING ☐	CHANGE PLANS ☐	CASING TEST AND CEMENT JOB ☐	
OTHER ☐		OTHER ☐	

17. 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.

07-24-82 Plugged well as follows:

1st plug, 40 sacks Class "C" Cement with 2% CaCl at 1355' to cover penrose at 1234'
2nd plug, 45 sacks Class "C" Cement with 2% CaCl at 500' to cover Yates and surface casing, taggged at 350'.
3rd plug, 15 sacks Class "C" Cement at surface with dry hole marker.

The location will be cleaned of trash and levelled.

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

SIGNED Anita Chizil TITLE Drilling Secretary DATE 07-27-82

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Form 9-331
Dec. 1973

OPERATOR'S COPY

Form Approved
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED

AUG 0 2 1985

CIBOLA ENERGY CORP.

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 Form 9-331-C for such proposals.)

1. oil well ☐ gas well XX other

2. NAME OF OPERATOR
Cibola Energy Corporation

3. ADDRESS OF OPERATOR
P.O. Box 1668, Albuquerque, New Mex.

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 990 FWL & 1980 FNL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
NM 14472

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
Agua Negra

8. FARM OR LEASE NAME
Agua Negra

9. WELL NO.
1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 8-9S-28E

12. COUNTY OR PARISH
Chaves

13. STATE
New Mexico

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3904.4 Gr.

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

	REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	☐	☐
FRACTURE TREAT	☐	☐
SHOOT OR ACIDIZE	☐	☐
REPAIR WELL	☐	☐
PULL OR ALTER CASING	☐	☐
MULTIPLE COMPLETE	☐	☐
CHANGE ZONES	☐	☐
ABANDON*	☐	☒
(other)		

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

RECEIVED
NOV 19 1982
OIL & GAS
MINERALS MGMT. SERVICE
ROSWELL, NEW MEXICO

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Plugged well as follows:

10-12-82 1st plug, 15 sacks Class C Cement with 3% CaCl, 8140-8000'
2nd plug, 15 sacks Class C Cement with 3% CaCl, 7680-7500'
3rd plug, 35 sacks Class C Cement with 3% CaCl, 7400-6900'
4th plug, 15 sacks Class C Cement with 3% CaCl, 5970-5800'
5th plug, 20 sacks Class C Cement with 3% CaCl, 5300-5000', tagged.

10-13-82 Cut 4 1/2" casing to 4760' and pulled 92 joints, slips let loose and dropped back in hole.

10-14-82 Tagged fish at 3584', but could not get into it.

OVER

Subsurface Safety Valve: Manu. and Type ______ Set @ ______ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Anita J. Vigil TITLE Drilling Sec. DATE November 15, 1982

(This space for Federal or State office use)

APPROVED BY ______ TITLE ______ DATE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED
PETER W. CHESTER
Peter W. Chester
JUL 30 1985
BUREAU OF LAND MANAGEMENT
ROSWELL RESOURCE AREA

*See Instructions on Reverse Side

AGUA NEGRA #1

Plug Record

urface left open
or BLM's use as
ater well

5 sacks Class C
ement, 576-448'

000'
5 sacks Class C
Cement, 1216-1087'

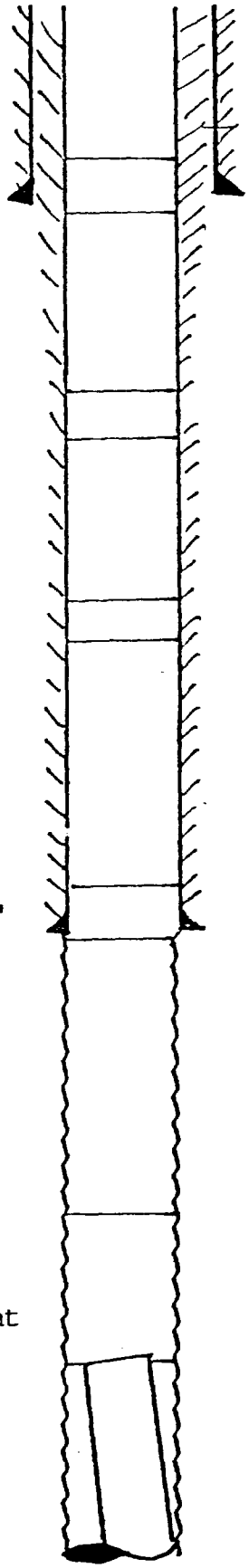
35 sacks Class C
Cement, 1792-1663'

2000'

35 sacks Class C
Cement pumped 2625'
Tagged at 2496'

3000'

50 sacks Class C
Cement, pumped in
at 3584', tagged at
3584', 10-16-82



Casing and Perf Record

Circulate cement through 1" tubing 01-05-82

3 perfs at 270' 200 sacks Class C Cement, failed to circulate 01-04-82.

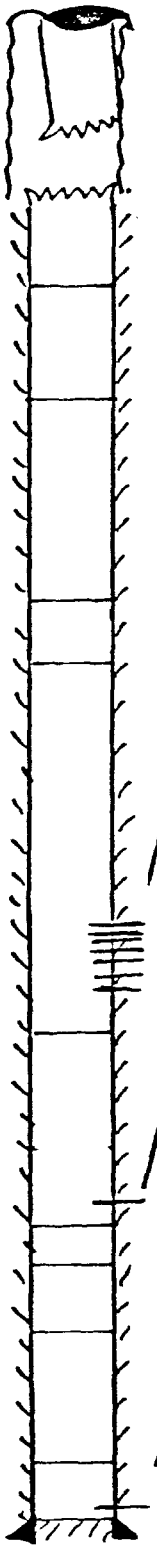
2575' 8 5/8" 24-28#, 1400 sacks Halliburton Lite
200 sacks Class C Cement with 2% CaCl, circulated
2-13-82

7 5/8" Open Hole

810' of 4 1/2" casing dropped, 10-14-82
Tagged at 3584' collar up

Plug Record

Casing and Perf Record



4 1/2" casing cut at 4760', 10-14-82

5000'

20 sacks Class C Cement, pumped 5300' and tagged at 5000'

Perfs: 6646-50', 54-58', 66-72', 76-84', 86-90', 94-96', 6700-12', 38-44', 46-56', 82-86', 88-96', 06-19-82.

Acidized with 13,000 gallons 28%, 6-21-82
Maximum pressure 4000#, average pressure 3400#, final pressure 3000#, ISIP 1780#, 15 minutes 1700#
very slight fluid recovery, no hydrocarbon show

15 sacks Class C Cement, 5970-5800'

6000'

Perfs: 7348-54', 2 shots per foot, 6-03-82
Acidized with 1200 gallons 7 1/2% HCL, 6-04-82.
Rate 2.75 BPM, maximum pressure 5000#, average 4000#, final 4400#, ISIP 4400#, 15 minutes 2600#.
Short flare after swab runs, but swabbed 100 barrels per day, water for 5 days.

7000'

35 sacks Class C Cement, 7400-6900'

Perfs: 8104-8114, 4-23-82
Acidized with 2000 gallons 7 1/2% and 1000 SCF N2 4-26-82. Maximum 5500#, final 4000#, average 3900#, ISIP 3200#, 15 minutes 2950#.

Acidized with 5000 gallons 7 1/2% and CO2, 5-06-82
Maximum 5600#, average 5200#, final 5500#, ISIP 2500#, 15 minutes 2200#.

Swabbed 270 barrels water and no Hydrocarbon shows.

15 sacks Class C Cement, 7680-7500'

8000'

15 sacks Class C Cement, 8140-8000'

8183' 4 1/2" casing, 500 sacks Halliburton Lite
470 sacks Class H with 6 lb. of salt per sack.
PBTD 8140', 3-13-82.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

(See other instructions on reverse side)

Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM 14472

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other Plug & Abandon

7. UNIT AGREEMENT NAME: Agua Negra

8. FARM OR LEASE NAME: Agua Negra

9. WELL NO.: 1

2. NAME OF OPERATOR: Cibola Energy Corporation

10. FIELD AND POOL, OR WILDCAT: Wildcat

3. ADDRESS OF OPERATOR: P.O. Box 1668, Albuquerque, New Mexico 87103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface: 990' FWL & 1980' FNL

At top prod. interval reported below

At total depth

RECEIVED
NOV 1 8 1982
OIL & GAS
MINERALS MGMT. SERVICE
ROSWELL, NEW MEXICO

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 8-9S-28E

14. PERMIT NO. | DATE ISSUED | 12. COUNTY OR PARISH: Chaves | 13. STATE: New Mexico

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
11-30-81	3-9-82	P&A 10-18-82		

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	DRILLED BY	ROTARY TOOLS	CABLE TOOLS
8183'	8140'		→	521-8183'	0-521'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN: Prolog, Dual Laterolog Micro Laterolog, Densilog Neutron, BHC Acoustilog

27. WAS WELL CORED

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	521'	16"	200 sx Class C with 2% CaCl	
8 5/8"	28#	2575'	12 3/4"	1400 Halliburton lite 200 Class C with 2% CaCl	
4 1/2"	11.6#	8183'		500 sacks Halliburton Lite 470 sacks Class H Cmt, 6 lbs of salt/sk.	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

6646-50', 54-58', 66-72', 76-84', 86-90', 94-96', 6700-12', 38-44', 46-56', 82-86', 88-96', (June, 1982).
7348-54', 2 shots per foot
8104-8114', 2 shots per foot

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6646-96', 6700-96'	13,000 gallons 28% acid
7348-54'	1,200 gallons 7 1/2% HCL
8104-8114'	2,000 gallons 7 1/2% HCL

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
		Plug and Abandon

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

ACCEPTED FOR RECORD
David R. Glass
NOV 24 1982
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

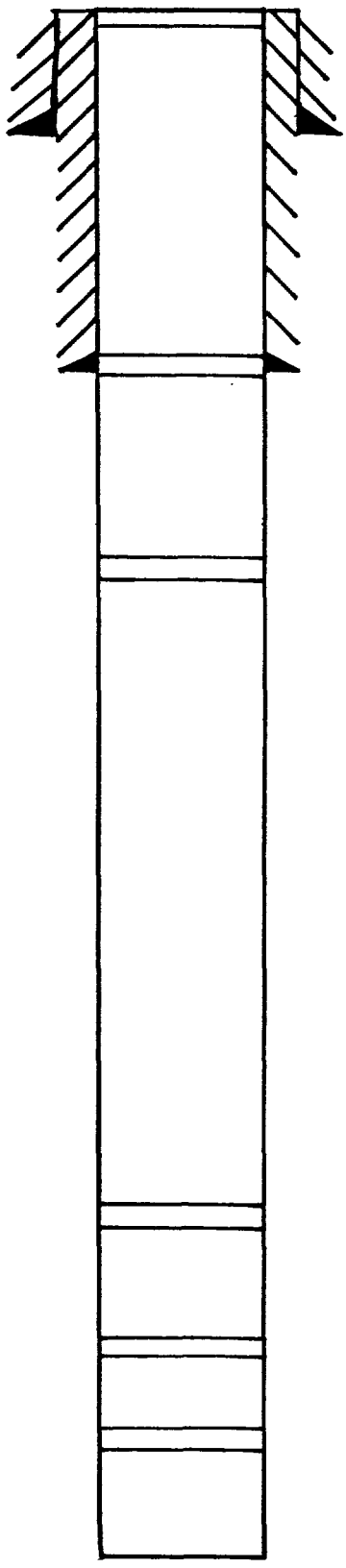
SIGNED Cenita G. Wiginton TITLE Drilling Secretary DATE November 15, 1982

*(See Instructions and Spaces for Additional Data on Reverse Side)

(Rogo Reed)

WHITE 19 #1

Plugging Schematic



10 sx at surface

13 3/8" csg set with 600 sx cement

9 5/8" casing set with 664 sx cement

1741-1691 25 sx cmt

2650-2750 60 sx cmt

5786-5886' 50 sx cmt

6437-6537' 50 sx cmt

6867-6967' 50 sx cmt

Operator: Conoco

White 19 #1
1980 FSL, 1980 FEL
Sec. 19-9S-28E

Spudded: 4-16-56

P & A: 6-20-56

Scale
1" = 900'

PALMA MESA #1

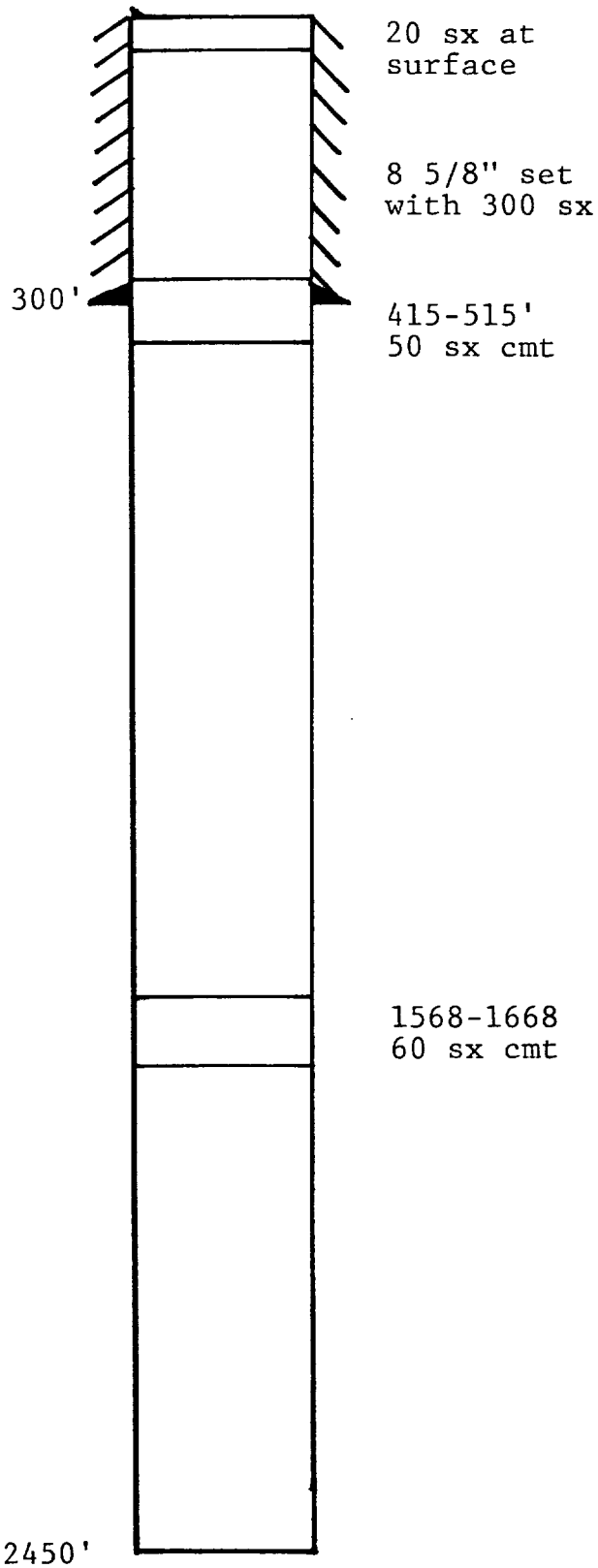
Plugging Schematic

Operator: Read & Stevens

Palma Mesa #1
1980 FNL & 660 FWL
Sec. 6-9S-28E

Spudded 11-24-83

P & A 11-29-83



Scale

1" = 300'

Graham State Com #1
1980 FNL & 1980 FEL
Sec. 2-9S-27E

Operator: Elk Oil
Spudded 3-22-82
Completed 12-6-82

TD 6620'.

Casing 8 5/8" set at 1390' with 1400 sx cmt
4 1/2" set at 2400' with 400 sx cmt

Perforated 2147-68
Acidized with 2000 gal acid

Well was plugged and abandoned. No plugging data was available.

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WATER ANALYSIS REPORT

Company: CIBOLA ENERGY CORP.

Sampling Date: 09/06/84
Analysis Date: 09/28/84
Sample ID: F13214

Sample Source
Lease: C.X. PLAINS
Well: #6
Sample Pt:

Submitted by: HOLLINGER, S.B.
Sampled by: S.B. HOLLINGER
Chem. Treatment:
Sample Condition: SLIGHT TURBIDITY

ANALYTICAL RESULTS

pH at the time of sampling: 5.45
pH at the time of analysis: 7.00
Density: 1.135
Hydrogen Sulfide (H2S):
TDS: Calculated 204814.2 mg/L

CONSTITUENT		mg/L	meq/L	method	comments
ANIONS					
*Bicarbonate	HCO3-	383.0	6.28	FIA	
Boron	B(OH)4-	99.1	1.26	ICP	
*Carbonate	CO3--	.0	.00	N.A.	
*Chloride	Cl-	125000.0	3525.79	FIA	
Phosphate	PO4---	17.0	.54	ICP	
*Sulfate	SO4--	1770.0	36.85	FIA	
	SUM OF ANIONS=		3570.72		
CATIONS					
Aluminum	Al+++	7.4	.83	ICP	
*Barium	Ba++	14.1	.21	ICP	
*Calcium	Ca++	2253.0	112.43	ICP	
Chromium	Cr+++	0.0	0.00	ICP	DL= 2.020
Copper	Cu++	0.0	0.00	ICP	DL= 2.020
*Iron	Fe++	0.0	0.00	ICP	DL= 2.020
Lead	Pb++	0.0	0.00	ICP	DL=10.100
Lithium	Li+	0.0	0.00	N.A.	
*Magnesium	Mg++	833.0	68.55	ICP	
Manganese	Mn++	0.0	0.00	ICP	DL= 1.010
Nickel	Ni++	5.4	.19	ICP	
Potassium	K+	658.0	16.83	ICP	
Silica	SiO2	0.0	0.00	ICP	DL= 2.020
*Sodium	Na+	73620.0	3202.26	ICP	
*Strontium	Sr++	154.0	3.52	ICP	
Vanadium	V++	0.0	0.00	N.A.	
	SUM OF CATIONS=		3404.80		

Ratio of ANIONS:CATIONS 1.05

CaCO3 & BARITE Scale

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SATURATION INDEX TABLE

Sample ID: F13214
pH (at 25.0 deg C): 7.00

Temperature		Scale Component				
deg F	deg C	CaCO3 (Calcite)	CaSO4 (Anhydrite)	CaSO4*2H2O (Gypsum)	SrSO4 (Celestite)	BaSO4 (Barite)
32.00	.00	.756	-1.035	-.320	-.266	2.330
68.00	20.00	.827	-.828	-.438	-.335	1.945
[illegible]	25.00	.846	-.780	-.458	-.343	1.853
[illegible]	40.00	.902	-.640	-.499	-.359	1.589
140.00	60.00	.987	-.458	-.519	-.328	1.259
176.00	80.00	1.094	-.272	-.513	-.283	.950
212.00	100.00	1.228	-.076	-.491	-.224	.660

S.I.=SATURATION INDEX
S.I.=log(Product of activities of component ions/Ksp)

S.I. less than 0	The water is undersaturated and indicates a non-scaling situation.
S.I. near or equal to 0	The water is saturated and scale formation is likely.
S.I. greater than 0	The water is supersaturated and favors scale formation.

POSSIBLE SCALE FORMATION

Temperature		Scale Component (mg/1000 g H2O)				
deg F	deg C	CaCO3 (Calcite)	CaSO4 (Anhydrite)	CaSO4*2H2O (Gypsum)	SrSO4 (Celestite)	BaSO4 (Barite)
32.00	.00	64.	0.	0.	0.	26.
68.00	20.00	82.	0.	0.	0.	26.
77.00	25.00	87.	0.	0.	0.	26.
104.00	40.00	106.	0.	0.	0.	26.
140.00	60.00	137.	0.	0.	0.	25.
176.00	80.00	172.	0.	0.	0.	24.
212.00	100.00	208.	0.	0.	0.	21.

The POSSIBLE SCALE FORMATION predicts the maximum amount of any one scale component that could precipitate from the water as analyzed. As precipitation progresses, these predictions become less accurate.

To estimate the POSSIBLE SCALE FORMATION in lbs/1000 barrels (US 42 gal) use the following:
APPROXIMATE lbs/1000 barrels = (mg/1000g H2O) x 0.35

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******NOTES ON WATER ANALYSIS REPORT******

****KEY****
DL=DETECTION LIMIT (mg/L)
FIA=FLOW INJECTION ANALYSIS
FLD=FIELD DATA
ICP=INDUCTIVELY COUPLED PLASMA EMISSION
meq/L=MILLIEQUIVALENTS PER LITER
mg/L=MILLIGRAMS PER LITER
N.A.=NOT ANALYZED
S.I.=SATURATION INDEX=log(Activity Product/Ksp)
TDS=TOTAL DISSOLVED SOLIDS
#=INDICATES THE CONCENTRATION OF THE CONSTITUENT HAS SIGNIFICANTLY CHANGED SINCE THE LAST ANALYSIS
*=USED IN SPECIES DISTRIBUTION CALCULATIONS (SEE SECTION ON COMPUTER CALCULATIONS)

The following guidelines are useful when interpreting the results in the WATER ANALYSIS REPORT.

1) The pH is an indication of relative acidity or basicity of the water sample.
2) The Ratio of ANIONS:CATIONS determines if the balance between anions and cations is in agreement and consequently whether the results are reliable. If the ratio is significantly greater than or less than 1.0 the results should be interpreted with caution.
3) The COMMENTS column is reserved to indicate if a constituent has significantly changed since the last analysis (#), and to denote the analytical detection limits (DL) when the constituent can not be detected.
4) The SATURATION INDEX (S.I.) predicts scaling conditions in the analyzed water. The S.I. is an indicator and may not accurately represent some site water conditions. In some instances a S.I. near 0 could indicate that scaling has already occurred.

*******NOTES ON COMPUTER CALCULATIONS******

A computer assisted model, WASEQ, has been utilized to calculate the equilibrium distribution of chemical species (single ions and ion pairs) in an aqueous system. The model is based on thermodynamic principles and calculations that incorporate activity coefficients, temperature corrected equilibrium constants and conservation of mass equations.

All of the ions listed in the constituent data are utilized for determining ionic strength, however, only the ions identified with a "*" are used in the ion pair distribution computations. The Saturation Index (S.I.) is a measure of the state of saturation and is determined from the free ions remaining after ion pairing.

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WATER ANALYSIS REPORT

Company: CIBOLA ENERGY CORP.

Sampling Date: 09/06/84
Analysis Date: 09/28/84
Sample ID: F13215

Sample Source
Lease: PLAINS 29
Well: #9
Sample Pt:

Submitted by: HOLLINGER, S.B.
Sampled by: S.B. HOLLINGER
Chem. Treatment:
Sample Condition: BLACK PPT

ANALYTICAL RESULTS

pH at the time of sampling: 5.75
pH at the time of analysis: 6.90
Density: 1.140
Hydrogen Sulfide (H2S):
TDS: Calculated 211900.5 mg/L

CaCO3, Barite

CONSTITUENT		mg/L	meq/L	method	comments
ANIONS					
*Bicarbonate	HCO3-	439.0	7.19	FIA	
Boron	B(OH)4-	102.8	1.30	ICP	
*Carbonate	CO3--	.0	.00	N.A.	
*Chloride	Cl-	129000.0	3638.62	FIA	
Phosphate	PO4---	12.4	.39	ICP	
*Sulfate	SO4--	2890.0	60.17	FIA	
	SUM OF ANIONS=		3707.68		
CATIONS					
Aluminum	Al+++	13.7	1.52	ICP	
*Barium	Ba++	13.9	.20	ICP	
*Calcium	Ca++	2777.0	138.57	ICP	
Chromium	Cr+++	0.0	0.00	ICP	DL= 2.020
Copper	Cu++	0.0	0.00	ICP	DL= 2.020
*Iron	Fe++	0.0	0.00	ICP	DL= 2.020
Lead	Pb++	0.0	0.00	ICP	DL=10.100
Lithium	Li+	0.0	0.00	N.A.	
*Magnesium	Mg++	883.0	72.66	ICP	
Manganese	Mn++	0.0	0.00	ICP	DL= 1.010
Nickel	Ni++	4.2	.14	ICP	
Potassium	K+	698.0	17.85	ICP	
Silica	SiO2	0.0	0.00	ICP	DL= 2.020
*Sodium	Na+	75000.0	3262.29	ICP	
*Strontium	Sr++	66.6	1.52	ICP	
Vanadium	V++	0.0	0.00	N.A.	
	SUM OF CATIONS=		3494.76		

Ratio of ANIONS:CATIONS 1.06

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SATURATION INDEX TABLE

Sample ID: F13215
pH (at 25.0 deg C): 6.90

Temperature		Scale Component				
deg F	deg C	CaCO3 (Calcite)	CaSO4 (Anhydrite)	CaSO4*2H2O (Gypsum)	SrSO4 (Celestite)	BaSO4 (Barite)
32.00	.00	.796	-.727	-.015	-.435	2.519
68.00	20.00	.886	-.520	-.134	-.504	2.134
[illegible]	[illegible]	.909	-.472	-.154	-.512	2.043
104.00	40.00	.981	-.332	-.194	-.518	1.779
140.00	60.00	1.083	-.150	-.214	-.497	1.449
176.00	80.00	1.201	.037	-.208	-.451	1.140
212.00	100.00	1.341	.233	-.186	-.392	.851

S.I.=SATURATION INDEX
S.I.=log(Product of activities of component ions/Ksp)

S.I. less than 0	The water is undersaturated and indicates a non-scaling situation.
S.I. near or equal to 0	The water is saturated and scale formation is likely.
S.I. greater than 0	The water is supersaturated and favors scale formation.

POSSIBLE SCALE FORMATION

Temperature		Scale Component (mg/1000 g H2O)				
deg F	deg C	CaCO3 (Calcite)	CaSO4 (Anhydrite)	CaSO4*2H2O (Gypsum)	SrSO4 (Celestite)	BaSO4 (Barite)
32.00	.00	90.	0.	0.	0.	26.
68.00	20.00	113.	0.	0.	0.	26.
77.00	25.00	119.	0.	0.	0.	26.
104.00	40.00	142.	0.	0.	0.	26.
140.00	60.00	178.	0.	0.	0.	25.
176.00	80.00	216.	264.	0.	0.	24.
212.00	100.00	255.	1468.	0.	0.	23.

The POSSIBLE SCALE FORMATION predicts the maximum amount of any one scale component that could precipitate from the water as analyzed. As precipitation progresses, these predictions become less accurate.

To estimate the POSSIBLE SCALE FORMATION in lbs/1000 barrels (US 42 gal) use the following:
APPROXIMATE lbs/1000 barrels = (mg/1000g H2O) x 0.35

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******NOTES ON WATER ANALYSIS REPORT******

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FIA=FLOW INJECTION ANALYSIS
FLD=FIELD DATA
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meq/L=MILLIEQUIVALENTS PER LITER
mg/L=MILLIGRAMS PER LITER
N.A.=NOT ANALYZED
S.I.=SATURATION INDEX=log(Activity Product/Ksp)
TDS=TOTAL DISSOLVED SOLIDS
#=INDICATES THE CONCENTRATION OF THE CONSTITUENT HAS SIGNIFICANTLY CHANGED SINCE THE LAST ANALYSIS
*=USED IN SPECIES DISTRIBUTION CALCULATIONS (SEE SECTION ON COMPUTER CALCULATIONS)

The following guidelines are useful when interpreting the results in the WATER ANALYSIS REPORT.

1) The pH is an indication of relative acidity or basicity of the water sample.
2) The Ratio of ANIONS:CATIONS determines if the balance between anions and cations is in agreement and consequently whether the results are reliable. If the ratio is significantly greater than or less than 1.0 the results should be interpreted with caution.
3) The COMMENTS column is reserved to indicate if a constituent has significantly changed since the last analysis (#), and to denote the analytical detection limits (DL) when the constituent can not be detected.
4) The SATURATION INDEX (S.I.) predicts scaling conditions in the analyzed water. The S.I. is an indicator and may not accurately represent some site water conditions. In some instances a S.I. near 0 could indicate that scaling has already occurred.

*******NOTES ON COMPUTER CALCULATIONS******

A computer assisted model, WASEQ, has been utilized to calculate the equilibrium distribution of chemical species (single ions and ion pairs) in an aqueous system. The model is based on thermodynamic principles and calculations that incorporate activity coefficients, temperature corrected equilibrium constants and conservation of mass equations.

All of the ions listed in the constituent data are utilized for determining ionic strength, however, only the ions identified with a "*" are used in the ion pair distribution computations. The Saturation Index (S.I.) is a measure of the state of saturation and is determined from the free ions remaining after ion pairing.

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WATER ANALYSIS REPORT

Company: CIBOLA ENERGY CORP.

Sampling Date: 09/06/84
Analysis Date: 09/28/84
Sample ID: F13213

Sample Source
Lease: J.P. WHITE D
Well: #5
Sample Pt:

Submitted by: HOLLINGER, S.B.
Sampled by: S.B. HOLLINGER
Chem. Treatment:
Sample Condition: SLIGHT TURBIDITY

ANALYTICAL RESULTS

pH at the time of sampling: 5.25
pH at the time of analysis: 6.90
Density: 1.139
Hydrogen Sulfide (H2S):
TDS: Calculated 212937.3 mg/L

CaCO3 (Barite)

CONSTITUENT		mg/L	meq/L	method	comments
ANIONS					
*Bicarbonate	HCO3-	343.0	5.62	FIA	
Boron	B(OH)4-	116.6	1.48	ICP	
*Carbonate	CO3--	.0	.00	N.A.	
*Chloride	Cl-	130000.0	3666.83	FIA	
Phosphate	PO4---	25.9	.82	ICP	
*Sulfate	SO4--	2780.0	57.88	FIA	
	SUM OF ANIONS=		3732.63		
CATIONS					
Aluminum	Al+++	13.2	1.47	ICP	
*Barium	Ba++	14.0	.20	ICP	
*Calcium	Ca++	2865.0	142.96	ICP	
Chromium	Cr+++	0.0	0.00	ICP	DL= 2.020
Copper	Cu++	0.0	0.00	ICP	DL= 2.020
*Iron	Fe++	0.0	0.00	ICP	DL= 2.020
Lead	Pb++	0.0	0.00	ICP	DL=10.100
Lithium	Li+	0.0	0.00	N.A.	
*Magnesium	Mg++	965.0	79.41	ICP	
Manganese	Mn++	2.2	.08	ICP	
Nickel	Ni++	3.8	.13	ICP	
Potassium	K+	662.0	16.93	ICP	
Silica	SiO2	0.0	0.00	ICP	DL= 2.020
*Sodium	Na+	75090.0	3266.20	ICP	
*Strontium	Sr++	56.5	1.29	ICP	
Vanadium	V++	0.0	0.00	N.A.	
	SUM OF CATIONS=		3508.68		

Ratio of ANIONS:CATIONS 1.06

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SATURATION INDEX TABLE

Sample ID: F13213
pH (at 25.0 deg C): 6.90

Temperature		Scale Component				
deg F	deg C	CaCO3 (Calcite)	CaSO4 (Anhydrite)	CaSO4*2H2O (Gypsum)	SrSO4 (Celestite)	BaSO4 (Barite)
32.00	.00	.709	-.727	-.015	-.525	2.504
68.00	20.00	.798	-.519	-.134	-.594	2.119
77.00	25.00	.821	-.471	-.154	-.602	2.027
104.00	40.00	.892	-.331	-.194	-.609	1.763
140.00	60.00	.993	-.149	-.214	-.587	1.433
176.00	80.00	1.110	.038	-.207	-.541	1.124
212.00	100.00	1.249	.235	-.185	-.482	.835

S.I.=SATURATION INDEX
S.I.=log(Product of activities of component ions/Ksp)

S.I. less than 0	The water is undersaturated and indicates a non-scaling situation.
S.I. near or equal to 0	The water is saturated and scale formation is likely.
S.I. greater than 0	The water is supersaturated and favors scale formation.

POSSIBLE SCALE FORMATION

Temperature		Scale Component (mg/1000 g H2O)				
deg F	deg C	CaCO3 (Calcite)	CaSO4 (Anhydrite)	CaSO4*2H2O (Gypsum)	SrSO4 (Celestite)	BaSO4 (Barite)
32.00	.00	60.	0.	0.	0.	26.
68.00	20.00	77.	0.	0.	0.	26.
77.00	25.00	82.	0.	0.	0.	26.
104.00	40.00	99.	0.	0.	0.	26.
140.00	60.00	127.	0.	0.	0.	26.
176.00	80.00	157.	270.	0.	0.	25.
212.00	100.00	189.	1450.	0.	0.	23.

The POSSIBLE SCALE FORMATION predicts the maximum amount of any one scale component that could precipitate from the water as analyzed. As precipitation progresses, these predictions become less accurate.

To estimate the POSSIBLE SCALE FORMATION in lbs/1000 barrels (US 42 gal) use the following:
APPROXIMATE lbs/1000 barrels = (mg/1000g H2O) x 0.35

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******NOTES ON WATER ANALYSIS REPORT******

****KEY****
DL=DETECTION LIMIT (mg/L)
FIA=FLOW INJECTION ANALYSIS
FLD=FIELD DATA
ICP=INDUCTIVELY COUPLED PLASMA EMISSION
meq/L=MILLIEQUIVALENTS PER LITER
mg/L=MILLIGRAMS PER LITER
N.A.=NOT ANALYZED
S.I.=SATURATION INDEX=log(Activity Product/Ksp)
TDS=TOTAL DISSOLVED SOLIDS
#=INDICATES THE CONCENTRATION OF THE CONSTITUENT HAS SIGNIFICANTLY CHANGED SINCE THE LAST ANALYSIS
*=USED IN SPECIES DISTRIBUTION CALCULATIONS (SEE SECTION ON COMPUTER CALCULATIONS)

The following guidelines are useful when interpreting the results in the WATER ANALYSIS REPORT.

1) The pH is an indication of relative acidity or basicity of the water sample.
2) The Ratio of ANIONS:CATIONS determines if the balance between anions and cations is in agreement and consequently whether the results are reliable. If the ratio is significantly greater than or less than 1.0 the results should be interpreted with caution.
3) The COMMENTS column is reserved to indicate if a constituent has significantly changed since the last analysis (#), and to denote the analytical detection limits (DL) when the constituent can not be detected.
4) The SATURATION INDEX (S.I.) predicts scaling conditions in the analyzed water. The S.I. is an indicator and may not accurately represent some site water conditions. In some instances a S.I. near 0 could indicate that scaling has already occurred.

*******NOTES ON COMPUTER CALCULATIONS******

A computer assisted model, WASEQ, has been utilized to calculate the equilibrium distribution of chemical species (single ions and ion pairs) in an aqueous system. The model is based on thermodynamic principles and calculations that incorporate activity coefficients, temperature corrected equilibrium constants and conservation of mass equations.

All of the ions listed in the constituent data are utilized for determining ionic strength, however, only the ions identified with a "*" are used in the ion pair distribution computations. The Saturation Index (S.I.) is a measure of the state of saturation and is determined from the free ions remaining after ion pairing.

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WATER ANALYSIS REPORT

COMPANY Cibola Energy Corporation ADDRESS Artesia, N.M. DATE: 7-19-84

SOURCE Mabel DATE SAMPLED 7-12-84 ANALYSIS NO. 846

Analysis	Mg/L		*Meq/L	
1. pH	7.0			
2. H_2S (Qualitative)	Pos.			
3. Specific Gravity	1.140			
4. Dissolved Solids	227,216			
5. Suspended Solids				
6. Phenolphthalein Alkalinity ($CaCO_3$)				
7. Methyl Orange Alkalinity ($CaCO_3$)	360			
8. Bicarbonate (HCO_3)	439	÷61	7.2	HCO_3
9. Chlorides (Cl)	136,016	÷35.5	3,803	Cl
10. Sulfates (SO_4)	3,750	÷48	78	SO_4
11. Calcium (Ca)	3,200	÷20	160	Ca
12. Magnesium (Mg)	875	÷12.2	72	Mg
13. Total Hardness ($CaCO_3$)	11,600			
14. Total Iron (Fe)	42			
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

160	Ca ← HCO_3	7.2
72	Mg → SO_4	78
3,656	Na → Cl	3,802

Saturation Values Distilled Water 20°C

$CaCO_3$	13 Mg/L
$CaSO_4 \cdot 2H_2O$	2,090 Mg/L
$MgCO_3$	103 Mg/L

Compound	Equiv. Wt.	X Meq/L	= Mg/L
$Ca(HCO_3)_2$	81.04	7.2	584
$CaSO_4$	68.07	78	5,310
$CaCl_2$	55.50	75	4,163
$Mg(HCO_3)_2$	73.17		
$MgSO_4$	60.19		
$MgCl_2$	47.62	72	3,429
$NaHCO_3$	84.00		
Na_2SO_4	71.03		
NaCl	58.46	3,656	213,730

REMARKS P. White (2)

Hollinger - Knorr - M. Roberts - File

Respectfully submitted
TRETOLITE COMPANY

Ray Shaffner

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STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
$CaCO_3$ Scaling Tendency

Water Analysis No. 846

pH 7.00

TOTAL IONIC STRENGTH 4.05

SI at (80)°F = + 1.21

SI at (120)°F = + 1.66

REMARKS: Severe Calcium carbonate scaling tendencies at 80°F and 120°F

SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

X = 0.041

S = 5,034 mg/l @ 70 °F

S = 5-043 mg/l @ 110 °F