STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

June 6, 1991

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

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

Swd 431

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

Gentlemen:

I have examined the application for the:

Zia Energy, Inc. Simmons #2-G 5-22-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Zia Energy, Inc.

Address: P. O. Box 2219, Hobbs, NM 88241

Contact party: Farris Nelson Phone: 505-393-2937

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: Farris Nelson Title President

Signature: Farris Nelson Date: May 30, 1991

* 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. Gulf Oil Corporation drilled this well in June, 1967 as their No. 1-WSW for the South Penrose Skelly waterflood unit. A copy of the original C-105 is enclosed.

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.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Zia Energy, Inc.

Address: P. O. Box 2219, Hobbs, NM 88241

Contact party: Farris Nelson Phone: 505-393-2937

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.

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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: Farris Nelson Title President

Signature: Farris Nelson Date: May 30, 1991

* 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. Gulf Oil Corporation drilled this well in June, 1967 as their No. 1-WSW for the South Penrose Skelly waterflood unit. A copy of the original C-105 is enclosed.

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(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.

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(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.

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(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.

P. O. BOX 2219

ZIA ENERGY, INC.

PHONE (505) 393-2937

HOBBS, NEW MEXICO 88241

May 30, 1991

Mr. Wayne Henson
P. O. Box 605
Eunice, NM 88231

Gentlemen:

Enclosed is a complete copy of our application to the New Mexico Oil Conservation Division for Administrative Approval of our proposed produced water disposal well. We propose to re-enter a plugged and abandoned well located 2310' FNL and 1980' FEL of Section 5, Township 22 South, Range 37 East, Lea County, New Mexico. This well will be designated as the Zia Energy, Inc. Simmons No. 2. It will be completed to dispose of produced water into the lower part of the San Andres formation, through perforations from 4456' to 5004'.

As the surface owner where a salt water disposal is to be located, you are being notified of our application in compliance with New Mexico Oil Conservation Division regulations.

Sincerely,

Farris Nelson

Farris Nelson
President

Certified Mailing Number
P 175 163 209

P. O. BOX 2219

ZIA ENERGY, INC.

PHONE (505) 393-2937

HOBBS, NEW MEXICO 88241

May 30, 1991

B. E. C. Corporation
P. O. Box 1392
Midland, TX 79702

Gentlemen:

Enclosed is a complete copy of our application to the New Mexico Oil Conservation Division for Administrative Approval of our proposed produced water disposal well. We propose to re-enter a plugged and abandoned well located 2310' FNL and 1980' FEL of Section 5, Township 22 South, Range 37 East, Lea County, New Mexico. This well will be designated as the Zia Energy, Inc. Simmons No. 2. It will be completed to dispose of produced water into the lower part of the San Andres formation, through perforations from 4456' to 5004'.

As an offset oil and gas leaseholder, you are being notified of our application in compliance with New Mexico Oil Conservation Division regulations.

Sincerely,

Farris Nelson

Farris Nelson
President

Certified Mailing Number
P 175 163 207

P. O. BOX 2219

ZIA ENERGY, INC.

PHONE (505) 393-2937

HOBBS, NEW MEXICO 88241

May 30, 1991

Chevron USA, Inc.
P. O. Box 688
Eunice, NM 88231

Gentlemen:

Enclosed is a complete copy of our application to the New Mexico Oil Conservation Division for Administrative Approval of our proposed produced water disposal well. We propose to re-enter a plugged and abandoned well located 2310' FNL and 1980' FEL of Section 5, Township 22 South, Range 37 East, Lea County, New Mexico. This well will be designated as the Zia Energy, Inc. Simmons No. 2. It will be completed to dispose of produced water into the lower part of the San Andres formation, through perforations from 4456' to 5004'.

As an offset oil and gas leaseholder, you are being notified of our application in compliance with New Mexico Oil Conservation Division regulations.

Sincerely,

Farris Nelson

Farris Nelson
President

Certified Mailing Number
P 175 163 206

P. O. BOX 2219

ZIA ENERGY, INC.

PHONE (505) 393-2937

HOBBS, NEW MEXICO 88241

May 30, 1991

Mr. William B. Yarborough
200 Loraine-Suite 1400
Midland, TX 79701

Gentlemen:

Enclosed is a complete copy of our application to the New Mexico Oil Conservation Division for Administrative Approval of our proposed produced water disposal well. We propose to re-enter a plugged and abandoned well located 2310' FNL and 1980' FEL of Section 5, Township 22 South, Range 37 East, Lea County, New Mexico. This well will be designated as the Zia Energy, Inc. Simmons No. 2. It will be completed to dispose of produced water into the lower part of the San Andres formation, through perforations from 4456' to 5004'.

As an offset oil and gas leaseholder, you are being notified of our application in compliance with New Mexico Oil Conservation Division regulations.

Sincerely,

Farris Nelson

Farris Nelson
President

Certified Mailing Number
P 175 163 208

LEGAL NOTICE
May 30, 1991

Zia Energy, Inc. whose address is P.O. Box 2219, Hobbs, NM 88241, whose telephone number is 505-393-2937 and whose contact person is Farris Nelson, hereby advertises that Zia Energy, Inc. has filed with the New Mexico Oil Conservation Division an application for Administrative Approval for our proposed Salt Water Disposal well, which will be the [redacted] No. 3 well located in the [redacted] of Section 5, Township 22 South, Range 37 East, Lea County, New Mexico. It is proposed that produced water from surrounding oil and gas leases will be injected into the San Andres formation at a depth to be below 4450 feet from the surface, with expected maximum injection rate not to exceed 3,500 barrels of water per day and maximum expected injection pressure to be 500 psi.

Any interested party must file objections or requests for a hearing within 15 days of this date with the New Mexico Oil Conservation Division P.O. Box 2088, Santa Fe, NM 87501.

NO. OF COPIES RECEIVED		
DISTRIBUTION		
SANTA FE		
FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

Form C-105
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

JUN 8 3 50 PM '67

5a. Indicate Type of Lease: State ☐ Fee ☒
5. State Oil & Gas Lease No.

a. TYPE OF WELL
OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER Water Supply Well

b. TYPE OF COMPLETION
NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ OTHER Water Supply Well

7. Unit Agreement Name: South Penrose Skelly Unit
8. Farm or Lease Name: South Penrose Skelly Unit
9. Well No.: No. 1
10. Field and Pool, or Wildcat: Penrose Skelly

c. Name of Operator: Gulf Oil Corporation
d. Address of Operator: Box 670, Hobbs, New Mexico
e. Location of Well

UNIT LETTER G LOCATED 2310 FEET FROM THE North LINE AND 1980 FEET FROM THE East LINE OF SEC. 5 TWP. 22-S RGE. 37-E NMPM

12. County: Lea

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
3-19-67	3-31-67	6-5-67	3424' GL	--

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
5015'	4977'	Single	→	0 - 5015'	--

24. Producing Interval(s), of this completion — Top, Bottom, Name
4013 - 4910'

25. Was Directional Survey Made: No

26. Type Electric and Other Logs Run
GR-BHC sonic

27. Was Well Cored: No

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

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48#	1224'	17-1/2"	1100 sacks (Circulated)	
9-5/8"	36#	5014'	12-1/4"	960 sacks (TOC at 2275')	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
		None		

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-7/8"	3925' (Reda Pump)	

31. Perforation Record (Interval, size and number)
9-5/8" casing perforated with 2, .75" JHPF at 4013-22', 4083-92', 4134-46', 4306-14', 4456-64' and 4902-10'

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
4013 - 4910'	7000 gallons of 28% NEA

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
June 5, 1967	100 HP Reda Pump	Shut-in

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas — Oil Ratio
June 5, 1967	3			--	--	371	--

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)
--	--		--	--	2970	--

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

Test Witnessed By: L. C. Smith

35. List of Attachments

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 _____ TITLE Area Petroleum Engineer DATE June 7, 1967

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission 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 30 through 34 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	1163	T. Canyon		T. Ojo Alamo		T. Penn. "B"	
T. Salt		T. Strawn		T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt		T. Atoka		T. Pictured Cliffs		T. Penn. "D"	
T. Yates	2580	T. Miss		T. Cliff House		T. Leadville	
T. 7 Rivers	2834	T. Devonian		T. Menefee		T. Madison	
T. Queen	3293	T. Silurian		T. Point Lookout		T. Elbert	
T. Grayburg	3552	T. Montoya		T. Mancos		T. McCracken	
T. San Andres	3927	T. Simpson		T. Gallup		T. Ignacio Qtzte	
T. Glorieta		T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger		T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		T.	
T. Drinkard		T. Delaware Sand		T. Entrada		T.	
T. Abo		T. Bone Springs		T. Wingate		T.	
T. Wolfcamp		T.		T. Chinle		T.	
T. Penn.		T.		T. Permian		T.	
T Cisco (Bough C)		T.		T. Penn. "A"		T.	

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	1163'		Red Beds & sand				
	1300'		Anhy				
[redacted]	2430'		Salt				
	2580'		Anhy & Dolo.				
	3927'		Dolo, sand & Anhy				
	5015'		Dolo.				

RECEIVED
MAY 9 1 1991

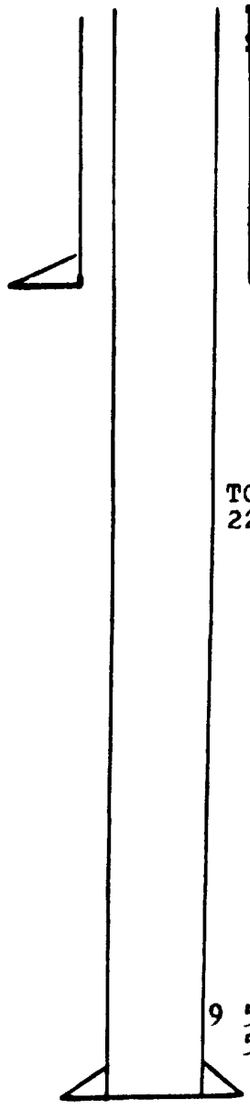
Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37 E
Lea County, New Mexico

DISPOSAL WELL DATA SHEET

Operator	Lease		
Zia Energy, Inc.	Simmons		
Well No.	Footage Location	Section	Township / Range
2	2310' FNL & 1980' FEL	5	22 South 37 East

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Cemented with 1100 sx.
TOC Surface feet determined by circulated
Hole size 17 1/2"

Intermediate Casing

Size NONE" Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 9 5/8" Cemented with 960 sx.
TOC 2275 feet determined by Temp. survey
Hole size 12 1/4"
Total depth 5015' Elevation 3424' GL

Injection interval

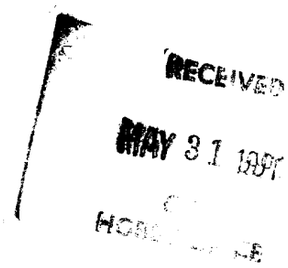
4456' feet to 4910' feet
(perforated or open-hole, indicate which)

Perforated 4456' - 4464'
4902' - 4910'

Tubing size 2 3/8" lined with plastic coating (material) set in a
Baker model D tension (brand and model) packer at 4350' feet
(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) _____
3. Is this a new well drilled for injection? ☐ Yes ☒ No
   If no, for what purpose was the well originally drilled? Well was drilled for a water supply well for the South Penrose Skelly waterflood.
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) Perforated only in the San Andres formation. All perforations from 4013' to 4314' will be squeezed off and then drilled out and tested.
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Grayburg oil 3600' to 3780', San Andres gas 3820' to 3960', Glorieta 5085' to 5220', Paddock oil 5220' to 5520'.


RECEIVED
MAY 31 1991

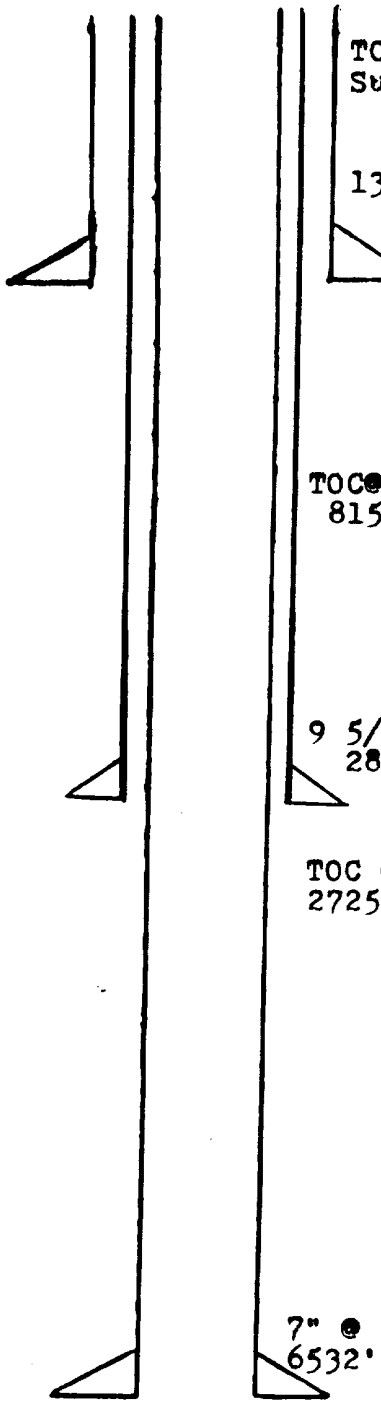
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Chevron USA, Inc.	Lee Stebbins (NCT - A)	3	1870' FNL & 2092' FWL	5	22 South	37 East
OPERATOR	LEASE	WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 293 ' Cemented with 320 sx.
TOC Surface feet determined by circulated
Hole size 17 1/4"

Intermediate Casing

Size 9 5/8"" Depth 2800 ' Cemented with 1300 sx.
TOC 815 feet determined by calculated
Hole size 12 1/4"

Long string

Size 7" Depth 6532' Cemented with 750 sx.
TOC 2725' feet determined by calculated
Hole size 8 3/4"
Total depth 6595 ' Elevation 3451 '

Perforations: From 6430 ' To 6595 '

Stimulation: Drinkard - 6532' - 6595', 4000 GA
6430' - 6460' w/ 4000 GA
Tubb - 6090' - 6295' w/15000 GRO+1#sd
Blinebry - 5856' - 5705' w/500 GA + 24,000 GRO w/3#sd/g

Intial potential Drinkard - 14 BOPD
Tubb - not reported
Blinebry - 38 BOPD + 1305 MCF/D

Note: a) Blinebry perfs. 5705' - 5856' squeezed w/ 150 sxs cmt.
b) Tubb perfs 6090' - 6295' squeezed w/175 sxs cmt.

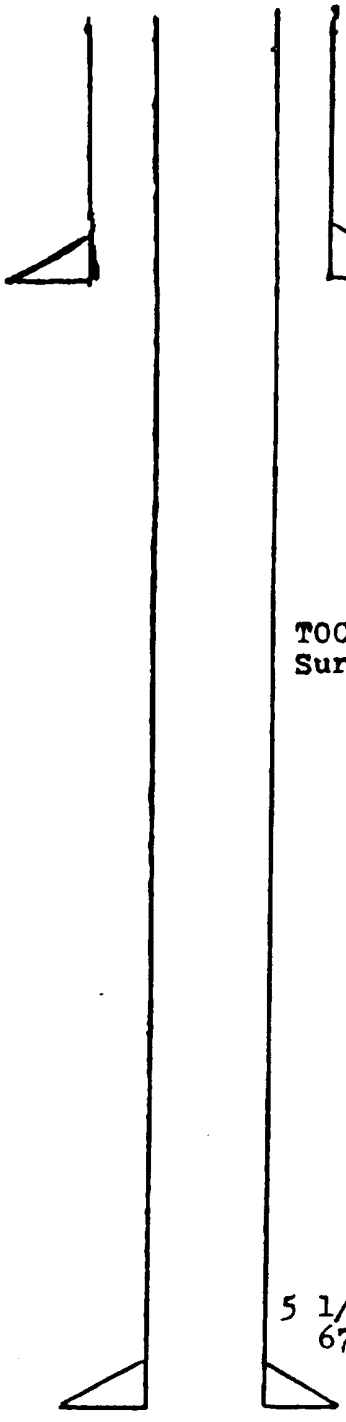
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Chevron USA, Inc.	Lee Stebbins (NCT-A)			
OPERATOR	LEASE			
4	1830' FNL & 660' FWL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Depth 1210 ' Cemented with 550 sx.
TOC Surface feet determined by circulated
Hole size 12 1/4"

Intermediate Casing

Size _____" Depth _____' Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 5 1/2" Depth 6750' Cemented with 1785 sx.
TOC Surface feet determined by circulated
Hole size 7 7/8"
Total depth 6750 ' Elevation 3440' GL
Perforations: From 6456 ' To 6650 '
Stimulation: 5000 GA

Intial potential 20 BOPD + 55 MCF/D

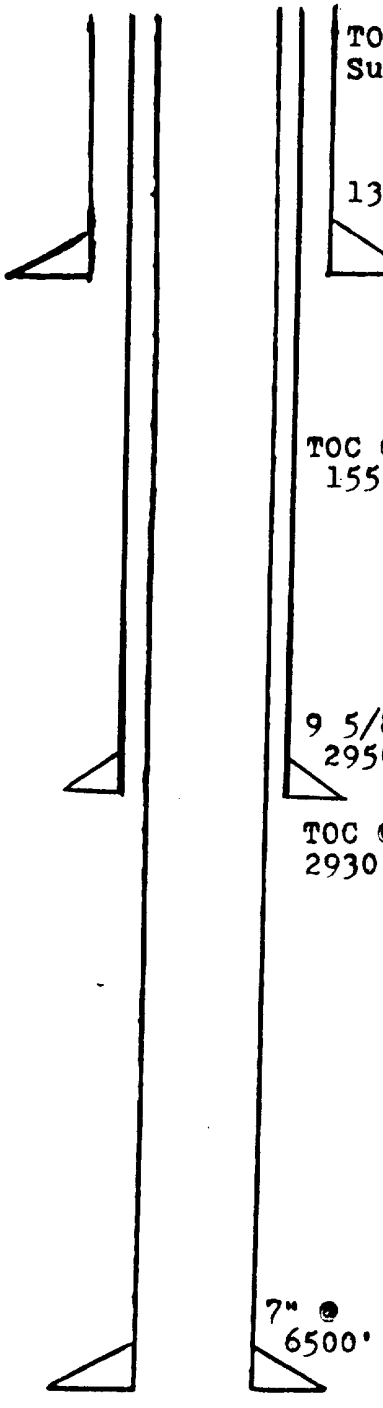
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Chevron USA, Inc.	Lee Stebbins (NCT-B)			
OPERATOR	LEASE			
3	660' FNL & 460' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 295 ' Cemented with 300 sx.
TOC Surface feet determined by circulated
Hole size 17 1/4"

Intermediate Casing

Size 9 5/8" Depth 2950 ' Cemented with 1300 sx.
TOC 1555 feet determined by Temp Survey
Hole size 12 1/4"

Long string

Size 7 Depth 6500' Cemented with 700 sx.
TOC 2930 feet determined by Temp Survey
Hole size 8 5/8"
Total depth 6597 ' Elevation 3464' DF

Perforations: From _____ ' To _____ '

Stimulation: Drinkard - open hole 6500' - 6597'
Trtd w/ 10,000 GA
Tubb - 6050' - 6235'
Blinebry - perfs 5716' - 5927'
Trtd w/3500 GA + 118,000 GGW + 400,00 #sd

Intial potential Drinkard - 78 BOPD
Tubb - 2950 MCF/D
Blinebry - 25 BOPD + 202 MCF/D

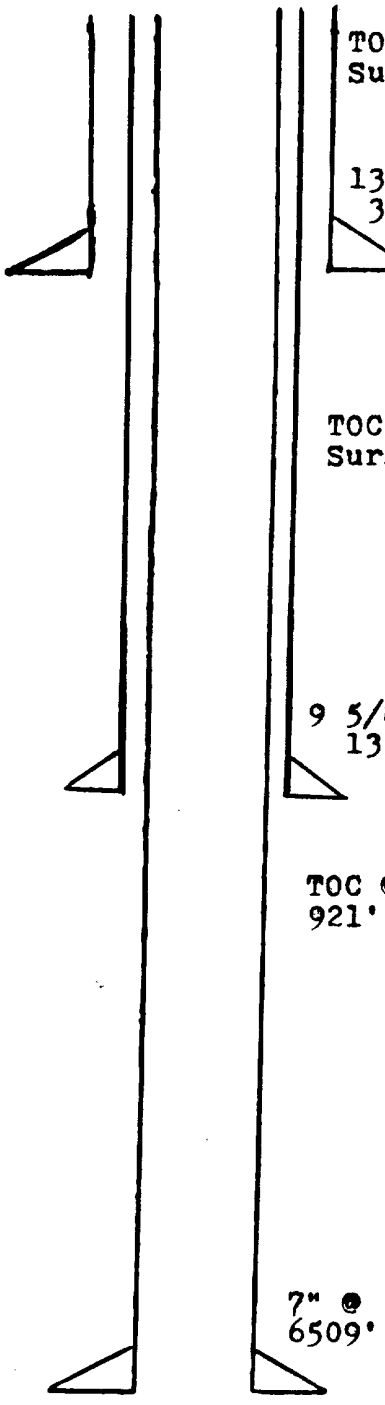
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Chevron USA Inc.	Lee Stebbins (NCT - B)			
OPERATOR	LEASE			
4	660' FNL & 1780' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 301 ' Cemented with 310 sx.
TOC Surface feet determined by calculated
Hole size 17 1/4"

Intermediate Casing

Size 9 5/8" Depth 1300 ' Cemented with 1300 sx.
TOC Surface feet determined by calculated
Hole size 12 1/4"

Long string

Size 7" Depth 6509' Cemented with 700 sx.
TOC 921 feet determined by calculated
Hole size 8 3/4"
Total depth 6585 ' Elevation 3462' DF '

Perforations: From 6509 ' To 6585 '

Stimulation: Drinkard - open hole 6509' - 6585'
Add'l perfs 6370' - 6500'. Trt. w/3000 GA +
frac w/35,000 GGW w/ 1 - 2 #SPG (1975)

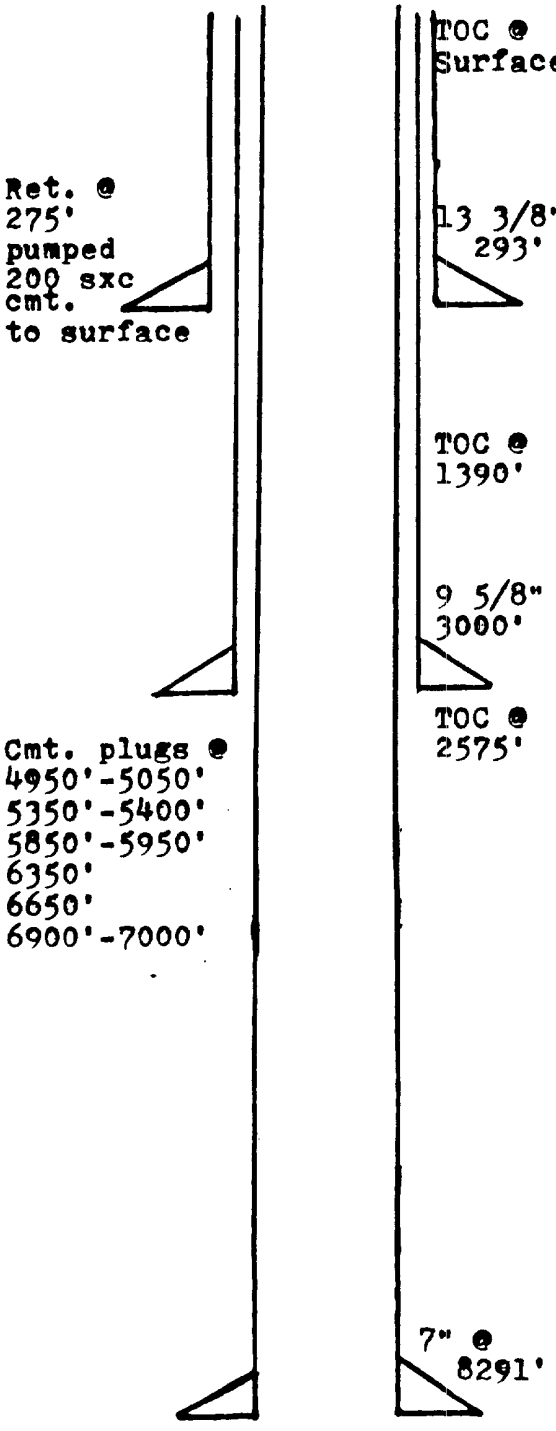
Intial potential Drinkard - 135 BOPD

PLUGGED WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Gulf Oil Corp.	L.I. Baker			
OPERATOR	LEASE			
3	2086' FSL & 554' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing
Size 13 3/8 " Depth 293 ' Cemented with 300
TOC surface feet determined by circulat
Hole size 17 1/4"

Intermediate Casing
Size 9 5/8 " Depth 3000 ' Cemented with 1300
TOC 1390 feet determined by calculat
Hole size 12 1/4"

Long string
Size 7" " Depth 8291 ' Cemented with 925
TOC 2575 feet determined by calculat
Hole size 8 3/4"
Total depth 8291 ' Elevation 3439' DF
Production Interval: From ' To '

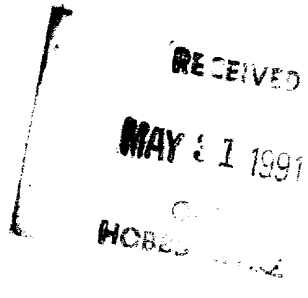
Plugging Operations:
Surface casing pulled: Size Amount NONE
Top of stub '
Long String Casing pulled: Size " Amount NON
Top of stub '

Cement plugs:

1.	Amount	60 sx	From	6900 '	To	7000
2.	Amount	20 sx	From	6575 '	To	6650
3.	Amount	20 sx	From	6275 '	To	6350
4.	Amount	25 sx	From	5850 '	To	5950
5.	Amount	50 sx	From	5350 '	To	5400
6.	Amount	25 sx	From	4950 '	To	5050

Bridge plug Set: Type Retainer Depth 275
Fluid in Hole Abandonment mud

7. Amount 200 sx From 275 ' To Surface
   Circulated up annulus of 13 3/8", 9 5/8", & 7 7/8".
8. 50' surface plug.


RECEIVED
MAY 31 1991

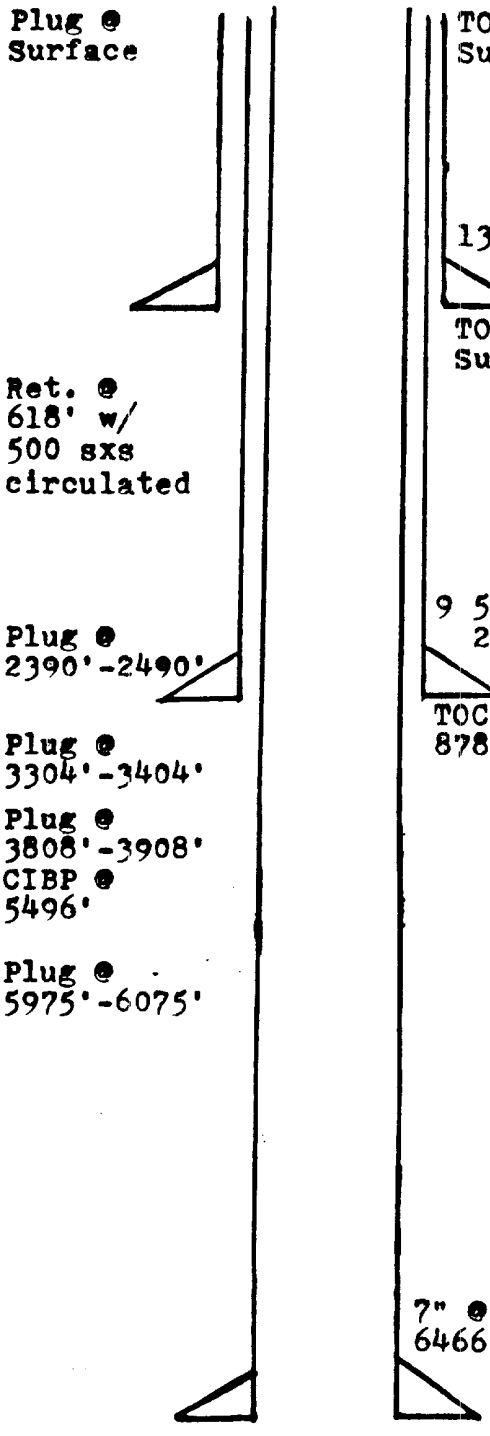
PLUGGED WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Gulf Oil Corporation	W.M. Rinewalt			
OPERATOR	LEASE			
3	2086' FNL & 766' FWL	4	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 325' Cemented with 300
TOC Surface feet determined by calculat
Hole size 17 1/2"

Intermediate Casing

Size 9 5/8" Depth 2975' Cemented with 1300
TOC Surface feet determined by calculat
Hole size 12 1/4"

Long string

Size 7" Depth 6466' Cemented with 700
TOC 878 feet determined by calculat
Hole size 8 3/4"
Total depth 6585' Elevation 3452
Production Interval: From 6466' To 6585'

Plugging Operations:

Surface casing pulled: Size ____ Amount NONE
Top of stub ____'
Long String Casing pulled: Size ____" Amount NO
Top of stub ____'

Cement plugs:

1.	Amount 25 sx	From 5975'	To 6075
2.	Amount 25 sx	From 3808'	To 3908
3.	Amount 25 sx	From 3304'	To 3404
4.	Amount 25 sx	From 2390'	To 2490
5.	Amount ____ sx	From ____'	To ____
6.	Amount ____ sx	From ____'	To ____

Bridge plug Set: Type CIBP Depth 5496'
Fluid in Hole Abandonment mud

Note: Perf. 7" @ 712' - 716'. Set retainer @ 618'. Pumped 500 sxs cmt. circulated to surface.

P & A - 10/11/83

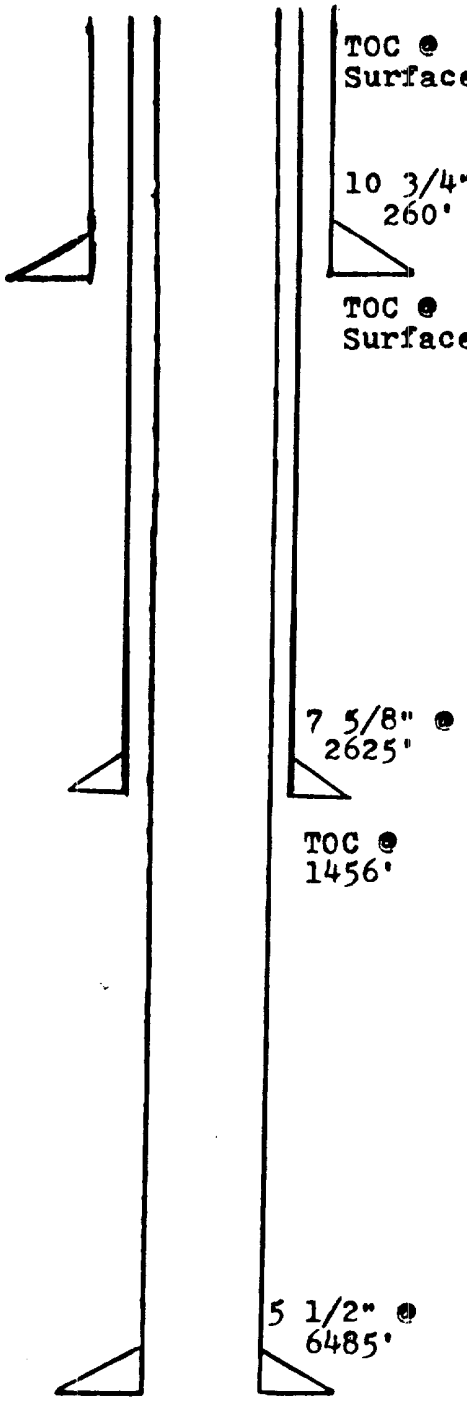
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

William B Yarborough	Downes			
OPERATOR	LEASE			
2	900' FNL & 1840' FNL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 10 3/4" Depth 260 ' Cemented with 200 sx.
TOC surface feet determined by calculated
Hole size 15 1/2"

Intermediate Casing

Size 7 5/8 " Depth 2625 ' Cemented with 800 sx.
TOC Surface feet determined by calculated
Hole size 9 5/8"

Long string

Size 5 1/2" Depth 6485' Cemented with 350 sx.
TOC 1456 feet determined by calculated
Hole size 6 3/4"
Total depth 6612 ' Elevation 3447 GL '

Perforations: From 6550 ' To 6600 '

Stimulation: Drinkard - open hole 6550' - 6600' w/2000 GA.
Paddock - 5169' - 5231'. Trt w/1000 G/

Intial potential Drinkard - 107 BOPD + 528 MCF/D
Paddock - 99% wtr.-Sqzd w/50 sxs cmt.

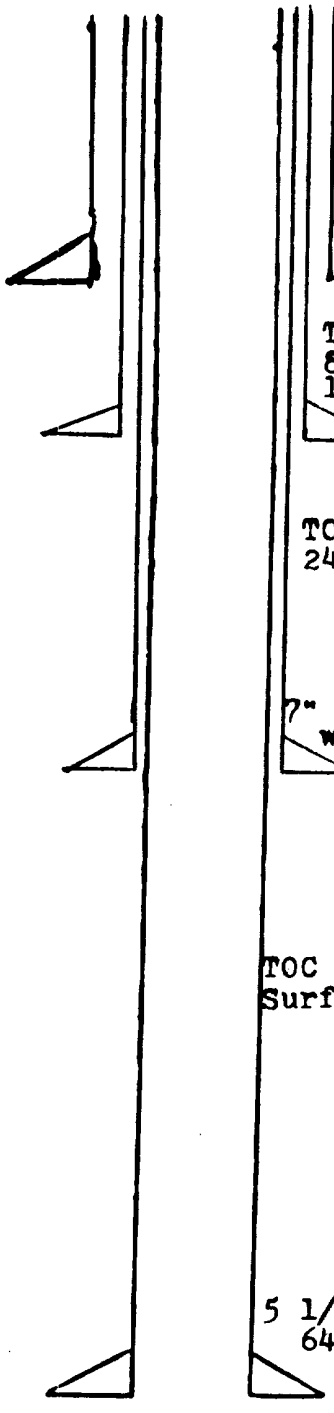
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Zia Energy, Inc.	Grizzell			
OPERATOR	LEASE			
1	660' FSL & 1980' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 " Depth 275 ' Cemented with 150 sx.
TOC Surface ' feet determined by calculation
Hole size 15" "

Intermediate Casing

Size 8 5/8" Depth 1237 ' Cemented with 250 sx.
TOC 57 feet determined by calculation
Hole size 11" "

Intermediate Casing

Size 7 " Depth 3510 ' Cemented with 150 sx.
TOC 2479 feet determined by calculation
Hole size 9" "

Long String

5 1/2" 0 - 3319'
Size 5 " Depth 3319-6465 'Cemented with 500 sx.
TOC Surface feet determined by cmt circulated
Hole size "

Total depth 6562 ' Elevation 3442' DF

Perforations: From ' To '

Stimulation: Grayburg - open hole 3510' - 3765'
Treated w/ 3000 GA
Drinkard - open hole 6465' - 6562'
Treated w/ 3000 GA. Perf 6329' - 6419'.
Treated w/ 5000 GA & 20,000 GGLO w/
1 1/2# sd/gal.
Blinebry - perfs 5562' - 5906'. Trtd w/
3000 GA + 30,000 GKCL w/ 37500# sd

Initial potential Grayburg - 168 BOPD

Drinkard - 288 BOPD + 852 MCF/D

Blinebry - 16 BOPD + 450 MCF/D

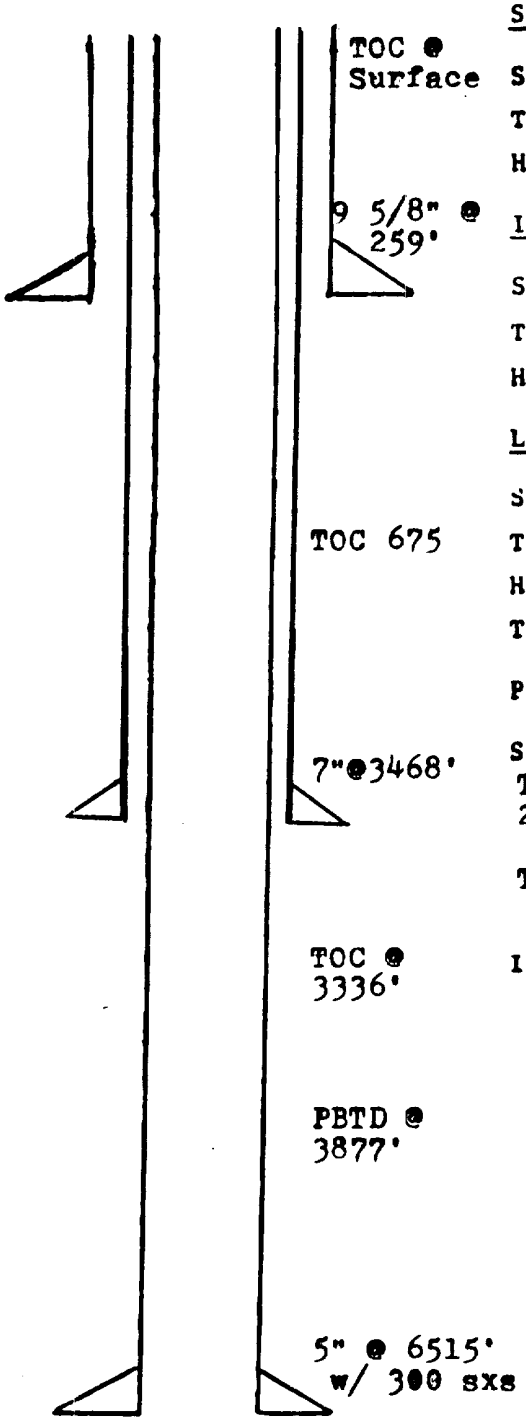
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Zia Energy, Inc.	Grizzell			
OPERATOR	LEASE			
2	1980' FSL & 1980' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 9 5/8" Depth 259 ' Cemented with 200 sx.
TOC Surface feet determined by calculation
Hole size 11"

Intermediate Casing

Size 7 " Depth 3468 ' Cemented with 350 sx.
TOC 675 feet determined by calculation
Hole size 8 3/4"

Long string

5 1/2" 0-3352'
Size 5" Depth 3352'-6515' Cemented with 300 sx.
TOC 3336' feet determined by Temp.survey
Hole size 6 1/4"
Total depth 6580 ' Elevation 3440' GL '

Perforations: From _____ ' To _____ '

Stimulation: Grayburg - open hole 3468' - 3750'
Treated w/ 3000 GA. Perfs 3636' - 3692' Trtd w/ 2000 GA
Drinkard - open hole 6515' - 6580'
Treated w/ 3000 GA.

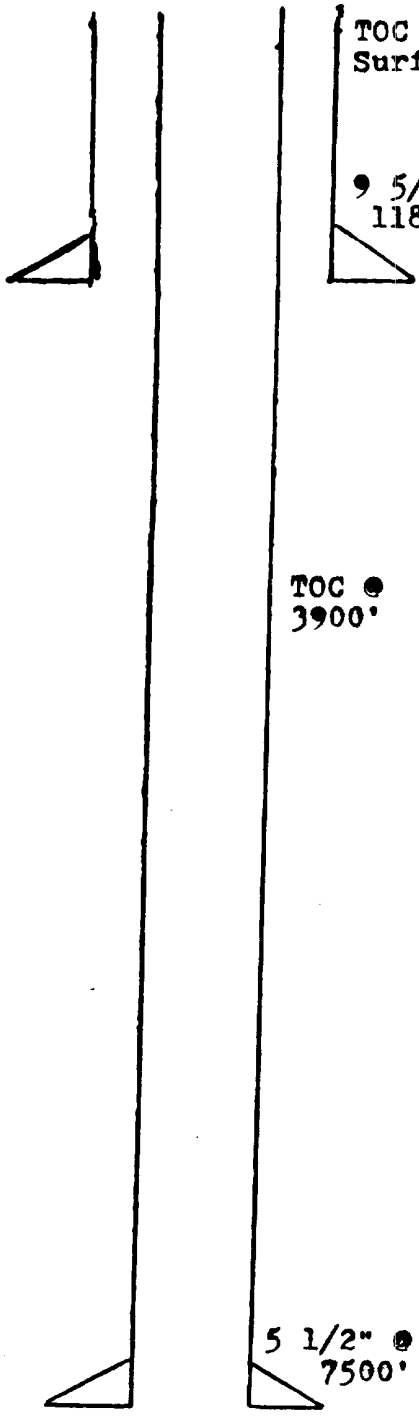
Intial potential Grayburg - 144 BOPD + 500 MCF/D
Drinkard - 130 BOPD + 113 MCF/D

PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Zia Energy, Inc.	Grizzell			
OPERATOR	LEASE			
3	330" FSL & 1650' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 9 5/8" Depth 1185 ' Cemented with 825 sx.
TOC Surface feet determined by calculation
Hole size 12 1/4"

Intermediate Casing

Size _____" Depth _____' Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 5 1/2" Depth 7500' Cemented with 1100 sx.
TOC 3900 feet determined by Bond Log
Hole size 8 3/4"
Total depth 7500' ' Elevation 3424' GR

Perforations: From _____' To _____'

Stimulation: Fusselman - Montoya 7200' - 7360'
8128 GA + 30,000 GGW + 17,500 #sd

Trtd w/ 5000 GA
Drinkard - Perf 6426' 6541'
San Andres - Perf 3950' - 4050'

Intial potential Fussellman-Montoya 22BOPD+22MDF/D
Drinkard - 12 BOPD+83 MDF/D
San Andres - 4 BOPD+433 MCF/D + 147 GWPD

Note: a) Fussel-Montoya perfs. squeezed w/ 100 sx cement w/ ret. @ 7168'
b) Drimkard perfs below CIBP @ 4511' & 20' of cement.

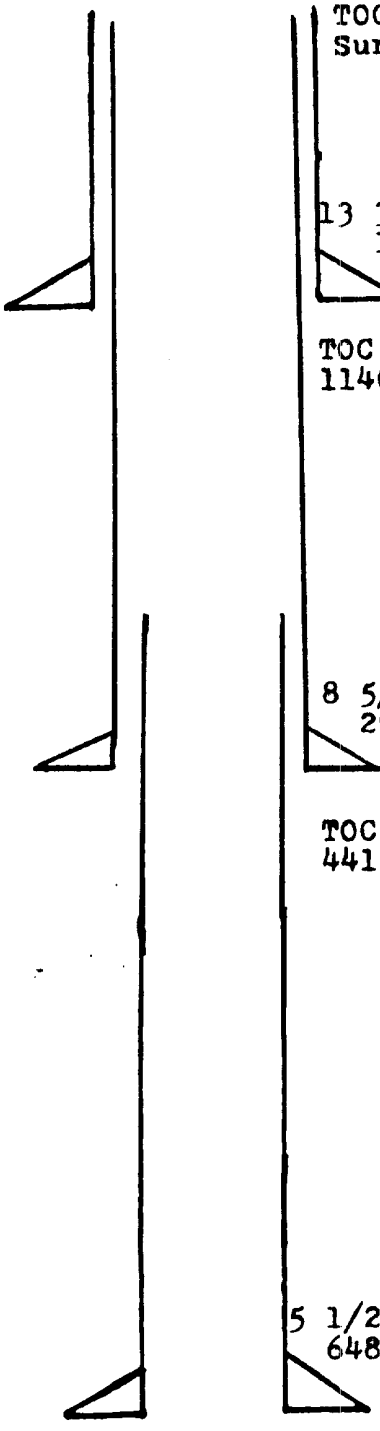
Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

PLUGGED WELL DATA SHEET

OPERATOR	LEASE			
Sohio Petroleum Company	Grizzell			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
1	1760' FNL & 1760' FEL	5	22 South	37 East

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing
Size 13 3/8 " Depth 161 ' Cemented with 160 sx.
TOC Surface feet determined by circulated
Hole size 17 1/2"

Intermediate Casing
Size 8 5/8 " Depth 2947 ' Cemented with 1500 sx.
TOC surface feet determined by circulated
Hole size 11"

Long string
Size 5 1/2 " Depth 6488 ' Cemented with 300 sx.
TOC 3140' feet determined by calculation
Hole size 7 7/8"
Total depth 6549 ' Elevation 3447' D F '
Production Interval: From 5630 ' To 6549 '

Plugging Operations:
Surface casing pulled: Size ____ Amount NONE '
Top of stub ____ '
Long String Casing pulled: Size 5 1/2' Amount 2852 '
Top of stub 2852 '
Cement plugs:

1.	Amount CIBP+10 sx	From 6215 '	To 6250 '
2.	Amount CIBP+10 sx	From 5902 '	To 5937 '
3.	Amount CIBP+10 sx	From 5465 '	To 5500 '
4.	Amount 65 sx	From 2560 '	To 2870 '
5.	Amount 40 sx	From 850 '	To 1000 '
6.	Amount 40 sx	From Surface '	To 161 '

Bridge plug Set: Type ____ Depth ____ '
Fluid in Hole Abandonment mud

P & A 3/11/85

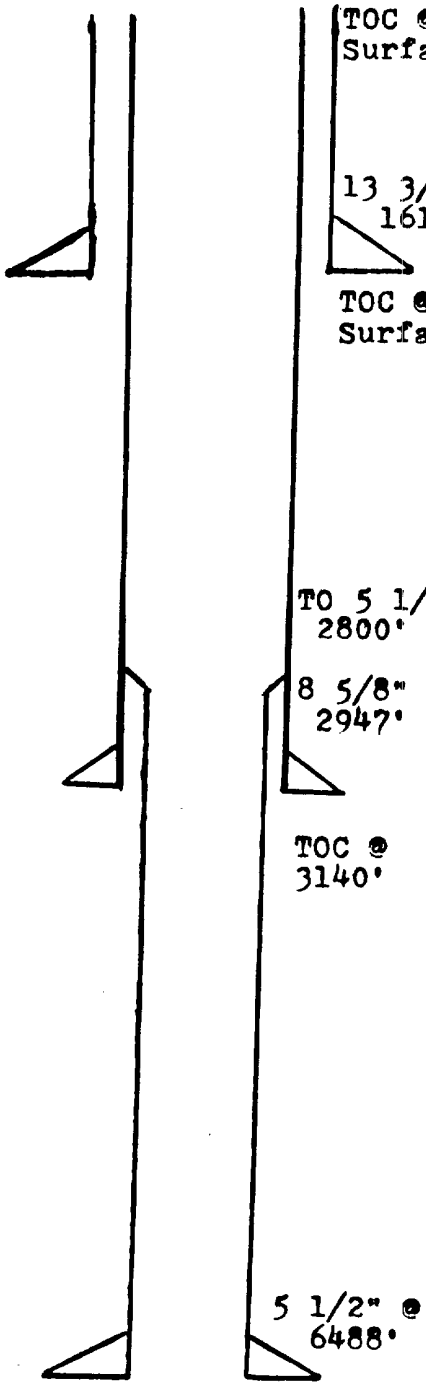
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Zia Energy, Inc.	Simmons			
OPERATOR	LEASE			
1	1760' FNL & 1760' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 161 ' Cemented with 160 sx.
TOC Surface feet determined by circulated
Hole size 17 1/2"

Intermediate Casing

Size 8 5/8" Depth 2947 ' Cemented with 1500 sx.
TOC Surface feet determined by circulated
Hole size 11"

Long string

Size 5 1/2" Depth 6488' Cemented with 300 sx.
TOC 3140 feet determined by calculated
Hole size 7 7/8"

Total depth 6549 ' Elevation 3447' D F '

Perforations: From 5630 ' To 6549 '

Stimulation: Re-entered 2/5/91. c/o to TD 6549'.
Stimulated perfs from 5630' to 6549' w/15,000 GA.

Intial potential 2 1/4 BOPD + 12 1/2 MCF/D

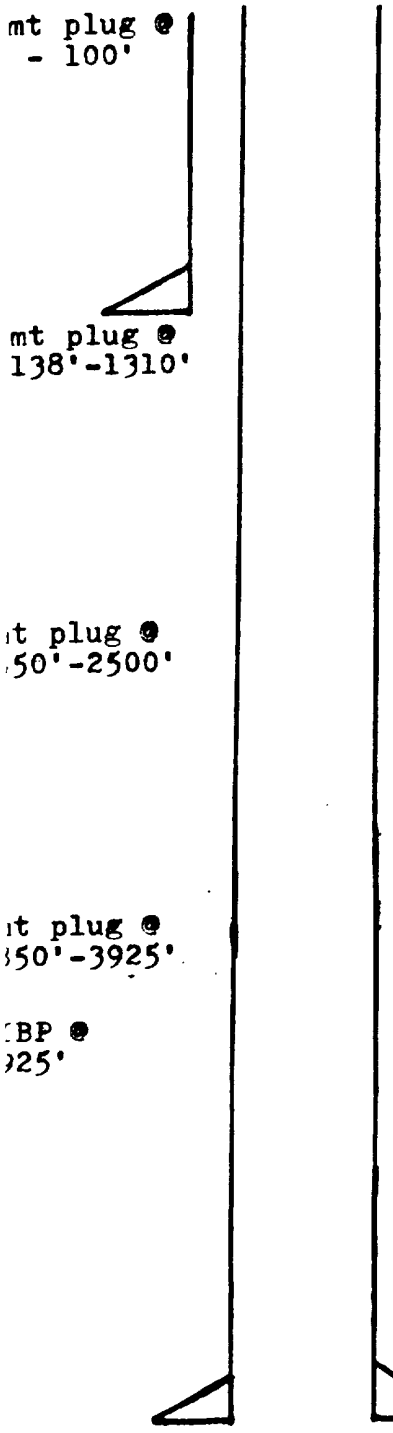
PLUGGED WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Gulf Oil Corporation	South Penrose Skelly Unit			
OPERATOR	LEASE			
1-WSW 2310' FNL & 1980' FEL	5	22 South	37 East	
WELL NO. FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE	

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 1224' Cemented with 1100 sx.

TOC Surface feet determined by circulated

Hole size 17 1/2"

Intermediate Casing

Size NONE" Depth ____' Cemented with ____ sx.

TOC ____ feet determined by ____

Hole size ____

Long string

Size 9 5/8" Depth 5014' Cemented with 960 sx.

TOC 2275' feet determined by Temp Survey

Hole size 12 1/4"

Total depth 5014' Elevation 3424 GL'

Production Interval: From 4013' To 4910'

Plugging Operations:

Surface casing pulled: Size ____ Amount NONE'

Top of stub ____'

Long String Casing pulled: Size ____" Amount NONE'

Top of stub ____'

Cement plugs:

1.	Amount	20 sx	From	3850'	To	3925'
2.	Amount	50 sx	From	2350'	To	2500'
3.	Amount	600 sx	From	1138'	To	1310'
4.	Amount	35 sx	From	Surface'	To	100'
5.	Amount	____ sx	From	____'	To	____'
6.	Amount	____ sx	From	____'	To	____'

Bridge plug Set: Type CIBP Depth 3925'

Fluid in Hole Abandonment mud

P & A - 2/28/85

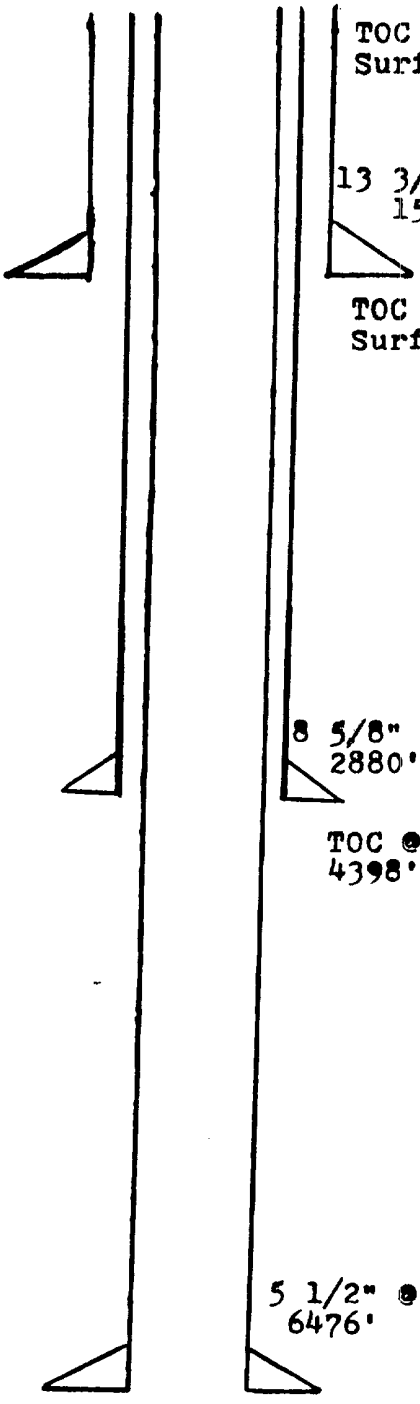
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE- 5-22S-37E
Lea County, New Mexico

B.E.C.	B.A. Christmas			
OPERATOR	LEASE			
1	2200' FNL & 880' FEL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Depth 150 ' Cemented with 150 sx.
TOC Surface feet determined by calculated
Hole size 17 1/2"

Intermediate Casing

Size 8 5/8" Depth 2880 ' Cemented with 1500 sx.
TOC Surface feet determined by calculated
Hole size 11 3/4"

Long string

Size 5 1/2" Depth 6476' Cemented with 300 sx.
TOC 4398' feet determined by calculated
Hole size 7 7/8"
Total depth 6550 ' Elevation 3429' GL '
Perforations: From 6476 ' To 6550 '
Stimulation: 6000 GA

Intial potential Drinkard - 72 BOPD 1100# GOR

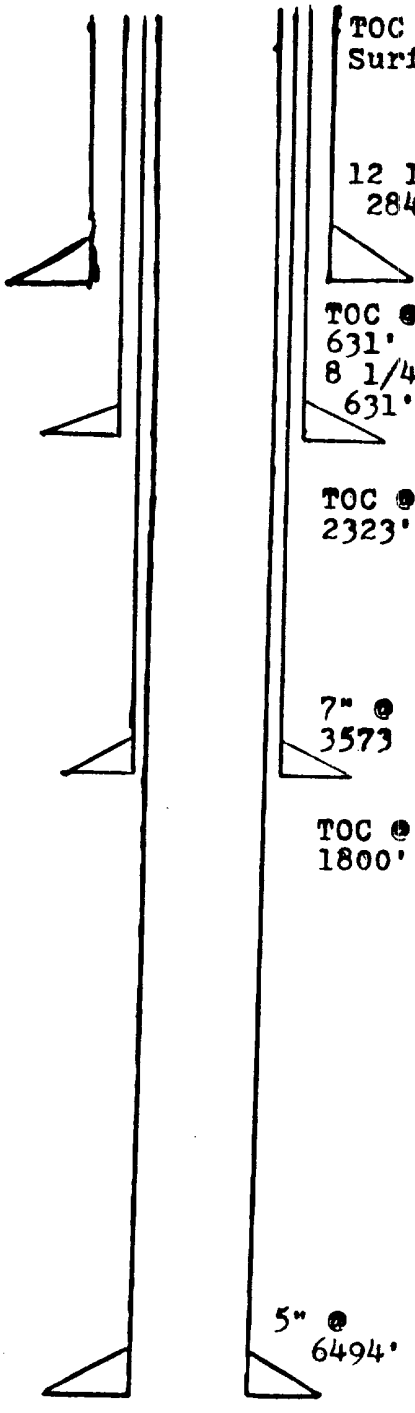
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

B.E.C. Corp.	Grizzell Deep	1	1980' FWL & 660' FSL	5	22 South	37 East
OPERATOR	LEASE	WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 12 1/2" Depth 284 ' Cemented with 300 sx.
TOC Surface ' feet determined by circulated
Hole size 18" "

Intermediate Casing

Size 8 1/4 " Depth 1256 ' Cemented with 50 sx.
TOC 631' feet determined by calculated
Hole size 10 3/4" "

Intermediate Casing

Size 7 " Depth 3573 ' Cemented with 100 sx.
TOC 2323 feet determined by calculated
Hole size 8 1/4" "

Long String

Size 5 " Depth 6494 ' Cemented with 300 sx.
TOC 1800 feet determined by calculated
Hole size 6 1/4 "

Total depth 6565 ' Elevation 3430' GL
Perforations: From ' To '

Stimulation: Penrose Skelly - open hole 3573'-3777'

Drinkard - open hole 6494' - 6565' Trtd w/ 9000 GA

Initial potential Drinkard - 130 BOPD + 540 MCF/D

Penrose - Skelly - NA

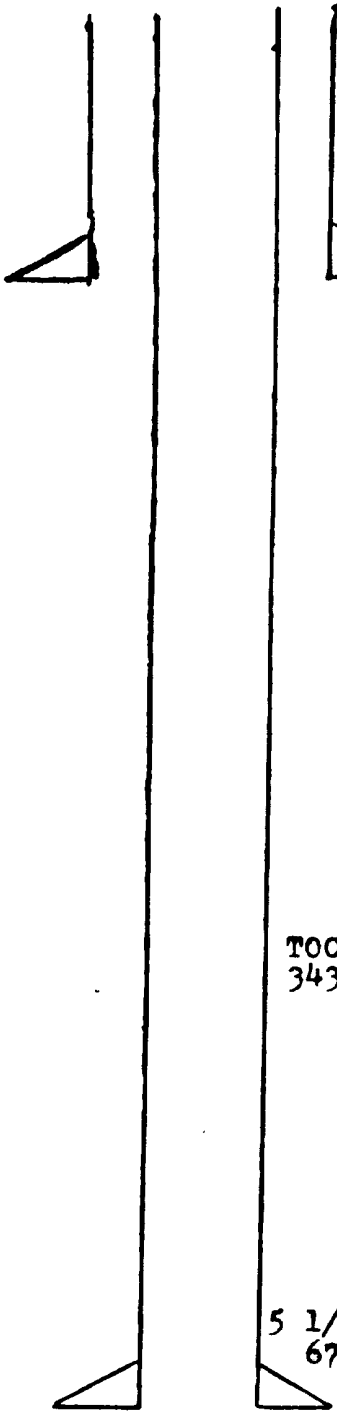
PRODUCTION WELL DATA SHEET

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

B.E.C. Corp.	Grizzell Deep			
OPERATOR	LEASE			
2	1980' FSL & 860' FWL	5	22 South	37 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Depth 1180 ' Cemented with 550 sx.
TOC Surface feet determined by calculated
Hole size 12 1/4"

Intermediate Casing

Size _____" Depth _____' Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 5 1/2" Depth 6750' Cemented with 925 sx.
TOC 343 feet determined by calculated
Hole size 7 7/8"
Total depth 6750' ' Elevation 3449' GL
Perforations: From 6458 ' To 6664 '
Stimulation: Drinkard - 6458' - 6664'
Treated w/ 12,000 GA

Intial potential Drinkard - 25 BOPD + 150 MCF/D

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : ZIA ENERGY
Date : 06-08-1989
Location: Grizzell - #2 (on 6-2-89) Grayburg

	Sample 1
Specific Gravity:	1.010
Total Dissolved Solids:	14045
pH:	7.90
IONIC STRENGTH:	0.260

		me/liter	mg/liter
CATIONS:			
Calcium	(Ca^{+2})	8.00	160
Magnesium	(Mg^{+2})	30.8	374
Sodium	(Na^{+1})	187	4310
Iron (total)	(Fe^{+2})	0.831	23.2
Barium	(Ba^{+2})	0.001	0.100
ANIONS:			
Bicarbonate	(HCO_3^{-1})	32.8	2000
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	27.1	1300
Chloride	(Cl^{-1})	166	5900
DISSOLVED GASES			
Carbon Dioxide	(CO_2)		40.0
Hydrogen Sulfide	(H_2S)		136

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.2	-31

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Unichem International

707 North Leech P.O.Box 1

Hobbs, New Mexico 88240

Company : ZIA ENERGY
Date : 05-17-1989
Location: Brunson #4 (on 5-12-89) San Andres

	Sample 1
Specific Gravity:	1.008
Total Dissolved Solids:	11788
pH:	7.90
IONIC STRENGTH:	0.194

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	4.60	92.0
Magnesium	(Mg^{+2})	12.6	153
Sodium	(Na^{+1})	168	3860
Iron (total)	(Fe^{+2})	3.40	95.0
Barium	(Ba^{+2})	0.006	0.400
ANIONS:			
Bicarbonate	(HCO_3^{-1})	44.0	2680
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	0	0
Chloride	(Cl^{-1})	141	5000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.2	-39

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : ZIA ENERGY
Date : 05-17-1989
Location: Stitcher #1 (on 5-12-89) Paddock

	Sample 1
Specific Gravity:	1.045
Total Dissolved Solids:	63605
pH:	7.60
IONIC STRENGTH:	1.236

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	128	2560
Magnesium	(Mg^{+2})	92.0	1120
Sodium	(Na^{+1})	879	20200
Iron (total)	(Fe^{+2})	0.716	20.0
Barium	(Ba^{+2})	0.003	0.200
ANIONS:			
Bicarbonate	(HCO_3^{-1})	4.40	268
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	51.0	2450
Chloride	(Cl^{-1})	1040	37000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	0.78	-10

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : ZIA ENERGY
Date : 06-08-1989
Location: Grizzell - #1 (on 6-2-89) Blinebry

	Sample 1
Specific Gravity:	1.105
Total Dissolved Solids:	146728
pH:	6.17
IONIC STRENGTH:	3.281

		me/liter	mg/liter
CATIONS:			
Calcium	(Ca^{+2})	432	8640
Magnesium	(Mg^{+2})	768	9330
Sodium	(Na^{+1})	1470	33700
Iron (total)	(Fe^{+2})	1.74	48.7
Barium	(Ba^{+2})	0.013	0.900
ANIONS:			
Bicarbonate	(HCO_3^{-1})	3.60	220
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	38.5	1850
Chloride	(Cl^{-1})	2620	93000
DISSOLVED GASES			
Carbon Dioxide	(CO_2)		110
Hydrogen Sulfide	(H_2S)		0

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	0.22	9.4

UNICHEM INTERNATIONAL
P.O. BOX 1499 707 NORTH LEECH STREET
HOBBS, NEW MEXICO 88240

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Zia Energy, Inc.
Box 2219
Hobbs , NM 88240

Report Date: April 22, 1991
Lab In Date: April 11, 1991
Sample Date: April 11, 1991

Dear Brian Nelson

Listed below please find our water analysis report from Simmons , #1 Tubb :

Specific Gravity:	1.018
Total Dissolved Solids:	24829
PH:	6.80
Ionic Strength:	.498

			mg/liter
CATIONS:			
	Calcium:	(Ca++)	1760
	Magnesium:	(Mg++)	437
	Sodium:	(Na+)	7106
	Iron (Total)	(Fe++)	5.80
	Barium	(Ba++)	.80
	Manganese:	(Mn++)	0.00
	Resistivity:		
ANIONS:			
	Bicarbonate:	(HCO3-)	220
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	307
	Chloride:	(Cl-)	15000
GASES:			
	Carbon Dioxide:	(CO2)	******
	Oxygen:	(O2)	******
	Hydrogen Sulfide:	(H2S)	******

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	-.09	-29.65
104F	40.0C	.16	-29.91
122F	50.0C	.41	-30.17
140F	60.0C	.69	-29.65
158F	70.0C	1.02	-28.61
176F	80.0C	1.36	-27.01

If you have any questions or require further information, please contact us.

Sincerely,

Charles Light
Laboratory Technician

cc:

bc: Joe Hay
John Offutt

.CHEM INTERNATIONAL
P.O. BOX 1499 707 NORTH LEECH STREET
HOBBS, NEW MEXICO 88240

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

Zia Energy, Inc.
Box 2219
Hobbs , NM 88240

Report Date: April 22, 1991
Lab In Date: April 11, 1991
Sample Date: April 11, 1991

Dear Brian Nelson

Listed below please find our water analysis report from Simmons , #1 Drinkard :

Specific Gravity:	1.102
Total Dissolved Solids:	142825
PH:	7.20
Ionic Strength:	2.782

			mg/liter
CATIONS:			
	Calcium:	(Ca++)	7360
	Magnesium:	(Mg++)	2333
	Sodium:	(Na+)	44485
	Iron (Total)	(Fe++)	31.00
	Barium	(Ba++)	.20
	Manganese:	(Mn++)	0.00
	Resistivity:		
ANIONS:			
	Bicarbonate:	(HCO3-)	146
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	501
	Chloride:	(Cl-)	88000
GASES:			
	Carbon Dioxide:	(CO2)	******
	Oxygen:	(O2)	******
	Hydrogen Sulfide:	(H2S)	******

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	.82	-21.09
104F	40.0C	1.03	-20.90
122F	50.0C	1.30	-20.43
140F	60.0C	1.60	-20.04
158F	70.0C	1.93	-20.03
176F	80.0C	2.31	-20.31

If you have any questions or require further information, please contact us.

Sincerely,

Sharon Wright

Sharon Wright
Laboratory Technician

cc:

bc: Joe Hay
John Offutt

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

UNICHEM INTERNATIONAL
P.O. BOX 1499 707 NORTH LEECH STREET
HOBBS, NEW MEXICO 88240

Zia Energy, Inc.
Box 2219
Hobbs , NM 88240

Report Date: May 30, 1991
Lab In Date: May 20, 1991
Sample Date: May 20, 1991

Dear Brian Nelson

Listed below please find our water analysis report from Flower , #1 :

Specific Gravity:	1.002
Total Dissolved Solids:	2377
PH:	7.70
Ionic Strength:	.046

			mg/liter
CATIONS:			
	Calcium:	(Ca++)	68
	Magnesium:	(Mg++)	85
	Sodium:	(Na+)	678
	Iron (Total)	(Fe++)	14.50
	Barium	(Ba++)	.70
	Manganese:	(Mn++)	.03
	Restivity:		
ANIONS:			
	Bicarbonate:	(HCO3-)	268
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	78
	Chloride:	(Cl-)	1200
GASES:			
	Carbon Dioxide:	(CO2)	******
	Oxygen:	(O2)	******
	Hydrogen Sulfide:	(H2S)	******

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	.36	-27.17
104F	40.0C	.68	-27.50
122F	50.0C	.83	-27.50
140F	60.0C	.96	-27.17
158F	70.0C	1.19	-26.14
176F	80.0C	1.39	-24.71

If you have any questions or require further information, please contact us.

Sincerely,

Sharon Wright
Laboratory Technician

cc:

bc: Joe Hay
John Offutt

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

...CHEM INTERNATIONAL
P.O. BOX 1499 707 NORTH LEECH STREET
HOBBS, NEW MEXICO 88240

Zia Energy, Inc.
Box 2219
Hobbs , NM 88240

Report Date: May 30, 1991
Lab In Date: May 20, 1991
Sample Date: May 20, 1991

Dear Brian Nelson

Listed below please find our water analysis report from Henson , #1 :

Specific Gravity:	1.002
Total Dissolved Solids:	2691
PH:	7.80
Ionic Strength:	.060

			mg/liter
CATIONS:			
	Calcium:	(Ca++)	156
	Magnesium:	(Mg++)	173
	Sodium:	(Na+)	542
	Iron (Total)	(Fe++)	1.60
	Barium	(Ba++)	.70
	Manganese:	(Mn++)	.05
	Restivity:		
ANIONS:			
	Bicarbonate:	(HCO3-)	268
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	352
	Chloride:	(Cl-)	1200
GASES:			
	Carbon Dioxide:	(CO2)	******
	Oxygen:	(O2)	******
	Hydrogen Sulfide:	(H2S)	******

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	.77	-23.41
104F	40.0C	1.10	-23.80
122F	50.0C	1.26	-23.80
140F	60.0C	1.40	-23.41
168F	70.0C	1.63	-22.36
176F	80.0C	1.84	-20.85

If you have any questions or require further information, please contact us.

Sincerely,

Sharon Wright
Laboratory Technician

cc:

bc: Joe Hay
John Offutt

Zia Energy, Inc.
Application For SWD Well
Simmons No. 2
SW-NE 5-22S-37E
Lea County, New Mexico

3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900

9 11 13 15
HOLE SIZE - INCHES
10 API/CD
− +
API 100 API

1' SPACING
100 85 70 55 40
Micro Seconds Per Foot
SPECIFIC ACOUSTIC TIME