PYRAMID ENERGY, INC.
Pacific Plaza
San Antonio
(512) 494-0406

August 2, 1991

State of New Mexico
Energy Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, New Mexico 87501-2088

Gentlemen:

Attached is Form C-108, "Application for Authorization to Inject", along with information required for administrative approval by the Oil Conservation Division. Pyramid Energy, Inc., is requesting permission to expand existing authority to include West Pearl Queen Unit Well Nos. 109, 110, 119, 121, 123, 124, 126, 128, 138, 139, 141, 143, 145, 147, and 149.

Of the 15 proposed well conversions, six (Well Nos. 110, 123, 138, 141, 145, and 147) will entail re-entering plugged and abandoned wellbores. Of the six re-entries, three of the wells (Nos. 110, 123, and 138) were active injection wells prior to being plugged.

If you have any questions, or need additional information, please call me at (512) 490-5000.

Sincerely,

Scott Graef
Production Engineer

SG/3/41/mmc

Attachments

PYRAMID ENERGY, INC.
Pacific Plaza • 14100 San Pedro, Suite 700
San Antonio, Texas 78232 • (512) 490-5000

August 2, 1991

Oil Conservation Division
District I Office
P. O. Box 1980
Hobbs, New Mexico 88240

Gentlemen:

Attached is Form C-108, "Application for Authorization to Inject", along with information required for administrative approval by the Oil Conservation Division. Pyramid Energy, Inc., is requesting permission to expand existing authority to include West Pearl Queen Unit Well Nos. 109, 110, 119, 121, 123, 124, 126, 128, 138, 139, 141, 143, 145, 147, and 149.

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If you have any questions, or need additional information, please call me at (512) 490-5000.

Sincerely,

Scott Graef

Scott Graef
Production Engineer

SG/3/41/mmc

Attachments

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: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [X] yes [ ] no

II. Operator: Pyramid Energy, Inc.

Address: 14100 San Pedro, Suite 700, San Antonio, Texas 78232

Contact party: Scott Graef Phone: 512/490-5000

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? [X] yes [ ] no
If yes, give the Division order number authorizing the project R-2729.

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: Scott Graef Title Engineer

Signature: Scott Graef Date: August 2, 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.

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.

PYRAMID ENERGY, INC.
Pa[illegible] Pla[illegible]
S[illegible]ant[illegible]
(512) 494-0406

August 2, 1991

Re: Application for Conversion to
Water Injection of WPQU #109,
WPQU #110, WPQU #119, WPQU #121,
WPQU #123, WPQU #124, WPQU #126,
WPQU #128, WPQU #138, WPQU #139,
WPQU #141, WPQU #143, WPQU #145,
WPQU #147, and WPQU #149
NMOCD Form C-108 Section XII

I hereby state that I have evaluated information derived from logs, well files, and other available geologic and engineering data, concerning the captioned wellbores and other wellbores in the area of interest. I have found no evidence of open faults or any other hydrologic connection between the water injection zones in the Queen formation and any underground source of drinking water.

PYRAMID ENERGY, INC.

Scott Graef
Production Engineer

SG/3/45/mmc

STATE OF TEXAS §
§
COUNTY OF BEXAR §

This letter was acknowledged before me on the 2nd day of August, 1991, by Scott Graef, Production Engineer for Pyramid Energy, Inc., a Delaware corporation, on behalf of said corporation.

Notary Public, State of Texas
Commission Expires: 7/31/93

WEST PEARL QUEEN UNIT

APPLICATION FOR AUTHORIZATION TO INJECT

Surface Owners

Alta Faye Klein
P. O. Box 1503
Hobbs, New Mexico 88240

Leo Sims
119 N. Dalmont
Hobbs, New Mexico 88240

State of New Mexico
c/o State Land Office
P. O. Box 1148
Santa fe, New Mexico 87504-1148

Offset Operator

Chevron, U.S.A., Inc.
P. O. Box 670
Hobbs, New Mexico 88240
Attention: Clint Morrill

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

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

of

ONE weeks.

Beginning with the issue dated

August 4, 19 91

and ending with the issue dated

August 4, 19 91

Kathi Bearden
General Manager

Sworn and subscribed to before

me this day of

, 19

Notary Public.

My Commission expires

, 19
(Seal)

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

LEGAL NOTICE
August 4, 1991
NOTICE OF APPLICATION FOR AUTHORIZATION TO INJECT FLUID

Pyramid Energy, Inc., 14100 San Pedro, Suite 700, San Antonio, Texas 78232, (512) 490-5000 (Applicant), proposes to inject water into the following proposed water injection wells in the West Pearl Queen Unit, Lea County, New Mexico:

WPQU	#109	(Section 28, T-19-S, R-35-E)
WPQU	#110	(Section 29, T-19-S, R-35-E)
WPQU	#119	(Section 29, T-19-S, R-35-E)
WPQU	#121	(Section 28, T-19-S, R-35-E)
WPQU	#123	(Section 28, T-19-S, R-35-E)
WPQU	#124	(Section 28, T-19-S, R-35-E)
WPQU	#126	(Section 28, T-19-S, R-35-E)
WPQU	#128	(Section 29, T-19-S, R-35-E)
WPQU	#138	(Section 32, T-19-S, R-35-E)
WPQU	#139	(Section 32, T-19-S, R-35-E)
WPQU	#141	(Section 33, T-19-S, R-35-E)
WPQU	#143	(Section 33, T-19-S, R-35-E)
WPQU	#145	(Section 33, T-19-S, R-35-E)
WPQU	#147	(Section 33, T-19-S, R-35-E)
WPQU	#149	(Section 32, T-19-S, R-35-E)

Water will be injected into the Queen Formation at an approximate depth of 4650' with a mixmum pressure of 2000 psi at a maximum rate of 500 barrels per day. The purpose of the proposed water injection wells is secondary recovery of oil through waterflooding. 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. Contact party for Applicant is Scott Graef, Engineer, (512) 490-5000.

PYRAMID ENERGY, INC.
Pacific Plaza • 14100 San Pedro, Suite 700
San Antonio, Texas 78232 • (512) 490-5000 • FAX: (512) 494-0406

August 2, 1991

Chevron, U.S.A., Inc.
P. O. Box 670
Hobbs, New Mexico 88240

Attention: Mr. Clint Morrill

Re: Offset Operators Notification of Application for Authorization to Inject into WEST PEARL QUEEN UNIT Well Nos. 109, 110, 119, 121, 123, 124, 126, 128, 138, 139, 141, 143, 145, 147, and 149

Mr. Morrill:

Pyramid Energy, Inc. is seeking to expand its authority to inject saltwater into the captioned wells. We are required to furnish all offset operators a copy of the application in accordance with Section XIV of NMOCD Form C-108. Please find attached your copy of the application. If you wish to object or request a hearing, you must do so with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days. Should you have questions or require additional information, please feel free to contact me at (512) 490-5000.

Sincerely,

Scott Graef

Scott Graef
Production Engineer

SG/3/42/mmc

Attachment

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

CHEVRON USA INC
PO BOX 670
HOBBS NM 88240

4. Article Number

P 505 161 384

Type of Service:

- ☒ Registered
- ☒ Certified
- ☐ Express Mail
- ☐ Insured
- ☐ COD
- ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee

X

6. Signature — Agent

X

7. Date of Delivery

8. Addressee's Address *(ONLY if requested and fee paid)*

[redacted]-7

SG/Prod/WP[redacted]notice

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

PYRAMID ENERGY, INC.
Pacific Plaza • 14100 San Pedro, Suite 700
San Antonio, Texas 78232 • (512) 490-5000

August 2, 1991

Mr. Leo Sims
119 N. Dalmont
Hobbs, New Mexico 88240

Re: Surface Owners Notification of Application for Authorization to Inject into WEST PEARL QUEEN UNIT Well Nos. 109, 110, 119, 121, 123, 124, 126, 128, 138, 139, 141, 143, 145, 147, and 149

Dear Mr. Sims:

Pyramid Energy, Inc. is seeking to expand its authority to inject saltwater into the captioned wells. We are required to furnish the surface land owners a copy of the application in accordance with Section XIV of NMOCD Form C-108. Please find attached your copy of the application. If you wish to object or request a hearing, you must do so with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days. Should you have questions or require additional information, please feel free to contact me at (512) 490-5000.

Sincerely,

Scott Graef

Scott Graef
Production Engineer

SG/3/41/mmc

Attachment

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

LEO SIMS
119 N DALMONT
HOBBS NM 88240

4. Article Number

P 505 161 381

Type of Service:

- ☐ Registered
- ☐ Insured
- ☒ Certified
- ☐ COD
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee

X Leo Sims

6. Signature — Agent

X

7. Date of Delivery 8-5-9

8. Addressee's Address *(ONLY if requested and fee paid)*

WPQU
SG/Prod/Notice to sur. owr

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

PYRAMID ENERGY, INC.
Pacific Plaza • 14100 San Pedro, Suite 700
San Antonio, Texas 78232 • (512) 490-5000

August 2, 1991

Mrs. Alta Faye Klein
P. O. Box 1503
Hobbs, New Mexico 88240

Re: Surface Owners Notification of Application for Authorization to Inject into WEST PEARL QUEEN UNIT Well Nos. 109, 110, 119, 121, 123, 124, 126, 128, 138, 139, 141, 143, 145, 147, and 149

Dear Mrs. Klein:

Pyramid Energy, Inc. is seeking to expand its authority to inject saltwater into the captioned wells. We are required to furnish the surface land owners a copy of the application in accordance with Section XIV of NMOCD Form C-108. Please find attached your copy of the application. If you wish to object or request a hearing, you must do so with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days. Should you have questions or require additional information, please feel free to contact me at (512) 490-5000.

Sincerely,

Scott Graef

Scott Graef
Production Engineer

SG/3/41/mmc

Attachment

SENDER: Complete items 1 and 2 when additional services are desired, and complete item 3 and 4.

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1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

ALTA FAYE KLEIN
PO BOX 1503
HOBBS NM 88240

4. Article Number

P 505 161 382

Type of Service:

- ☐ Registered
- ☐ Insured
- ☒ Certified
- ☐ COD
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee

X Alta Faye Klein

6. Signature — Agent

X

7. Date of Delivery

8-5-91

8. Addressee's Address *(ONLY if requested and fee paid)*

WPQU
SG/Prod/Notice to sur. own

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

PYRAMID ENERGY, INC.
Pacific Plaza • 14100 San Pedro, Suite 700
San Antonio, Texas 78232 • (512) 490-5000

August 2, 1991

State of New Mexico
c/o State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

Attention: Jamie Bailey

Re: Surface Owners Notification of Application for Authorization to Inject into WEST PEARL QUEEN UNIT Well Nos. 109, 110, 119, 121, 123, 124, 126, 128, 138, 139, 141, 143, 145, 147, and 149

Ladies and Gentlemen:

Pyramid Energy, Inc. is seeking to expand its authority to inject saltwater into the captioned wells. We are required to furnish the surface land owners a copy of the application in accordance with Section XIV of NMOCD Form C-108. Please find attached your copy of the application. If you wish to object or request a hearing, you must do so with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days. Should you have questions or require additional information, please feel free to contact me at (512) 490-5000.

Sincerely,

Scott Graef

Scott Graef
Production Engineer

SG/3/41/mmc

Attachment

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

STATE OF NEW MEXICO
c/oSTATE LAND OFFICE
PO BOX 1148
SANTA FE NM 87504-1148

4. Article Number

P 505 161 383

Type of Service:

- ☐ Registered
- ☐ Insured
- ☒ Certified
- ☐ COD
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee

X Mike L

6. Signature — Agent

X

7. Date of Delivery

SANTA FE, NM 87 AUG 1991 USPS

8. Addressee's Address *(ONLY if requested and fee paid)*

SG/Prod/WPQU Notice

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

DATA ON THE PROPOSED OPERATION

Proposed Injection Volume: Average - 400 barrels/day
Maximum - 500 barrels/day

Proposed Injection Pressure: Average - 1700 PSI at surface
Maximum - 2000 PSI at surface

Injection System is closed.

Sources of injection fluid are produced saltwater and freshwater purchased from Marathon Road Water Station. The appropriate chemical analysis is included.

Injection is into a zone productive of oil and gas.

No stimulation program is proposed on the wells to be converted.

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

Martin Water Laboratories, Inc.

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

RESULT OF WATER ANALYSES

LABORATORY NO. 129064

TO: Mr. Scott Graef
[illegible] San Pedro, Suite 700, San Antonio, TX 78232

SAMPLE RECEIVED 12-5-90

RESULTS REPORTED 12-12-90

COMPANY Pyramid Energy LEASE West Pearl Queen Unit

FIELD OR POOL Pearl

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Supply water - taken from raw water line. 12-5-90

NO. 2 Produced water - taken from free water knockout. 12-5-90

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0012	1.1068		
pH When Sampled	7.5	6.3		
pH When Received	7.93	5.95		
Bicarbonate as HCO_3	171	549		
Supersaturation as $CaCO_3$	4	30		
Undersaturation as $CaCO_3$	--	--		
Total Hardness as $CaCO_3$	115	40,000		
Calcium as Ca	34	9,000		
Magnesium as Mg	8	4,253		
Sodium and/or Potassium	46	43,465		
Sulfate as SO_4	33	1,787		
Chloride as Cl	28	93,745		
Iron as Fe	7.3	21.2		
Barium as Ba	0	0		
Turbidity, Electric	14	88		
Color as Pt	10	89		
Total Solids, Calculated	318	152,799		
Temperature °F.	48	56		
Carbon Dioxide, Calculated	9	450		
Dissolved Oxygen,	0.010	0.000		
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	27.05	0.068		
Suspended Oil	1	288		
Filtrable Solids as mg/l	6.6	38.0		
Volume Filtered, ml	2,000	1,490		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks Letter of recommendation attached.

Form No. 3

cc: Mr. Steve DeVilbiss, Charlotte

By _____

Waylan C. Martin, M.A.

Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

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

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

To: Mr. Scott Graef
14100 San Pedro, Suite 700
San Antonio, TX 78232

Laboratory No. B12903
Sample Received 12-5-90
Results reported 12-12-90

Company: Pyramid Energy
County: Lea, NM
Field: Pearl
Lease: West Pearl Queen Unit

Source of sample and date taken:
#1. Supply water - taken from raw water line. 12-5-90

	#1
Iron bacteria	Not detected
Sulfur bacteria	Not detected
Sulfate-reducing bacteria	Not detected
Other aerobes	2,800
Other anaerobes	900
Fungi (& aciduric bacteria)	Not detected
Algae	Not detected
Protozoa	Not detected
Total count	3,700
pH	7.5
Temperature	48

Note: All numerical results are reported as the number of cells per milliliter of the sample as determined by plate counts; except iron, algae, and protozoa, which are determined microscopically.

Remarks: Letter of recommendation attached.

Waylan C. Martin, M.A.

cc: Mr. Steve DeVilbiss, Charlotte

Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

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

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

December 12, 1990

Mr. Scott Graef
Pyramid Energy
14100 San Pedro, Suite 700
San Antonio, TX 78232

Subject: Recommendations relative to laboratory #129064 and #B12903 (12-5-90) - West Pearl Queen Unit.

Dear Mr. Graef:

The primary objective herein is to evaluate compatibility between the two waters represented for potential mixing and injecting. Secondarily, we have reviewed the records regarding possible other significant aspects of the handling of the mixture of these waters.

Those aspects of this study relative to the above objective are as follows:

1. The results of the analyses represented herein have revealed no evidence of any potential incompatibility between these two waters. Our only concern in this regard would be that we normally encounter some oxygen in supply waters in this general area and therefore feel this is an aspect that would warrant close observation regarding the continuity of the absence of oxygen in the supply water. The reason for this is that oxygen would create precipitation of iron oxide due to the soluble iron that we have encountered in both waters in these analyses.

2. The injection quality of each of these waters is considered reasonably satisfactory in that our microscopic study of the filtrable solids showed them to be composed of very fine particles. We do not generally consider the amount of oil encountered to be excessive for a free water knockout water although it would be well to closely observe vessels that are subsequently handling this water as there would be an ultimate accumulation of oil on top of the vessels.

3. We note in this study that the produced water is slightly over the saturation point to calcium sulfate. This is not sufficient to indicate that scaling can be expected from this source, but it is sufficient to warrant some future observation in this regard. It should further be added that mixing of the waters will essentially eliminate this condition. We see no suggestion that there would be any other potential scaling from any other source.

4. The results indicate that each of these individual waters as well as the mixture would be expected to have a moderate corrosion rate. However, it would be considered sufficient to warrant consideration of linings in the system as a justified investment. The produced water would be expected to have a dissolving influence as a result of the combination of a low pH and carbon dioxide. This would be aggravated by electrolysis. This would be expected to be the principal source of corrosion in the mixed water as well.

5. The bacterial results of the supply water showed no evidence of any significant activity in this water. We would also not expect any likelihood of excessive bacterial activity in the produced water. Of course, this activity would hinge principally on the effective prevention of air contamination.

6. It is considered very vital in building the injection plant that a concentrated effort be applied to the utilization of gas seals and other action that would effectively maintain this system completely free of air contamination from the source of the waters through the injection pumps. Air contamination would primarily result in precipitation of iron oxide, but it would also significantly accelerate corrosion and cause potential bacterial activity.

In the above review, we have attempted to cover those aspects of the individual waters and their mixtures that we consider of primary significance on the basis of this single study. We would strongly recommend that an early study be planned when the system is put into operation to confirm the conditions we have encountered herein and identify any that we have not anticipated. This will be a relatively sensitive system because of its sensitivity to air contamination as well as other normal unexpected developments that occur. We would therefore recommend a Quality Control Surveillance Program be set up to examine the water at intervals of every one to three months to obtain optimum water quality and control of handling conditions.

Very truly yours,

Waylan C. Martin

WCM/rr

cc: Mr. Steve DeVilbiss, Charlotte

CHEMICAL ANALYSIS OF FRESH WATER

The closest known active water well is more than one mile away from the nearest of the proposed injection wells. The water well is located 750 FSL and 1020 FWL of Section 22, T-19-S, R-35-E. Attached is a chemical analysis of the water.

P.O.BOX 2187
HOBBS, N.M. 88240

Champion Technologies, Inc.

PHONE: (505) 393-7726

W A T E R A N A L Y S I S R E P O R T

Report for: ALLEN SHORT
cc:
cc:
cc:
Company: PYRAMID
Address:
Service Engineer: JOEL NUCKOLS

Date sampled: 3-7-91
Date reported: 3-10-91
Lease or well # : FAYE CLINE W/W
County: State:
Formation:
Depth:
Submitted by: ALLEN SHORT

CHEMICAL COMPOSITION :	mg/L	meq/L
Chloride (Cl)	100	3
Iron (Fe) (total)	0.0	
Total hardness	320	
Calcium (Ca)	80	4
Magnesium (Mg)	29	2
Bicarbonates (HCO3)	378	6
Carbonates (CO3)	n/a	
Sulfates (SO4)	66	1
Hydrogen sulfide (H2S)	n/a	
Carbon dioxide (CO2)	n/a	
Sodium (Na)	93	4
Total dissolved solids	747	
Barium (Ba)	n/a	
Strontium (Sr)	n/a	

Specific Gravity	1.000
Density (#/gal.)	8.334
pH	7.200
IONIC STRENGTH	0.01

Stiff-Davis (CaCO3) Stability Index :
SI = pH - pCa - pAlk - K

SI @ 86 F = +0.54
104 F = +0.76
122 F = +0.99
140 F = +1.23
158 F = +1.47

This water is 2357 mg/l (%-100.00%) under ITS CALCULATED CaSO4 saturation value at 82 F.
SATURATION= 2357 mg/L PRESENT= 0 mg/L

REPORTED BY MOSES GARCIA JIMENEZ

LAB TECHNICIAN

GEOLOGICAL DATA ON THE INJECTION ZONE

Lithologic Detail: Dolomite, Sandstone, and Shale

Geologic Name: Queen

Thickness: 4300'-5000'

Average Depth to Porosity: 4650'

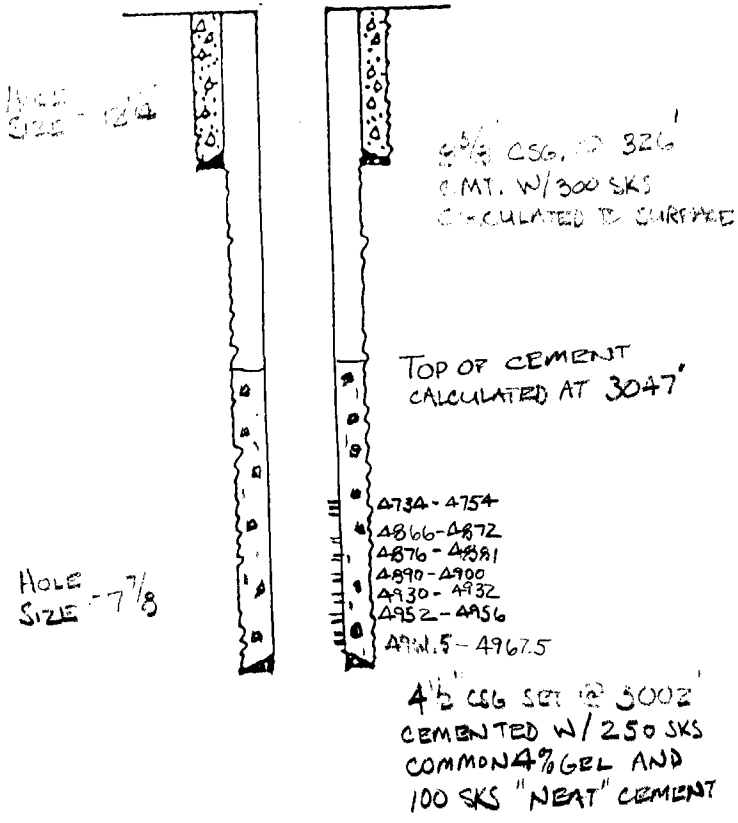
Underground source of drinking water overlying the injection zone in the proposed area is the Ogallala at an average depth of 50'.

The calculation of cement top for the production string on the attached sheets used an average hole diameter of 8 1/2". This average hole size was determined from calipher measurements on openhole logs run in ten new wells drilled on the East and West Pearl Queen Units in the last year.

INJECTION WELL DATA SHEET SIDE 1

OPERATOR	LEASE			
PYRAMID ENERGY, INC.	WEST PENAL QUEEN UNIT			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
109	1980' FNL & 660' FWL	28	T-19-S	R-35-E

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 300 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2" Cemented with 250 SKS. COMMON 4% GEL (YIELD 1.69 ft^3/SK) & 100 SKS NEAT (1.32 ft^3/SK) sx.

TOC 3047 feet determined by CALCULATED

Hole size 7 7/8

Total depth 5002'

Injection interval

4734 feet to 4967.5 feet

(perforated or open-hole, indicate which)

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4700 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

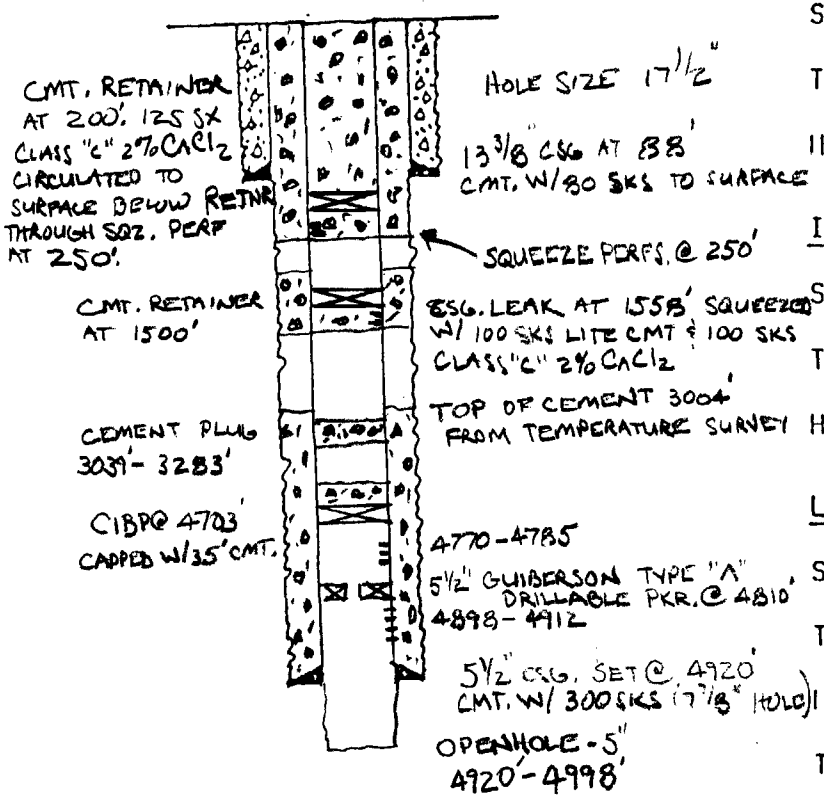
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) NONE

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

OPERATOR	LEASE			
PYRAMID ENERGY, INC.	WEST PEARL QUEEN UNIT			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
110	1980 FNL & 660' FEL	29	T-19-S	R-35-E

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Cemented with 80 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 17 1/2"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5 1/2" Cemented with 300 sx.

TOC 3004' feet determined by TEMP. SURVEY

Hole size 7 7/8

Total depth CSG AT 4920', OPENHOLE 4920' TO 4998'

Injection interval

PERFORATED 4770' feet to 4912' feet

(perforated or open-hole, indicate which)

OPENHOLE 4920-4998'

Tubing size _____ lined with _____ (material) set in a

_____ (brand and model) packer at _____ feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation _____

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

3. Is this a new well drilled for injection? /7 Yes /7 No

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

   _____

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) _____

   _____

   _____

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. _____

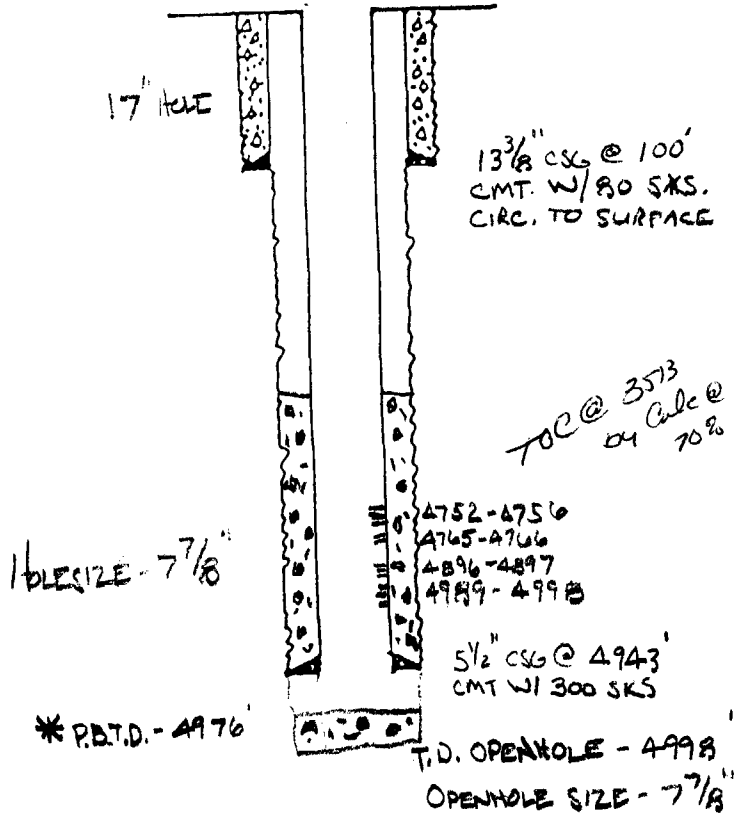
   _____

   _____

INJECTION WELL DATA SHEET SIDE 1

OPERATOR	LEASE			
PYRAMID ENERGY, INC.	WEST PEARL QUEEN UNIT			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
119	1980 FSL & 660 FEL	29	T-19-S	R-35-E

Schematic



* CEMENT AND GRAVEL AT PBTD 4976' WILL BE DRILLED OUT TO ORGINAL T.D. OF 4998'

Tabular Data

Surface Casing

Size 13 3/8" Cemented with 80 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 17"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5 1/2" Cemented with 300 (YIELD-1.32 A3) sx.

TOC _____ feet determined by CALCULATION

Hole size 7 7/8"

Total depth 4998'

Injection interval PERFORATED

4752 feet to 4998 feet

(perforated or open-hole, indicate which)

OPENHOLE 4943 TO 4998

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER "AD-1" OR EQUIVALENT (brand and model) packer at 4700 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

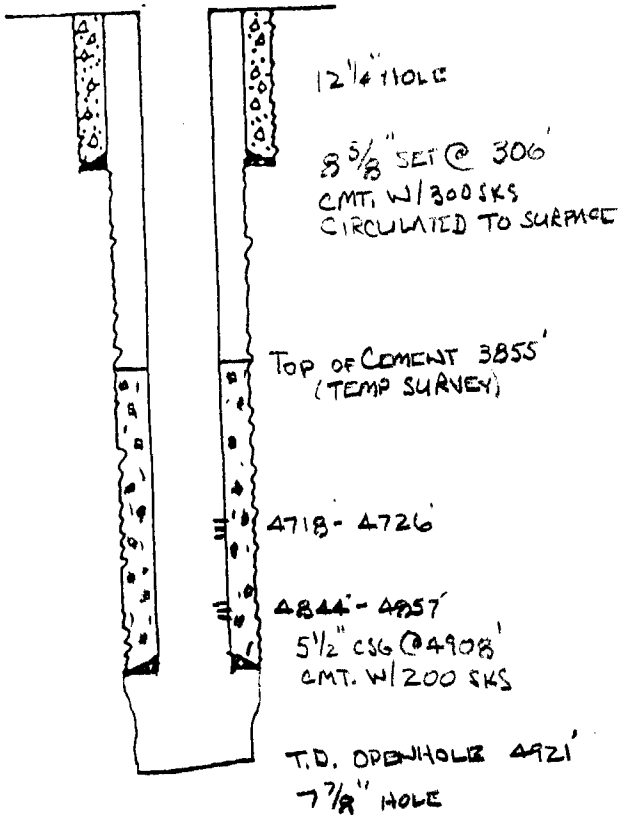
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

OPERATOR	LEASE			
PYRAMID ENERGY, INC.	WEST PEARL QUEEN UNIT			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
121	1980 FSL & 1980 FWL	28	T-19-S	R-35-E

Schematic



Tabular Data

Surface Casing

Size 8 5/8 " Cemented with 300 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5 1/2 " Cemented with 100 SKS "H" NEAT (YIELD = 1.32 ft³/SK) 100 SKS 4% GEL (YIELD = 1.69 ft³/SK) (3 x TOTAL)

TOC 3855' feet determined by TEMP. SURVEY

Hole size 7 7/8

Total depth 4921

Injection interval PERFORATED

4718 feet to 4857 feet
(perforated or open-hole, indicate which)
OPENHOLE 4908 - 4921

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4675 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

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

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

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) NO

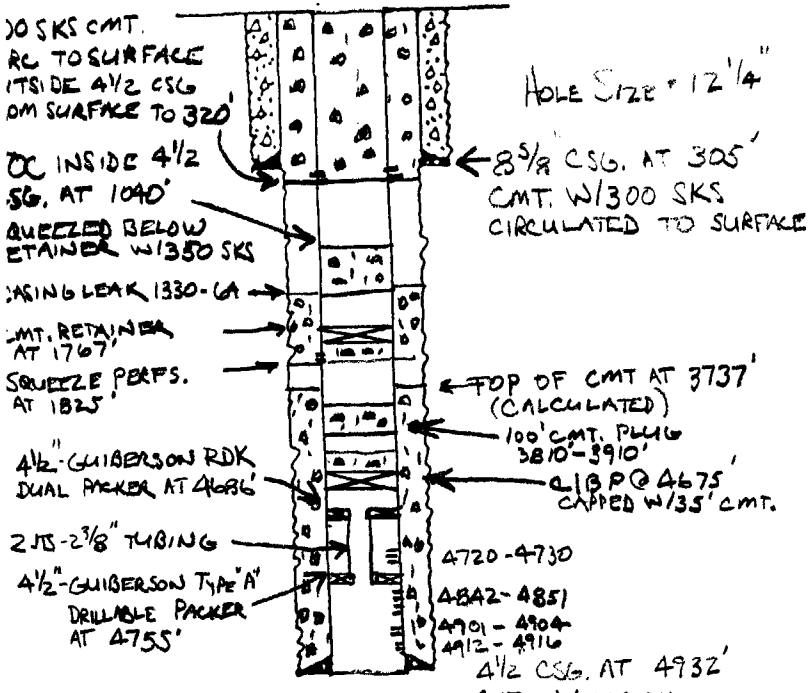
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES WEST - 5600

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. — OPERATOR
WEST PEARL QUEEN UNIT — LEASE

123	990' FSL & 660' FEL	28	T-35-E	R-19-S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



THE CAPTIONED WELL WAS AN INJECTION WELL PRIOR TO BEING P&A 2/13/81. PYRAMID PROPOSES TO RE-ENTER THE WELLBORE AND CLEANOUT ALL CMT, PLUGS PACKERS, ETC. TO T.D.

Tabular Data

Surface Casing

Size 8 5/8" Cemented with 300 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4

Intermediate Casing

Size NONE" Cemented with ____ sx.

TOC ____ feet determined by ____

Hole size ____

Long string

Size 4 1/2" Cemented with 100 SKS "C" 6% GEL & 100 SKS "C" 2% GEL sx.

TOC 3737 feet determined by CALCULATION

Hole size 7 7/8

Total depth 4932

Injection interval

4720 feet to 4916 feet
(perforated or open-hole, indicate which)

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4675' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

   If no, for what purpose was the well originally drilled? ORGINALLY DRILLED FOR OIL PRODUCTION

   CONVERTED TO INJECTION 3/12/65, PLUGGED AND ABANDONED 2/13/81

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) NO

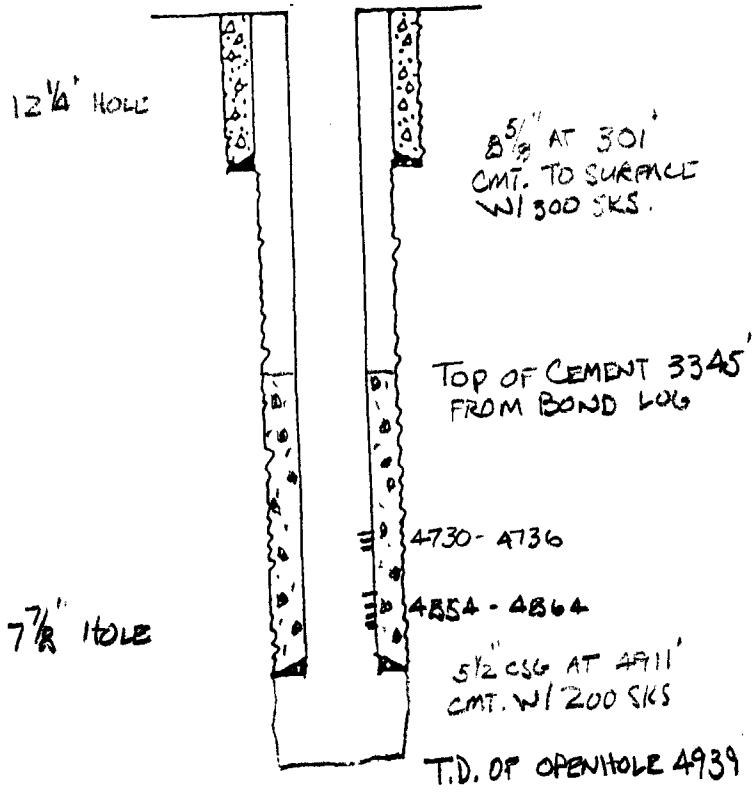
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

124	6600' FSL & 1980' FEL	28	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 300 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE" Cemented with ____ sx.

TOC ____ feet determined by ____

Hole size ____

Long string

Size 5 1/2" Cemented with 200 sx.

TOC 3345 feet determined by BOND LOG

Hole size 7 7/8

Total depth 4939

Injection interval PERFORATED

4730 feet to 4864 feet
(perforated or open-hole, indicate which)
OPENHOLE 4911 TO 4939

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4700' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN

2. Name of Field or Pool (if applicable) PEARL QUEEN

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

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

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) NO

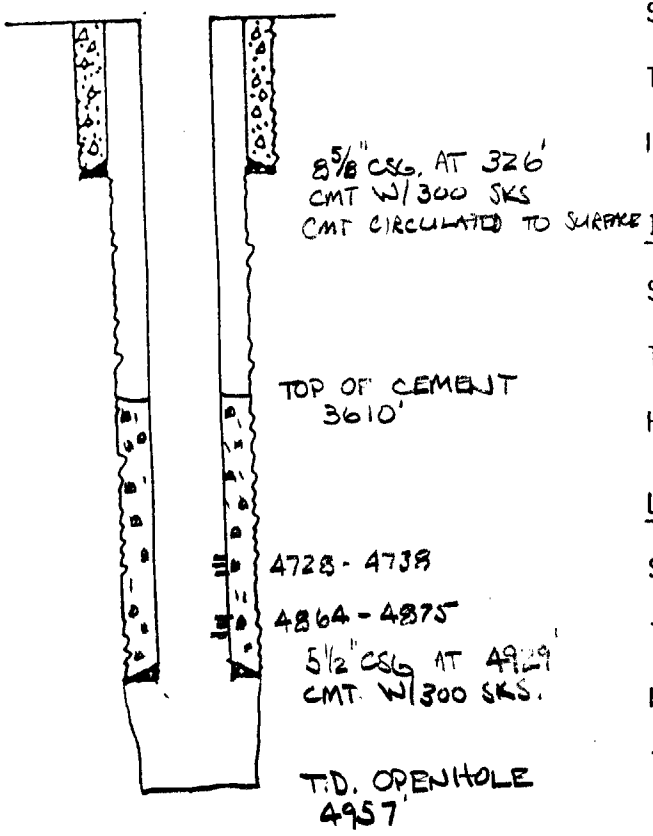
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES WEST -5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

126	660' FSL & 660' FWL	28	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 300 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5 1/2" Cemented with 300 sx.

TOC 3610 feet determined by TEMPERATURE SURVEY

Hole size 7 7/8"

Total depth 4957

Injection interval PERFORATED

4728 feet to 4875 feet
(perforated or open-hole, indicate which)
OPENHOLE 4929 - 4957

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4700' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN

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? OIL PRODUCTION

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) NO

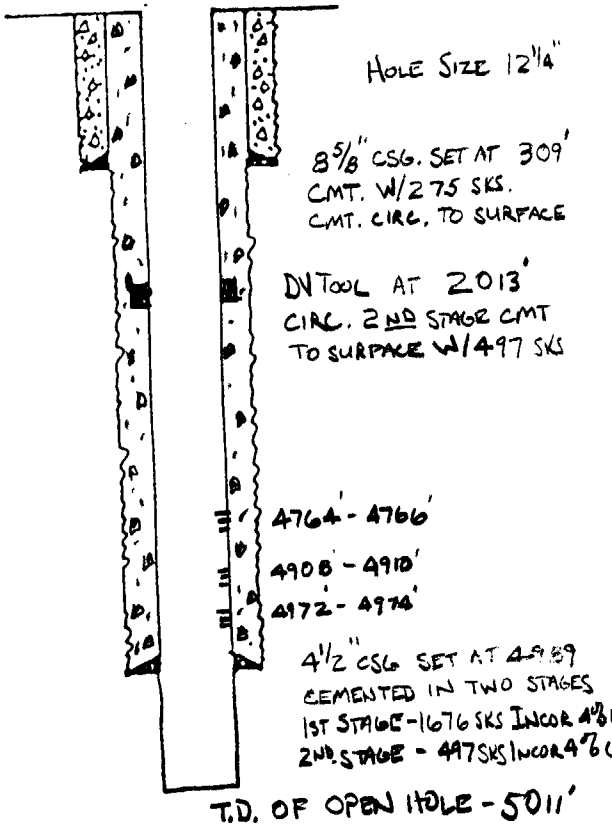
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

128	660 FSL & 1980 FEL	29	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 275 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 ¼"

Intermediate Casing

Size NONE" Cemented with ____ sx.

TOC ____ feet determined by ____

Hole size ____

Long string

Size 4½" Cemented with ____ sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 7⅞"

Total depth 5011'

Injection interval PERFORATED

4764' feet to 4974 feet

(perforated or open-hole, indicate which)

OPENHOLE 4989-5011

Tubing size 2 3/8 lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4740 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

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

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

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) NO

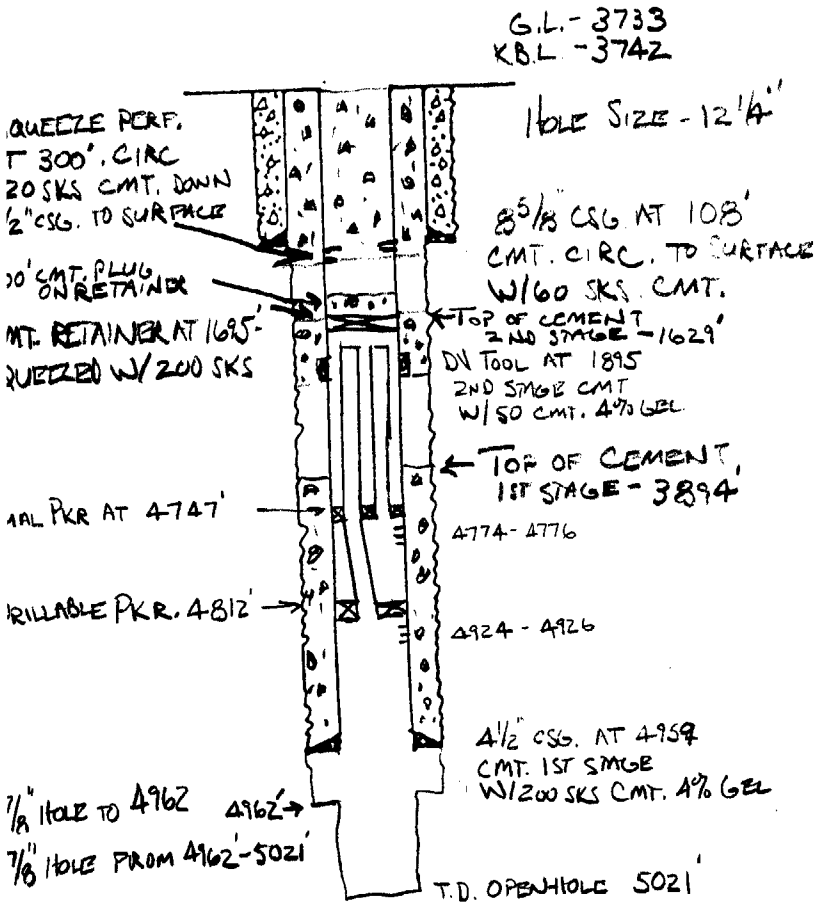
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

RIRAMID ENERGY, INC. — OPERATOR
WEST PEARL QUEEN UNIT — LEASE

138	660 FNL & 1980 FEL	32	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



WELL WAS P&A 1-28-77. RIRAMID PROPOSES TO DRILL & CLEAN OUT ALL CEMENT, RETAINERS,

Tabular Data

Surface Casing

Size 8 5/8" Cemented with 60 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2" Cemented with 2ND STAGE - 50 / 1ST STAGE - 200 sx. INCOR 4% GEL YIELD - 1.51 cu ft/SK

2ND STAGE - 1629

TOC 1ST STAGE - 3894 feet determined by CALCULATED

Hole size 7 7/8"

Total depth 5021

Injection interval PERFORATED

4774 feet to 4959 feet
(perforated or open-hole, indicate which)
OPEN-HOLE 4952' - 5021'

INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4750 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

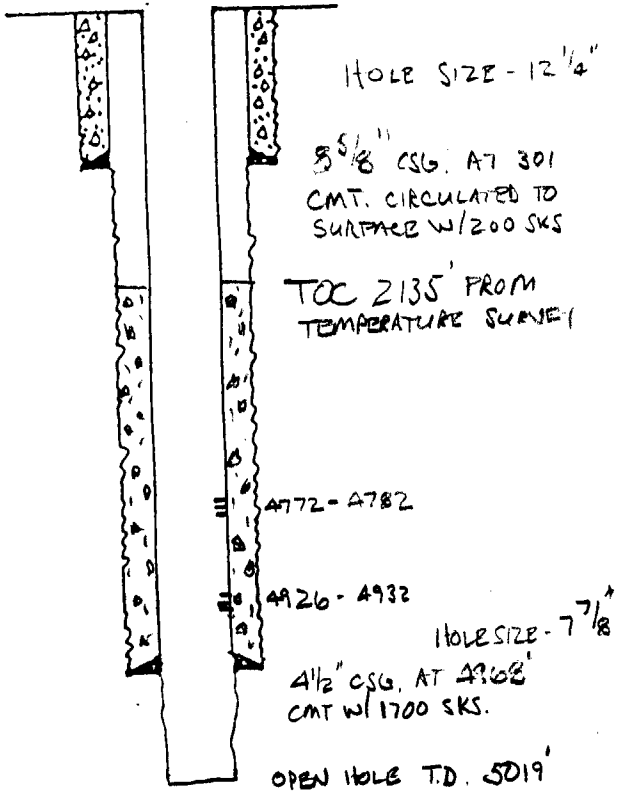
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. — OPERATOR
WEST PENROSE QUEEN UNIT — LEASE

139	660 FNL & 660 FEL	32	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 200 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4968" Cemented with 1700 sx.

TOC 2135 feet determined by TEMPERATURE SURVEY

Hole size 7 7/8

Total depth 5019

Injection interval PERFORATED

4772 feet to 4932 feet
(perforated or open-hole, indicate which)

OPEN HOLE 4968 - 5019

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 (brand and model) packer at 4725 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

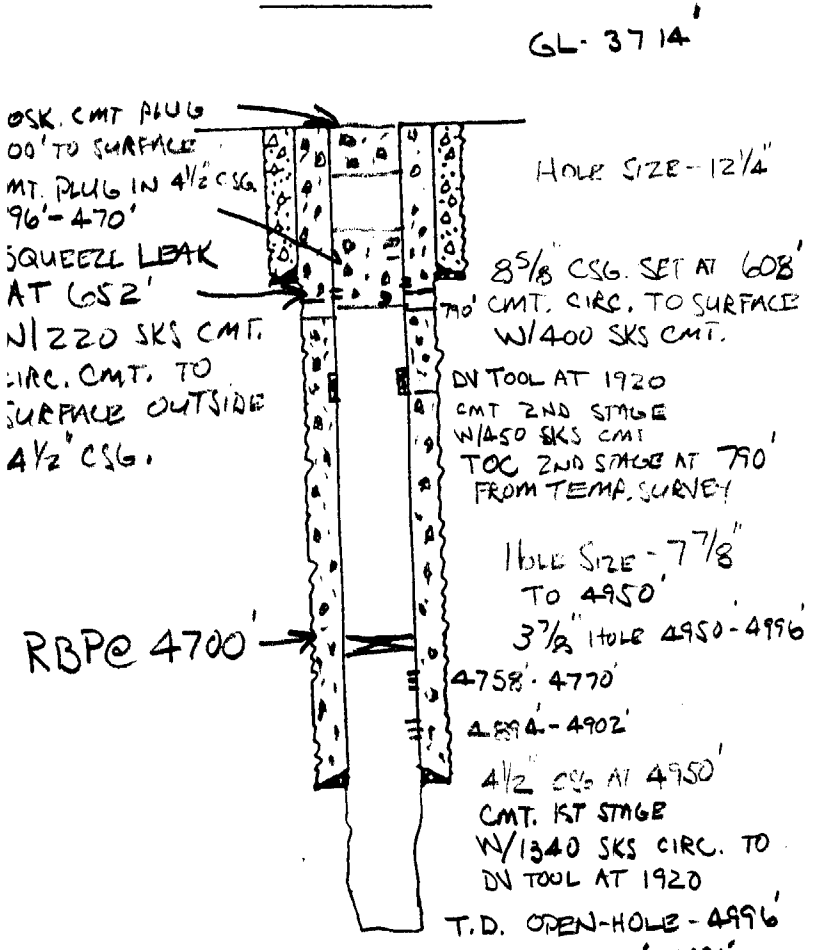
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

141	660 FNL & 1980 FWL	33	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



WELL WAS P & A 7/27/83.

Tabular Data

Surface Casing

Size 8 5/8" Cemented with 400 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12¼"

Intermediate Casing

Size NONE" Cemented with ____ sx.

TOC ____ feet determined by ____

Hole size ____

Long string

Size 4½" (790'-2ND STAGE) Cemented with 1340-1ST STAGE / 450 SKS-2ND STAGE sx.

TOC 1920' (DV TOOL) - 1ST STAGE feet determined by TEMPERATURE SURVEY

Hole size 7⅞

Total depth 4996'

Injection interval PERFORATED

4758 feet to 4902 feet

(perforated or open-hole, indicate which)

OPEN-HOLE 4950'-4996'

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUNALENT (brand and model) packer at 4725 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

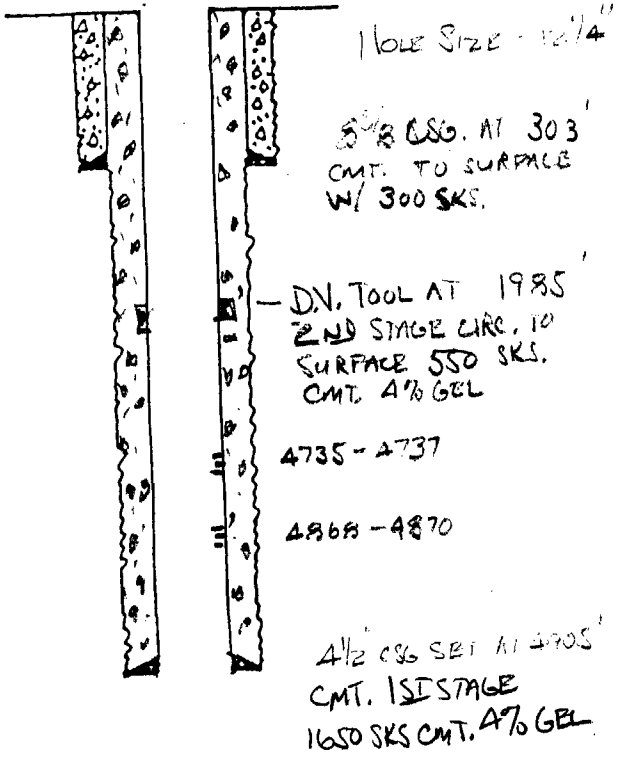
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST- 5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

143	660' FNL & 660 FEL	33	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 300 sx.

TOC SURFACE feet oetermined by CIRCULATION

Hole size 12 1/4"

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2" Cemented with 1ST STAGE 1650 SKS CMT. 4% GEL 2ND STAGE 550 SKS CMT. 4% GEL sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 7 7/8

Total depth 4905

Injection interval

4735 feet to 4870 feet

(perforated or open-hole, indicate which)

Tubing size 2 3/8 lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4700' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

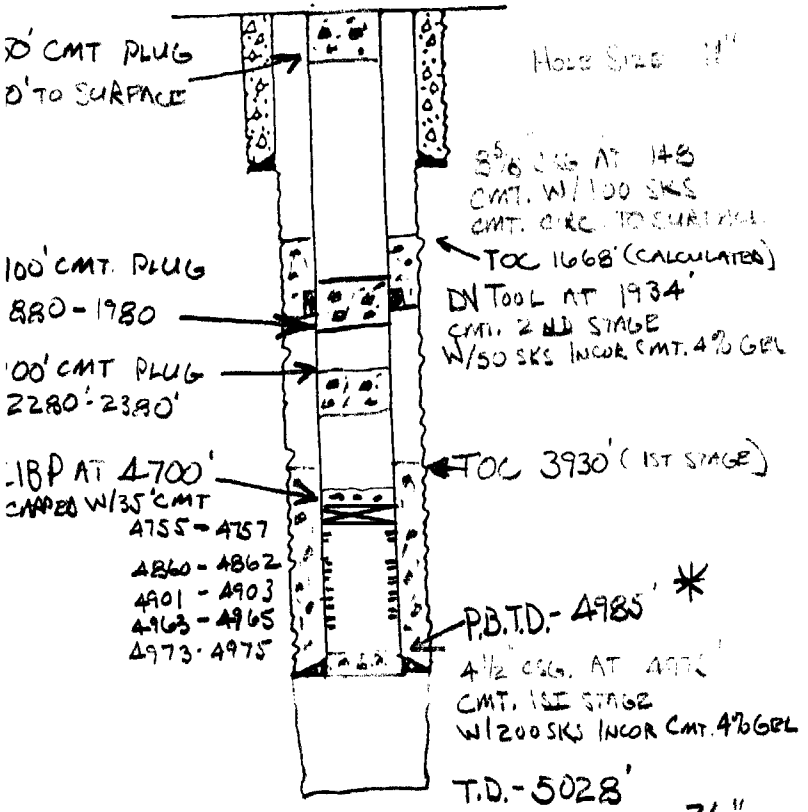
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

RIRAMID ENERGY, INC. — OPERATOR
WEST PEARL QUEEN UNIT — LEASE

145	1980 FNL & 1980 FEL	33	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



* WELL WAS P&A 2/2/81.
RIRAMID PROPOSED TO DRILL OUT ALL PLUGS AND CLEAN WELL OUT TO ORGINAL TD-5028'

Tabular Data

Surface Casing

Size 8⅝" Cemented with 100 sx.
TOC SURFACE feet oetermined by CIRCULATION
Hole size 11"

Intermediate Casing

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

Long string

Size 4½" Cemented with 2ND STAGE-50 1ST STAGE-200 sx.
TOC 1668' (2ND STAGE) 3930 (1ST STAGE) feet determined by CALCULATION
Hole size 7⅞"
Total depth 5028

Injection interval PERFORATED

4755 feet to 4975 feet
(perforated or open-hole, indicate which)
OPEN-HOLE 4995-5028

Tubing size 2 3/8 lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4700' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

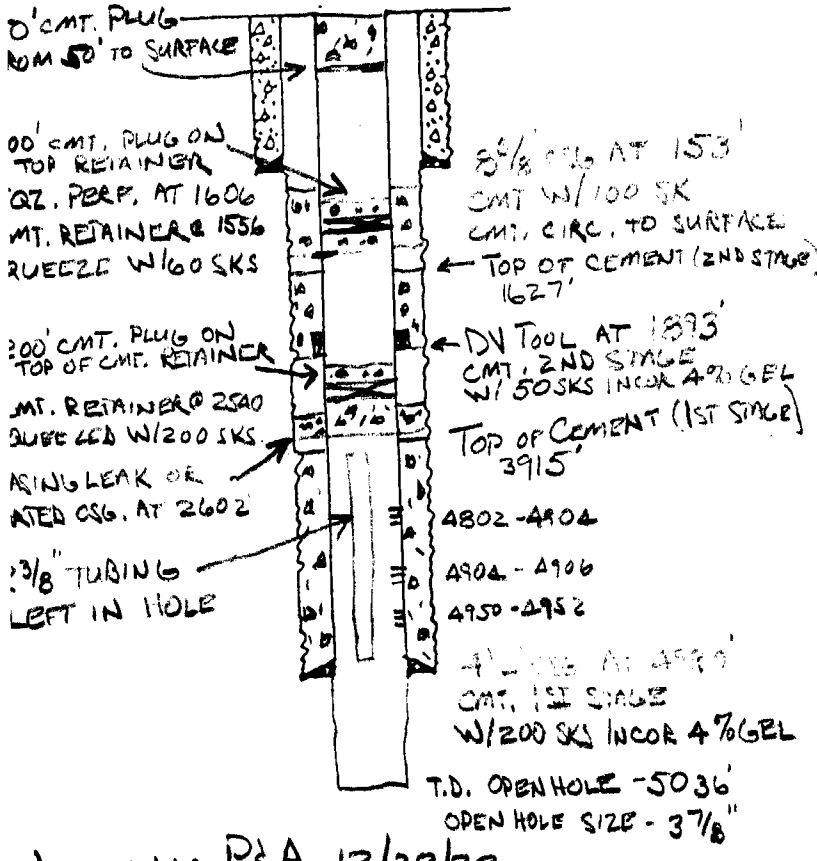
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

147	1980' FNL & 660 FWL	33	[illegible] S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



WELL WAS P&A 12/28/78

Tabular Data

Surface Casing

Size 8 5/8" Cemented with 100 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 11

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2" Cemented with 2ND STAGE - 50 SKS 1ST STAGE - 200 sx.

TOC 1660 (2ND STAGE) 3895 (1ST STAGE) feet determined by TEMPERATURE SURVEY

Hole size 6 3/4"

Total depth 4985'

Injection interval PERFORATED

4748 feet to 4952 feet

(perforated or open-hole, indicate which)

OPEN-HOLE 4980-5036

Tubing size 2 3/8 lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4700' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

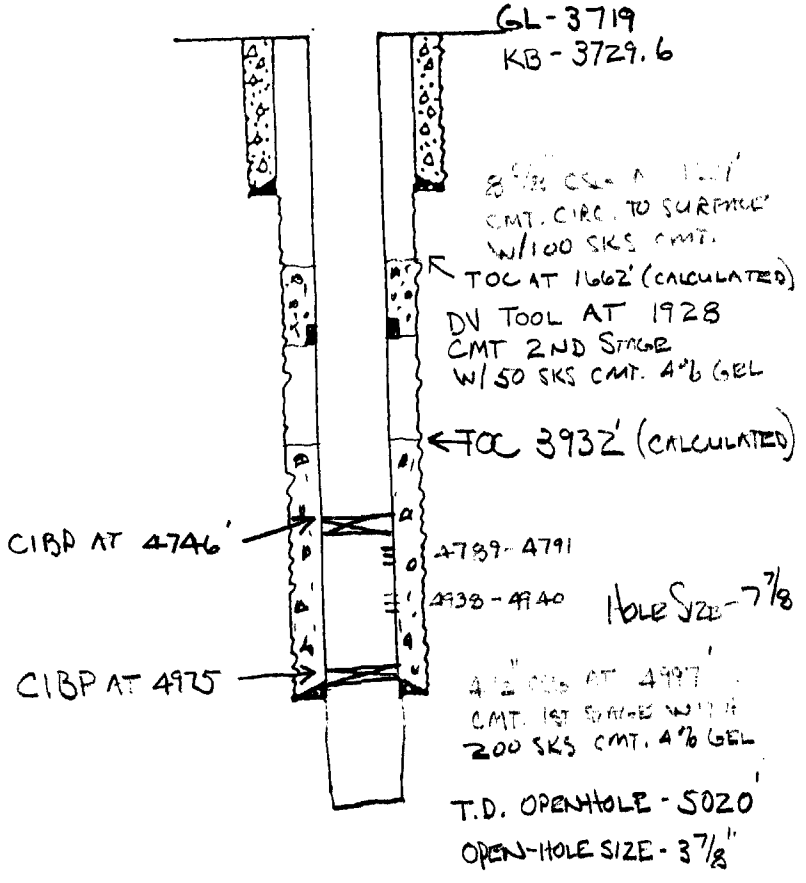
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

INJECTION WELL DATA SHEET SIDE 1

PYRAMID ENERGY, INC. (OPERATOR) WEST PEARL QUEEN UNIT (LEASE)

149	1980 FNL & 1980 FEL	32	T-19-S	R-35-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 100 sx.

TOC SURFACE feet determined by CIRCULATION

Hole size 12 1/4

Intermediate Casing

Size NONE" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2" Cemented with 50 (2ND STAGE) / 200 (1ST STAGE) sx. (CMT. YIELD = 1.51 cu.ft./sx)

TOC 1662 (2ND STAGE) / 3932 (1ST STAGE) feet determined by CALCULATION

Hole size 7 7/8

Total depth 5020

Injection interval PERFORATED

4789 feet to 4940 feet
(perforated or open-hole, indicate which)
OPEN-HOLE 4997-5020

Tubing size 2 3/8" lined with PLASTIC (material) set in a

BAKER MODEL AD-1 OR EQUIVALENT (brand and model) packer at 4750 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation QUEEN SAND

2. Name of Field or Pool (if applicable) PEARL QUEEN

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

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) NO

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PEARL SAN ANDRES, WEST - 5600'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

PYRAMID ENERGY, INC.

WEST PEARL QUEEN UNIT #100

LOCATION: SEC. 21, T19S, R35E

CASING: 13 3/8" @ 128' W/125 SX
5 1/2" @ 4989' W/300 SX. CMT.

PERFORATIONS: 4763-4775, 4886-4907
4933-4938, 4945-4953 (QUEEN)

TD: 4990'

WEST PEARL QUEEN UNIT #104

LOCATION: SEC. 21, T19S, R35E

CASING: 8 5/8" @ 328' W/265 SX
4 1/2" @ 5049' W/240 SX CMT.

PERFORATIONS: 4814-4820, 4933-4940
5000-5008

TD: 5050'

WEST PEARL QUEEN UNIT #105

LOCATION: SEC. 21, T19S, R35E

CASING: 13 3/8" @ 123' W/125 SX
5 1/2" @ 5082' W/300 SX CMT.

PERFORATIONS: 4793-4800, 4916-4926
4966-4972

TD: 5117'

WEST PEARL QUEEN UNIT #106

LOCATION: SEC. 21, T19S, R35E

CASING: 8 5/8" @ 327' W/300 SX.
4 1/2" @ 4991' W/350 SX CMT.

PERFORATIONS: 4762-4772, 4880-4910
4980-4988

TD: 5000'

WEST PEARL QUEEN UNIT #107

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 303' W/300 SX
4 1/2" @ 4994' W/350 SX. CMT.

PERFORATIONS: 4715-4730, 4834-4863
4898-4904 (QUEEN)

TD: 5000'

WEST PEARL QUEEN UNIT #108

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 326' W/300 SX
4 1/2" @ 4961' W/350 SX. CMT.

PERFORATIONS: 4700-4710, 4815-4845
4884-4895 (QUEEN)

TD: 4975'

WEST PEARL QUEEN UNIT #109

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 326' W/300 SX
4 1/2" @ 5002.41' W/350 SX. CMT.

PERFORATIONS: 4734-4754 (QUEEN)

TD: 5020'

WEST PEARL QUEEN UNIT #110

LOCATION: SEC. 29, T19S, R35E

CASING: 13 3/8" @ 88' W/80 SX
5 1/2" @ 4920' W/300 SX.CMT.

PERFORATIONS: 4770-4785, 4898-4912
4920-4998 (QUEEN)

TD: 4998'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #111

LOCATION: SEC 29, T19S, R35E

CASING: 8 5/8" @ 312' W/300 SX.
4 1/2" @ 5029' W/340 SX CMT.

PERFORATIONS: 4802-4810
4932-4938, 5000-5008

TD: 5030'

WEST PEARL QUEEN UNIT #112

LOCATION: SEC 29, T19S, R35E

CASING: 13 3/8" @ 100' W/80 SX.
7" @ 4932' W/150 SX. CMT.

PERFORATIONS: 4822-4829, 4830-4836
4953-4962

TD: 5030'

WEST PEARL QUEEN UNIT #117

LOCATION: SEC 29, T19S, R35E

CASING: 13 3/8" @ 87' W/90 SX.
5 1/2" @ 4997' W/300 SX. CMT.

PERFORATIONS: 4819-4821
4857-4859

TD: 5050'

WEST PEARL QUEEN UNIT #118

LOCATION: SEC 29, T19S, R35E

CASING: 8 5/8" @ 308' W/300 SX.
4 1/2" @ 5009' W/2050 SX. CMT.

PERFORATIONS: 4782-4790, 4914-4922
4981-4987, 4996-5000

TD: 5010'

WEST PEARL QUEEN UNIT #119

LOCATION: SEC. 29, T19S, R35E

CASING: 13 3/8" @ 100' W/100 SX.
5 1/2" @ 4943' W/300 SX. CMT

PERFORATIONS: 4752-4756, 4765-4766
4889-4898, 4954-4955

TD: 4990'

WEST PEARL QUEEN UNIT #120

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 316' W/300 SX.
5 1/2" @ 4915' W/350 SX. CMT.

PERFORATIONS: 4733-4747
4860-4871

TD: 4946'

WEST PEARL QUEEN UNIT #121

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 306' W/300 SX.
5 1/2" @ 4914' W/350 SX. CMT.

PERFORATIONS: 4844-4857
4718-4726

TD: 4921'

WEST PEARL QUEEN UNIT #122

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 304' W/300 SX.
5 1/2" @ 4931' W/200 SX. CMT.

PERFORATIONS: 4708-4719, 4826-4836
4886-4888, 4897-4899
4906-4908

TD: 4945' PBTD: 4888'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #123

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 415' W/250 SX.
4 1/2" @ 4932' W/200 SX. CMT.

PERFORATIONS: 4720-4730, 4842-4951
4901-4904, 4912-4916

TD: 4932' PBTD: 4927'

WEST PEARL QUEEN UNIT #124

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 301' W/300 SX.
5 1/2" @ 4911' W/200 SX. CMT.

PERFORATIONS: 4854-4864
4730-4736 (QUEEN)

TD: 4939'

WEST PEARL QUEEN UNIT #125

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 302' W/300 SX.
5 1/2" @ 4924' W/200 SX. CMT.

PERFORATIONS: 4725-4733
4855-4865

TD: 4949'

WEST PEARL QUEEN UNIT #126

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 326' W/300 SX.
5 1/2" @ 4930' W/200 SX. CMT.

PERFORATIONS: 4728-4738
4864-4875

TD: 4957'

WEST PEARL QUEEN UNIT #127

LOCATION: SEC. 29, T19S, R35E

CASING: 13 3/8" @ 90' W/80 SX.
5 1/2" @ 4939' W/300 SX. CMT.

PERFORATIONS: 4746-4761
4888-4908

TD: 4939'

WEST PEARL QUEEN UNIT #128

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 309' W/275 SX.
4 1/2" @ 4989' W/2173 SX.CMT.

PERFORATIONS: 4764-4766
4908-4910, 4972-4974

TD: 5011'

WEST PEARL QUEEN UNIT #129

LOCATION: SEC. 29, T19S, R35E

CASING: 13 3/8" @ 100' W/50 SX.
5 1/2" @ 4965' W/350 SX. CMT.

PERFORATIONS: 4475-4485, 4910-4938

TD: 4996'

WEST PEARL QUEEN UNIT #130

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 126' W/100 SX.
4 1/2" @ 4949' W/250 SX. CMT

PERFORATIONS: 4794-4796, 4937-4939

TD: 4950'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #136

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 101' W/100 SX.
4 1/2" @ 4948' W/250 SX.CMT.

PERFORATIONS: 4785-4787, 4929-4929-4931

TD: 5027'

WEST PEARL QUEEN UNIT #137

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 133' W/90 SX.
4 1/2" @ 4985' W/250 SX.CMT.

PERFORATIONS: 4785-4787
4930-4932

TD: 5051'

WEST PEARL QUEEN UNIT #138

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 108' W/60 SX.
4 1/2" @ 4959' W/250 SX.CMT.

PERFORATIONS: 4774-4776
4924-4926

TD: 5021'

WEST PEARL QUEEN UNIT #139

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 301' W/200 SX.
4 1/2" @ 4968' W/1700 SX.CMT.

PERFORATIONS: 4772-4782, 4926-4932
4968-5019 OH

TD: 5019'

WEST PEARL QUEEN UNIT #140

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 350' W/300 SX.
4 1/2" @ 4970' W/1800 SX. CMT.

PERFORATIONS: 4773-4785
4920-4926

TD: 4970' PBTD: 4954'

WEST PEARL QUEEN UNIT #141

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 608' W/400 SX.
4 1/2" @ 4950' W/1790 SX. CMT.

PERFORATIONS: 4758-4770
4894-4902

TD: 4996'

WEST PEARL QUEEN UNIT #142

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 327' W/300 SX.
4 1/2" @ 4933' W/1850 SX. CMT.

PERFORATIONS: 4737-4741
4881-4885

TD: 4981' PBTD: 4933'

WEST PEARL QUEEN UNIT #143

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 303' W/300 SX.
4 1/2" @ 4905' W/2200 SX. CMT.

PERFORATIONS: 4735-4737
4868-4870

TD: 4905'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #144

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 141' W/100 SX.
4 1/2" @ 5005' W/250 SX.CMT.

PERFORATIONS: 4890-4892, 4949-4951
4750-4752, 4960-4962

TD: 5012' PBTD: 5000'

WEST PEARL QUEEN UNIT #145

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 148' W/100 SX.
4 1/2" @ 4995' W/250 SX. CMT.

PERFORATIONS: 4755-4757, 4860-4862, 4901-4903
4963-4965, 4973-4975

TD: 5028'

WEST PEARL QUEEN UNIT #146

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 146' W/100 SX.
4 1/2" @ 4965' W/250 SX. CMT.

PERFORATIONS: 4767-4769, 4880-4882
4780-4782, 4927-4929

TD: 4970' PBTD: 4961'

WEST PEARL QUEEN UNIT #147

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 153' W/100 SX.
4 1/2" @ 4980' W/250 SX. CMT.

PERFORATIONS: 4802-4804
4904-4906, 4950-4952

TD: 5026'

WEST PEARL QUEEN UNIT #148

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 145' W/100 SX.
4 1/2" @ 4977' W/250 SX. CMT

PERFORATIONS: 4802-4904
4949-4951

TD: 5036'

WEST PEARL QUEEN UNIT #149

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 145' W/100 SX.
4 1/2" @ 4977' W/250 SX. CMT

PERFORATIONS: 4789-4791
4938-4940

TD: 5020'

WEST PEARL QUEEN UNIT #150

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 130' W/100 SX.
4 1/2" @ 4936' W/250 SX. CMT

PERFORATIONS: 4786-4788
4884-4886, 4928-4930

TD: 5020'

WEST PEARL QUEEN UNIT #151

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 140' W/100 SX.
4 1/2" @ 4970' W/250 SX. CMT

PERFORATIONS: 4048_4052, 4056-4070
4900-4902, 4076-4080
4795-4797, 4850-4852

TD: 5040'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #159

LOCATION: SEC. 32, T19S, R35E

CASING: 13 3/8" @ 105' W/80 SX.
7" @ 4701' W/100 SX. CMT.

PERFORATIONS: 4940-4952
4774-4780

TD: 5020' PBTD: 5010'

WEST PEARL QUEEN UNIT #160

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 144' W/145 SX.
5 1/2" @ 5060' W/300 SX. CMT.

PERFORATIONS: 4790-4806, 4898-4905
4942-4950, 5005-5012

TD: 5060' PBTD: 5045'

WEST PEARL QUEEN UNIT #161

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 140' W/100 SX.
4 1/2" @ 5011' W/200 SX. CMT.

PERFORATIONS: 4776-4778, 4876-4878
4924-4926, 4982-4984, 4996-4998

TD: 5015' PBTD: 5005'

WEST PEARL QUEEN UNIT #162

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 136' W/100 SX.
4 1/2" @ 5063' W/275 SX. CMT.

PERFORATIONS: 4771-4773, 4918-4920
4978-4980, 4992-4994

TD: 5080' PBTD: 5034'

WEST PEARL QUEEN UNIT #163

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 382' W/100 SX.
5 1/2" @ 5019' W/350 SX. CMT.

PERFORATIONS: 4742-4744, 4888-4890
4951-4953

TD: 5020'

WEST PEARL QUEEN UNIT #164

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 381' W/250 SX.
5 1/2" @ 5054' W/400 SX. CMT.

PERFORATIONS: 4784, 4785, 4933, 4934
5008, 5009

TD: 5055' PBTD: 5016'

WEST PEARL QUEEN UNIT #165

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 377' W/250 SX.
5 1/2" @ 5064' W/400 SX. CMT.

PERFORATIONS: 5006, 5005, 4943
4942, 4807, 4806

TD: 5065'

WEST PEARL QUEEN UNIT #166

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 378' W/150 SX.
5 1/2" @ 5019' W/400 SX. CMT.

PERFORATIONS: 4735-4736, 4863-4864
4921-4922, 4970-4971

TD: 5020' PBTD: 4987'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #167

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 357' W/400 SX.
5 1/2" @ 5049' W/400 SX. CMT.

PERFORATIONS: 4757, 4758, 4897, 4898
4959, 4960 (QUEEN)

TD: 5050'

WEST PEARL QUEEN UNIT #169

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 1800' W/600 SX.
5 1/2" @ 5000' W/1800 SX. CMT.

PERFORATIONS: 4721-4727, 4846-4850
4910-4913, 4922-4926

TD: 5000' PBTD: 4975'

WEST PEARL QUEEN UNIT #170

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 420' W/250 SX.
5 1/2" @ 5125' W/600 SX. CMT.

PERFORATIONS: 4788, 4789, 4791
4935, 4937, 5002, 5003

TD: 5125'

WEST PEARL QUEEN UNIT #180

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 415' W/102 SX.
5 1/2" @ 5075' W/1040 SX. CMT.

PERFORATIONS: 4713-4718
4830-4921 (QUEEN)

TD: 5075'

WEST PEARL QUEEN UNIT #182

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 400' W/250 SX
5 1/2" @ 5062' W/750 SX. CMT.

PERFORATIONS: 4876-4882, 4901-4903, 4934-4938
4944-4947, 4965-4967, 4984-4992
5028-5030

TD: 5092' PBTD: 5017'

WEST PEARL QUEEN UNIT #190

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 400' W/250 SX. CMT.
5 1/2" @ 5000' W/1000 SX. CMT.

PERFORATIONS: 4735-4753, 4872-4882, 4904-4908
4936-4938, 4949-4950, 4954-4959, 4987-4996

TD: 5058'

WEST PEARL QUEEN UNIT #191

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 415' W/250 SX. CMT.
5 1/2" @ 5075' W/1130 SX. CMT.

PERFORATIONS: 4720-4730, 4848-4857, 4860-4864, 4869-4871
4881-4883, 4887-4893, 4898-4905, 4914-4917
4925-4933, 4964-4967

TD: 5075'

WEST PEARL QUEEN UNIT #193

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 415' W/250 SX. CMT.
5 1/2" @ 5075' W/950 SX. CMT.

PERFORATIONS: 4689-4962, 4718-4720, 4728-4735
4863-4872, 4887-4892, 4907-4912
4927-4930

TD: 5075'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

WEST PEARL QUEEN UNIT #194

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 410' W/250 SX.
5 1/2 @ 5100' W/1250' SX. CMT.

PERFORATIONS: 4761-4769, 4902-4914, 4917-4923
4926-4931, 4933-4941, 4950-4957
4968-4973, 4979-4989

TD: 5100'

WEST PEARL QUEEN UNIT #195

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 400' W/250 SX.
5 1/2 @ 5000' W/1000' SX. CMT.

PERFORATIONS: 4903-4915, 4970-4976
4982-4985, 4988-4992

TD: 5100'

WEST PEARL QUEEN UNIT #202

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 405' W/250 SX.
5 1/2" @ 5100' W/1000 SX. CMT.

PERFORATIONS: 4926-5044, 4749-4752
4759-4762, 4780-4786

TD: 5100' PBTD: 5050'

WEST PEARL QUEEN UNIT #204

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 400' W/250 SX.
5 1/2" @ 5000' W/1000 SX.CMT.

PERFORATIONS: 4769-4779, 4912-4922
4978-4984, 4989-4992, 4997-5000

TD: 5100'

WEST PEARL QUEEN UNIT #205

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 400' W/250 SX.
5 1/2" @ 5095' W/1044 SX. CMT.

PERFORATIONS: 4713, 4714, 4749, 4950, 4751, 4895
4896, 4897, 4898, 4899, 4957, 4958
4959, 4960, 4967, 4968

TD: 5100' PBTD: 5022'

EAST PEARL QUEEN UNIT #23

LOCATION: SEC. 28, T19S, R35E

CASING: 9 5/8" @ 146' W/150' SX.
5 1/2" @ 4995' W/200 SX. CMT.

PERFORATIONS: 4698-4704, 4810-4816
4878-4881, 4887-4889, 4896-4899

TD: 4955'

EAST PEARL QUEEN UNIT #24

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 172' W/150 SX.
5 1/2" @ 4960' W/200 SX. CMT.

PERFORATIONS: 4691_4703, 4804-4806, 4808-4810
4856-4859, 4868-4870, 4887-4889 (QUEEN)

TD: 4960'

EAST PEARL QUEEN UNIT #33

LOCATION: SEC. 27, T19S, R35E

CASING: 8 5/8" @ 113' W/100 SX.
5 1/2 @ 5065' W/200 SX. CMT.

PERFORATIONS: 4708-4716

TD: 5070'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

EAST PEARL QUEEN UNIT #34

LOCATION: SEC. 28, T19S, R35E

CASING: 8 5/8" @ 100' W/100 SX.
5 1/2" @ 5057' W/200 SX. CMT.

PERFORATIONS: 4930-4933, 4884-4888, 4917-4919
4711-4716, 4896-4899

TD: 5075'

EAST PEARL QUEEN UNIT #35

LOCATION: SEC. 27, T19S, R35E

CASING: 8 5/8" @ 323' W/300 SX.
4 1/2" @ 4848' W/100 SX. CMT.

PERFORATIONS: 4848-4862(OPEN HOLE)
4728-4742, 4646-4656 (QUEEN)

TD: 4862'

EAST PEARL QUEEN UNIT #36

LOCATION: SEC. 27, T19S, R35E

CASING: 8 5/8" @ 100' W/100 SX.
5 1/2" @ 5024' W/200 SX. CMT.

PERFORATIONS: 4738-4746, 4858-4861
4879-4886, 4910-4916

TD: 5032'

EAST PEARL QUEEN UNIT #42

LOCATION: SEC. 34, T19S, R35E

CASING: 8 5/8" @ 230'
5 1/2" @ 5043' W/200 SX. CMT.

PERFORATIONS: 4750-4756, 4879-4881, 4882-4886
4872-4876, 4900-4902, 4906-4908
4915-4918, 4936-4939, 4946-4949, 4963-4965 (QUEEN)

TD: 5048'

EAST PEARL QUEEN UNIT #43

LOCATION: SEC. 34, T19S, R35E

CASING: 8 5/8" @ 96' W/85 SX.
5 1/2" @ 5041' W/200 SX. CMT.

PERFORATIONS: 4769-4771, 4897-4900, 4937-4938
4957-4958, 4971-4976, 4922

TD: 5050' PBTD: 5026'

EAST PEARL QUEEN UNIT #84

LOCATION: SEC. 27, T19S, R35E

CASING: 8 5/8" @ 400' W/250 SX.
5 1/2" @ 5000' W/1000 SX. CMT.

PERFORATIONS: 4861-4863, 4865-4869, 4870-4873
4888-4890, 4711-4712, 4740-4742, 4745-4746

TD: 5150'

1 AQ GULF LEA STATE

LOCATION: SEC. 32, T19S, R35E

CASING: 13 3/8" @ 414' W/400 SX.
9 5/8" @ 5075' W/1500 SX.
5 1/2" @ 6028' W/350 SX. CMT.

PERFORATIONS: 5634-5660

TD: 10500' PBTD: 5986'

2 AQ GULF LEA STATE

LOCATION: SEC. 33, T19S, R35E

CASING: 8 5/8" @ 415' W/250 SX.
5 1/2 6049' W/2050 SX. CMT.

PERFORATIONS: 5616-5624, 5646-5654
5843-5851, 5809-5811

TD: 6050' PBTD: 5996'

TABULATION OF DATA ON WELLS
WITHIN AREA OF REVIEW

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3 AQ GULF LEA STATE

LOCATION: SEC. 32, T19S, R35E

CASING: 8 5/8" @ 411' W/350 SX.
5 1/2" @ 5934' W/1550 SX. CMT.

PERFORATIONS: 5838-5844, 5653, 5657, 5687, 5710, 5734
5754, 5755, 5766, 5790, 5794, 5798, 5809
5811, 5838-5844

TD: 5935' PBTD: 5883'

4-AQ GULF LEA STATE

LOCATION: SEC. 29, T19S, R35E

CASING: 8 5/8" @ 1819' W/900 SX.
5 1/2" @ 5920' W/1450 SX. CMT.

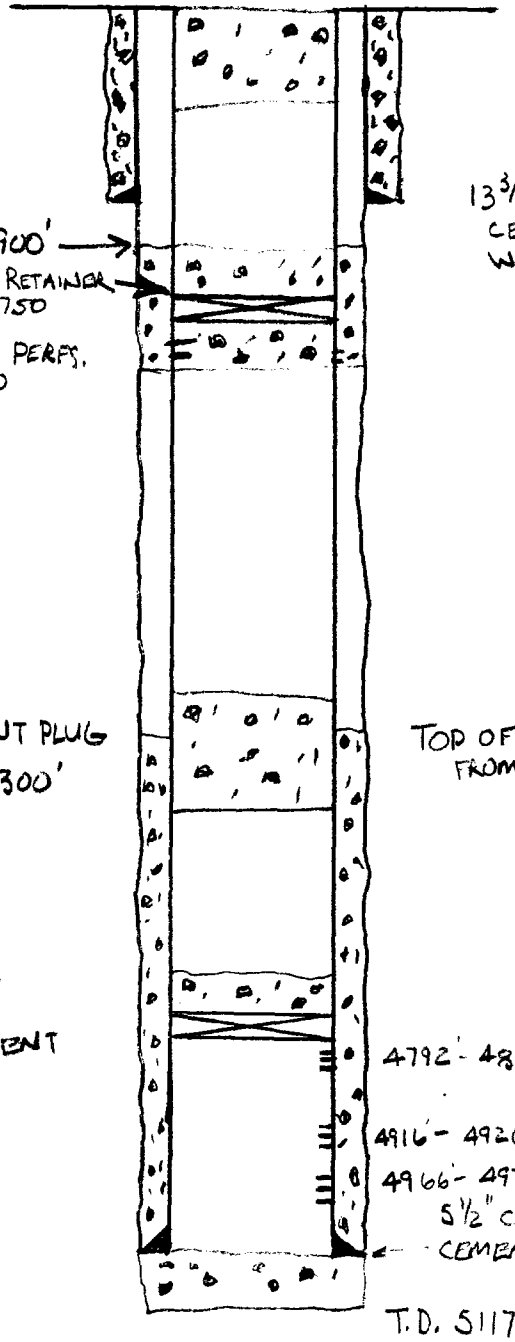
PERFORATIONS: 5756, 5764, 5834
5856, 5860

TD: 5922' PBTD: 5870'

SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

WEST PEARL QUEEN UNIT No. 105
LEA COUNTY, NEW MEXICO
660' FNL & 810' FEL
SECTION 29, T-19-S, R-35-E

SPUDDED: 11/2/58
COMPLETED: 1/29/59
PLUGGED: 1/18/81



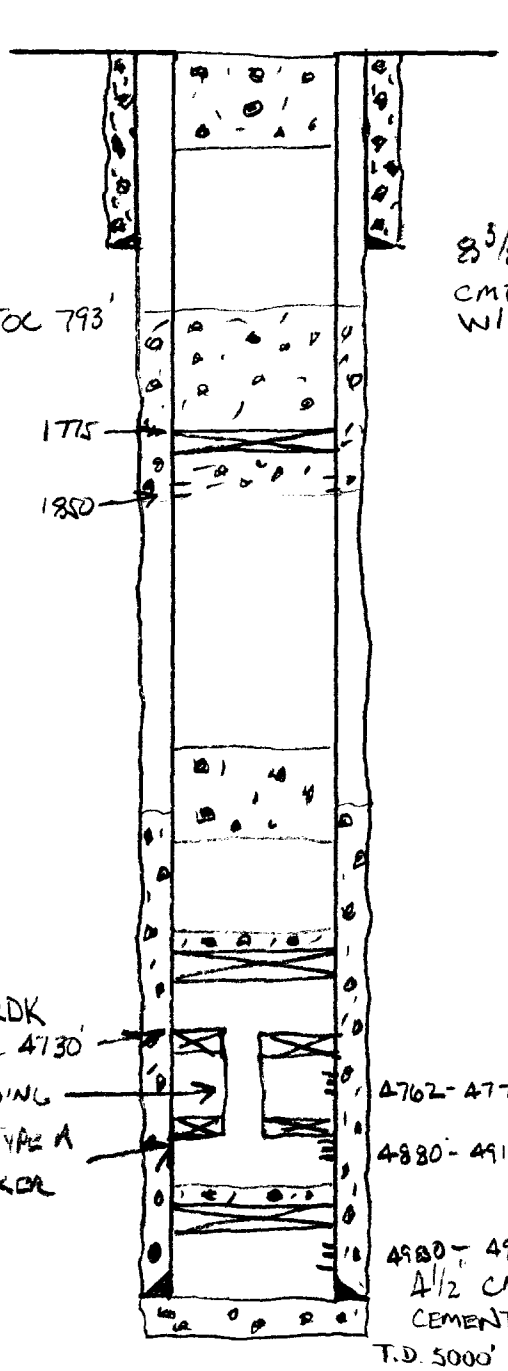
SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

WEST PEARL QUEEN UNIT No. 106
LEA COUNTY, NEW MEXICO
660 FNL & 660 FWL
SECTION 28, T-19-S, R-35-E

SPUDDED: 5/15/58

COMPLETED: 5/28/58

P&A: 1/22/81



50' CMT. PLUG
AT SURFACE

SET CMT. RETAINER AT 1775'
PERF. 4 1/2" CSG. AT 1850' TO
SQUEEZE. SQUEEZED W/
400 SKS CMT. FOUND TOP OF
CEMENT INSIDE 4 1/2" CSG.
AT 793'

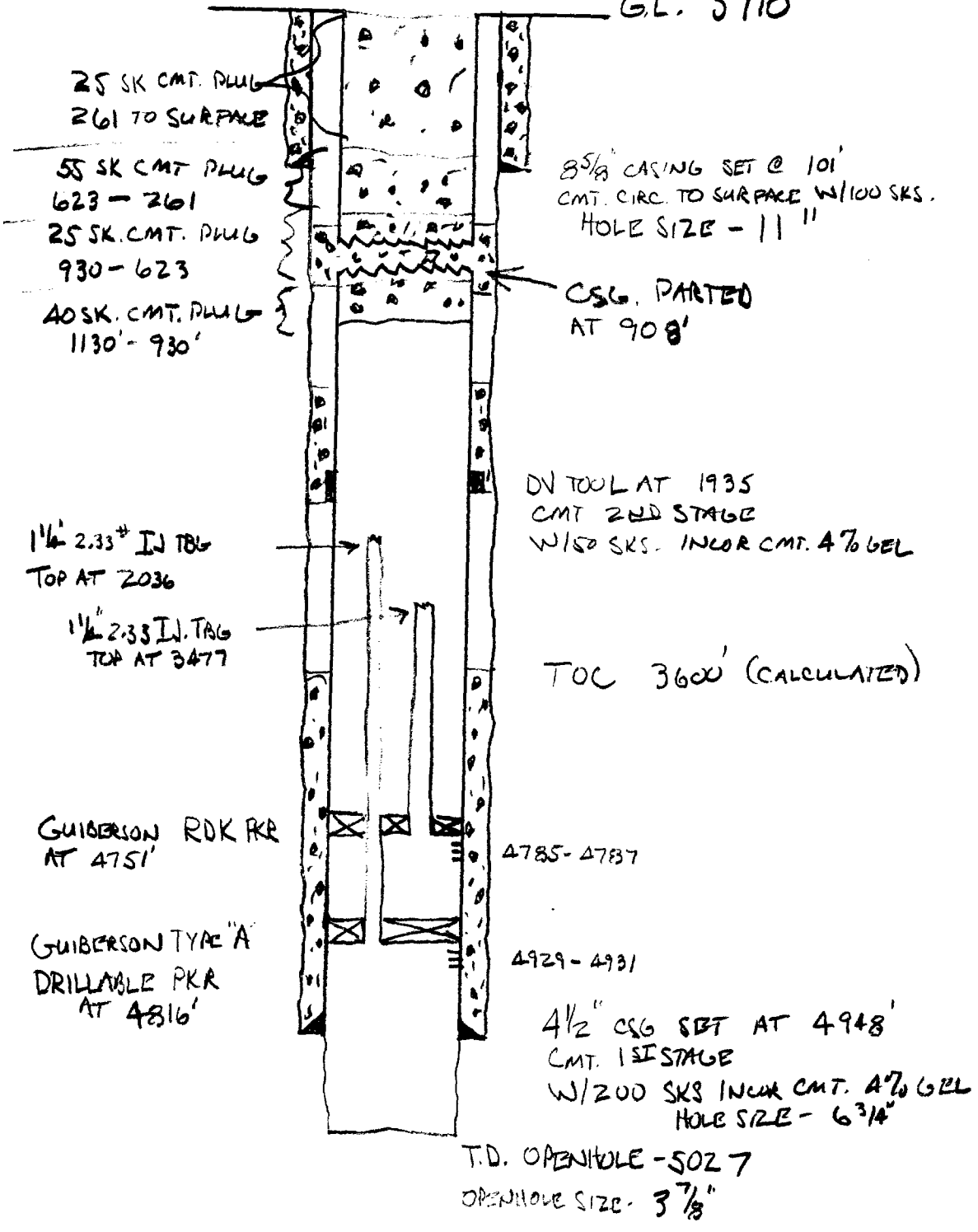
100' CMT PLUG
3140' - 3240

CIBP AT 4690
CAPPED W/ 35 SKS CMT.

SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

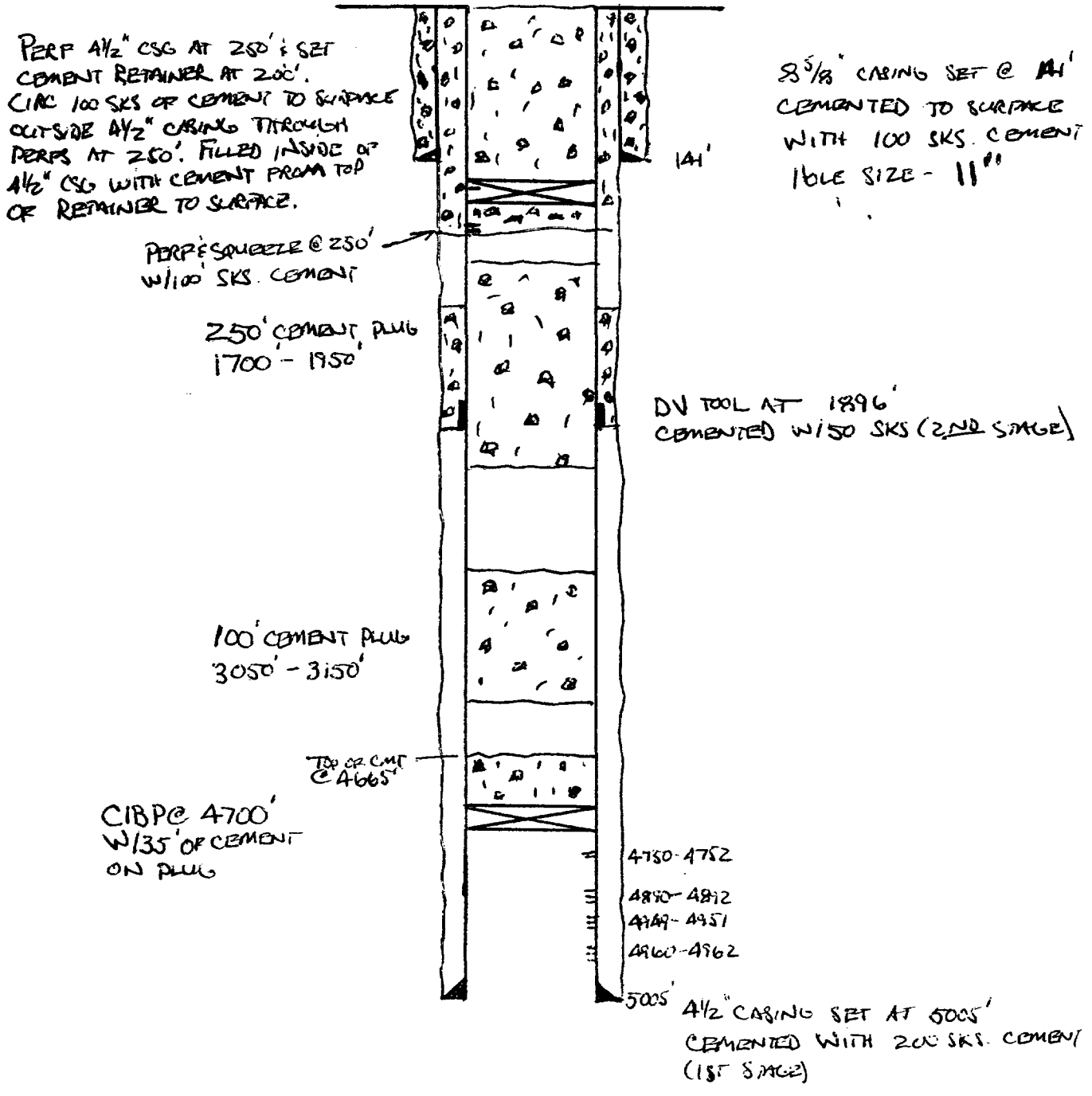
WEST PEARL QUEEN UNIT NO. 136
LEA COUNTY, NEW MEXICO
660 FNL & 710 FWL
SECTION 32, T-19-S, R-35-E

SPUDDED: 8/24/59
COMPLETED: 9/9/59
PLUGGED: 2/15/77



SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

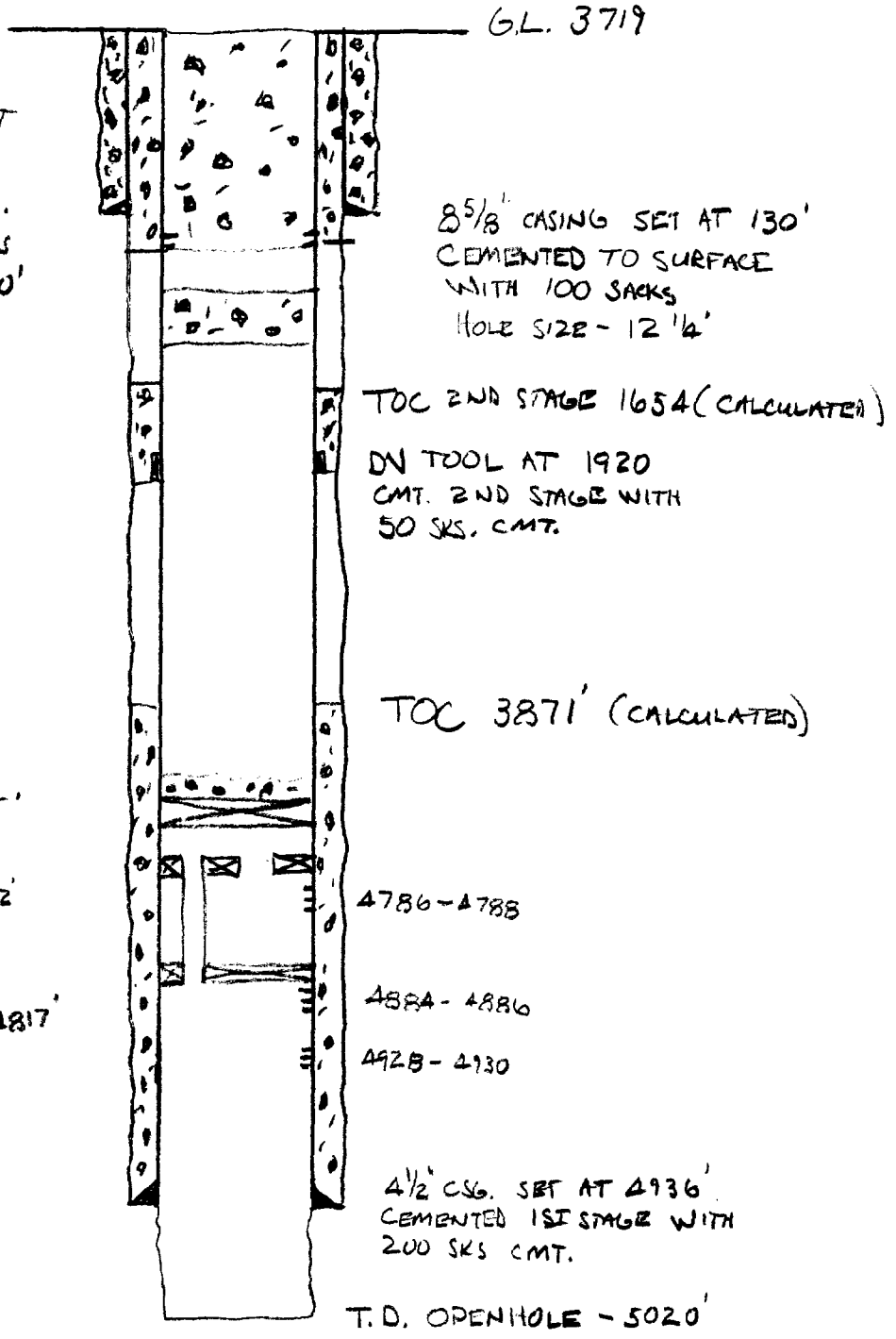
WEST PEARL QUEEN UNIT No. 144
LEA COUNTY, NEW MEXICO
1980' FNL & 660 FEL
SECTION 33, T-19S, R-35E
SPUDDED - 5/8/60
PLUGGED - 10/10/78



SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

WEST PEARL QUEEN UNIT No. 150
LEA COUNTY, NEW MEXICO
1980 FNL & 1980 FWL
SECTION 32, T-19-S, R-35-E

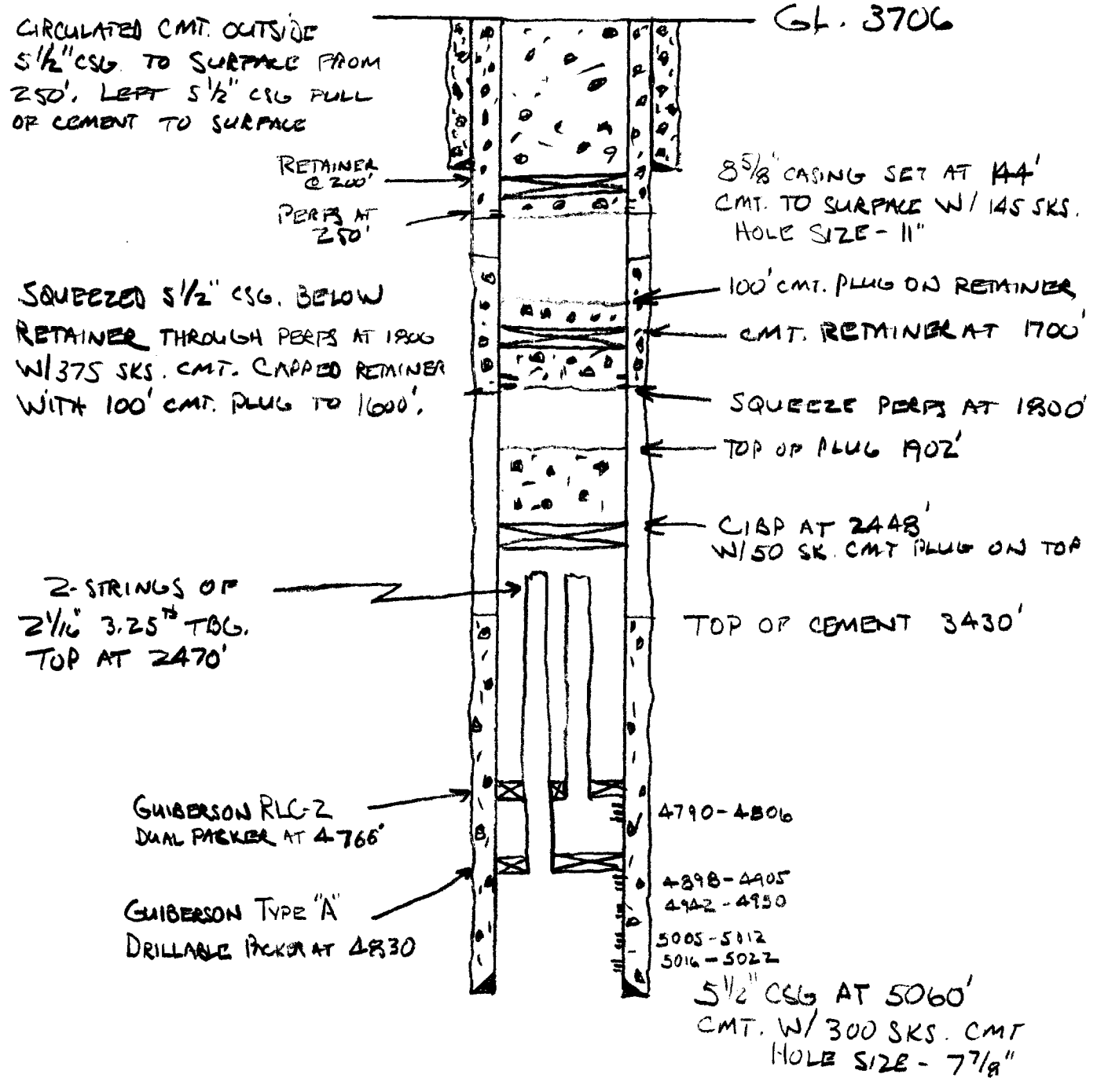
SPUDDED: 10/15/59
COMPLETED: 11/3/59
PLUGGED: 7/6/86



SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

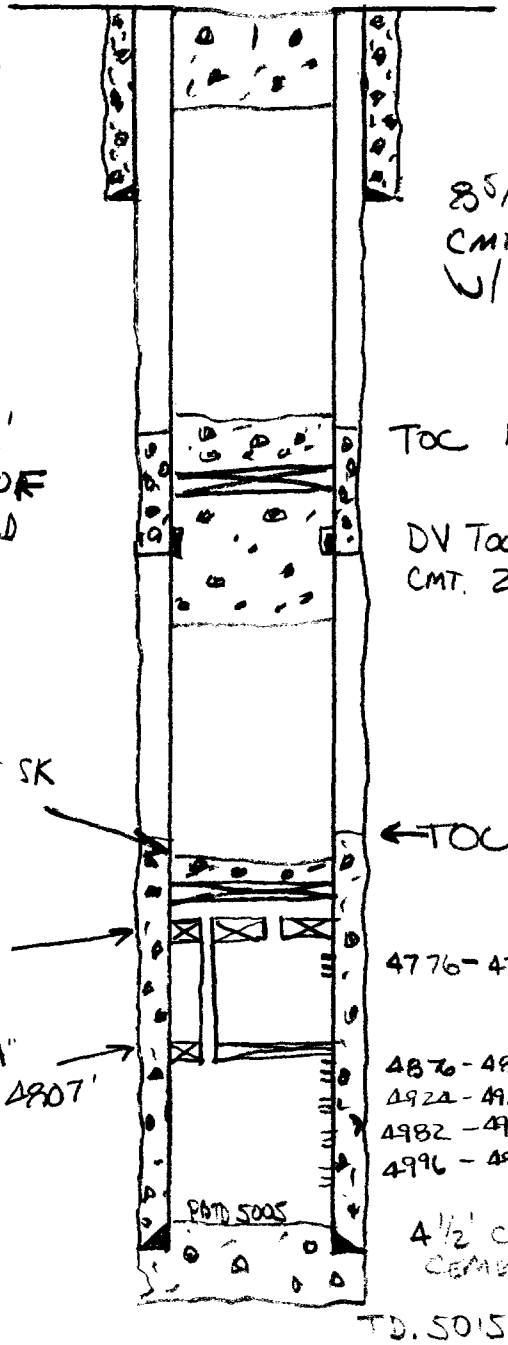
WEST PEARL QUEEN UNIT No. 160
LEA COUNTY, NEW MEXICO
1980 FSL & 1980 FEL
SECTION 32, T-19-S, R-35-E

SPUDDED: 6/10/60
COMPLETED: 6/28/60
PLUGGED: 3/16/78



SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

WEST PEARL QUEEN UNIT No. 161
LEA COUNTY, NEW MEXICO
1980 FSL & 660' FEL
SECTION 33, T-19-S, R-35-E
SPUDDED: 7/13/60
COMPLETED: 7/26/60
PLUGGED: 3/3/78



50' CMT PLUG AT SURFACE

HOLE SIZE - 11"

8 5/8" CSG AT 140' CMT. CIRC. TO SURFACE W/ 100 SKS.

CMT. RETAINER AT 1702' 125' OF CMT ON TOP OF RETAINER. SQUEEZED CSG. WITH 350 SKS BELOW RETAINER.

TOC 1599' (CALCULATED)

DV TOOL AT 1865' CMT. 2ND STAGE W/50 SKS

CIBP AT 4677' W/15 SK (25') CMT. PLUG ON TOP

TOC 3946 (CALCULATED)

GUIBERSON RDK DUAL PKR. AT 4741'

4776-4778

GUIBERSON TYPE "A" DRILLABLE PKR @ 4807'

4876-4878
4922-4926
4982-4984
4996-4998

HOLE SIZE - 7 7/8"

PBTD 5005

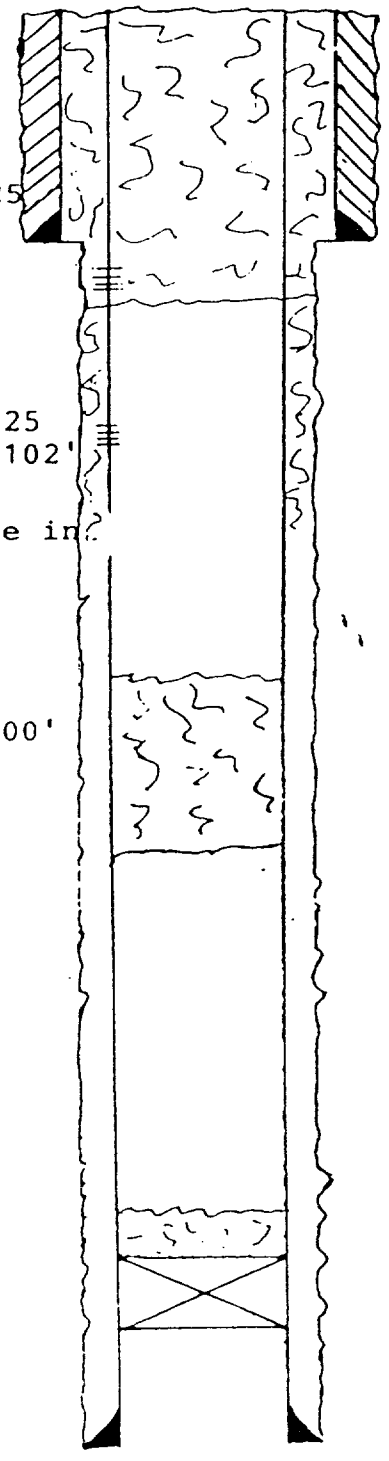
4 1/2" CSG AT 5011' CEMENT 1ST STAGE W/200 SKS

TD. 5015'

West Pearl Queen Unit #166
Lea County, NM
105' FSL & 1325' FEL
Sec. 28, T-19S, R-35E

Spud: 10/10/69
Plugged: 2/23/81

Casing: 8-5/8" to 378' w/250 sx.
5½" to 5019' w/400 sx.
TOC 2940'
Tubing: 2-7/8" to 4971



Perf 381' w/125 sx circ to surface.

TOC 1809'

Set CR @ 1822'

Perf 1875' w/525 sx. Set CR @ 2102'

35 sx into hole in? csg. @ 2171'

100' plug @ 2900' 3000'

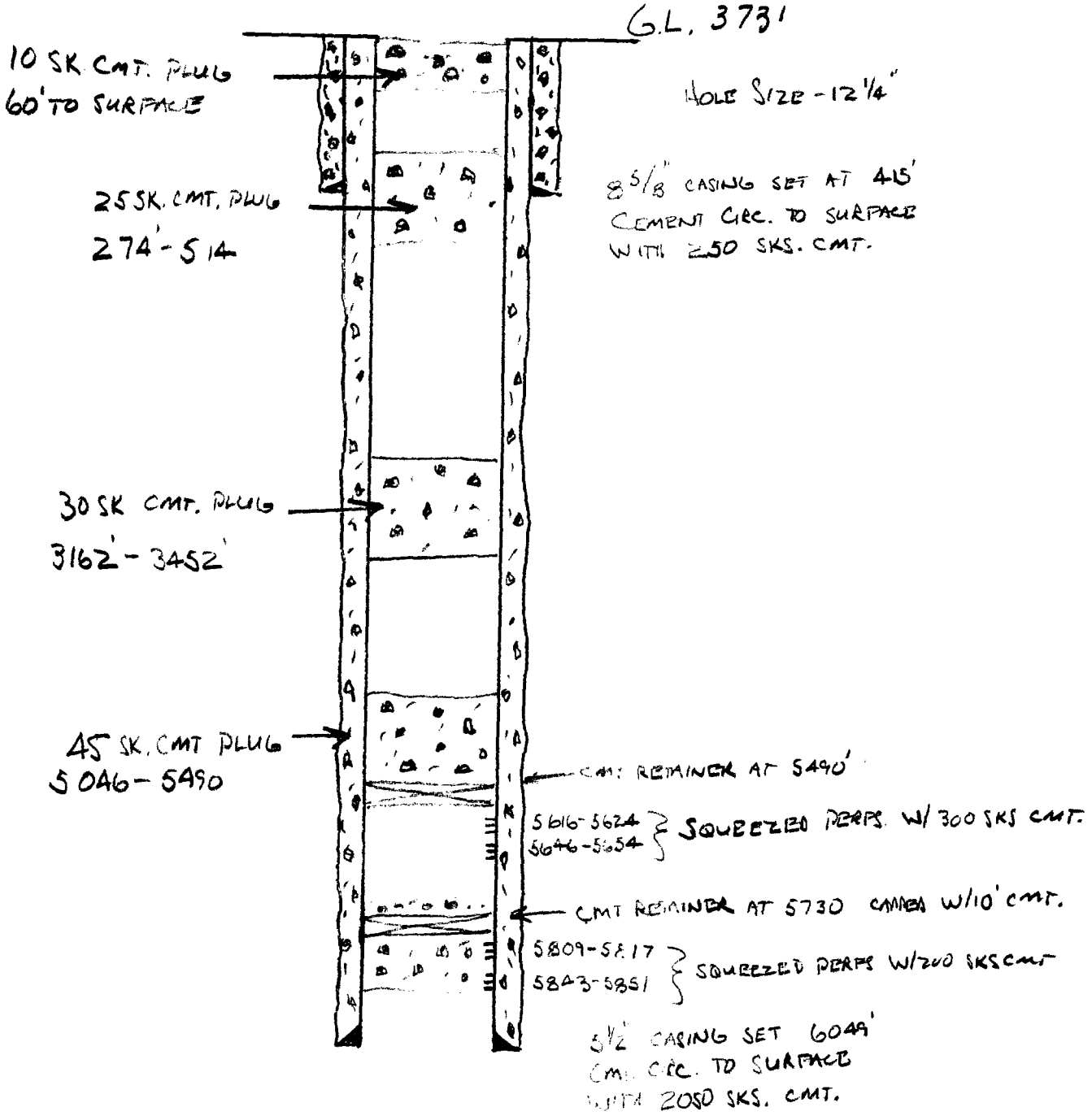
35' cement

CIBP @ 4615'

PBTD: 4987'
TD: 5020'

SCHEMATIC OF PLUGGED WELL
WITHIN THE AREA OF REVIEW

LEA "AQ" STATE No. 2
LEA COUNTY, NEW MEXICO
880 FNL & 330 FWL
SECTION 33, T-19-S, R-35-E
SPUDDED: 9/14/83
COMPLETED: 10/16/83
PLUGGED: 8/30/90



PYRAMID ENERGY, INC.

East & West Pearl Queen Units

Current Status

Scale: 1000 ft

Lea County
New Mexico

file:prlstats

7-25-91

N
W E
S

WPQU | EPQU

- Old Producer
- Old Injector
- Plugged & Abandon
- Development Locations
- Current Producer
- Current Injector
- To be converted Injectors

NS
TKB WIS
WS
ES
TKB WIS
south TKB

T-19-S
R-35-E

PYRAMID ENERGY, INC.

APPLICATION FOR AUTHORIZATION TO INJECT

WEST PEARL QUEEN UNIT

WPQU NO. 109, WPQU NO. 110, WPQU NO. 119,
WPQU NO. 121, WPQU NO. 123, WPQU NO. 124,
WPQU NO. 126, WPQU NO. 128, WPQU NO. 138,
WPQU NO. 139, WPQU NO. 141, WPQU NO. 143,
WPQU NO. 145, WPQU NO. 147, WPQU NO. 149

LEA COUNTY, NEW MEXICO

Scale: 1" = 4000'

Date: 07/12/91

EAST PEARL UNIT
PYRAMID (OPER)

NE PEARL (QN) UNIT
XERIC O&G (OPER)

PYRAMID (OPER)
SO. PEARL UNIT
LAGUNA

WEST PEARL QN UNIT
PYRAMID (OPER)

TEXAS YATES UNIT
ANADARKO (OPER.)

MARATHON OPER.
LEA UNIT

AREA OF REVIEW

PEARL

LEA

SAN MIGUEL N.

SAN MIGUEL

LEA NE

MIDLAND © MAP

T 19 S

32°40

32°35