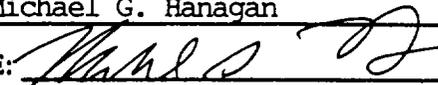


APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  Yes  No
- II. OPERATOR: Hanagan Petroleum Corporation  
ADDRESS: P.O. Box 1737 - Roswell, New Mexico 88202-1737  
CONTACT PARTY: Mike Hanagan PHONE: 623-5053
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed 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 R-8611
- 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:
- Proposed average and maximum daily rate and volume of fluids to be injected;
  - Whether the system is open or closed;
  - Proposed average and maximum injection pressure;
  - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
  - 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 sources 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 has been previously submitted, it need not be resubmitted.)
- \* XI. Attach a chemical analysis of fresh water from two or more of any injection or disposal well showing location of wells a
- XII. Applicants for disposal wells must make an affirmative statement data and find no evidence of open faults or any other hydrologic source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on t
- XIV. Certification: I hereby certify that the information submitted is true and correct to the best of my knowledge and belief.
- NAME: Michael G. Hanagan TITLE: President  
SIGNATURE:  DATE: 7/14/98
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal. \_\_\_\_\_

BEFORE THE  
OIL CONSERVATION DIVISION  
Santa Fe, New Mexico

Case No. 12023 Exhibit No. 7

Submitted by: Hanagan Petroleum Corporation

Hearing Date: August 6, 1998

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

**FORM C-108**  
**APPLICATION FOR AUTHORIZATION TO INJECT**

**Hanagan Petroleum Corporation**  
**Twin Lakes San Andres Unit Wells:**  
#3, #5, #10, #12, #14, #18, #20, #22, #26, #29,  
#36, #39, #41, #42, #45, #47, #49, #51, #58, #60,  
#69, #72, #77, #79, #87, #89, #94, #102, #106, #110,  
#112, #117, #120 and #123 (34 wells)

- I. **PURPOSE:** Secondary Recovery  
Application does qualify for administrative approval.
- II. **OPERATOR:** Hanagan Petroleum Corporation  
Post Office Box 1737  
Roswell, New Mexico 88202-1737  
Contact Party: Mike Hanagan  
Phone: (505) 623-5053
- III. **WELL DATA:** See attached data sheets and schematics for each well.
- IV. This is an expansion of an existing project as authorized by Division order number R-8611 and order number WFX-582.
- V. **AREA OF REVIEW MAP:** See attached Map C-108 Item V.
- VI. **AREA OF REVIEW WELL DATA:** With the exception of the wells listed below, which have been drilled, plugged or in which borehole conditions have changed subsequent to September 9, 1987; All required data on wells within the area of review was previously submitted and accepted on September 9, 1987 at the NMOCD hearing on Peltó Oil Company's application for waterflood project (OCD order # R-8611) and remains current.

A tabulation and schematic for the following wells which were drilled, plugged or in which borehole conditions have changed is attached hereto:

TLSAU #31 2310' FNL & 1650' FWL Section 31-T8S-R29E  
TLSAU #33 2310' FNL & 990' FEL Section 31-T8S-R29E  
TLSAU #62 330' FNL & 330' FWL Section 5-T9S-R29E  
TLSAU #121 1500' FNL & 1405' FWL Section 5-T9S-R29E  
TLSAU #122 1400' FNL & 250' FEL Section 36-T8S-R28E  
TLSAU #200 2310' FSL & 990' FEL Section 12-T9S-R28E  
TLSAU #201 330' FSL & 1650' FWL Section 1-T9S-R28E

TLSAU #202 1300' FSL & 1300' FWL Section 36-T8S-R29E

TLSAU #203 1650' FSL & 2310' FWL Section 6-T9S-R29E

In addition to those wells shown above, there are two wells within the area of review that, by letters dated 11/18/97, the NMOCD has requested the operator to show cause as to why the wells should not be plugged and abandoned. The certified letters sent by NMOCD to the operator were returned to NMOCD as undeliverable. There is no other indication of subsequent activity in the NMOCD files so it is our assumption that these wells remain in the conditions existing on September 9, 1987 and therefore have been previously submitted and accepted on September 9, 1987 at the NMOCD hearing on Pelto Oil Company's application for waterflood project (NMOCD order # R-8611). An inspection of the 2 wells on July 14, 1998 confirms that production equipment (i.e., tank battery and pumpjacks) are still in place and apparently operational. The 2 subject wells are:

Sandco Oil and Gas, Inc. #2 Sandco  
2310' FNL & 1650' FEL  
Section 25 - T8S - R28E

Sandco Oil & Gas, Inc. #3 Sandco  
990' FNL & 330' FEL  
Section 25 - T8S - R28E

**VII. PROPOSED OPERATION:**

1. Average injection rate of 300-500 barrels per day with maximum injection of 750 barrels per day.
2. The system is a closed injection system.
3. Maximum injection pressure will be limited to 0.2 psi/ft. Average injection pressure will not be known until commencement of injection.
4. The source water will be a mixture of Ogalla and produced water. Analysis and compatibility of injection water has been previously submitted.
5. Not applicable

**VIII. GEOLOGIC DATA:** All required geologic data on wells within the area of review was previously submitted and accepted on September 9, 1987 at the NMOCD hearing on Pelto Oil Company's application for waterflood project (OCD order # R-8611) and remains current.

**IX. STIMULATION PROGRAM:** No initial stimulations are planned on these wells; however, should injection rate be insufficient the wells will be acidized with 5,000 gallons to 10,000 gallons of 20% hydrochloric acid.

**X. WELL LOGS:** All well logs and test data have been filed with the Division.

**XI. WATER WELL ANALYSIS:** Analysis on any water wells within one mile of any well was previously submitted and accepted on September 9, 1987 at the NMOC D hearing on Pelto Oil Company's application for waterflood project (OCD order # R-8611) and remains current.

A search of State Engineer records in Roswell on July 2, 1998 revealed no new information on record.

**XII.** Not applicable.

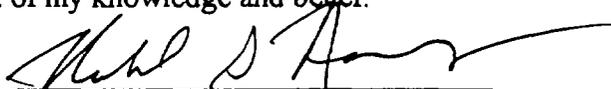
**XIII. PROOF OF NOTICE:** The surface owner is David Kent Gabel whose address is Route 3, Hereford, Texas 79045. There are two leasehold operator within the area of review; (1) Willow Pipeline Company whose address is P.O. Box 131, Weatherford, Oklahoma 73096 and (2) Sandco Oil and Gas, Inc. whose last known address was P.O. Box 881, Mesilla Park, New Mexico 88047.

Each of these parties have been provided notice of this application (See attached certified mail receipt).

For Proof of Publication see attached copy of the legal advertisement which will be published in the Roswell Daily Record on July 17, 1998.

**XIV. CERTIFICATION:**

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.



Michael G. Hanagan, President

DATE: 7/14/98

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1	<b>WELL NAME:</b>	Twin Lakes San Andres Unit # 3
A1	<b>FOOTAGE:</b>	1650 FSL & 1650 FEL
A1	<b>SECTION:</b>	25-T8S-R28E
A1	<b>COUNTY:</b>	Chaves

**EXISTING CASING PROGRAM**

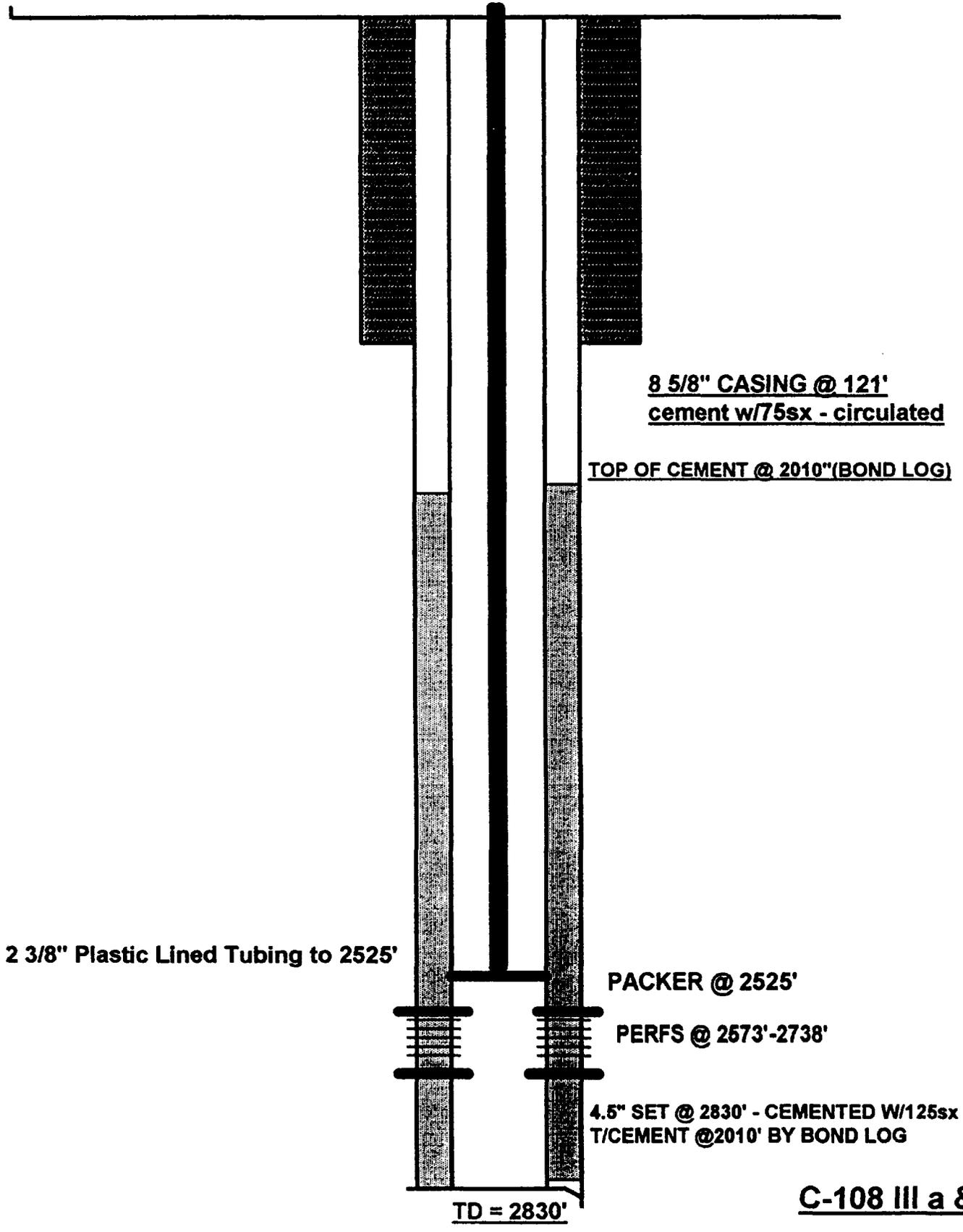
A2	<b>HOLE SIZE:</b>	11"	7.875
A2	<b>CASING SIZE:</b>	8.625"	5.5"
A2	<b>CASING WEIGHT:</b>	20 #	14 #
A2	<b>CASING DEPTH:</b>	121'	2830'
A2	<b>CEMENT:</b>	75sx	125sx
A2	<b>TOP OF CEMENT:</b>	surface	2010'
		circ. 10sx	bond log

**PROPOSED TUBULAR & PACKER INFORMATION**

A3	<b>TUBING:</b>	2.375" EUE, J-55, 4.7#/ft, 8rt. internally plastic coated or fiberglass lined
A3	<b>PACKER DEPTH:</b>	2525' +/- 25'
A4	<b>PACKER TYPE:</b>	Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2573'-2738'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	563'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #3  
Well Schematic (Proposed)  
C-108-III a & b



**C-108 III a & b**

25-T8S-R28E, 1650 FSL & 1650 FFL

J

O'BRIEN 25 #4

TI.SAU #3

30-005-60601

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 5  
 A1 **FOOTAGE:** 1650 FSL & 330 FWL  
 A1 **SECTION:** 30-T8S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

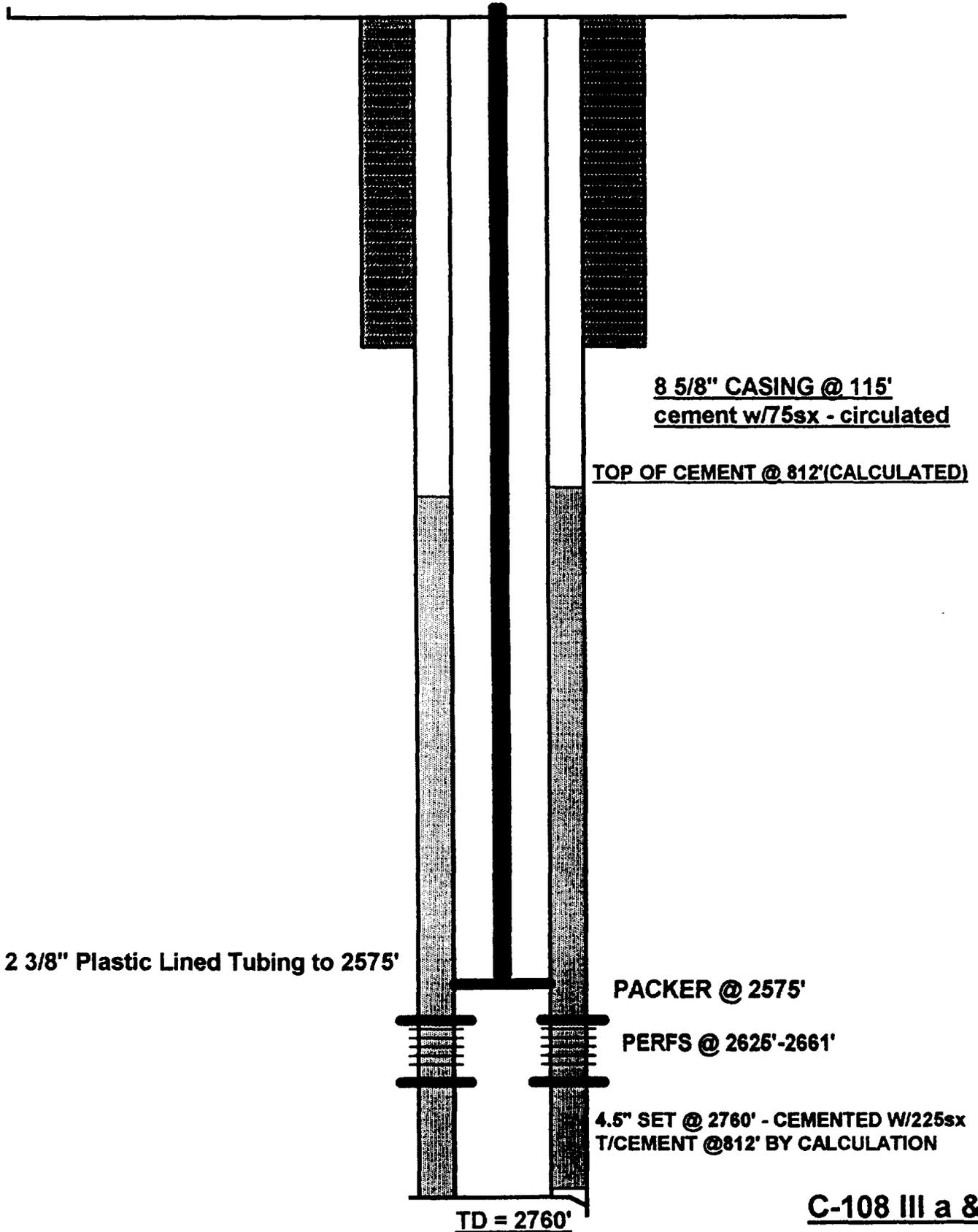
A2	<b>HOLE SIZE:</b>	12.5"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	5.5"
A2	<b>CASING WEIGHT:</b>	28 #	14 #
A2	<b>CASING DEPTH:</b>	115'	2760'
A2	<b>CEMENT:</b>	75sx	225sx
A2	<b>TOP OF CEMENT:</b>	surface	812'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. intrmally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2575' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: ~~2625'~~ - 2664'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1813'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #5  
Well Schematic (Proposed)  
C-108-III a & b



30-T8S-R29E. 1650 FSL & 330 FWI

L

O'BRIEN K #2

TLSAU #5

30-005-60572

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 10  
 A1 **FOOTAGE:** 330' FSL & 2310 FWL  
 A1 **SECTION:** 25-T8S-R28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

A2	<b>HOLE SIZE:</b>	12.5"	7.875
A2	<b>CASING SIZE:</b>	8.625	5.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	14#/ft
A2	<b>CASING DEPTH:</b>	120'	2713'
A2	<b>CEMENT:</b>	75sx	175sx
A2	<b>TOP OF CEMENT:</b>	surface	2120'
		circulated	bond log

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. intrrnally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2515' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2565'-2599'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	445'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #10  
Well Schematic (Proposed)  
C-108-III a & b

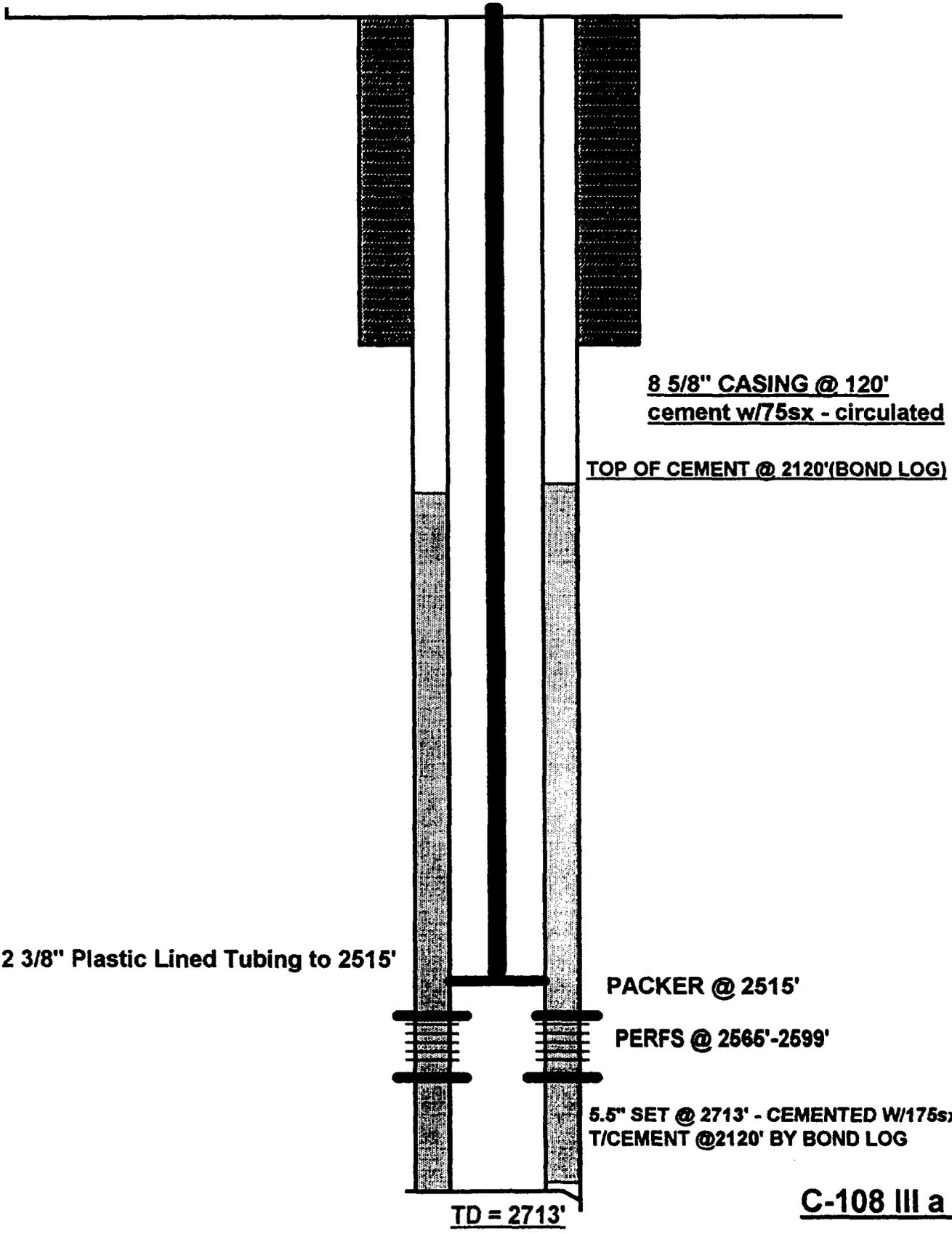
25-T8S-R28E, 330 FSL & 2310 FWL

N

O'BRIEN F #2

TL.SAU #10

30-005-60571



8 5/8" CASING @ 120'  
cement w/75sx - circulated

TOP OF CEMENT @ 2120'(BOND LOG)

2 3/8" Plastic Lined Tubing to 2515'

PACKER @ 2515'

PERFS @ 2565'-2599'

5.5" SET @ 2713' - CEMENTED W/75sx  
T/CEMENT @2120' BY BOND LOG

TD = 2713'

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 12  
 A1 **FOOTAGE:** 330 FSL & 330 FEL  
 A1 **SECTION:** 25-T8S-R28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

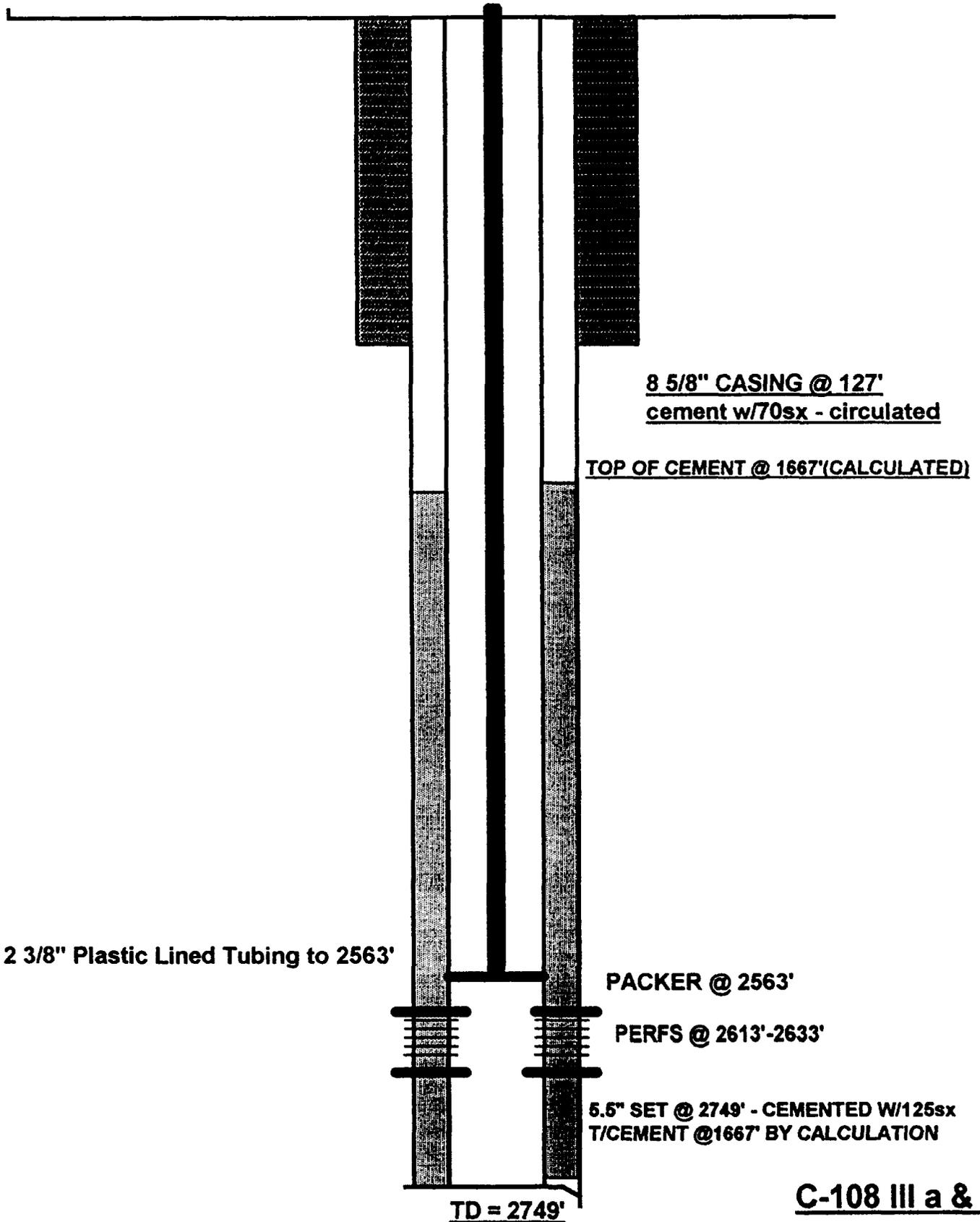
A2	<b>HOLE SIZE:</b>	11"	7.875"
A2	<b>CASING SIZE:</b>	8.625	5.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	15.5#
A2	<b>CASING DEPTH:</b>	127'	2749'
A2	<b>CEMENT:</b>	70sx	125sx
A2	<b>TOP OF CEMENT:</b>	surface	1667'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2563' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2613'-2633'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	946'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #12  
Well Schematic (Proposed)  
C-108-III a & b



25-T8S-R28E. 330 FSL & 330 FEEL

P

O'BRIEN 25 #2

TLSAU #12

30-005-60578

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 14  
 A1 **FOOTAGE:** 330 FSL & 1650 FWL  
 A1 **SECTION:** 30-T8S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

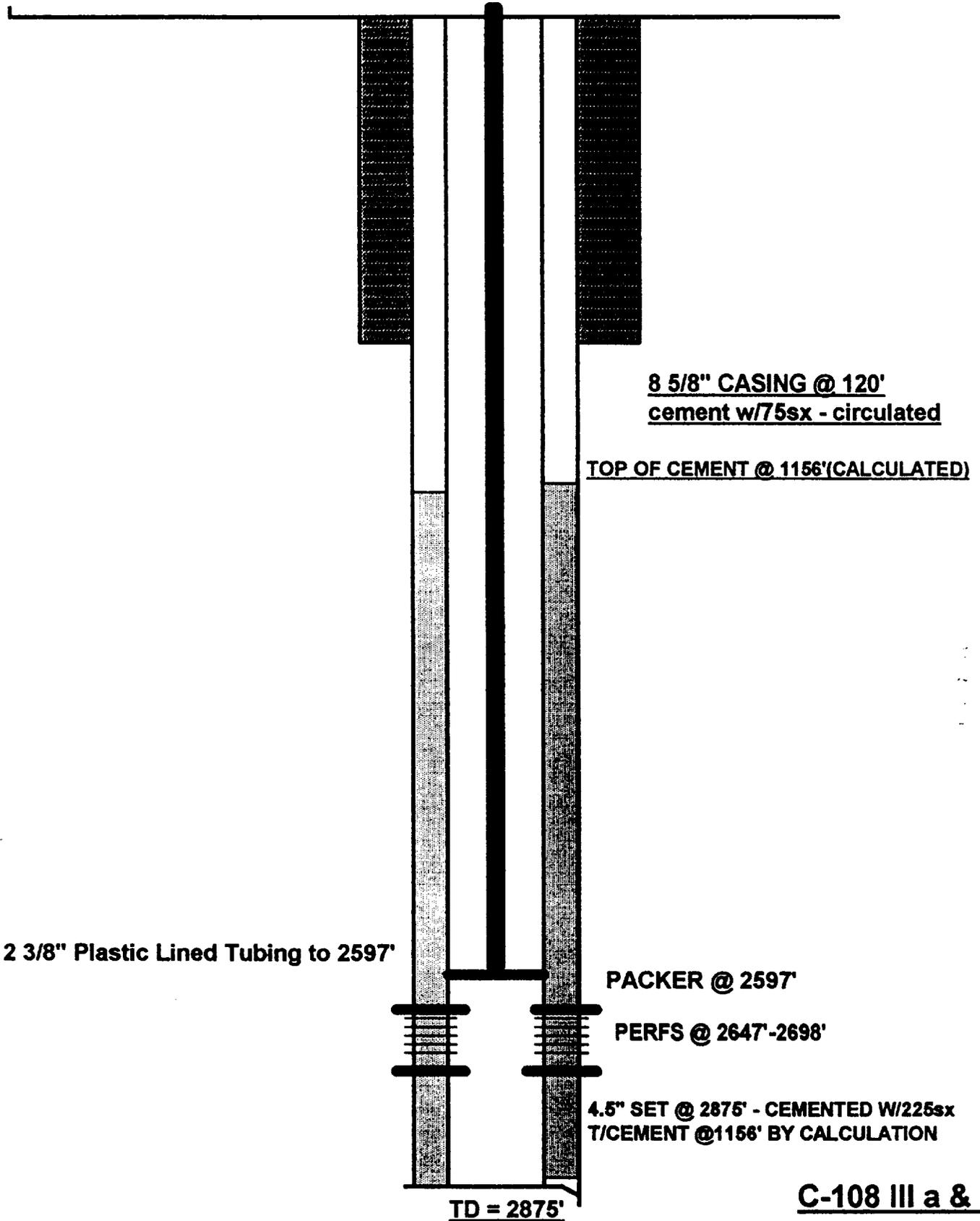
A2	<b>HOLE SIZE:</b>	12.5"	7.5"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	120'	2875'
A2	<b>CEMENT:</b>	75sx	225sx
A2	<b>TOP OF CEMENT:</b>	surface	1156'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2597' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2647'-2698'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1491'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #14  
Well Schematic (Proposed)  
C-108-III a & b



30-T8S-R29F 330 FSI & 1650 FWT

N

ORRIFN J #1

TLSA1 #14

30-005-60597

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 18  
 A1 **FOOTAGE:** 990'FNL & 2310' FEL  
 A1 **SECTION:** 36-T8S-R28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

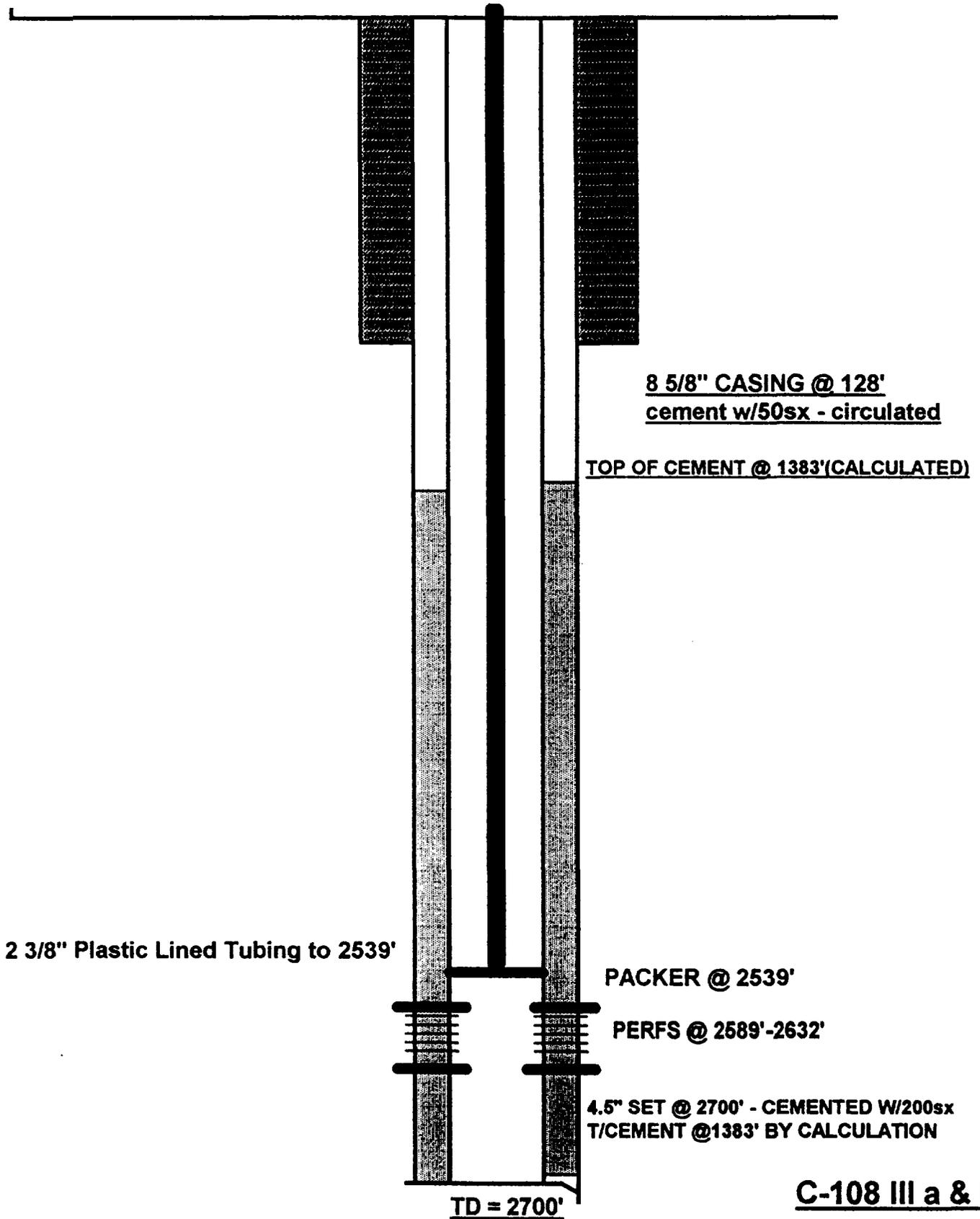
A2	<b>HOLE SIZE:</b>	12.5"	7.875"
A2	<b>CASING SIZE:</b>	8.625	4.5"
A2	<b>CASING WEIGHT:</b>	28#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	128'	2700'
A2	<b>CEMENT:</b>	50sx	200sx
A2	<b>TOP OF CEMENT:</b>	surface	1383'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2539' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2589'-2632'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1206'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #18  
Well Schematic (Proposed)  
C-108-III a & b



36-T85-R28E. 990 FNL & 2 3/10 FEL

B

CITGO A #6

TLSAU #18

30-005-60536

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 20  
 A1 **FOOTAGE:** 990' FNL & 330' FWL  
 A1 **SECTION:** 31- T8S-29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

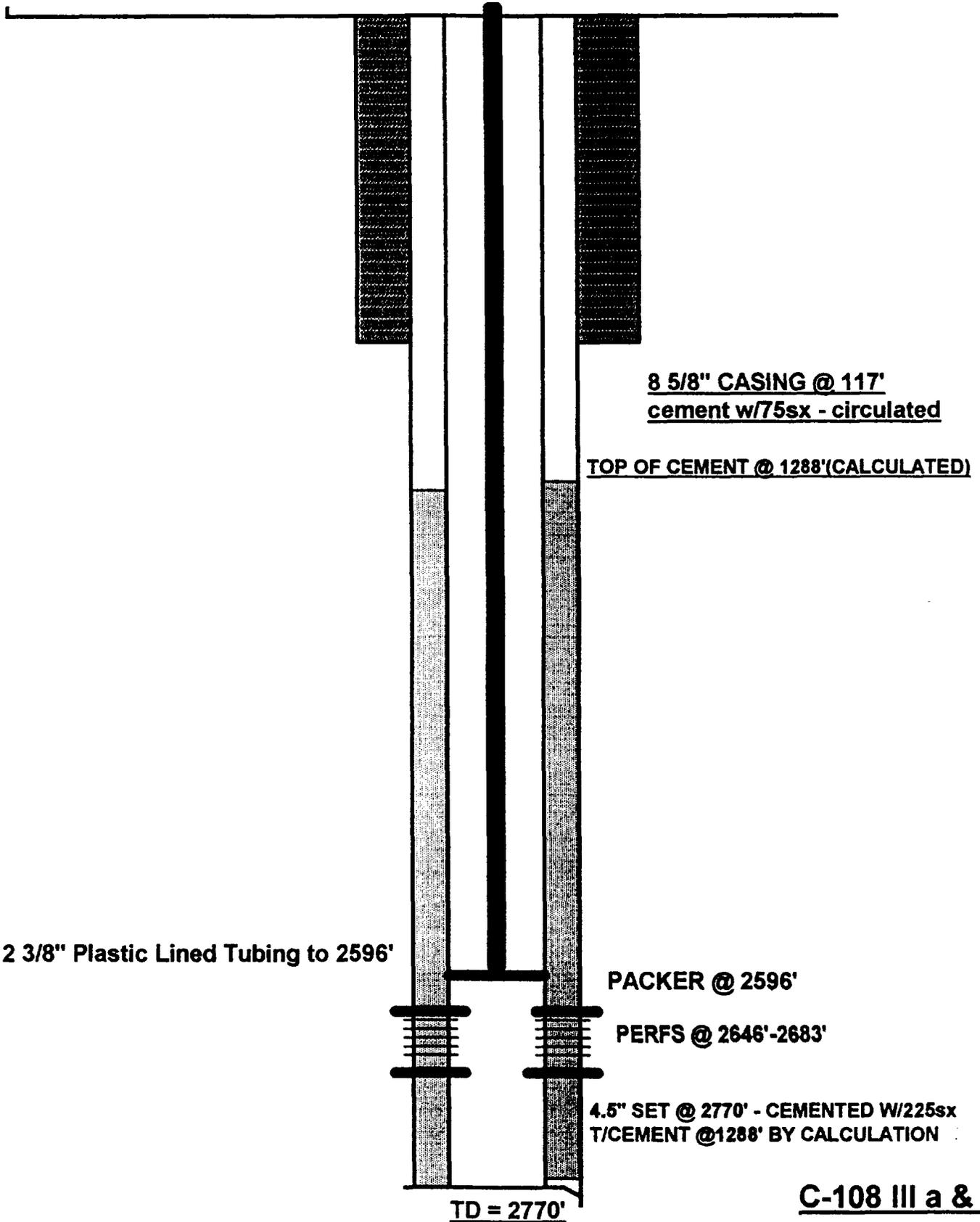
A2	<b>HOLE SIZE:</b>	12.5"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	28#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	117'	2770"
A2	<b>CEMENT:</b>	75sx	225sx
A2	<b>TOP OF CEMENT:</b>	surface	1288'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2596' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2645.5-2683.5
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1358'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
 Twin Lakes San Andres Unit Well #20  
 Well Schematic (Proposed)  
 C-108-III a & b



31-T8S-R29E, 990 FNL. & 330 FWL

D

O'BRIEN I #1

TLSAU #20

30-005-60570

**C-108 III a & b**

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 22  
 A1 **FOOTAGE:** 990' FNL & 2310' FEL  
 A1 **SECTION:** 31-T8S- 29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

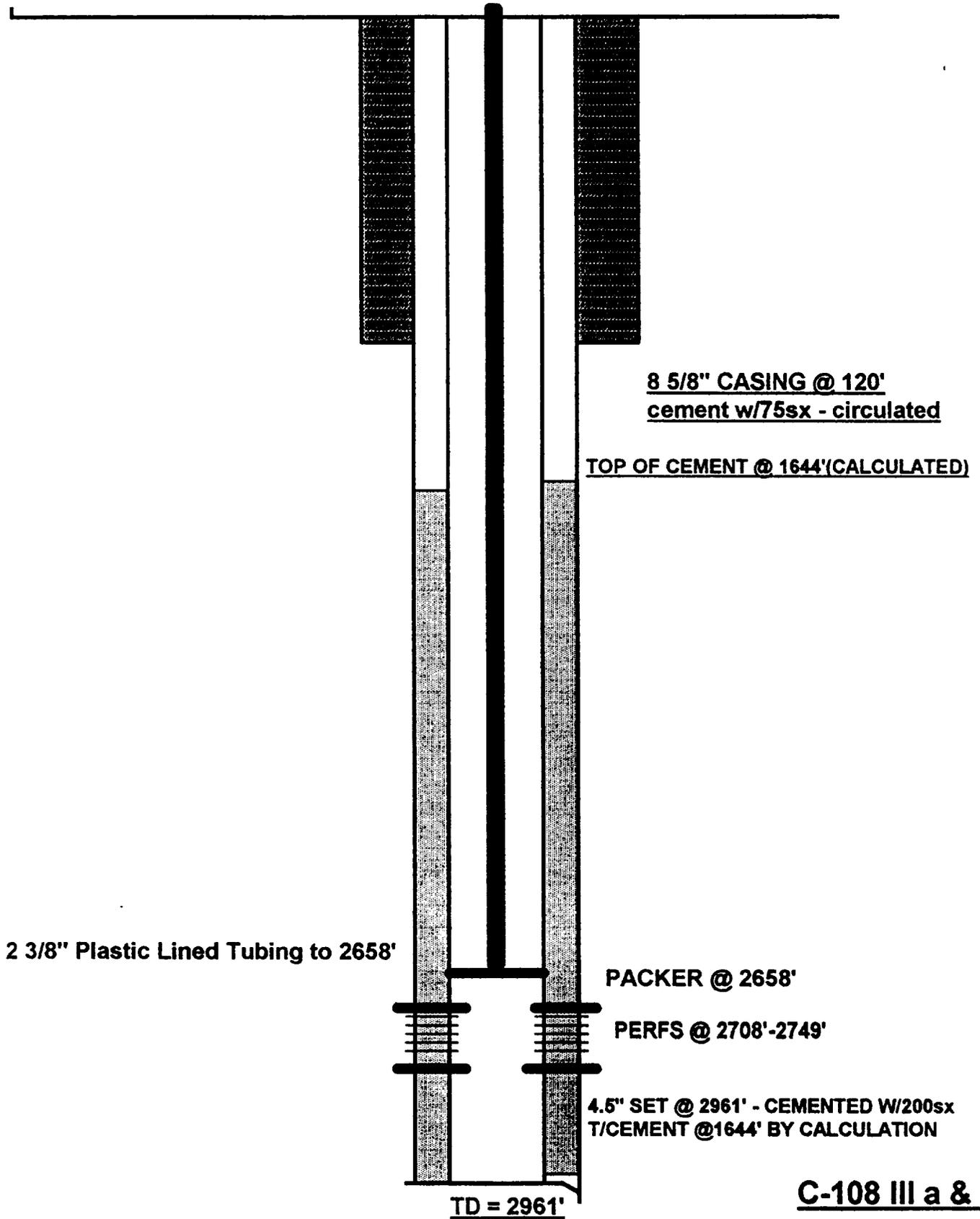
A2	<b>HOLE SIZE:</b>	12.5"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	120'	2961'
A2	<b>CEMENT:</b>	75sx	200sx
A2	<b>TOP OF CEMENT:</b>	surface	1644'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2658' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2708.5'-2749'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1391'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #22  
Well Schematic (Proposed)  
C-108-III a & b



**C-108 III a & b**

31-T8S-RC9F. 990 FNI. & 2310 FEL

B

O'BRIEN J #8

TLSAU #22

30-005-60823

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1	<b>WELL NAME:</b>	Twin Lakes San Andres Unit # 26
A1	<b>FOOTAGE:</b>	1980' FNL & 1980' FWL
A1	<b>SECTION:</b>	36-8S-28E
A1	<b>COUNTY:</b>	Chaves

**EXISTING CASING PROGRAM**

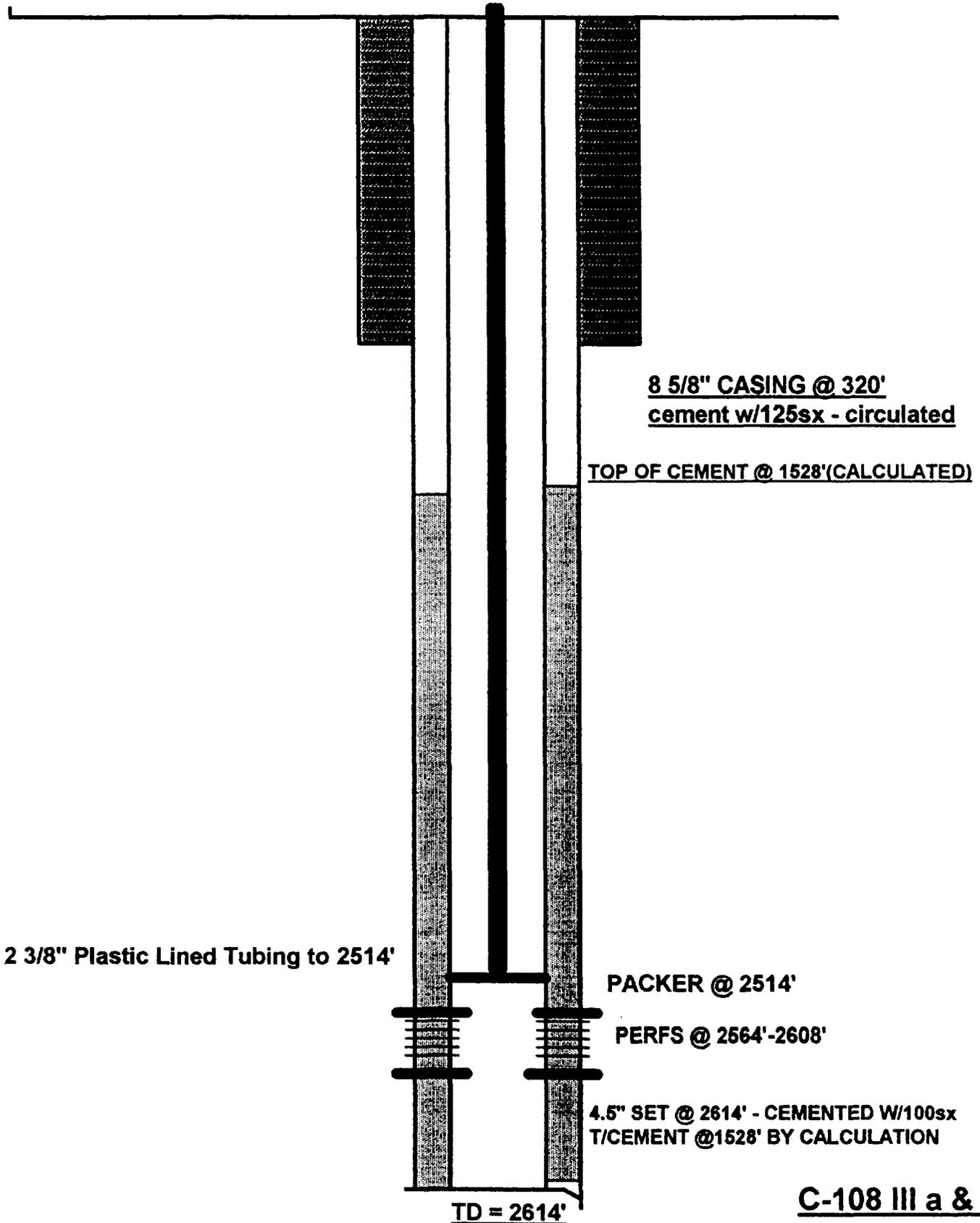
A2	<b>HOLE SIZE:</b>	11"	6.75
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	320'	2614'
A2	<b>CEMENT:</b>	125sx	100sx
A2	<b>TOP OF CEMENT:</b>	circulated	1528' <small>CALCULATED</small>

**PROPOSED TUBULAR & PACKER INFORMATION**

A3	<b>TUBING:</b>	2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined
A3	<b>PACKER DEPTH:</b>	2514' +/- 25'
A4	<b>PACKER TYPE:</b>	Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2564'-2608'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1478'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #26  
Well Schematic (Proposed)  
C-108-III a & b



36-T8S-R28E, 1980 FNL & 1980 FWL

F

CITGO STATE #1

TLSAU #26

30-005-60031

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 29  
A1 **FOOTAGE:** 2310' FNL & 990' FEL  
A1 **SECTION:** 36-T8S-R28E  
A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

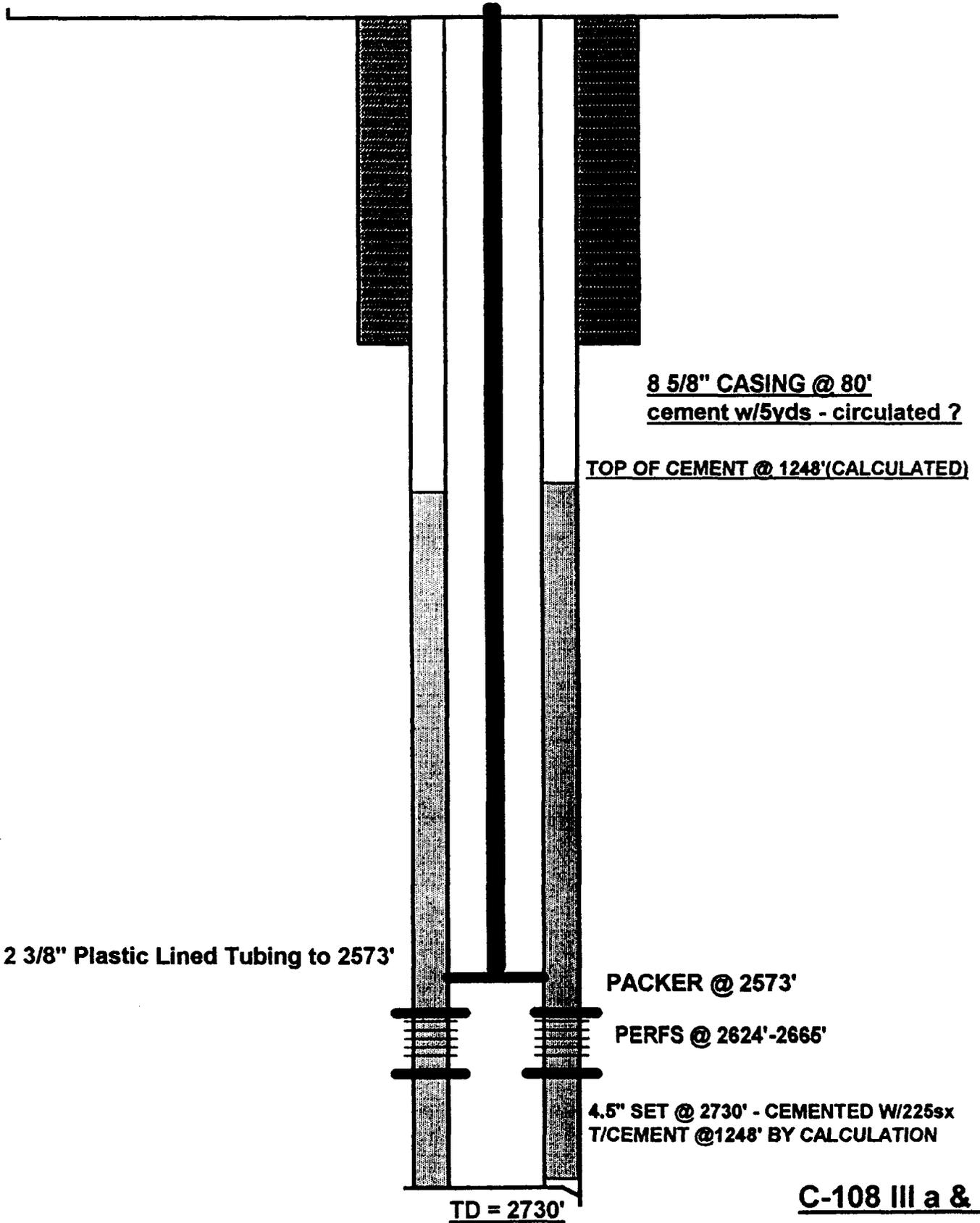
A2 **HOLE SIZE:** 12.5" 7.875"  
A2 **CASING SIZE:** 8.625" 4.5"  
A2 **CASING WEIGHT:** 28#/ft 9.5#/ft  
A2 **CASING DEPTH:** 80' 2730'  
A2 **CEMENT:** 5 yds. 225sx  
A2 **TOP OF CEMENT:** SURFACE ? 1248'  
calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2573' +/- 25'  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2623.5'-2664.5'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1141'  
B3 **ORIGINAL WELL PURPOSE:** Oil Well  
B4 **OTHER PERFORATED INTERVALS:** None  
B5 **NEXT PAY ZONE - ABOVE:** None  
B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #29  
Well Schematic (Proposed)  
C-108-III a & b



36-T8S-R28E. 2310 FNL & 990 FEL

H

CITGO STATE A #8

TLSAU #29

30-005-60569

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 36  
 A1 **FOOTAGE:** 1650 FSL & 2310 FEL  
 A1 **SECTION:** 36-T8S-28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

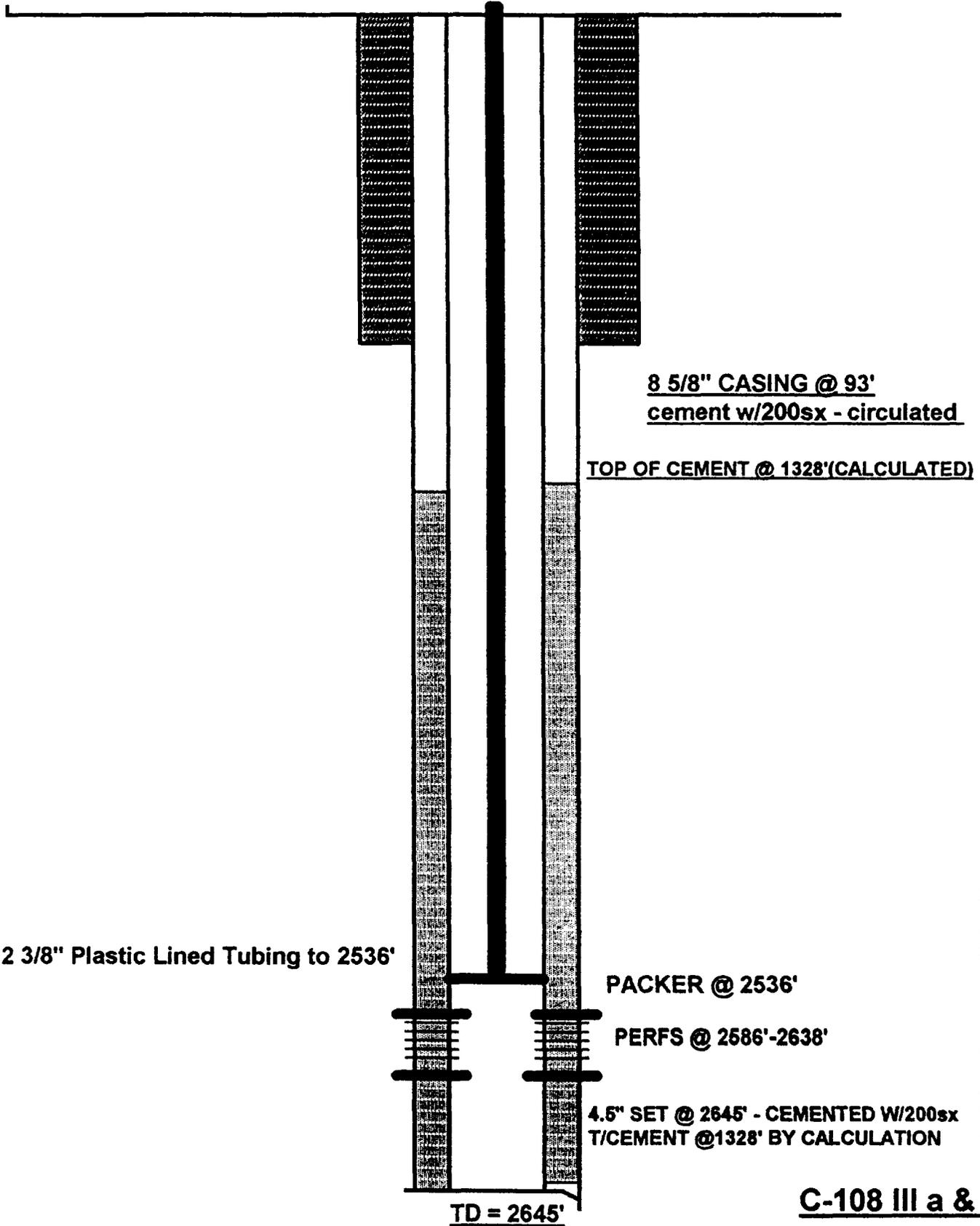
A2	<b>HOLE SIZE:</b>	11"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	24#/ft	11.6#/ft
A2	<b>CASING DEPTH:</b>	93'	2645'
A2	<b>CEMENT:</b>	200sx	200sx
A2	<b>TOP OF CEMENT:</b>	surface	1328'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2536' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2586'-2638'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1258'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
 Twin Lakes San Andres Unit Well #36  
 Well Schematic (Proposed)  
 C-108-III a & b



36-18S-R28E, 1650 FSL & 2310 FEL

J

CITGO STATE #2

TLSAU #36

30-005-60329

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 39  
 A1 **FOOTAGE:** 1650 FSL & 330 FWL  
 A1 **SECTION:** 31-T8S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

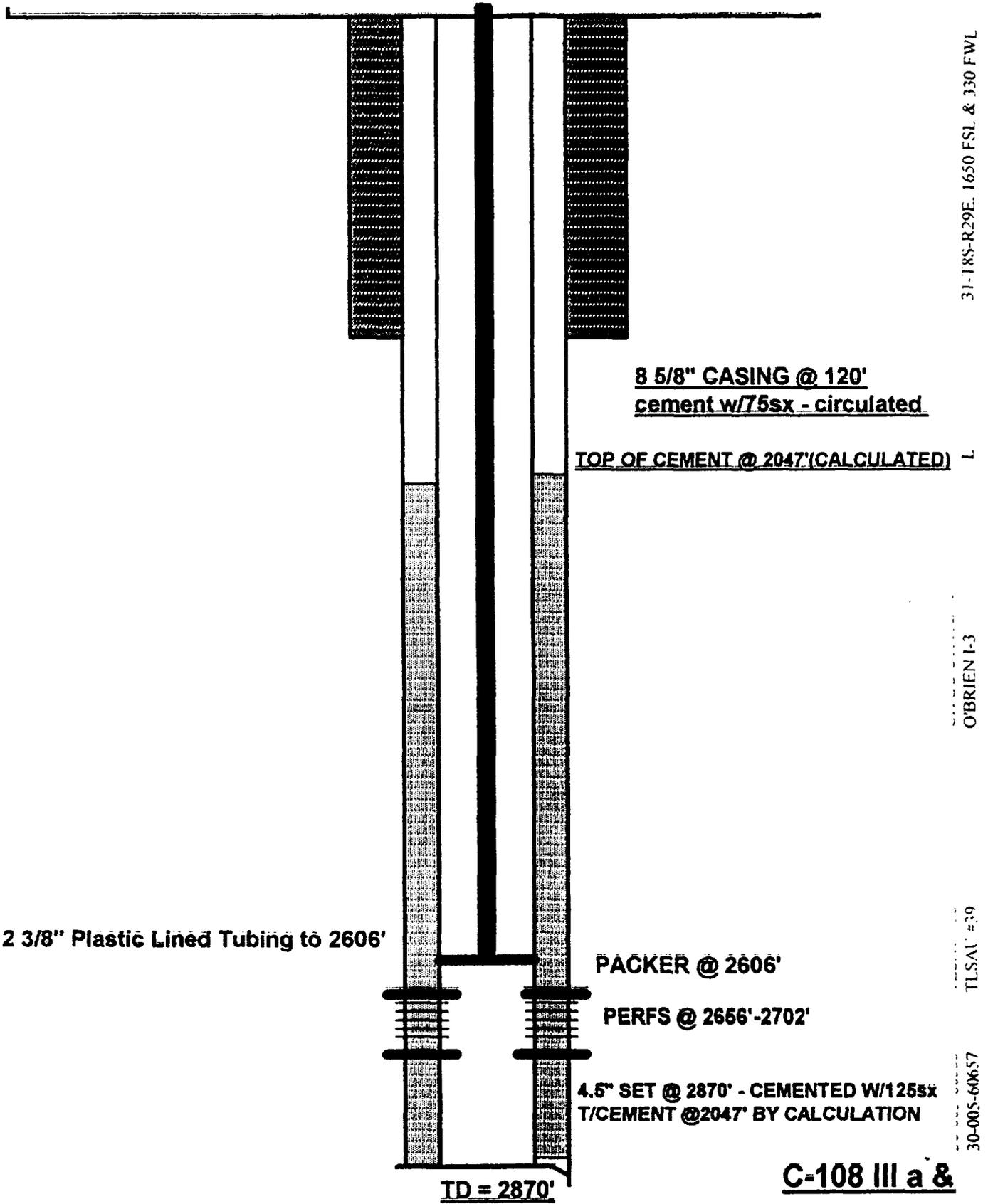
A2	<b>HOLE SIZE:</b>	12.5"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	120'	2870'
A2	<b>CEMENT:</b>	75sx	125sx
A2	<b>TOP OF CEMENT:</b>	surface	2047'
		circulated	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" EUE, J-55, 4.7#/ft. 8rt. internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2606' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2656'-2702.5'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	609'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #39  
Well Schematic (Proposed)  
C-108-III a & b



31-18S-R29E. 1650 FSL & 330 FWL

O'BRIEN I-3

TL.SA' #39

30-005-60657

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit #41  
**A1 FOOTAGE:** 1650' FSL & 2310' FEL  
**A1 SECTION:** 31-T8S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

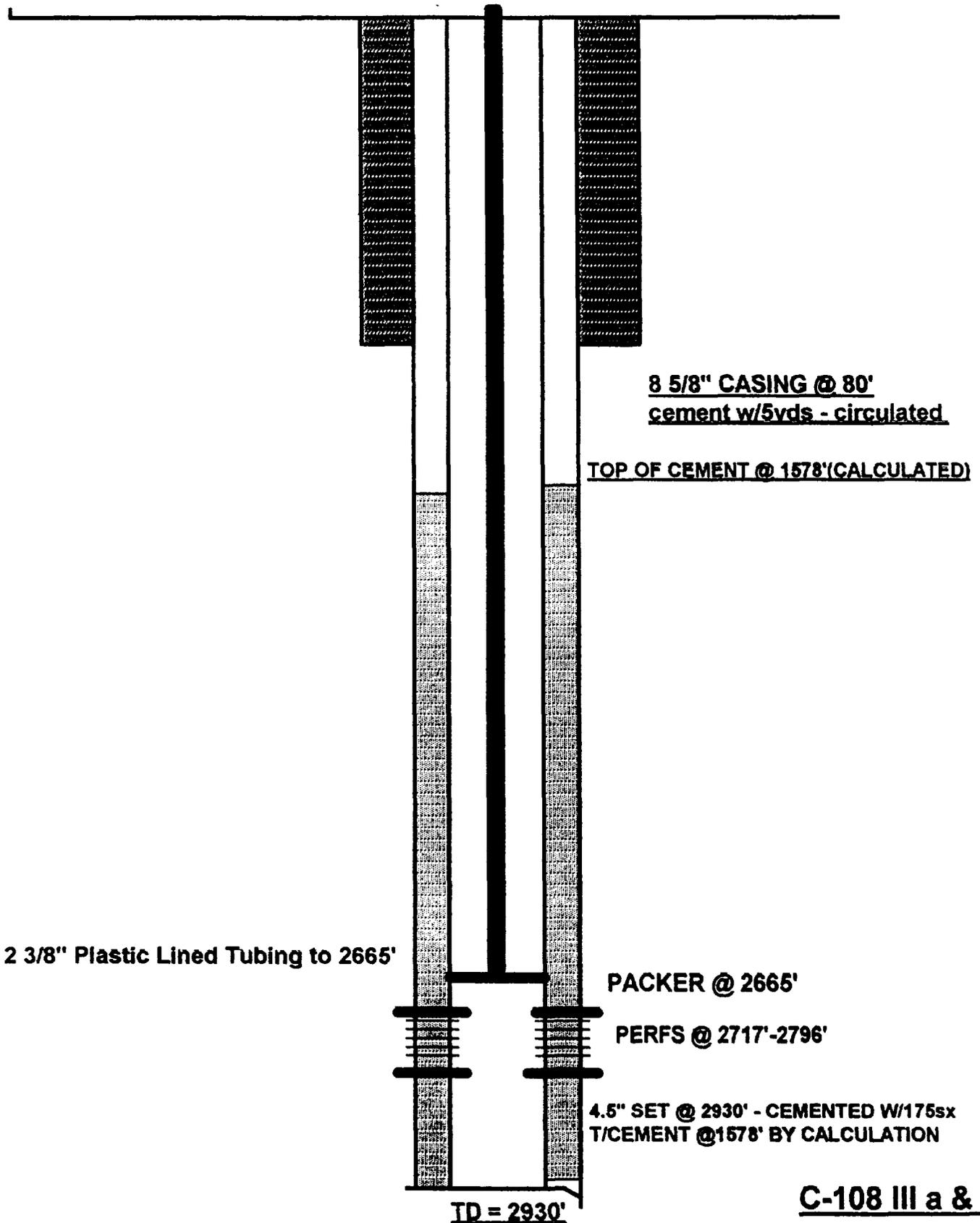
<b>A2</b>	<b>HOLE SIZE:</b>	12.25"	7.875"
<b>A2</b>	<b>CASING SIZE:</b>	8.625"	4.5"
<b>A2</b>	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
<b>A2</b>	<b>CASING DEPTH:</b>	80'	2930'
<b>A2</b>	<b>CEMENT:</b>	5yds	175sx
<b>A2</b>	<b>TOP OF CEMENT:</b>	SURFACE?	1578'
			Calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2665' +/-25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

**B1 PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
**B2 PROPOSED INJECTION INTERVAL:** Perforations from: 2717'-2796'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1139'  
**B3 ORIGINAL WELL PURPOSE:** Oil Well  
**B4 OTHER PERFORATED INTERVALS:** None  
**B5 NEXT PAY ZONE - ABOVE:** None  
**B5 NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #41  
Well Schematic (Proposed)  
C-108-III a & b



31-T8S-R29E. 1650 FSL & 2310 FEL

O'BRIEN J-2

TLSAI #41

30-005-60768

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1	<b>WELL NAME:</b>	Twin Lakes San Andres Unit # 42
A1	<b>FOOTAGE:</b>	1650' FSL & 990' FEL
A1	<b>SECTION:</b>	31-T8S-R29E
A1	<b>COUNTY:</b>	Chaves

**EXISTING CASING PROGRAM**

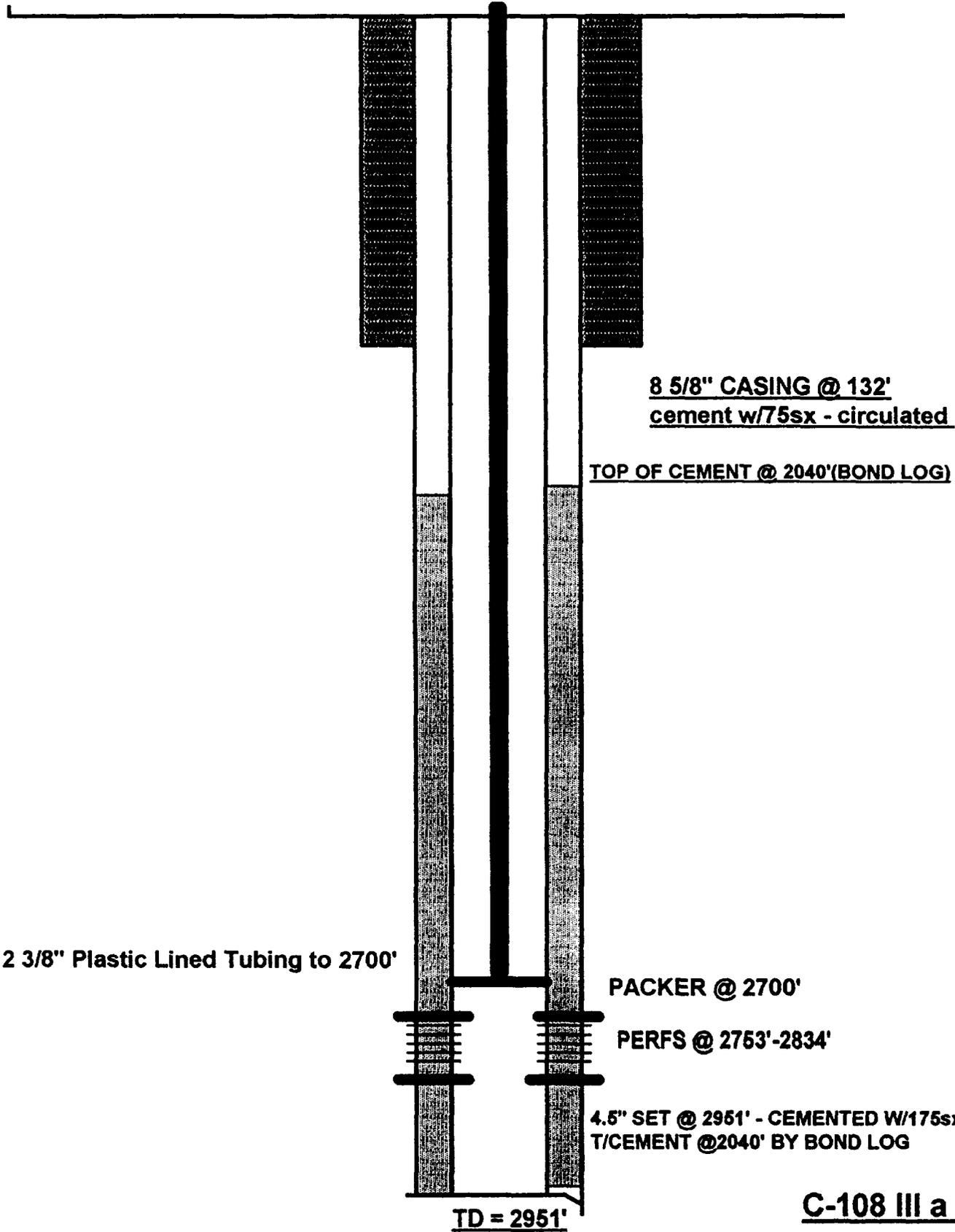
A2	<b>HOLE SIZE:</b>	12.25"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	132'	2951'
A2	<b>CEMENT:</b>	75sx	175sx
A2	<b>TOP OF CEMENT:</b>	SURFACE	2040'
		Circ. 10sx	BOND LOG

**PROPOSED TUBULAR & PACKER INFORMATION**

A3	<b>TUBING:</b>	2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined
A3	<b>PACKER DEPTH:</b>	2700' +/-25'
A4	<b>PACKER TYPE:</b>	Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2753'-2834'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	713'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #42  
Well Schematic (Proposed)  
C-108-III a & b



31-T8S-R29E. 1650 FSL & 990 FEL

1

O'BRIEN J-5

TLSA #42

30-005-60802

**C-108 III a & b**

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 45  
 A1 **FOOTAGE:** 660' FSL & 1980' FWL  
 A1 **SECTION:** 36-T8S-R28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

A2	<b>HOLE SIZE:</b>	17.5"	12.25"	9.625"
A2	<b>CASING SIZE:</b>	13.375"	9.625"	5.5"
A2	<b>CASING WEIGHT:</b>	48#/ft	36#/ft	15.5#/ft
A2	<b>CASING DEPTH:</b>	665'	3415'	1001'
A2	<b>CEMENT:</b>	800sx	2455'	100sx
A2	<b>TOP OF CEMENT:</b>	SURFACE	770'	815'

TEMP SURV

**PROPOSED TUBULAR & PACKER INFORMATION**

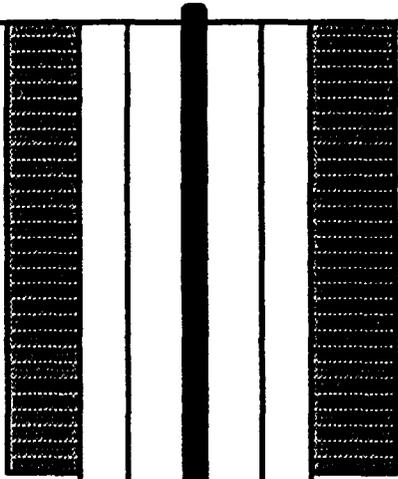
A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2530' +/-25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2580'-2616'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1810'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

**COMMENTS:** 725' OF 9.625" CASING PULLED BY MAGNOLIA  
 SWEENEY RAN 1001' OF 5.5" & CEMENTED W/100sx

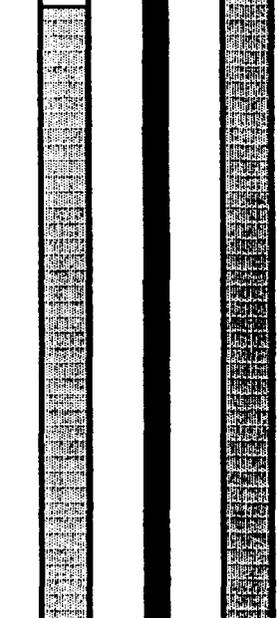
Hanagan Petroleum Corporation  
 Twin Lakes San Andres Unit Well #45  
 Well Schematic (Proposed)  
 C-108-III a & b

5.5" TO 1001' AFTER  
 725' OF 9.625" WAS  
 PULLED



13 1/2"  
~~8 5/8"~~ CASING @ 665'  
 cement w/800sx - circulated

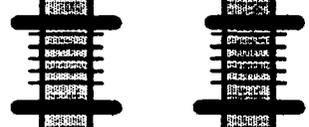
TOP OF CEMENT @ 770' (TEMP SURVEY)



2 3/8" Plastic Lined Tubing to 2530'

PACKER @ 2530'

PERFS @ 2580'-2616'



9.625" SET @ 3415' - CEMENTED W/2455sx  
 T/CEMENT @ 770' BY TEMP SURVEY

PB TD = 3415'

C-108 III a & b

36-T8S-R28E. 660 FSI. & 1980 FWL

N

CITGO ST. A-2

TLSAU #45

30-005-00342

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

ITEM #

A1 **WELL NAME:** Twin Lakes San Andres Unit # 47  
 A1 **FOOTAGE:** 660' FSL & 660' FE;  
 A1 **SECTION:** 36-T8S-R28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

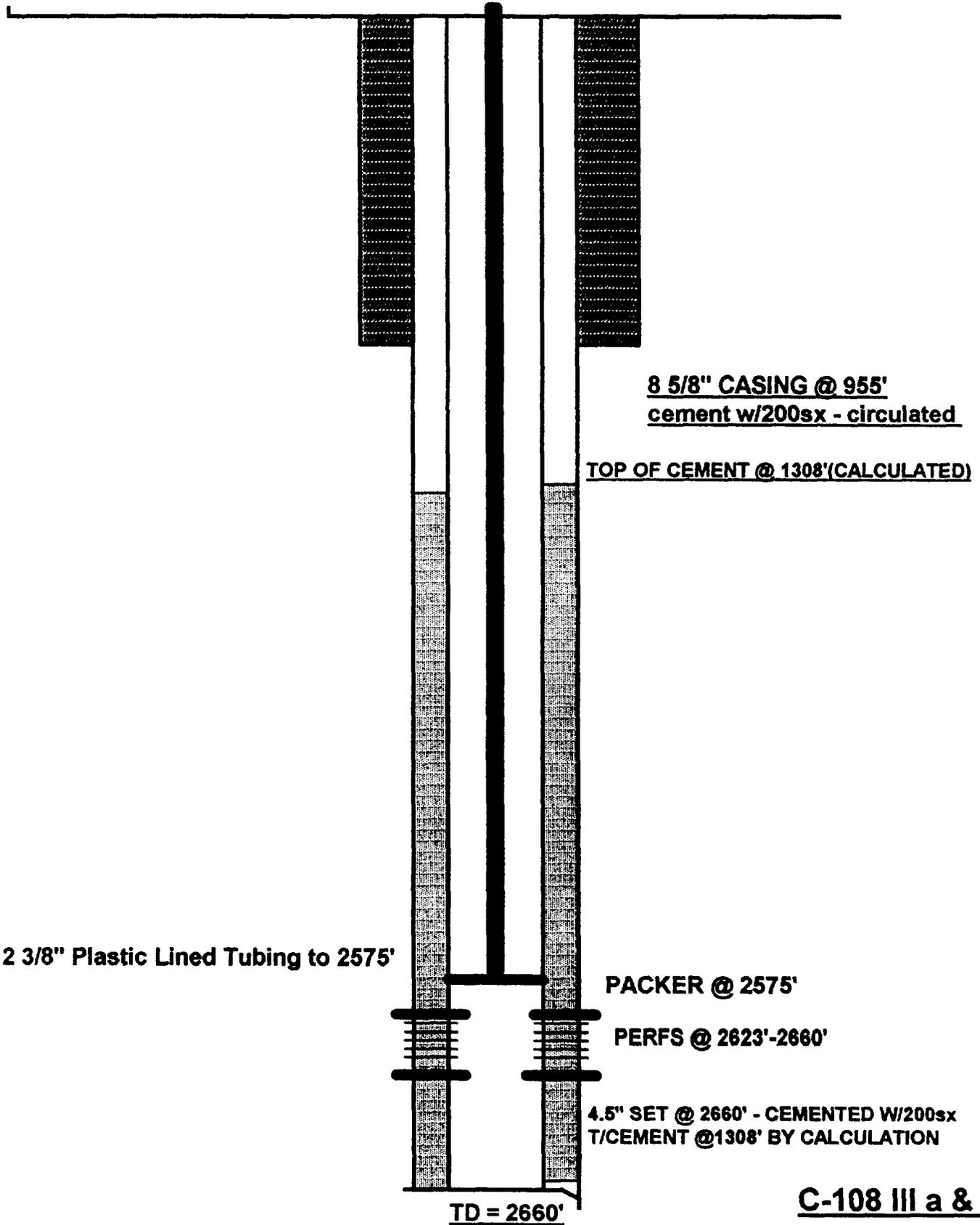
A2 **HOLE SIZE:** 11" 7.875"  
 A2 **CASING SIZE:** 8.625" 4.5"  
 A2 **CASING WEIGHT:** 28#/ft 9.5#/ft  
 A2 **CASING DEPTH:** 955' 2860'  
 A2 **CEMENT:** 200sx 200sx  
 A2 **TOP OF CEMENT:** SURFACE? 1308'  
 Calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2575' +/-25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2623'-2660'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1315'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #47  
Well Schematic (Proposed)  
C-108-III a & b



36-TKS-R28E. 660 FSL & 660 FEL

P

CITGO S.T. #3

TLSAU #47

30-005-60010

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit #49  
 A1 **FOOTAGE:** 560' FSL & 1650' FWL  
 A1 **SECTION:** 31-T8S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

A2	<b>HOLE SIZE:</b>	12.25"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20#/ft	9.5#/ft
A2	<b>CASING DEPTH:</b>	80'	2898'
A2	<b>CEMENT:</b>	5yds	175sx
A2	<b>TOP OF CEMENT:</b>	SURFACE	1715'

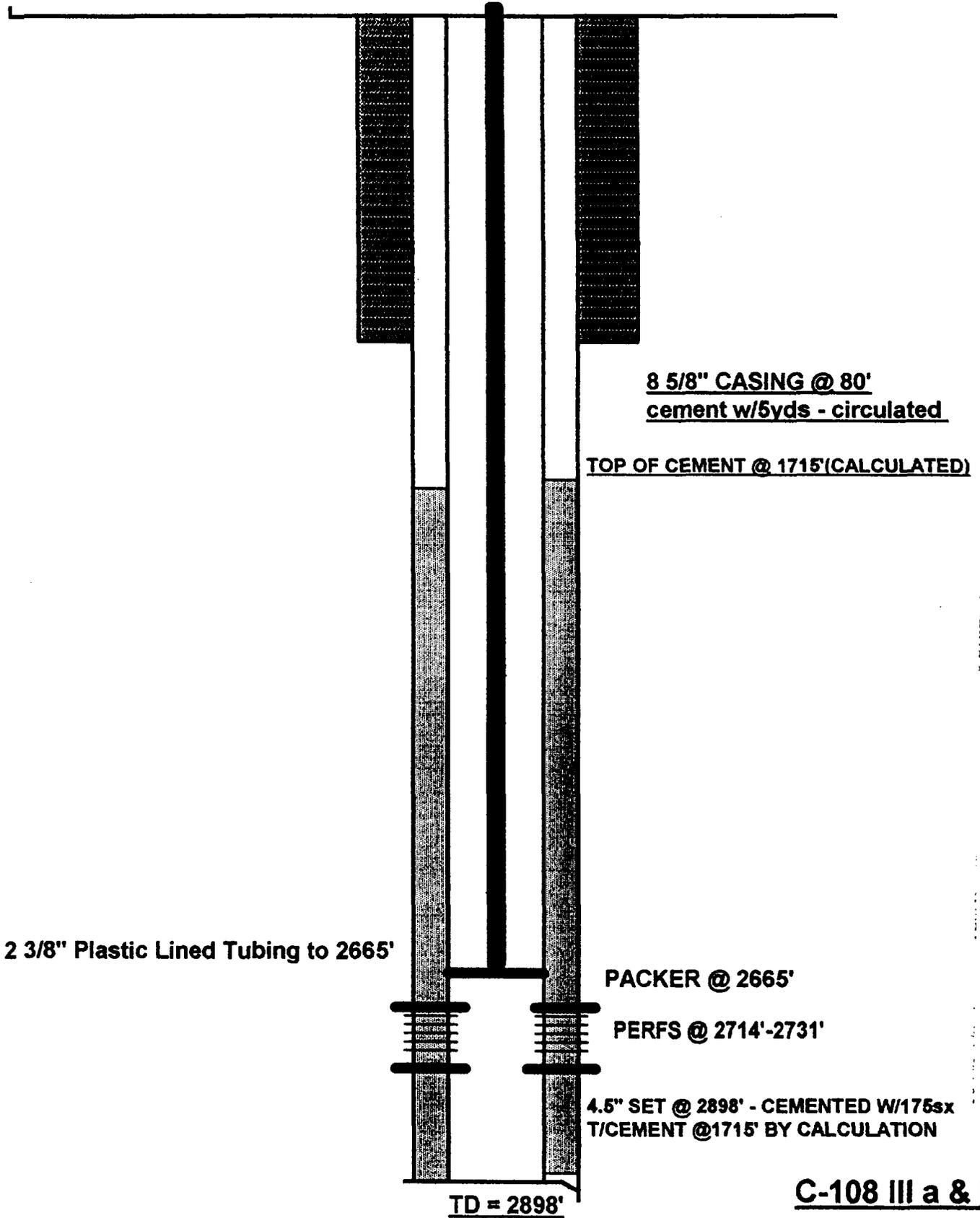
Calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2665' +/-25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2714'-2731'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1000'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
 Twin Lakes San Andres Unit Well #49  
 Well Schematic (Proposed)  
 C-108-III a & b



31-T8S-R28E. 560 FSI. & 1650 FWL

N

O'BRIEN I-8

TLSAU #49

30-005-60767

**C-108 III a & b**

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

ITEM #

A1 **WELL NAME:** Twin Lakes San Andres Unit #51  
A1 **FOOTAGE:** 560' FSL & 990' FEL  
A1 **SECTION:** 31-T8S-R29E  
A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

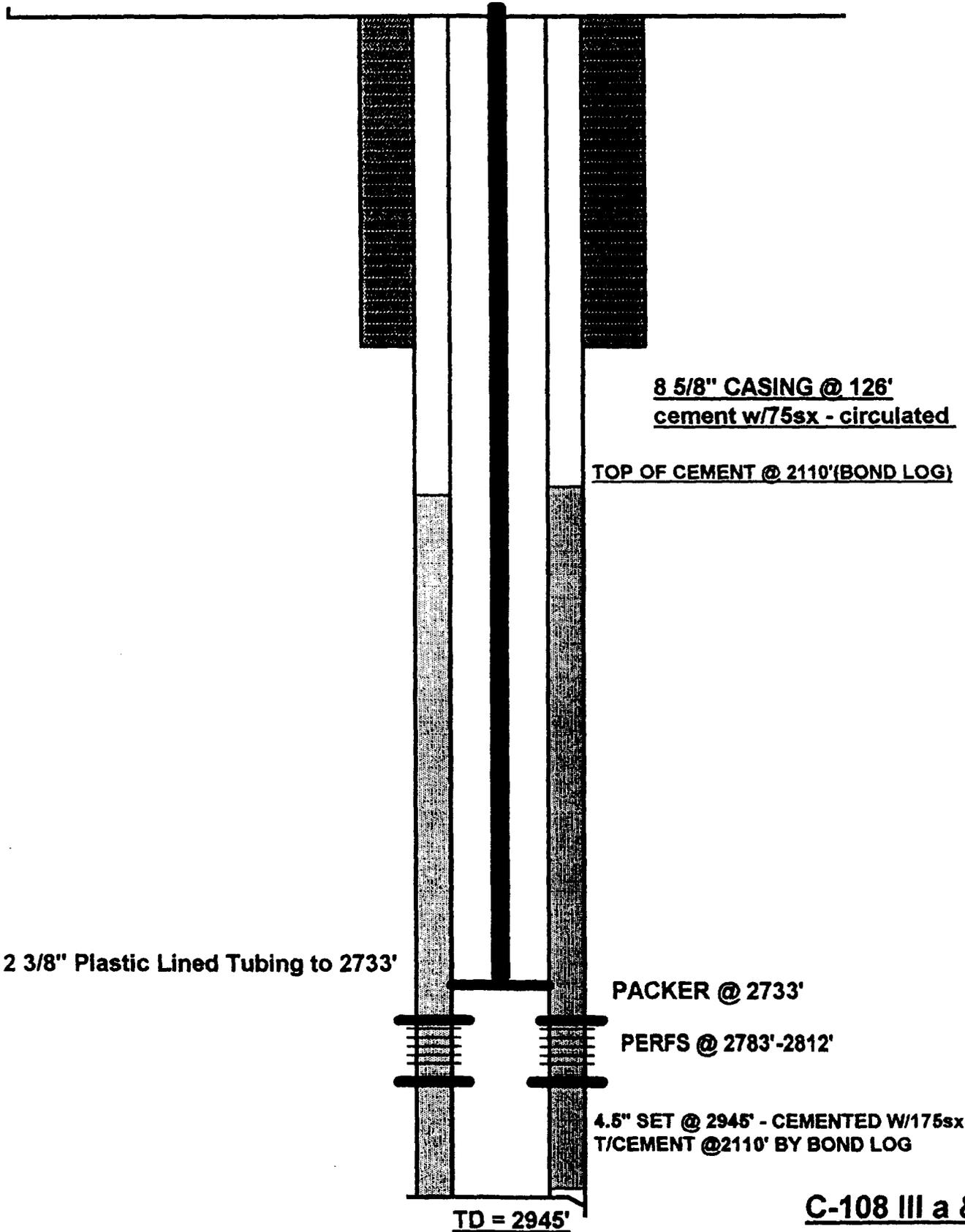
A2 **HOLE SIZE:** 12.25" 7.875"  
A2 **CASING SIZE:** 8.625" 4.5"  
A2 **CASING WEIGHT:** 20#/ft 9.5#/ft  
A2 **CASING DEPTH:** 126' ~~2495'~~ 2945'  
A2 **CEMENT:** 75sx 175sx  
A2 **TOP OF CEMENT:** SURFACE 2110'  
Circ 20sx BOND LOG

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2733' +/-25'  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2783'-2812'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 673'  
B3 **ORIGINAL WELL PURPOSE:** Oil Well  
B4 **OTHER PERFORATED INTERVALS:** None  
B5 **NEXT PAY ZONE - ABOVE:** None  
B6 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #51  
Well Schematic (Proposed)  
C-108-III a & b



SI-T8S-R29E. 560 FSI & 990 FEL

P

O'BRIEN J-6

TLSAU = 51

30-005-60810

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit # 58  
**A1 FOOTAGE:** 330 FNL & 330' FWL  
**A1 SECTION:** 6-T9S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

**A2 HOLE SIZE:** 12.25" 7.875"  
**A2 CASING SIZE:** 8.625" 4.5"  
**A2 CASING WEIGHT:** 20 #/ft 9.5 #/ft  
**A2 CASING DEPTH:** 133' 2823'  
**A2 CEMENT:** 75sx 200sx  
**A2 TOP OF CEMENT:** SURFACE 1471'  
 Circ. 10sx calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2615' +/- 25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

**B1 PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
**B2 PROPOSED INJECTION INTERVAL:** Perforations from: 2665'-2743'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1194'  
**B3 ORIGINAL WELL PURPOSE:** Oil Well  
**B4 OTHER PERFORATED INTERVALS:** None  
**B5 NEXT PAY ZONE - ABOVE:** None  
**B5 NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

6-T9S-R29E: 330 FNL & 330 FWL

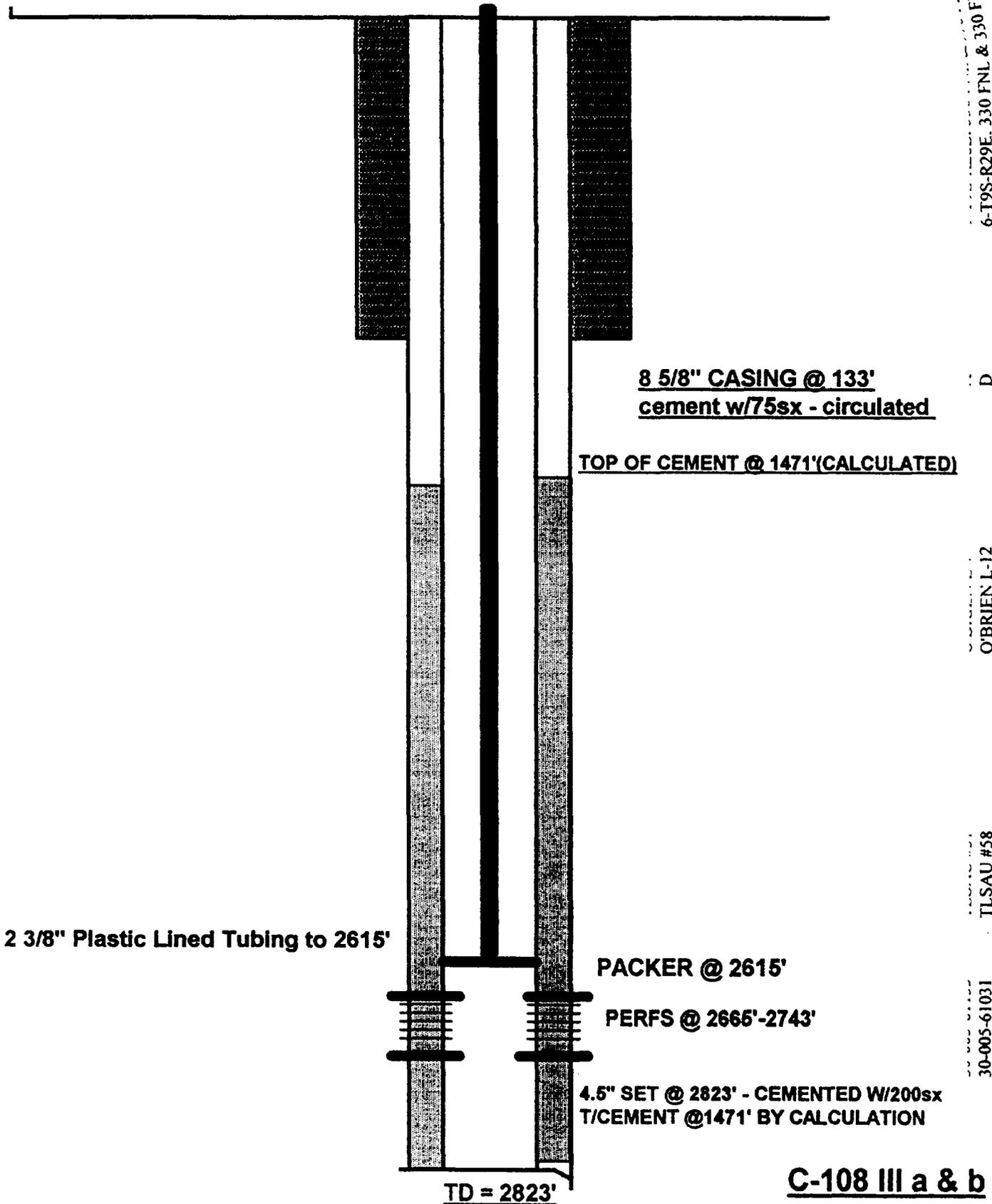
D

O'BRIEN L-12

T.L.S.A.U. #58

30-005-61031

Hanagan Petroleum Corporation  
 Twin Lakes San Andres Unit Well #58  
 Well Schematic (Proposed)  
 C-108-III a & b



**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 60  
 A1 **FOOTAGE:** 330' FNL & 2310' FEL  
 A1 **SECTION:** 6-T9S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

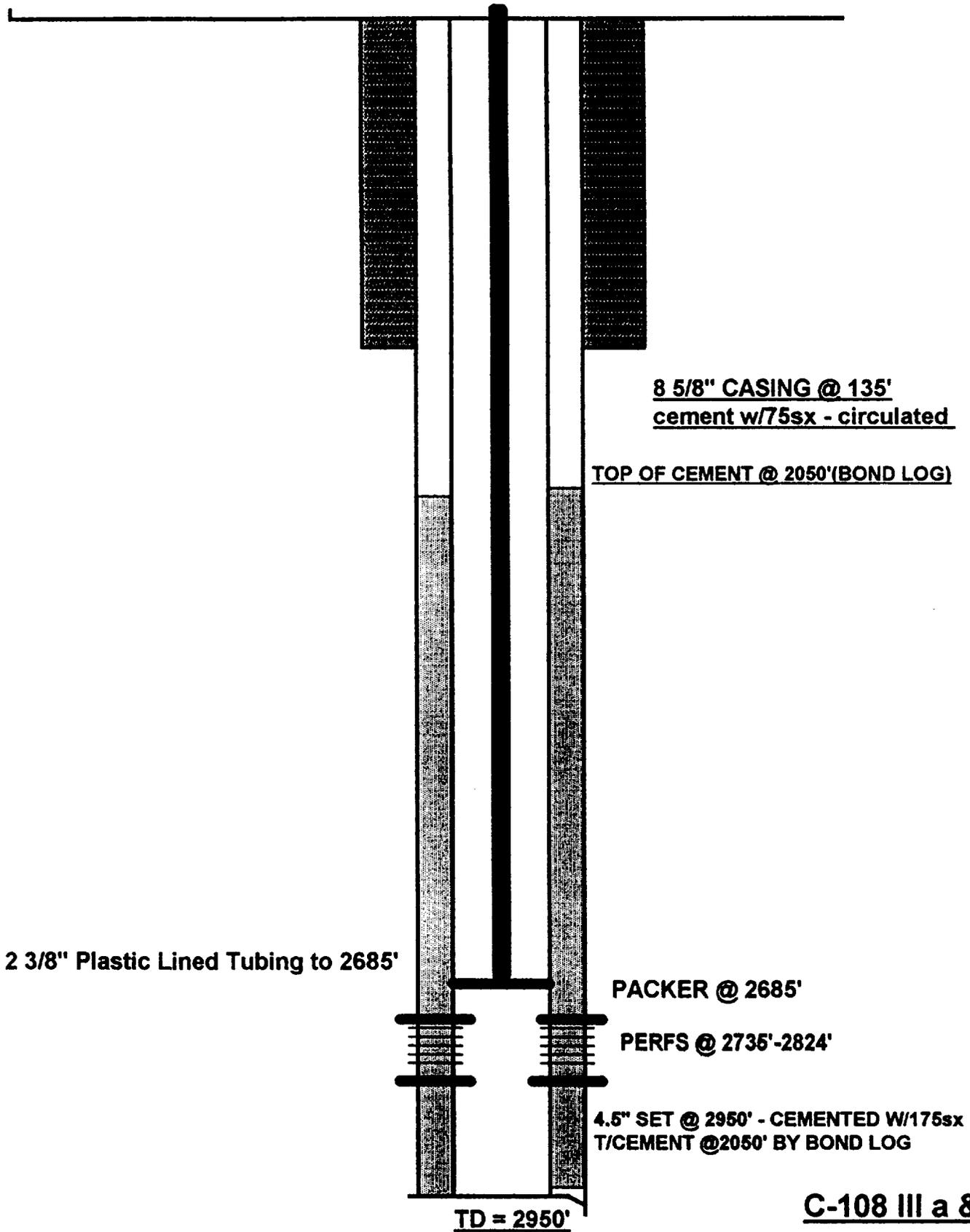
A2 **HOLE SIZE:** 12.25" 7.875"  
 A2 **CASING SIZE:** 8.625" 4.5"  
 A2 **CASING WEIGHT:** 20 #/ft 9.5#/ft  
 A2 **CASING DEPTH:** 135' 2950'  
 A2 **CEMENT:** 75sx 175sx  
 A2 **TOP OF CEMENT:** SURFACE 2050'  
 BOND LOG

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2685' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2735'-2824'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 685'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #60  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S-R29E. 330 FNL & 2310 FEL

B

O'BRIEN L-2

TLSAU #60

30-005-60824

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit #69  
**A1 FOOTAGE:** 1650' FNL & 1650' FWL  
**A1 SECTION:** 6-T9S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

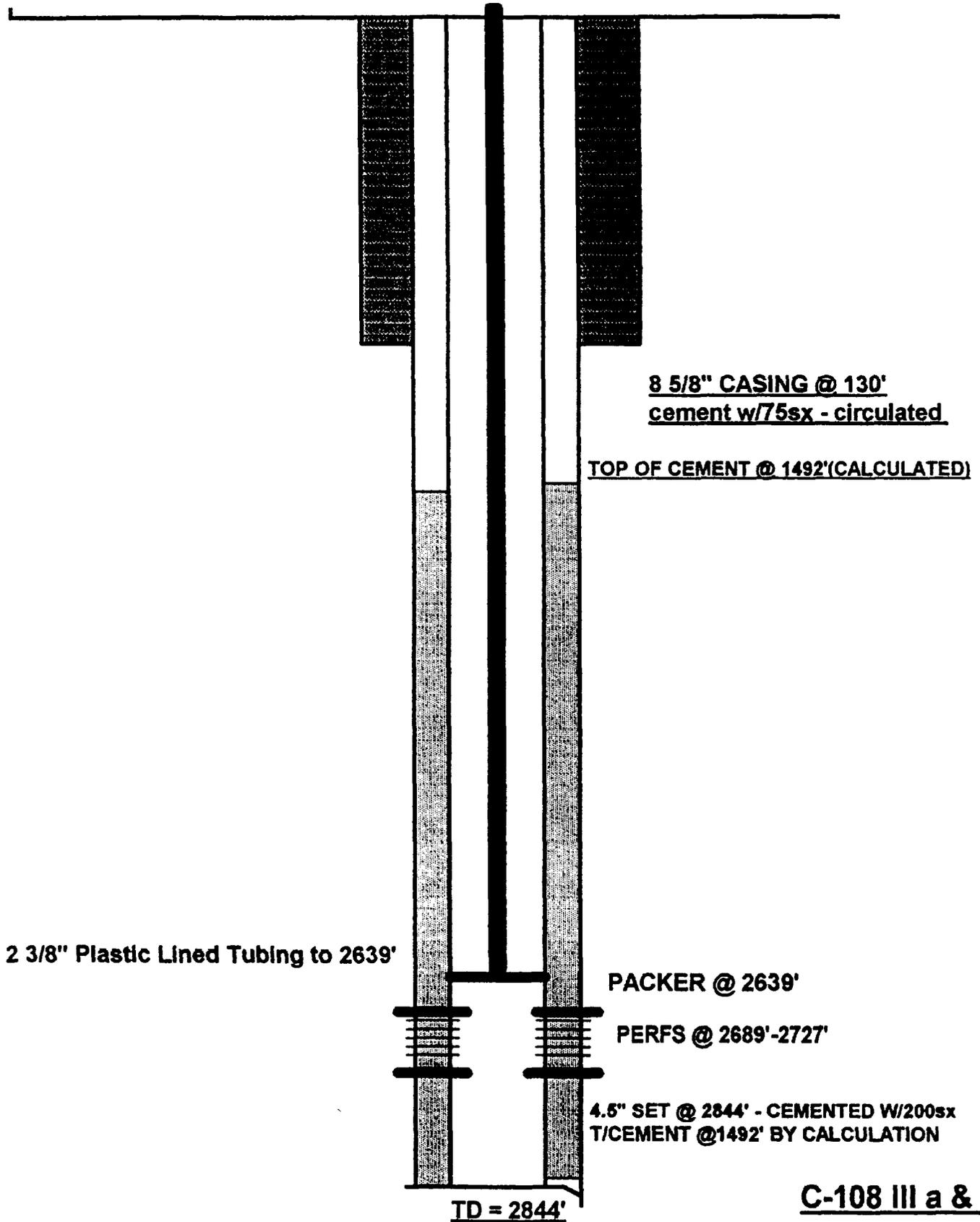
**A2 HOLE SIZE:** 12.25" 7.875"  
**A2 CASING SIZE:** 8.625" 4.5"  
**A2 CASING WEIGHT:** 20 #/ft 9.5 #/ft  
**A2 CASING DEPTH:** 130' 2844'  
**A2 CEMENT:** 75sx 200sx  
**A2 TOP OF CEMENT:** SURFACE 1492'  
Circ. 20sx calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2639' +/- 25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

**B1 PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
**B2 PROPOSED INJECTION INTERVAL:** Perforations from: 2689'-2727'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1197'  
**B3 ORIGINAL WELL PURPOSE:** Oil Well  
**B4 OTHER PERFORATED INTERVALS:** None  
**B5 NEXT PAY ZONE - ABOVE:** None  
**B5 NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #69  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S-R29E, 1650 FNL & 1650 FWL

F

O'BRIEN L-8

TLSAU #69

30-005-60984

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit #72  
A1 **FOOTAGE:** 1650' FNL & 990' FEL  
A1 **SECTION:** 6-T9S-R29E  
A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

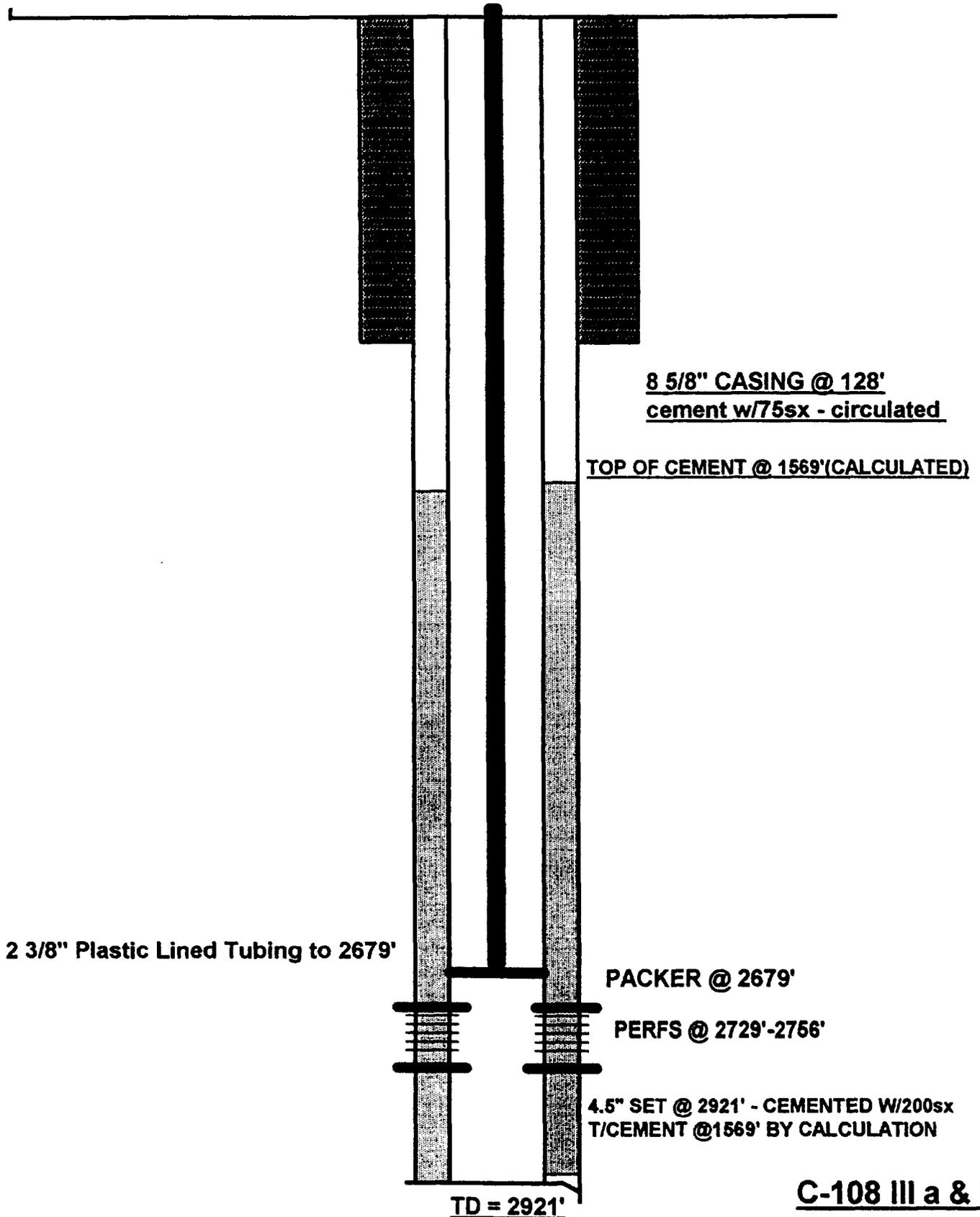
A2 **HOLE SIZE:** 11" 7.875"  
A2 **CASING SIZE:** 8.625" 4.5"  
A2 **CASING WEIGHT:** 20 #/ft 9.5 #/ft  
A2 **CASING DEPTH:** 128' 2921'  
A2 **CEMENT:** 75sx 200sx  
A2 **TOP OF CEMENT:** SURFACE 1569'  
Calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2679' +/- 25'  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2729'-2758'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1160'  
B3 **ORIGINAL WELL PURPOSE:** Oil Well  
B4 **OTHER PERFORATED INTERVALS:** None  
B5 **NEXT PAY ZONE - ABOVE:** None  
B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #72  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S-R29E, 16S0 ENI & 990 FEI.

H

O'BRIEN L.S

TL.SAU #72

30-005-60886

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 77  
 A1 **FOOTAGE:** 2310' FSL & 330' FWL  
 A1 **SECTION:** 6-T9S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

A2	<b>HOLE SIZE:</b>	12.25"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20 #/ft	9.5 #/ft
A2	<b>CASING DEPTH:</b>	130'	2826'
A2	<b>CEMENT:</b>	75sx	200sx
A2	<b>TOP OF CEMENT:</b>	SURFACE	1474'

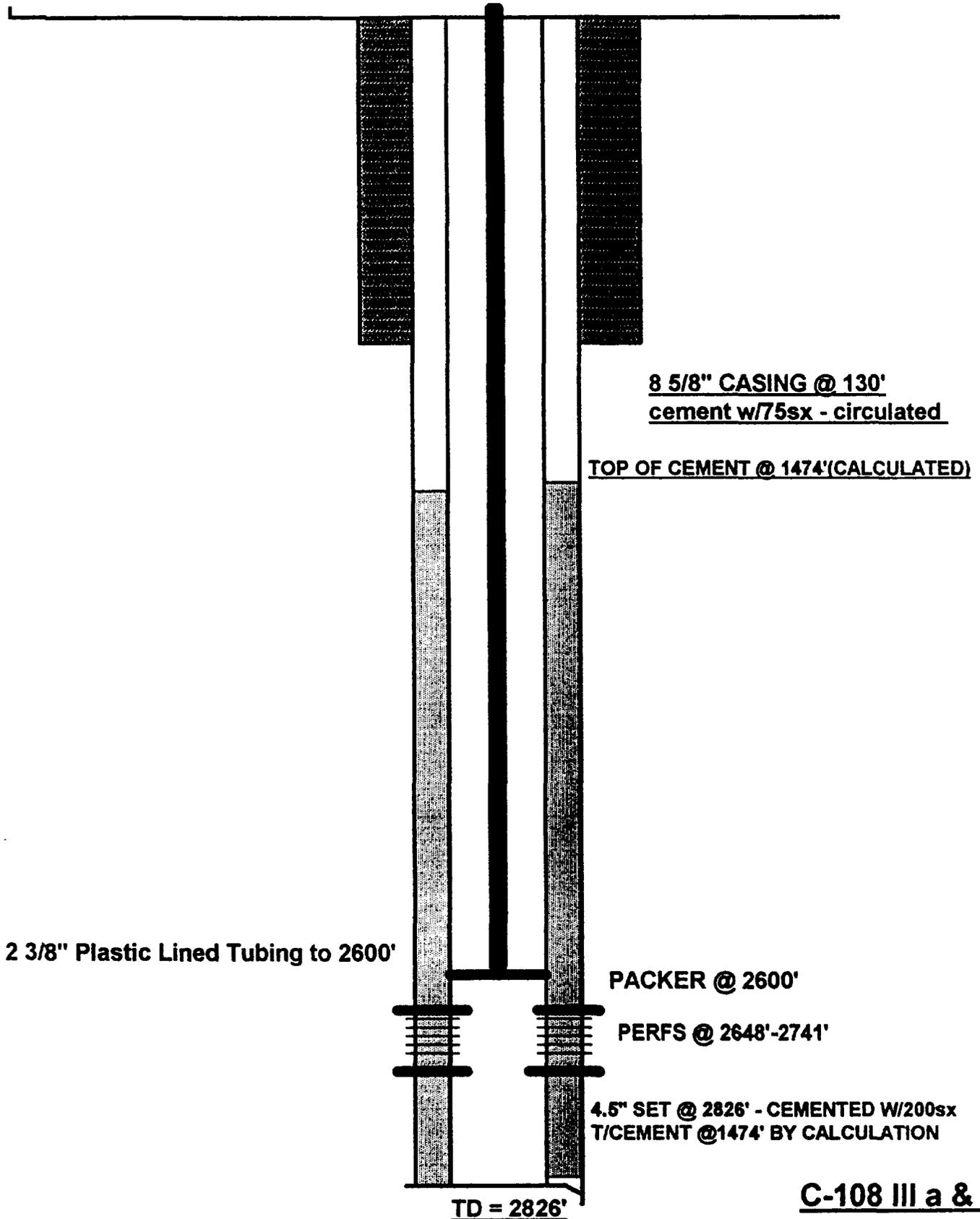
Calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2600' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2648'-2741'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1174'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #77  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S-R29E. 2310 FSL & 330 FWL

L

O'BRIEN I-13

TLSAU #77

30-005-61032

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit #79  
**A1 FOOTAGE:** 2310 FSL & 2310 FEL  
**A1 SECTION:** 6-T9S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

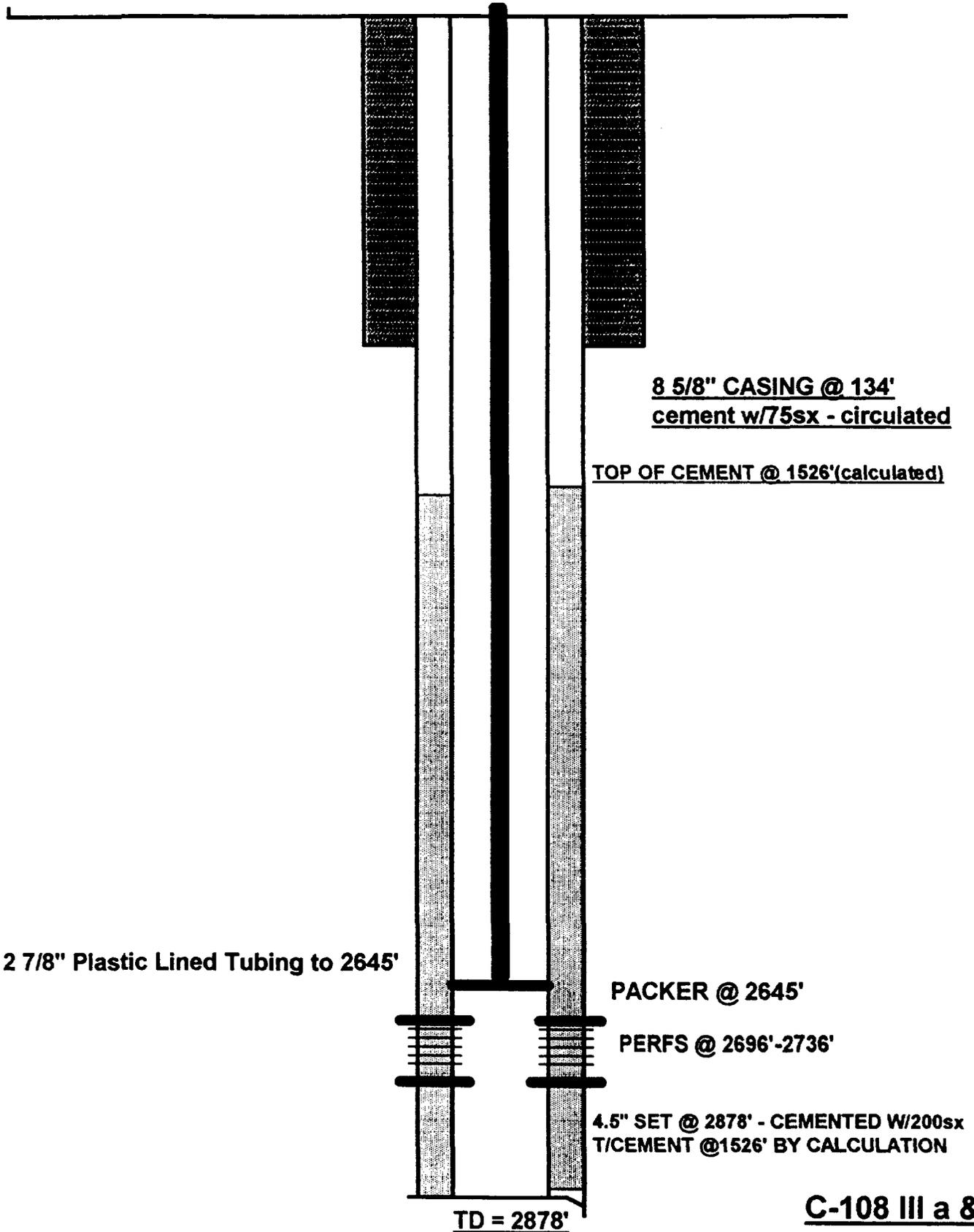
<b>A2</b>	<b>HOLE SIZE:</b>	12.25"	7.875"
<b>A2</b>	<b>CASING SIZE:</b>	8.625"	4.5"
<b>A2</b>	<b>CASING WEIGHT:</b>	20.5 #/ft	9.5 #/ft
<b>A2</b>	<b>CASING DEPTH:</b>	134'	2878'
<b>A2</b>	<b>CEMENT:</b>	75sx	200sx
<b>A2</b>	<b>TOP OF CEMENT:</b>	surface	1526'
		circ. 20sx	calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2645' +/- 25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

<b>B1</b>	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
<b>B2</b>	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2696'-2736'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1170'
<b>B3</b>	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
<b>B4</b>	<b>OTHER PERFORATED INTERVALS:</b>	None
<b>B5</b>	<b>NEXT PAY ZONE - ABOVE:</b>	None
<b>B6</b>	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #79  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S-R29E, 2310 FSL & 2310 FEL

N

O'BRIEN, FF-1

TLSAU #79

30-005-60982

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 87  
 A1 **FOOTAGE:** 1650' FWL & 990' FSL  
 A1 **SECTION:** 6-T9S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

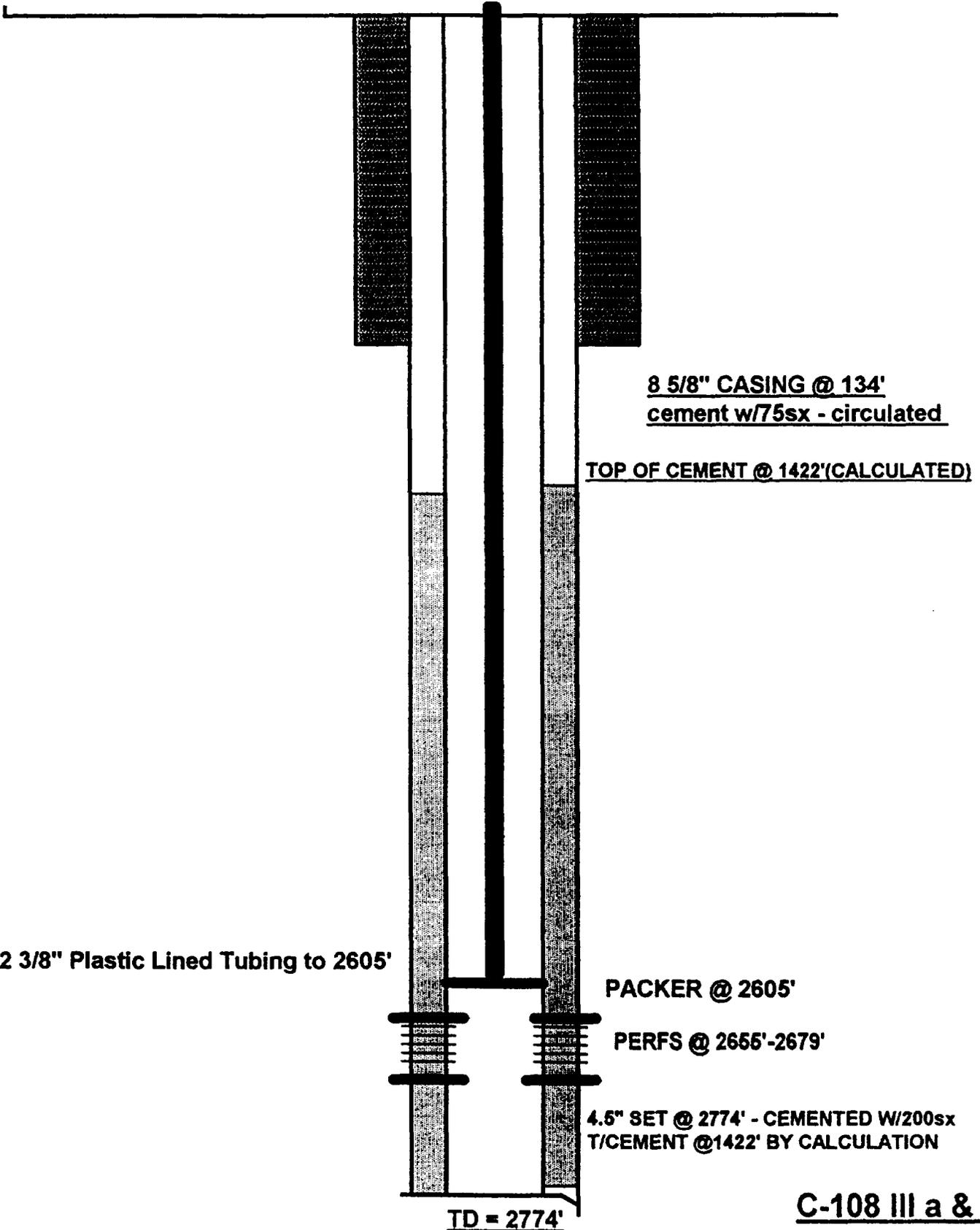
A2	<b>HOLE SIZE:</b>	12.25"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	20 #/ft	9.5 #/ft
A2	<b>CASING DEPTH:</b>	134'	2774'
A2	<b>CEMENT:</b>	75sx	200sx
A2	<b>TOP OF CEMENT:</b>	SURFACE	1422'
		Circ. 5sx	Calculated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2605' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2655'-2679'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1233'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #87  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S,R29E, 990 FNL & 1650 FWL  
N  
O'BRIEN L-11  
TLSAU #87  
30-005-61030

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**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit # 89  
**A1 FOOTAGE:** 990' FSL & 990' FEL  
**A1 SECTION:** 6-T9S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

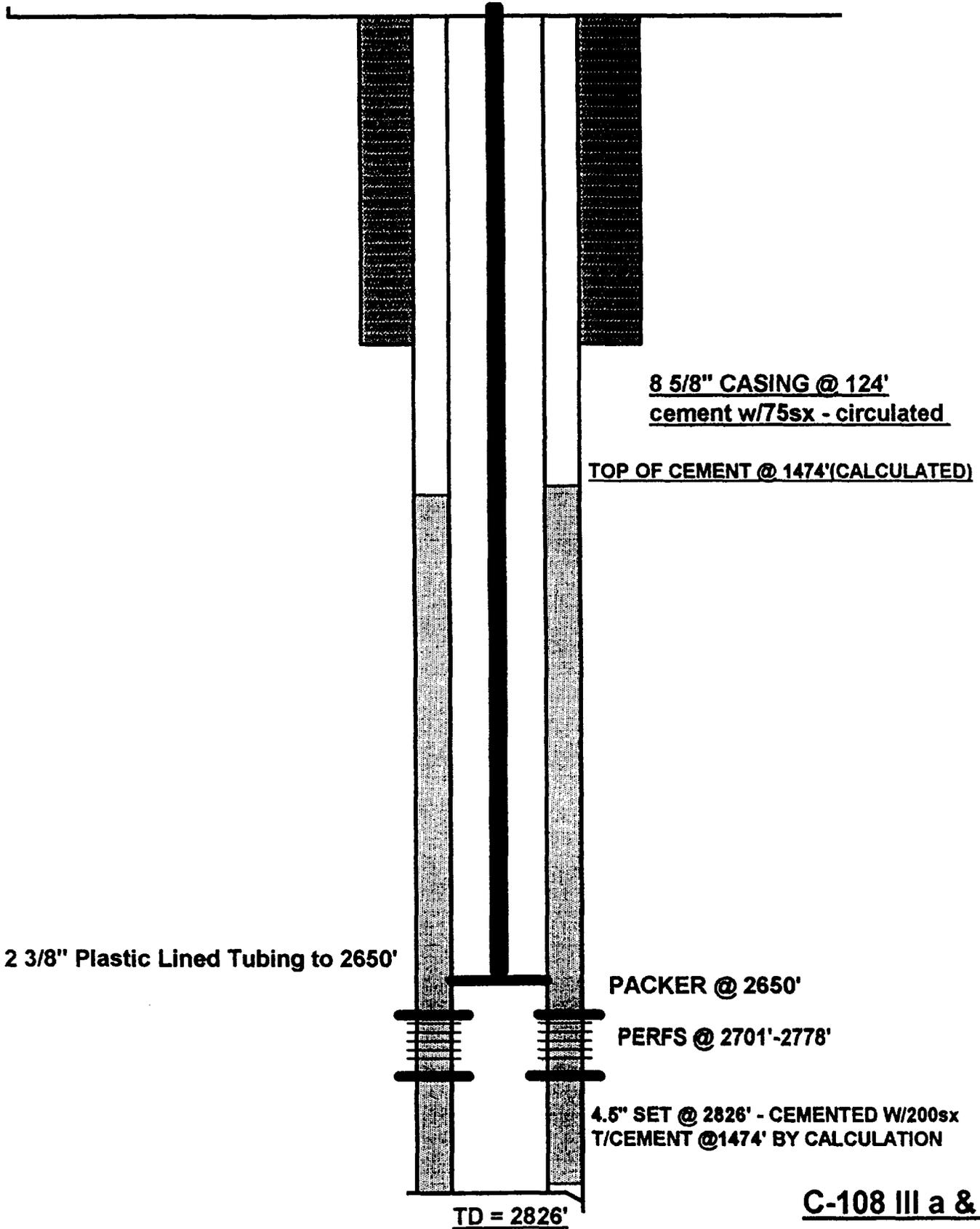
<b>A2</b>	<b>HOLE SIZE:</b>	12.25"	7.875"
<b>A2</b>	<b>CASING SIZE:</b>	8.625"	4.5"
<b>A2</b>	<b>CASING WEIGHT:</b>	20 #/FT	9.5 #/FT
<b>A2</b>	<b>CASING DEPTH:</b>	124'	2826'
<b>A2</b>	<b>CEMENT:</b>	75sx	200sx
<b>A2</b>	<b>TOP OF CEMENT:</b>	SURFACE	1474'
		Circulated	CALCULATED

**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2650' +/- 25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

<b>B1</b>	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
<b>B2</b>	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2701'-2778'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1227'
<b>B3</b>	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
<b>B4</b>	<b>OTHER PERFORATED INTERVALS:</b>	None
<b>B5</b>	<b>NEXT PAY ZONE - ABOVE:</b>	None
<b>B5</b>	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #89  
Well Schematic (Proposed)  
C-108-III a & b



6-T9S-R29E. 990 F.SI. & 990 FEL

P

O'BRIEN FT-5

TLSAU #89

30-005-61022

C-108 III a & b

Stp

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 94  
 A1 **FOOTAGE:** 330' FNL & 2310' FEL  
 A1 **SECTION:** 7-T9S-R29E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

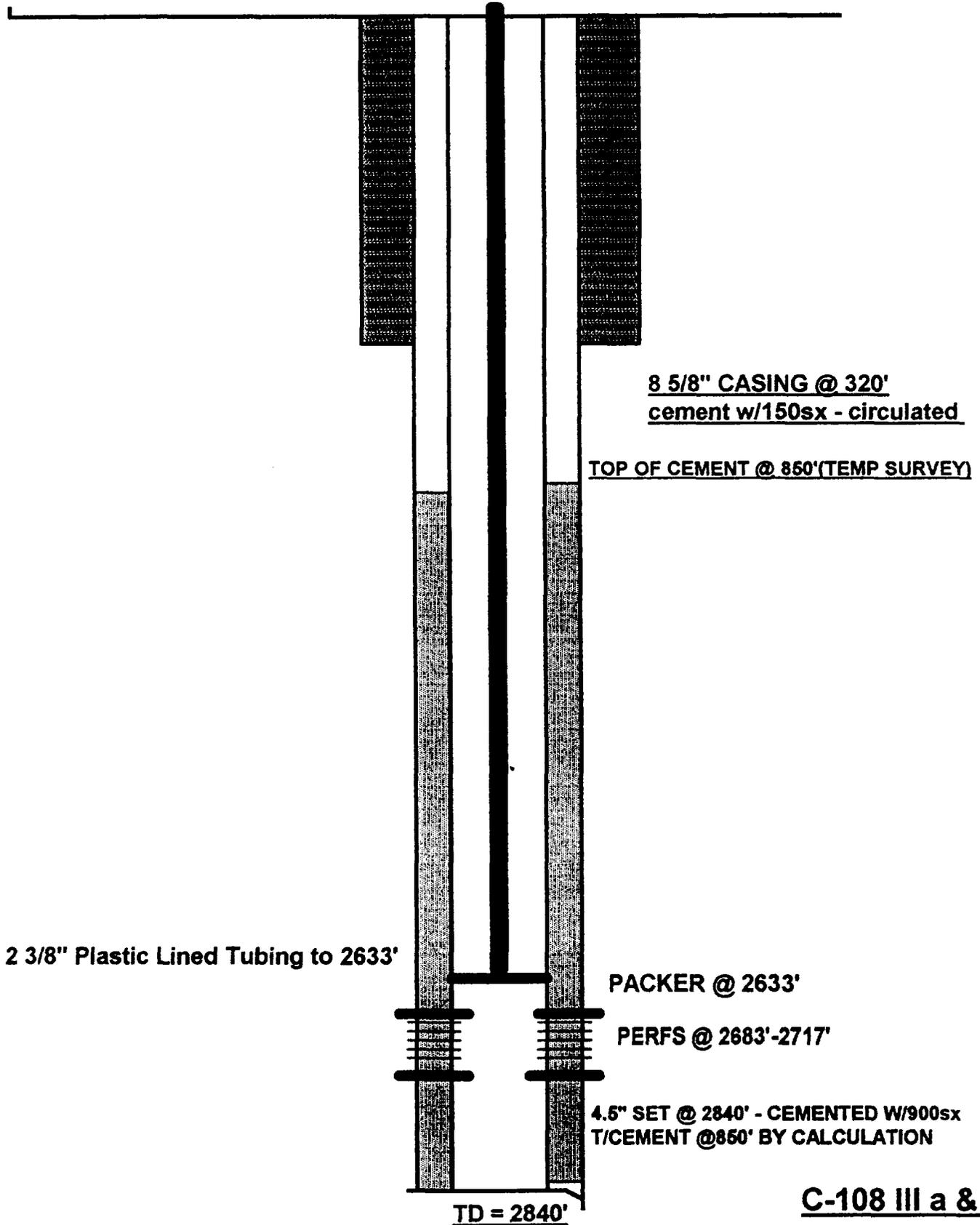
A2 **HOLE SIZE:** 12.25" 7.875"  
 A2 **CASING SIZE:** 8.625" 4.5"  
 A2 **CASING WEIGHT:** 24 #/ft 10.5 #/FT  
 A2 **CASING DEPTH:** 320' 2840'  
 A2 **CEMENT:** 150sx 900sx  
 A2 **TOP OF CEMENT:** SURFACE 850'  
 Circ. 25sx TEMP SURVEY

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2633' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
 B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2683'-2717'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1833'  
 B3 **ORIGINAL WELL PURPOSE:** Oil Well  
 B4 **OTHER PERFORATED INTERVALS:** None  
 B5 **NEXT PAY ZONE - ABOVE:** None  
 B6 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #94  
Well Schematic (Proposed)  
C-108-III a & b



**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 102  
A1 **FOOTAGE:** 1980' FNL & 1980' FWL  
A1 **SECTION:** 7-T9S-R29E  
A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

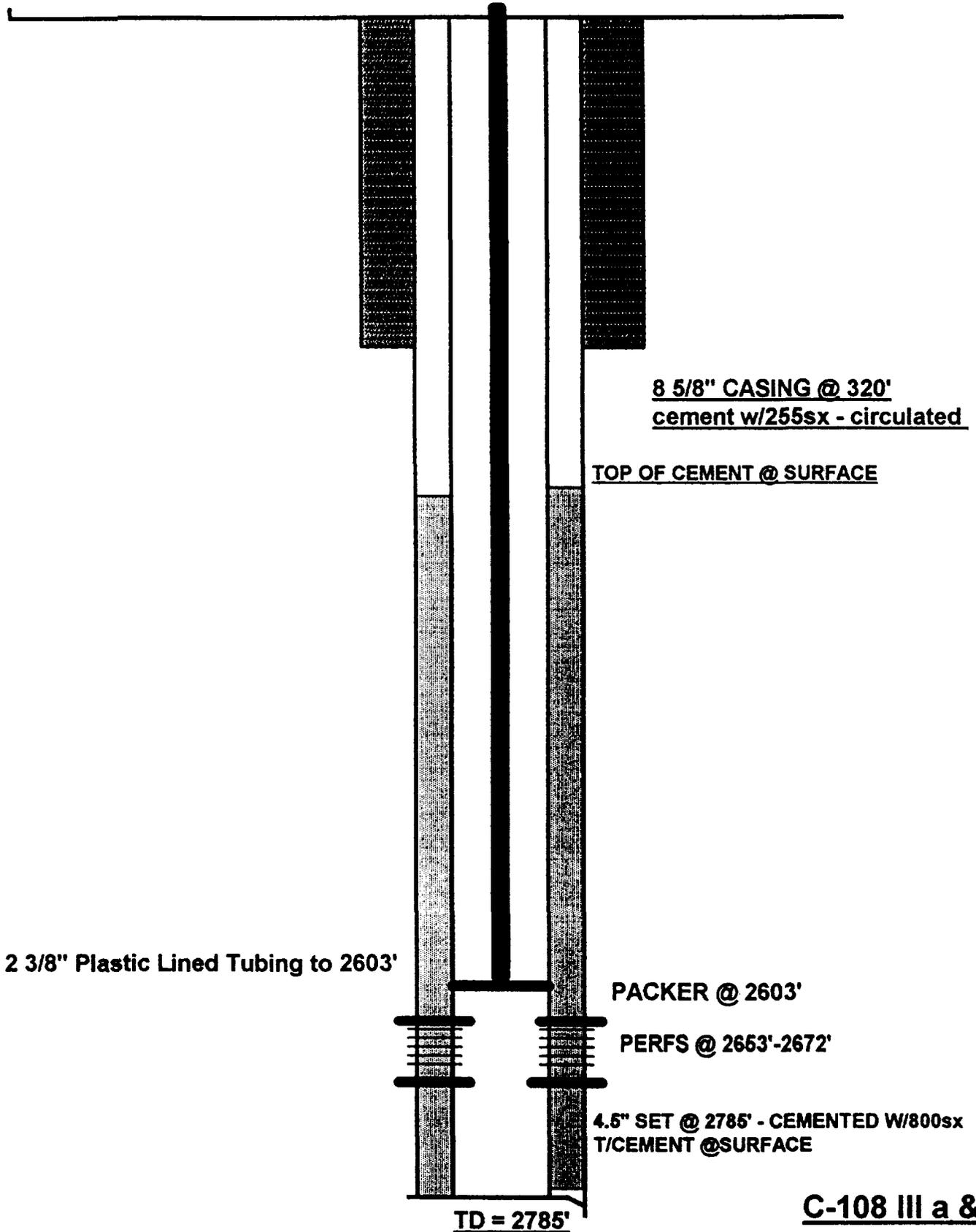
A2	<b>HOLE SIZE:</b>	10.75"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	24 #/ft	10.5 #/ft
A2	<b>CASING DEPTH:</b>	320'	2785"
A2	<b>CEMENT:</b>	255sx	800sx
A2	<b>TOP OF CEMENT:</b>	SURFACE Circ. 65sx	SURFACE Circulated

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2603' +/- 25"  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2653'-2672"
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	2653'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #102  
Well Schematic (Proposed)  
C-108-III a & b



7-T9S-R29E, 1980 FNL. & 1980 FWL.

F

MOONSHINE 7-1

TLSAU #102

30-005-60844

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit # 106  
**A1 FOOTAGE:** 2310' FSL & 330' FWL  
**A1 SECTION:** 7-T9S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

<b>A2</b>	<b>HOLE SIZE:</b>	12.25"	7.875"
<b>A2</b>	<b>CASING SIZE:</b>	8.625"	4.5"
<b>A2</b>	<b>CASING WEIGHT:</b>	24 #/ft	10.5 #/FT
<b>A2</b>	<b>CASING DEPTH:</b>	166'	2700'
<b>A2</b>	<b>CEMENT:</b>	150sx	900sx
<b>A2</b>	<b>TOP OF CEMENT:</b>	SURFACE	560'
		Circ. 25sx	BOND LOG

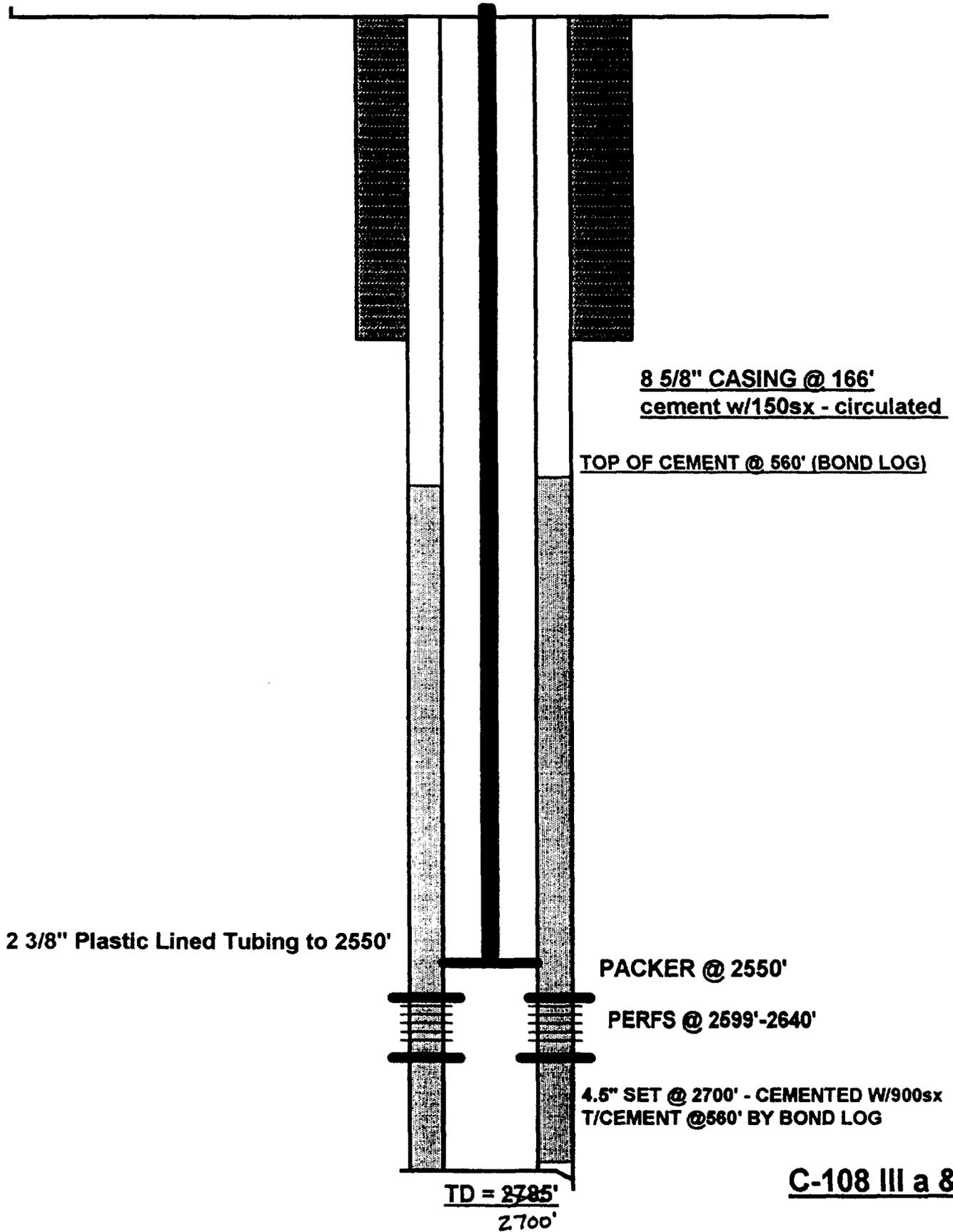
**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2550' +/- 25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

<b>B1</b>	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
<b>B2</b>	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2599'-2640'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	2039'
<b>B3</b>	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
<b>B4</b>	<b>OTHER PERFORATED INTERVALS:</b>	None
<b>B5</b>	<b>NEXT PAY ZONE - ABOVE:</b>	None
<b>B5</b>	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

61

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #106  
Well Schematic (Proposed)  
C-108-III a & b



7-T9S-R29E. 2310 FSL & 330 FWL

L

MOONSHINE 7-7

TLSAU #106

30-005-61332

C-108 III a & b

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

ITEM #

A1 **WELL NAME:** Twin Lakes San Andres Unit # 110  
 A1 **FOOTAGE:** 1650' FSL & 330' FEL  
 A1 **SECTION:** 12-T9S-R28E  
 A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

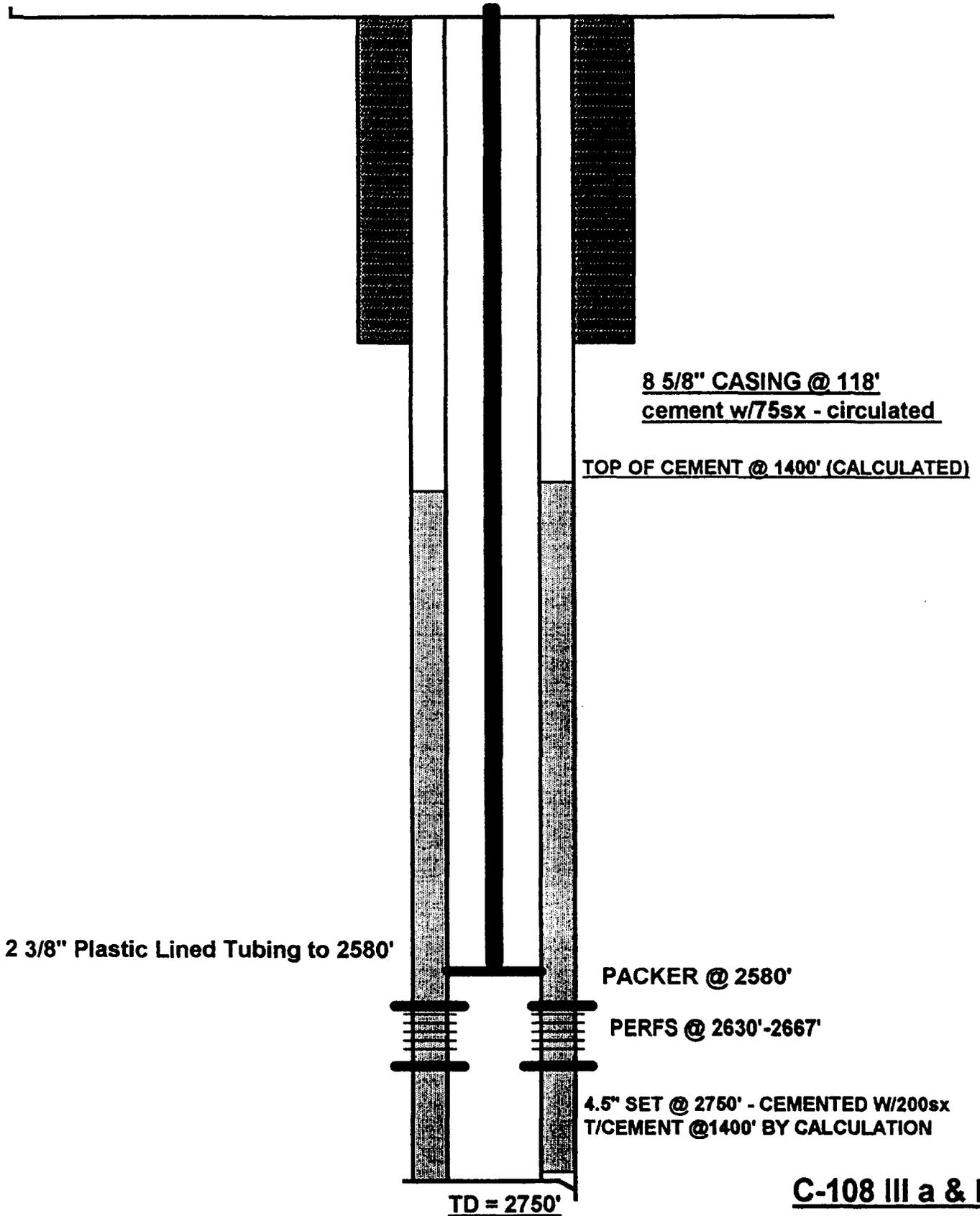
A2	<b>HOLE SIZE:</b>	12.25"	7.875"
A2	<b>CASING SIZE:</b>	8.625"	4.5"
A2	<b>CASING WEIGHT:</b>	23 #/ft	10.5 #/ft
A2	<b>CASING DEPTH:</b>	118'	2750'
A2	<b>CEMENT:</b>	75sx	200sx
A2	<b>TOP OF CEMENT:</b>	SURFACE	1400'
		Circ. 15sx	CALCULATED

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
 A3 **PACKER DEPTH:** 2580' +/- 25'  
 A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1	<b>PROPOSED INJECTION FORMATION:</b>	San Andres / Twin Lakes, San Andres
B2	<b>PROPOSED INJECTION INTERVAL:</b>	Perforations from: 2630'-2667'
	<b>EXISTING PERFORATIONS:</b>	Same
	<b>CEMENT ABOVE TOP PERFORATION:</b>	1230'
B3	<b>ORIGINAL WELL PURPOSE:</b>	Oil Well
B4	<b>OTHER PERFORATED INTERVALS:</b>	None
B5	<b>NEXT PAY ZONE - ABOVE:</b>	None
B5	<b>NEXT PAY ZONE - BELOW:</b>	Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #110  
Well Schematic (Proposed)  
C-108-III a & b



12-T9S-R28E. 1650 FSL & 330 FFL

O'BRIEN DB-1

TL SAU #110

30-005-61556

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

**C-108-III**

**ITEM #**

**A1 WELL NAME:** Twin Lakes San Andres Unit # 112  
**A1 FOOTAGE:** 990' FSL & 1650' FWL  
**A1 SECTION:** 7-T9S-R29E  
**A1 COUNTY:** Chaves

**EXISTING CASING PROGRAM**

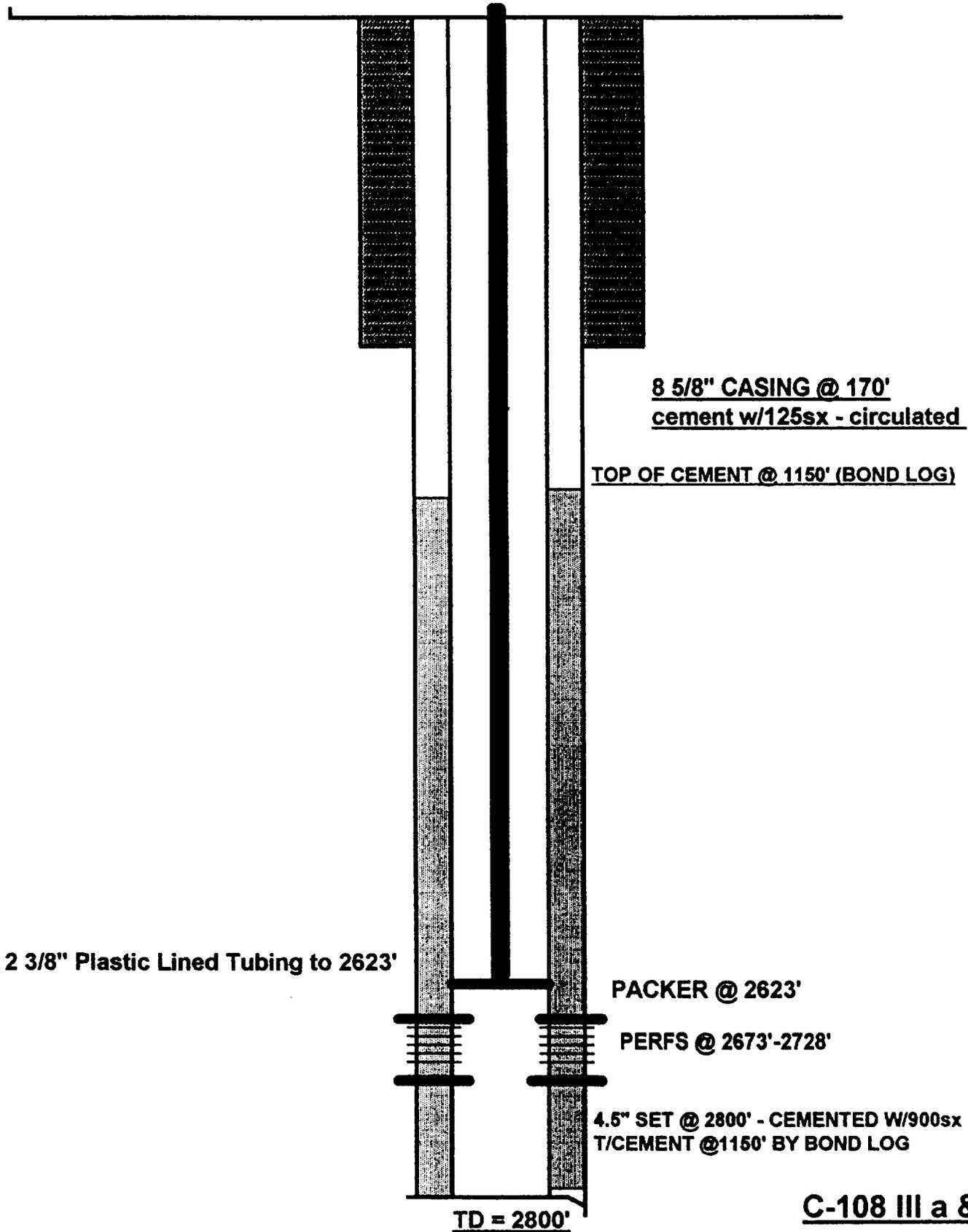
<b>A2</b>	<b>HOLE SIZE:</b>	12.25"	7.875"
<b>A2</b>	<b>CASING SIZE:</b>	8.625"	4.5"
<b>A2</b>	<b>CASING WEIGHT:</b>	20 #/ft	11 #/ft
<b>A2</b>	<b>CASING DEPTH:</b>	170'	2800'
<b>A2</b>	<b>CEMENT:</b>	125sx	900sx
<b>A2</b>	<b>TOP OF CEMENT:</b>	SURFACE	1150'
		Circ. 35sx	BOND LOG

**PROPOSED TUBULAR & PACKER INFORMATION**

**A3 TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
**A3 PACKER DEPTH:** 2623' +/- 25'  
**A4 PACKER TYPE:** Halliburton R4 internally coated tension packer

**B1. PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
**B2. PROPOSED INJECTION INTERVAL:** Perforations from: 2673'-2728'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1523'  
**B3. ORIGINAL WELL PURPOSE:** Oil Well  
**B4. OTHER PERFORATED INTERVALS:** None  
**B5. NEXT PAY ZONE - ABOVE:** None  
**B5. NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #112  
Well Schematic (Proposed)  
C-108-III a & b



7-T9S-R29E. 990 FSL & 1650 FWL

N

MOONSHINE 7-8

TLSAU #112

30-005-61333

C-108 III a & b

HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT

TABLE C-108 III-A & B

C-108-III

ITEM #

A1 **WELL NAME:** Twin Lakes San Andres Unit # 117  
A1 **FOOTAGE:** 330' FNL & 1650' FWL  
A1 **SECTION:** 18-T9S-R29E  
A1 **COUNTY:** Chaves

EXISTING CASING PROGRAM

A2 **HOLE SIZE:** 12.25" 7.875"  
A2 **CASING SIZE:** 168' 4.5"  
A2 **CASING WEIGHT:** 24 #/ft 10.5 #/ft  
A2 **CASING DEPTH:** 168' 2780'  
A2 **CEMENT:** 150sx 900sx  
A2 **TOP OF CEMENT:** SURFACE 430'  
Circ 20sx BOND LOG

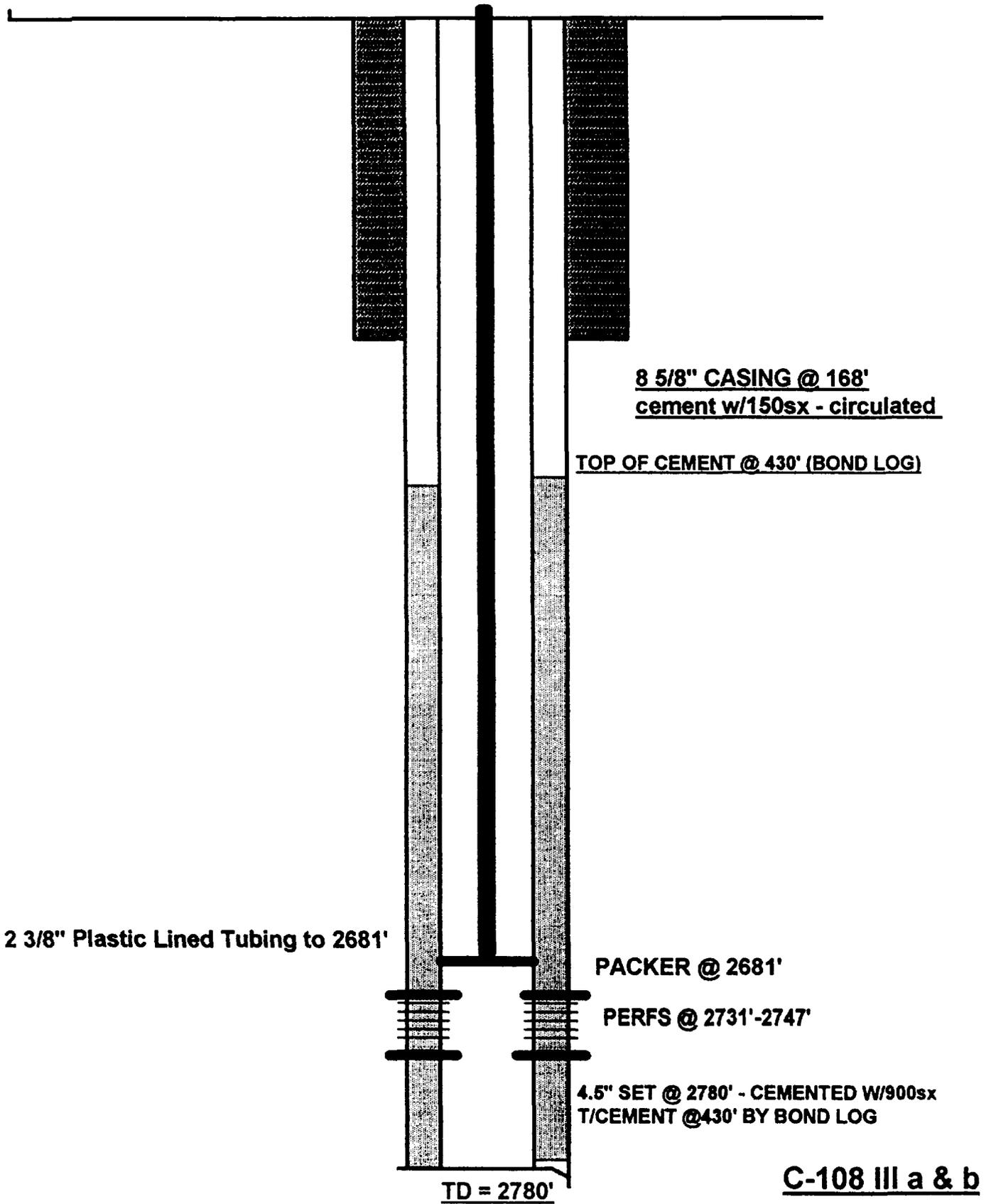
PROPOSED TUBULAR & PACKER INFORMATION

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2681' +/- 25'  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2731'-2747'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 2301'  
B3 **ORIGINAL WELL PURPOSE:** Oil Well  
B4 **OTHER PERFORATED INTERVALS:** None  
B5 **NEXT PAY ZONE - ABOVE:** None  
B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

**COMMENTS:** 8/13/93 SET CIBP @ 2681' (50" above u/perf) W/35sx Class "H"  
Found hole in 4.5" casing between 405' & 375'  
Hole has apparently not been repaired

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #117  
Well Schematic (Proposed)  
C-108-III a & b



18-T9S-R29E. 330 FNL & 1650 FWL

C

MOONSHINE 18-1

TLSAU #117

30-005-61454

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 120  
A1 **FOOTAGE:** 1650' FNL & 2310' FEL  
A1 **SECTION:** 18-T9S-R29E  
A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

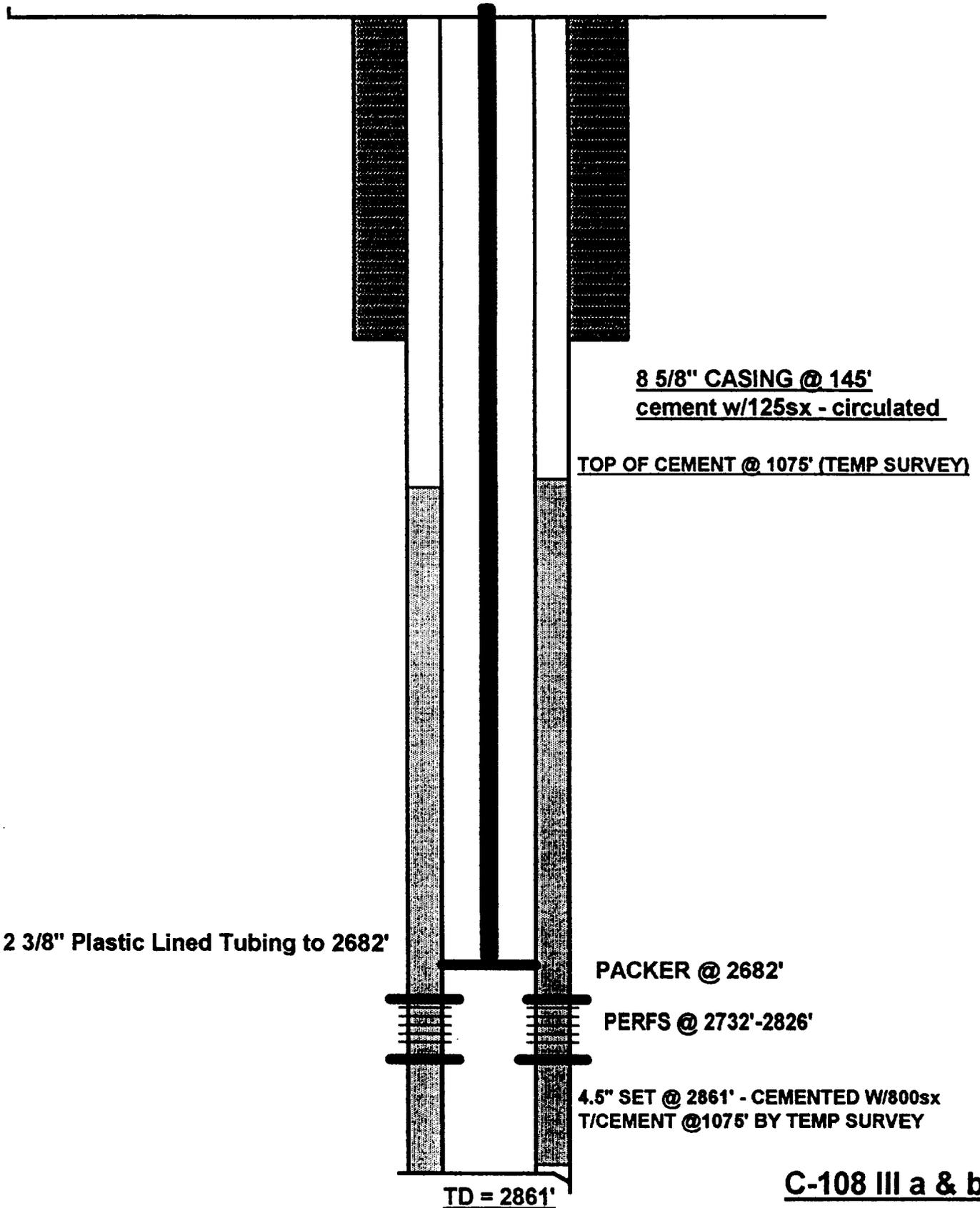
A2 **HOLE SIZE:** 12.25" 7.875"  
A2 **CASING SIZE:** 8.625" 4.5"  
A2 **CASING WEIGHT:** 24 #/ft 10.5 #/ft  
A2 **CASING DEPTH:** 145' 2861'  
A2 **CEMENT:** 125sx 800sx  
A2 **TOP OF CEMENT:** SURFACE 1075'  
Circulated 25sx Temp Survey

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2682' +/- 25'  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2732' - 2826'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 1657'  
B3 **ORIGINAL WELL PURPOSE:** Oil Well  
B4 **OTHER PERFORATED INTERVALS:** None  
B5 **NEXT PAY ZONE - ABOVE:** None  
B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #120  
Well Schematic (Proposed)  
C-108-III a & b



18-T9S-R29E, 1650 FNL & 2310 FEL. G  
MOONSHINE 18-3  
TL.SAU #120  
30-005-61624

70.

**HANAGAN PETROLEUM CORPORATION  
TWIN LAKES SAN ANDRES WATERFLOOD UNIT**

**TABLE C-108 III-A & B**

C-108-III

**ITEM #**

A1 **WELL NAME:** Twin Lakes San Andres Unit # 123  
A1 **FOOTAGE:** 2237' FNL & 1679' FWL  
A1 **SECTION:** 31-T8S-R29E  
A1 **COUNTY:** Chaves

**EXISTING CASING PROGRAM**

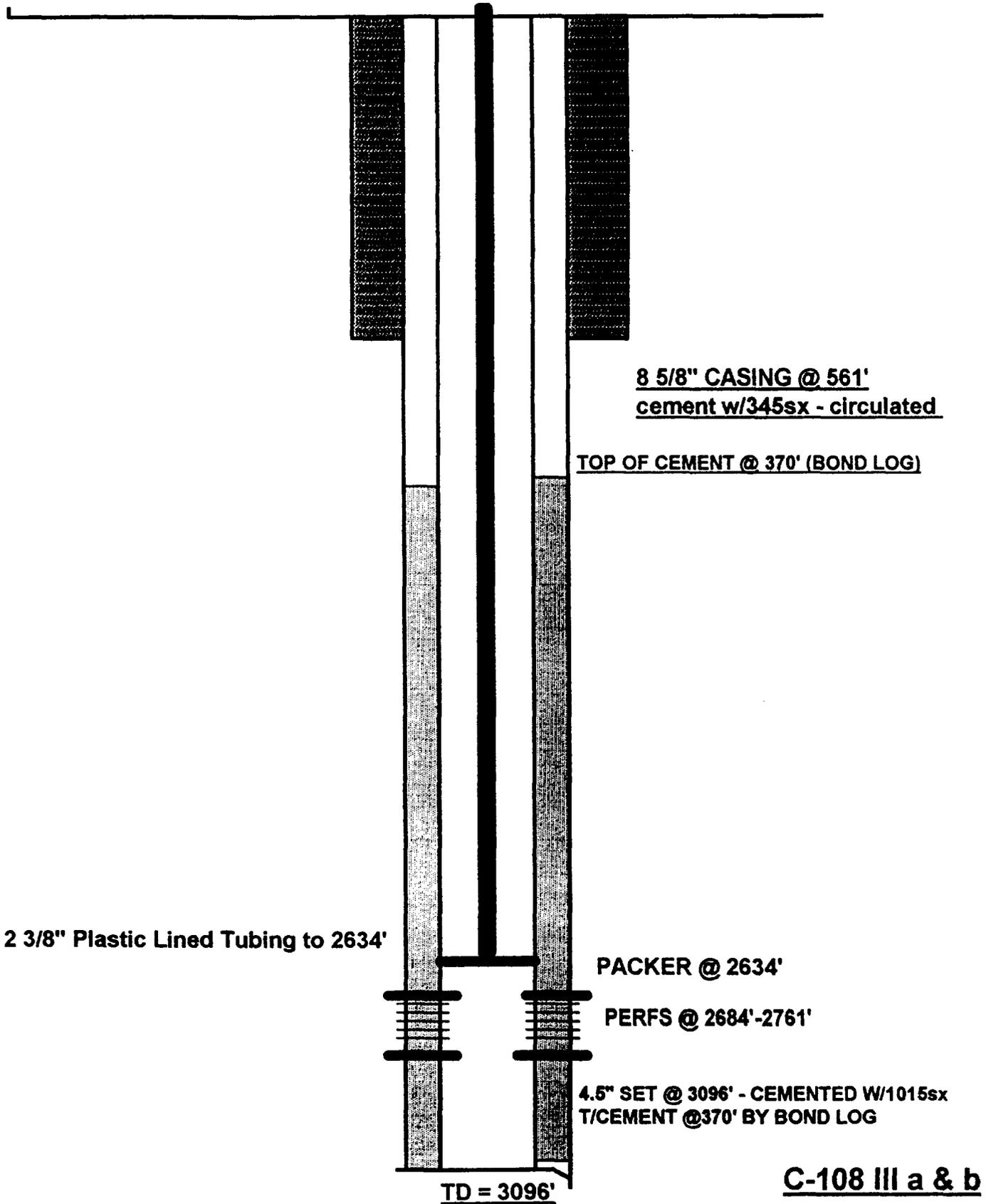
A2 **HOLE SIZE:** 12.25" 7.875"  
A2 **CASING SIZE:** 8.625" 5.5"  
A2 **CASING WEIGHT:** 24 #/FT 15.5 #/FT  
A2 **CASING DEPTH:** 561' 3096'  
A2 **CEMENT:** 345SX 1015SX  
A2 **TOP OF CEMENT:** SURFACE 370'  
CIRC-60sx BOND LOG

**PROPOSED TUBULAR & PACKER INFORMATION**

A3 **TUBING:** 2.375" 4.7#/ft J55 internally plastic coated or fiberglass lined  
A3 **PACKER DEPTH:** 2634' +/- 25'  
A4 **PACKER TYPE:** Halliburton R4 internally coated tension packer

B1 **PROPOSED INJECTION FORMATION:** San Andres / Twin Lakes, San Andres  
B2 **PROPOSED INJECTION INTERVAL:** Perforations from: 2684' - 2761'  
**EXISTING PERFORATIONS:** Same  
**CEMENT ABOVE TOP PERFORATION:** 2314'  
B3 **ORIGINAL WELL PURPOSE:** Oil Well  
B4 **OTHER PERFORATED INTERVALS:** None  
B5 **NEXT PAY ZONE - ABOVE:** None  
B5 **NEXT PAY ZONE - BELOW:** Devonian @ 7200' (+/- 100')

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #123  
Well Schematic (Proposed)  
C-108-III a & b



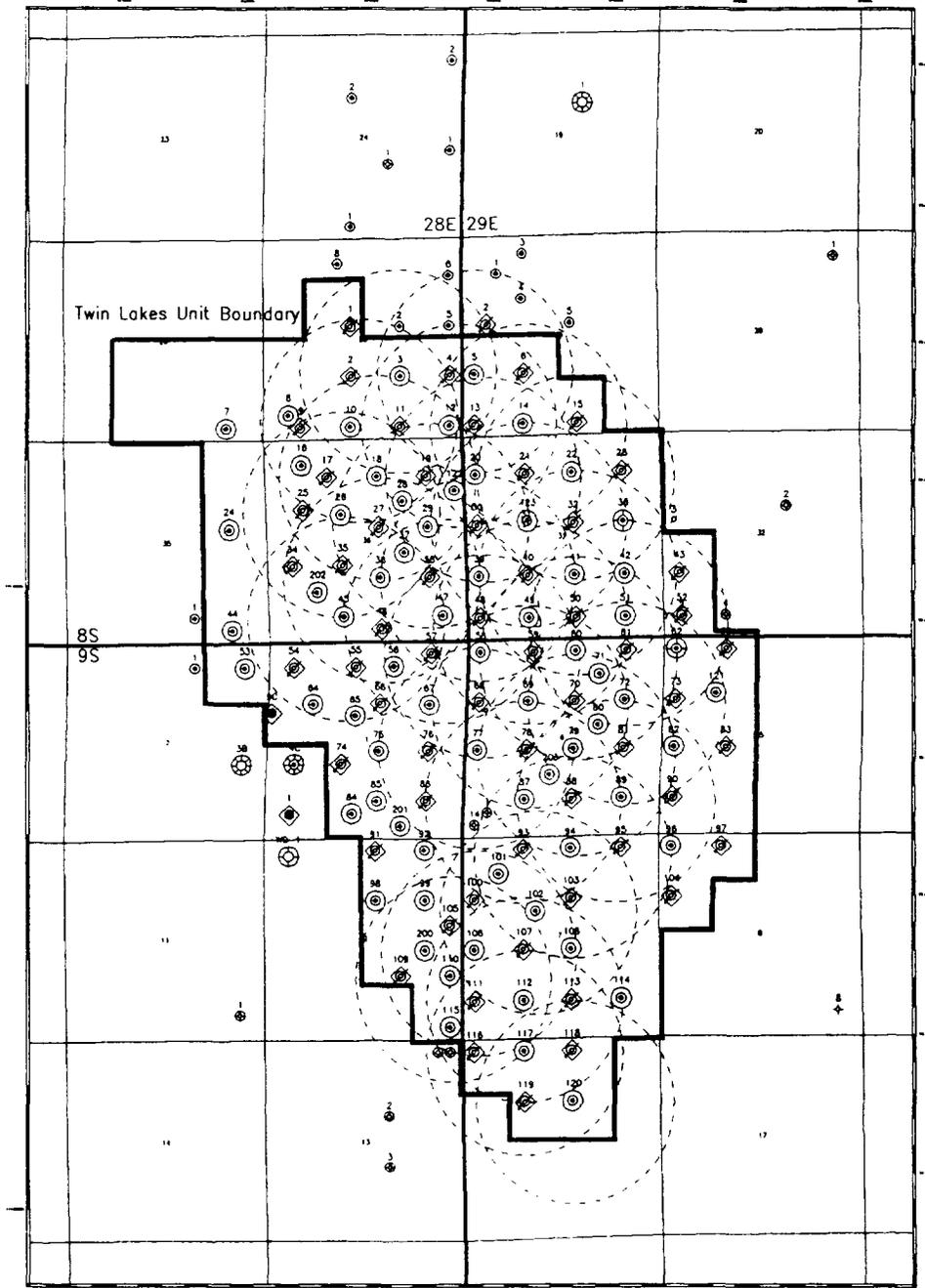
31-T8S-R29F. 2237 FNL & 1679 FWI

F

TLSAU #123

TLSAU #123

30-005-62845



LEGEND	
●	Unit Producer
⊗	Injector
●	Non-Unit Producer

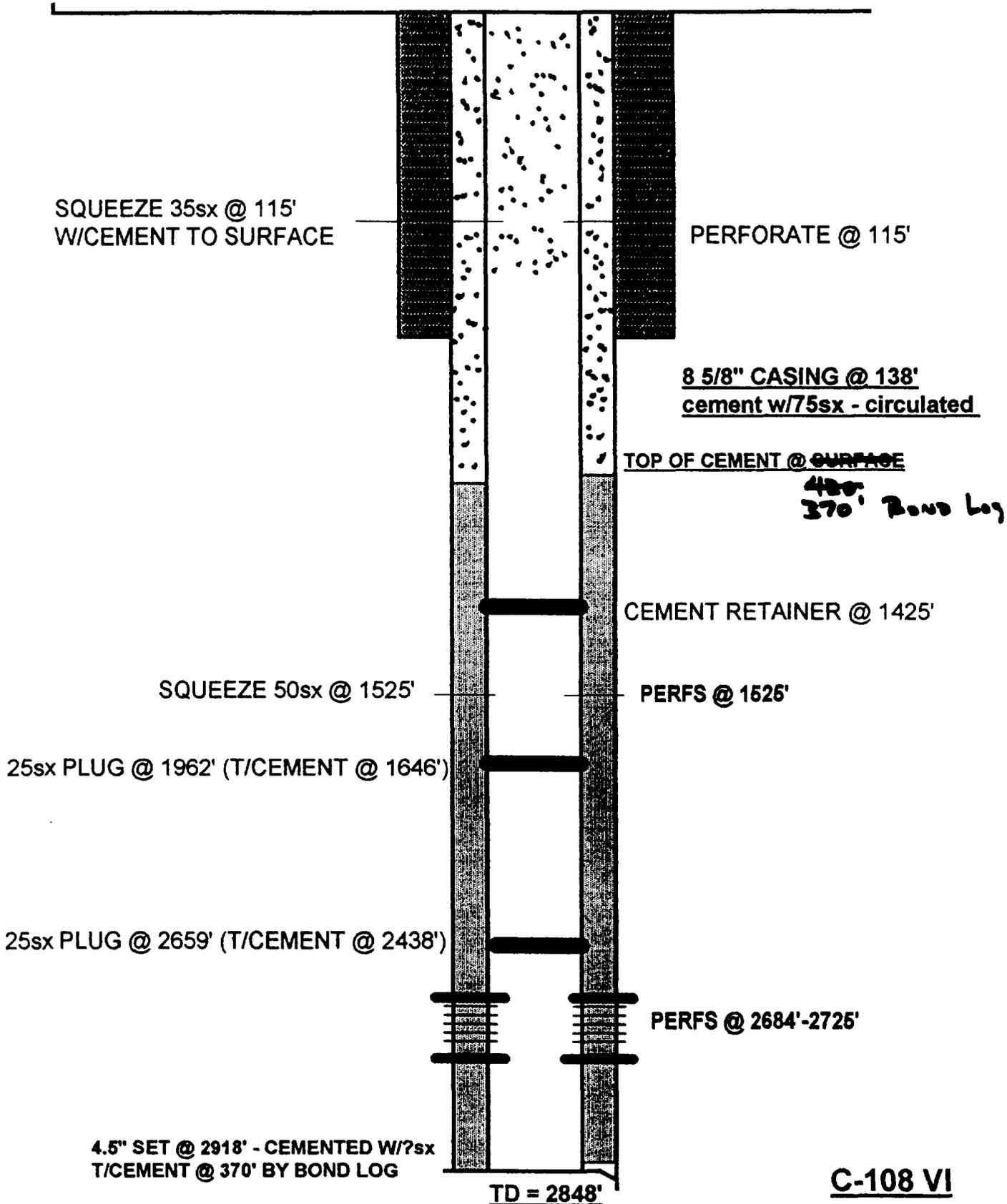
Hanagan Petroleum Corporation		
TWIN LAKES SAN ANDRES UNIT #79 Application for Injection (C-108) Area of Review		
Chaves Co., NM		C-108 Item V
1"=5000'		Hanagan

**TABULATION OF WELL RECORDS WITHIN AREA OF REVIEW  
(FOR ACTIVITY SUBSEQUENT TO SEPTEMBER 9, 1987)**

<b>WELL NAME &amp; LOCATION</b>	<b>DATE COMPL.</b>	<b>CASING RECORD</b>	<b>T.O.C.</b>	<b>PROD.PERS.</b>	<b>WELL TYPE</b>	<b>STATUS</b>
TL.SAU #31, UT. F-31-T8S-R29E	1980	8.625" @ 138', CEMENT W/75sx 4.5" @ 2918', CEMENT W/7' sx	SURFACE 370' (BOND LOG)	2684'-2725'	OIL	P & A
TL.SAU #33, UT. G-31-T8S-R29E	1981	8.625" @ 128', CEMENT W/75sx 4.5" @ 2918', CEMENT W/175sx	SURFACE 1150' (BOND LOG)	2747'-2778'	OIL	P & A
TL.SAU #62, UT. D-5-T9S-R29E	1981	8.625" @ 130', CEMENT W/75sx 4.5" @ 2930', CEMENT W/200sx	SURFACE 2054' (BOND LOG)	2780'-2823'	OIL	P & A
TL.SAU #121, UT. F-5-T9S-R29E	1991	8.625" @ 556', CEMENT W/345sx 5.5" @ 3100', CEMENT W/1105sx	SURFACE SURFACE	2839'-2892'	OIL	ACTIVE
TL.SAU #122, UT. H-36-T8S-R28E	4/91	8.625" @ 566', CEMENT W/345sx 5.5" @ 3100', CEMENT W/825sx	SURFACE 550' (BOND LOG)	2642'-2706'	OIL	ACTIVE
TL.SAU #200, UT. I-12-T9S-R28E	1997	8.625" @ 168', CEMENT W/110sx 5.5" @ 2781', CEMENT W/1050sx	SURFACE SURFACE	2616'-2681'	OIL	ACTIVE
TL.SAU #201, UT. O-1-T9S-R28E	1997	8.625" @ 180', CEMENT W/110sx 5.5" @ 2821', CEMENT W/1100sx	SURFACE SURFACE	2626'-2649'	OIL	ACTIVE
TL.SAU #202, UT. M-36-T8S-R28E	1997	8.625" @ 187', CEMENT W/110sx 5.5" @ 2750', CEMENT W/1050sx	SURFACE SURFACE	2613'-2626'	OIL	ACTIVE
TL.SAU #203, UT. K-6-T9S-R29E	1997	8.625" @ 177', CEMENT W/110sx 5.5" @ 2848', CEMENT W/1100sx	SURFACE SURFACE	2642'-2706'	OIL	ACTIVE

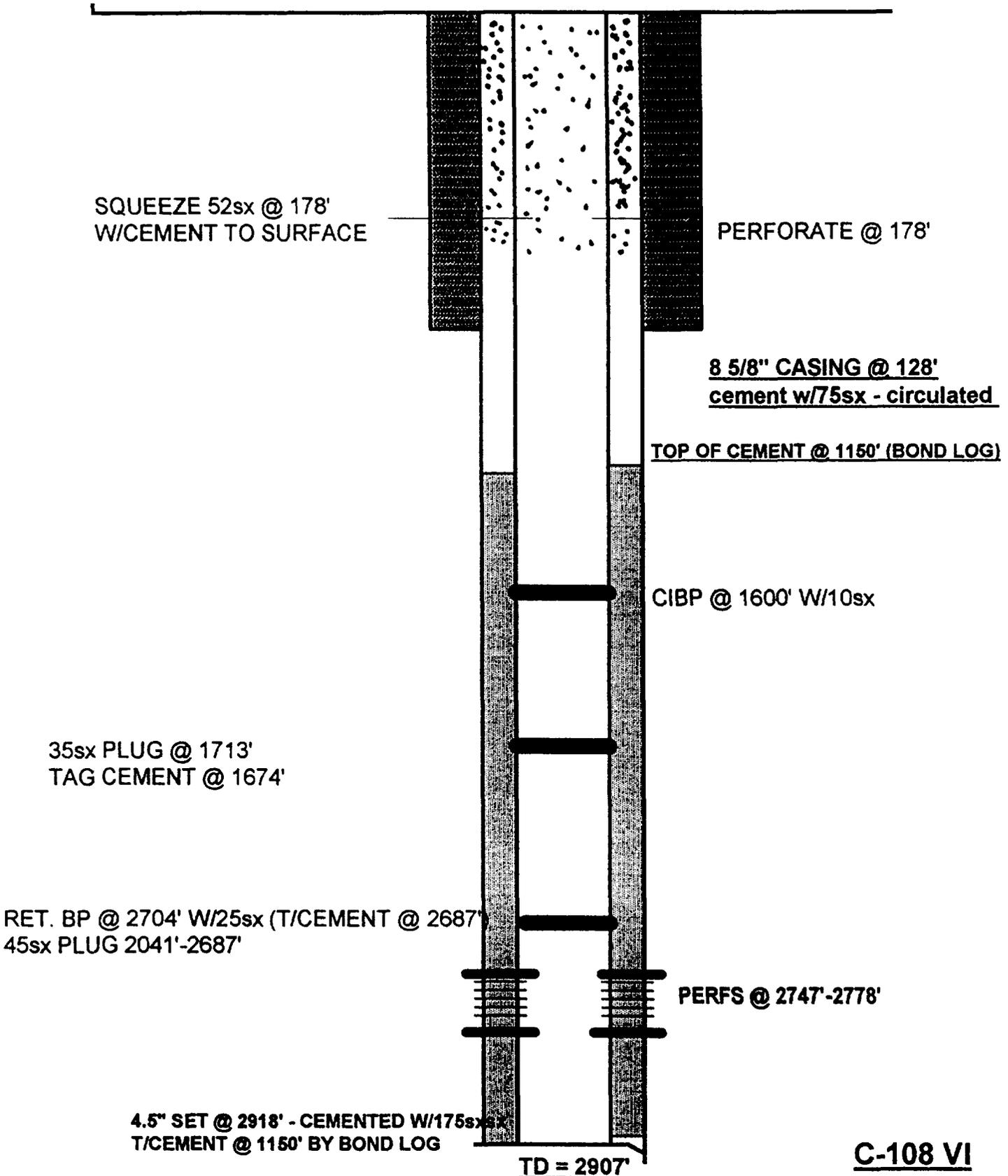
Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #31  
Well Schematic

C-108-VI



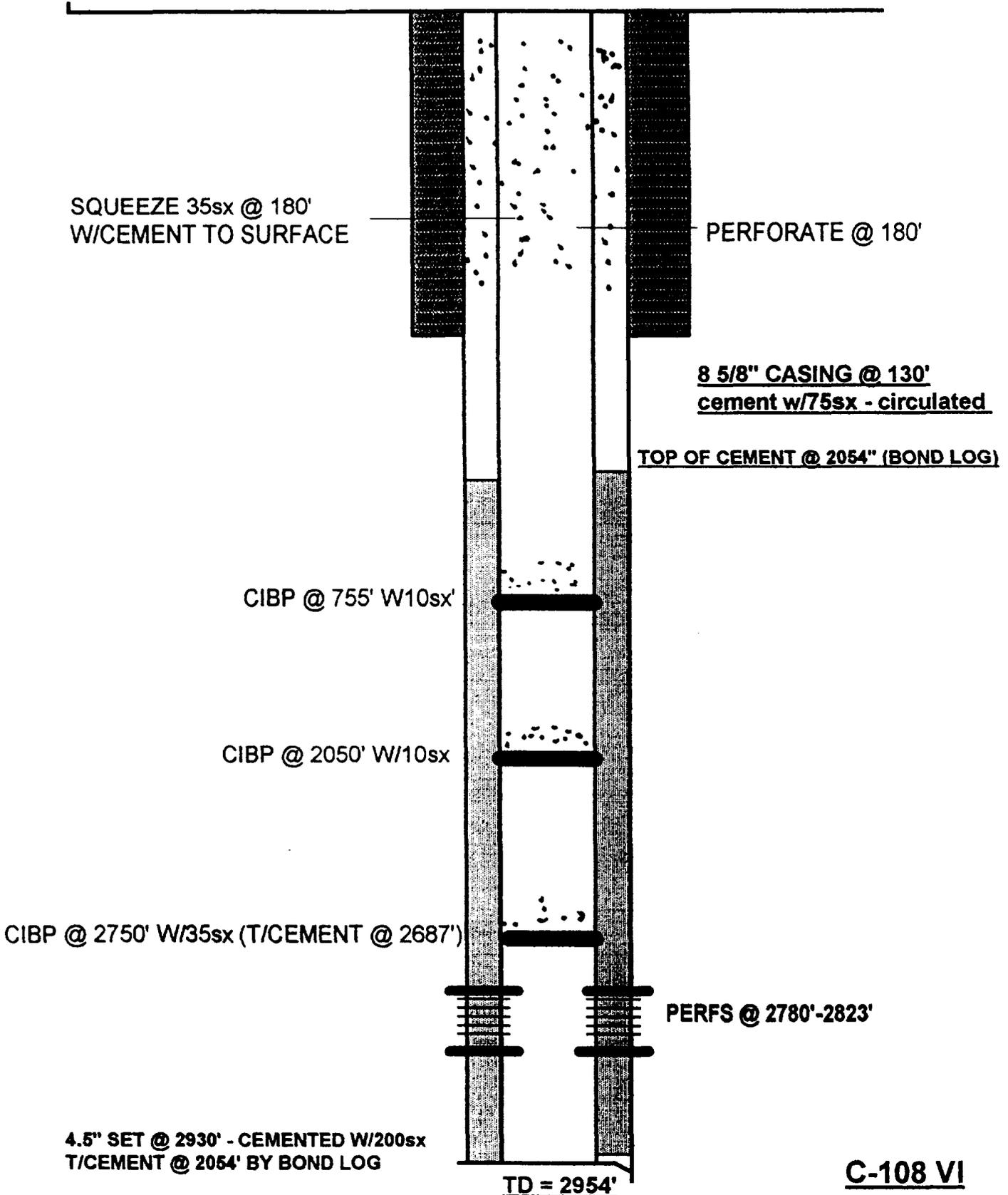
C-108 VI

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #33  
Well Schematic  
C-108-VI



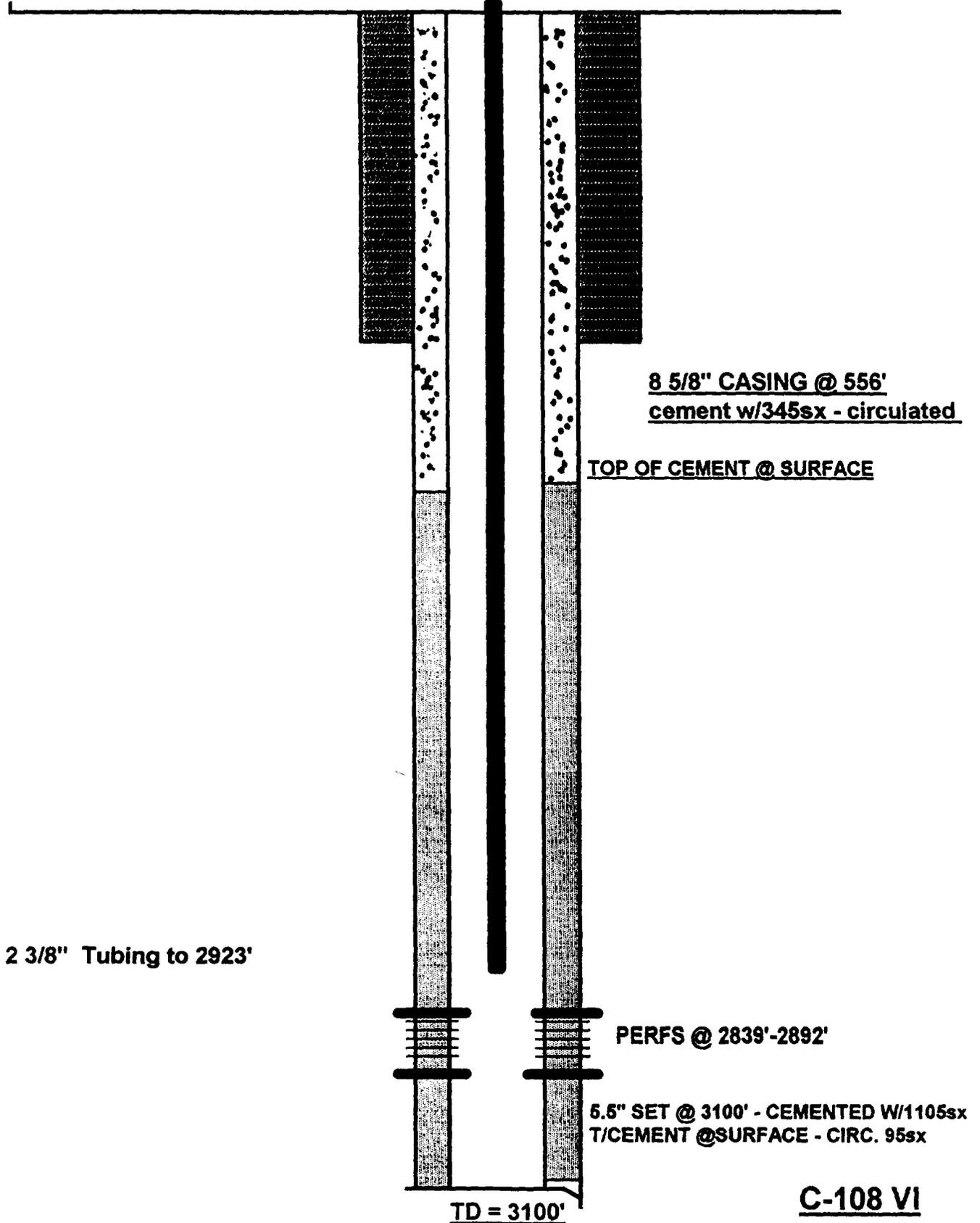
**C-108 VI**

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #62  
Well Schematic  
C-108-VI



**C-108 VI**

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #121  
Well Schematic  
C-108-VI



5-T9S-R29J... 1500 FNL & 1405 FWL

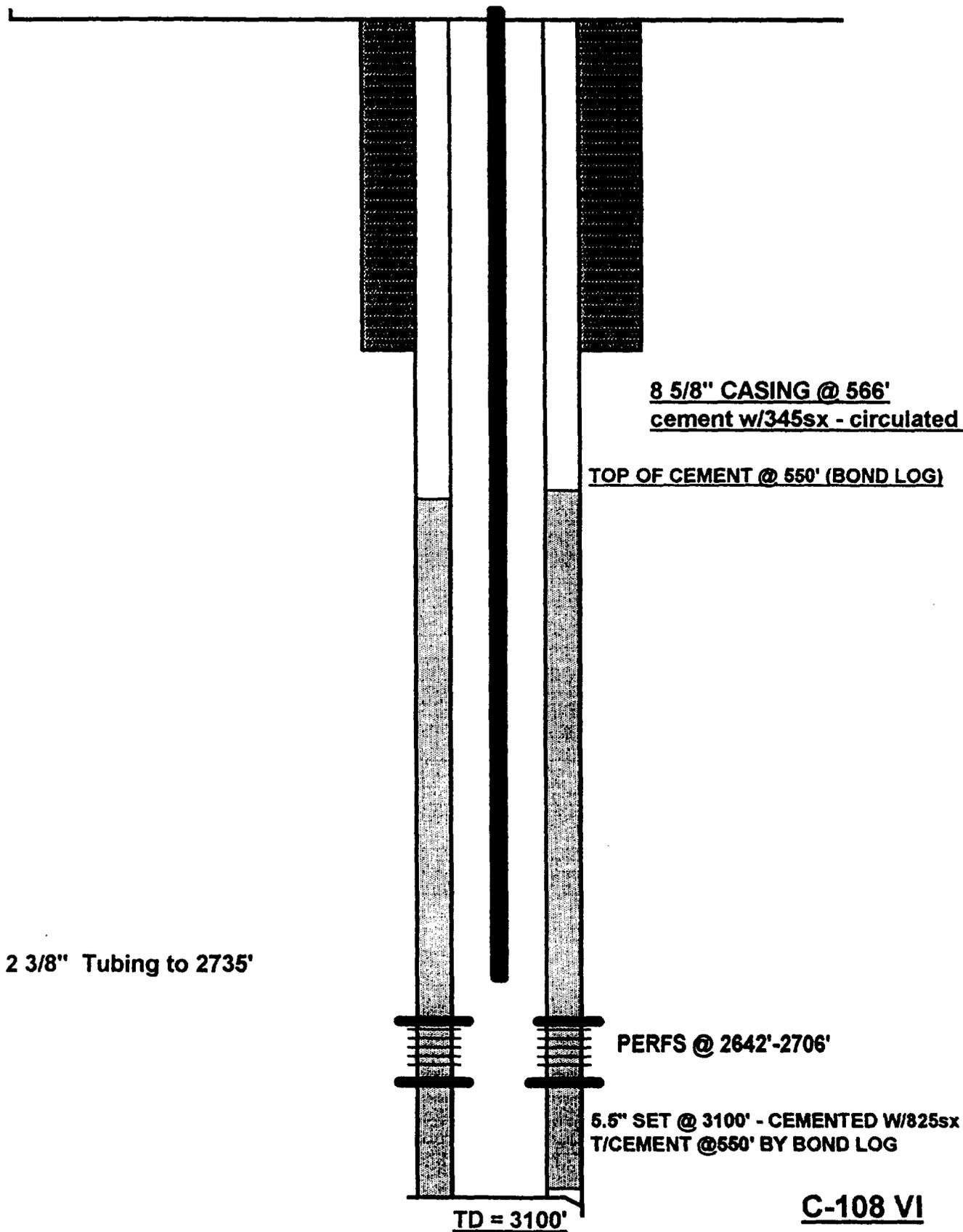
F

TLSAU #121

TLSAU #121

30-005-62819

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #122  
Well Schematic  
C-108-VI



36-TR8-R28E, 1400 FNL. & 250 FFL

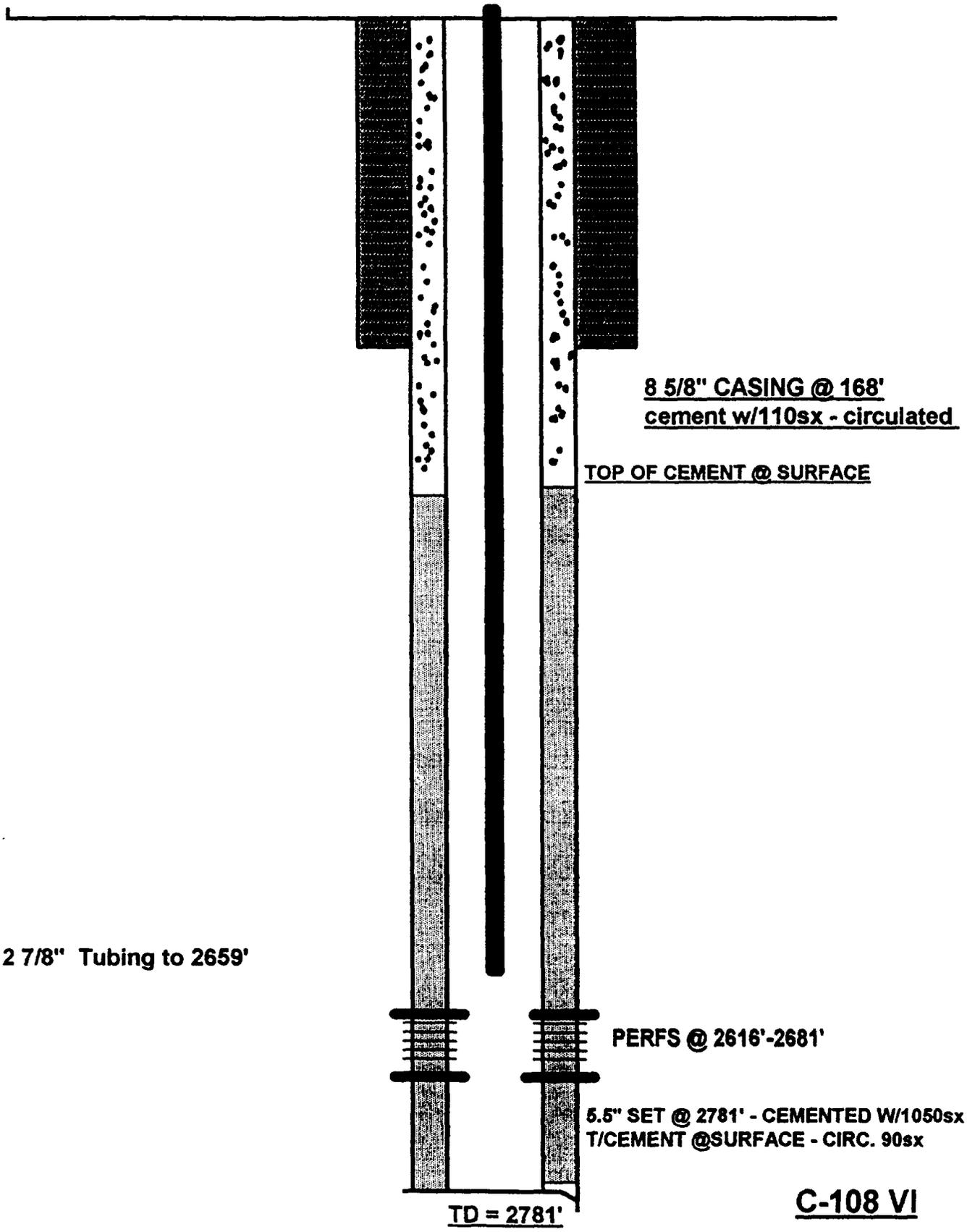
H

TL.SAU #122

TL.SAU #122

30-005-62818

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #200  
Well Schematic  
C-108-VI

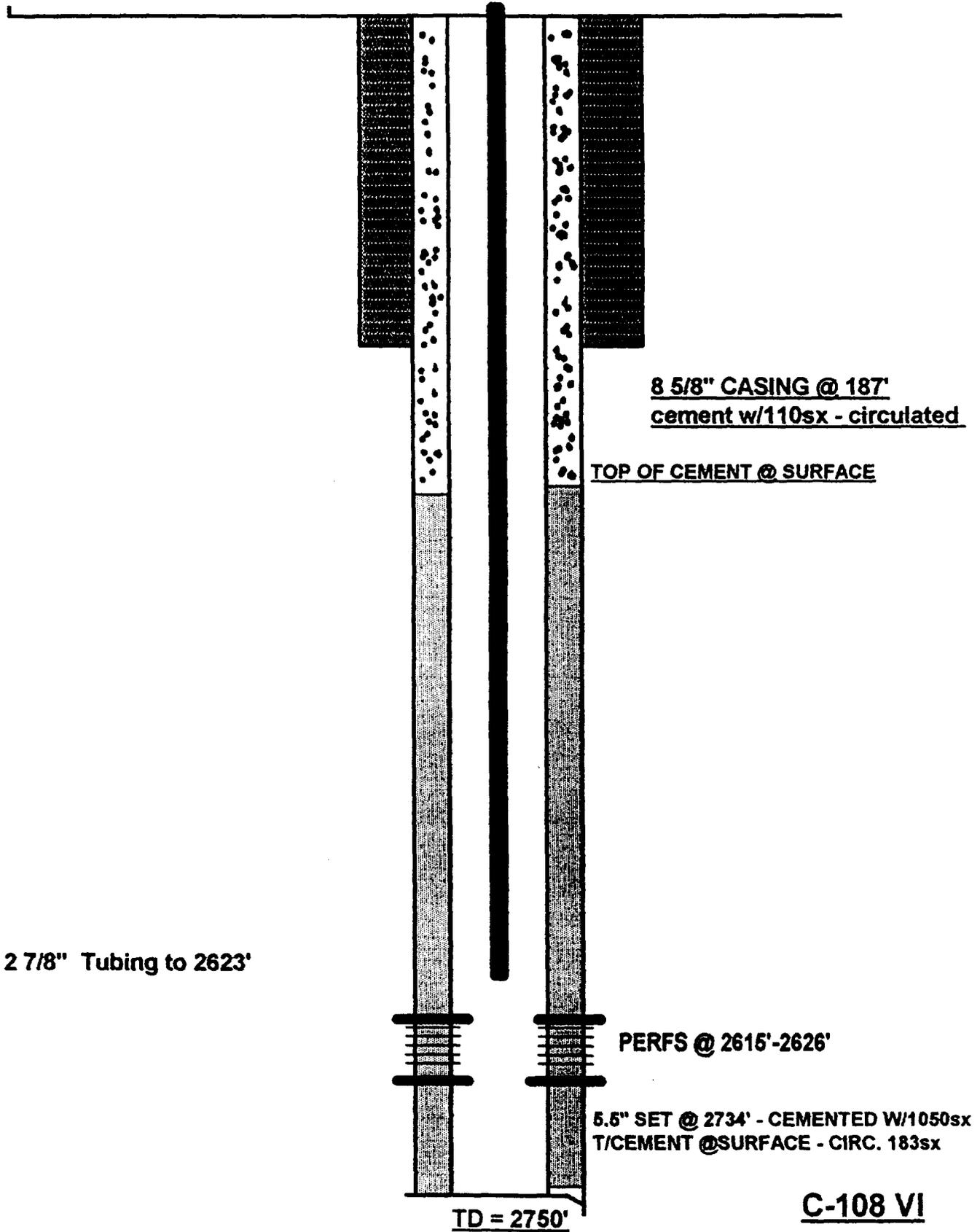


12-T9S-R28F - 2310 FSL & 990 FEL  
I  
T1.SAU #200  
T1.SAU #200  
30-005-63138

**C-108 VI**



Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #202  
Well Schematic  
C-108-VI



36-T8S-R28E. 1300 FSL & 1300 FWL

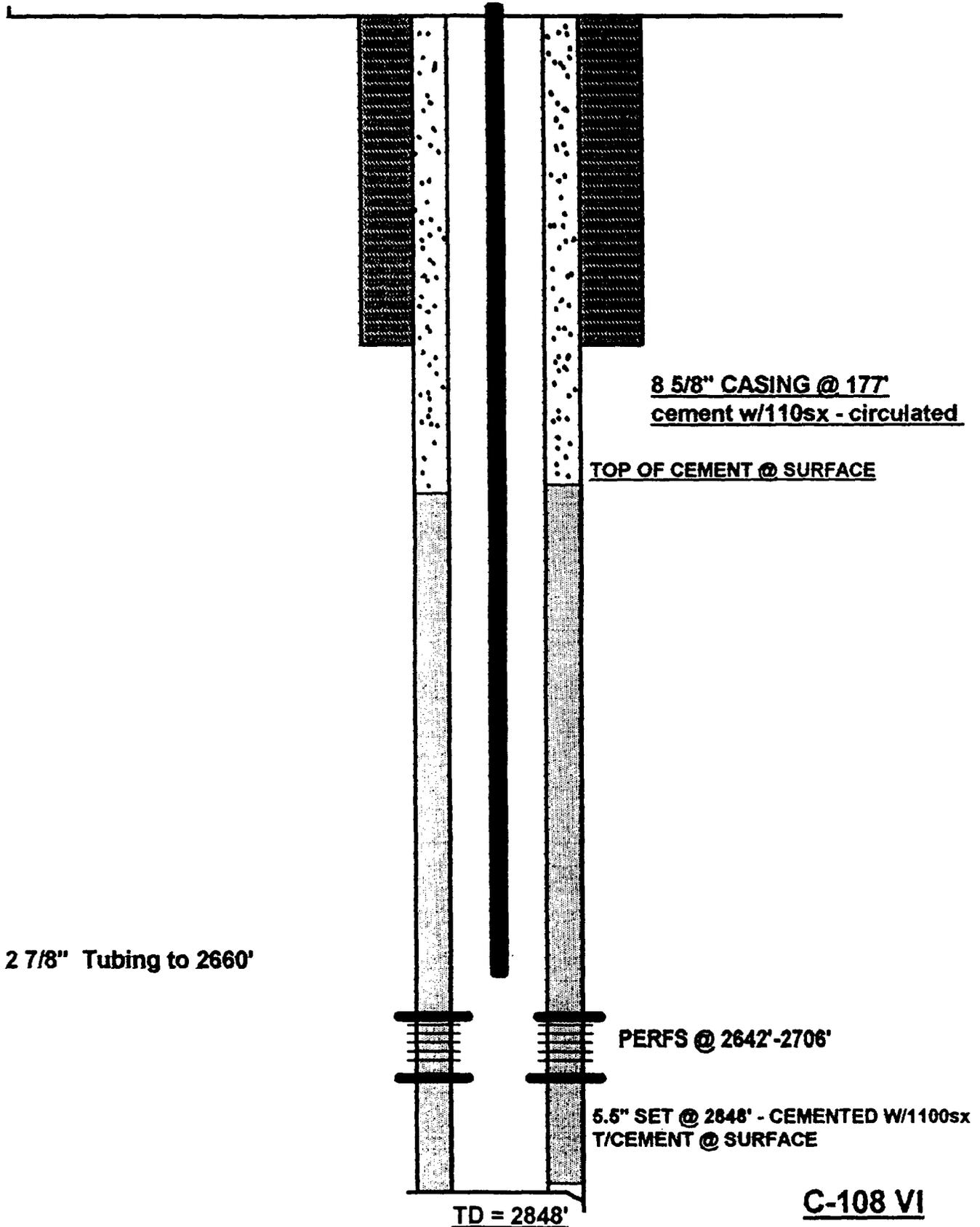
M

TL.SAU #202

TL.SAU #202

30-005-63147

Hanagan Petroleum Corporation  
Twin Lakes San Andres Unit Well #203  
Well Schematic  
C-108-VI



6-T9S-R29E. 1650 FSL & 2310 FWL

K

TLSAU #203

TLSAU #203

30-005-63140

C-108 VI

**SENT FOR PUBLICATION IN**  
**FRIDAY, JULY 17, 1998 EDITION OF**  
**ROSWELL DAILY RECORD**

**LEGAL ADVERTISEMENT**

Hanagan Petroleum Corporation, Post Office Box 1737, Roswell, NM 88202-1737, (phone 623-5053, contact Mike Hanagan) has filed application with the New Mexico Oil Conservation Division to administratively approve the conversion of the oil wells shown below to water injection wells. All of the wells are located within the existing boundaries of the Twin Lakes San Andres Waterflood Unit and will be injecting water into the San Andres formation with injection pressures not to exceed 0.20 p.s.i per foot of depth.

<u>TLSAU Well</u>	<u>Location</u>	<u>TLSAU Well</u>	<u>Location</u>
#3	25-T8S-R28E	#51	31-T8S-R29E
#5	30-T8S-R29E	#58	6-T9S-R29E
#10	25-T8S-R28E	#60	6-T9S-R29E
#12	25-T8S-R28E	#69	6-T9S-R29E
#14	30-T8S-R29E	#72	6-T9S-R29E
#18	36-T8S-R28E	#77	6-T9S-R29E
#20	31-T8S-R29E	#79	6-T9S-R29E
#22	31-T8S-R29E	#87	6-T9S-R29E
#26	36-T8S-R28E	#89	6-T9S-R29E
#29	36-T8S-R28E	#94	7-T9S-R29E
#36	36-T8S-R28E	#102	7-T9S-R29E
#39	31-T8S-R29E	#106	7-T9S-R29E
#41	31-T8S-R29E	#110	12-T9S-R28E
#42	31-T8S-R29E	#112	7-T9S-R29E
#45	36-T8S-R28E	#117	18-T9S-R29E
#47	36-T8S-R28E	#120	18-T9S-R29E
#49	31-T8S-R29E	#123	31-T8S-R29E

Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Sant Fe, NM 87504-2088 within 15 days.