

Case 12866

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: Secondary Recovery      Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  Yes  No

II. OPERATOR: C W TRAINER

ADDRESS: PO BOX 754, MIDLAND, TX 79702

CONTACT PARTY: PERRY L. HUGHES, PETROLEUM ENGINEER      PHONE: 505-885-5433

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project?  Yes  No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

MAR 18 2002

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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 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 sources 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: Perry L. Hughes TITLE: Agent

SIGNATURE: Perry L. Hughes DATE: 2/25/02

\* If the information required under Sections VI, VII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### 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 the 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

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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.

## ATTACHMENT TO OCD FORM C-108

**C W TRAINER  
STATE GA #6**

- I. Purpose - Application is made for authorization to dispose of produced water into the San Andres and Glorieta formations.
- II. Operator - C W Trainer
- III. Injection Well Data - The required well data and schematic diagram of the State GA #6 well is enclosed as Exhibit "B", Page 1. Page 2 of Exhibit "B" is the proposed procedure for conversion of the State GA #6 for produced water disposal.
- IV. This is not an expansion of an existing project.
- V. Maps - The attached Exhibit "A" identify the proposed disposal well, the Area of Review within one-half mile of the proposed disposal well, and all wells and leases within two miles of the proposed disposal well.
- VI. Well Data - The well data for the wells within the Area of Review is attached as Exhibit "C" and the well data and schematic diagrams for all plugged and abandoned well bores within the Area of Review are attached as Exhibit "D".
- VII. Proposed Operations:
  - 1. Proposed average daily injection rate - 1000 BWPD  
Proposed maximum daily injection rate - 2000 BWPD
  - 2. A closed system will be maintained.
  - 3. An average injection pressure of approximately 1500 psi is anticipated. The maximum injection pressure will be subject to the injection pressure authorized by the Oil Conservation Division.
  - 4. The proposed injection fluid will consist of water produced by C W Trainer wells from the Devonian formation injected into the San Andres and Glorieta formations.

5. It is believed that the San Andres and Glorieta are not productive within one mile of the proposed injection well. Compatibility problems should not occur.

**VIII. Geological Data** - The proposed injection interval is in the San Andres and Glorieta formations at a depth of approximately 4749 to 6230 feet. The San Andres and Glorieta are primarily dolomite. Fresh water from the Ogalala Formation extends down to approximately 250'.

**IX. Stimulation** - Small acid treatments of about 2000 gallons 15% NEFE.

**X. Logging Data** - The available logs are those on file with the Oil Conservation Division from the original operator of the well. See Exhibit "F" attached.

**XI. Fresh Water Wells** - Fresh water wells exist within one mile of the proposed disposal well. Analysis of samples from two fresh water wells is attached as Exhibit "G", along with a sketch showing well locations.

**XII. Affirmative Statement** - An affirmative statement of examination is attached Exhibit "E".

**XIII. Proof of Notice** - Copies of this C-108 Application have been mailed to the surface owner and each leasehold operator within one-half mile of the proposed disposal well hereafter listed. An affidavit of such notice is attached Exhibit "H". Copies of the return receipts will be furnished upon receipt.

Surface Owner: U.S. Alexander

Leasehole Operators: Chesapeake Operating, Inc.  
Fasken Oil & Ranch, Ltd.

**EXHIBIT "A"**

## Map showing all wells within 1/2 mile radius and 2 mile radius

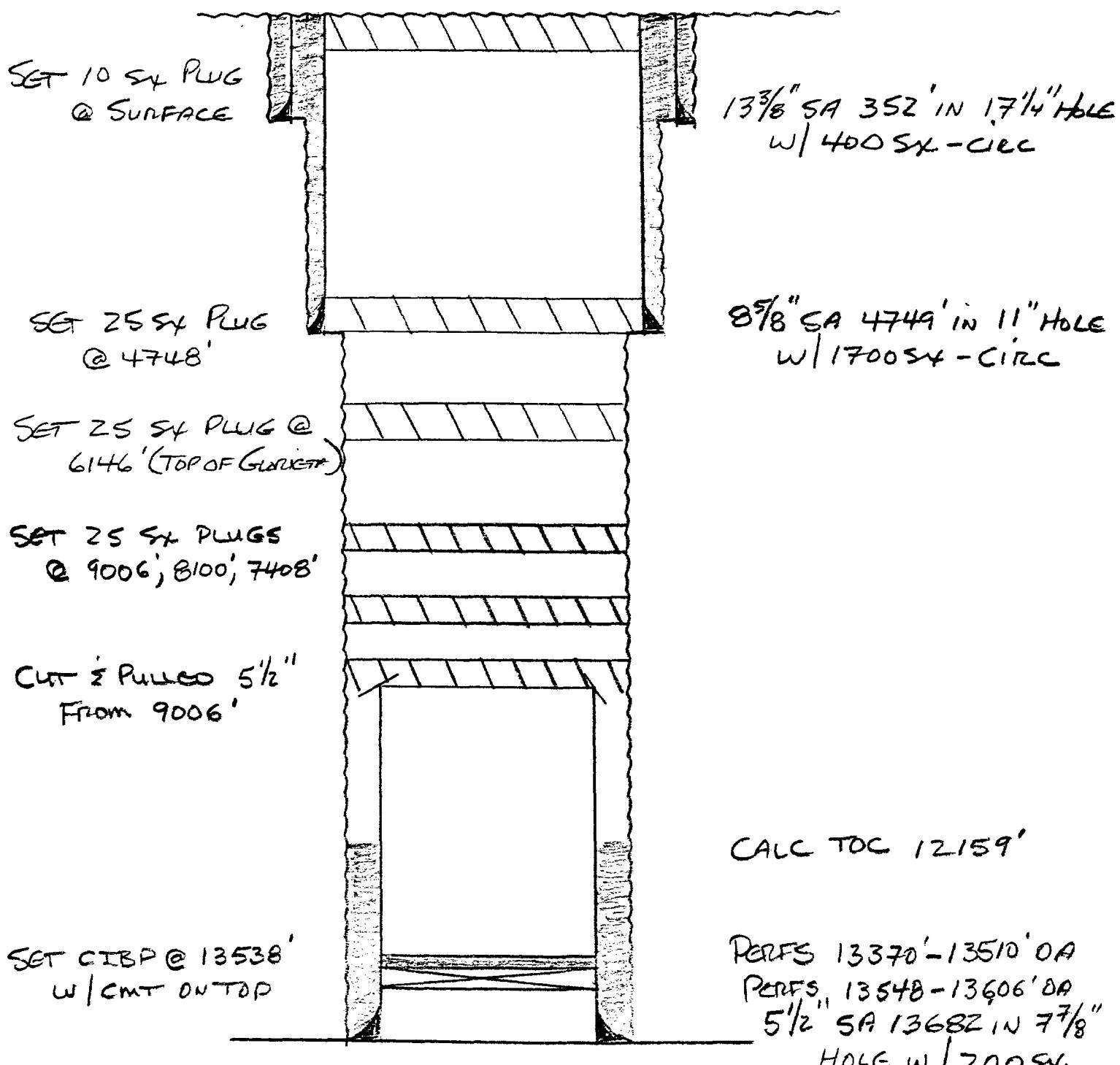
## LEGEND

- ④ CO<sub>2</sub> Wells Not Shown
  - ④ Wildcat Below 5000' or Discovery
  - Location
  - ⚡ Abandoned Producer
  - Complete — Producing Oil
  - ⓧ Completed — Producing Gas
  - ◊ Dry & Abandoned

# **Exhibit “B”**

**Diagram of  
State GA #6**

~ W "MANNED"  
 (SHELL OIL COMPANY)  
 STATE GA # 6  
 660' FNL & 990' FWL, UNIT "D"  
 SEC 16, T2SS R236E  
 LGA County, NM  
 DRILLED 11/9/55, P&A 1/20/67  
 PRESENT STATUS



12/6/02

(SHELL OIL COMPANY)

STATE GA # 6

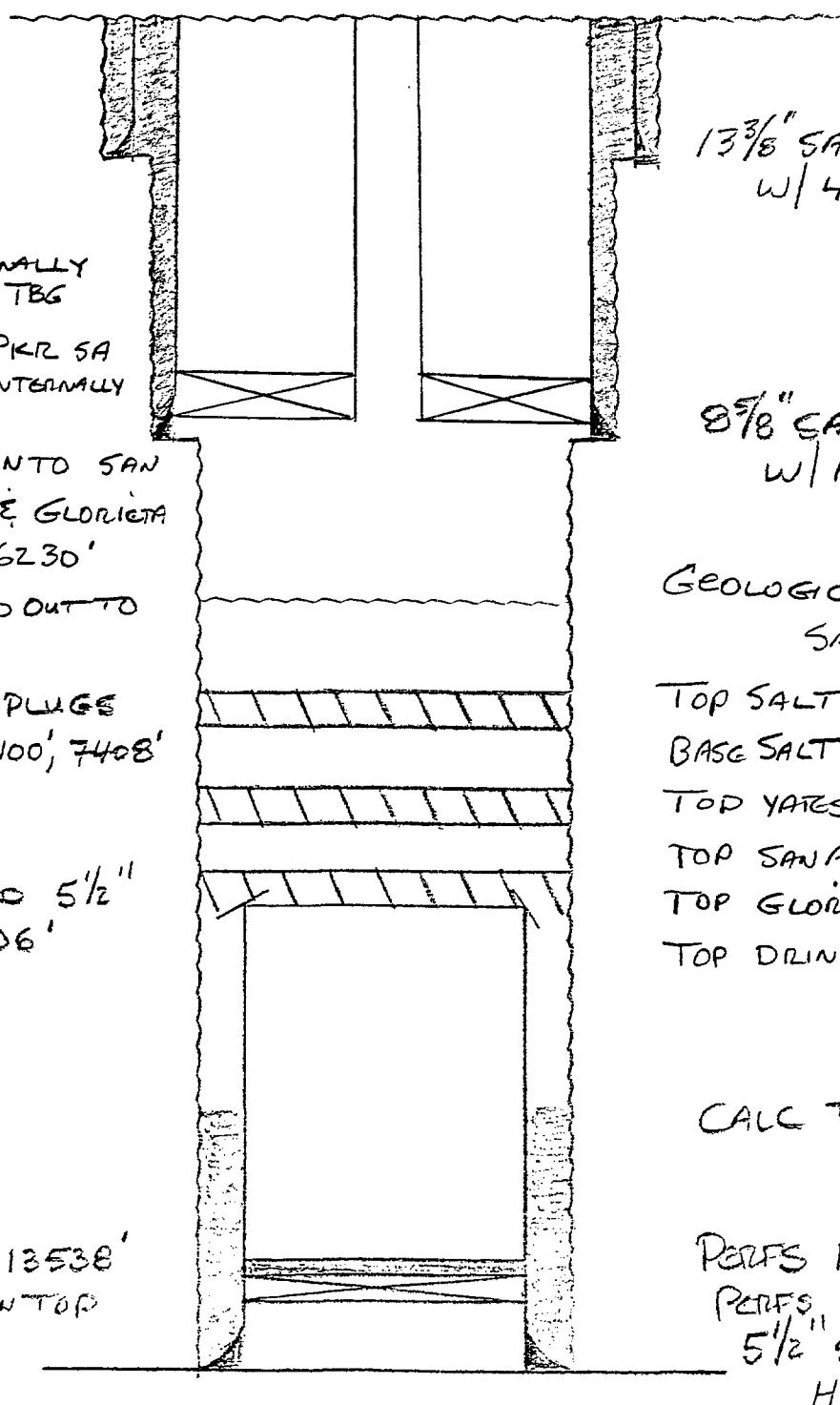
660' FNL & 990' FWL, UNIT "D"

SEC 16, TISS R36E

GA County, NM

DRILLED 11/9/55, P&A 1/20/67

PROPOSED COMPLETION



GEOLOGIC TOPS BY LOGS/  
SAMPLES

TOP SALT	2175'
BASE SALT	2900'
TOP YATES	3080'
TOP SAN ANDRES	4655'
TOP GLORIETA	6141'
TOP DRINKARD	7408'

CALC TOC 12159'

PERFS 13370'-13510' OA  
PERFS 13548-13606' OA  
5<sup>1</sup>/<sub>2</sub>" SA 13682' IN 7<sup>7</sup>/<sub>8</sub>"  
HOLE w/ 200 SX

1/2/02

## **Exhibit "C" Data on Wells in Area of Review**

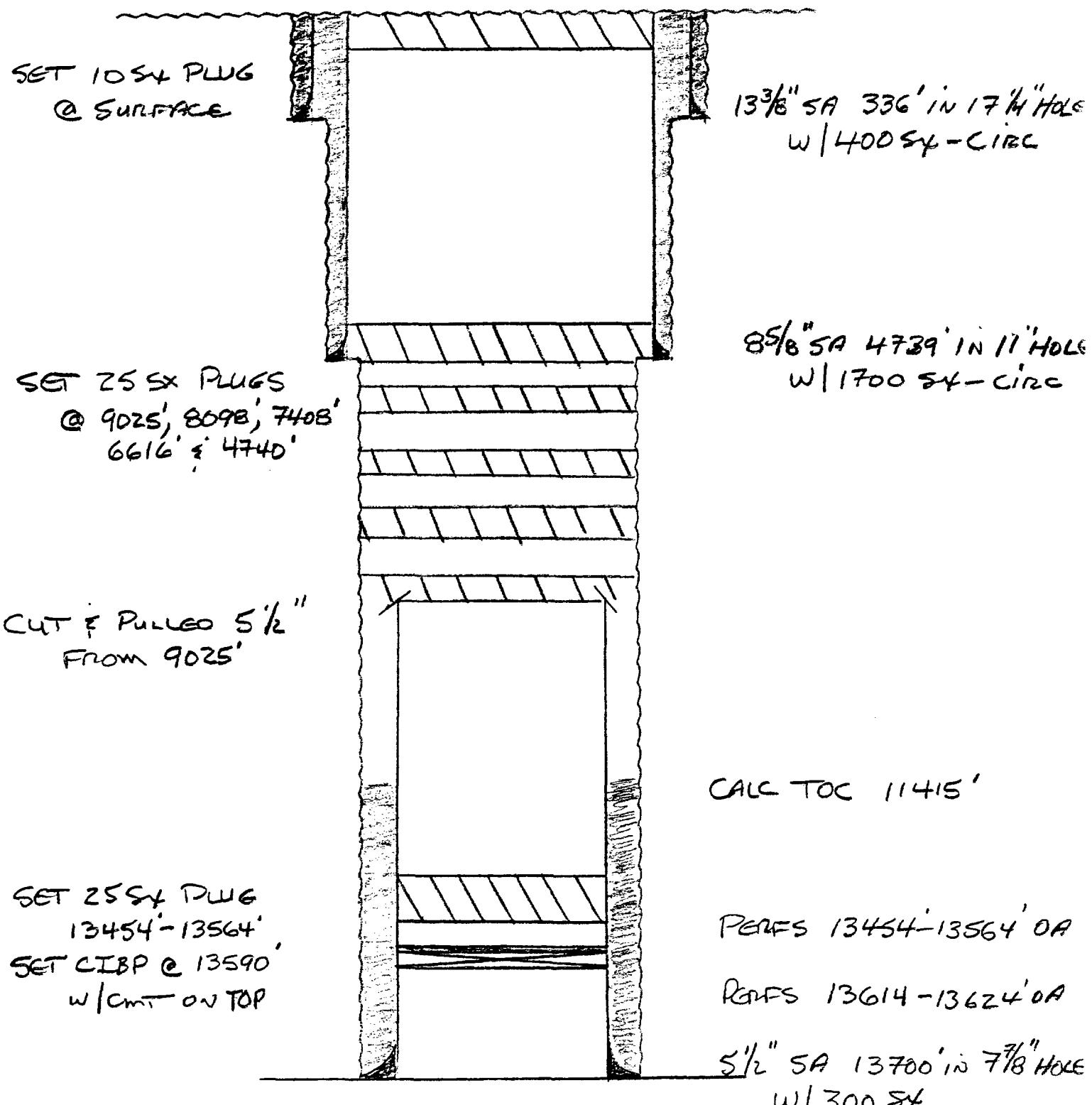
**Attachment to Form C-108 Application for Authorization to Inject  
State GA Well No. 6, Unit D Section 16, T15S, R36E, Lea County, New Mexico**

Operator/Well	Status Present(Orig)	Date Drilled	Date P & A	Location	Hole Size	Casing Size	Construction			Total Depth	Completion/ Injection Zone
							Depth	Sx Cmt	TOC		
C W Trainer (Shell)	P & A (Oil)	11/09/55	01/20/67	660' FNL & 990' FWL (Unit D)	17 1/4"	13 3/8"	352'	400	Circ	13682'	Devonian
State GA #6	To Be Injector			Section 16, T15S, R36E	11"	8 5/8"	4749'	1700	Circ		San Andres/
					7 7/8"	5 1/2"	13682'	200	12159' *		Glorietta
Columbian Carbon Co.	P & A (DH)	06/22/56	03/05/59	990' FWL & 330' FSL (Unit M)	17 1/4"	13 3/8"	320'	300	Circ		
Graham #1				Section 9, T15S, R36E	11"	8 5/8"	4750'	500	2431' *	13547"	None
					7 7/8"						
Sunray Oil Co.	P & A (Oil)	02/24/56	05/21/75	2310' FEL & 330' FSL & Unit O)	17 1/2"	13 3/8"	374'	400	Circ	13631'	Devonian
JO Graham #1				Section 9, T15S, R36E	11"	8 5/8"	4749'	2300	Circ (?)		
					7 7/8"	5 1/2"	13630'	450	10202' *		
Shell Oil Co.	P & A (Oil)	01/28/56	07/06/65	660' FNL & 2310' FEL (Unit B)	17 1/4"	13 3/8"	353'	400	Circ	13630'	Devonian/
State GA #7				Section 16, T15S, R36E	11"	8 5/8"	4749'	1650	Circ		Wolfcamp
					7 7/8"	5 1/2"	13629'	250	11725' *		
C W Trainer (Shell)	Prod. (Oil)	08/24/55	-	660' FNL & 1988' FWL (Unit C)	17 1/2"	13 3/8"	354'	350	Circ	13674'	Devonian
State GB #1				Section 16, T15S, R36E	11"	8 5/8"	4748'	2200	Circ		
					7 7/8"	5 1/2"	13674'	200	12151' *		
Shell Oil Co.	P & A (Oil)	08/01/55	01/13/67	1980' FNL & 990' FWL (Unit E)	17 1/4"	13 3/8"	336'	400	Circ	13700'	Devonian
State GA #4				Section 16, T15S, R36E	11"	8 5/8"	4730'	1700	Circ		
					7 7/8"	5 1/2"	13700'	300	11415' *		
Shell Oil Co.	P & A (Oil)	10/01/55	08/17/64	1980' FNL & 2310' FEL (Unit G)	17 1/4"	13 3/8"	338'	400	Circ	13656'	Devonian/
State GA #5				Section 16, T15S, R36E	11"	8 5/8"	4747'	2700	Circ		Wolfcamp
					7 7/8"	5 1/2"	13656'	200	12134' *		
TRAWNER											
Allen K. Freibank (Shell)	Prod. (Oil)	05/01/55	-	1980' FNL & 1980' FWL (Unit F)	17 1/2"	13 3/8"	353'	400	Circ	14079'	Devonian
State GA #1				Section 16, T15S, R36E	11"	8 5/8"	4738'	1750	Circ		
					7 3/4"	5 1/2"	14078'	1250	3931' *		
H & M Disposal (Humble Oil)	Disposal (Oil)	02/23/56	-	660' FSL & 1980' FWL (Unit N)	17 1/2"	11 3/4"	311'	350	Circ	13600'	Devonian
Mayas Graham #1	Devonian			Section 9, T15S, R36E	11"	8 5/8"	4900'	2500	Circ		deepen to 13864 (OH)
					7 7/8"	5 1/2"	13600'	1370	800' temp survey		
* Calculated								330	Circ to surface		

# **Exhibit D**

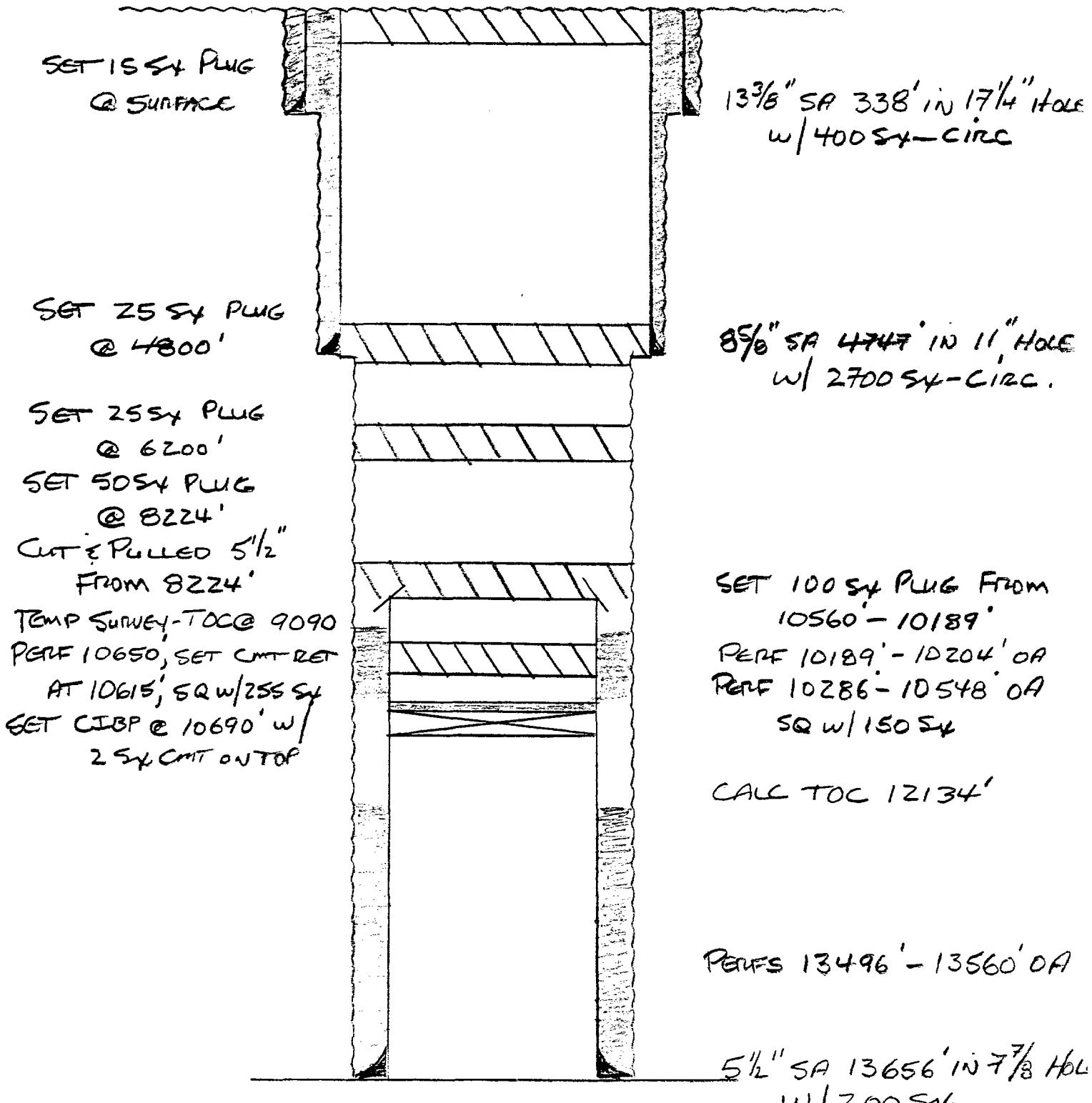
**P & A  
Wellbore  
Diagrams**

SHELL OIL COMPANY  
 STATE GA #4  
 1980' FNL & 990' FWL, UNIT "E"  
 SEC 16, T15S R236E  
 LGA County, NM  
 DRILLED 8/1/55, P&A 1/13/67

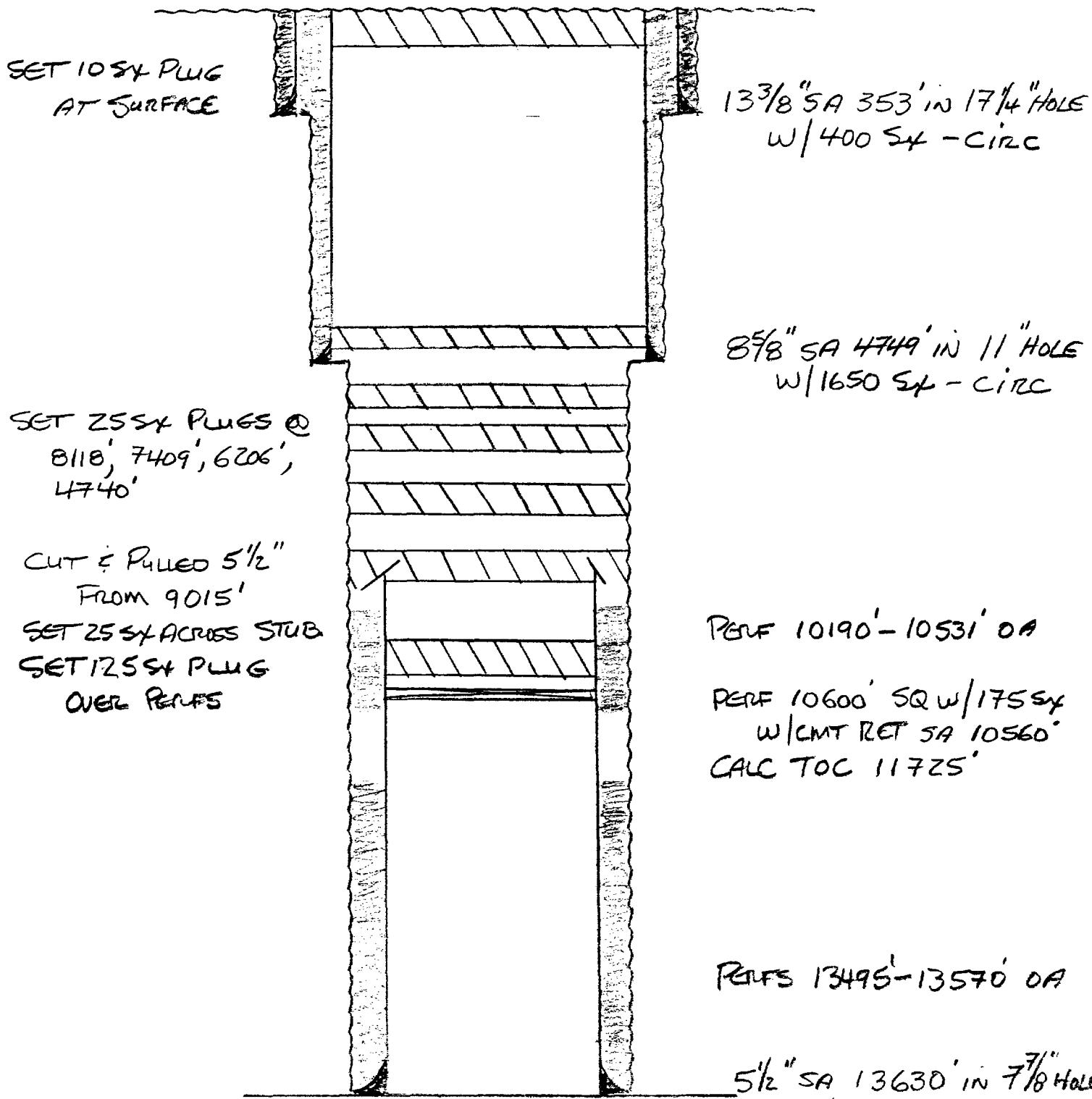


1/2/02

SHELL OIL COMPANY  
 STATE. GA # 5  
 1980' FNL; 2310' FEL, UNIT "G"  
 SEC 16, T15S R36E  
 LGA County, NM  
 DRILLED 10/1/55, P&A 8/17/64

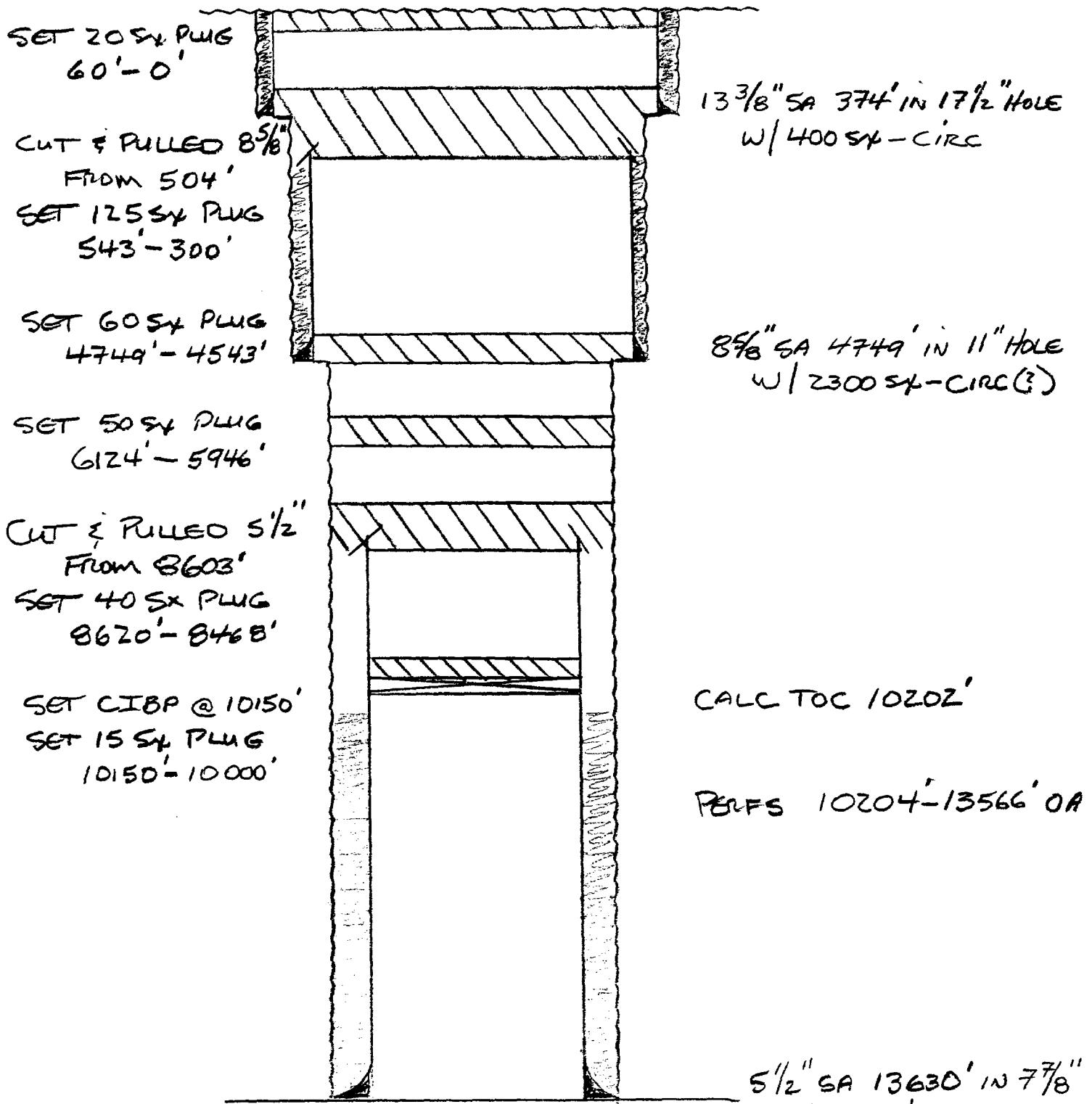


SHELL OIL COMPANY  
 STATE GA # 7  
 660' FNL & 2310' FEL, UNIT B  
 SEC. 16, T15S R36E  
 LGA CO., NM  
 DRILLED 1/28/56, P&A 7/6/65



H2/6/02

JUNRAY MC OIL CO.  
 JD Graham #1  
 2310' FEL & 330' FSL, UNIT 0  
 SEC. 9 T15S R35E  
 LIGA County, NM  
 DRILLED 2/24/56, PERFORATED 5/21/75



H 2/5/02

COLUMBIAN CARBON CO.  
(GE HALL)

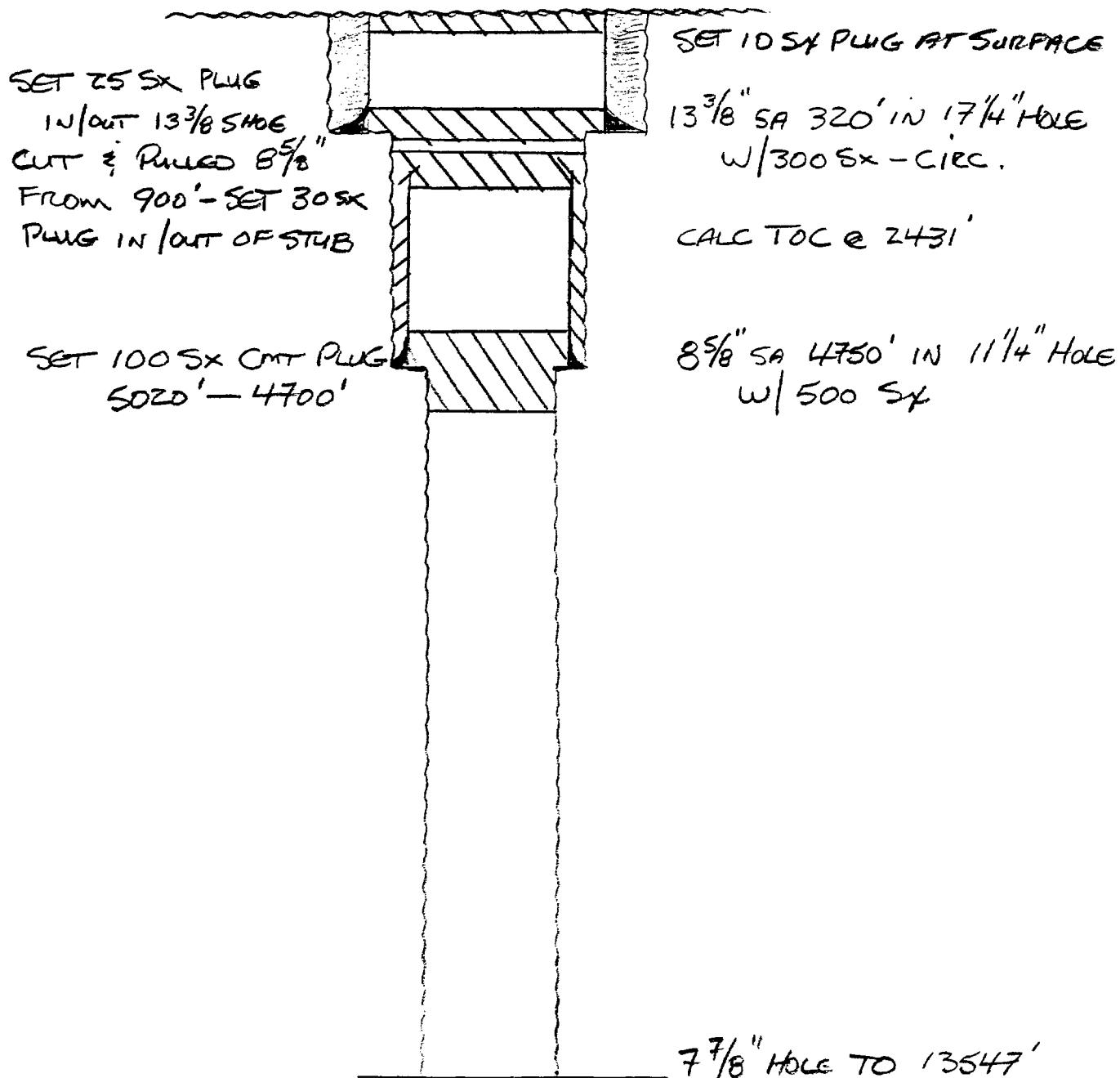
M. GRAHAM #1

990' FWL < 330' FSL, UNIT M

SEC 9 T15S R36E

LGA County, NM

DRILLED 6/22/56 D&A 3/5/59



4/21/02

**Perry L. Hughes**  
*Petroleum Engineer*  
207 W. McKay • Carlsbad, NM 88220 • 505-885-5433

**Affirmative Statement**  
**Exhibit "E"**

I have examined the available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

Perry L. Hughes  
Perry L. Hughes  
Petroleum Engineer

2/25/02  
Date

COMPANY SHELL OIL CO.		Location of Well	
WELL STATE GA # 6		660' f NL 990' f WL Sec. 16-155-36E	
FIELD CAUDILL Devonian ES LOCATION SEC. 16-155-36E		(ML-GRN)	
COUNTY LEA		Elevation: D.F. 3924 K.B. or G.L.	
STATE NEW MEXICO		FILING No.	
RUN No.	1	2	3
Date	9-13-55	10-5-55	11-1-55
First Reading	10433	12217	13678
Last Reading	4750	10433	12217
Footage Measured	5683	1784	1461
Csg. Schlum.	4750	4750	4750
Csg. Driller	4749	4749	4749
Depth Reached	10426	12220	13681
Bottom Driller	10428	12217	13670
Depth Datum	RDB 13' Aby. GL		
Mud Nat.	Chemicals	Water 4%	Oil Chemical
Density	9.5	9.5	9.5
Viscosity	41	53	68
" Resist.	98 G GR °F	90 G F 1	206 B °F
" Res. RMT	54 @ 158°F	40 @ 81°F	40 @ 190°F
" pH	10 @ 12°F	12 @ 8°F	11 @ 6°F
" Wtr. Loss	8 @ 4°C 30 min	5 @ 6°C 30 min	5 @ 4°C 30 min
Max. Temp. °F	158	181	190
Bit Size	7 7/8"	7 7/8"	7 7/8"
Specs. AM	10"	10"	10"
A.O.	32 1/2"	32 1/2"	32 1/2"
AO	19"	19"	19"
Op. Rig Time	2 Hrs.	2 Hrs.	2 Hrs.
Truck No.	1758-Hobbs-1762	1762-Hobbs-1760	
Recorded By	Winkler	Rainiers	Maxwell
Witnessed By	ESSARY	ESSARY	ESSARY
REMARKS			
GR: 840 - 200 - 100(20.0) Logsens. 140: TCI.4; speed 2000' & 4000'/ hr			
THIS IS NOT A COMPLETE REPRODUCTION OF THE ORIGINAL LOG.			

## COMPLETION RECORD

SPUD DATE	COMP DATE
PROPERTY OF	
Permian Association, Inc.	
ROSWELL, NM 88201	
Jack P. O. Box 1120 Roswell, NM 88201	
CASING RECORD	
PERFORATING RECORD	
ACID. FRAC SHOT	

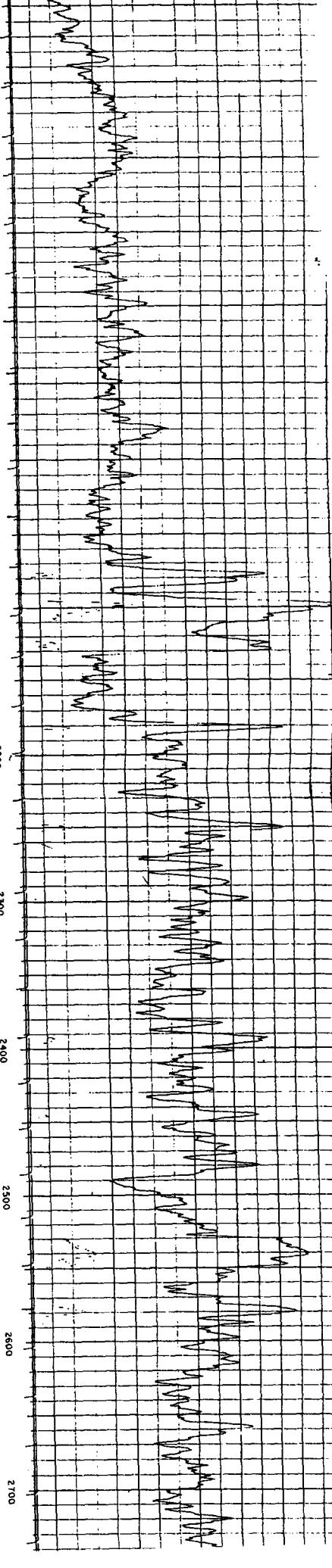
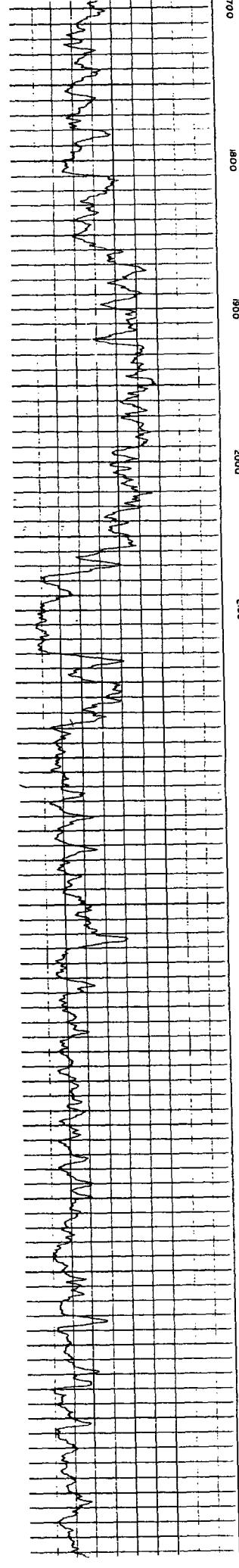
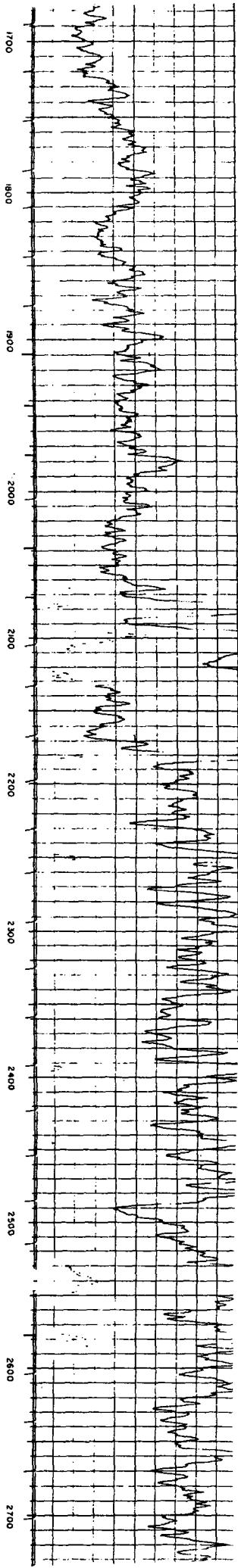
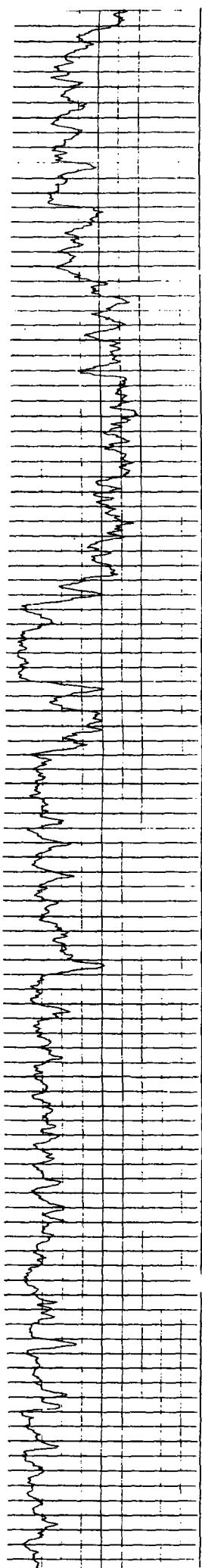
## EXHIBIT "F"

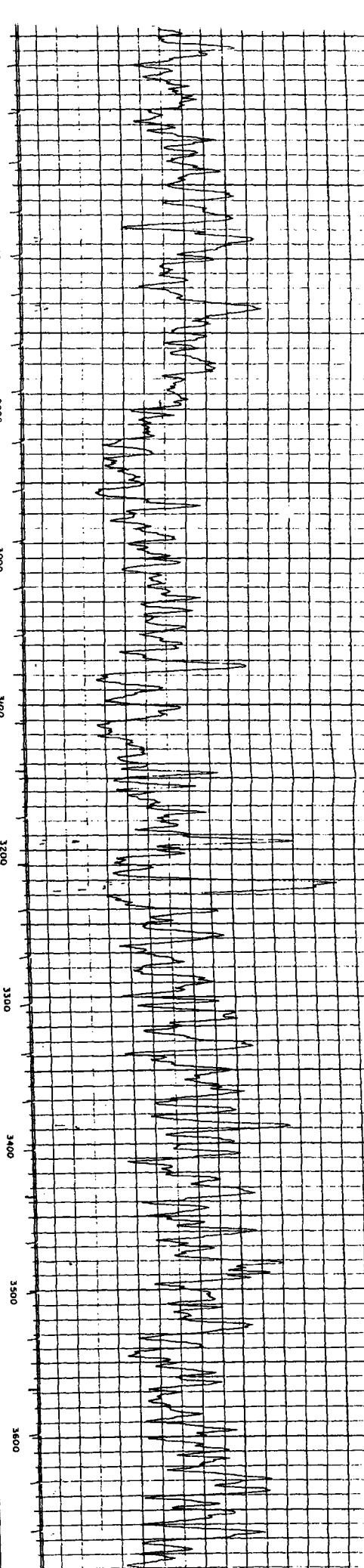
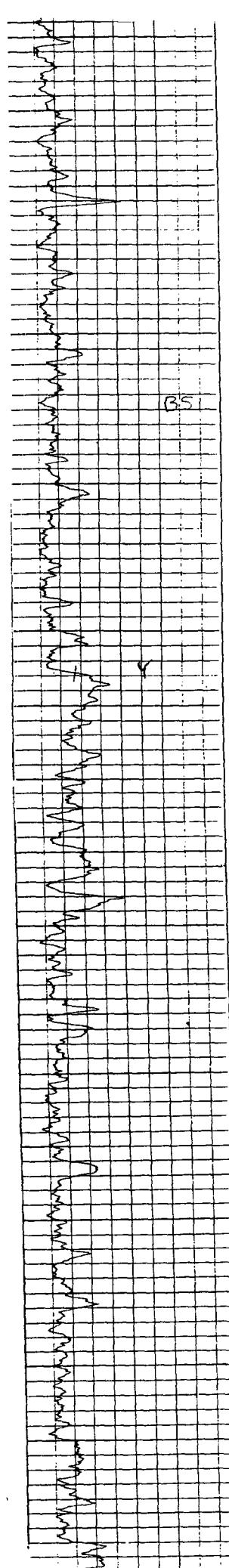
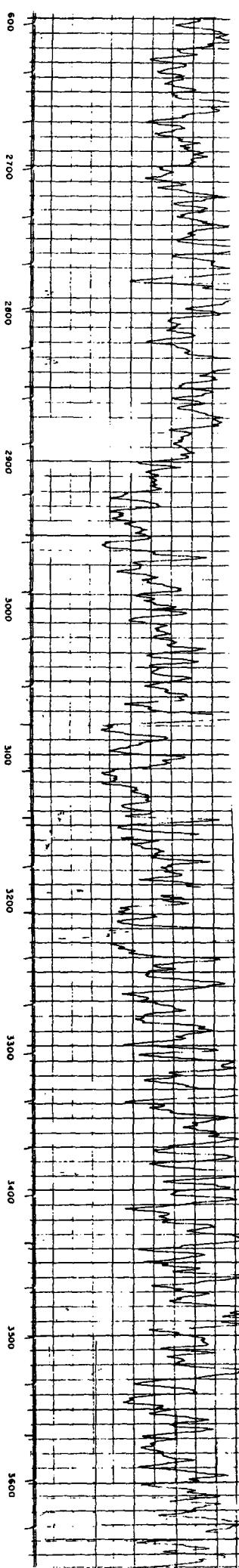
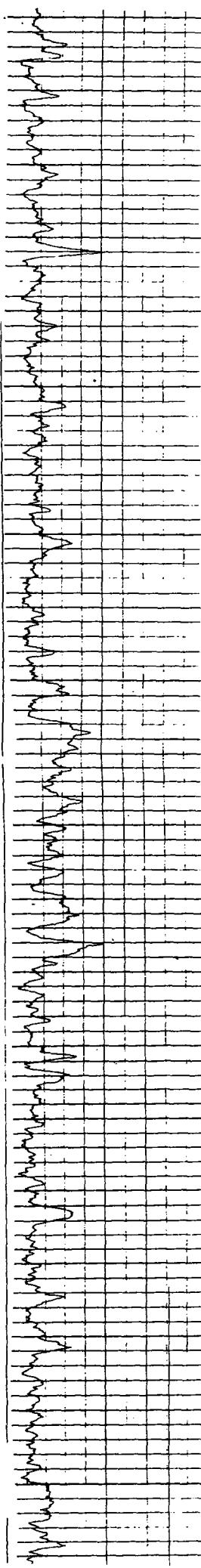
SCHLUMBERGER WELL SURVEYING CORPORATION		SIMULTANEOUS	
Gamma Ray-Neutron			
COMPANY SHELL OIL CO.		Location of Well	
WELL STATE GA # 6		660' f NL 990' f WL Sec. 16-155-36E	
FIELD CAUDILL Devonian		GRN (ES-ML)	
LOCATION SEC. 16-155-36E		Elevation: D.F. 3924 K.B. or G.L.	
COUNTY LEA		FILING No.	
RUN NO.	11-1-55		
Date	KB 13' Aby. G		
Depth Reference			
First Reading	13680		
Last Reading	0		
Footage Measured	13680		
Max. Depth Reached	13681		
Bottom Driller	13670		
Maximum Temp. F.	190		
Mud: Nature	Water-4% Oil Chemicals		
" Density	9.5		
" Viscosity	68		
" Resistivity	1.2 @ 68°F		
Casing Size "	8 5/8" to 4149		
Weight	to		
Open Hole	7 7/8" to TD		
	to		
Fluid Level	79'		
Recording Speed (ft/hr)	2000 & 4000		
Sensitivity Top	(GR) 140 (N) 280 (GR)		
Time Constant	1/4 1/2		
Panel	GNP+B # 47		
Op. Rig Time	42 Hrs.		
Sonde Size & Type	3 5/8"		
Truck No.	1760-Hobbs		
Observer	Maxwell		
REMARKS: CALIBRATION BACKGROUND CPS TEST SOURCE CPS GAIN INCREASE DIVISIONS			PANEL SENS TAP.
GAMMA RAY 40	200	100	200
NEUTRON	240	100	400

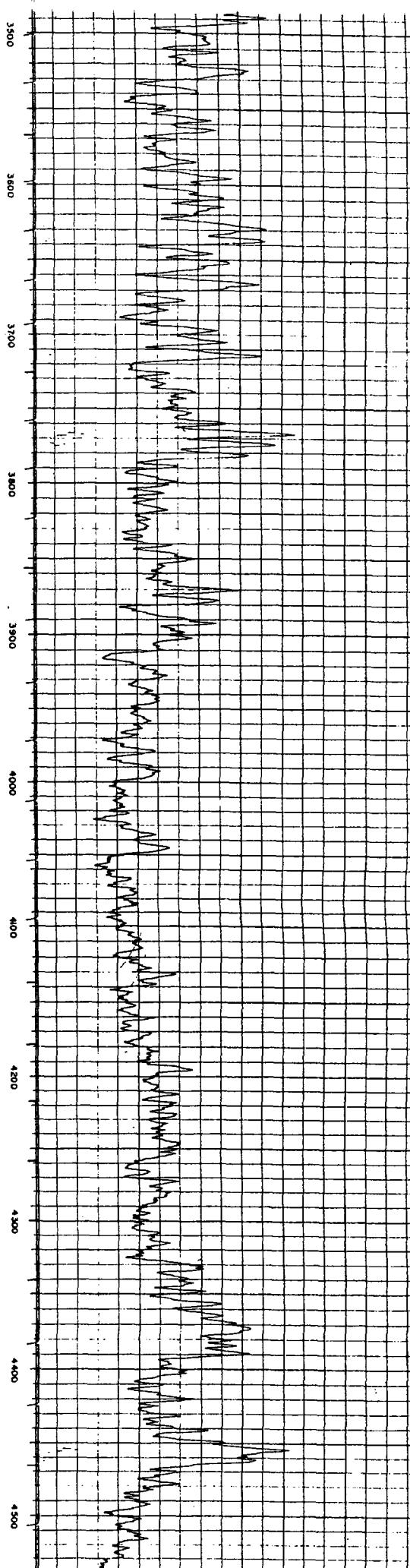
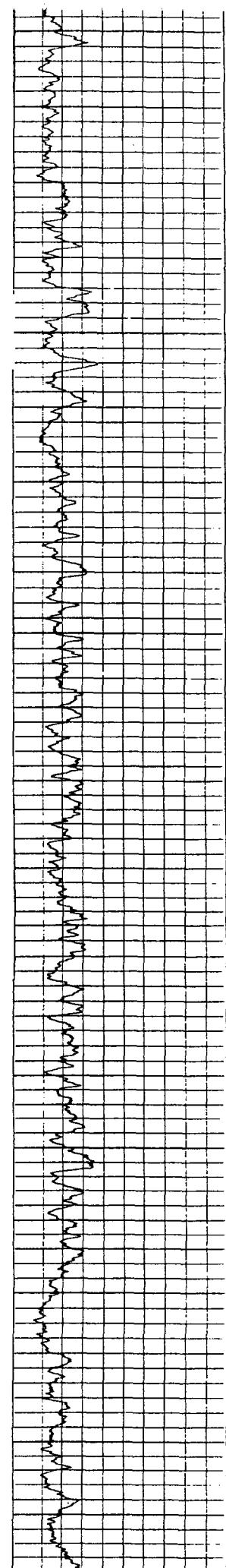
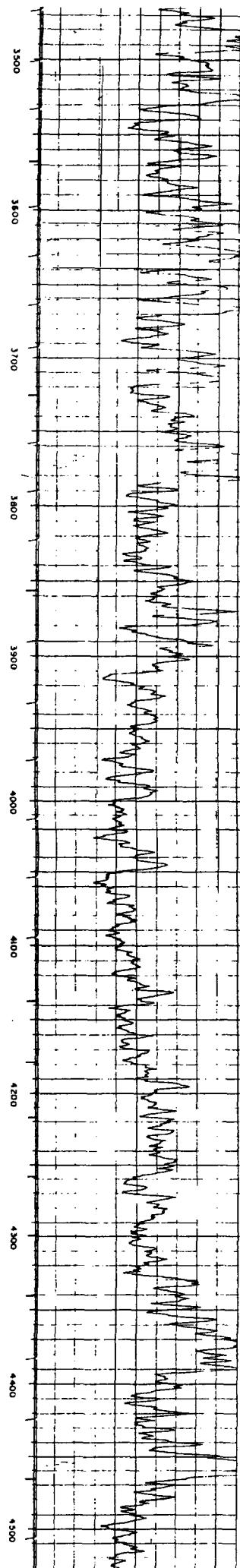
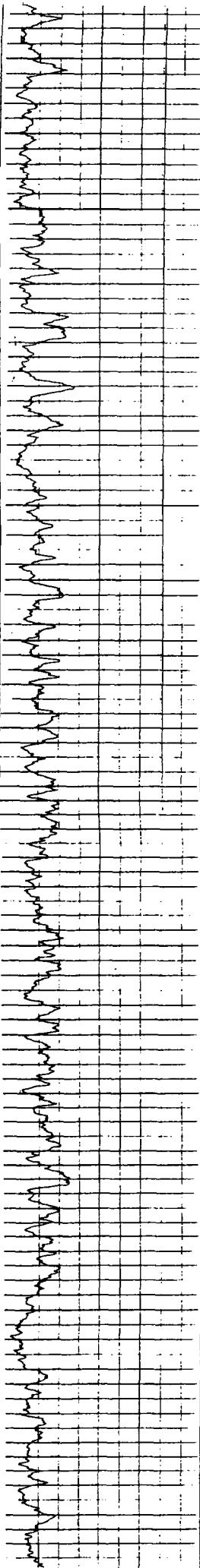
PROPERTY OF	
COMPLETION RECORD	
Permian Association, Inc.	
ROSWELL, NM 88201	
SPUD DATE	COMP DATE
DST RECORD	

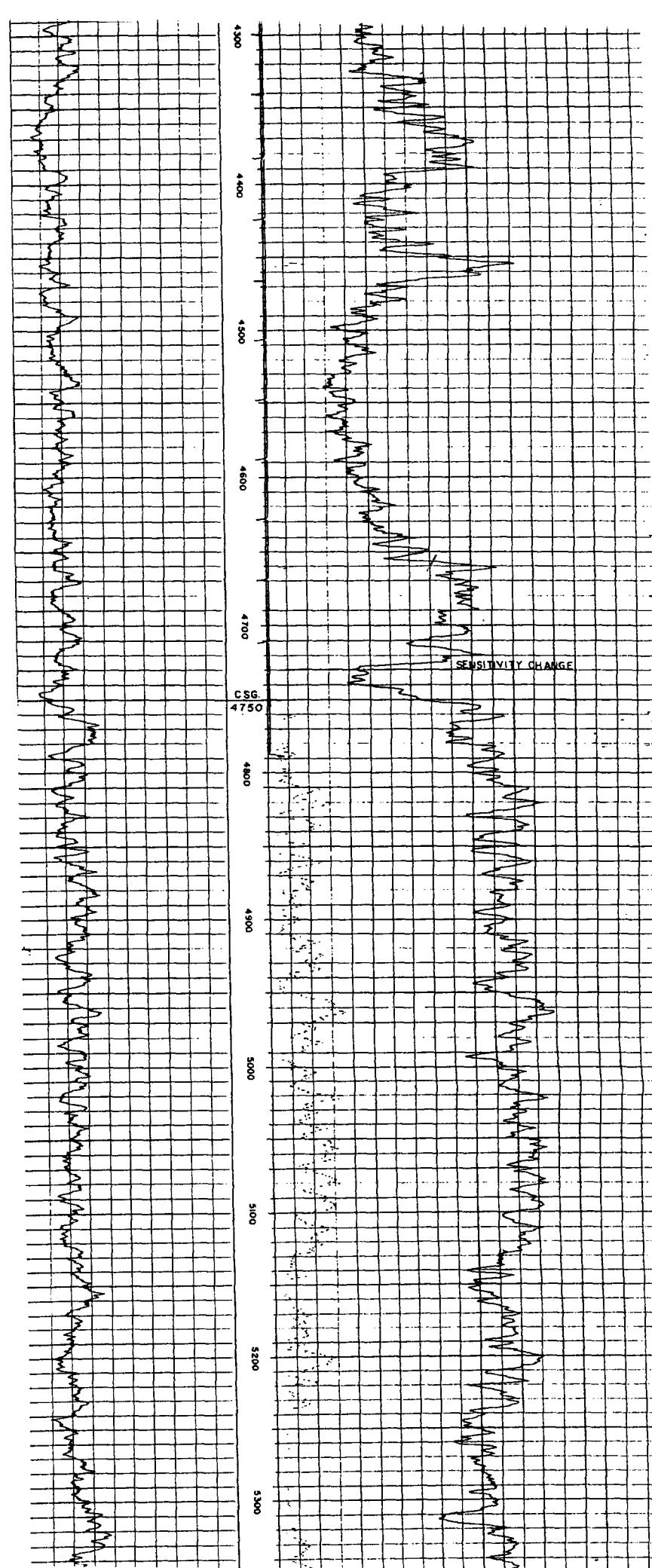
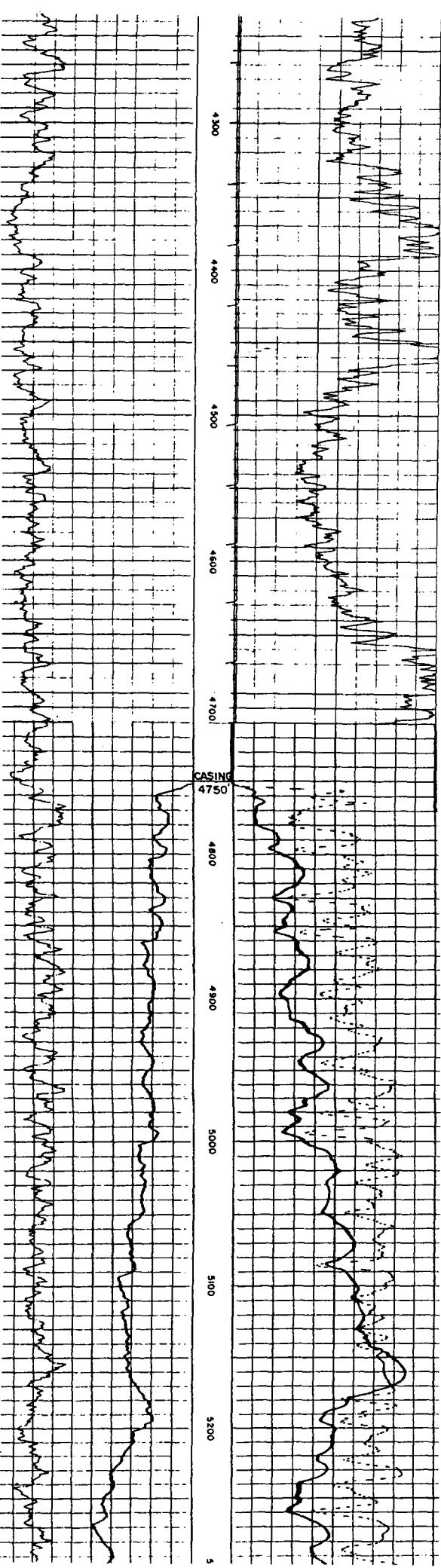
CASING RECORD	
PERFORATING RECORD	
ACID. FRAC SHOT	

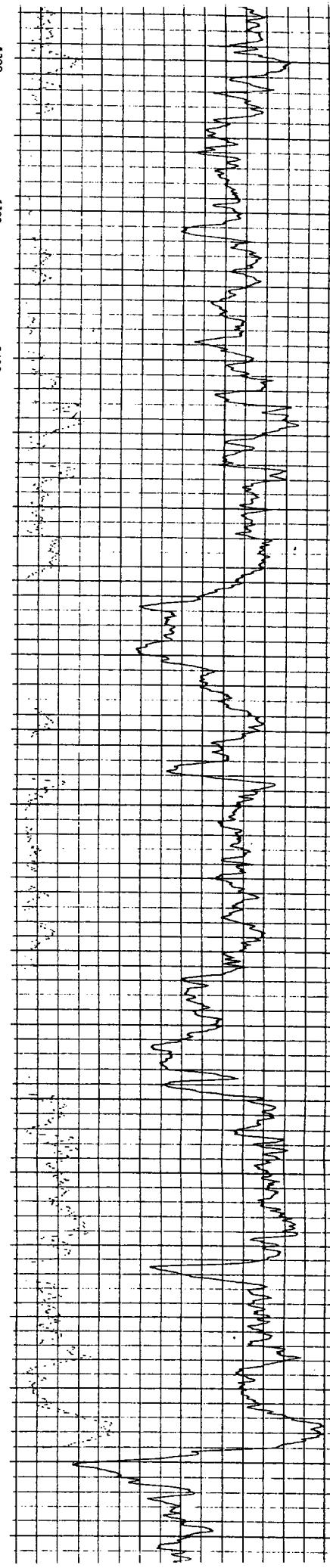
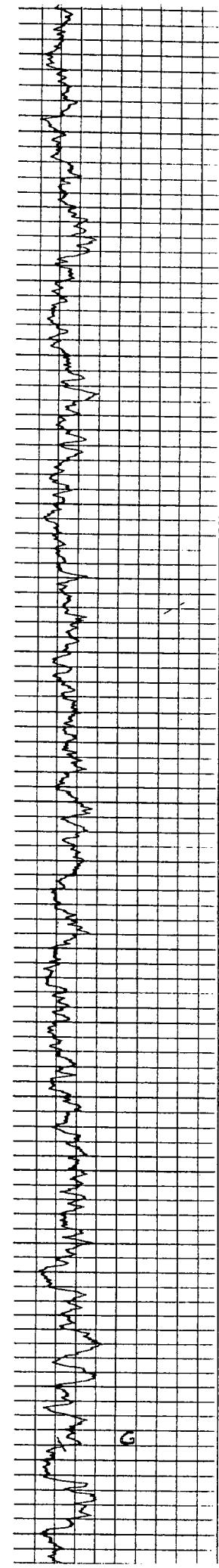
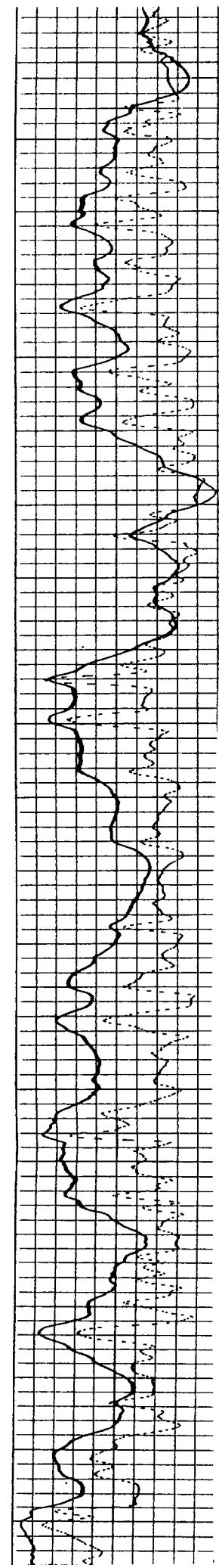
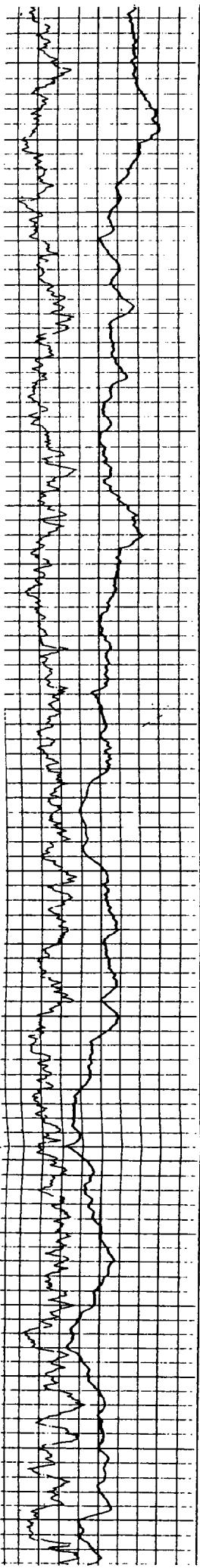
Jack L. McClellan  
P.O. Box 1120  
Roswell, NM 88201











# **EXHIBIT “G”**

**FRESH WATER ANALYSIS**

**AND**

**SKETCH OF WATER WELL  
LOCATIONS**

GA

**Oilfield Solutions, Inc.**  
**2614 S.C.R. 1267, Midland, Tx. 79706**

**WATER ANALYSIS REPORT**

Company: C.W TRAINOR  
 Location: PREBN WATER SAMPLE #2  
 Source: 0  
 Date Sampled: D

Sampled By: L-CHEM  
 Analyst Date: 02/19/02  
 Geolman:

<b>ANALYSIS</b>		<b>mg/L</b>	<b>EQ. WT.</b>	<b>MEQ/L</b>
1. pH		7.60		
2. Specific Gravity 60/60 f.		1.003		
3. Hydrogen Sulfide	NEGATIVE			
4. Carbon Dioxide	Not Determined			
5. Dissolved Oxygen	Not Determined			
6. Hydroxyl (OH <sup>-</sup> )	0 /	17.0	=	0.00
7. Carbonate (CO <sub>3</sub> <sup>2-</sup> )	0 /	30.0	=	0.00
8. Bicarbonate (HCO <sub>3</sub> <sup>-</sup> )	186 /	81.1	=	3.19
9. Chloride (Cl <sup>-</sup> )	1,000 /	36.5	=	28.17
10. Sulfate (SO <sub>4</sub> <sup>2-</sup> )	500 /	48.0	=	12.30
11. Calcium (Ca <sup>++</sup> )	0 /	20.1	=	0.00
12. Magnesium (Mg <sup>++</sup> )	0 /	12.2	=	0.00
13. Sodium (Na <sup>+</sup> )	1,004 /	23.0	=	43.58
14. Barium (Ba <sup>++</sup> )	Not Determined			
15. Total Iron (Fe <sup>2+</sup> )	0.00			
16. Dissolved Solids	2,799			
17. Filterable Solids				
18. Total Solids	2,799			
19. Total Total Hardness As CaCO <sub>3</sub>	0			
20. Suspended Oil				
21. Volume Filtered (ml)				
22. Resistivity @ 75 F. (calculated)		3.182 /cm.		
23. CACO <sub>3</sub> Saturation Index				
@80 F.	ERR			
@100 F.	ERR			
@120 F.	ERR			
@140 F.	ERR			
@160 F.	ERR			
24. Calcium Sulfate solubility @ 80 F.	1,861 mg/L			
		PROBABLE MINERAL COMPOSITION		
		COMPOUND	EQ. WT.	X MEQ/L = mg/L
		Ca(HCO <sub>3</sub> ) <sub>2</sub>	61.04	0.00 0
		CaSO <sub>4</sub>	68.07	0.00 0
		CaCl <sub>2</sub>	56.50	0.00 0
		Mg(HCO <sub>3</sub> ) <sub>2</sub>	79.17	0.00 0
		MgSO <sub>4</sub>	60.19	0.00 0
		MgCl <sub>2</sub>	47.62	0.00 0
		NaHCO <sub>3</sub>	84.00	3.19 288
		NaSO <sub>4</sub>	71.03	12.30 574
		NaCl	58.46	28.17 1,647

Chemist: \_\_\_\_\_

**Oilfield Solutions, Inc.**  
**2814 S.C.R. 1257, Midland, Tx. 79706**

**WATER ANALYSIS REPORT**

C/A

Company: C.W TRAINOR  
 Location: FRESH WATER SAMPLE #1  
 Source: 0  
 Date Sampled: 0

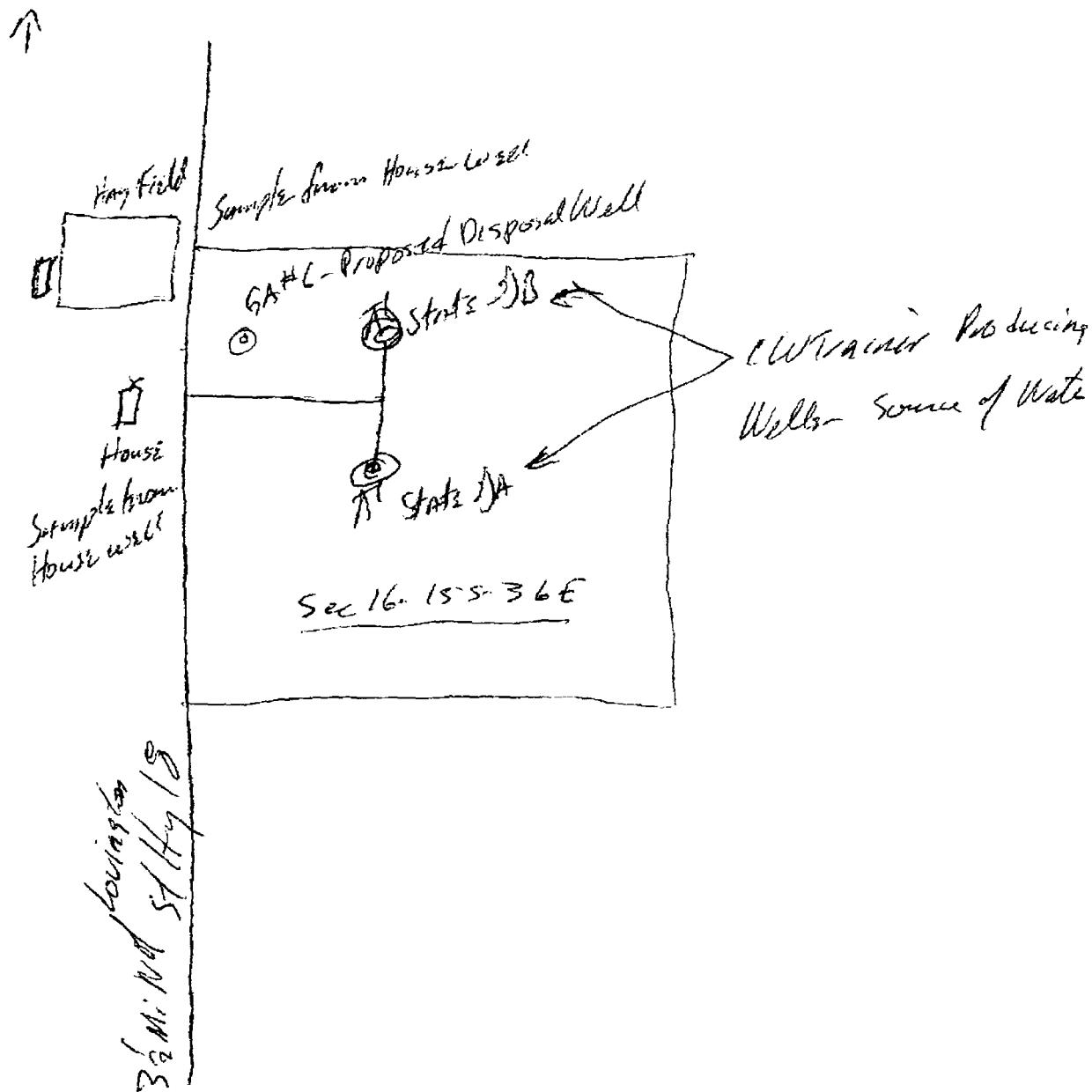
Sampled By: L-CHEM  
 Analysis Date: 02/19/02  
 Salesman:

ANALYSIS	mg/L	EQ. WT.	MEQ/L
1. pH	7.60		
2. Specific Gravity 60/60°f	1.003		
3. Hydrogen Sulfide	NEGATIVE		
4. Carbon Dioxide	Not Determined		
5. Dissolved Oxygen	Not Determined		
6. Hydroxyl (OH-)	0 /	17.0 =	0.00
7. Carbonate (CO3=)	0 /	30.0 =	0.00
8. Bicarbonate (HCO3-)	195 /	61.1 =	3.19
9. Chloride (Cl-)	1.000 /	35.5 =	28.17
10. Sulfate (SO4=)	1.580 /	48.0 =	31.87
11. Calcium (Ca++)	0 /	20.1 =	0.00
12. Magnesium (Mg++)	0 /	12.2 =	0.00
13. Sodium (Na+)	1.467 /	23.0 =	03.33
14. Barium (Ba++)	Not Determined		
15. Total Iron (Fe)	0.00		
16. Dissolved Solids	4,212		
17. Filterable Solids	4,212		
18. Total Solids			
19. Total Total Hardness As CaCO3	0		
20. Suspended Oil			
21. Volume Filtered (ml)			
22. Resistivity @ 75 F. (calculated)	2,184 /cm.		
23. CACO3 Saturation Index @80 F. @100 F. @120 F. @140 F. @160 F.	ERR ERR ERR ERR ERR	PROBABLE MINERAL COMPOSITION COMPOUND EQ. WT. X MEQ/L mg/L	
		Ca(HCO3)2	81.04 0.00 0
		CaSO4	68.07 0.00 0
		CaCl2	55.50 0.00 0
		Mg(HCO3)2	73.17 0.00 0
		MgSO4	60.19 0.00 0
		MgCl2	47.62 0.00 0
		NaHCO3	84.00 3.19 268
		NaSO4	71.03 31.87 2,271
		NaCl	58.46 25.17 1,947
24. Calcium Sulfate solubility @ 90 F.	1,580 mg/L		

Chemist \_\_\_\_\_

C. W. Bradshaw

Water Samples were collected from the following locations noted on the map below

L-Chem.

**Perry L. Hughes**  
*Petroleum Engineer*  
207 West McKay ♦ Carlsbad, NM 88220 ♦ 505-885-5433

February 22, 2002

CERTIFIED RETURN RECEIPT

U. S. Alexander  
Rt 1, Box 51  
Lovington, NM 88260

Dear Mr. Alexander:

Enclosed please find a copy of Form C-108 (Application for Authorization to Inject) on C W Trainer's State GA #6 well located in Unit D of Section 16, T15S, R36E, Lea County, New Mexico.

Should you have any questions, please feel free to contact me at 505-885-5433.

Sincerely,

*Perry L. Hughes*

Perry L. Hughes  
Agent for C W Trainer

PLH/mp

Enclosure

**Perry L. Hughes**  
*Petroleum Engineer*  
207 W. McKay • Carlsbad, NM 88220 • 505-885-5433

February 22, 2002

CERTIFIED RETURN RECEIPT

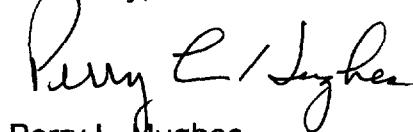
Chesapeake Operating, Inc.  
P.O. Box 18496  
Oklahoma City, OK 75154-0496

Dear Sirs:

Enclosed please find a copy of Form C-108 (Application for Authorization to Inject) on C W Trainer's State GA #6 well located in Unit G of Section 16, T15S, R36E, Lea County, New Mexico.

Should you have questions, please feel free to contact me at 505-885-5433.

Sincerely,



Perry L. Hughes  
Agent for C W Trainer

PLH/mp

Enclosure

**Perry L. Hughes**  
*Petroleum Engineer*  
207 W. McKay • Carlsbad, NM 88220 • 505-885-5433

February 22, 2002

**CERTIFIED RETURN RECEIPT**

Fasken Oil & Ranch, Ltd.  
310 W. Wall, Suite 1900  
Midland, TX 79701-5116

Dear Sirs:

Enclosed please find a copy of Form C-108 (Application for Authorization to Inject) on C W Trainer's State GA #6 well located in Unit G of Section 16, T15S, R36E, Lea County, New Mexico.

Should you have questions, please feel free to contact me at 505-885-5433.

Sincerely,



Perry L. Hughes  
Agent for C W Trainer

PLH/mp

Enclosure

AFFIDAVIT OF PUBLICATION

State of New Mexico  
County of Lea.

EXHIBIT "H"

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a 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 1 weeks.

Beginning with the issue dated

March 2 2002

and ending with the issue dated

March 2 2002

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 4th day of

March 2002

Jodi Henson

Notary Public.

My Commission expires  
October 18, 2004  
(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

March 2, 2002  
Dale Danner, P.O. Box 754,  
Midland, TX 79702, has filed  
form C-108 (Application for  
Authorization to Inject) with  
the New Mexico Oil Conservation  
Division, seeking administrative  
approval for a salt water disposal well.  
The proposed well, The "State  
GA #67" which is located  
360' FNL @ 990' FWL, of  
Section 16, T15S, R36E,  
Lea County, New Mexico,  
will be used for salt water  
disposal only. Produced wa-  
ters will be injected into the  
San Andres and Glorieta  
formations at a depth of  
4749-8230 feet with a maxi-  
mum pressure of 1500 psi  
and a maximum rate of  
2000 BWPD. Interested par-  
ties must file objections or  
requests for hearing with the  
Oil Conservation Division,  
1220 South Saint Francis  
Drive, P.O. Box 6429, Santa  
Fe, NM 87505-5472, within  
15 days. Additional informa-  
tion may be obtained by  
contacting Perry L. Hughes  
at 505-885-5433.  
#16789

02105831000 02553868  
Parker Melanie J.  
P.O. Box 1692  
ARTESIA, NM 88211-1692