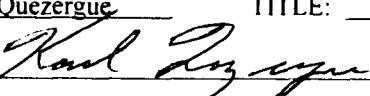


APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  Yes  No
- II. OPERATOR: BP America Production Company
- III. ADDRESS: 501 Westlake Park Blvd, Rm 6.182
- IV. CONTACT PARTY: Karl Quezergue PHONE: 281-366-4343
- V. 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.
- VI. Is this an expansion of an existing project?  Yes  No SEE  
If yes, give the Division order number authorizing the project: NMOCD Administrative Order SWD-088
- VII. 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.
- VIII. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water.
  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: Karl Quezergue TITLE: Projects Engineer - SENM & N. Texas

SIGNATURE:  DATE: 5/17/06

\* 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 circumstances of the earlier submittal:

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Case No. 13750 Exhibit No. 2

Submitted by:

BP AMERICA PRODUCTION COMPANY

Hearing Date: August 3, 2006

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate

### 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, 2040 South Pacheco, Santa Fe, New Mexico 87505, within 15 days.

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

---

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108**  
**Application for Authorization to Inject**  
**(Continuation)**

### **III. Injection Well Data**

Injection well data sheets for each of the six proposed water injection wells are attached with this C-108 application. The six proposed water injection wells are:

1. Washington "33" State #2
2. Washington "33" State #~~8~~ 4
3. Washington "33" State #~~8~~ 10
4. Washington "33" State #16
5. Washington "33" State #23
6. Washington "33" State #~~8~~ 18

*SEE  
ADDENDUM  
FOR DETAILS  
ON 3 OTHER  
WELLS*

### **V. Land Map**

A surface map that identifies all wells and leases within 2 miles of the six proposed injection wells is included with this application. A one-half mile radius circle is drawn around each of the proposed injection wells to identify the Area of Review for each.

### **VI. Well Data Table for wells in Area of Review**

Based on BP's review, there are a total of 167 wells which penetrated the Queen-Grayburg-San Andres formation within the one-half mile Area of Review(s) for the six proposed water injection wells. There were 142 wells whose well construction and completion information are detailed on the attached Well Data Table, including the six proposed water injection wells. There are 20 wells within the Area of Review(s) which have been P&A'd and are not included in the Well Data Table. The well construction, completion, and plugging information for these 20 wells are detailed in the attached P&A Well Schematics. There were 5 wells within the Area of Review(s) which penetrated the Q-GB-SA formation and have apparently been P&A'd, however, the well P&A record is either incomplete or non-existent. These five wells are included as an attachment to this application.

### **VII. Proposed Water Injection Operations**

1. The proposed maximum daily injection rate for each injection well is 2000 bwpd. After reservoir fill-up (gas saturation = 0%), the average daily injection rate for each well is expected to be 500 bwpd.
2. The water injection system will be closed.
3. The proposed initial maximum wellhead injection pressure is .2 psi/ft x depth of top perforation for the six proposed water injection wells:

<u>Injection Well</u>	<u>Top Perf</u>	<u>Max Ini P</u>
Washington "33" State #2	1452'	290 psig
Washington "33" State #6	1384'	273 psig
Washington "33" State #8	1455'	281 psig
Washington "33" State #16	1518'	304 psig
Washington "33" State #23	1466'	273 psig
Washington "33" State #27 / 8	1655'	288 psig

If necessary, step-rate tests will be performed on the proposed injection wells to determine the formation parting pressure and follow-up requests will be made to the NMOCD to request higher injection pressures.

- The proposed source of injection water will be produced water from the Washington "33" State lease, produced water from the SDX Resources operated North West Artesia Unit, and produced water from the BP America Production Company operated Empire Abo Unit. A copy of the water analysis report (Baker Petrolite analysis 36266) for produced water from the Empire Abo Unit (sample 36113) is attached. The one page report also includes results of the analysis of produced water that is stored at the Washington "33" State tank battery (sample 36116). Sample 36116 consists of produced water from the North West Artesia Unit and the Washington "33" State lease which are combined in a water tank at the tank battery facility. The water analysis report also includes a scale prediction analysis of various mixtures of Empire Abo Unit water and water from the Washington "33" State tank battery.

## VIII. Geologic Data

The Queen-Grayburg-San Andres (Q-GB-SA) series is primarily limestone (Queen) and dolomite (Grayburg-San Andres) with thin, continuous, clastic intervals of sand and shale which make up the five oil productive members that will be waterflooded with the six proposed injection wells. The lower San Andres reservoir is dolomitic and appears to be geologically distinct from the upper radioactive sands that are collectively referred to as the Q-GB-SA. The formation tops picked from the Washington "33" State #12 well are listed below. The #12 well is located in the geographic center of the Washington "33" State lease.

<b>Formation</b>	<b>Depth (TVD)</b>	<b>Thickness</b>
Rustler	475'	75'
Yates	550'	125'
Seven Rivers	675'	585'
Queen	1260'	435'
Grayburg	1695'	305'
San Andres	2000'	1520'
Glorieta	3520'	110'
Yeso	3630'	2170'

**Fresh Water:** Fresh water is found in the Triassic Sand. The base of the fresh water-bearing rock is estimated to be 350' in the Washington "33" State lease area of the Artesia Field. There is no known source of fresh water sands below the proposed injection intervals.

## **IX. Proposed Stimulation Program**

Three of the six proposed water injection wells will require additional completion work in the Q-GB-SA to effectively develop and produce the secondary oil reserves in the five main productive members. The #6 and #8 wells will both require a remedial workover to complete all five Q-GB-SA productive intervals. The #16 well needs the Penrose "A" – the uppermost productive Q-GB-SA member – to be completed. The completion of these intervals will generally involve the following: a) selective perforating of the individual zones, b) breaking-down the perforations with acetic acid, c) treating the rock matrix with 15% HCL acid, and d) hydraulic fracture stimulation with proppant carrying x-linked gelled water.

## **X. Logs and Test Data**

All log and well test data for the six proposed water injection wells has been previously filed with the NMOCD.

## **XI. Water Analysis from Fresh Water Wells in Area of Review**

A copy of the Baker Petrolite water analysis reports for the two known active fresh water wells within the one-half mile Area of Review(s) is attached.



**Baker Petrolite**

**Analysis: 36266**

## Water Analysis Report from Baker Petrolite

Summary of Mixing Waters		
<b>Sample Number</b>	36113	36116
<b>Company</b>	B P AMERICA PRODUCTION	B P AMERICA PRODUCTION
<b>Lease</b>	EMPIRE ABO	WASHINGTON 33 STATE
<b>Well</b>	C 49	BATTERY
<b>Sample Location</b>	WATER TANK	WATER TRANSFER
<b>Anions (mg/L)</b>		
Chloride	32,419	112,379
Bicarbonate	581	290
Carbonate	0.00	0.00
Sulfate	2,525	3,775
Phosphate	0.00	0.00
Borate	0.00	0.00
Silicate	0.00	0.00
<b>Cations (mg/L)</b>		
Sodium	19,015	68,953
Magnesium	559	1,055
Calcium	2,072	3,348
Strontium		
Barium		
Iron		0.50
Potassium	0.00	0.00
Aluminum	0.00	0.00
Chromium	0.00	0.00
Copper	0.00	0.00
Lead	0.00	0.00
Manganese	0.00	0.00
Nickel	0.00	0.00
<b>Anion/Cation Ratio</b>	1.00	1.00
<b>TDS (mg/L)</b>	57,171	189,801
<b>Density (g/cm)</b>	1.03	1.11
<b>Sampling Date</b>	9/20/04	9/22/04
<b>Account Manager</b>	WAYNE PETERSON	WAYNE PETERSON
<b>Analyst</b>	WAYNE PETERSON	WAYNE PETERSON
<b>Analysis Date</b>	9/24/04	9/24/04
<b>pH at time of sampling</b>	7.80	7.40
<b>pH at time of analysis</b>		
<b>pH used in Calculations</b>	7.80	7.40



Baker Petrolite

Analysis: 36266

## Water Analysis Report from Baker Petrolite

Mixes at 100°F and 0 psi

Predictions of Carbon Dioxide Pressure, Saturation Index and Amount of Scale in lb/1000bbl												
Mix Waters		CO <sub>2</sub>	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> •2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>	
36113	36116	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
0%	100%	0.15	1.08	26.0	-0.02		0.07	188	N/A		N/A	
10%	90%	0.15	1.12	30.0	-0.04		0.04	114	N/A		N/A	
20%	80%	0.15	1.16	34.1	-0.06		0.02	44	N/A		N/A	
30%	70%	0.15	1.20	38.4	-0.08		-0.01		N/A		N/A	
40%	60%	0.15	1.23	43.0	-0.10		-0.03		N/A		N/A	
60%	40%	0.15	1.30	52.9	-0.12		-0.07		N/A		N/A	
70%	30%	0.15	1.34	58.5	-0.13		-0.09		N/A		N/A	
80%	20%	0.15	1.38	64.6	-0.13		-0.10		N/A		N/A	
90%	10%	0.15	1.43	71.9	-0.13		-0.10		N/A		N/A	
100%	0%	0.14	1.50	77.9	-0.11		-0.09		N/A		N/A	

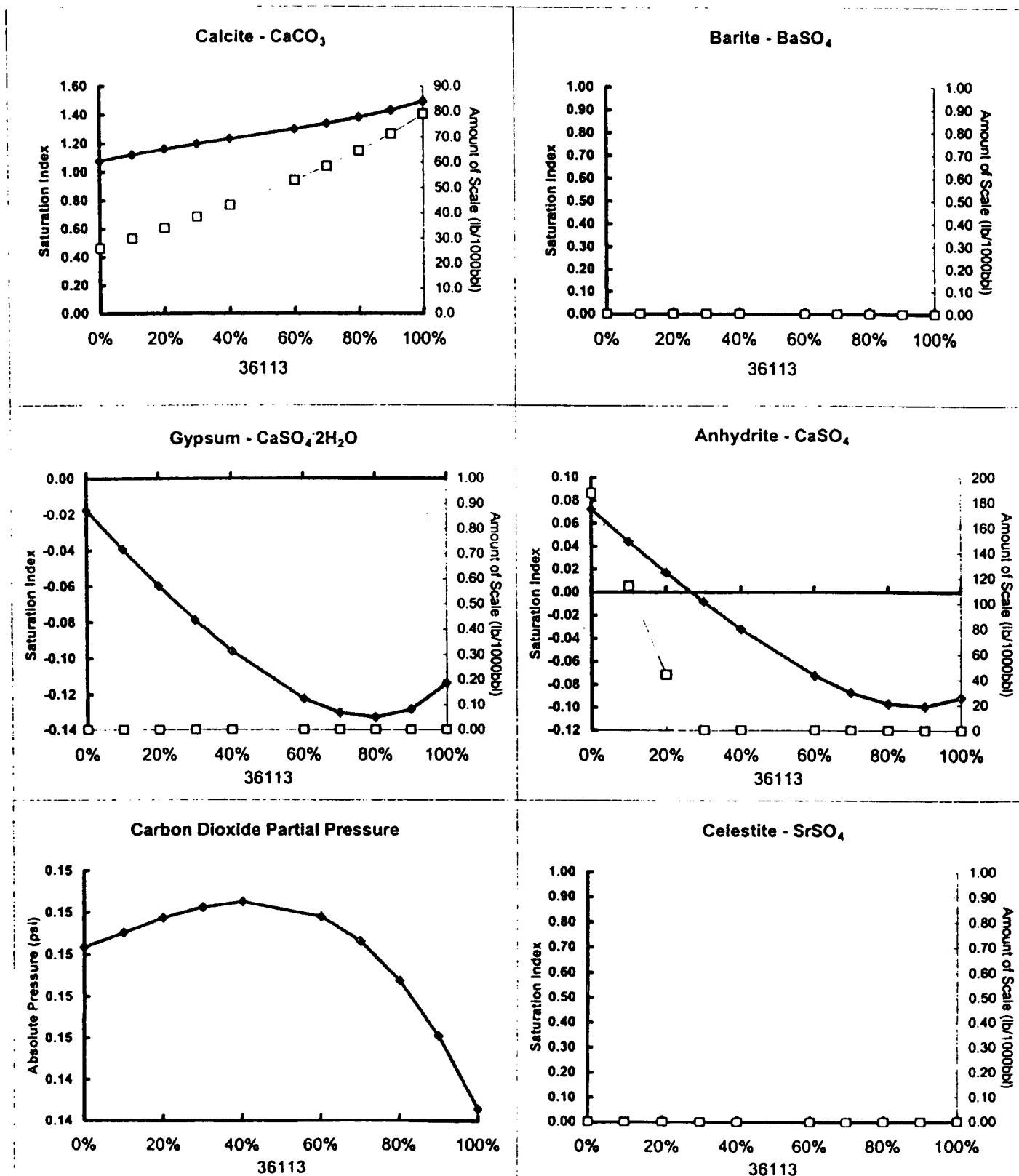
Note 1: The amount of scale indicates the severity of the problem. The saturation index (SI) indicates how difficult it is to control the problem.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO<sub>2</sub> pressure is the calculated CO fugacity. It is usually nearly the same as the CO partial pressure.

## Mixture Predictions from Baker-Petrolite

Analysis: 36266  
36113 with 36116 at 100°F and 0 psi



PRODUCT WARRANTY, DISCLAIMER AND LIMITATION OF LIABILITY ARE FOUND ON THE BACK OF THIS SHEET

# Fresh Water Well #1

## WATER ANALYSIS REPORT

Company : BP America  
 Address : Artesia, NM  
 Lease : Depco Road  
 Well : Water Well  
 Sample Pt. : Well Head

ANALYSIS		mg/L	* meq/L
1.	pH	7.0	
2.	H <sub>2</sub> S	0.0	
3.	Specific Gravity	0.95	
4.	Total Dissolved Solids	3995.7	
5.	Suspended Solids	N/R	
6.	Dissolved Oxygen	1.2	
7.	Dissolved CO <sub>2</sub>	0.0	
8.	Oil In Water	N/R	
9.	Phenolphthalein Alkalinity (CaCO <sub>3</sub> )		
10.	Methyl Orange Alkalinity (CaCO <sub>3</sub> )		
11.	Bicarbonate	HCO <sub>3</sub>	83.0
12.	Chloride	Cl	2172.0
13.	Sulfate	SO <sub>4</sub>	325.0
14.	Calcium	Ca	724.0
15.	Magnesium	Mg	82.1
16.	Sodium (calculated)	Na	609.7
17.	Iron	Fe	0.0
18.	Barium	Ba	N/R
19.	Strontium	Sr	N/R
20.	Total Hardness (CaCO <sub>3</sub> )		2145.9

## PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt	X meq/L =	mg/L
36	*Ca <----- *HCO <sub>3</sub>	1	Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.0	1.4 110
	/----->		CaSO <sub>4</sub>	68.1	6.8 461
7	*Mg -----> *SO <sub>4</sub>	7	CaCl <sub>2</sub>	55.5	28.0 1554
	<-----/		Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.2	
27	*Na -----> *Cl	61	MgSO <sub>4</sub>	60.2	
			MgCl <sub>2</sub>	47.6	6.8 321
Saturation Values Dist. Water 20 C		NaHCO <sub>3</sub>	84.0		
CaCO <sub>3</sub> 13 mg/L		Na <sub>2</sub> SO <sub>4</sub>	71.0		
CaSO <sub>4</sub> * 2H <sub>2</sub> O 2090 mg/L		NaCl	58.4	26.5	1550
BaSO <sub>4</sub> 2.4 mg/L					

REMARKS:

Baker Petrolite

Respectfully submitted,  
 W.C. Peterson

# Fresh Water Well #2

## WATER ANALYSIS REPORT

Company : BP America  
 Address : Artesia, NM  
 Lease : Empire Abo Unit  
 Well : Water Line  
 Sample Pt. : At Office

Date : 2 Dec 04  
 Date Sampled : 19 Nov 04  
 Analysis No. :

ANALYSIS		mg/L	* meq/L	
1.	pH	7.0		
2.	H <sub>2</sub> S	0.0		
3.	Specific Gravity	0.95		
4.	Total Dissolved Solids	2704.0		
5.	Suspended Solids		N/R	
6.	Dissolved Oxygen		1.0	
7.	Dissolved CO <sub>2</sub>		0.0	
8.	Oil In Water		N/R	
9.	Phenolphthalein Alkalinity (CaCO <sub>3</sub> )			
10.	Methyl Orange Alkalinity (CaCO <sub>3</sub> )			
11.	Bicarbonate	HCO <sub>3</sub>	103.7	HCO <sub>3</sub> 1.7
12.	Chloride	Cl	1554.9	Cl 43.9
13.	Sulfate	SO <sub>4</sub>	75.0	SO <sub>4</sub> 1.6
14.	Calcium	Ca	752.0	Ca 37.5
15.	Magnesium	Mg	3.1	Mg 0.3
16.	Sodium (calculated)	Na	214.8	Na 9.3
17.	Iron	Fe	0.5	
18.	Barium	Ba	N/R	
19.	Strontium	Sr	N/R	
20.	Total Hardness (CaCO <sub>3</sub> )		1890.7	

## PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt	X meq/L	= mg/L
38	*Ca <----- *HCO <sub>3</sub>	Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.0	1.7	138
	/----->	CaSO <sub>4</sub>	68.1	1.6	106
0	*Mg -----> *SO <sub>4</sub>	CaCl <sub>2</sub>	55.5	34.3	1901
	<-----/	Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.2		
9	*Na -----> *Cl	MgSO <sub>4</sub>	60.2		
		MgCl <sub>2</sub>	47.6	0.3	12
Saturation Values Dist. Water 20 C		NaHCO <sub>3</sub>	84.0		
CaCO <sub>3</sub> 13 mg/L		Na <sub>2</sub> SO <sub>4</sub>	71.0		
CaSO <sub>4</sub> * 2H <sub>2</sub> O 2090 mg/L		NaCl	58.4	9.3	546
BaSO <sub>4</sub> 2.4 mg/L					

## REMARKS:

Baker Petrolite

Respectfully submitted,  
W.C. Peterson



**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE ((in))	CASING STRINGS	SETTING DEPTH ((ft))	CHT VOL ((gal))	TOC ((mD))	TOC MEAS ((mD))	ID ((ft))	PSET ((ft))	COMPLETED ZONE		PERFS
															Top ((ft))	Bottom ((ft))	
Empire Abo Unit	29	30-015-01687	BP America Prod Co.	1980 FNL & 620 FWL Sec 33-T17S-R28E	Oil	5/13/60	11,250	8 5/8"	1003	450	Surf	Circ	6150	6108	Abo	5682-6053	
Empire Abo Unit	291	30-015-22864	BP America Prod Co.	2000 FSL 1200 FWL Sec 33-T17S-R28E	Oil	4/21/79	11,000	8 5/8"	768	800	Surf	Circ	6250	6212	Abo	6020-6193	
Empire Abo Unit	314	30-015-22845	BP America Prod Co.	1450 FSL & 2000 FEL Sec 33-T17S-R28E	Oil	4/3/79	11,000	8 5/8"	763	600	Surf	Circ	6370	6199	Abo	5953-6082	
Empire Abo Unit	303	30-015-22634	BP America Prod Co.	800 FSL & 1340 FWL Sec 33-T17S-R28E	Oil	11/17/78	11,000	8 5/8"	600	400	Surf	Circ	6325	6271	Abo	6195-6220	
Empire Abo Unit	294	30-015-22632	BP America Prod Co.	1200 FSL & 700 FWL Sec 33-T17S-R28E	Oil	11/31/78	11,000	8 5/8"	600	550	Surf	Circ	6300	6250	Abo	6216-6238	
Empire Abo Unit	322	30-015-22594	BP America Prod Co.	2480 FNL & 500 FEL Sec 33-T17S-R28E	Oil	7/5/78	11,000	8 5/8"	750	450	Surf	Circ	6344	6290	Abo	5704-5814	
Empire Abo Unit	32	30-015-01696	BP America Prod Co.	990 FSL & 660 FEL Sec 33-T17S-R28E	Oil	6/15/60	11,000	8 5/8"	1000	550	Surf	Circ	6345	5948	Abo	5972-6010	
Empire Abo Unit	32	30-015-01695	BP America Prod Co.	990 FNL & 660 FEL Sec 33-T17S-R28E	Oil	6/10/60	11,000	8 5/8"	1000	550	Surf	Circ	6170	6148	Abo	5870-6030	
Empire Abo Unit	322	30-015-22525	BP America Prod Co.	2310 FSL & 1100 FEL Sec 33-T17S-R28E	Oil	6/17/78	11,000	8 5/8"	772	350 + 1 yd	Surf	Circ	6250	5990	Abo	6032-6140	
Washington "33" State	2	30-015-30187	BP America Prod Co.	990 FNL & 930 FEL Sec 33-T17S-R28E	Oil	10/21/98	12,250	8 5/8"	425	275	Surf	Circ	4150	4109	Q-GB-SA San Andres	1452-2090 2506-2848	
Washington "33" State	3	30-015-30276	BP America Prod Co.	260 FNL & 1550 FEL Sec 33-T17S-R28E	Oil	7/16/98	12,250	8 5/8"	532	325	Surf	Circ	2950	2904	Q-GB-SA San Andres	1422-2068 2263-3440	
Washington "33" State	4	30-015-30188	BP America Prod Co.	990 FNL & 2270 FEL Sec 33-T17S-R28E	Oil	10/13/98	12,250	8 5/8"	510	325	Surf	Circ	4000	3946	Q-GB-SA San Andres	1414-1749 2314-2862	
Washington "33" State	5	30-015-30277	BP America Prod Co.	260 FNL & 2270 FWL Sec 33-T17S-R28E	Oil	7/23/98	12,250	8 5/8"	505	325	Surf	Circ	2950	2940	Q-GB-SA San Andres	1407-2048 2312-2832	
Washington "33" State	6	30-015-30138	BP America Prod Co.	990 FNL & 1650 FWL	Oil	8/8/98	12,250	8 5/8"	530	325	Surf	Circ	4000	3953	San Andres	2295-2826	

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (in.)	CASING STRINGS (in.)	SETTING DEPTH (ft)	CMT VOL. (cu. ft.)	TOC MEAS. (m)	COMPLETED ZONE				
												PID (#)	PPID (#)	PERFS YESO		
Washington "33" State	7	30-015-30189	BP America Prod Co.	Sec 33-T17S-R28E 1650 FNL & 970 FWL Sec 33-T17S-R28E	Oil	8/27/98	12,250	8 5/8"	4000	760	Surf	Circ	3950	3918	San Andres	2283-2722
Washington "33" State	8	30-015-30190	BP America Prod Co.	2267 FNL & 330 FWL Sec 33-T17S-R28E	Oil	7/30/98	12,250	8 5/8"	3950	810	Surf	Circ	4000	3952	San Andres	2306-2684
Washington "33" State	9	30-015-30191	BP America Prod Co.	1650 FNL & 2270 FWL Sec 33-T17S-R28E	Oil	5/2/98	12,250	8 5/8"	4000	760	Surf	Circ	4200	3500	Q-GB-SA San Andres Yeso	1424-2064 2346-2893 3654-3664
Washington "33" State	10	30-015-30192	BP America Prod Co.	2267 FNL & 1650 FWL Sec 33-T17S-R28E	Oil	9/4/98	12,250	8 5/8"	4000	810	Surf	Circ	4000	3956	San Andres	2364-2876
Washington "33" State	11	30-015-30193	BP America Prod Co.	1650 FNL & 1650 FEL Sec 33-T17S-R28E	Oil	10/3/98	12,250	8 5/8"	4100	760	Surf	Circ	4100	4059	Q-GB-SA San Andres	1438-2088 2484-2914
Washington "33" State	12	30-015-30348	BP America Prod Co.	2432 FNL & 2270 FWL Sec 33-T17S-R28E	Oil	10/29/98	12,250	8 5/8"	4000	810	Surf	Circ	4000	3958	Q-GB-SA San Andres Paddock	1449-2107 2372-2928 3652-3786
Washington "33" State (Formerly EAU #321)	13	30-015-22524	BP America Prod Co.	1610 FNL & 250 FEL Sec 33-T17S-R28E	Oil	6/17/98	11,000	8 5/8"	739	425	Surf	Circ	6210	5528	Q-GB-SA San Andres Abo	1471-2124 2326-2910 6060-6210
Washington "33" State (Formerly EAU #324)	14	30-015-30194	BP America Prod Co.	2282 FNL & 970 FEL Sec 33-T17S-R28E	Oil	5/12/98	12,250	8 5/8"	4200	700	Surf	Circ	4200	3675	Q-GB-SA San Andres Yeso	1452-2122 2386-2908 3726-3954
Washington "33" State (Formerly EAU #324)	15	30-015-22822	BP America Prod Co.	2250 FSL & 235 FEL Sec 33-T17S-R28E	Oil	3/17/99	11,000	8 5/8"	775	250	Surf	Circ	6370	5635	Q-GB-SA San Andres Abo	1486-2164 2444-2965 5725-5782
Washington "33" State (Formerly EAU #323)	16	30-015-22415	BP America Prod Co.	1500 FSL & 700 FEL Sec 33-T17S-R28E	Oil	3/12/78	11,000	8 5/8"	600	300	Surf	Circ	6219	5840	Q-GB-SA San Andres Abo	1616-2028 2494-3015 5866-6219
Washington "33" State (Formerly EAU #315)	17	30-015-22821	BP America Prod Co.	1900 FSL & 1450 FEL Sec 33-T17S-R28E	Oil	3/16/79	11,000	8 5/8"	751	400	Surf	Circ	6370	5715	San Andres	2444-2980 5794-5528

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE #	WELL #	API #	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (in)	CASING STRINGS (ft)	SETTING DEPTH (ft)	CHT. VOL. (cu) (m)	TOC MEAS.  II	COMPLETED ZONE		
												PERFS	PERFS	
Washington "33" State (Formerly EAU #312)	18	30-015-21745	BP America Prod Co.	1550 FSL & 2511 FEL Sec 33-T17S-R28E	Oil	4/5/76	1-1,000 7-875	8 5/8" 5 1/2"	550 6404	200 1625	Surf Surf	Circ Circ	6400	6015 Q-GB-SA San Andres Abo
Washington "33" State	19	30-015-30332	BP America Prod Co.	2360 FSL & 2165 FWL Sec 33-T17S-R28E	Oil	11/6/98	12,250 7-875	8 5/8" 5 1/2"	540 4100	325 860	Surf Surf	Circ Circ	4200	4055 Q-GB-SA San Andres
Washington "33" State	21	30-015-30195	BP America Prod Co.	2315 FSL & 990 FWL Sec 33-T17S-R28E	Oil	9/14/98	12,250 7-875	8 5/8" 5 1/2"	505 420	325 910	Surf Surf	Circ Circ	4200	4164 Q-GB-SA San Andres
Washington "33" State	22	30-015-30196	BP America Prod Co.	1720 FSL & 330 FWL Sec 33-T17S-R28E	Oil	9/23/98	12,250 7-875	8 5/8" 5 1/2"	525 4000	325 810	Surf Surf	Circ Circ	4000	2900 Q-GB-SA San Andres Yeso
Washington "33" State	23	30-015-30333	BP America Prod Co.	975 FSL & 1080 FWL Sec 33-T17S-R28E	Oil	11/15/98	12,250 7-875	8 5/8" 5 1/2"	500 4150	400 860	Surf Surf	Circ Circ	4200	4110 Yeso
Washington "33" State	24	30-015-30334	BP America Prod Co.	330 FSL & 330 FWL Sec 33-T17S-R28E	Oil	8/17/98	12,250 7-875	8 5/8" 5 1/2"	520 4150	325 760	Surf Surf	Circ Circ	4150	4104 Yeso
Washington "33" State (Formerly EAU #30)	25	30-015-01690	BP America Prod Co.	660 FSL & 1980 FWL Sec 33-T17S-R28E	Oil	5/8/60	11,000 7-875	8 5/8" 4 1/2"	650 6355	650 1000	Surf Temp Survey	Circ	6355	3726 Q-GB-SA San Andres Yeso
Washington "33" State (Formerly EAU #312)	27	30-015-22605	BP America Prod Co.	815 FSL & 2525 FEL Sec 33-T17S-R28E	Oil	8/22/78	11,000 7-875	8 5/8" 5 1/2"	778 6405	550 1555	Surf Temp Survey	Circ Circ	6405	3700 Q-GB-SA San Andres Yeso Abo
Washington "33" State (Formerly EAU #311)	28	30-015-22124	BP America Prod Co.	313 FSL & 2490 FEL Sec 33-T17S-R28E	Oil	4/27/77	11,000 7-875	8 5/8" 5 1/2"	550 6362	275 1400	Surf Surf	Circ Circ	6362	5845 San Andres Yeso Abo
Washington "33" State (Formerly EAU #322)	30	30-015-22465	BP America Prod Co.	750 FSL & 1150 FEL Sec 33-T17S-R28E	Oil	3/28/78	11,000 7-875	8 5/8" 5 1/2"	600 6262	300 1275	Surf Surf	Circ Circ	6290	6059 Q-GB-SA San Andres Abo
Delhi-State "A"	1	30-015-01677	Devon Energy Co	990 FNL & 980 FWL	Oil	3/6/60	12,25	8 5/8"	907	300	Surf	Circ	6084	6016 Abo

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (in)	CASING STRINGS	DEPTH (ft)	CHT VOL (cu ft)	TOC (m)	TOC MEAS (m)	ID (ft)	PSTD (ft)	COMPLETED PERFS	ZONE
Empire Abo Unit	30	30-015-01686	BP America Prod Co.	Sec 33-T17S-R28E 1980 FSL & 1980 FWL Sec 33-T17S-R28E	Oil	3/27/60	11,000	8 5/8"	6052	950	Surf	Circ	6254	5598	Abo	5648-5736
Empire Abo Unit	29	30-015-01688	BP America Prod Co.	1980 FSL & 660 FWL Sec 33-T17S-R28E	Oil	4/24/60	11,000	8 5/8"	6210	1300	Surf	Circ	6200	6162	Abo	5956-6154
Empire Abo Unit	30	30-015-01689	BP America Prod Co.	1980 FNL & 1980 FWL Sec 33-T17S-R28E	Oil	5/4/60	11,000	8 5/8"	6200	800	Surf	Circ	6200	1510	Temp Survey	6046-6080
Empire Abo Unit	31	30-015-01692	BP America Prod Co.	1980 FNL & 2130 FEL Sec 33-T17S-R28E	Oil	5/18/60	11,000	8 5/8"	6155	1575	Surf	Circ	6155	6000	Abo	5734-5796
Empire Abo Unit	30	30-015-01697	BP America Prod Co.	990 FNL & 1980 FWL Sec 33-T17S-R28E	Oil	6/29/60	11,000	8 5/8"	6175	1050	Surf	Circ	6175	6154	Abo	5784-5880
Geronimo "33" State	1	30-015-31044	Dominion OK TX	1700 FNL & 1980 FWL Sec 33-T17S-R28E	Gas	5/14/00	17.50	13 3/8"	5930	1000	Surf	Circ	5930	5916	Abo	7215-8234 9528-9534 10287-10295
Geronimo "33" State	2	30-015-31373	Dominion OK TX	660 FNL & 660 FEL Sec 33-T17S-R28E	Oil	11/26/00	17.50	13 3/8"	6100	990	Surf	Circ	6100	10514	Wolfcamp	Strawn Morrow
Empire Abo Unit	33	30-015-01718	BP America Prod Co.	1965 FNL & 330 FWL Sec 34-T17S-R28E	Oil	3/12/60	11,000	8 5/8"	6120	650	Surf	Circ	6120	6060	Wolfcamp	7066-7206
Empire Abo Unit	303	30-015-22634	BP America Prod Co.	800 FSL & 1340 FWL Sec 33-T17S-R28E	Oil	11/17/78	11,000	8 5/8"	6307	1250	Surf	Circ	6307	6165	Abo	6184-6254
Washington "33" State (Formerly EAU #321)	29	30-015-22417	BP America Prod Co.	1050 FSL & 250 FEL Sec 33-T17S-R28E	Oil	2/22/78	11"	8-5/8"	6325	1500	Surf	Circ	6325	6180	Abo	6195-6220
Washington "33" State (Formerly EAU #301)	26	30-015-22464	BP America Prod Co.	150 FSL & 1650 FWL Sec 33-T17S-R28E	Oil	4/15/78	11"	8-5/8"	6338	1205	Surf	Circ	6338	6066	Q-GB-SA San Andres Abo Abo (sqz)	1654-2248 2458-3020 6174-6184 6140-6160
Washington "33" State (Formerly EAU #301)																Q-GB-SA San Andres Yeso

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	CASING STRINGS (In)	HOLE DEPTH (ft)	TOC VOL (sq)	TOC MEAS (in)	COMPLETED ZONE		PERFS		
											ID	PBD	HT		
Empire Abo Unit TA	292	30-015-22050	BP America Prod Co.	180 FSL & 1225 FWL Sec 33-T17S-R28E	Oil	4/5/77	11" 7-7/8"	8 5/8" 5 1/2"	550 6370	400 1225	Surf Surf	Circ Circ	6370	6080	Abo Abo (sqz) Abo (sqz)
Empire Abo Unit (Formerly M Yates B-Arc State #1)	29	30-015-01685	BP America Prod Co.	660 FSL & 660 FWL Sec 33-T17S-R28E	Oil	1/21/60	11"	8 1/4" 4 1/2"	991 6250	450 1050	Surf Surf	Circ Circ	6250	6244	Abo Abo
Washington "33" State	24	30-015-30334	BP America Prod Co.	330 FSL & 330 FWL Sec 33-T17S-R28E	Oil	8/17/98	12-1/4" 7-7/8"	8 5/8" 5 1/2"	520 4150	325 760	Surf Surf	Circ Circ	4150	4104	Q-GB-SA San Andres Yeso
Empire Abo Unit	291	30-015-21541	BP America Prod Co.	200 FSL & 50 FWL Sec 33-T17S-R28E	Oil	7/16/75	11" 7-7/8"	8 5/8" 5 1/2"	1014 6350	400 1650	Surf Surf	Circ Circ	6350	6304	Abo Abo (sqz)
Empire Abo Unit TA	295	30-015-22633	BP America Prod Co.	700 FSL & 10 FWL Sec 33-T17S-R28E	Oil	10/14/78	11" 7-7/8"	8 5/8" 5 1/2"	600 6300	450 1850	Surf Surf	Circ Circ	6300	6220	Abo Abo
Empire Abo Unit	293	30-015-22010	BP America Prod Co.	1249 FSL & 50 FWL Sec 33-T17S-R28E	Oil	3/16/77	11" 7-7/8"	8 5/8" 5 1/2"	550 6378	400 1350	Surf Surf	Circ Circ	6378	6170	Abo Abo
Washington "33" State	22	30-015-30196	BP America Prod Co.	1720 FSL & 330 FWL Sec 33-T17S-R28E	Oil	9/23/98	12-1/4" 7-7/8"	8 5/8" 5 1/2"	525 4000	325 810	Surf Surf	Circ Circ	4000	3946	Q-GB-SA San Andres Yeso
Delhi State	4	30-015-21809	Marbob Energy	969 FNL & 330 FWL Sec 33-T17S-R28E	Oil	5/11/76	10" 6-1/4"	8 5/8" 4 1/2"	492 2086	410 475	Surf Surf	Circ Calc	2086	2050	Q-GB-SA
Delhi State	5	30-015-23070	Marbob Energy	330 FNL & 330 FWL Sec 33-T17S-R28E	Oil	11/20/79	11" 7-7/8"	8 5/8" 5 1/2"	478 2105	250 535	Surf Surf	Circ Circ	2120	2100	Q-GB-SA
Washington "33" State	1	30-015-30259	BP America Prod Co.	200 FNL & 380 FEL Sec 33-T17S-R28E	Oil	7/8/98	12-1/4" 7-7/8"	8 5/8" 5 1/2"	535 3000	325 600	Surf Surf	Circ Calc	3000	2950	Q-GB-SA San Andres

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (ft)	CASING STRINGS (ft)	SETTING DEPTH (ft)	CAT VOL (cu ft)	TOC MEAS (ft)	TOP (ft)	COMPLETED PERFS		
													ZONE	PERF	
Carper-Levers State	2	30-015-01705	Mack Energy	330 FSL & 330 FWL Sec 34-T17S-R28E	Oil	7/2/40	10"	8 1/4" 5 1/2"	530 1876	5 35	482 1685	Calc Calc	2403	2238	Q-GB-SA 1875-2198
Empire Abo Unit (Formerly State BQ #2)	33A	30-015-01711	BP America Prod Co.	1966 FSL & 330 FWL Sec 34-T17S-R28E	Oil	4/24/60	11"	8 5/8" 4 1/2"	1298 6340	550 900	5760	Surf Temp Survey	6340	5760	Abo Abo
Empire Abo Unit (Formerly State BQ #3)	TA	30-015-01712	BP America Prod Co.	975 FSL & 330 FWL Sec 34-T17S-R28E	Oil	5/19/60	11"	8 5/8" 7 7/8"	1228 6357	500 1500	6050	Surf Surf	6357	6050	Abo Abo
Empire Abo Unit (Formerly State BQ #4)	33B	30-015-01713	BP America Prod Co.	973 FSL & 1650 FWL Sec 34-T17S-R28E	Oil	6/16/60	11"	8 5/8" 7 7/8"	790 6332	500 850	6300	Surf Temp Survey	6332	6300	Abo Abo (sqz) Abo (sqz)
Empire Abo Unit (Formerly State BQ #4) INACTIVE	34B	30-015-01714	BP America Prod Co.	1953 FNL & 1959 FWL Sec 34-T17S-R28E	Oil	6/21/60	11"	8 5/8" 4 1/2"	773 6257	500 650	6224	Surf CBL	6257	6224	Abo Abo (sqz)
Empire Abo Unit (Formerly State BS #1)	34C	30-015-01715	BP America Prod Co.	1965 FNL & 330 FWL Sec 34-T17S-R28E	Oil	3/12/60	11"	8 5/8" 4 1/2"	1240 6307	650 1250	6155	Surf Circ Circ	6307	6155	Abo Abo (sqz)
Empire Abo Unit (Formerly State BU #1)	33F	30-015-01718	BP America Prod Co.	975 FNL & 660 FWL Sec 34-T17S-R28E	Oil	7/15/60	11"	8 5/8" 7 7/8"	1000 6205	550 1000	6070	Surf Temp Survey	6205	6070	Abo Abo
Empire Abo Unit (Formerly Eddy St. #1)	TA	30-015-01727	BP America Prod Co.	975 FNL & 660 FWL Sec 34-T17S-R28E	Oil	11/22/74	12-1/4" 7-7/8"	8 5/8" 5 1/2"	1005 6300	575 1010	6029	Surf Temp Survey	6300	6029	Abo Abo
Empire Abo Unit (Formerly Eddy St. #1)	33D	30-015-21394	BP America Prod Co.	2576 FNL & 1250 FWL Sec 34-T17S-R28E	Oil	1/11/77	11"	8 5/8" 7-7/8"	1010	940	5766-5777	Surf Temp Survey	6094-6131	5756-5777	6150-6160 6200-6212
Empire Abo Unit (Formerly Eddy St. #1)	331	30-015-21784	BP America Prod Co.	1580 FSL & 1140 FWL Sec 34-T17S-R28E	Oil	5/15/76	11"	8 5/8" 7-7/8"	600 6399	350 1845	6400	Surf Circ Circ	6400	6236	Abo Abo (sqz)
Empire Abo Unit TA	331A	30-015-21784	BP America Prod Co.	1580 FSL & 1140 FWL Sec 34-T17S-R28E	Oil	12/18/76	11.000	8 5/8" 5 1/2"	643 6368	225 + 2 yds 1235	6369	Surf Circ Circ	6369	6192	Abo Abo
Empire Abo Unit TA	332	30-015-21962	BP America Prod Co.	2582 FNL & 150 FWL Sec 34-T17S-R28E	Oil	1/11/77	11"	8 5/8" 5 1/2"	600 6376	250 1700	6376	Surf Surf	6376	6099	Abo Abo
Empire Abo Unit TA	342	30-015-21964	BP America Prod Co.	2400 FSL & 2080 FWL Sec 34-T17S-R28E	Oil	8/16/77	11"	8 5/8"	750	400	6147	Surf	6319	6147	Abo Abo
Empire Abo Unit TA	333	30-015-22226	BP America Prod Co.	1602 FNL & 1286 FWL	Oil										6170-6190

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
Item VI: Well Data Table

LEASE	WELL	API	OPERATOR	SURFACE LOCATION		TYPE	SPUD	HOLE (in)	CASING STRINGS (in)	SETTING DEPTH (ft)	CHAL VOL (cu ft)	LOC (m)	TOC MEAS	ID (ft)	END (ft)	COMPLETED ZONE		PERFS	
				Sec	T-17S-R28E														
TA	Lara Michelle (Formerly EAU #331)	3	30-015-22418	Marbob Energy	1000 FSL & 1200 FWL Sec T-17S-R28E	Oil	2/23/78	1 1"	8 5/8"	600	300	Surf	Circ	6370	6146	San Andres	2642-3150	Abo (sqz)	
																			Abo
																			Abo (sqz)
																			6280-6270
Empire Abo Unit	343	30-015-22463	BP America Prod Co.	1330 FSL & 1970 FWL Sec T-17S-R28E	Oil	11/16/78	1 1"	8 5/8"	750	450	Surf	Circ	6370	6100	Surf	6186-6186	Abo (sqz)	6232-6277	
TA																			
Empire Abo Unit	341B	30-015-22486	BP America Prod Co.	660 FNL & 1560 FWL Sec T-17S-R28E	Oil	5/19/78	1 1"	8 5/8"	750	500 + 3 yds	Surf	Circ	6230	5996	Surf	5724-5918	Abo	6154-6164	
																			Abo (open-hole)
Empire Abo Unit	333A	30-015-22631	BP America Prod Co.	2100 FSL & 1100 FWL Sec T-17S-R28E	Oil	9/8/78	1 1"	8 5/8"	749	550	Surf	Circ	6350	6139	Surf	6234-6244	Abo	6102-6192	
TA																			
Empire Abo Unit	335	30-015-22767	BP America Prod Co.	2250 FNL & 570 FWL Sec T-17S-R28E	Oil	1/27/79	1 1"	8 5/8"	750	450	Surf	Circ	6350	5770	Surf	5800-5988	Abo	6065-6075	
TA																			Abo
Empire Abo Unit	342A	30-015-22863	BP America Prod Co.	1450 FNL & 1900 FWL Sec T-17S-R28E	Oil	4/17/79	1 1"	8 5/8"	780	450	Surf	Circ	6356	6189	Surf	6206-6216	Abo	6110-6118	
TA																			Abo (sqz)
Empire Abo Unit INACTIVE	343	30-015-22895	BP America Prod Co.	2300 FNL & 1675 FWL Sec T-17S-R28E	Oil	4/18/79	1 1"	8 5/8"	750	450	Surf	Circ	6382	6005	Surf	5776-5908	Abo	6096-6140	
																			6210-6230
Empire Abo Unit	334	30-015-22910	BP America Prod Co.	1700 FNL & 620 FWL Sec T-17S-R28E	Oil	5/10/79	1 1"	8 5/8"	750	650	Surf	Circ	6350	6158	Surf	6166-6176	Abo	6215-6229	
TA																			
Empire Abo Unit	336	30-015-22919	Marbob Energy	2000 FNL & 1000 FWL Sec T-17S-R28E	Oil	5/24/79	1 1"	8 5/8"	750	350	Surf	Circ	6350	6200	Surf	2095-2103	Abo	2499-2546	
TA																			2718-2750
Lara Michelle (Formerly Thomas Scott #1)	4	30-015-24446	Marbob Energy	1550 FSL & 330 FWL Sec T-17S-R28E	Oil	3/26/83	12 1/4"	8 5/8"	481	300	Surf	Circ	3200	3200	Surf	Q-GB-SA	San Andres	2499-2546	
Lara Michelle	1	30-015-24910	Marbob Energy	990 FSL & 230 FWL	Oil	7/9/84	12 1/4"	8 5/8"	469	350	Surf	Circ	3840	3375	Surf	Q-GB-SA	San Andres	2718-2750	
																			1951-2279

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (in)	CASING STRINGS	DEPTH (m)	CAT VOL (cu ft)	TOD (m)	LOC MEAS (ft)	COMPLETED PERFS			
													PVID (N)	ZONE		
Lara Michelle	2	30-015-25493	Marbot Energy	1980 FSL & 2270 FWL Sec 34-T17S-R28E	Oil	11/26/85	7-7/8"	5-1/2"	3840	1050	Surf	Circ		San Andres Yeso	2652-2948 2989-3248 3415-3592 3763-3762	
Fleming State	3	30-015-25678	Marbot Energy	990 FNL & 1650 FWL Sec 34-T17S-R28E	Oil	17/187	12-1/4"	8 5/8" 4 1/2"	448 330	330	Circ Circ	3300	3100	San Andres San Andres Yeso	2602-2894 3156-3212 2418-2790	
Washington "34" State	WD-1	30-015-29344	BP America Prod Co.	1017 FSL & 1379 FWL Sec 34-T17S-R28E	WI	6/5/98	17-1/2"	13-3/8" 9-5/8" 8-3/4"	303 300 3071	1200	Surf Temp Survey	3090	3032	San Andres	7382-9149	
Geronimo "34" State Com. (Formerly Gray State #2)	1-Y	30-015-31293	Dominion OK TX	1700 FNL & 1038 FWL Sec 34-T18S-R28E	Oil	7/27/00	17-1/2"	13-3/8" 9-5/8" 8-3/4"	443 2666 10591	600 600 5-1/2"	Surf Surf Open-Hole	9723	9223	Wolfcamp	8370-8390 10,291-10,303	
Artesia Unit (Formerly Gray State #2)	42	30-015-02547	Melrose Operating Co.	990 FNL & 330 FWL Sec 3-T18S-R28E	Oil	3/24/55	10"	8 5/8" 5 1/2"	507 2338	50	149 Surf	Calc Circ	2338	G-GB-SA	2282-2326	
Artesia Unit (Formerly State #1)	41	30-015-01776	Melrose Operating Co.	330 FNL & 330 FWL Sec 3-T18S-R28E	Oil	1/25/41	10"	8-1/4" 7"	507 2152	50	237 1540	Calc Calc	2286	G-GB-SA	2270-2286	
Smith-State	1	30-015-02556	Hanson Energy	660 FNL 660 FEL Sec 4-T18S-R28E	Oil	7/27/59	11"	8 5/8" 8"	485 4-1/2"	50	288 Surf	Calc Calc	2307	Q-GB-SA	2231-2238	
State "AE"	1	30-015-25402	Hanson Energy	1650 FNL & 2310 FEL Sec 4-T18S-R28E	Oil	10/24/85	12-1/4"	8-5/8" 7-7/8"	356 3550	225 900	Surf Surf	Circ Circ	3530	Q-GB-SA San Andres	2006-2267 2371-2382	
Empire Abo Unit (Formerly State "BE" #1)	30	30-015-02553	BP America Prod Co.	330 FNL & 1675 FWL Sec 4-T18S-R28E	Oil	7/13/60	11"	8 5/8" 7-7/8"	2239 6298	913 200	Surf Temp Survey	4500	6300	Abo Abo (sqz) Abo (sqz)	6240-6250 6139-6173 6265-6291	
Daugherty-State	1	30-015-02589	Sandlot Energy	330 FNL & 975 FWL Sec 4-T18S-R28E	Oil	2/4/41	10"	8-1/4" 7"	563 1386	910 15	Surf Calc	1242 Calc Calc	2183	N/A	Q-GB-SA	1386-2183

**BP America Production Company**  
**Washington '33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION		TYPE	SPUD	HOLE (in)	CASING STRINGS (in)	SETTING DEPTH (ft)	CMV VOL (sq)	TOC MEAS (in)	TOC (in)	COMPLETED PERFS		
				LOCATION	SECTION									PERF ID	PSTD (ft)	ZONE
Empire Abo Unit TA	292	30-015-22906	BP America Prod Co.	485 FNL & 1070 FWL Sec 4-T18S-R28E		Oil	5/9/79	11"	8 5/8"	749	630	Surf	Circ	6350	6044	Abo
Empire Abo Unit INACTIVE	291	30-015-22607	BP America Prod Co.	200 FNL & 350 FWL Sec 4-T18S-R28E		Oil	9/28/78	11"	8 5/8"	600	450	Surf	Circ	6355	6285	Abo
Empire Abo Unit TA	281A	30-015-22011	BP America Prod Co.	700 FNL 450 FEL Sec 5-T18S-R28E		Oil	2/27/77	11"	8 5/8"	550	275	Surf	Circ	6362	6258	Abo (sqz)
Empire Abu Unit TA	283	30-015-22606	BP America Prod Co.	175 FNL & 300 FEL Sec 5-T18S-R28E		Oil	9/9/78	11"	8 5/8"	580	425	Surf	Circ	6266	5976	Abo
Empire Abu Unit (Formerly State "BH" #1)	28E	30-015-02604	BP America Prod Co.	330 FNL & 970 FEL Sec 5-T18S-R28E		Oil	1/28/60	11"	8 5/8"	1190	500	Surf	Circ	6290	6180	Abo
Empire Abu Unit INACTIVE	281	30-015-22597	BP America Prod Co.	200 FSL & 660 FEL Sec 32-T17S-R28E		Oil	8/24/78	11"	8 5/8"	600	450	Surf	Circ	6330	6310	Abo (sqz)
Empire Abu Unit TA	271	30-015-21540	BP America Prod Co.	320 FSL & 1450 FEL Sec 32-T17S-R28E		Oil	5/31/75	12-1/2"	8 5/8"	1007	550	Surf	Circ	6255	5620	Abo
Empire Abu Unit (Formerly State "BG" 1)	27A	30-015-01667	BP America Prod Co.	650 FSL & 1950 FEL Sec 32-T17S-R28E		Oil	12/30/59	11"	8 5/8"	985	600	Surf	Circ	6215	5980	Abo (sqz)
Northwest Artesia Unit (Formerly Delhi-State #14)	14	30-015-01665	SDX Resources	940 FSL & 1650 FEL Sec 32-T17S-R28E		Oil	2/23/55	10"	8 5/8"	485	50	127	Calc	2099	2099	Q-GB-SA
Empire Abu Unit (Formerly State "BO" 1) TA	28B	30-015-01668	BP America Prod Co.	660 FSL & 660 FEL Sec 32-T17S-R28E		Oil	5/16/60	11"	8 5/8"	1247	550	Surf	Circ	6319	5699	Abo
Northwest Artesia Unit (Formerly Ramapo-State "A" #2) TA	15	30-015-01666	SDX Resources	990 FSL & 660 FEL Sec 32-T17S-R28E		WI	3/19/54	10"	8 5/8"	750	50	392	Calc	2101	2100	Q-GB-SA

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (in)	CASING STRINGS (in)	TOC MEAS (in)	TOT (m)	COMPLETED ZONE		PERF.		
											SETTING DEPTH (ft)	CMT VOL (sq)	PBD (ft)	ID (in)	
Kersey-State	2	30-015-30889	SDX Resources	844 FSL & 330 FEL Sec 32-T17S-R28E	Oil	5/25/00	12-1/4" 7-7/8"	8 5/8" 5 1/2"	511 4096	350 850	Surf Surf	Calc circ	4104	3570	San Andres Y880
Empire Abo Unit (Formerly State "BO" #2)	28C	30-015-01669	BP America Prod Co.	1650 FSL & 660 FEL Sec 32-T17S-R28E	Oil	5/20/00	11" 7-7/8"	8 5/8" 4 1/2"	1304 6250	600 850	Surf Surf	Circ Circ	6250	5970	Abo Abo
Kersey-State	1	30-015-30888	SDX Resources	2018 FSL & 330 FEL Sec 32-T17S-R28E	Oil	5/16/00	12-1/4" 7-7/8"	8 5/8" 5 1/2"	529 4072	350 900	Surf Surf	Circ Circ	4075	4045	San Andres Glorietta 3556-3601
Northwest Artesia Unit (Formerly Ramapo-State "A" #1) INACTIVE	7	30-015-01672	SDX Resources	2310 FSL & 660 FEL Sec 32-T17S-R28E	Oil	4/16/35	10" 8"	7" 4-1/2"	478 2206	25 725	Surf Surf	Calc Circ	2527	1890	Q-GB-SA
Empire Abo Unit (Formerly State "BP" #1)	27B	30-015-01670	BP America Prod Co.	1650 FSL & 1961 FEL Sec 32-T17S-R28E	Oil	6/7/60	111" 7-7/8"	8 5/8" 4 1/2"	860 6165	450 1375	Surf Surf	Circ Circ	6165	6020	Abo Abo
State "32" (Formerly State #20)	2	30-015-01656	Hanson Energy	1980 FSL & 1980 FEL Sec 32-T17S-R28E	Oil	1/24/54	11" 8"	8 5/8" 7"	498 1704	50 200	Surf Surf	Calc Calc	2075	1990	Q-GB-SA
Jeffers State (Formerly Eddy St. #1)	1	30-015-30887	SDX Resources	2141 FSL & 1665 FEL Sec 32-T17S-R28E	Oil	1/27/00	12-1/4" 7-7/8"	8 5/8" 5 1/2"	512 3212	350 650	Surf Surf	Circ Circ	3220	3210	San Andres San Andres (sqz) 2747-2852
State "32"	1	30-015-01655	Hanson Energy	2310 FSL & 1650 FEL Sec 32-T17S-R28E	Oil	2/7/58	10-3/4" 8-5/8"	8 5/8" 5 1/2"	516 2074	50 150	Surf Surf	Calc Calc	2074	2074	Q-GB-SA
NW State	18	30-015-31934	SDX Resources	2272 FNL & 2273 FEL Sec 32-T17S-R28E	Oil	2/26/02	12-1/4" 7-7/8"	8 5/8" 5 1/2"	485 3208	375 800	Surf Surf	Circ Circ	3215	2910	San Andres
Empire Abo Unit (Formerly State "A" #35) TA	27	30-015-01663	BP America Prod Co.	2310 FNL & 1650 FEL Sec 32-T17S-R28E	Gas	9/10/60	11" 7-7/8"	8 5/8" 5 1/2"	1003 6108	450 170 units + 150 sq	Surf Surf	Circ Circ	6108	6068	Abo Abo (sqz) Abo (sqz)
NW State	17	30-015-31933	SDX Resources	2237 FNL & 990 FEL Sec 32-T17S-R28E	Oil	9/13/01	12-1/4" 7-7/8"	8 5/8" 5 1/2"	508 3217	375 625	Surf Surf	Circ Circ	3225	3188	San Andres
Empire Abo Unit (Formerly State "A" #33)	28	30-015-01658	BP America Prod Co.	2310 FNL & 330 FEL Sec 32-T17S-R28E	Oil	8/27/60	11" 7-7/8"	8 5/8" 5 1/2"	735 6176	375 170 units + 150 sq	Surf Surf	Circ Circ	6176	6058	Abo

BP America Production Company  
 Washington "33" State Waterflood Project  
 NMOCD Form C-108: Application for Authorization to Inject  
 Item VI: Well Data Table

LEASE	WELL	API	OPERATOR	SURFACE LOCATION		TYPE	SPUD	HOLE (in)	Casing strings (in)	Setting Depth (ft)	CHT VOL (gal)	TOC (ppm)	TOC MEAS (ppm)	ID (in)	PDI (ft)	Completed Zone Perfs	
				Sec	Line											(ft)	(ft)
Northwest Artesia Unit (Formerly State 647 A/C722 # 179)	6	30-015-01674	SDX Resources	1980 FNIL & 330 FEL Sec 32-T17S-R28E	WI	11/1/61	12"	8 5/8"	4 1/2"	473	75	275	Calc	1974	1972	Q-GB-SA	1920-1955
NW State	2	30-015-30683	SDX Resources	1709 FNIL & 385 FEL Sec 32-T17S-R28E	Oil	8/6/99	12-1/4"	8 5/8"	5 1/2"	408	325	Surf	Circ	2850	2823	San Andres	2468-2742
Dancer "32" State Com.	1	30-015-28863	Mawbourne Oil Co.	1728 FNIL & 916 FEL Sec 32-T17S-R28E	Gas	3/17/96	17-1/2" 12-1/4" 8-3/4"	13-3/8" 9 5/8" 5 1/2"	560	600	Surf	Circ	10610	10533	Morrow	10,200-10,206	
Northwest Artesia Unit (Formerly State 647 A/C722 # 186)	5	30-015-02312	SDX Resources	1980 FNIL & 1650 FEL Sec 32-T17S-R28E	Oil	3/19/62	10"	8 5/8"	4 1/2"	507	50	149	Calc	1956	1953	Q-GB-SA	1911-1940
NW State	3	30-015-30684	SDX Resources	1650 FNIL & 1650 FEL Sec 32-T17S-R28E	Oil	8/16/99	12-1/4" 7-7/8"	8 5/8" 5 1/2"	1955	75	1641	Calc	3205	3160	San Andres	2464-2750	
NW State	4	30-015-30734	SDX Resources	1140 FNIL & 2277 FEL Sec 32-T17S-R28E	Oil	9/6/99	12-1/4" 7-7/8"	8 5/8" 5 1/2"	524	375	Surf	Circ	3200	3163	San Andres	2450-2813	
Northwest Artesia Unit (Formerly State 647 A/C722 # 195)	3	30-015-10109	SDX Resources	990 FNIL & 1650 FEL Sec 32-T17S-R28E	WI	6/16/63	9-5/8" 6-1/4"	7"	505	125	Surf	Calc	1985	1995	Q-GB-SA	1886-1891	
NW State	1	30-015-30609	SDX Resources	990 FNIL & 990 FEL Sec 32-T17S-R28E	Oil	5/22/99	12-1/4" 7-7/8"	8 5/8" 5 1/2"	418	325	Surf	Circ	3205	3140	San Andres	2456-2736	
Northwest Artesia Unit (Formerly State 647 A/C722 # 180)	2	30-015-01675	SDX Resources	890 FNIL & 330 FEL Sec 32-T17S-R28E	Oil	1/27/62	9-5/8" 6-1/4"	7"	523	100	103	Calc	1971	1970	Q-GB-SA	1915-1922	
NW State	20	30-015-30892	SDX Resources	330 FNIL & 330 FEL Sec 32-T17S-R28E	Oil	4/14/00	12-1/4" 7-7/8"	8 5/8" 5 1/2"	505	350	Surf	Circ	3210	3176	San Andres	2446-2729	
NW State	16	30-015-30890	SDX Resources	330 FSL & 1650 FEL Sec 32-T17S-R28E	Oil	4/24/00	12-1/4" 7-7/8"	8 5/8" 5 1/2"	518	350	Surf	Circ	3210	2573	San Andres	2424-2560 2594-2778	
Northwest Artesia Unit (Formerly State 647 A/C722 # 196)	1	30-015-10079	SDX Resources	330 FSL & 330 FEL Sec 29-T17S-R28E	Oil	6/18/63	9-5/8" 6-1/4"	7"	525	125	Surf	Calc	1951	1951	G-GB-SA	1894-1899	
NW State	14	30-015-30824	SDX Resources	330 FSL & 990 FEL Sec 29-T17S-R28E	Oil	1/3/00	12-1/4" 7-7/8"	8 5/8" 5 1/2"	531	382	Surf	Circ	3240	3133	San Andres	2436-2703	

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

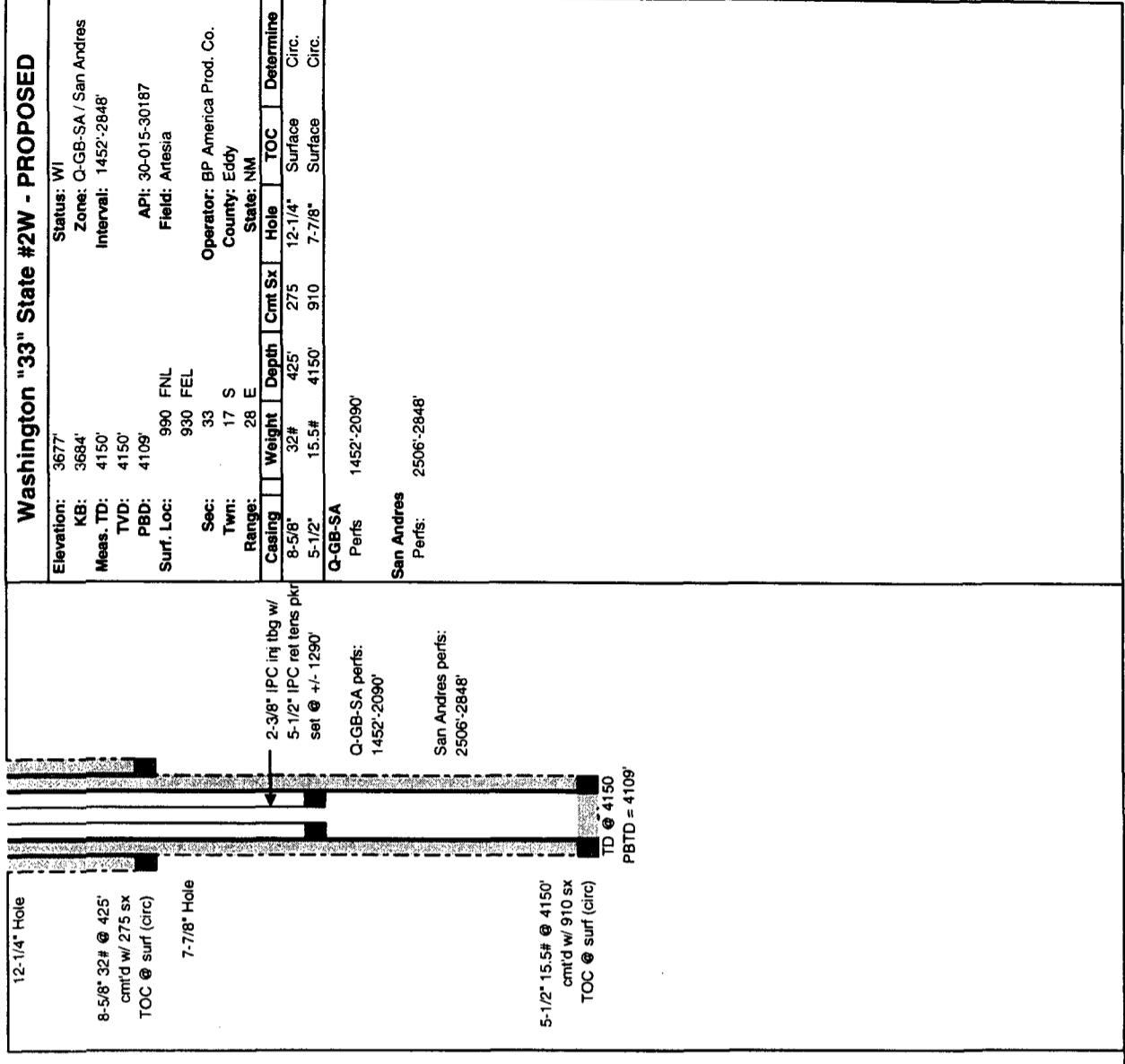
LEASE	WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	HOLE (in)	CASING STRINGS (ft)	SETTING DEPTH (ft)	CAT. VOL (cu ft)	TOC MEAS (ft)	TOC (ft)	COMPLETED ZONE		PERFS	
													ID (ft)	PED (ft)		
NW State	19	30-015-30891	SDX Resources	917 FSL & 330 FEL Sec 28-T17S-R28E	Oil	4/7/00	12-1/4"	8 5/8"	520	350	Surf	Circ	3192	3149	San Andres	2436-2722
Delhi State "B" (Formerly San Juan State "B" #1)	1	30-015-01604	Hanson Energy	800 FSL & 800 FWL Sec 28-T17S-R28E	Oil	10/19/53	17-1/2"	13-3/8"	599	600	Surf	Circ	10,746	2024	Q-GB-SA San Andres	1922-1936 2130-2136
Delhi State "B"	2	30-015-01594	Hanson Energy	330 FSL & 980 FWL Sec 28-T17S-R28E	Oil	5/29/61	11"	8 5/8"	612	165	Surf	Circ	6048	1976	Q-GB-SA Abo	1932-1944 5952-5984
Red Lake "28" N. State	3	30-015-34382	Edge Pet. Operating Co.	330 FSL & 1650 FWL Sec 28-T17S-R28E	Oil	1/13/06	12-1/4"	8-5/8"	410	250	Surf	Circ	N/A	N/A	N/A	N/A
Red Lake "28" N. State	1	30-015-33739	Edge Pet. Operating Co.	330 FSL & 2000 FWL Sec 28-T17S-R28E	Oil	1/30/05	12-1/4"	8 5/8"	678	410	Surf	Calc	6154	6097	Abo	5968-6051
Delhi State	1	30-015-01596	Marbop Energy	680 FSL & 1980 FWL Sec 28-T17S-R28E	Oil	8/10/62	10"	8 5/8"	510	50	Surf	Calc	2041	800	Seven Rivers Q-GB-SA Q-GB-SA (sqz)	706-726 1936-1940 1930-1948
Red Lake "28" N. State	2	30-015-34002	Edge Pet. Operating Co.	950 FSL & 1695 FWL Sec 28-T17S-R28E	Oil	4/29/05	12-1/4"	8-5/8"	551	250	Surf	Calc	3760	3688	Yeso	3432-3661
Red Lake "28" K State	1	30-015-33740	Edge Pet. Operating Co.	1650 FSL & 1650 FWL Sec 28-T17S-R28E	Oil	12/30/04	12-1/4"	8 5/8"	400	255	Surf	Calc	3755	3692	Yeso	3469-3644
Geronimo "28" State Com	1	30-015-31829	Dominion OK TX	1500 FSL & 1800 FEL Sec 28-T17S-R28E	Gas	7/1/01	17-1/2"	13-3/8"	450	430	Surf	Calc	10488	10413	Penn	10178-10205
Hanover State (Formerly State #2)	2	30-015-20355	Marbop Energy	350 FSL & 330 FEL Sec 28-T17S-R28E	Oil	12/14/70	11"	8 5/8"	614	400	Surf	Circ	6158	6140	Abo	5952-6032
State (Formerly Delhi State #14)	1	30-015-01595	Marbop Energy	330 FSL & 330 FEL Sec 28-T17S-R28E	Oil	5/24/60	12-1/4"	9 5/8"	619	185	Calc	6866	2300	Q-BG-SA Abo	1989-2024 5926-6060	

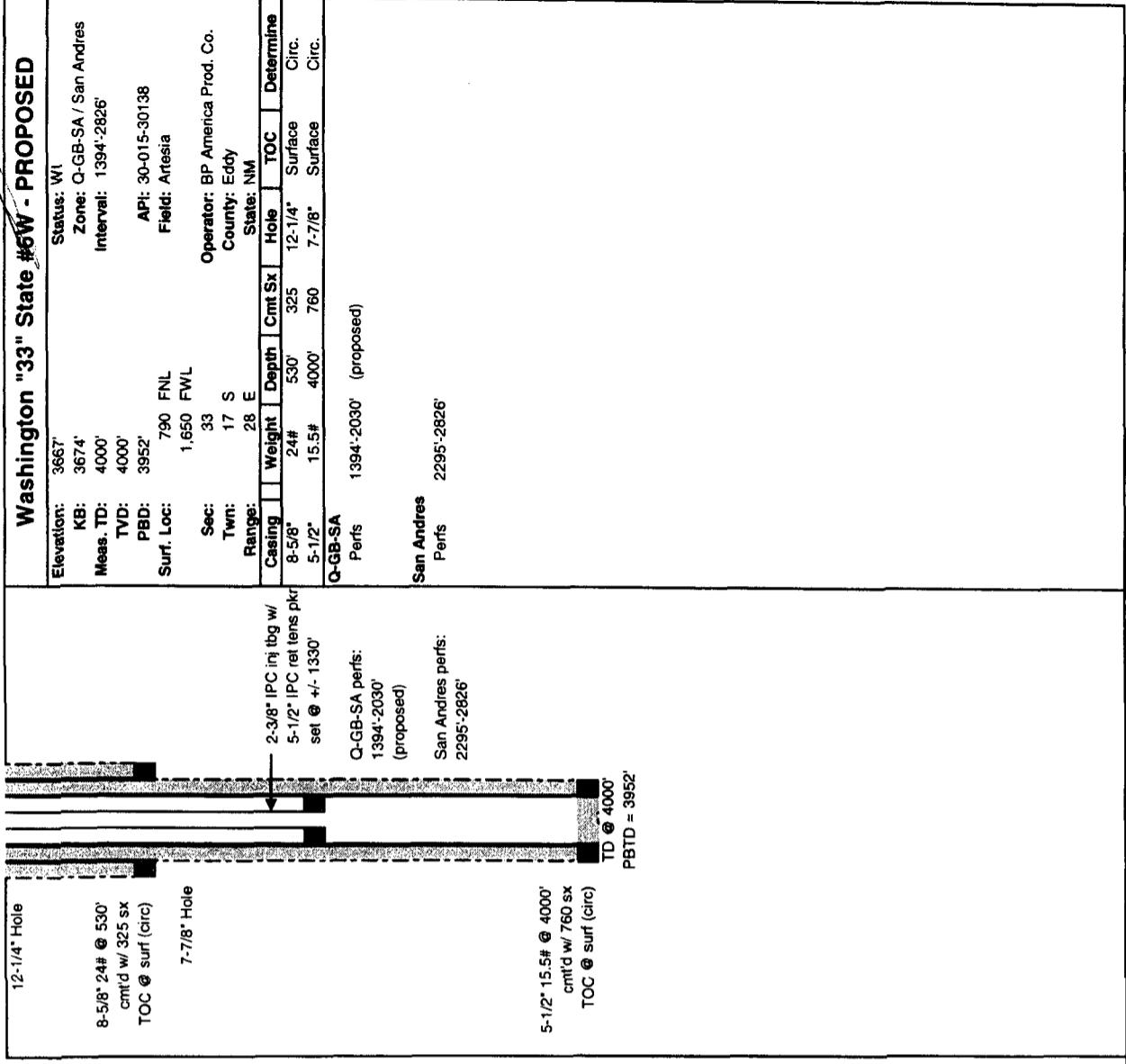
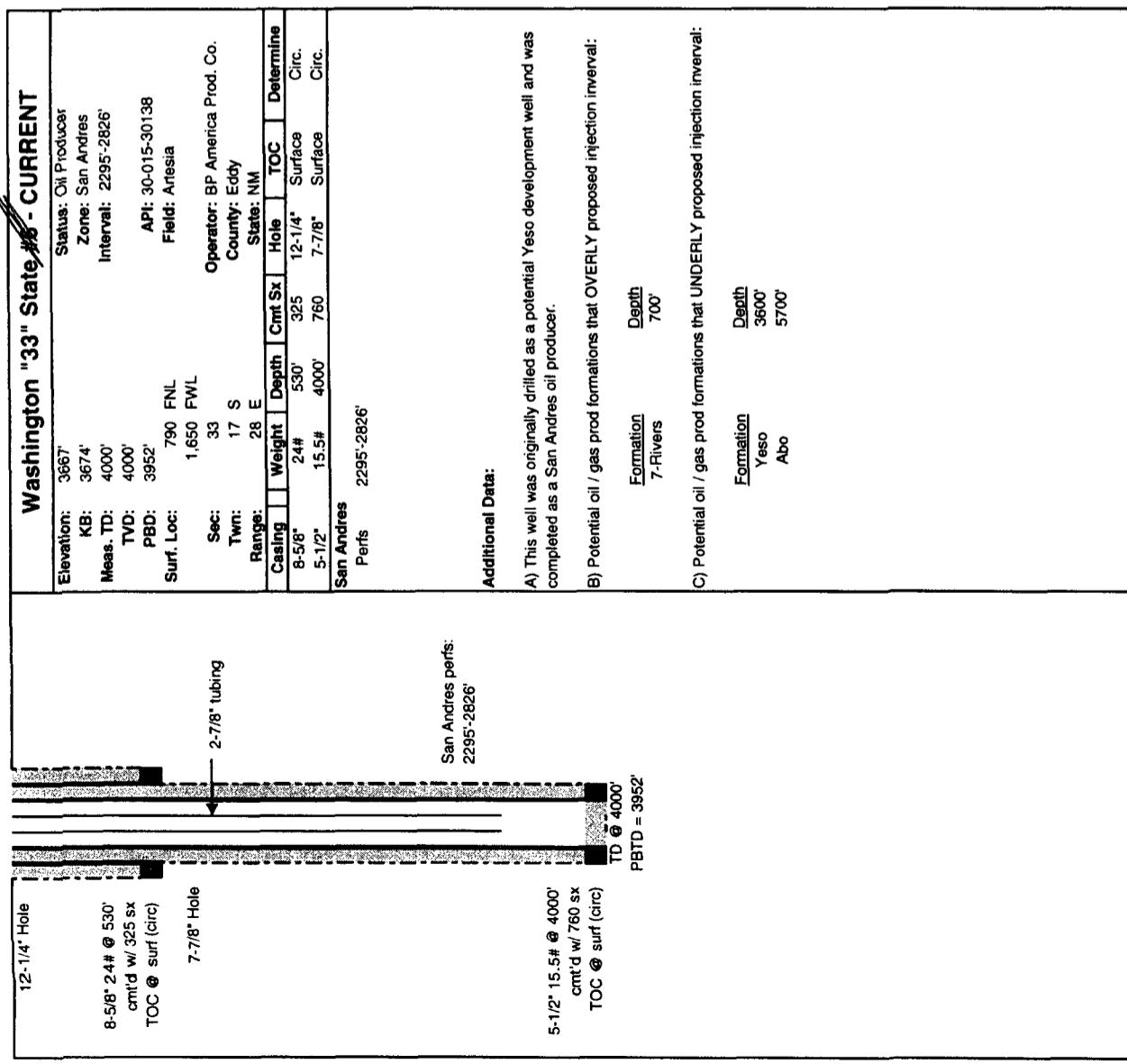
**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Item VI: Well Data Table**

LEASE WELL	API	OPERATOR	SURFACE LOCATION	TYPE	SPUD	CASING STRINGS (in)	SETTING DEPTH (ft)	CHT VOL (sc)	TOC (lb)	TOC MEAS	ID (in)	COMPLETED ZONE		PERFS	
												TOP (ft)	PAD (ft)		
Empire Abo Unit (Formerly State BW #1)	33	30-015-01579	BP America Prod Co.	330 FSL & 979 FWL Sec 27-T17S-R28E	Oil	6 1/4x60	11"	8 5/8" 4 1/2"	754 6187	500 850	Surf 240	Circ Temp Survey	6189	6080	Abo 6106-6136
Cockatoo State	1	30-015-24805	Marbob Energy	330 FSL & 1716 FWL Sec 27-T17S-R28E	Oil	3 1/8x84	12-1/4" 7-7/8"	8-5/8" 5-1/2"	508 3054	350 750	Surf Surf	Circ Circ	3054	3032	San Andres 2377-2948
TJ State (Formerly Pan American -TE B #1)	2	30-015-01568	Marbob Energy	660 FSL & 660 FWL Sec 27-T17S-R28E	Oil	4 1/8x62	10"	8 5/8" 5 1/2"	587 1987	50 100	229 1443	Calc Calc	2006	2006	Q-GB-SA 1985-2006
Elk State	1	30-015-25845	Marbob Energy	719 FSL & 760 FWL Sec 27-T17S-R28E	Oil	12 1/17x87	12-1/4" 7-7/8"	8 5/8" 5 1/2"	491 3042	350 950	Surf Surf	Circ Circ	3065	3030	San Andres 2220-2750
TJ State	1	30-015-24521	Marbob Energy	990 FSL & 980 FWL Sec 27-T17S-R28E	Oil	7 1/8x83	12-1/4" 7-7/8"	8 5/8" 4 1/2"	520 2200	300 575	Surf Surf	Circ Circ	2200	2200	Q-GB-SA 1548-2016

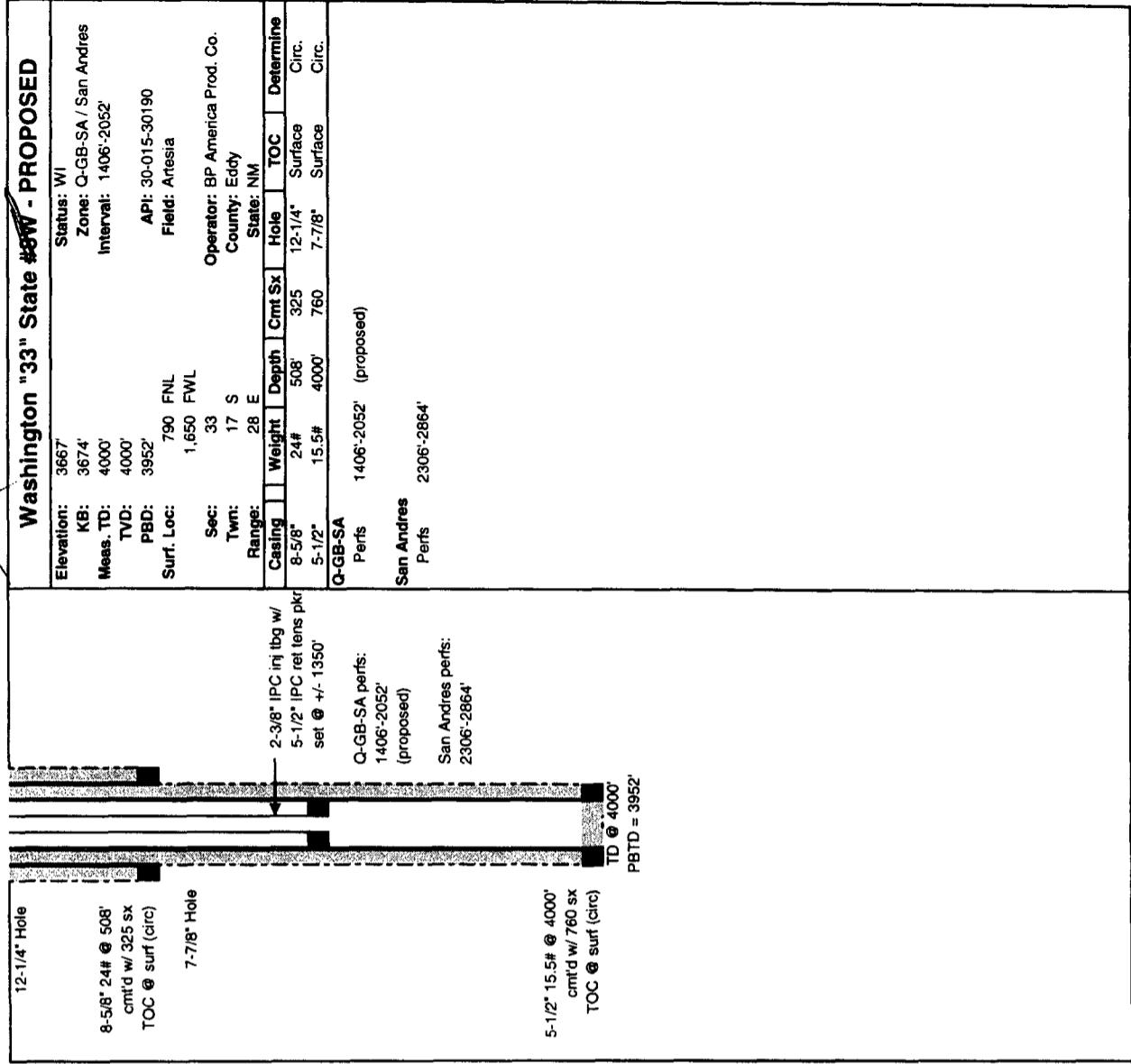
Note: TOC calculated made with assumption that cement yield = 75% of Class "C" Neat Cement (1.32 ft<sup>3</sup>/sack)

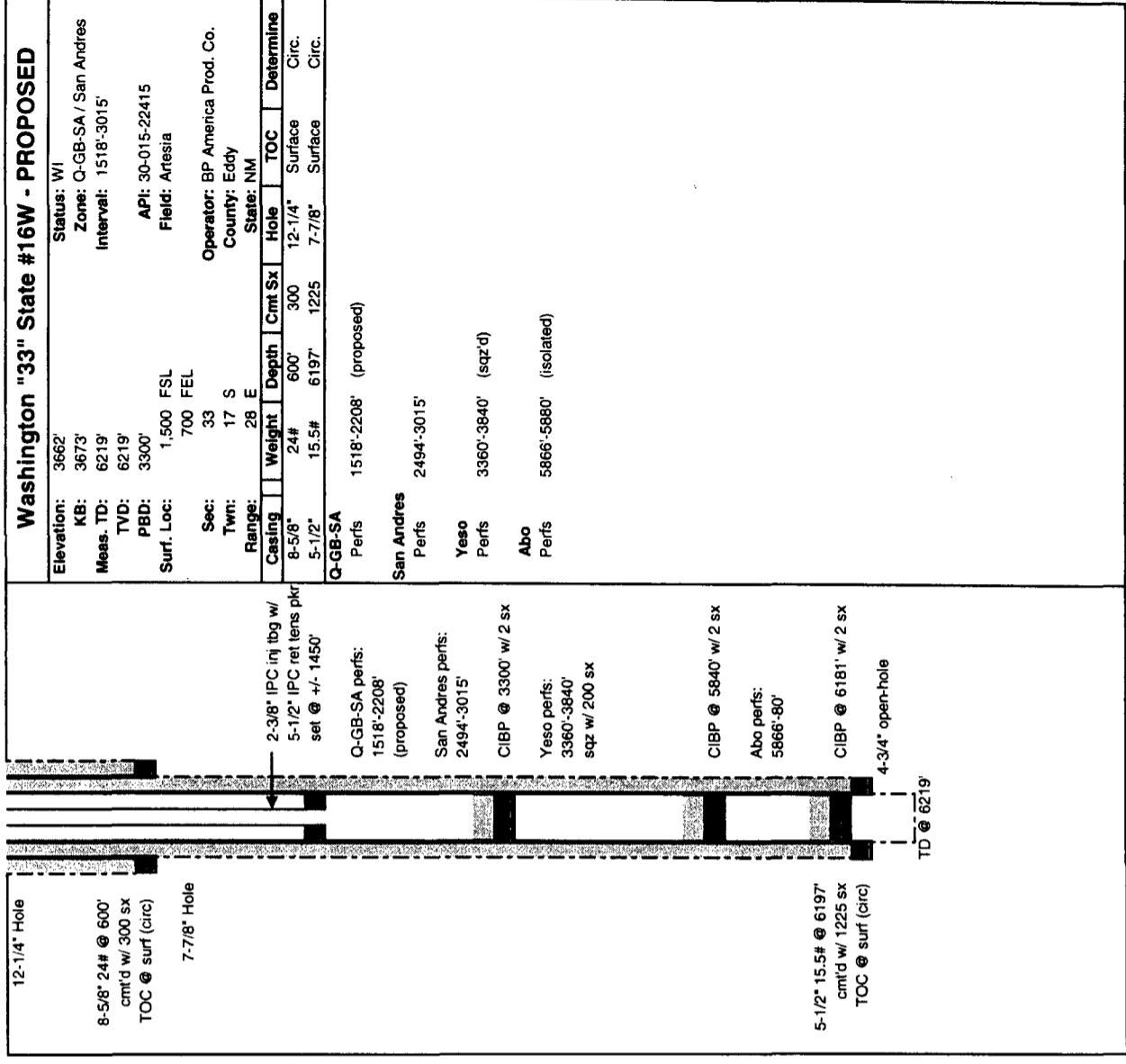
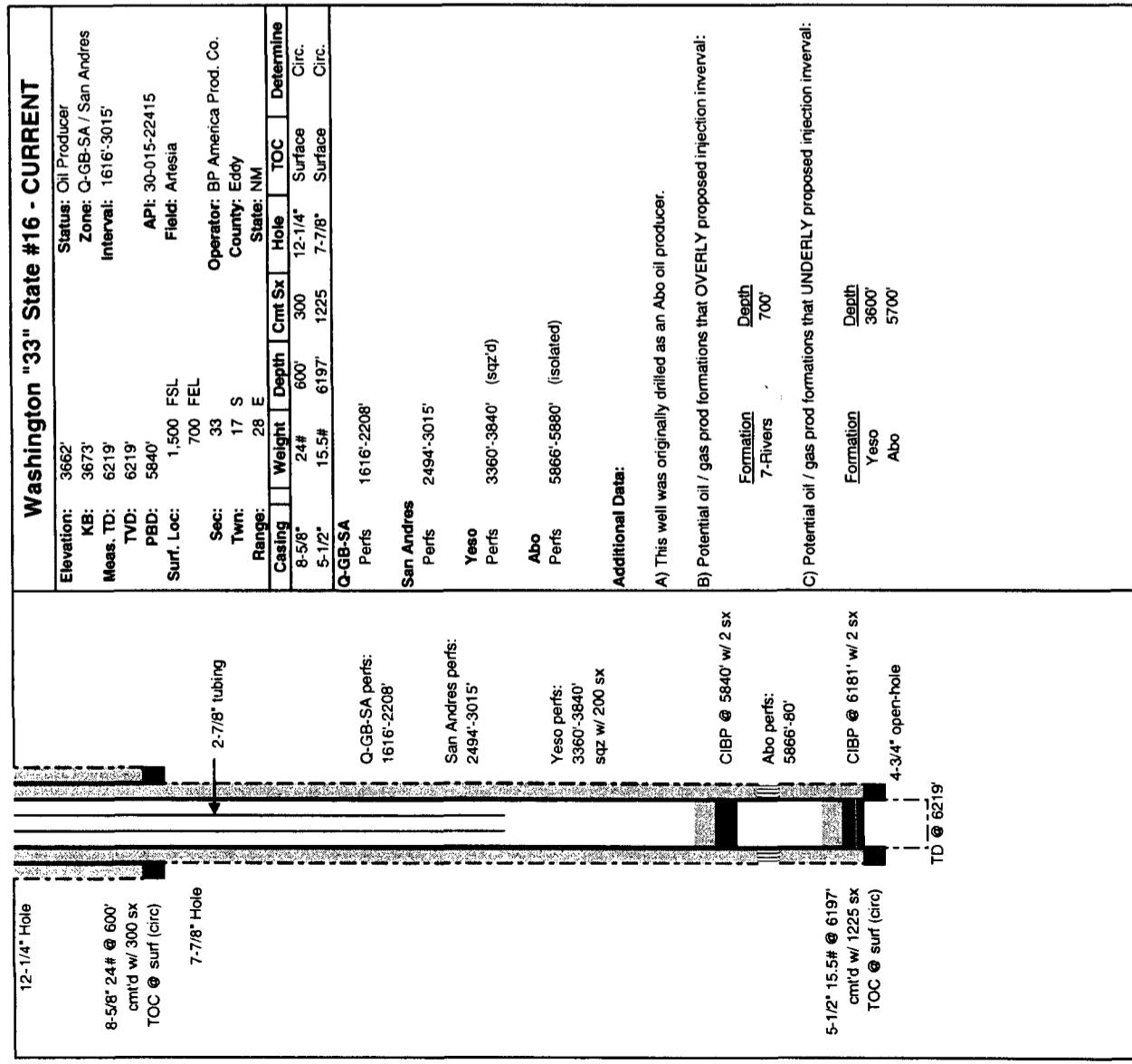
Washington "33" State #2 - CURRENT	
12-1/4" Hole	Elevation: 3677' KB: 3684' Meas. TD: 4150' TVD: 4150' PBD: 4109' Surf. Loc: 990 FNL  7-7/8" Hole  2-7/8" tubing  7-7/8" Hole
	Status: Oil Producer Zone: Q-GB-SA / San Andres Interval: 1452'-2848' API: 30-015-30187 Field: Artesia  Sec: 33 Twn: 17 S Range: 28 E Casing: 32# 425' 275' 12-1/4" Surface Weight: 15.5# 4150' 910 7-7/8" Surface Determine
	Q-GB-SA perf: 1452'-2090'  San Andres Perfs: 2506'-2848'
	Q-GB-SA perf: 1452'-2090'  San Andres perf: 2506'-2848'  Additional Data:  A) This well was originally drilled as a potential Yeso development well and was completed as a San Andres oil producer. B) Potential oil / gas prod formations that OVERLIE proposed injection interval: Formation Depth 7-Rivers 700'

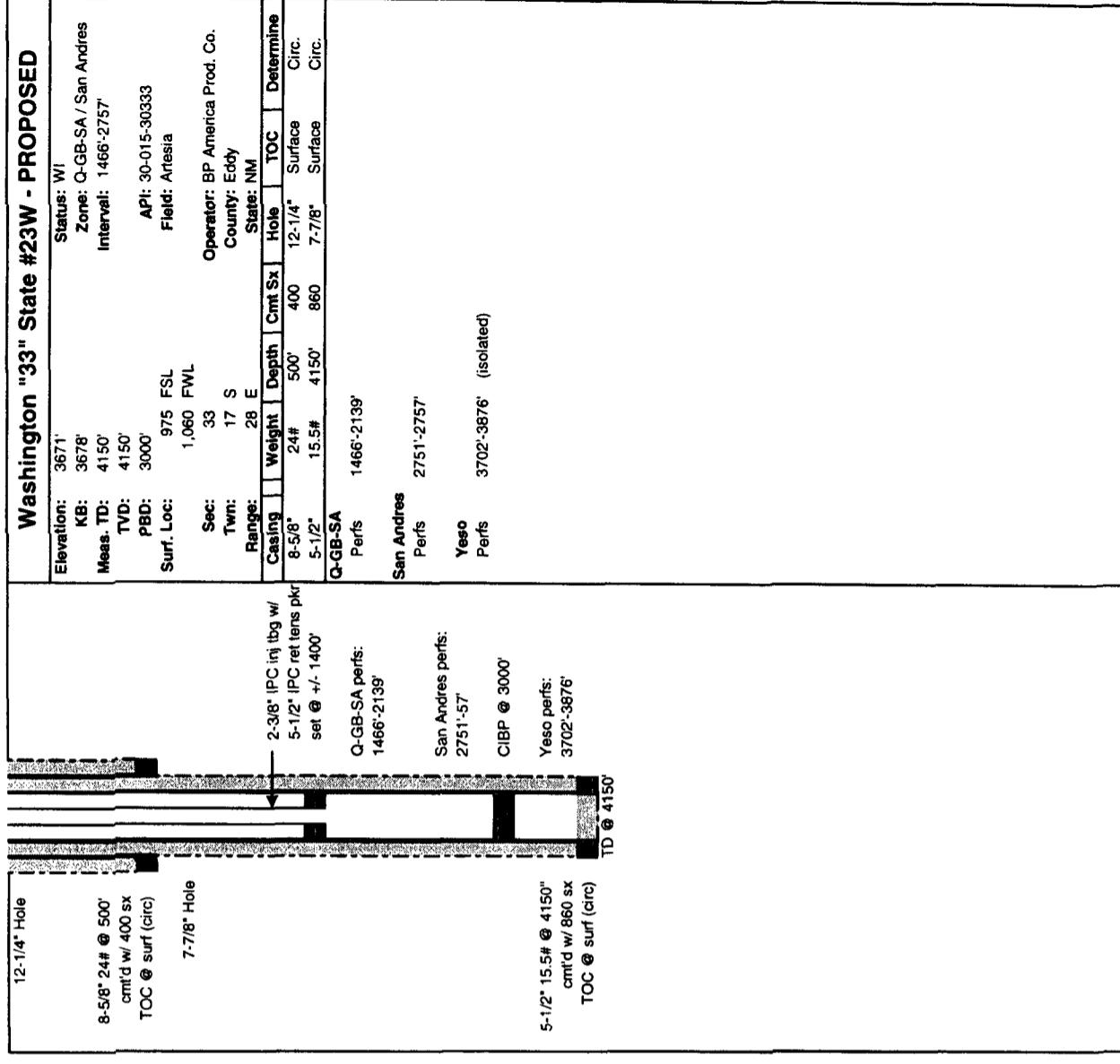
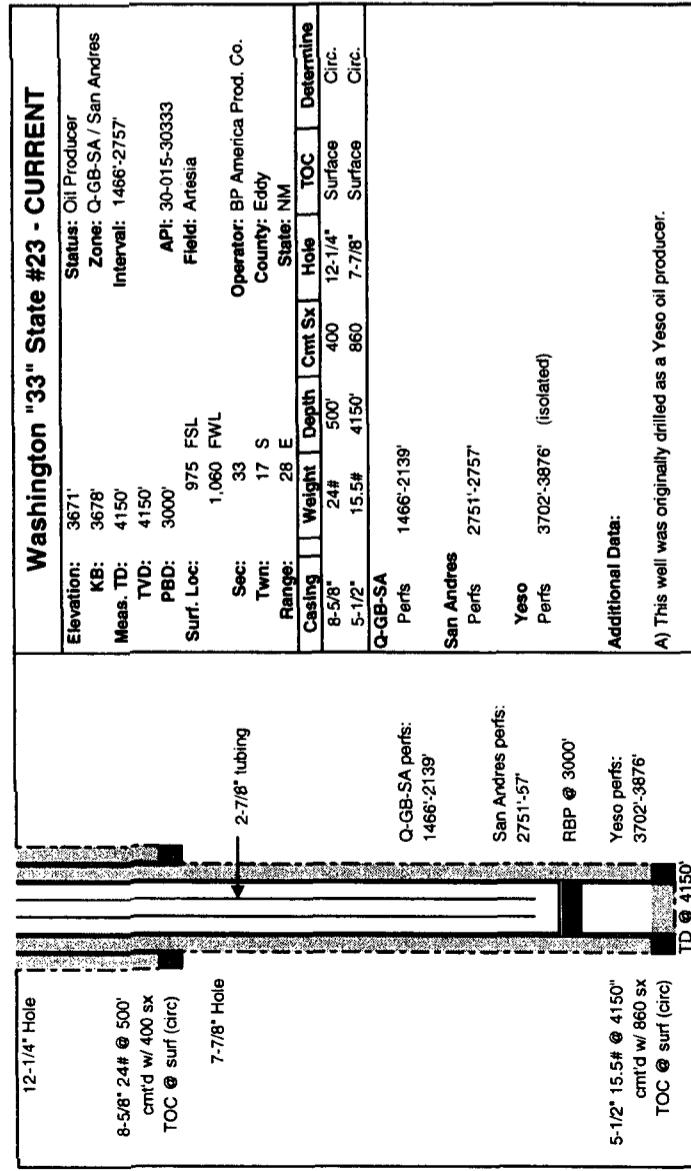




Washington "33" State #8 - CURRENT											
12-1/4" Hole											
Elevation:	3673'	Status:	Oil Producer								
KB:	3680'	Zone:	San Andres								
Meas. TD:	4000'	Interval:	2306-2864'								
TVD:	4000'										
PBD:	3952'	API:	30-015-30190								
Surf. Loc:	2,267 FNL	Field:	Artesia								
7-7/8" Hole											
Sec:	33	Operator:	BP America Prod. Co.								
Twn:	17 S	County:	Eddy								
Range:	28 E	State:	NM								
Casing	330 FWL										
Weight	24#										
Depth	508'										
Cmt Sz	325										
Hole	12-1/4"										
TOC											
Determine											
8-5/8" 24# @ 508' cmnd w/ 325 sx TOC @ surf (circ)											
5-1/2" 15.5# @ 4000' cmnd w/ 760 sx TOC @ surf (circ)											
TD @ 4000'											
PBT D = 3952'											
Additional Data:											
A) This well was originally drilled as a potential Yeso development well and was completed as a San Andres oil producer.											
B) Potential oil / gas prod formations that OVERLЯ proposed injection interval:											
Formation	Depth										
7-Rivers	700'										
C) Potential oil / gas prod formations that UNDERLY proposed injection interval:											
Formation	Depth										
Yeso	3600'										
Abo	5700'										
San Andres perfs: 2306-2864'											
San Andres perfs: 2306-2864'											
5-1/2" 15.5# @ 4000' cmnd w/ 760 sx TOC @ surf (circ) TD @ 4000' PBT D = 3952'											



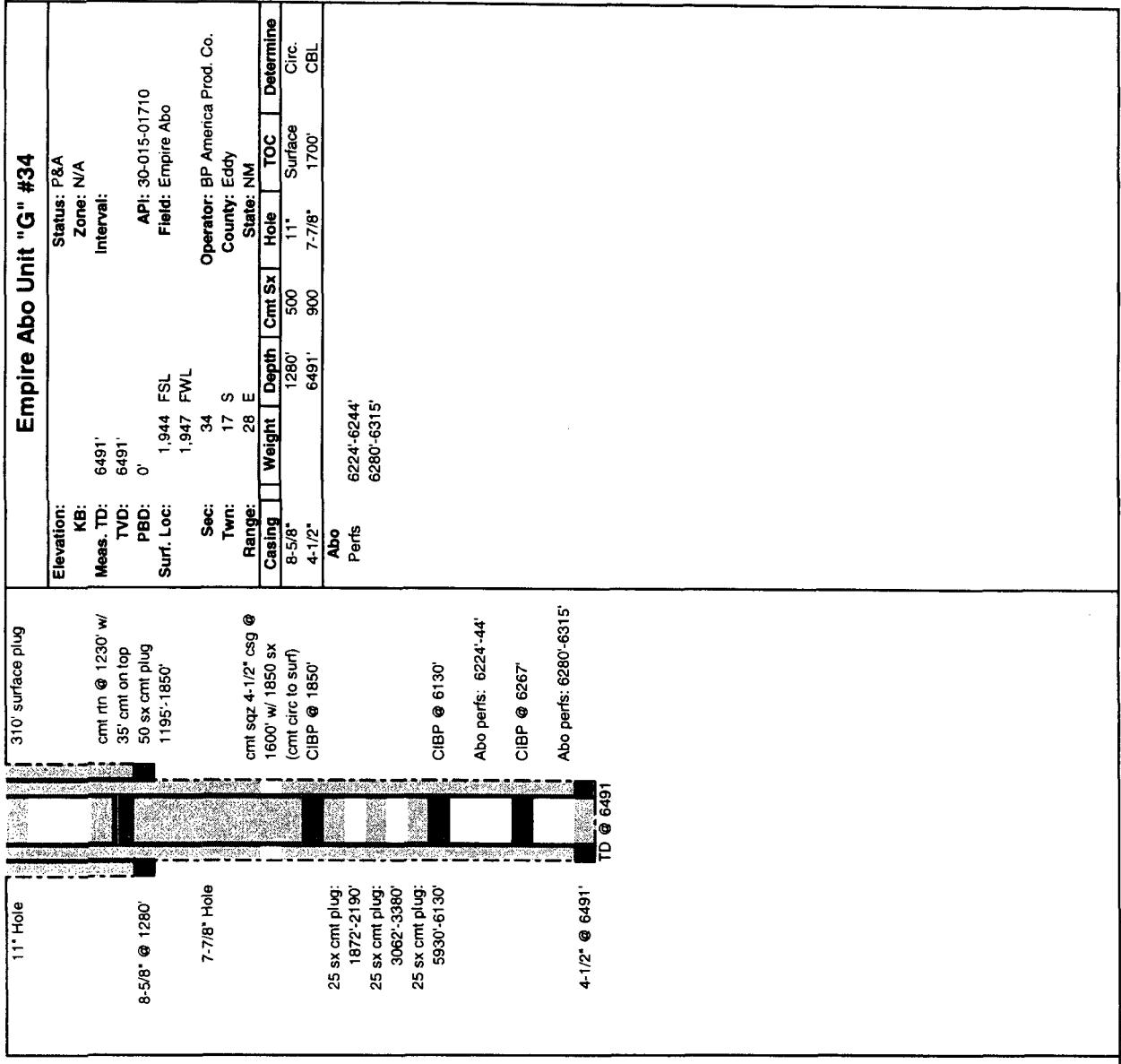
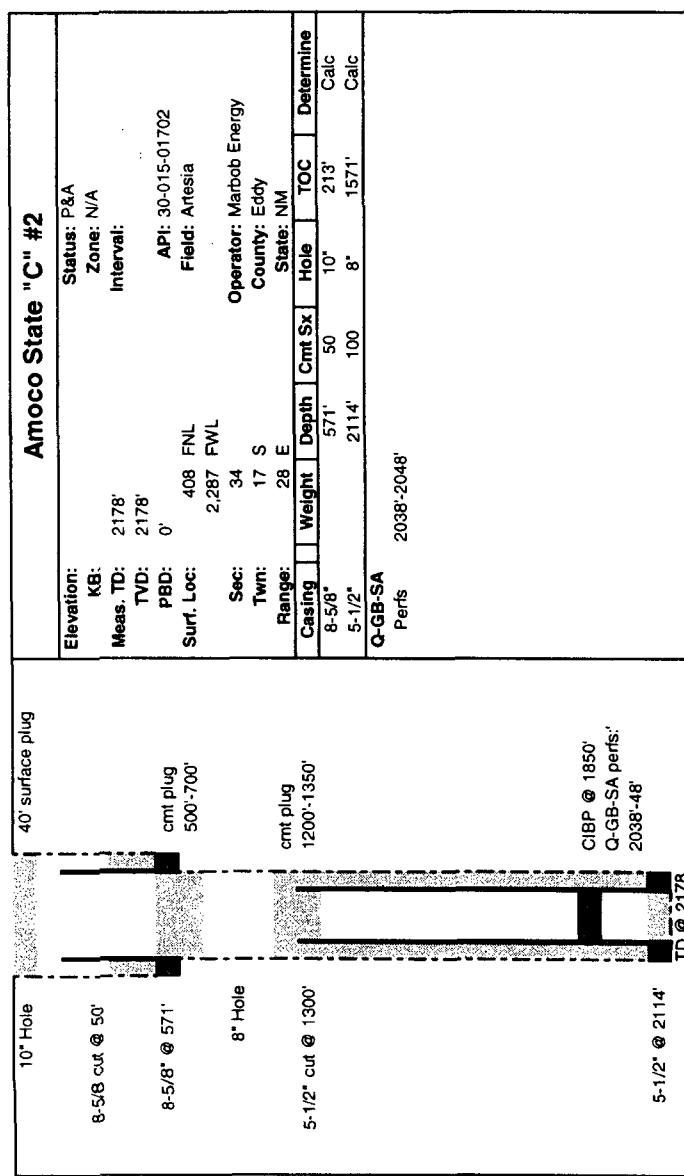




- A) This well was originally drilled as a Yesso oil producer.  
 B) Potential oil / gas prod formations that OVERLЯ proposed injection interval:  
 Formation      Depth  
 7-Rivers      700'  
 C) Potential oil / gas prod formations that UNDERLY proposed injection interval:  
 Formation      Depth  
 Yesso      3600'  
 Abo      5700'

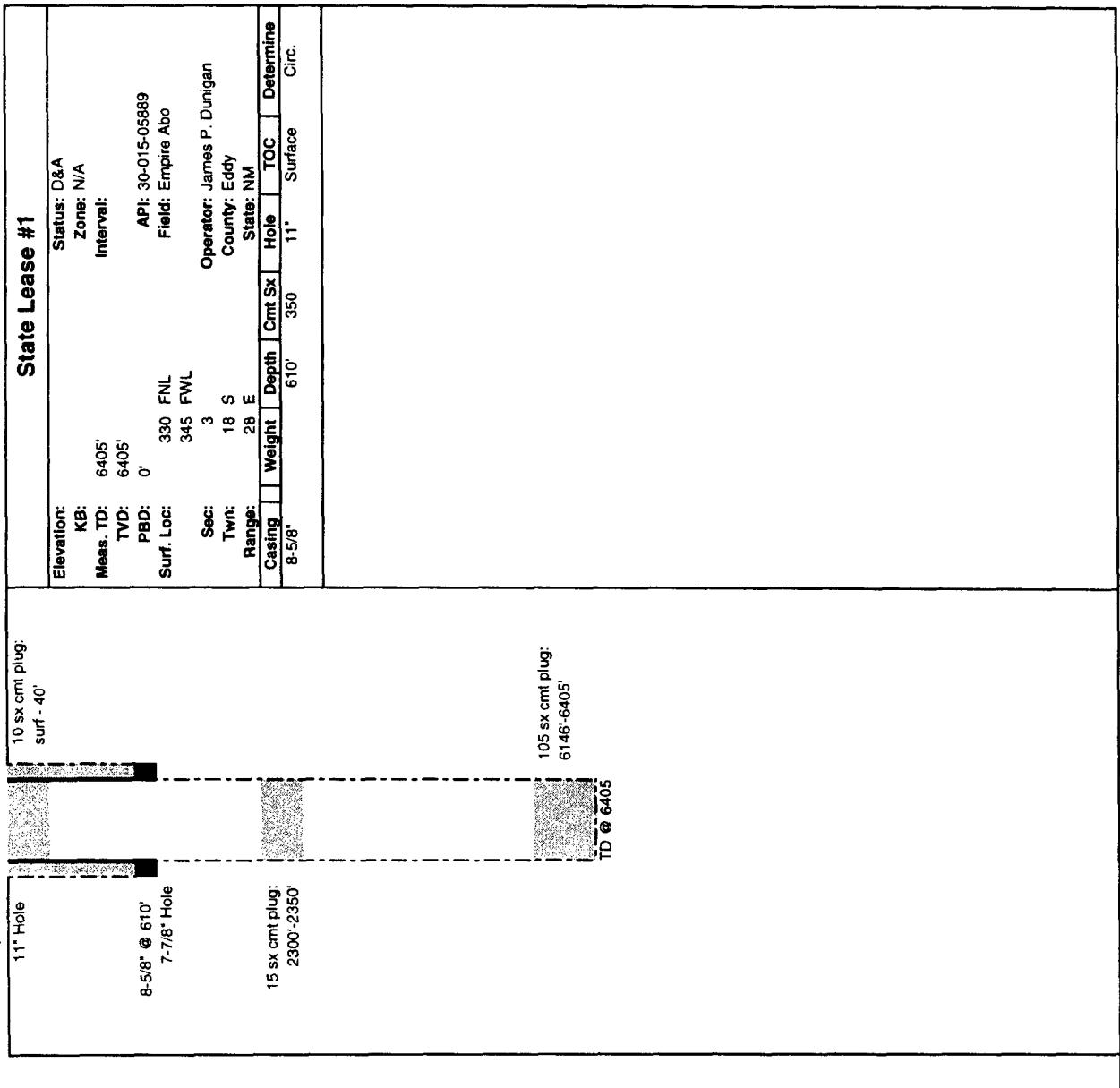
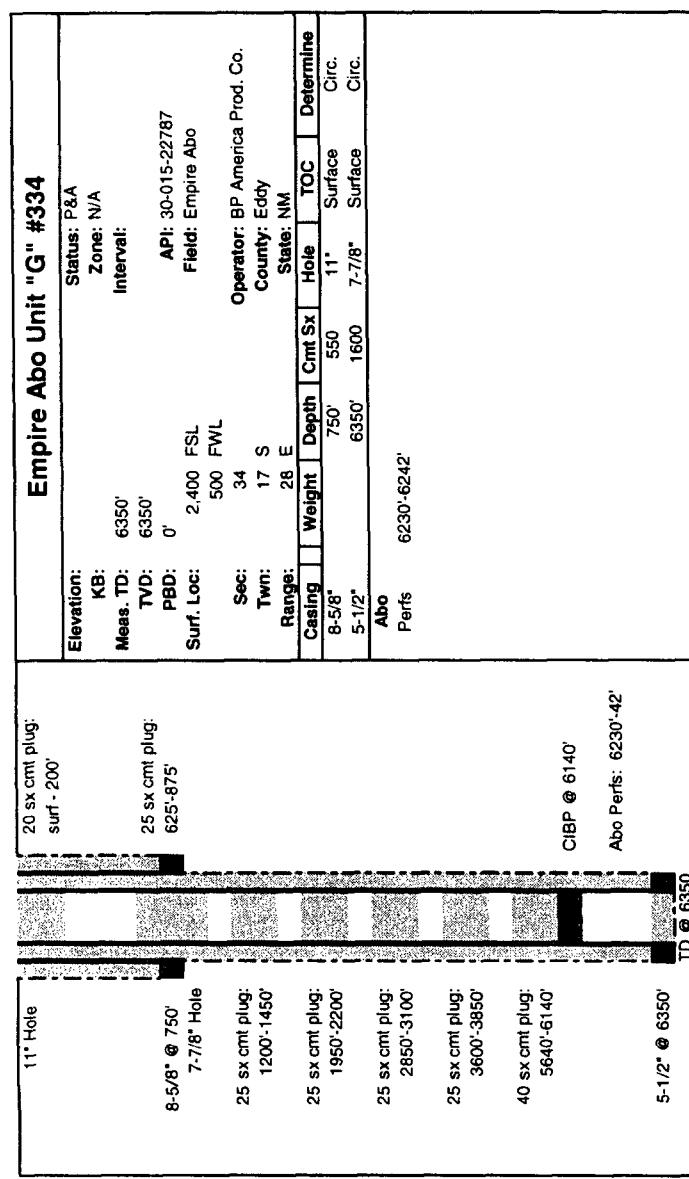
Washington "33" State # - CURRENT	
Elevation: 3665' KB: 3676' Meas. TD: 6405' TVD: 6405' PBD: 3700' Surf. Loc: 815 FSL 7-7/8" Hole	Status: Oil Producer Zone: Q-GB-SA / San Andres Interval: 1541'-3032'  API: 30-015-22605 Field: Artesia  2-7/8" tubing
Casing   Weight   Depth   Cmt Sx   Hole   TOC   Determine	8-5/8" 24# @ 778' cm'd w/ 550 sx TOC @ surf (circ)
8-5/8" 24# @ 778' cm'd w/ 550 sx TOC @ surf (circ)	Sec: 33 Town: 17 S Range: 28 E
5-1/2" 15.5# 6405'	Operator: BP America Prod. Co. County: Eddy State: NM
Q-GB-SA Perfs: 1541-2212'	12-1/4" Hole
Q-GB-SA perfs: 1541-2212'	8-5/8" 24# 778' Surface Circ. 5-1/2" 15.5# 6405' 1555' 7-7/8" 550' Temp Survey
San Andres Perfs: 2468-3032'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
San Andres perfs: 2468-3032'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
RBP @ 3700'	5-1/2" 15.5# 6405'
Yesso perfs: 3778-4082'	5-1/2" 15.5# 6405'
Additional Data:	5-1/2" 15.5# 6405'
A) This well was originally drilled as a potential Abo development well and was completed as a Yesso oil producer.	cm'd w/ 1555 sx TOC @ 550' (temp surv)
B) Potential oil / gas prod formations that OVERLY proposed injection interval:	TD @ 6405'
Formation   Depth	Formation   Depth
7-Rivers	Yesso
700'	Abo
C) Potential oil / gas prod formations that UNDERLY proposed injection interval:	TD @ 6405'
Formation   Depth	Formation   Depth
CIBP @ 6054' w/ 35' crnt	CIBP @ 6054' w/ 35' crnt
5-1/2" 15.5# @ 6405' cm'd w/ 1555 sx TOC @ 550' (temp surv)	5-1/2" 15.5# @ 6405'

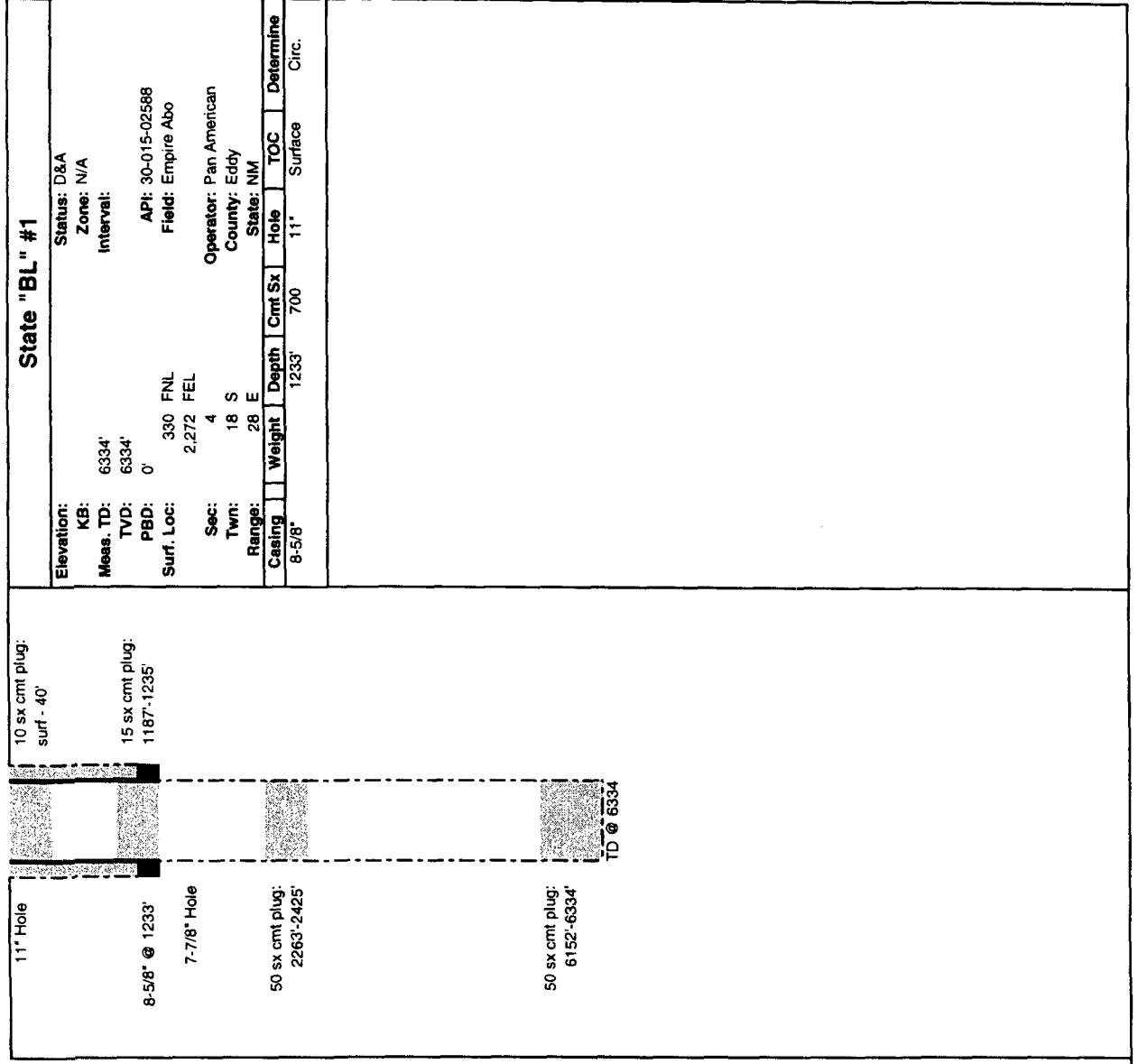
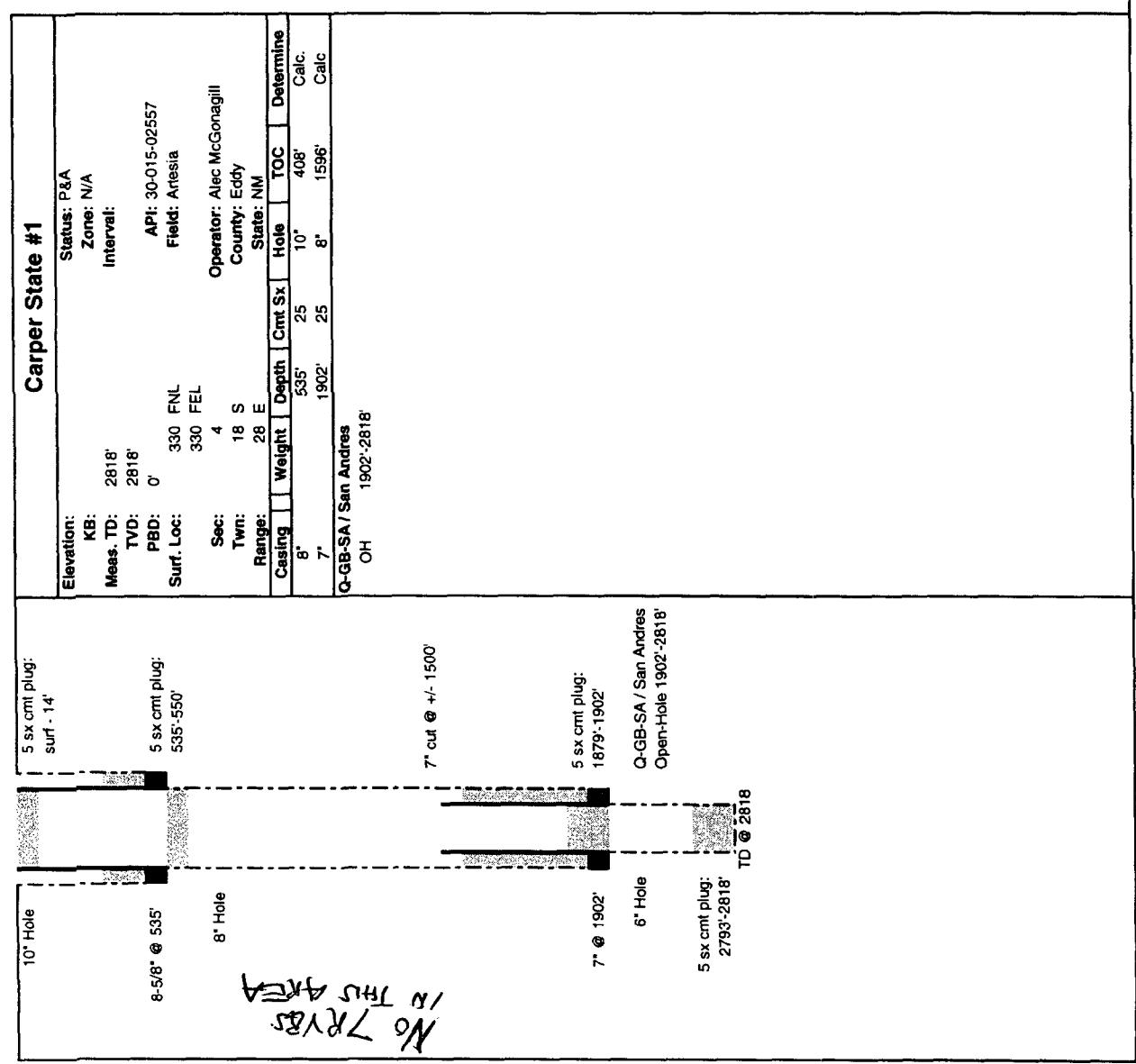
Washington "33" State # - PROPOSED	
Elevation: 3665' KB: 3676' Meas. TD: 6405' TVD: 6405' PBD: 3700' Surf. Loc: 815 FSL 7-7/8" Hole	Status: WI Zone: Q-GB-SA / San Andres Interval: 1541'-3032'  API: 30-015-22605 Field: Artesia  2-3/8" 1PC inj tbg w/ set @ +/- 1480'
Sec: 33 Town: 17 S Range: 28 E	Sec: 33 Town: 17 S Range: 28 E
Casing   Weight   Depth   Cmt Sx   Hole   TOC   Determine	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
8-5/8" 24# 778' Surface Circ. 5-1/2" 15.5# 6405'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
Q-GB-SA Perfs: 1541-2212'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
San Andres Perfs: 2468-3032'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
San Andres perfs: 2468-3032'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
RBP @ 3700'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
Yesso perfs: 3778-4082'	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
Additional Data:	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
A) This well was originally drilled as a potential Abo development well and was completed as a Yesso oil producer.	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
B) Potential oil / gas prod formations that OVERLY proposed injection interval:	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
Formation   Depth	Formation   Depth
7-Rivers	Yesso
700'	Abo
C) Potential oil / gas prod formations that UNDERLY proposed injection interval:	2-3/8" 1PC inj tbg w/ set @ +/- 1480'
Formation   Depth	Formation   Depth
CIBP @ 6054' w/ 35' crnt	CIBP @ 6054' w/ 35' crnt
5-1/2" 15.5# @ 6405' cm'd w/ 1555 sx TOC @ 550' (temp surv)	5-1/2" 15.5# @ 6405'

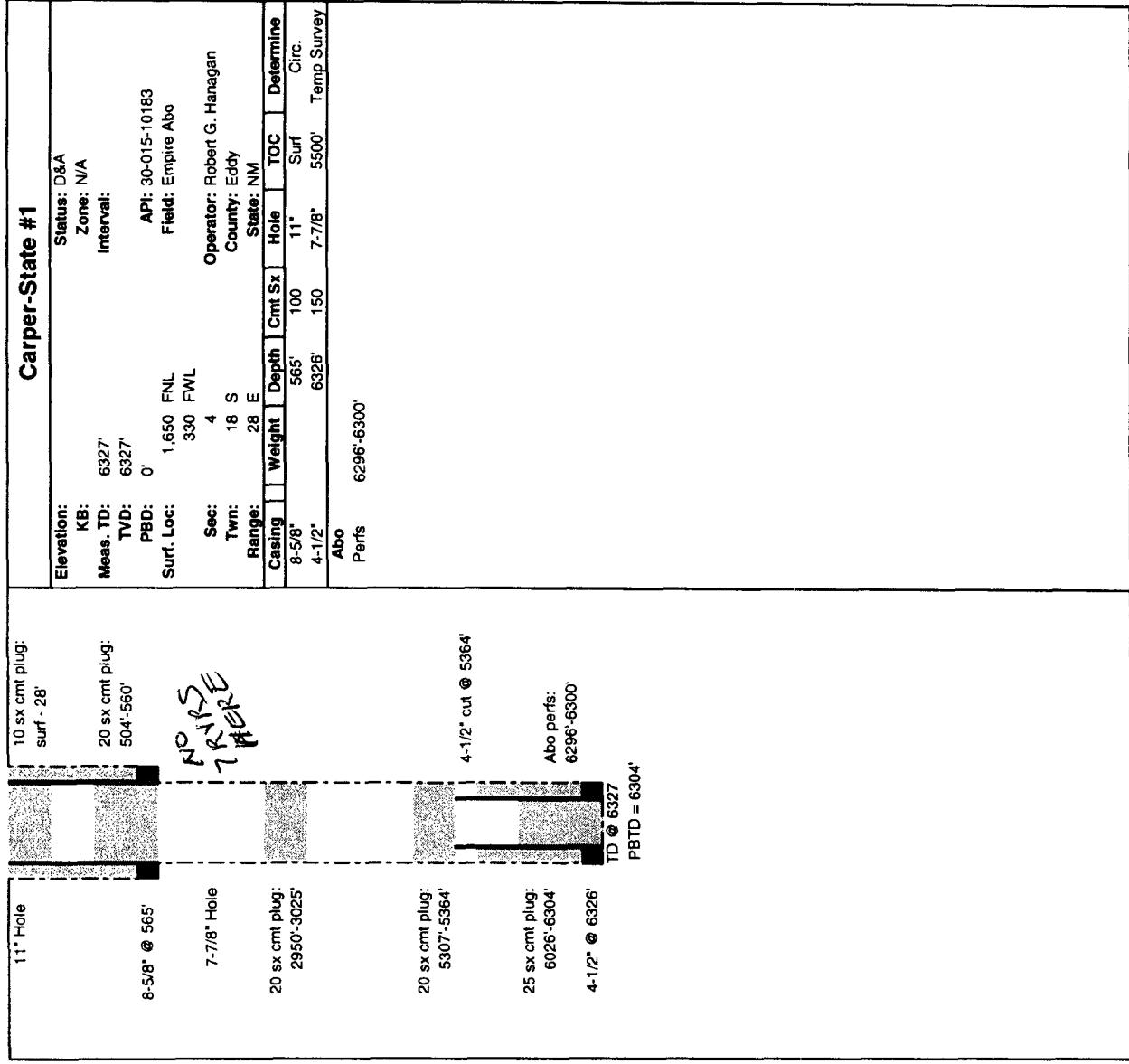
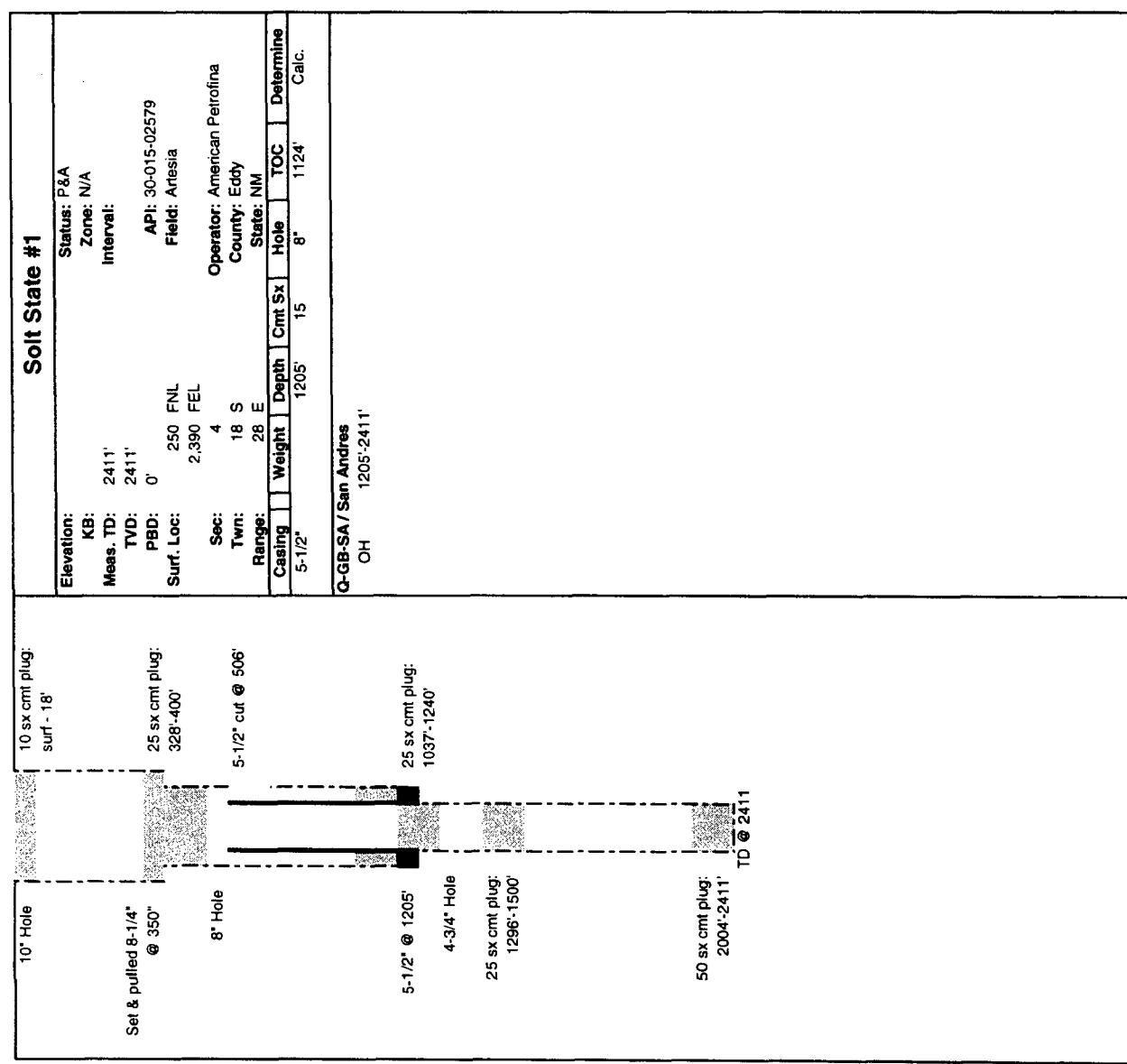


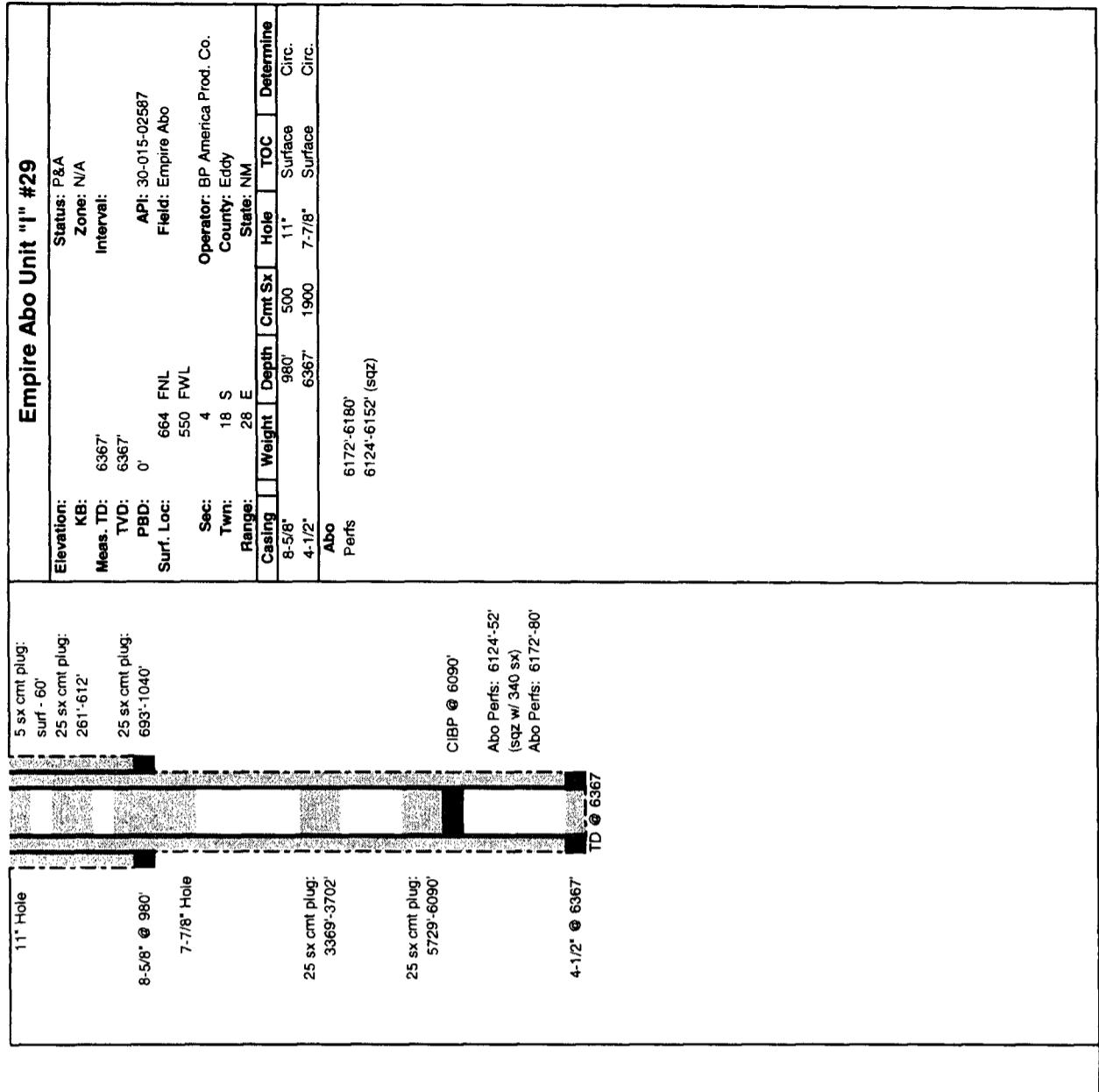
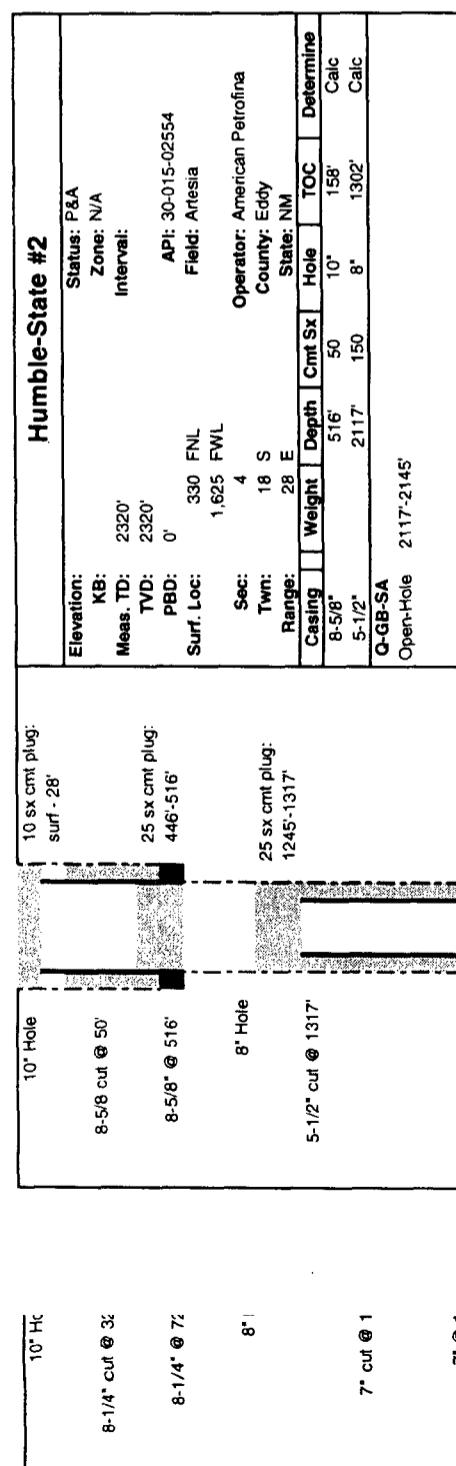


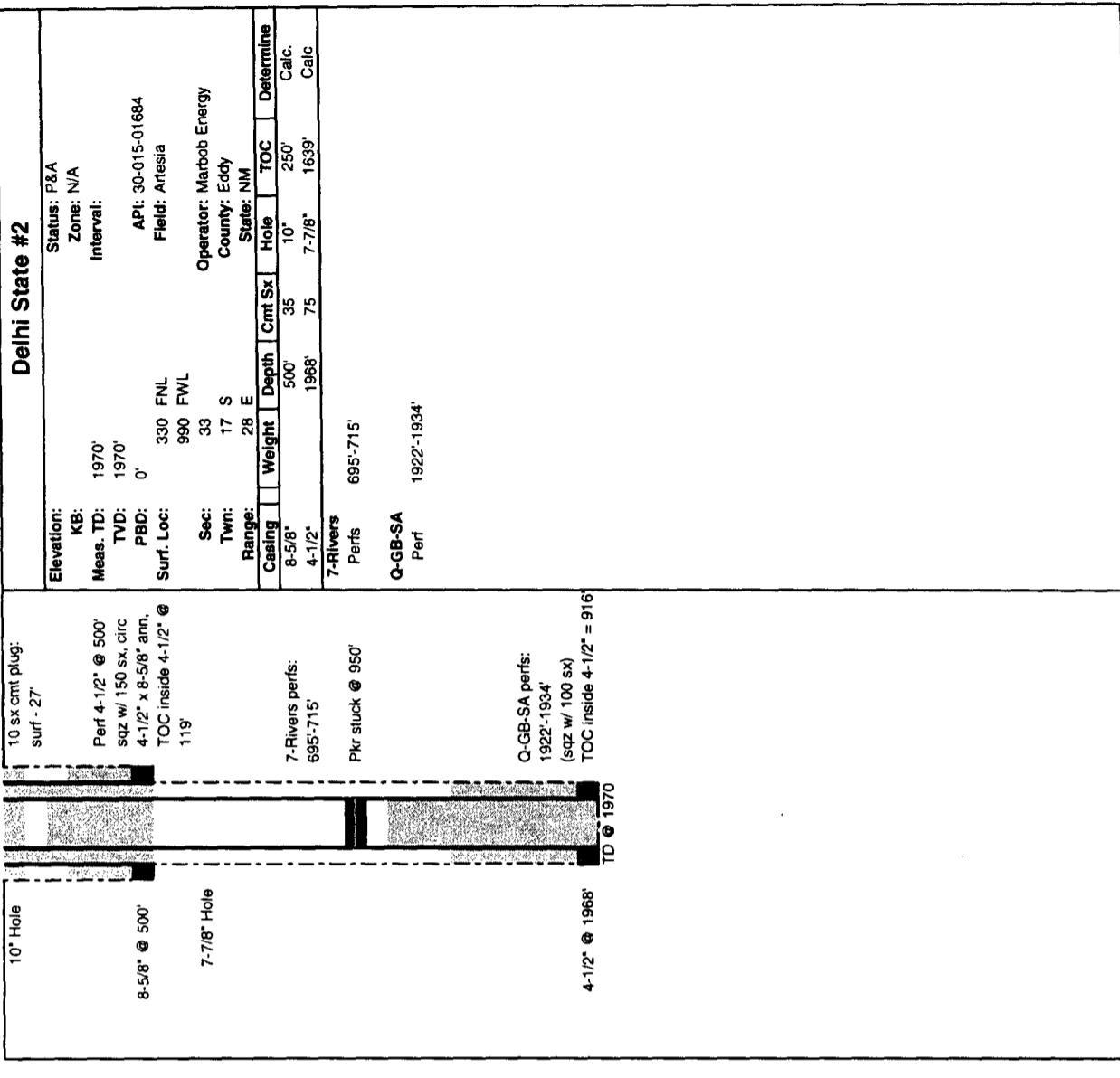
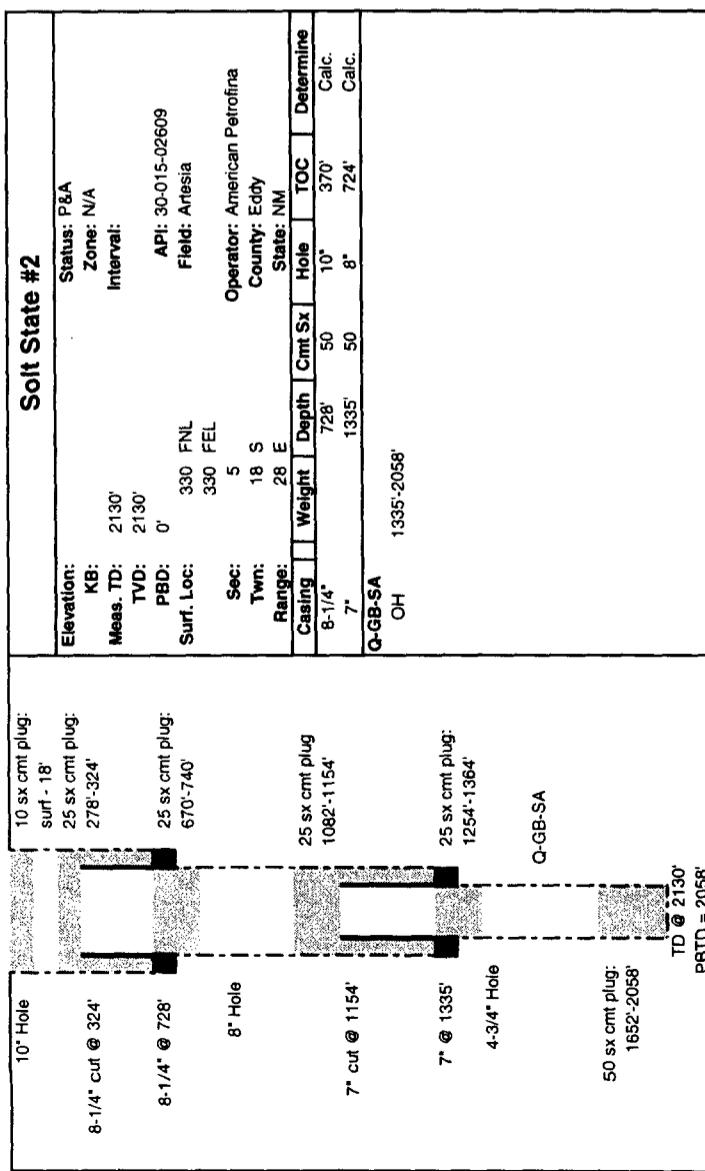


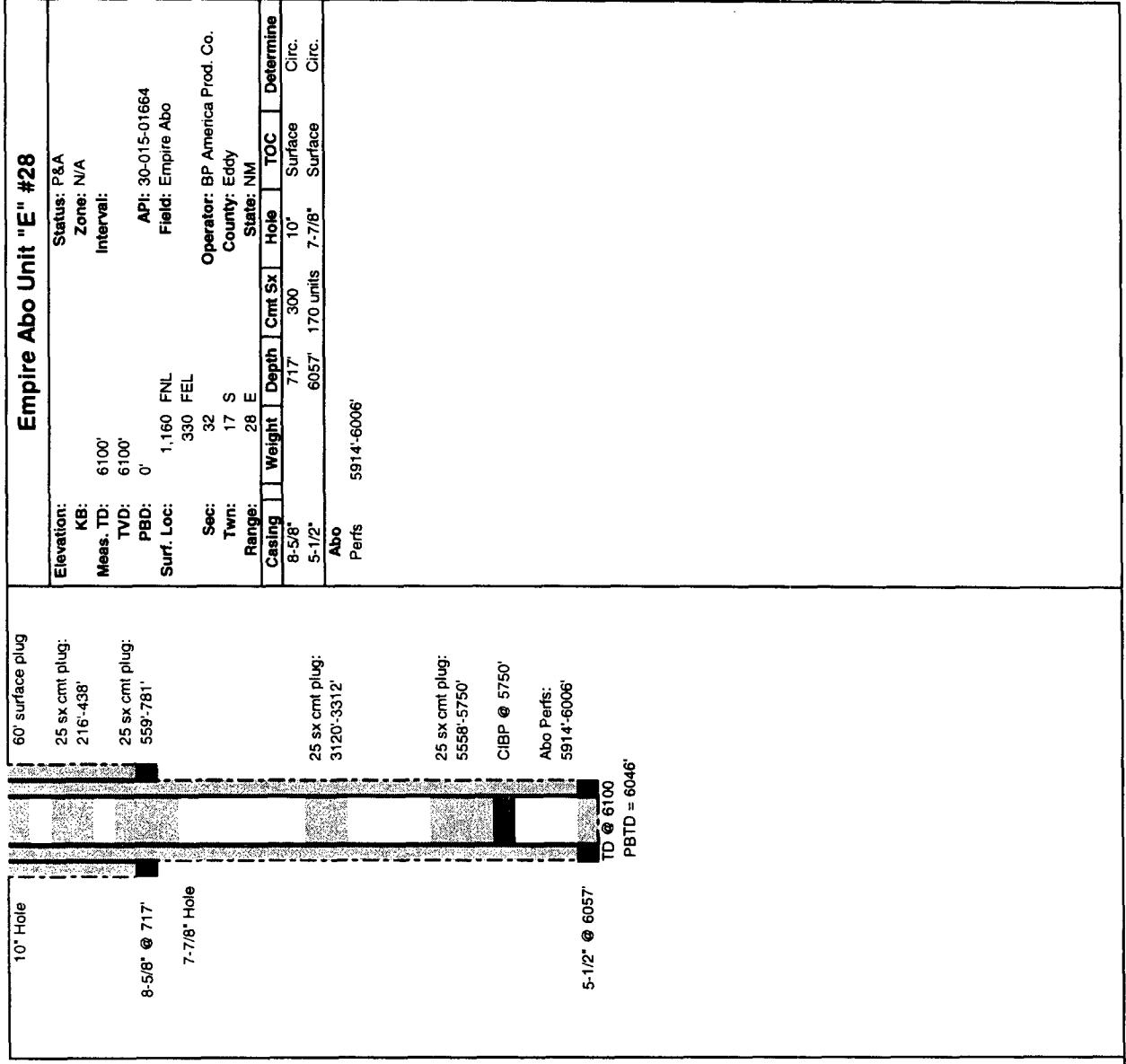
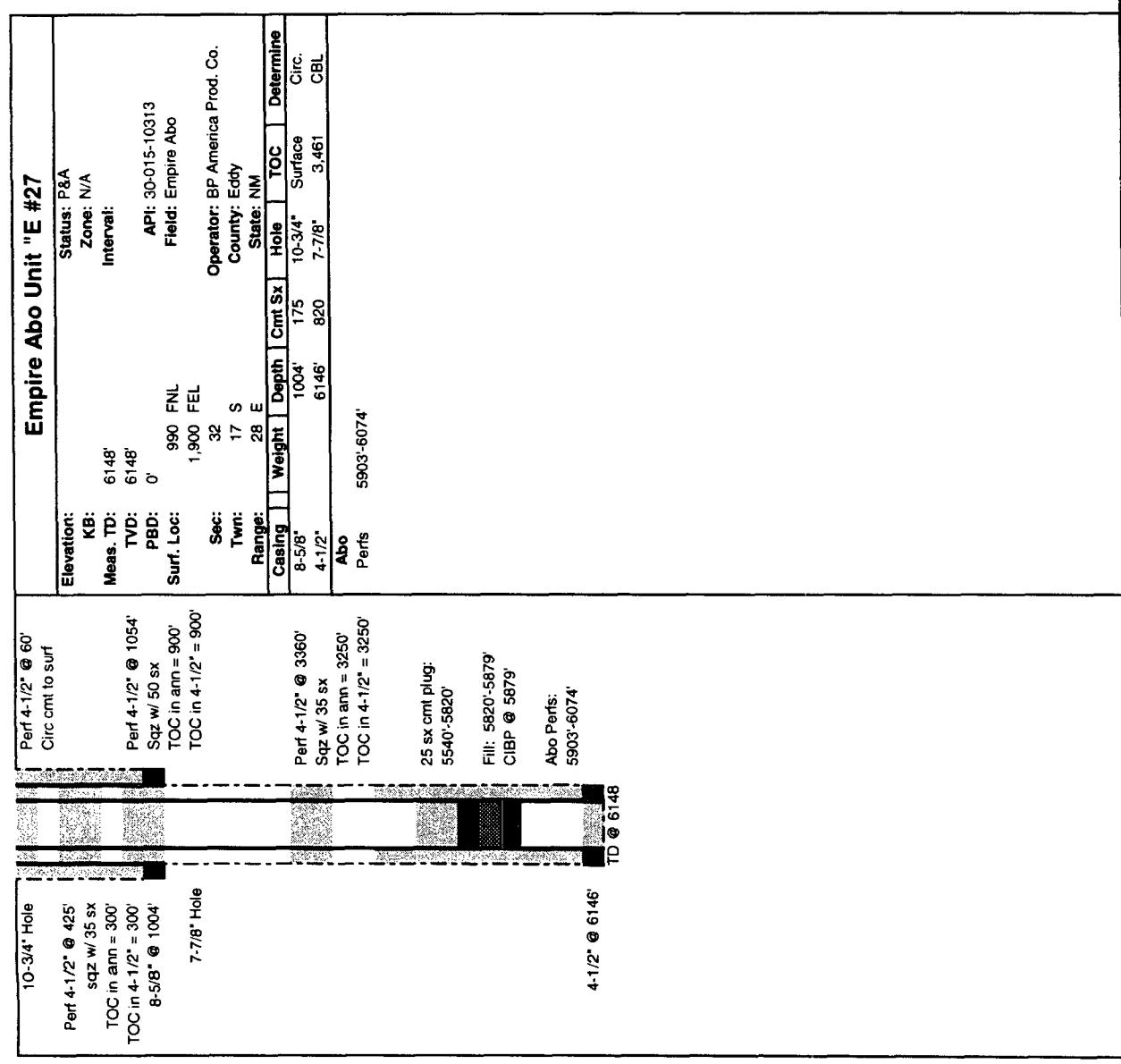


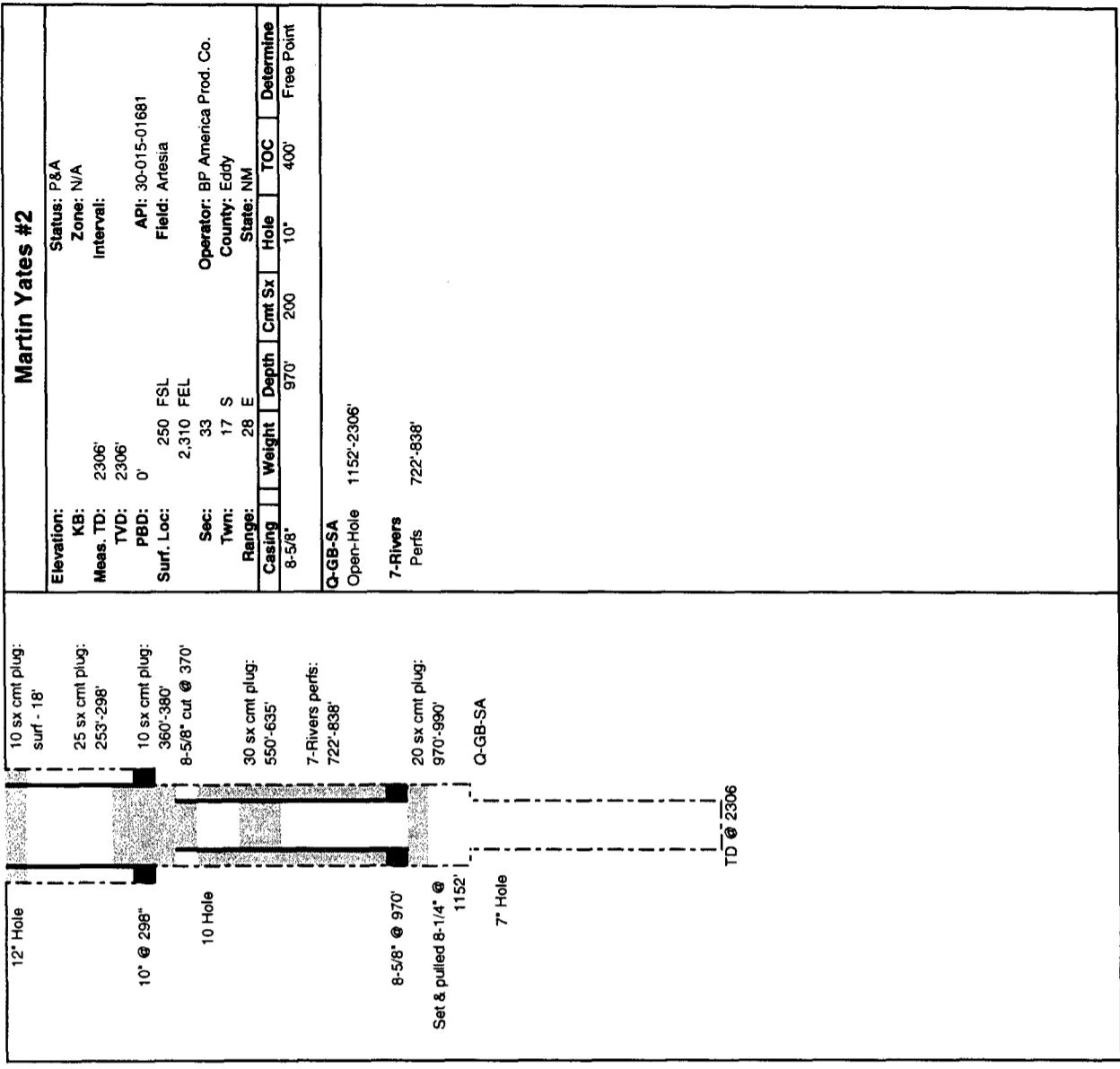
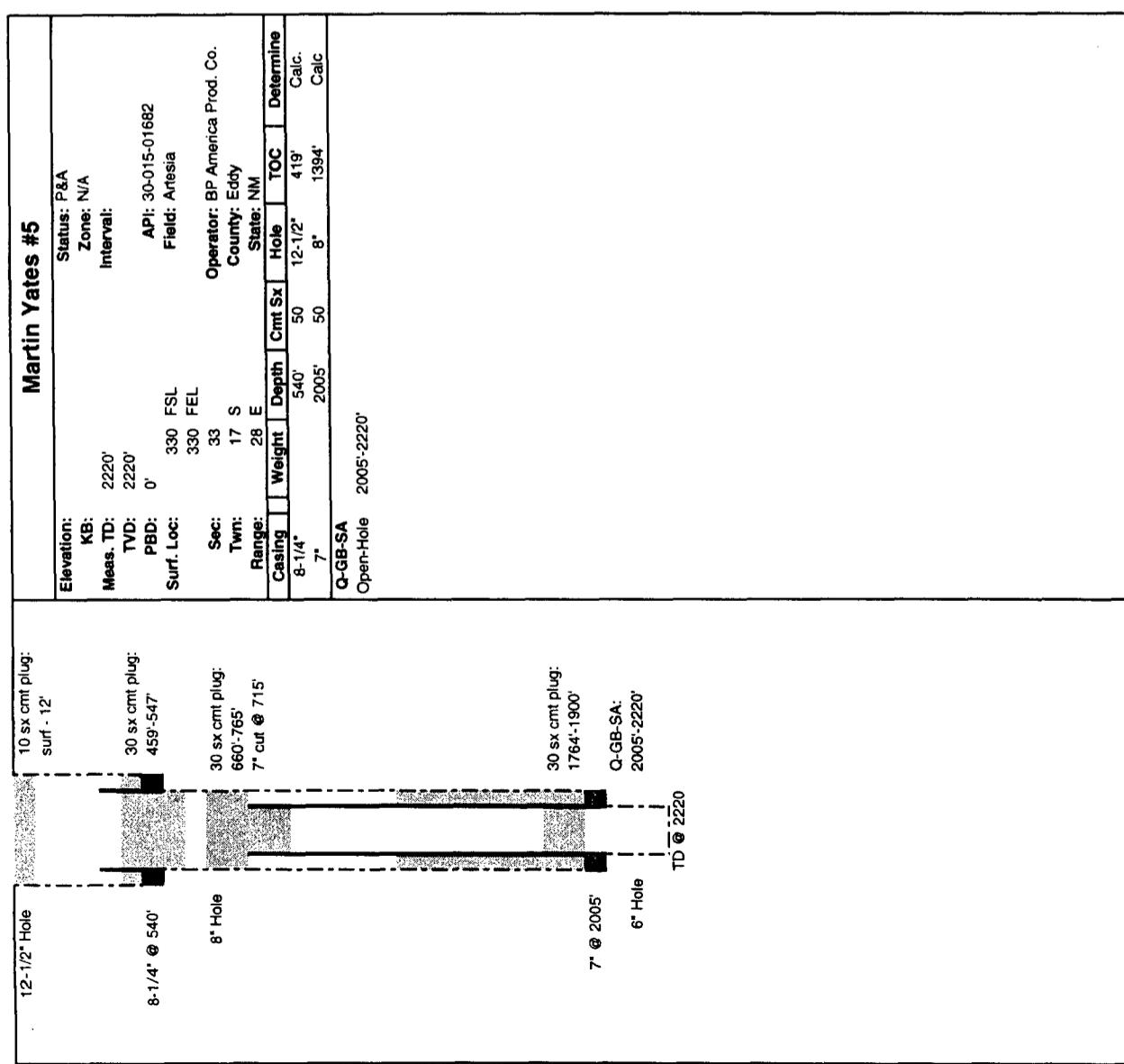


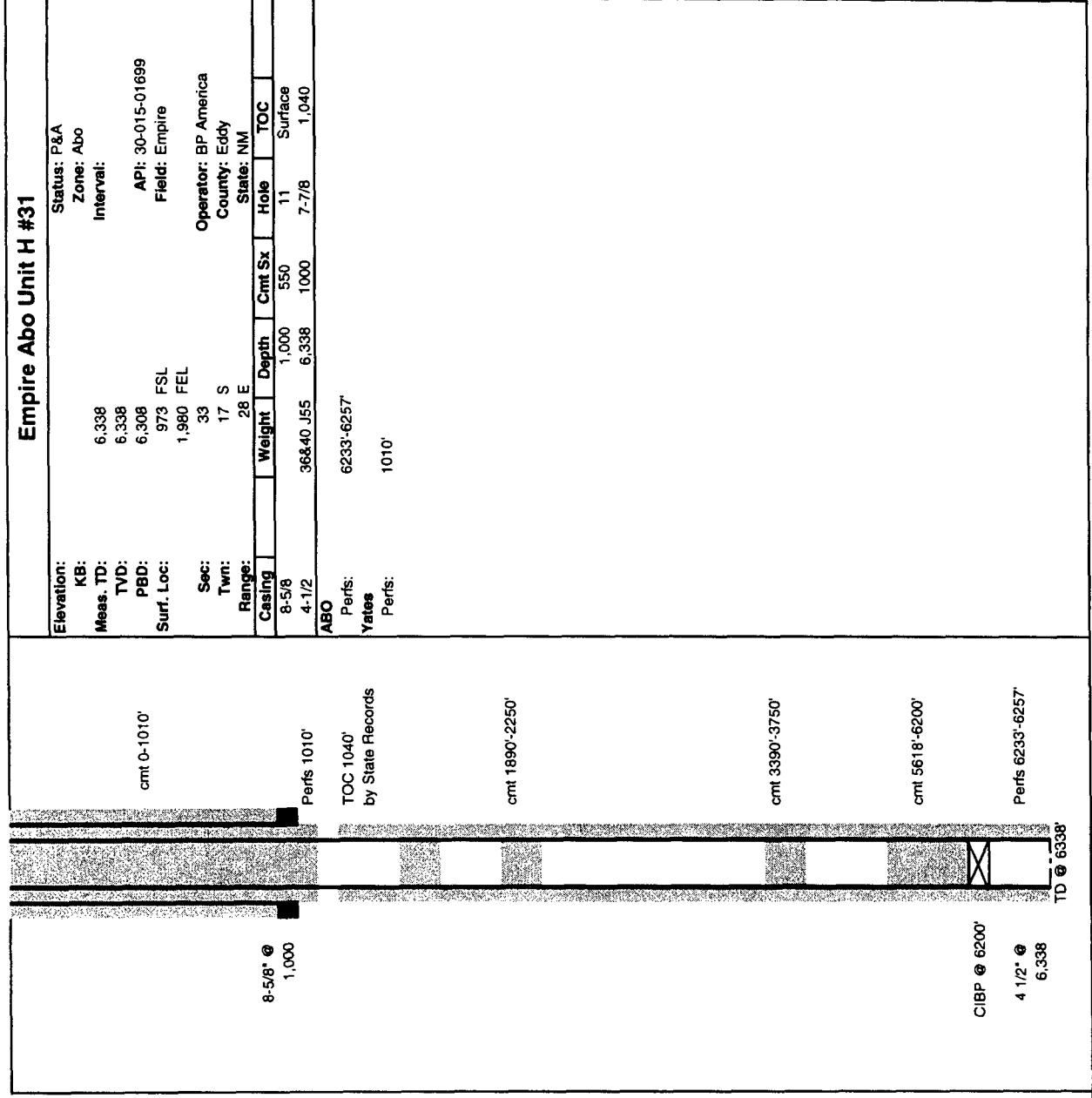
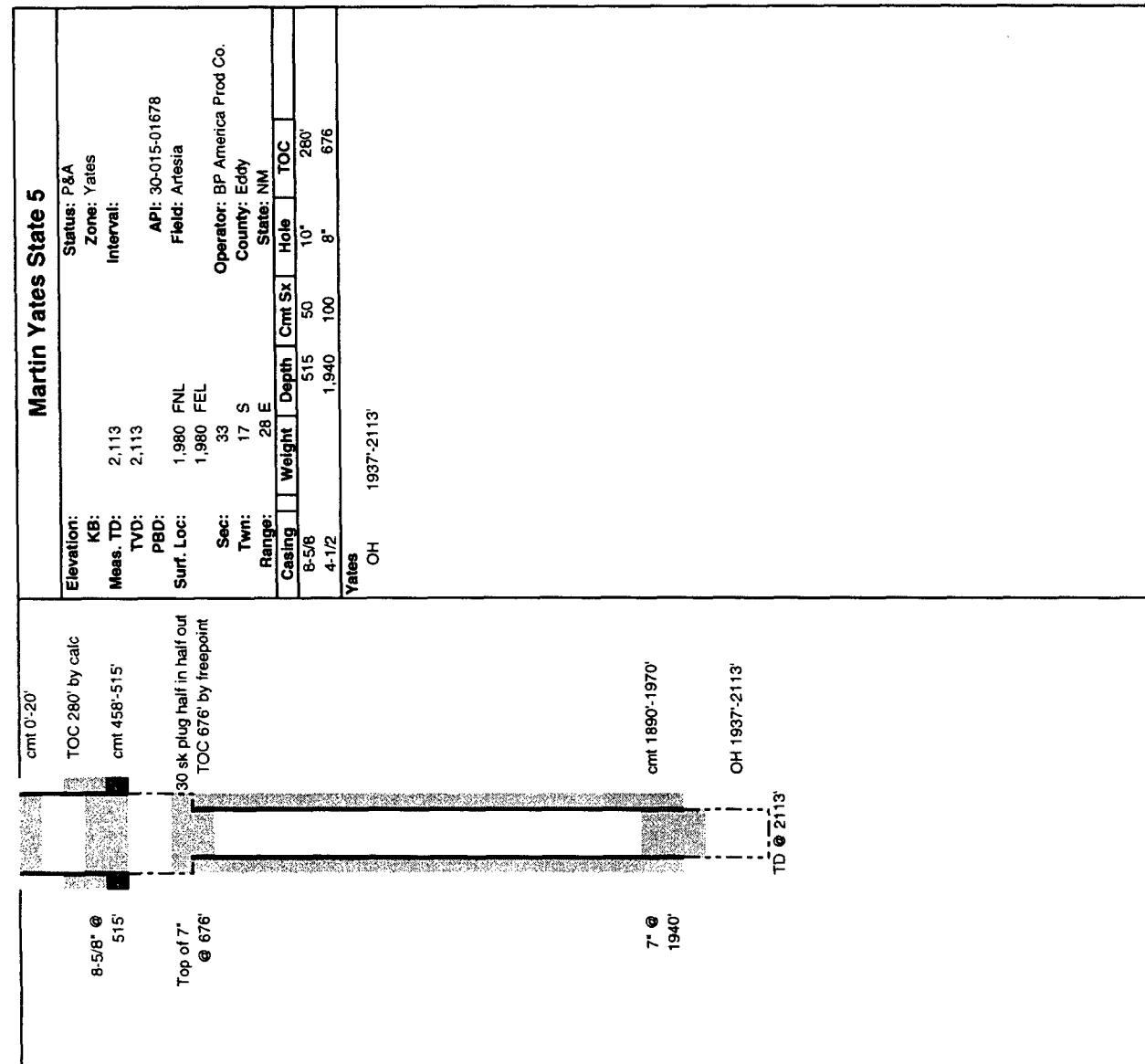


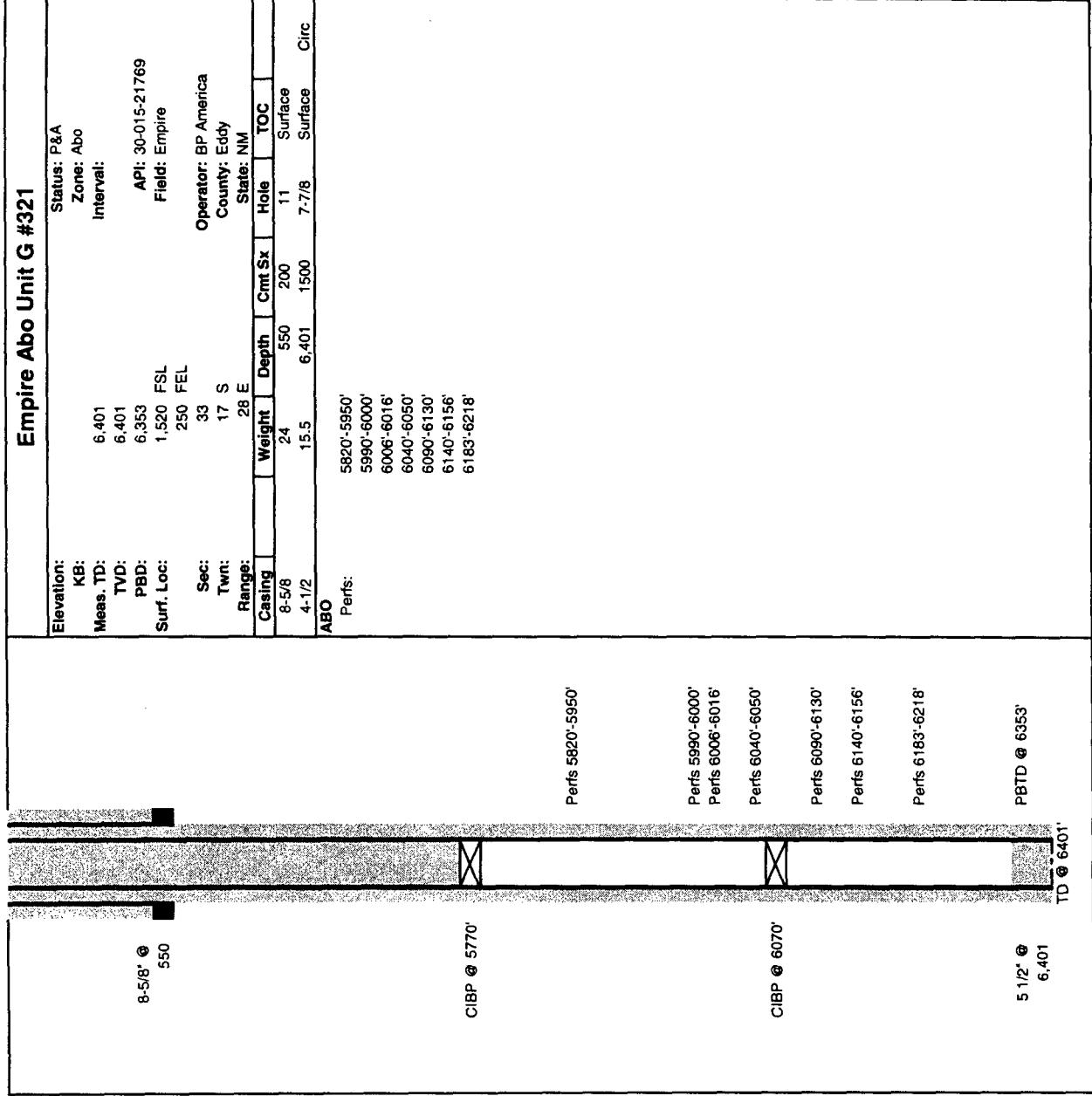
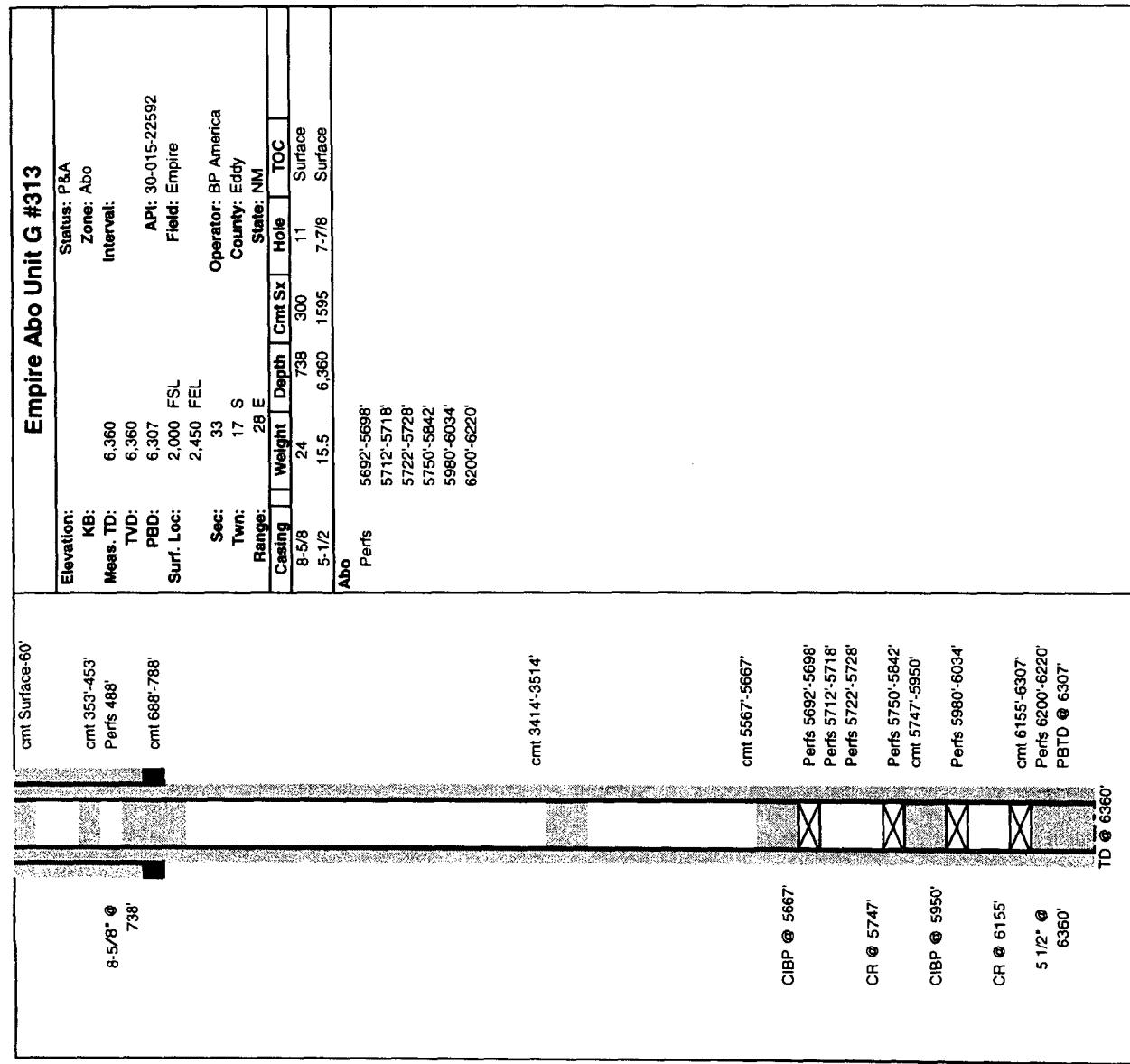


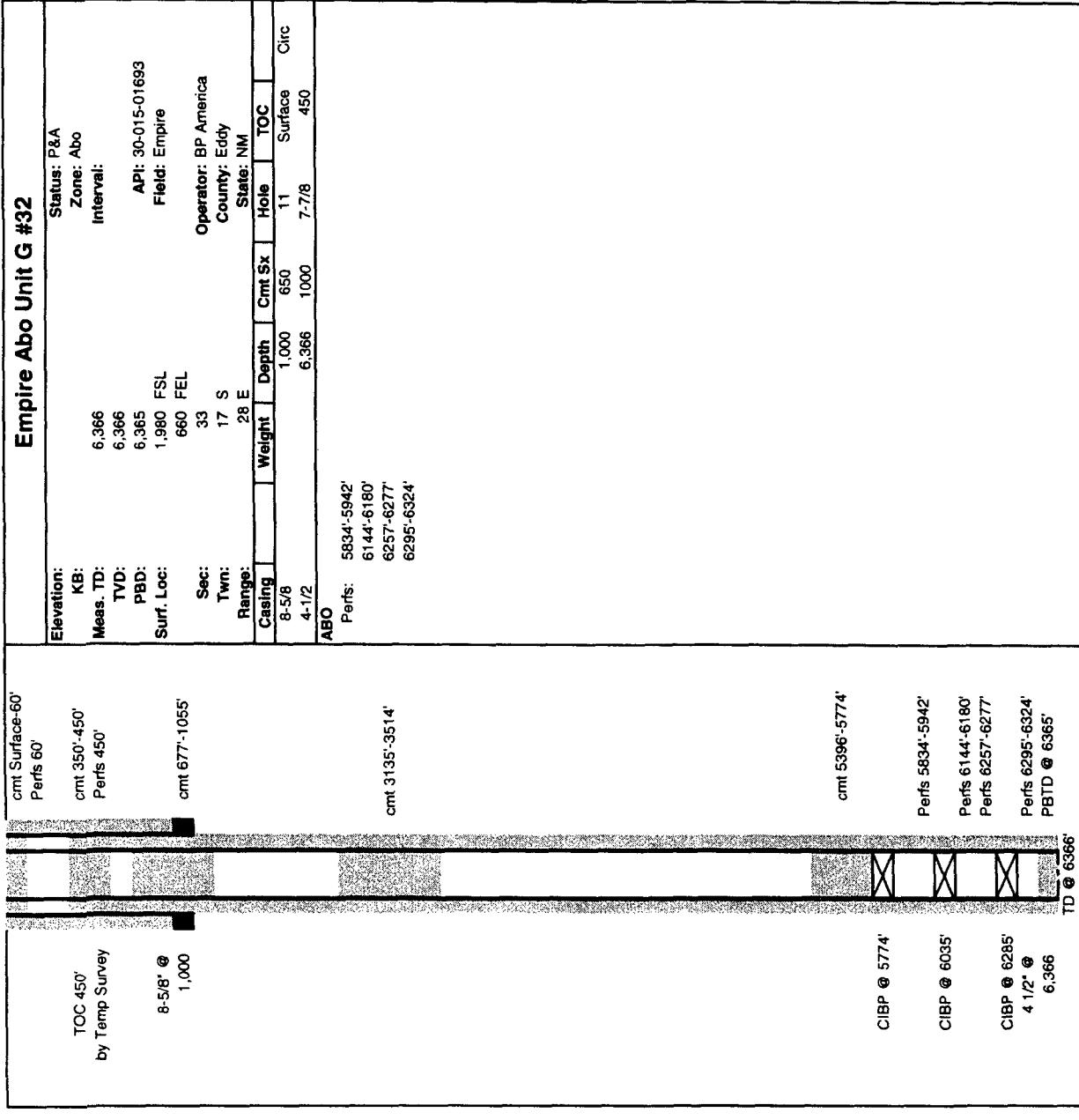
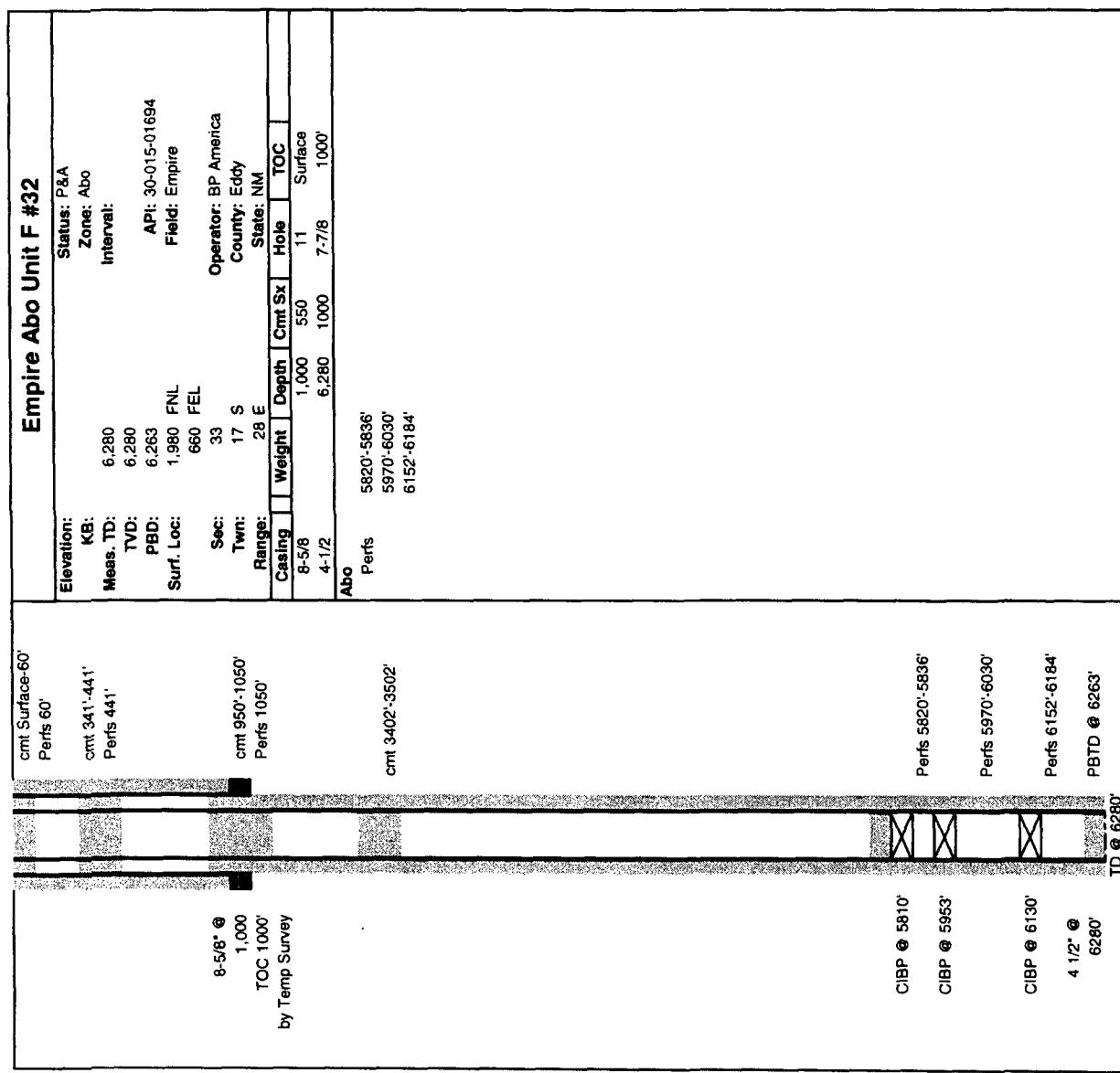






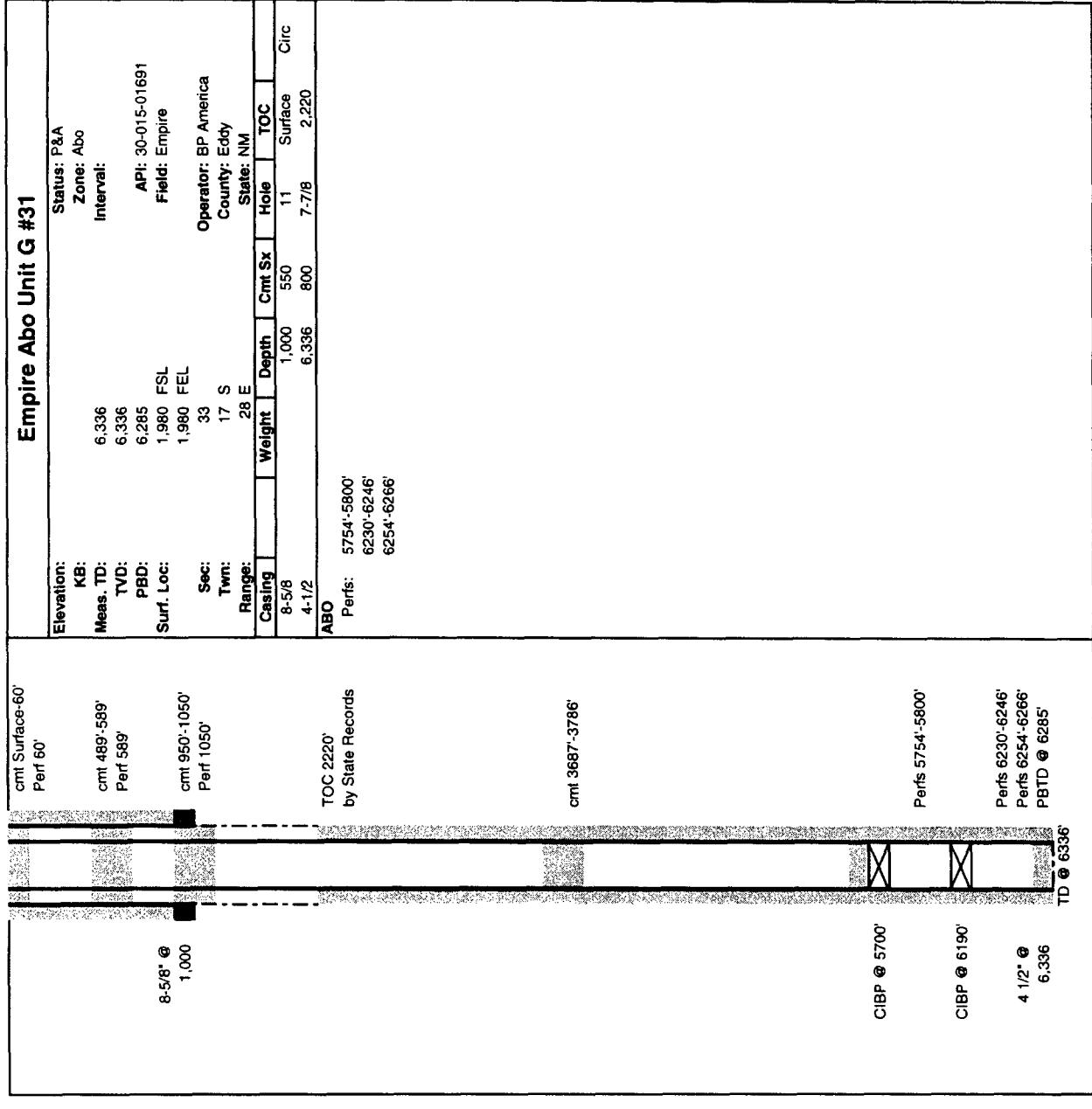
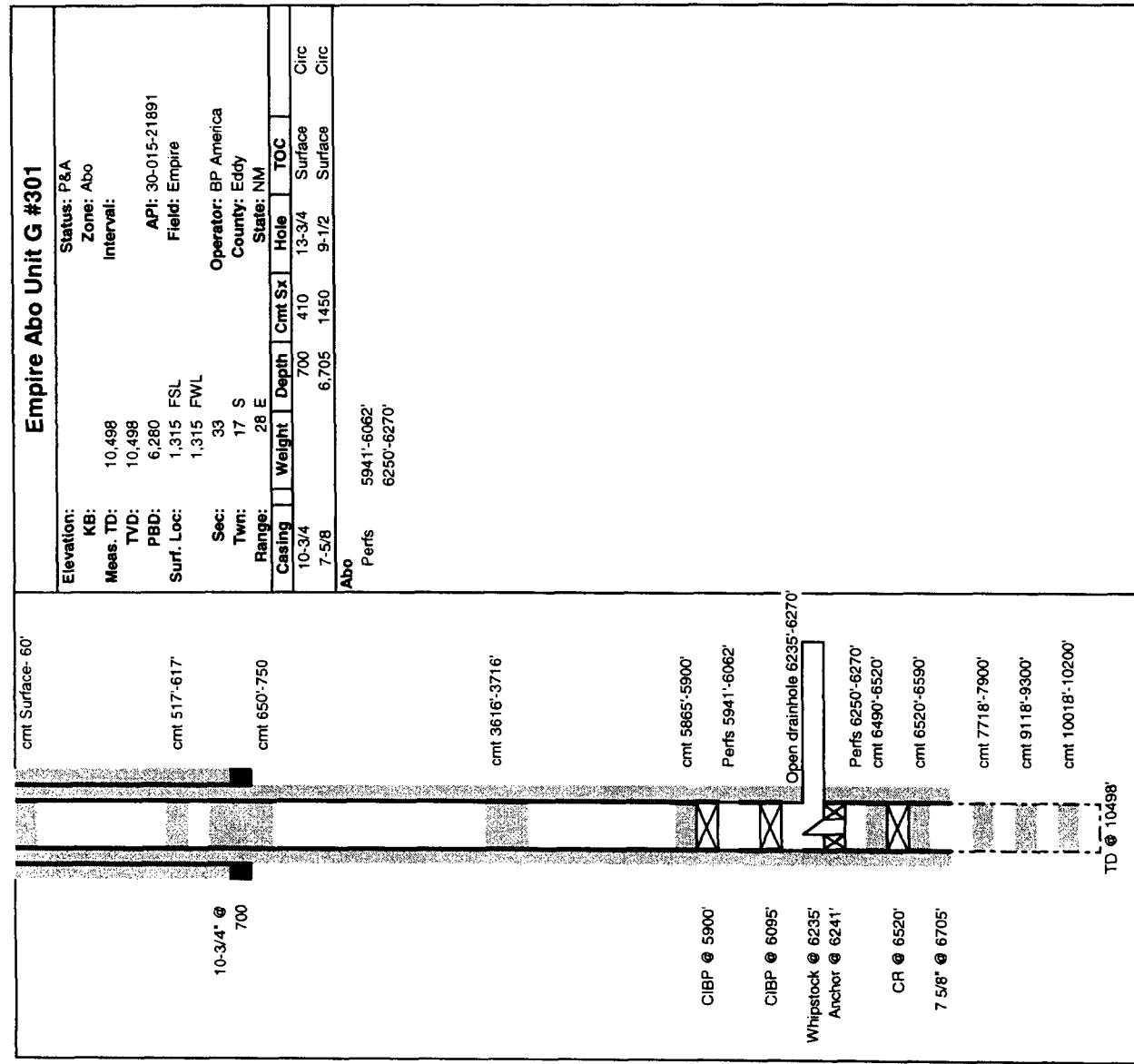


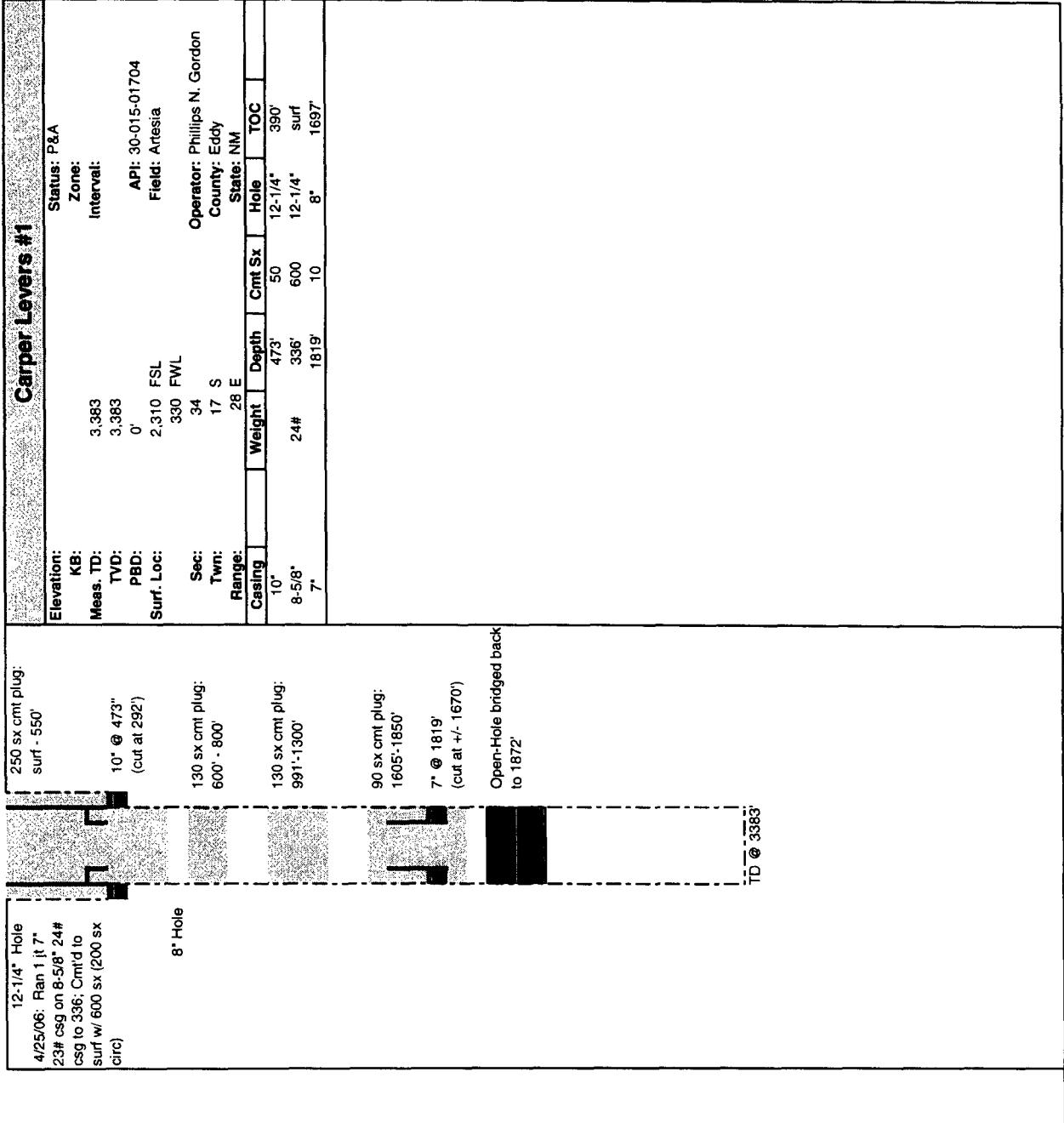
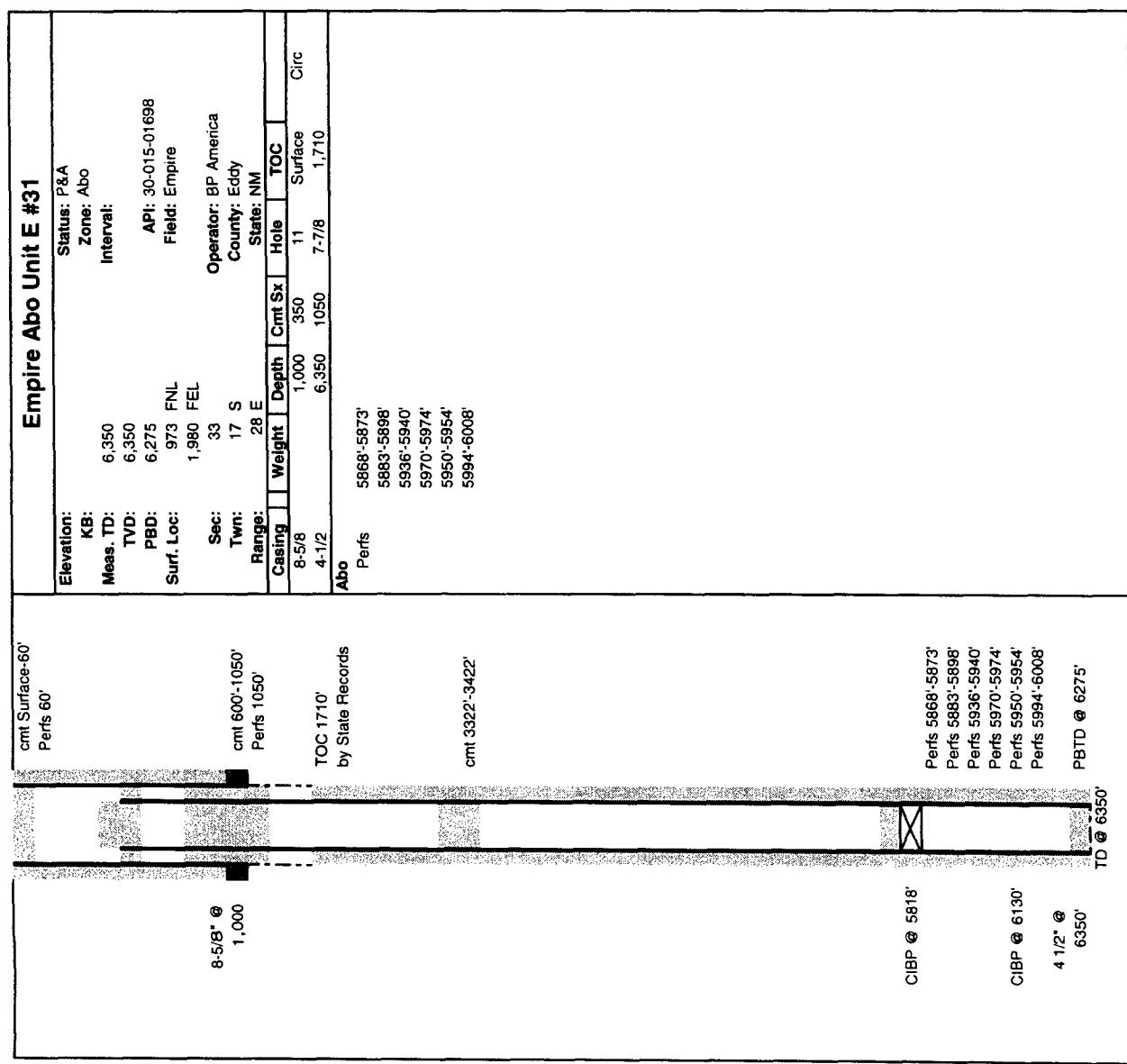


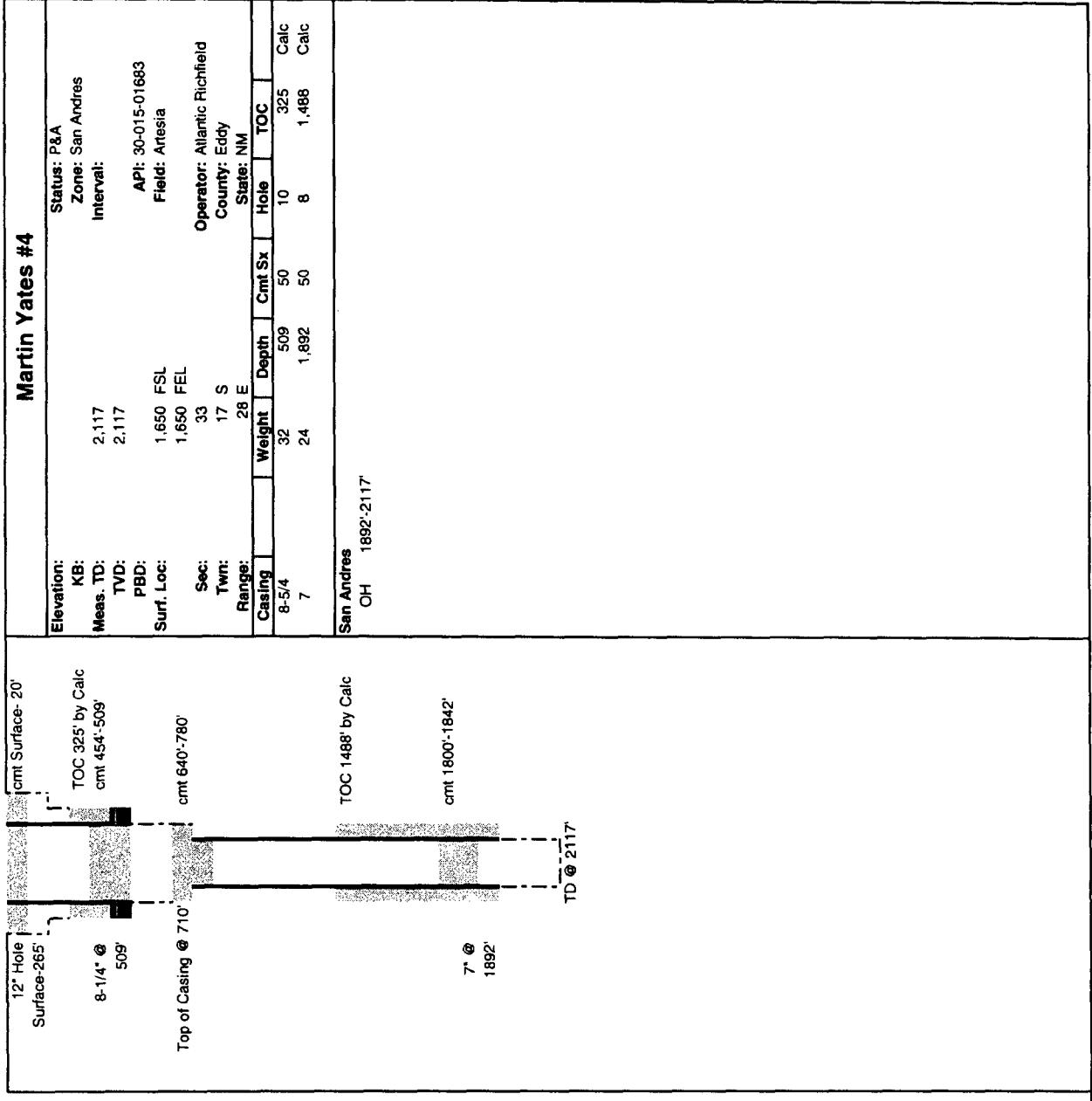
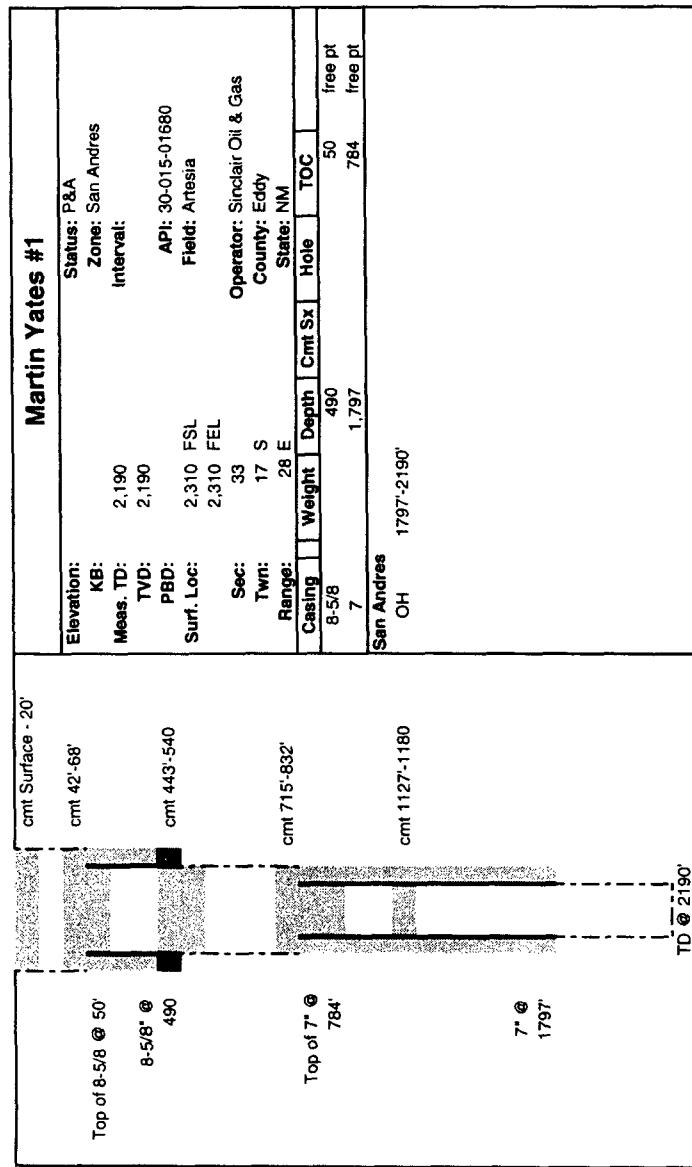


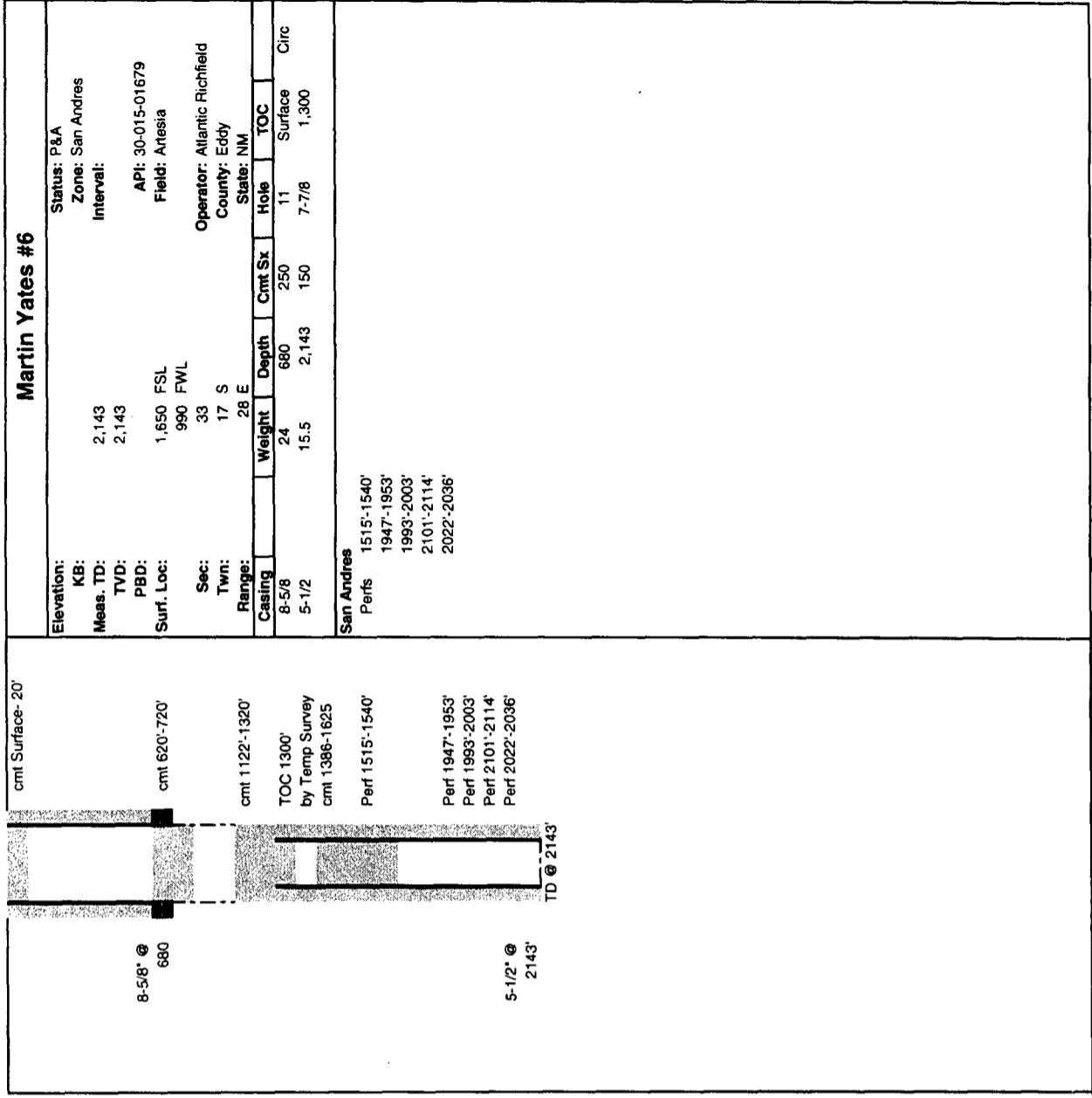
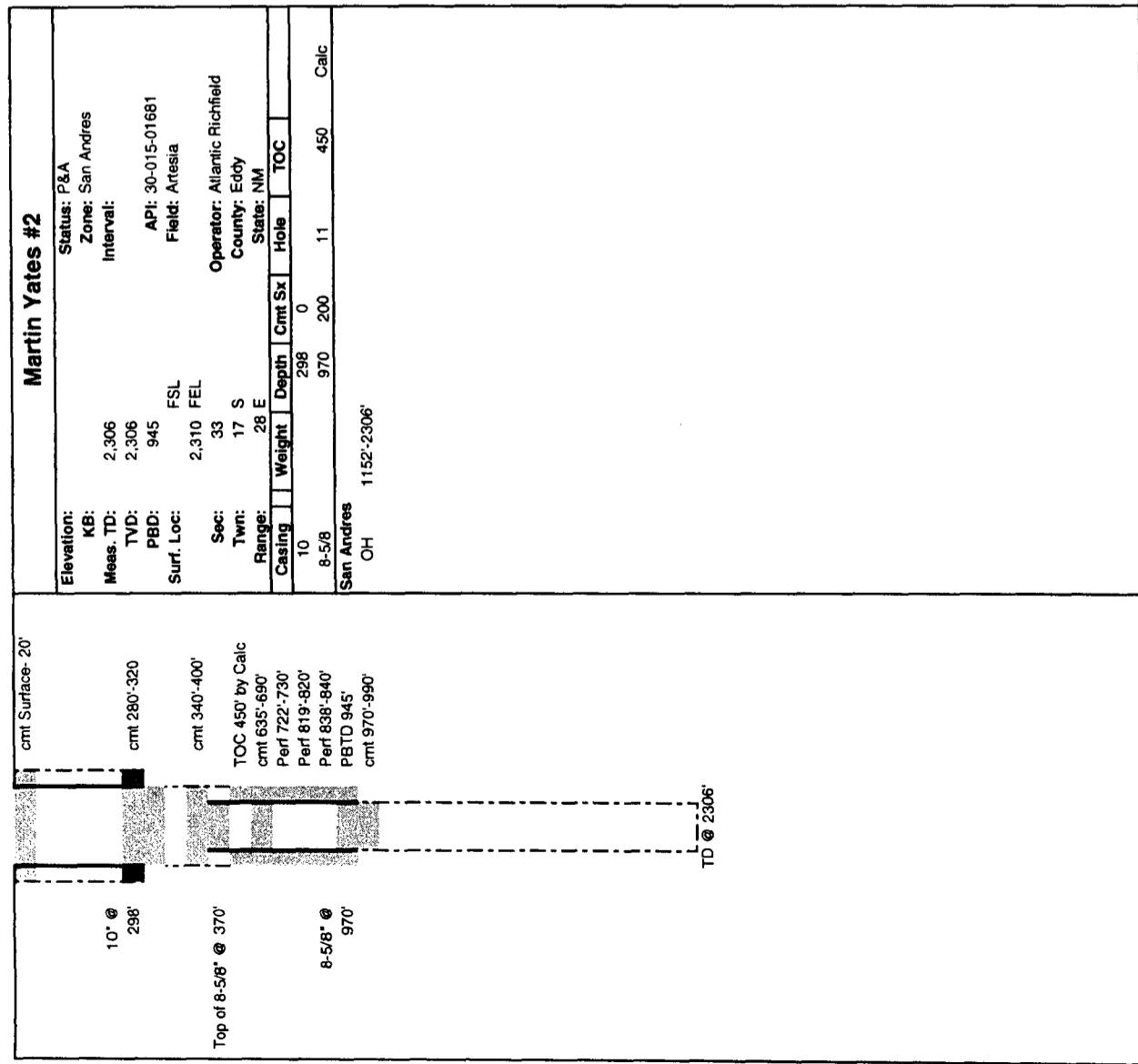
A geological cross-section diagram illustrating the locations and depths of various boreholes and test holes. The diagram shows a series of vertical lines representing boreholes, each with a label indicating its name, depth, and orientation.

- cmt Surface-80'**: Located at the top left.
- cmt 353'-453'**: Located near the top center.
- cmt 700'-800'**: Located near the top center.
- cmt 3414'-3514'**: Located in the middle center.
- Perfs 5746'-5764'**: Located in the middle right.
- cmt 5980'-6080'**: Located in the middle right.
- Perfs 6120'-6124'**: Located in the middle right.
- Perfs 6129'-6133'**: Located in the middle right.
- Perfs 6170'-6190'**: Located in the middle right.
- PBTD @ 6248'**: Located in the middle right.
- TD @ 6298'**: Located in the middle right.
- CR @ 6150'**: Located in the middle right.
- CIBP @ 6080'**: Located in the middle right.
- CIBP @ 5690'**: Located in the middle right.
- 8-5/8" @ 750**: Located at the bottom left.









BP America Production Company  
Washington "33" State Waterflood Project  
NMOCID Form C-108: Application for Authorization to Inject  
Item VI: Plugged and Abandoned Well Schematics

**Well #1**

<b>Delhi State #1</b>						
Elevation:	Status: P&A					
KB:	Zone: Seven Rivers					
Mess. TD:	863	Interval: Seven Rivers				
TVD:	863	API: 30-015-01676				
PBD:		Field: Empire				
Surf. Loc:	990 FNL	Operator: Beal Operating Co.				
	990 FWL					
Sec:	33					
Twn:	17 S					
Range:	28 E					
Casing	Weight	Depth	Cmtn Sz	Hole	TOC	
4-1/2"		863	250	8	surface	
<b>Seven Rivers</b>						
Perf	691-696'					
	704-708'					
	713-717'					
	726-730'					

cmt Surface- 10'

TD @ 863'

4-1/2" @ 863'

cmtn 691-730'  
Perf 691-730'

Elevation:	Status:		
KB:	Zone:		
Mtrs. TD:	Interval:		
TVD:	API:		
PBD:	Field:		
Surf. Loc:	Operator:		
	County:		
	State:		
FNL	S		
FWL	E		
Sec:	Weight	Depth	Cmt Sx
Twn:			Hole
Range:			TOC
Casing			

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**NMOCD Form C-108: Application for Authorization to Inject**  
**Plugged and Abandoned Wells in Area of Review**  
**(Wells with Missing Well Data)**

LEASE	WELL	API	OPERATOR	SURFACE LOCATION	Fluid TYPE	SPUD	HOLE (in)	CASING STRINGS	SETTING DEPTH (ft)	CMT VOL (sx)	TOC (ft)	TOC MEAS	TD	PBTD (ft)	COMPLETED ZONE	PERFS	
State P&A / MISSING DATA	1	30-015-01593	Weich E.P.	250 FSL & 250 FWL Sec 27-T17S-R28E	N/A	10/31/29	N/A	10"	340	N/A	N/A	N/A	2512	N/A	N/A	N/A	N/A
Delhi State (Formerly Tigner State #2) P&A / MISSING DATA	1	30-015-01601	Kennedy Oil Co.	990 FSL & 1570 FWL Sec 28-T17S-R28E	Oil	9/5/26	N/A	10	651	N/A	N/A	N/A	2905	N/A	Q-GB-SA	1135-2905	
Tigner State P&A / MISSING DATA	1	30-015-01600	Navajo Oil Co.	1650 FSL & 390 FWL Sec 28-T17S-R28E	Oil	2/27/26	N/A	12-1/2"	448	N/A	N/A	N/A	2193	N/A	Q-GB-SA	1700-2193	
Thompson P&A / MISSING DATA	1	30-015-02599	Workman Etal.	1070 FNL & 250 FEL Sec 5-T18S-R28E	N/A	6/14/25	N/A	12-1/2"	200	N/A	N/A	N/A	2340	N/A	N/A	N/A	
Fry-State P&A / MISSING DATA	1	30-015-02558	Bixby Etal	1070 FNL & 1570 FWL Sec 4-T18S-R28E	N/A	5/1/25	N/A	6-5/8"	2325	N/A	N/A	N/A	2325	N/A	Q-GB-SA	2159-2311	

**BP America Production Company  
Washington "33" State Waterflood Project  
NMOCD Form C-108  
Application for Authorization to Inject**

**AFFIDAVIT**

**Harris County, Texas**

**BEFORE ME**, the undersigned Notary, Suzanne Jones, on this 17th day of May, 2006, personally appeared Karl Quezerque, known to me to be a credible person and of lawful age, who being by me first duly sworn, on his oath, deposes and says:

A notice and copy of BP America Production Company's NMOCD Form C-108, Application for Authorization to Inject, to convert six wells to water injection in the Washington "33" State Lease, was mailed to the interested parties (land owners and leasehold operators within the one-half mile radius Area of Review(s) for the six proposed water injection wells) shown on the attached sheet in accordance with New Mexico Oil Conservation Division Rules. A true and correct copy of the notice letter is attached.

Karl Quezerque  
[signature of affiant]

Karl Quezerque

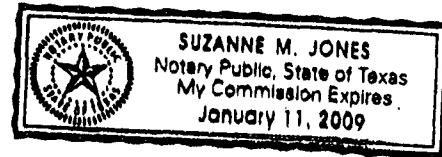
501 Westlake Park Blvd., Room 6.182  
Houston, TX 77079

Subscribed and sworn to before me, this 17<sup>th</sup> day of May 2006.

[Notary Seal:]



Suzanne M. Jones  
*[signature of Notary]*



Suzanne Jones  
*[typed name of Notary]*

NOTARY PUBLIC

My commission expires: 1-11, 2009.

**BP America Production Company  
Washington "33" State Waterflood Project  
NMOCD Form C-108  
Application for Authorization to Inject  
Artesia Field, Eddy County, New Mexico**

**Offset Operators**

Hanson Energy  
R342  
S. Haldeman Road  
Artesia, NM 88210

Marbob Energy  
2208 W. Main Street  
Artesia, NM 88210

Dominion Oklahoma Texas Exploration  
14000 Quail Springs Parkway  
Suite 600  
Oklahoma City, Ok. 73134

Devon Energy Production Company  
20 North Broadway  
Suite 1500  
Oklahoma City, Ok 73102

Mack Energy Corporation  
11352 Lovington Highway  
Artesia, NM 88210

Melrose Resources  
5813 NW Grand Blvd.  
Suite "B"  
Oklahoma City, OK 73118

Edge Petroleum Corporation  
1301 Travis Street  
Suite 2000  
Houston, TX 77002

SDX Resources Incorporated  
511 W. Ohio Street  
Suite 601  
Midland, TX 79701

Mewbourne Oil Company  
3901 S. Broadway  
Tyler, TX 75701

Jackie Brewer  
HC-60  
Lovington, NM 88260

**Land Owners**

Bogle Ltd.  
7331 Cherokee Road  
Dexter, NM 88230

State of New Mexico  
Commissioner of Public Lands  
310 Old Santa Fe Trail  
Santa Fe, NM 87501



**BP America Production Company**  
Mid-Con Performance Unit  
Permian SENM / N. TX Resource Area  
Permian 501 Westlake Park Blvd.  
Houston, TX 77079

Phone: 281-366-2000

May 17, 2006

**VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

**LAND OWNERS  
OFFSET OPERATORS**  
(List Attached)

**Re: BP America Production Company's NMOCD Form C-108 (Application for Authorization to Inject) for the proposed Washington "33" State Waterflood Project, Artesia Field, Eddy County, New Mexico**

Ladies and Gentlemen:

This letter is to advise you that BP America Production Company is in the process of filing the enclosed C-108 application with the New Mexico Oil Conservation Division seeking authorization to convert six wells to water injection for the purpose of waterflooding productive members of the Q-GB-SA and San Andres formations for the secondary recovery of oil and gas reserves. The six wells that will be converted to water injection are the Washington "33" State #2, #6, #8, #16, #23, and #27. The source of injection water will be produced water from SDX Resources operated North West Artesia Unit, produced water from the Washington "33" State lease, and produced water from the BP America Production Company operated Empire Abo Unit.

This application follows BP America's application to convert the Washington "33" State #12 to water injection in the Q-GB-SA and San Andres formations. The C-108 application was approved administratively on June 22, 2005 via NMOCD Order SWD-988.

The proposed initial maximum injection pressure is .2 psi/ft x depth to the top perforation of each injection well. The calculated initial maximum injection pressures for the six wells vary from 273 to 308 psig. The proposed maximum daily injection rate per well is 2000 bwpd. The average daily injection rate is expected to be 500 bwpd.

If you have any questions regarding this application, you may contact me at 281-366-4343 or at BP America Production Company, 501 Westlake Park Blvd., Office 6.182, Houston, TX 77079.

Sincerely,



Karl Quezergue  
Projects Engineer – SENM & N. TX  
BP America Production Company

Attachments

**BP America Production Company  
Washington "33" State Waterflood Project  
NMOCD Form C-108  
Application for Authorization to Inject  
Artesia Field, Eddy County, New Mexico**

**Offset Operators**

Hanson Energy  
R342  
S. Haldeman Road  
Artesia, NM 88210

Marbob Energy  
2208 W. Main Street  
Artesia, NM 88210

Dominion Oklahoma Texas Exploration  
14000 Quail Springs Parkway  
Suite 600  
Oklahoma City, Ok. 73134

Devon Energy Production Company  
20 North Broadway  
Suite 1500  
Oklahoma City, Ok 73102

Mack Energy Corporation  
11352 Lovington Highway  
Artesia, NM 88210

Melrose Resources  
5813 NW Grand Blvd.  
Suite "B"  
Oklahoma City, OK 73118

Edge Petroleum Corporation  
1301 Travis Street  
Suite 2000  
Houston, TX 77002

SDX Resources Incorporated  
511 W. Ohio Street  
Suite 601  
Midland, TX 79701

Mewbourne Oil Company  
3901 S. Broadway  
Tyler, TX 75701

Jackie Brewer  
HC-60  
Lovington, NM 88260

**Land Owners**

Bogle Ltd.  
7331 Cherokee Road  
Dexter, NM 88230

State of New Mexico  
Commissioner of Public Lands  
310 Old Santa Fe Trail  
Santa Fe, NM 87501

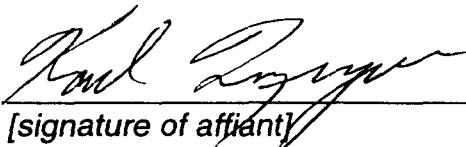
**BP America Production Company  
Washington "33" State Waterflood Project  
Addendum to NMOCD Form C-108  
Application for Authorization to Inject**

**AFFIDAVIT**

**Harris County, Texas**

**BEFORE ME**, the undersigned Notary, Suzanne Jones, on this 21<sup>st</sup> day of June, 2006, personally appeared Karl Quezergue, known to me to be a credible person and of lawful age, who being by me first duly sworn, on his oath, deposes and says:

A notice and copy of BP America Production Company's Addendum to NMOCD Form C-108, Application for Authorization to Inject, to convert the Washington "33" State #4, #10, and #18 to water injection in lieu of the #6, #8, and #27 wells (part of the original application) was mailed to the interested parties (land owners and leasehold operators within the one-half mile radius Area of Review(s) for the three new proposed water injection wells) shown on the attached sheet in accordance with New Mexico Oil Conservation Division Rules. A true and correct copy of the notice letter is attached.

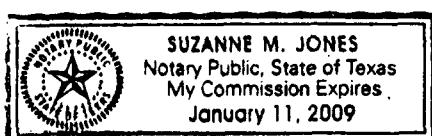
  
\_\_\_\_\_  
[signature of affiant]

Karl Quezergue

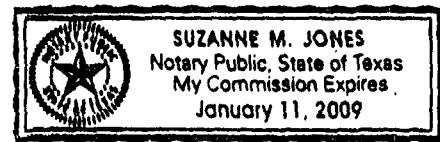
501 Westlake Park Blvd., Room 6.182  
Houston, TX 77079

Subscribed and sworn to before me, this 21st day of ~~May~~ June, 2006

[Notary Seal:]



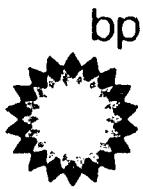
Suzanne M. Jones  
[signature of Notary]



Suzanne Jones  
[typed name of Notary]

NOTARY PUBLIC

My commission expires: JAN. 11, 2009.



**BP America Production Company**  
Mid-Con Performance Unit  
Permian SENM / N. TX Resource Area  
Permian 501 Westlake Park Blvd.  
Houston, TX 77079

Phone: 281-366-2000

June 21, 2006

**VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

**LAND OWNERS  
OFFSET OPERATORS**  
(List Attached)

**Re: BP America Production Company's Addendum to NMOCD Form C-108 (Application for Authorization to Inject) for the proposed Washington "33" State Waterflood Project, Artesia Field, Eddy County, New Mexico**

Ladies and Gentlemen:

This letter is to advise you that BP America Production Company is in the process of filing an Addendum to the original C-108 application with the New Mexico Oil Conservation Division seeking authorization to convert the Washington "33" State #4, #10, and #18 to water injection in lieu of the #6, #8, and #27 wells which were part of the original application. A recent reservoir engineering review of the proposed waterflood resulted in the recommendation that the pattern be modified slightly from what was originally proposed to create a more efficient waterflood and improved secondary recovery of oil and gas reserves from the Q-GB-SA and San Andres Dolomite formations. The new waterflood pattern will require that the #6, #8, and #27 wells remain oil producers while the #4, #10, and #18 wells are converted to water injection. The Area of Review for these three wells is within the Area of Review that was part of the original application, so there will not be any additional wells in the well data table.

If you have any questions regarding this addendum to the original application, please feel free to contact me at 281-366-4343 or at BP America Production Company, 501 Westlake Park Blvd., Office 6.182, Houston, TX 77079.

Sincerely,

A handwritten signature in black ink, appearing to read "Karl Quezergue".

Karl Quezergue  
Projects Engineer – SENM & N. TX  
BP America Production Company

**BP America Production Company  
Washington "33" State Waterflood Project  
NMOCD Form C-108  
Application for Authorization to Inject  
Artesia Field, Eddy County, New Mexico**

**Offset Operators**

Hanson Energy  
R342  
S. Haldeman Road  
Artesia, NM 88210

Marbob Energy  
2208 W. Main Street  
Artesia, NM 88210

Dominion Oklahoma Texas Exploration  
14000 Quail Springs Parkway  
Suite 600  
Oklahoma City, Ok. 73134

Devon Energy Production Company  
20 North Broadway  
Suite 1500  
Oklahoma City, Ok 73102

Mack Energy Corporation  
11352 Lovington Highway  
Artesia, NM 88210

Melrose Resources  
5813 NW Grand Blvd.  
Suite "B"  
Oklahoma City, OK 73118

Edge Petroleum Corporation  
1301 Travis Street  
Suite 2000  
Houston, TX 77002

SDX Resources Incorporated  
511 W. Ohio Street  
Suite 601  
Midland, TX 79701

Mewbourne Oil Company  
3901 S. Broadway  
Tyler, TX 75701

Jackie Brewer  
HC-60  
Lovington, NM 88260

**Land Owners**

Bogle Ltd.  
7331 Cherokee Road  
Dexter, NM 88230

State of New Mexico  
Commissioner of Public Lands  
310 Old Santa Fe Trail  
Santa Fe, NM 87501

**BP America Production Company**  
**Washington "33" State Waterflood Project**  
**Addendum TO NMOCD Form C-108**  
**Application for Authorization to Inject**  
**(C-108 Continuation Sheet)**

This C-108 continuation sheet is being provided as part of the Addendum to BP America's NMOCD C-108, Application for Authorization to Inject, to convert the Washington "33" State #4, #10, and #18 to water injection in lieu of the #6, #8, and #27 wells which were part of the original application.

### **III. Injection Well Data**

Injection well data sheets for each of the three new proposed water injection wells are attached with this addendum. The three new proposed water injection wells are:

1. Washington "33" State #4
2. Washington "33" State #10
3. Washington "33" State #18

### **V. Land Map**

A surface map that identifies all wells and leases within 2 miles of the three new proposed water injection wells was included in the original application. (The Area of Review for the three wells lies within the Area of Review in the original application.)

### **VI. Well Data Table for wells in Area of Review**

Since the Area of Review for the three new proposed water injection wells lies within the Area of Review in the original application, there are no additional wells to be included in a well data table and there are no additional P&A wells that require P&A wellbore schematics.

### **VII. Proposed Water Injection Operations**

1. The proposed maximum daily injection rate for each injection well is 2000 bwpd. After reservoir fill-up (gas saturation = 0%), the average daily injection rate for each well is expected to be 500 bwpd.
2. The water injection system will be closed.
3. The proposed initial maximum wellhead injection pressure is .2 psi/ft x depth of top perforation for the six proposed water injection wells:

<u>Injection Well</u>	<u>Top Perf</u>	<u>Max Inj P</u>
Washington "33" State #4	1414'	283 psig
Washington "33" State #10	1411'	282 psig

Washington "33" State #18

1462'

292 psig

If necessary, step-rate tests will be performed on the proposed injection wells to determine the formation parting pressure and follow-up requests will be made to the NMOCD to request higher injection pressures.

4. As described in the original application, the source of injection water will be produced water from the Washington "33" State lease, produced water from the SDX Resources operated North West Artesia Unit, and produced water from the BP America Production Company operated Empire Abo Unit. A copy of the water analysis report (Baker Petrolite analysis 36266) for produced water from the Empire Abo Unit (sample 36113) was attached to the original application. The one page report also includes results of the analysis of produced water that is stored at the Washington "33" State tank battery (sample 36116). Sample 36116 consists of produced water from the North West Artesia Unit and the Washington "33" State lease which are combined in a water tank at the tank battery facility. The water analysis report also includes a scale prediction analysis of various mixtures of Empire Abo Unit water and water from the Washington "33" State tank battery.

### VIII. Geologic Data

As described in the original application, the Queen-Grayburg-San Andres (Q-GB-SA) series is primarily limestone (Queen) and dolomite (Grayburg-San Andres) with thin, continuous, clastic intervals of sand and shale which make up the five oil productive members that will be waterflooded with the six proposed injection wells. The lower San Andres reservoir is dolomitic and appears to be geologically distinct from the upper radioactive sands that are collectively referred to as the Q-GB-SA. The formation tops picked from the Washington "33" State #12 well are listed below. The #12 well is located in the geographic center of the Washington "33" State lease.

Formation	Depth (TVD)	Thickness
Rustler	475'	75'
Yates	550'	125'
Seven Rivers	675'	585'
Queen	1260'	435'
Grayburg	1695'	305'
San Andres	2000'	1520'
Glorieta	3520'	110'
Yoso	3630'	2170'

**Fresh Water:** Fresh water is found in the Triassic Sand. The base of the fresh water-bearing rock is estimated to be 350' in the Washington "33" State lease area of the Artesia Field. There is no known source of fresh water sands below the proposed injection intervals.

### IX. Proposed Stimulation Program

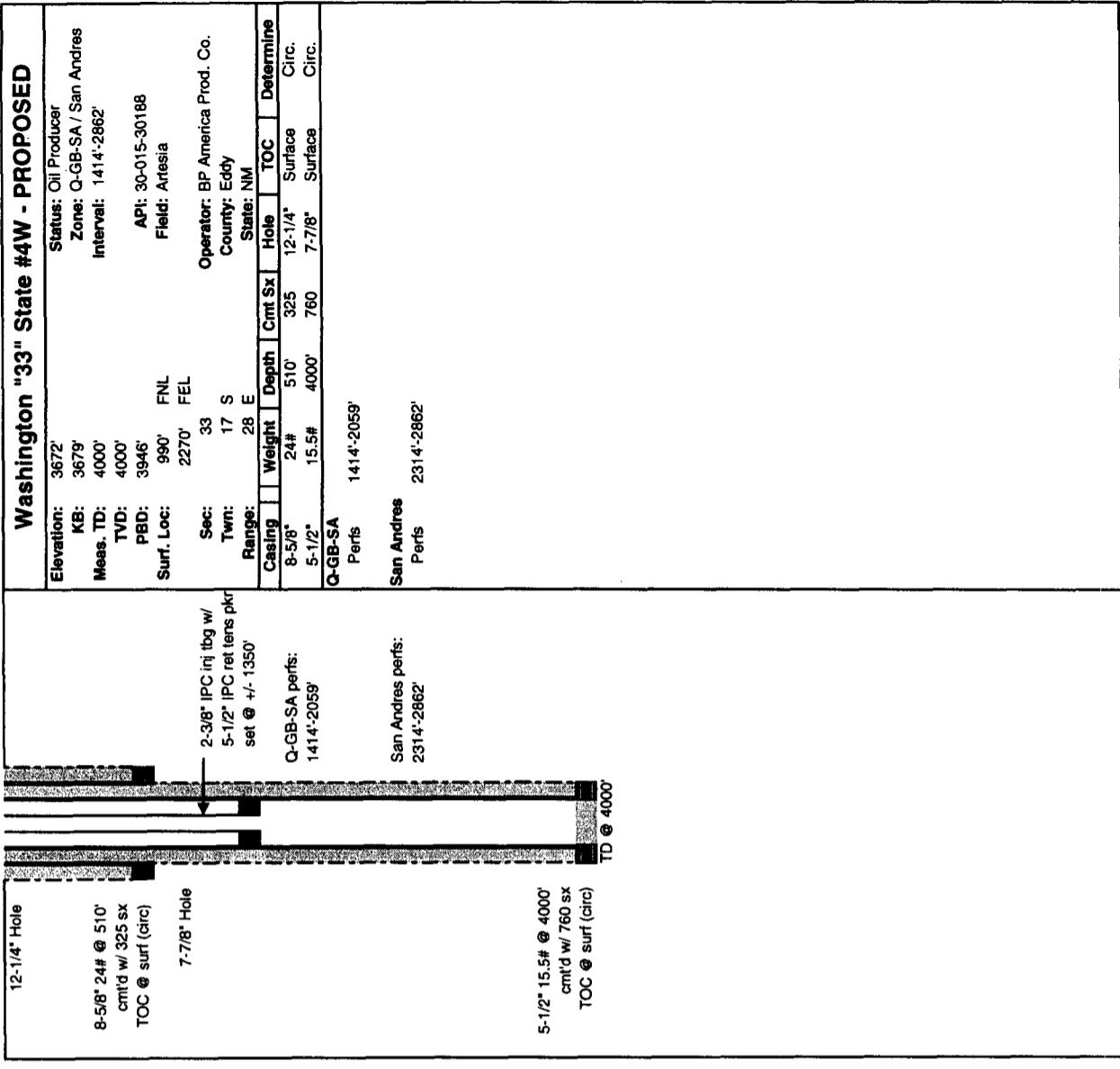
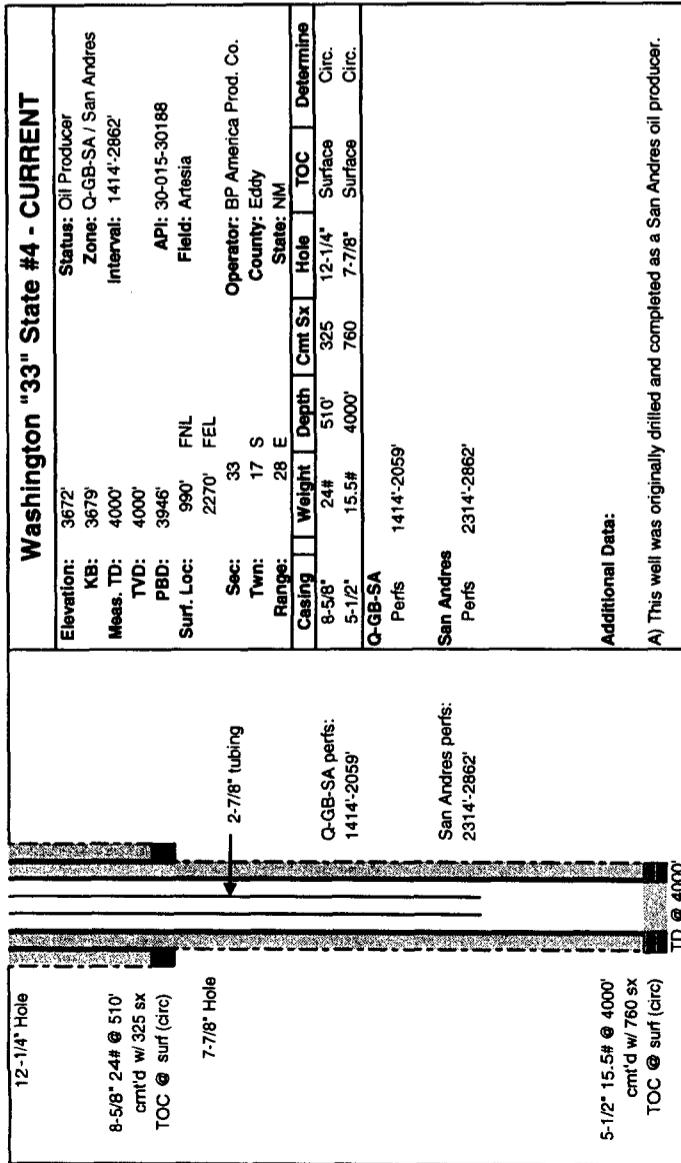
The three new proposed water injection wells will not require any additional completion or stimulation work.

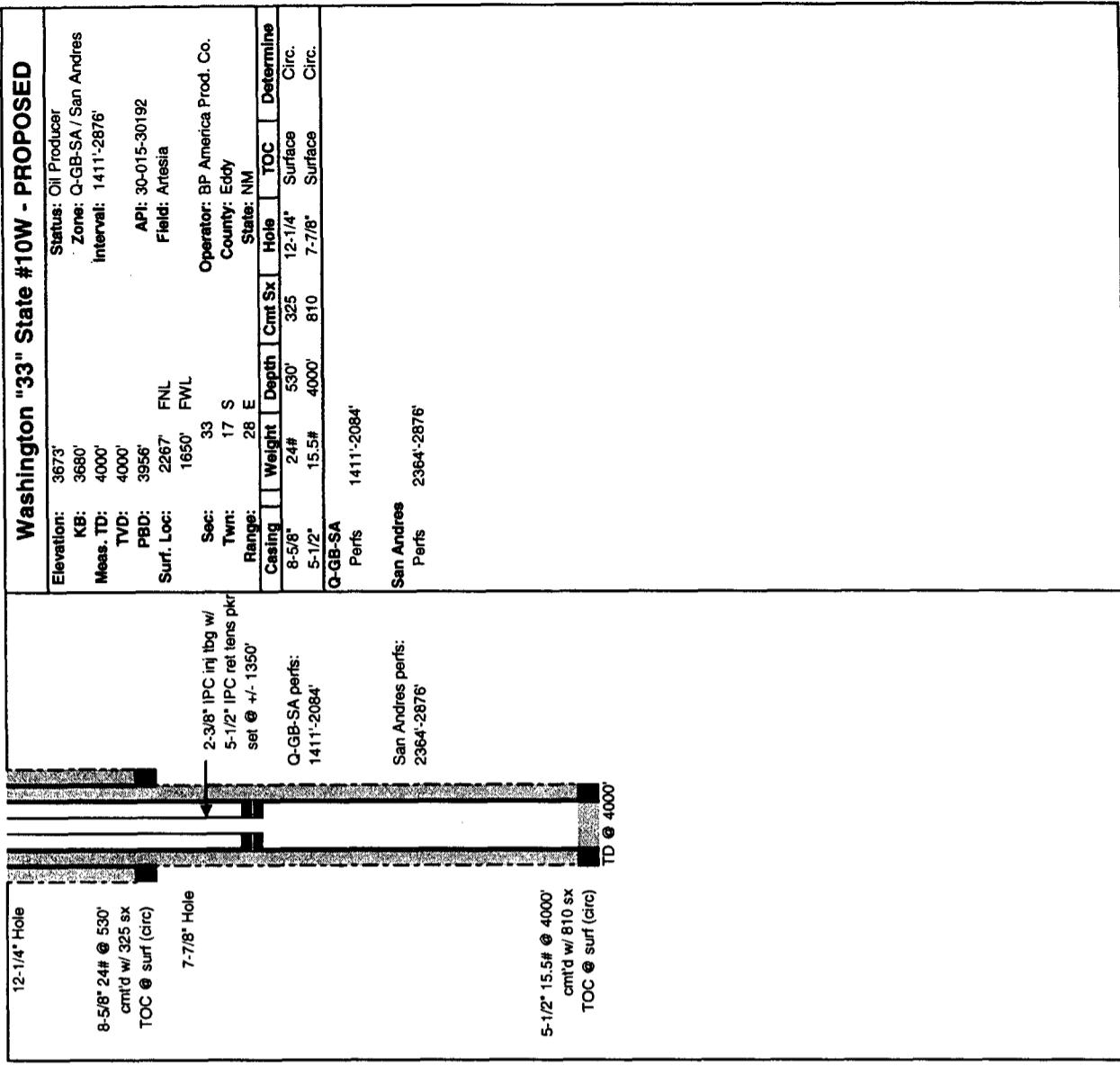
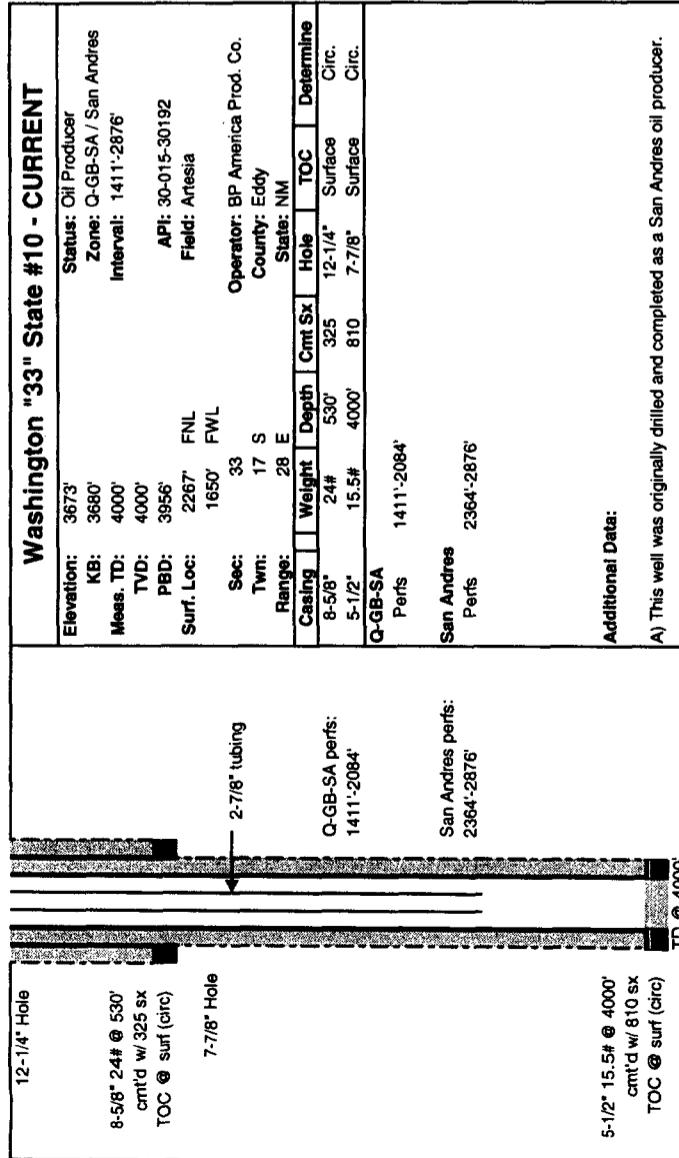
## **X. Logs and Test Data**

All log and well test data for the six proposed water injection wells has been previously filed with the NMOCD.

## **XI. Water Analysis from Fresh Water Wells in Area of Review**

A copy of the Baker Petrolite water analysis reports for the two known active fresh water wells within the one-half mile Area of Review(s) was attached to the original application.





- Additional Data:**  
 A) This well was originally drilled and completed as a San Andres oil producer.

- B) Potential oil / gas prod formations that OVERLY proposed injection interval:  
Formation      Depth  
 7-Rivers      700'

- C) Potential oil / gas prod formations that UNDERLY proposed injection interval:  
Formation      Depth  
 Yeso      3560'  
 Abo      5700'

