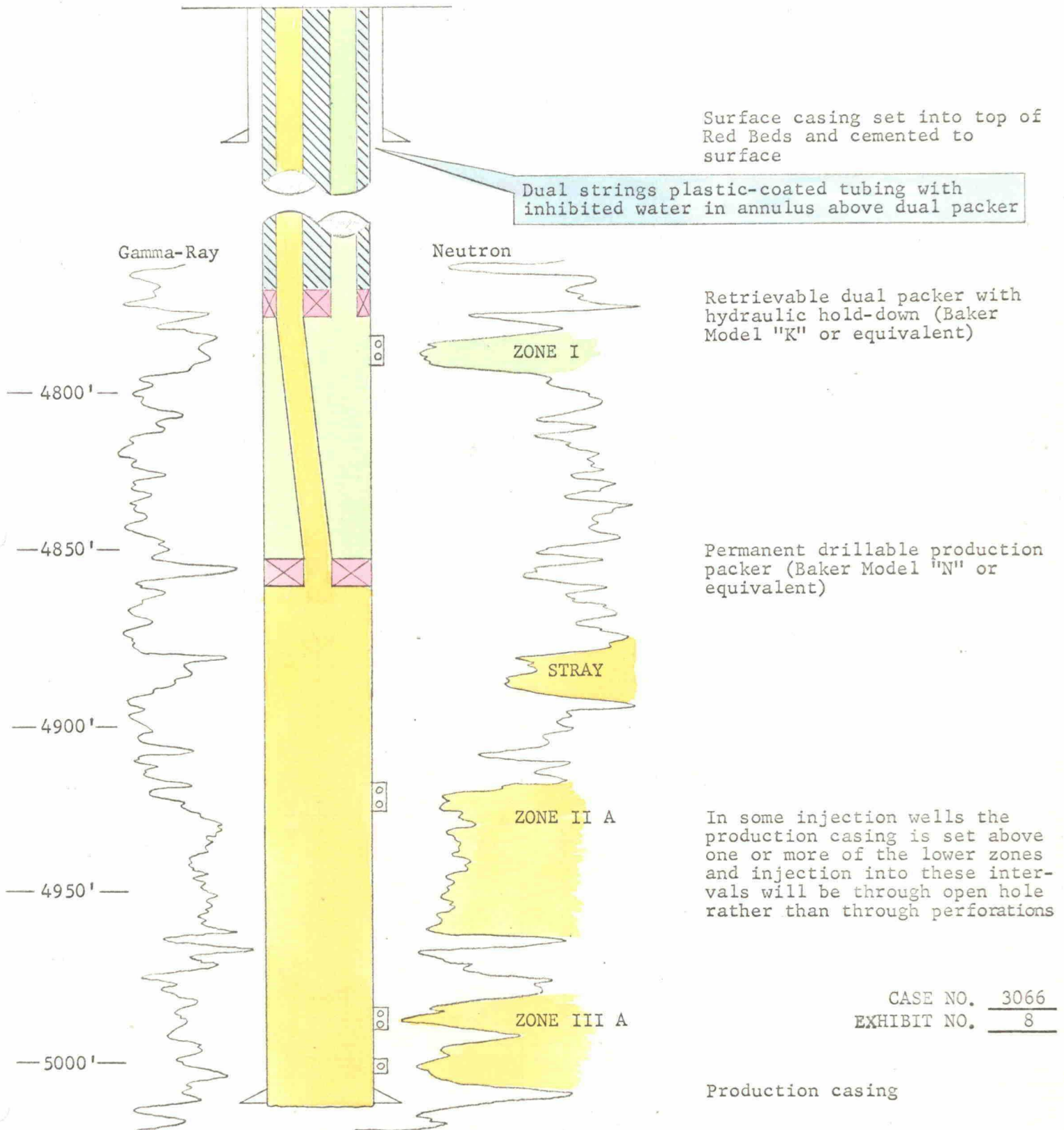


DIAGRAMMATIC SKETCH
TYPICAL DUAL INJECTION WELL

West Pearl Queen Unit
Lea County, New Mexico



CASE NO. 3066
EXHIBIT NO. 8

INJECTION WELL DETAIL
TWO TUBING STRINGS IN ALL DUAL WELLS
WEST PEARL, QUEEN UNIT
LEA COUNTY, NEW MEXICO

SECTION I
CASING AND CEMENT

INJECTION WELL	UNIT DESIGNATION	SIZE (INCHES)	DEPTH (FEET)	SURFACE CASING		SIZE (INCHES)	DEPTH (FEET)	PRODUCTION CASING		ADDITIONAL CEMENTED INTERVALS #
				CEMENT (SACKS)	TOP (FEET)			CEMENT (SACKS)	TOP (FEET)	
HAMON ST. E-8182	NO.3	28- 4	8-5/8	327	300	Surface	4-1/2	4991	350	3423 E
	NO.4	28- 6	8-5/8	326	300	Surface	4-1/2	4961	350	3393 E
CABOT ST. NEW MEX. "G"	NO.5	28-10	8-5/8	304	300	Surface	5-1/2	4931	200	3753 E
	NO.1	28-12	8-5/8	313	300	Surface	5-1/2	4904	300	3180 E
	NO.4	28-14	8-5/8	302	300	Surface	5-1/2	4919	200	3920 E
	NO.7	28-16	8-5/8	305	300	Surface	4-1/2	4932	200	4036 E
INMAN SUPERIOR-FED.	NO.2	29- 2	8-5/8	328	265	Surface	4-1/2	5049	240	2980 E
SHELL ST. "PK"	NO.2	29- 4	8-5/8	96	85	Surface	5-1/2	5145	200	3967 E
CACTUS PARKS	NO.1	29- 6	13-3/8	100	80	Surface	7	4932	150	3061 E
SKELLY HOBBS "J" ST.	NO.1	29- 8	13-3/8	88	80	Surface	5-1/4	4920	300	3153 E
GULF LEA ST. "IH"	NO.1	29-10	8-5/8	308	300	Surface	4-1/2	5009	2050	795 S
	NO.4	29-12	8-5/8	144	100	Surface	4-1/2	4974	250	4078 E
CACTUS GULF ST.	NO.4	29-14	13-3/8	100	50	Surface	5-1/2	4965	350	3026 E
	NO.2	29-16	13-3/8	90	80	Surface	5-1/2	4939	300	3277 E
GULF LEA ST. "AP"	NO.3	30- 8	8-5/8	143	100	Surface	4-1/2	5075	250	3597 E
	NO.1	30-16	8-5/8	137	100	Surface	4-1/2	4981	250	4085 E
CACTUS AZTEC ST.	NO.2	31- 2	13-3/8	107	100	Surface	7	4832	125	3273 E
	NO.6	31- 6	13-3/8	108	90	Surface	7	4714	150	2843 E
	NO.4	31- 8	13-3/8	102	100	Surface	7	4874	150	3003 E
	NO.7	31-10	13-3/8	105	100	Surface	5-1/2	4714	150	3300 E
							Liner	4984	40	4144 E
GULF LEA ST. "AQ"	NO.2	32- 2	8-5/8	108	60	Surface	4-1/2	4959	250	4063 E
	NO.4	32- 4	8-5/8	101	100	Surface	4-1/2	4948	250	4052 E
	NO.5	32- 6	8-5/8	130	100	Surface	4-1/2	4936	250	4040 E
	NO.7	32- 8	8-5/8	145	100	Surface	4-1/2	4979	250	4081 E
PHILLIPS NEW MEX. "C"	NO.1	32-10	8-5/8	144	145	Surface	5-1/2	5060	300	3293 E
GULF LEA ST. "BG"	NO.3	33- 2	8-5/8	327	300	Surface	4-1/2	4932	1850	465 S
	NO.1	33- 4	8-5/8	349	300	Surface	4-1/2	4969	1800	415 S
	NO.6	33- 6	8-5/8	146	100	Surface	4-1/2	4965	250	3487 E
	NO.8	33- 8	8-5/8	141	100	Surface	4-1/2	5005	250	3527 E
GULF LEA ST. "AR"	NO.4	33-10	8-5/8	140	100	Surface	4-1/2	5011	250	3533 E
* E - Estimated										
# Two-stage cementing tool set at lower depth and 50 sacks cement spotted at top of salt and anhydrite section.										

INJECTION WELL DETAIL
TWO TUBING STRINGS IN ALL DUAL WELLS
WEST PEARL QUEEN UNIT
LEA COUNTY, NEW MEXICO

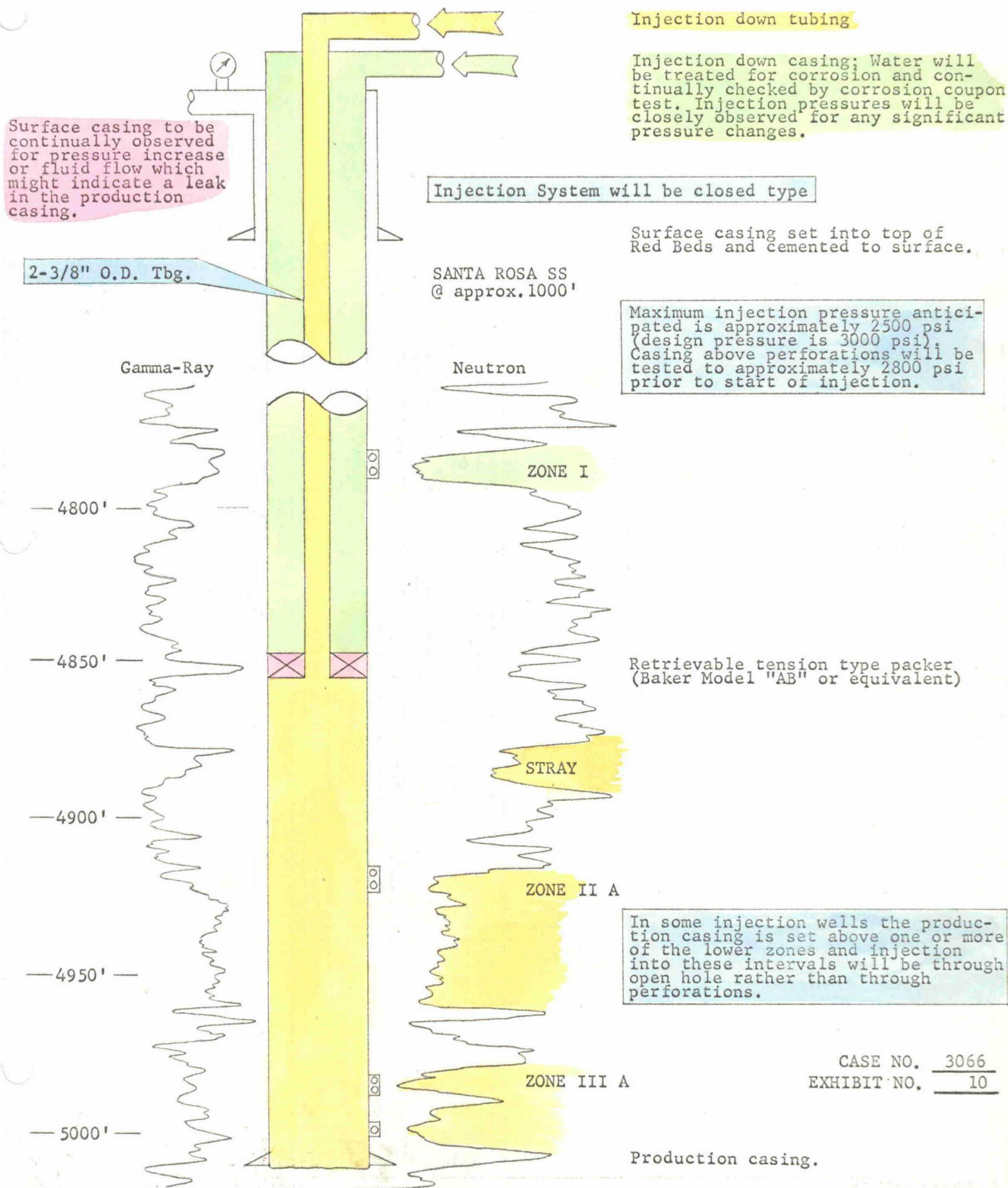
SECTION II
TUBING, PACKERS AND PERFORATIONS

UPPER INJECTION INTERVAL							LOWER INJECTION INTERVAL						
INJECTION WELL	UNIT DESIG- NATION	GROSS PERF. AND/OR OPEN HOLE INTERVALS	TUBING		PACKER		GROSS PERF. AND/OR OPEN HOLE INTERVALS	TUBING		PACKER			
			SIZE (OD)	DEPTH	TYPE	DEPTH		SIZE (OD)	DEPTH	TYPE	DEPTH		
HAMON ST. E-8182	NO. 3	4762-4772	1.660	4700	RD W/HH	4700	4880-4910	1.660	4850	Permanent	4850		
	NO. 4	4700-4710	1.660	4650	RD W/HH	4650	4814-4895	1.660	4750	Permanent	4750		
CABOT ST. NEW MEX. "G"	NO. 5	4710-4720	2.063	4650	RD W/HH	4650	4826-4910	2.063	4775	Permanent	4775		
	NO. 1	4733-4747	2.063	4700	RD W/HH	4700	4860-4946	2.063	4800	Permanent	4800		
	NO. 4	4774-4786	2.063	4725	RD W/HH	4725	4854-4949	2.063	4825	Permanent	4825		
	NO. 7	4726-4736	1.660	4675	RD W/HH	4675	4842-4851	1.660	4800	Permanent	4800		
INMAN SUPERIOR-FED.	NO. 2	4814-4820	1.660	4775	RD W/HH	4775	4934-5008	1.660	4900	Permanent	4900		
SHELL STATE "PK"	NO. 2	4870-4880	2.063	4825	RD W/HH	4825	5026-5054	2.063	4950	Permanent	4950		
CACTUS PARKS	NO. 1	4810-4820	2.375	4750	RD W/HH	4750	4932-5030	2.375	4875	Permanent	4875		
SKELLY HOBBS "J" ST.	NO. 1	4770-4785	2.063	4725	RD W/HH	4725	4898-5000	2.063	4850	Permanent	4850		
GULF LEA STATE "IH"	NO. 1	4782-4790	1.660	4750	RD W/HH	4750	4914-5000	1.660	4850	Permanent	4850		
	NO. 4	4819-4821	1.660	4775	RD W/HH	4775	4957-5050	1.660	4900	Permanent	4900		
CACTUS GULF ST. "A"	NO. 4	4775-4790	2.063	4725	RD W/HH	4725	4910-4993	2.063	4850	Permanent	4850		
	NO. 2	4746-4761	2.063	4700	RD W/HH	4700	4888-4962	2.063	4825	Permanent	4825		
GULF LEA STATE "AP"	NO. 3	4848-4850	1.660	4800	RD W/HH	4800	4927-5037	1.660	4900	Permanent	4900		
	NO. 1	4803-4805	1.660	4750	RD W/HH	4750	4947-5060	1.660	4900	Permanent	4900		
CACTUS AZTEC ST.	NO. 2	4790-4800	2.375	4750	RD W/HH	4750	4835-5030	2.375	4825	Permanent	4825		
	NO. 6	4714-4900	2.375	4700	RS Tension	4700	Commingled Injection w/Upper Interval in Open Hole.	4825					
NO. 4	4784-4790	2.375	4750	RD W/HH	4750	4877-4930		2.375	4825	Permanent	4825		
GULF LEA-STATE "AQ"	NO. 7	4767-4772	2.375	4700	RD W/HH	4700	4880-4997	2.375	4825	Permanent	4825		
	NO. 2	4774-4776	1.660	4725	RD W/HH	4725	4924-5015	1.660	4850	Permanent	4850		
	NO. 4	4785-4787	1.660	4725	RD W/HH	4725	4929-5020	1.660	4850	Permanent	4850		
	NO. 5	4786-4788	1.660	4725	RD W/HH	4725	4884-5025	1.660	4825	Permanent	4825		
PHILLIPS NEW MEX. "C"	NO. 7	4802-4804	1.660	4750	RD W/HH	4750	4949-5040	1.660	4875	Permanent	4875		
	NO. 1	4790-4806	2.063	4750	RD W/HH	4750	4898-5022	2.063	4850	Permanent	4850		
GULF LEA ST. "BG"	NO. 3	4737-4741	1.660	4700	RD W/HH	4700	4881-4975	1.660	4800	Permanent	4800		
	NO. 1	4773-4785	1.660	4725	RD W/HH	4725	4920-5010	1.660	4850	Permanent	4850		
	NO. 6	4767-4782	1.660	4700	RD W/HH	4700	4927-5020	1.660	4850	Permanent	4850		
	NO. 8	4750-4752	1.660	4700	RD W/HH	4700	4890-4962	1.660	4800	Permanent	4800		
GULF LEA ST. "AR"	NO. 4	4776-4778	1.660	4725	RD W/HH	4725	4876-4998	1.660	4825	Permanent	4825		

RD W/HH -Retrievable Dual with Hydraulic Hold-down Similar to Baker Model "K"
RS Tension -Retrievable Single Tension Type Packer Similar to Baker Model "AB"
Permanent -Drillable Packer Similar to Baker Model "N" (Tubing Set)

DIAGRAMMATIC SKETCH
Typical Dual Injection Well

West Pearl Queen Unit
Lea County, New Mexico



INJECTION WELL DETAIL
DUALS EQUIPPED WITH SINGLE TUBING STRING
WEST PEARL QUEEN UNIT
LEA COUNTY, NEW MEXICO

INJECTION WELL	UNIT	DESIGNATION	SIZE (INCHES)	SURFACE CASING				PRODUCTION CASING				INJECTION INTERVALS AND EQUIPMENT SETTING DEPTHS			
				DEPTH (FEET)	CEMENT (SACKS)	CEMENT (FEET)	SIZE (INCHES)	DEPTH (FEET)	CEMENT (SACKS)	CEMENT (FEET)	* INTERVALS #	AND/OR GROSS PERFORATED		APPROXIMATE TUBING AND PACKER DEPTH &	
												UPPER	LOWER		
HAMON ST. E-8182	NO. 3	28- 4	8-5/8	327	300	Surface	4-1/2	4991	350	3423	E		4762-4772	4880-4910	4850
	NO. 4	28- 6	8-5/8	326	300	Surface	4-1/2	4961	350	3393	E		4700-4710	4814-4895	4750
	NO. 5	28-10	8-5/8	304	300	Surface	5-1/2	4931	200	3753	E		4710-4720	4826-4910	4775
CABOT ST. NEW MEX. "C"	NO. 1	28-12	8-5/8	313	300	Surface	5-1/2	4904	300	3180	E		4733-4747	4860-4946	4800
	NO. 4	28-14	8-5/8	302	300	Surface	5-1/2	4919	200	3920	E		4774-4786	4854-4949	4825
	NO. 7	28-16	8-5/8	305	300	Surface	4-1/2	4932	200	4036	E		4726-4736	4842-4851	4800
INNAN SUPERIOR-FED.	NO. 2	29- 2	8-5/8	328	265	Surface	4-1/2	5049	240	2980	E		4814-4820	4934-5008	4900
SHELL ST. "PK"	NO. 2	29- 4	8-5/8	96	85	Surface	5-1/2	5145	200	3967	E		4870-4880	5026-5059	4950
CACTUS PARKS	NO. 1	29- 6	13-3/8	100	80	Surface	7	4932	150	3061	E		4810-4820	4932-5030	4875
SKELLY HOBBS "J" ST.	NO. 1	29- 8	13-3/8	88	80	Surface	5-1/4	4920	300	3153	E		4770-4785	4898-5000	4850
GULF LEA ST. "IH"	NO. 1	29-10	8-5/8	308	300	Surface	4-1/2	5009	2050	795	S		4782-4790	4914-5000	4850
	NO. 4	29-12	8-5/8	144	100	Surface	4-1/2	4974	250	4078	E		4819-4821	4957-5050	4900
CACTUS GULF ST.	NO. 4	29-14	13-3/8	100	50	Surface	5-1/2	4965	350	3026	E		4775-4790	4910-4993	4850
GULF LEA ST. "AP"	NO. 2	29-16	13-3/8	90	80	Surface	5-1/2	4939	300	3277	E		4746-4761	4888-4962	4825
	NO. 3	30- 8	8-5/8	143	100	Surface	4-1/2	5075	250	3597	E		4848-4850	4927-5037	4900
	NO. 1	30-16	8-5/8	137	100	Surface	4-1/2	4981	250	4085	E		4803-4805	4947-5060	4900
CACTUS AZTEC ST.	NO. 2	31- 2	13-3/8	107	100	Surface	7	4832	125	3273	E		4790-4800	4835-5030	4820
	NO. 6	31- 6	13-3/8	108	90	Surface	7	4714	150	2843	E		4714-4900	NOT DUAL	4700
	NO. 4	31- 8	13-3/8	102	100	Surface	7	4874	150	3003	E		4784-4790	4877-4930	4825
	NO. 7	31-10	13-3/8	105	100	Surface	5-1/2	4714	150	3300	E		4767-4772	4880-4997	4825
GULF LEA ST. "AQ"	NO. 2	32- 2	8-5/8	108	60	Surface	4-1/2	4959	250	4063	E		4774-4776	4924-5015	4850
	NO. 4	32- 4	8-5/8	101	100	Surface	4-1/2	4948	250	4052	E		4785-4787	4929-5020	4850
	NO. 5	32- 6	8-5/8	130	100	Surface	4-1/2	4936	250	4040	E		4786-4788	4884-5025	4825
	NO. 7	32- 8	8-5/8	145	100	Surface	4-1/2	4979	250	4081	E		4802-4804	4949-5040	4875
PHILLIPS NEW MEX. "C"	NO. 1	32-10	8-5/8	144	145	Surface	5-1/2	5060	300	3293	E		4790-4806	4898-5022	4850
	NO. 3	33- 2	8-5/8	327	300	Surface	4-1/2	4932	1850	465	S		4737-4741	4881-4975	4800
	NO. 1	33- 4	8-5/8	349	300	Surface	4-1/2	4969	1800	415	S		4773-4785	4920-5010	4850
GULF LEA ST. "BG"	NO. 6	33- 6	8-5/8	146	100	Surface	4-1/2	4965	250	3487	E		4767-4782	4927-5020	4850
	NO. 8	33- 8	8-5/8	141	100	Surface	4-1/2	5005	250	3527	E		4750-4752	4890-4962	4800
GULF LEA ST. "AR"	NO. 4	33-10	8-5/8	140	100	Surface	4-1/2	5011	250	3533	E		4776-4778	4876-4998	4825

* E - Estimated
Two-stage cementing tool set at lower depth and 50 sacks cement spotted at top of sale and anhydrite section.
§ 2-3/8" OD Tubing and retrievable tension type packer (Baker Model "AB" or equivalent).

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3066
Order No. R-2729

APPLICATION OF GULF OIL CORPORATION
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on June 10, 1964, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 18th day of June, 1964, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the West Pearl Queen Unit Agreement has been approved by the Commission by Order No. R-2728; that the West Pearl Queen Unit Area comprises 2520 acres, more or less, of State, Fee, and Federal lands in Township 19 South, Range 35 East, NMPM, Lea County, New Mexico, as more fully described in said order.

(3) That of said 2520 acres, 160 acres being the NW/4 of Section 28, Township 19 South, Range 35 East, NMPM, has not been and evidently will not be committed to said unit agreement.

(4) That the applicant, Gulf Oil Corporation, seeks permission to institute a waterflood project in the Pearl-Queen Pool in the West Pearl Queen Unit Area by the injection of water into the

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CASE No. 3066

Order No. R-2729

Queen formation through 28 wells located within that portion of the unit area which has been or will be committed to the unit agreement.

(5) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(6) That the proposed waterflood project is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

(7) That the subject application should be approved and the project should be governed by the provisions of Rule 701 of the Commission Rules and Regulations.

(8) That Jake L. Hamon, owner of the NW/4 of Section 28, Township 19 South, Range 35 East, NMPM, should be permitted to convert any wells on said acreage only after notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to institute a waterflood project in the Pearl-Queen Pool in the West Pearl Queen Unit Area by the injection of water into the Queen formation through the following-described 28 wells in Township 19 South, Range 35 East, NMPM, Lea County, New Mexico:

WELL

UNIT

Section 28

Cabot Carbon State "G" Well No. 5	J
Cabot Carbon State "G" Well No. 1	L
Cabot Carbon State "G" Well No. 4	N
Cabot Carbon State "G" Well No. 7	P

Section 29

Curtis R. Inman Superior Federal	
Well No. 2	B
Shell State "PK" Well No. 2	D
Cactus Parks Well No. 1	F
Skelly Hobbs-State "J" Well No. 1	H
Gulf Lea-State "IH" Well No. 1	J

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CASE No. 3066

Order No. R-2729

Gulf Lea-State "IH" Well No. 4	L
Cactus Gulf-State "A" Well No. 4	N
Cactus Gulf-State "A" Well No. 2	P

Section 30

Gulf Lea-State "AP" Well No. 3	H
Gulf Lea-State "AP" Well No. 1	P

Section 31

Cactus Aztec-State Well No. 2	B
Cactus Actec-State Well No. 6	F
Cactus Aztec-State Well No. 4	H
Cactus Aztec-State Well No. 7	J

Section 32

Gulf Lea-State "AQ" Well No. 2	B
Gulf Lea-State "AQ" Well No. 4	D
Cactus Lea-State "AQ" Well No. 5	F
Cactus Lea-State "AQ" Well No. 7	H
Phillips New Mex "C" Well No. 1	J

Section 33

Gulf Lea-State "BG" Well No. 3	B
Gulf Lea-State "BG" Well No. 1	D
Gulf Lea-State "BG" Well No. 6	F
Gulf Lea-State "BG" Well No. 8	H
Gulf Lea-State "AR" Well No. 4	J

(2) That the subject waterflood project shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1119 of the Commission Rules and Regulations.

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CASE No. 3066

Order No. R-2729

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


Jack M. Campbell
JACK M. CAMPBELL, Chairman

E. S. Walker
E. S. WALKER, Member

A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

esr/