



# CARDINAL SURVEYS COMPANY

## INJECTION PROFILE

COMPANY	MEWBOURNE OIL COMPANY	File No. 11,608
WELL	FEDERAL "E" WELL NO. 11	
FIELD	QUERECHO PLAINS UPPER BONE SPRINGS	
COUNTY	LEA STATE NEW MEXICO	
LOCATION:	660' FNL & 530' FEL	
SEC	27 TWP 18-S RGE 32-E	

Permanent Datum	G.L.	Elev.	3756.5'	KB	3773.5'
Log Measured From	K.B.	17	Ft. Above Perm. Datum	DF	3772.5'
Drilling Measured From	K.B.			GL	3756.5'

Date	12-14-97
Depth - Driller	8979'
Depth - Plug Back	8800'
Depth - Logger	8775'
Bottom Logged Interval	8775'
Top Logged Interval	8100'
Recorded By	SCOTT
Witnessed By	POUNDS
Base Location	HOBBS, NEW MEXICO
Unit No.	8723
Equip. Operator	GRANADOS

Size	Casing Wgt.	From	To	Type of Well	INJECTION
8 5/8"		SURFACE	4480'	Status	INJECTING
5 1/2"	17#	SURFACE	8909'	Type of Fluid	WATER
				Fluid Level	FULL
Tubing				Injection Rate	788 BPD
2 7/8"		SURFACE	8230'	Surface Pressure	1550 PSI
				Surface Temp.	44.9°
Borehole				Bottom Hole Temp.	131.8°
NEW MEXICO					
OIL CONSERVATION DIVISION					

EXHIBIT 29

CASE NO. 10761/10762

G/R Base Scale	100 CPS/1"	Tool Size	1 3/8"	CCL	2308
Temp. Scale	2° = 1"	Type Detector	SCINT.	EJECTOR No.	291
Calliper Scale		Det. Spacing	5'	TOP DETECTOR	2109
				BOTTOM DET.	2110
				TEMPERATURE	273
Depth Corrected To:	WELEX 1-10-86				
Perforations:	8360'-88', 8450'-86'				

SLUG NO.	DETECTOR DEPTH	REACTION TIME (SEC.)	HOLE SIZE	RATE BPD	PERCENTAGE
17	7905	AVERAGE	2 7/8" TUBING	769	50' DROP SHOT
16	8230	N/A	" "	---	PACKER CHECK
15	8275	10	5 1/2" CASING	925	100%
14	8300	10	" "	925	100%
13	8320	10	" "	925	100%
12	8355	10	" "	925	100%
11	8365	DO NOT USE	" "	---	UPWARD CHANNEL CHECK
10	8370	11	" "	841	91%
9	8380	12	" "	771	83%
8	8400	12	" "	771	83
7	8450	12	" "	771	83%
6	8460	14	" "	661	71%
5	8470	19	" "	487	53%
4	8480	46	" "	201	22%
2	8488	DO NOT USE	" "	---	DOWNWARD CHANNEL CK.
3	8500	N/A	" "	---	NO FLOW

\* USED TO PLOT PROFILE

CONCLUSION:

REPORTED INJECTION RATE @ 788 BPD @ 1550 PSI.  
 USED SLUG NO'S. 12-15, 925 BPD, FOR 100% RATE TO CALCULATE VELOCITY PROFILE.  
 AVERAGED RUNS 5 & 6 TO OBTAIN 100% AREA. USED AREA OBTAINED, 4.51 SQUARE INCHES, TO CALCULATE INTENSITY PROFILE.

CONCLUSION CONTINUED...

INTENSITIES INDICATE MOVEMENT DOWN INSIDE PIPE TO 8486'. RUNS 13 & 14.

NO FLOW INSIDE PIPE @ 8489'. SLUG NO. 3, RUN 18.

TRACER INDICATES CHANNEL DOWN BELOW 8545'. RUNS 15 & 16.

NO CHANNEL UP FROM TOP OF PERFS INDICATED. SLUG NO. 11, RUN 19.

NO PACKER LEAK INDICATED. SLUG NO. 16.

DOWNWARD CROSSFLOW FROM 8360'-63' TO 8470'-82'. SLUG NO'S. 19-21.



WATER TUBE IN CURVED

PRINTED IN U.S.A.

PACKER

50

8500

90°

50

8400

50

8500

NO-FLOW INSIDE PIPE @ 8489'

MOVEMENT DOWN INSIDE PIPE TO 8486' KNOCK OUT

(SHEET)

TRACER INDICATES CHANNEL DOWN BELOW 8544'

Gamma Ray

Amplified Gamma Ray

Injection Temperature

1 hr SI Temp

4 hr SI Temp

96°

98°

102°

106°

110°

9%

8%

% determined by Tracer

13%

11%

12%

18%

31%

22%

10%

38%

23%

17%