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G. C. Jamieson
Assistant Division Manager
Production Department
Hobbs Division

Western Hemisphere Petroleum Division
Continental Oil Company
P. O. Box 460
1001 North Turner
Hobbs, New Mexico 88240
(505) 393-4141

SWD - 119

See June 16

May 27, 1971

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention Mr. A. L. Porter, Jr.,
Secretary Director

Gentlemen:

Application for Authority to Dispose of Produced Water,
Bell Lake Unit No. 2 - N-30-23-34 - Lea County, New Mexico

Forwarded herewith, in triplicate, is our application to inject produced water into the Delaware formation in our Bell Lake Unit No. 2. This well is to be used as a companion injection well to our Bell Lake Unit No. 7 SWD, which was authorized by Order No. SWD No. 73.

Your further handling and approval of this application will be sincerely appreciated.

Yours very truly,

rw

CC: New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240

United States Geological Survey
P. O. Box 1157
Hobbs, New Mexico 88240

Bureau of Land Management
Attention Mr. Fred Padilla
P. O. Box 1449
Santa Fe, New Mexico 87501

RLA: JJB: JWK:

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Continental Oil Company		ADDRESS P. O. Box 460, Hobbs, New Mexico	
LEASE NAME Bell Lake Unit	WELL NO. 2	FIELD Bell Lake	COUNTY Lea
LOCATION UNIT LETTER N ; WELL IS LOCATED 660 FEET FROM THE South LINE AND 3300 FEET FROM THE East LINE, SECTION 30 TOWNSHIP 23S RANGE 34E NMPM.			

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13 3/8"	1269	840	Surface	Circ.
INTERMEDIATE	9 5/8"	6080	3150	Surface	Circ.
LONG STRING	7"	12,649-7450'	1360	7500'	Temp. Survey
TUBING	2 7/8"	5180'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Model AD or equivalent @ 5180'		

NAME OF PROPOSED INJECTION FORMATION Delaware Sand		TOP OF FORMATION 5182'	BOTTOM OF FORMATION 8660'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES Perforations & open hole	PROPOSED INTERVAL(S) OF INJECTION Perfs: 5190-5600' (See attached procedure) OH: 6080' to 7350'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Development gas well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes

LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH See Attachment "A"			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 600'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Bone Springs 8660'
ANTICIPATED DAILY INJECTION VOLUME (BBL'S.) 2700	MINIMUM 3200	MAXIMUM closed	OPEN OR CLOSED TYPE SYSTEM pressure
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE yes		WATER TO BE DISPOSED OF yes	IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressure
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) New Mexico Bank and Trust Company, P. O. Box 400, Hobbs, New Mexico		NATURAL WATER IN DISPOSAL ZONE yes	APPROX. PRESSURE (PSI) 2400

ARE WATER ANALYSES ATTACHED? yes	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Humble Oil & Refining Company, P. O. Box 1897, Andrews, Texas	

HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? yes	SURFACE OWNER yes	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL yes
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) yes	PLAT OF AREA yes	ELECTRICAL LOG yes
DIAGRAMMATIC SKETCH OF WELL yes		

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

 **Assistant Division Manager** **May 27, 1971**
(Signature) (Title) (Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

ATTACHMENT "A"

BELL LAKE UNIT NO. 2

List of all perforated intervals and sacks of cement to seal or squeeze each:

OH 12,469' - 13,866':

Baker Model "C" RBP at 12,000'
20 sx cement plug 8910' - 9000'

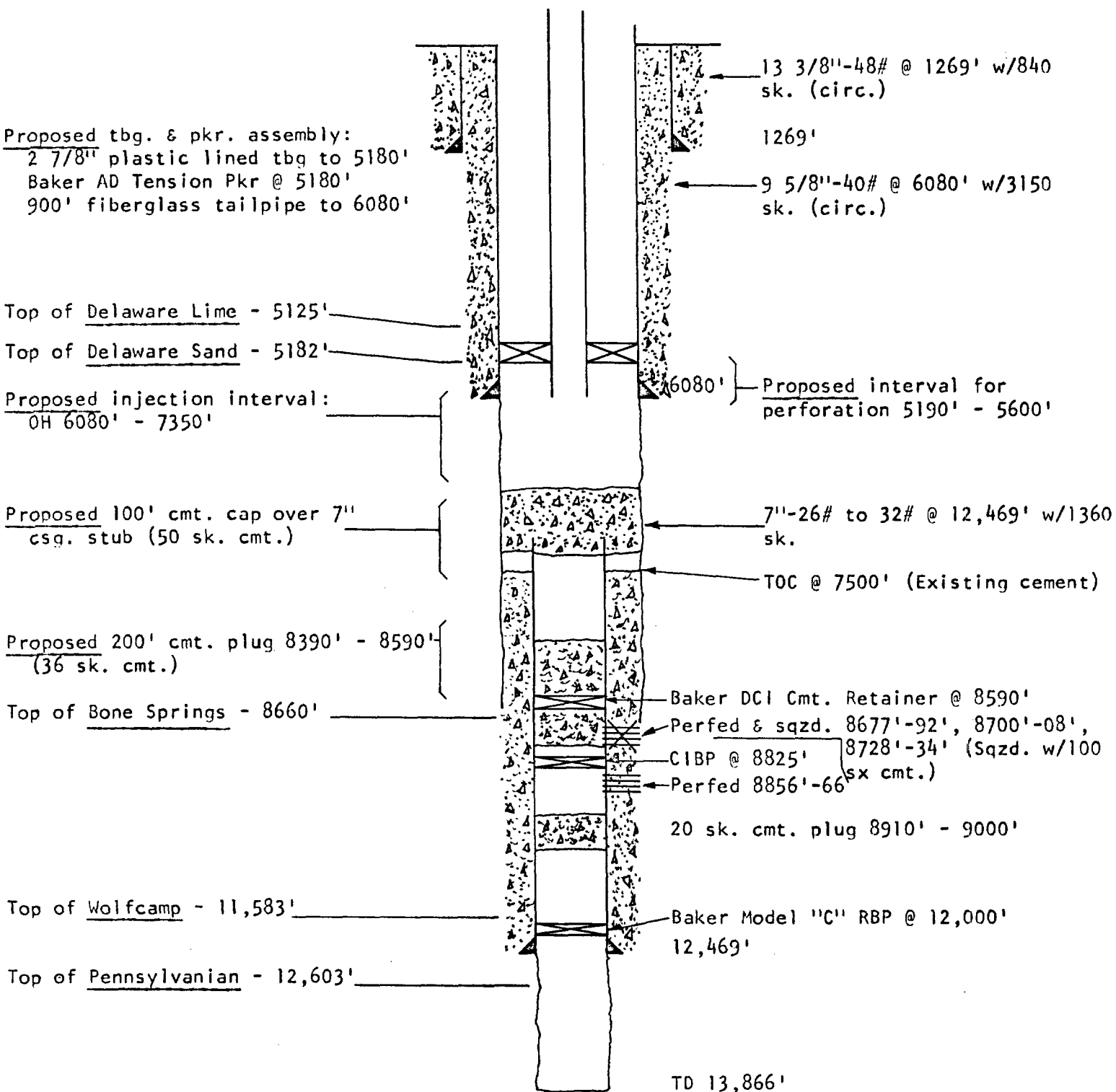
8856' - 8866':

CIBP at 8825'

8677' - 92', 8700' - 08',
8728 - 34':

Baker DCI Cmt. Retainer at 8590'
Squeezed w/100 sx cement

Schematic of Proposed Injection Wellbore



Bell Lake Unit No. 2

660' FSL & 3300' FEL Sec 30-T23S-R34E

(DF 3517', 19' AGL)

FEK 5-27-71

erw



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Continental Oil Company

Field Bell Lake Bone Springs

Lease Bell Lake #3

Sampling Date 6/21/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	499.00	10,000
Magnesium (Mg++)	313.17	3808
Sodium (Na+) (cal.)	2375.09	54,603
Iron		288
Bicarbonate (HCO ₃)	7.00	427
Carbonate (CO ₃ -)	NOT	FOUND
Hydroxide (OH--)	NOT	FOUND
Sulphate (SO ₄ -)	21.86	1050
Chloride (Cl-)	3158.40	112,000
6.4 pH c@ 68 ° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	812.17	40,609
Carbonate Hardness, as CaCO ₃ (temporary)	7.00	350
Non-Carbonate Hardness as CaCO ₃ (permanent)	805.17	40,259
Alkalinity as CaCO ₃	7.00	350
Specific Gravity c 68° F	1.115	

* mg./l = milligrams per Liter

* me./l = milliequivalents per Liter

ILLEGIBLE

Makes Water Work



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Continental Oil CompanyField Bell Lake - Penn.Lease Bell Lake #5Sampling Date 6/21/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	1.30	26
Magnesium (Mg++)	0.66	8
Sodium (Na+) (cal.)	10.48	241
Iron		144
Bicarbonate (HCO ₃)	3.70	225
Carbonate (CO ₃ -)	NOT	FOUND
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	0	0
Chloride (Cl-)	8.74	310
6.7 pH c @ 68° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	1.96	93
Carbonate Hardness, as CaCO ₃ (temporary)	3.70	135
Non-Carbonate Hardness as CaCO ₃ (permanent)	-	-
Alkalinity as CaCO ₃	3.70	135
Specific Gravity c 68° F	1.000	

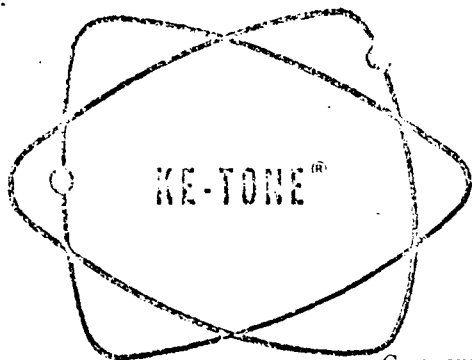
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ILLEGIBLE

Maless Water Work

W.A. Fyco



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Continental Oil Company

Field DEVONIAN

Lease Bell Lake #6

Sampling Date 10/3/67

Type of Sample Gas wells

WATER ANALYSIS

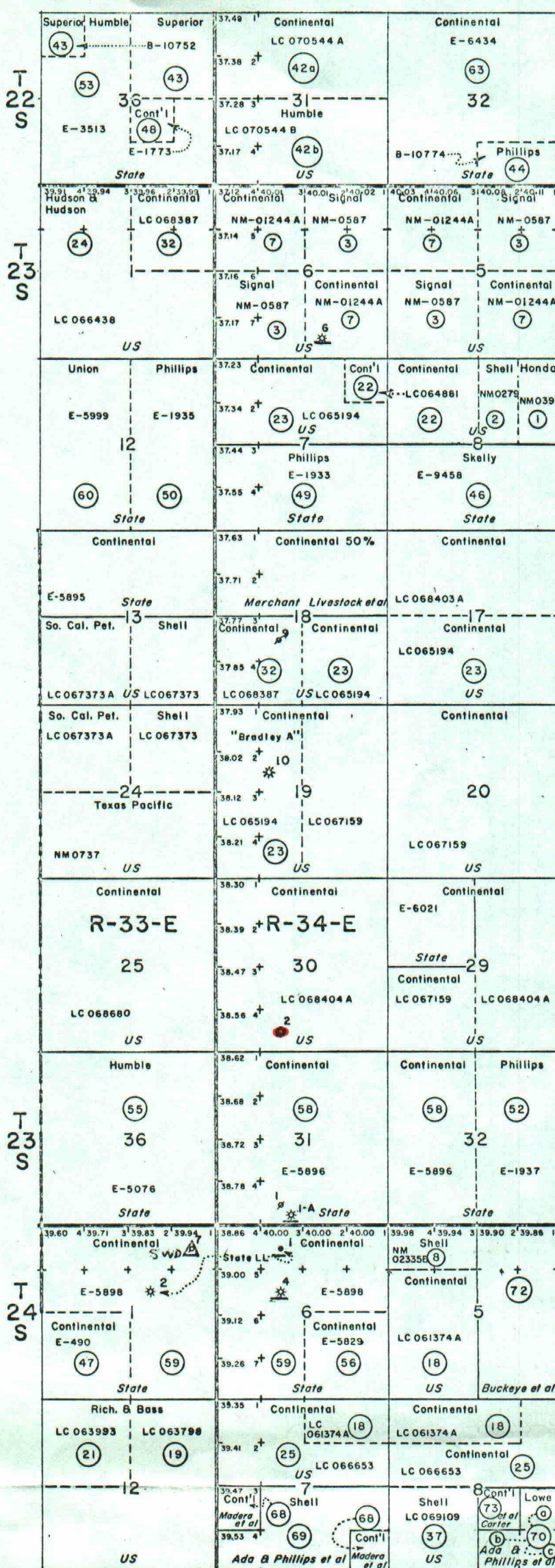
IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	123.75	2480
Magnesium (Mg++)	23.93	291
Sodium (Na+) (calculated)	1136.64	26,131
Bicarbonate (HCO ₃ -)	10.73	658
Carbonate (CO ₃ -)	Not Found	
Hydroxide (OH-)	Not Found	
Sulphate (SO ₄ -)	32.79	1575
Chloride (Cl-)	1240.80	44,000
7.1 pH @ 68° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	147.68	7384
Carbonate Hardness, as CaCO ₃ (temporary)	10.73	5365
Non-Carbonate Hardness as CaCO ₃ (permanent)	136.95	6848
Alkalinity as CaCO ₃	10.73	5365
Specific Gravity @ 68° F	1.045	

* mg/l = milligrams per Liter

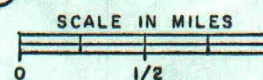
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ILLEGIBLE

Makes Water Work



CONTINENTAL OIL COMPANY
BELL LAKE UNIT
LEA COUNTY, NEW MEXICO
⑦ TRACT NUMBERS



SCHLUMBERGER WELL SURVEYING CORPORATION

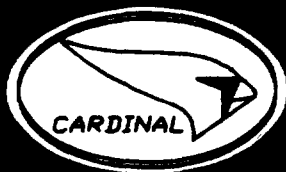
HOUSTON, TEXAS



Electrical Log

COUNTY <u>Lea</u> FIELD or LOCATION <u>Wildcat</u> WELL <u>Bell Lake Unit #2</u> COMPANY <u>Continental Oil Co.</u>	COMPANY <u>CONTINENTAL OIL</u>	Location of Well 660' f SL 3300' f EL Sec.30-23S-34E
	COMPANY	
	WELL <u>BELL LAKE UNIT #2</u>	
	FIELD <u>WILDCAT</u>	ES-GRL (ML-GRN)
	LOCATION <u>SEC.30-23S-34E</u>	Elevation: D.F. <u>351</u> K.B.: or G.L.:
COUNTY <u>LEA</u>	FILING No.	
STATE <u>NEW MEXICO</u>		

RUN No.	1	2	3	4	5
Date	4-21-54	6-6-54	8-25-54	9-7-54	9-20-54
First Reading	1270	6098	12420	12661	12745
Last Reading	88	1274	6094	12467	12661
Feet Measured	1182	4924	6326	194	84
Csg. Schlum.		1274	6094	12467	12467
Csg. Driller		1269	6080	12469	12469
Depth Reached	1273	6101	12423	12664	12748
Bottom Driller	1270	6095	12425	12657	12745
Depth Datum	KDB 16.35' Adv. 6L				
Mud Nat.	Salt Gel-Caustic-Obr.-Chemicals				Gel
" Density	9.9	12.6	9	12.1	12.2
" Viscosity	35	54	120	60	190
" Resist.	2.58 @ 92°F	0.66 @ 75°F	1.54 @ 78°F	6.4 @ 72°F	9.9 @ 85°F
" Res. BHT	2.58 @ 92°F	0.38 @ 118°F	.74 @ 168°F	.26 @ 175°F	.48 @ 176°F
" pH	@ °F	@ °F	@ °F	@ °F	11 @
" Wtr. Loss	CC 30 min.	16 CC 30 min.	9.8 CC 30 min.	8 CC 30 min.	5.8 CC 30 min.
Max. Temp. °F	92	118	168	175	176
Bit Size	17 1/4"	12 1/4"	8 5/8"	6"	6"
Spcgs.—AM	10"	10"	10"	10"	10"
A	32" LS	32" LS	32" LS	32" LS	32" LS
AO	19'	19'	19'	19'	19'
Opr. Rig Time	1 1/2 Hrs.	2 Hrs.	3 Hrs.	2 1/2 Hrs.	2 Hrs.
Truck No.	1760-Hobbs	1760	1760-Hobbs	1762	1759-Hobbs
Recorded By	Kellenberger	Scott	Scott	Winkler	Bayless
Witness By	Estes	Estes	Estes	Thornton	Smith



CARDINAL SURVEYS COMPANY

INJECTION PROFILE

COMPANY <u>DEVON ENERGY CORPORATION</u>		File No. <u>13,129</u>																										
WELL <u>TODD FEDERAL NO. 26-3 SWD</u>																												
FIELD _____																												
COUNTY <u>EDDY</u>	STATE <u>NEW MEXICO</u>																											
LOCATION: <u>SE & NW</u>																												
SEC <u>26</u> TWP <u>23S</u> RGE <u>31</u>																												
Permanent Datum <u>G.L.</u> Elev. <u>N/A</u>		KB <u>N</u>																										
Log Measured From <u>K.B.</u> <u>0</u> Ft Above Perm. Datum		DF <u>/</u>																										
Drilling Measured From <u>K.B.</u>		GL <u>A</u>																										
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