S&J OPERATING COMPANY

811 Sixth Street, Suite 300

Post Office Box 2249

WICHITA FALLS, TEXAS 76307-2249

January 20, 1992

Mr. David Catanach
Oil Conservation Division
State of New Mexico
Energy and Minerals Department
State Land Office Building
Santa Fe, New Mexico 87501

Re: Application for Authorization to Inject S & J Operating Company Denton North Wolfcamp Unit Lea County, New Mexico

Dear Mr. Catanach:

After talking with you on Friday, January 17, 1992, I have researched the records to answer the questions you have about the wells within the Area of Review pertaining to the referenced application. We are sending you four copies of a new tabulation showing the calculated tops of cement on the wells you have in question and a new map showing a revised one half mile circle around injection well No. 7-3. It was determined that the Priest well No. 8 in Section 1, T15S R37E was actually 2750' from well No. 7-3 and should not have been included in the one half mile Area of Review circle.

In answer to other questions, we found that the Hondo Oil and Gas, Dickinson "D" well No. 5 shown on Page 3 of the Area of Review data had the 5 1/2" casing cemented with 1,000 sacks of cement from a scout ticket data sheet which we have included. We found in reviewing the files that well No. 7-4 on the Denton North Wolfcamp Unit also on Page 3 had the 7" casing actually cemented with 700 sacks rather than 400 sacks which apparently was a misprint. We were still not able to find the amount of cement used to cement the 5 1/2" casing in the A. R. Priest well No. 5 and have included herewith a scout ticket for this well which shows that the number of sacks apparently were not properly reported to the scouting service. This 7" casing was cemented on top of the Wolfcamp; therefore, we are certain there is cement in the well which should cover an inadequate interval. We will continue to try to determine the amount of cement used in this particular well.

In calculating the tops of cement in the various wells we were able to find the information on the S & J Operating Company, T. D. Pope well No. 3 shown at the bottom of Page 2. The 5 1/2" casing was cemented in this well with a total of 600 sacks. The records which we have included herewith show 500 sacks of cement with 4% gel followed by 100 sacks of neat cement. We have determined an average fill factor for a cement job such as this of 1.49 cubic feet per sack. We have also determined that a fillup factor for these liners or casing strings of approximately 75 percent is probably more representative than the 70 percent you stated that you used. Utilizing these data we have calculated the top of the cement in the T. D. Pope well No. 3 to be 8758' whereas the top of the cement from a temperature survey showed to be 8790'. We believe that the other cement jobs on the liners or casing strings to the Devonian are similar since all operators knew that they must bring cement up across the Wolfcamp zone which was already producing. Therefore, we used a ratio of five out of every six sacks on any job being cement with 4% gel and the balance being neat cement. Utilizing the fill factor of 1.49 cubic feet per sack and the fillup factor of 75 percent we calculated the top of the cement in the other wells which should be satisfactory.

We hope that the data submitted herewith will be satisfactory to you and that this information will help expedite the issuing of permits for these wells.

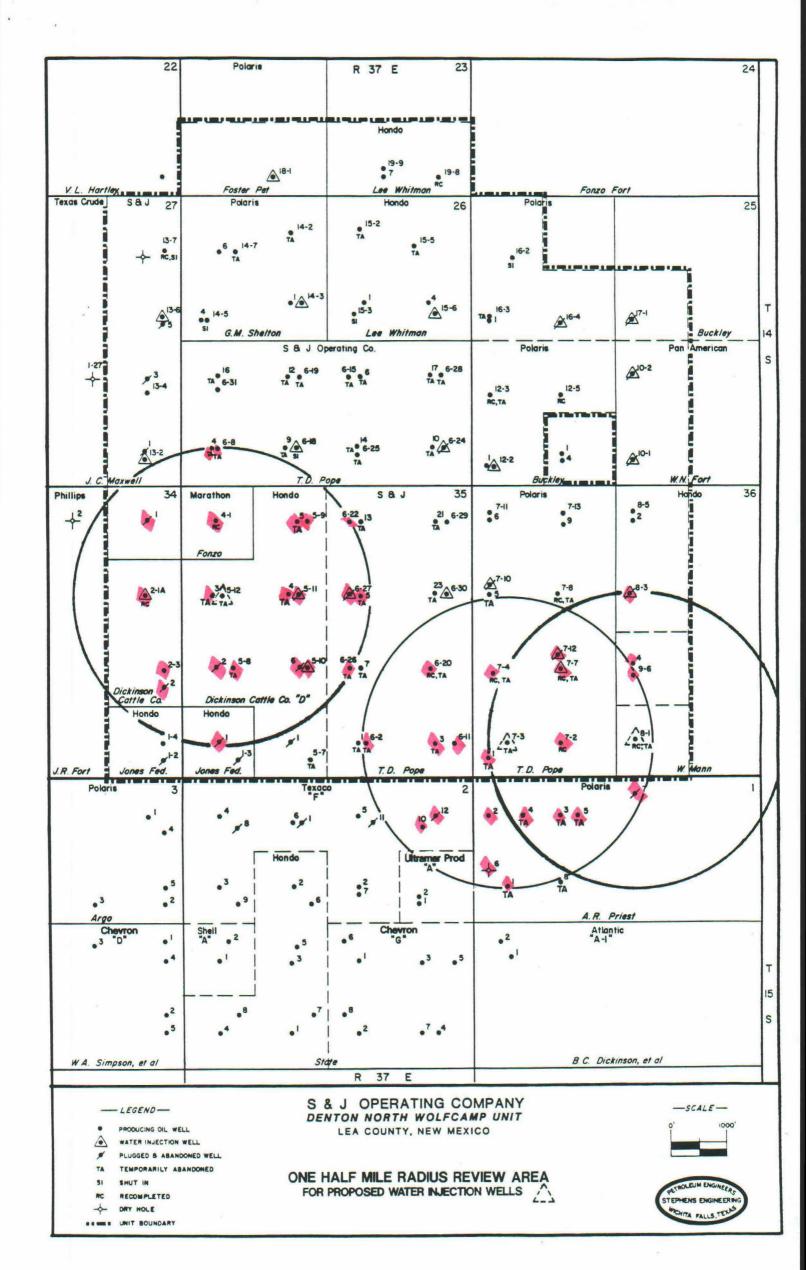
Please contact us if you have any questions concerning this information. Thank you for your help and consideration.

Yours very truly,

S & J OPERATING COMPANY

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PSCjr/dk



API Nbr: 30025051790000 Meridian: NEW MEXICO

State: NMEX

County: LEA Meridn Code: 21 Prov Code:

Province:

Oper: ATLANTIC RICHFIELD

Oper Code: 002905

Prev. Oper: ATLANTIC REFINING CO. Prev. Oper: LOWE, RALPH-ATLANTIC

Lease: DICKINSON D Well: 5

Lease Code:

Field: DENTON

Field Code: 024725

T014 S R037 E SEC35 TWP NM:

1980FW

CNGRS T-R-SEC /FULL SEC

PBTD

Footages: 660FN City Code:

Sub Div:

Blk/Lot:

Spot:

Oper Elev: 3820GR

RIG HT:

Log Td: FormalD:

Other Depths: DRLR 12475

WSTD

OLDTD

Status: OIL

Hole Dir: VERTICAL

Spud Date: 11 04 1952 Comp Date: 03 01 1953

Numeric Class: INL-6 FNL-1

Alpha Class: INL-D FNL-DO

Prod Form:

Latitude: 33.06622

Source: USGS NAD27

Longitude: 103.17262

CASING:

13 3/8 @ 8 5/8 a 336 W/ 400\$X 4730 W/ 1700SX

5 1/2" LINER:

4470-12178

₩/ 1000

Contr:

Tools: ROTARY

RIG Nbr:

INITIAL POTENTIAL TESTS:

FORMATION TOPS: (Source, Names, Depths, Shows)

SPI

453SADR 4670 453GLRT 6070 452ABO 7920 359MPLM 11330

359MSSP 10880 451WFMP 9190

319WDFD 12020 309DVNN 12160

CORE DESCRIPTIONS:

FORMATION TESTS:

OST 01 9130-9320

GAS TS IN 50M AT

REC 310FT O&GCM 8120FT 0

FINAL OP: 1H30M IFP: 500 FFP: 2910 FSIP: 3450 15M FHP: IHP: ISIP:

TCK: 064/64 BCK: 040/64 TL D "

PRODUCTION TESTS:

PTF 48R OPENHOLE CUT % /64CK 001HRS

024HRS

12178-12475

396B OPENHOLE

CUT % 15/64CK 12178-12475

TP: 1000 CP: SITP: SICP: CAOF: MCFD BHP: @ FT BHT: F TUBING SIZE: 2" a11990FT REF DATUM GTY: 44.5

COND: GOR: 725 B/MMCF

FIELD: DENTON DEVONIAN PROD ZN CODE: OPER KEY: 1

LOG SURVEYS:

PTF

EL

OTHER WELL INFO:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Honizontal Phillips Pata ***

API Nbr: 30025098660000 State: NMEX County: LEA Meridian: NEW MEXICO Meridn Code: 21 Prov Code: Province: Oper: SHELL OIL Oper Code: 078505 Lease: PRIEST Well: 5 Lease Code: Field: DENTON Field Code: 024725 T015 S R037 E Spot: TWP NM: Footages: 660FN 1980FW CNGRS T-R-SEC /FULL SEC Sub Div: Blk/Lot: City Code: Oper Elev: 3806DF RIG HT: Log Td: FormalD: PBTD OLDTD Other Depths: DRLR 9485 WSTD Spud Date: 01 24 1953 Status: OIL Hole Dir: VERTICAL Comp Date: 10 07 1953 Numeric Class: INL-6 FNL-1 Alpha Class: INL-D FNL-DO Prod Form: Latitude: 33.05171 Source: USGS NAD27 Longitude: 103.15537 CASING: 13 3/8 a 350sx 355 W/ 4800 W/ 1700SX 9450 W/ SX 8 5/8 @ 5 1/2 @ INITIAL POTENTIAL TESTS: 44B PD CUT % /64CK IPS 024HRS PERF 9168-9380 9200-9220 A 9294-9320 9168-9180 A A9365-9380 PERF 9168-9380 500 GALS A FBRKP: CLAG 9168-9380 2000 GALS A FRRKP: ACID 5000 GALS A 9168-9380 FBRKP: ACID IPP 88B PD **CUT 1%** /64CK 024HRS 9168-9380 PERF 18000 GALS A ACID 9168-9380 FBRKP: 9168-9380 5000 GALS A ACID FBRKP: DIDA 9168-9380 7000 GALS A FBRKP: GTY: 43.9 GOR: 253 COND: B/MMCF FIELD: DENTON WOLFCAMP OPER KEY: 1 PROD ZN CODE: FORMATION TOPS: (Source, Names, Depths, Shows) LOG 452YESO 6255 452DRKD 7390 452ABO 8068 451WFMP 9245 CORE DESCRIPTIONS: FORMATION TESTS: 9160-9485 DST 01 PKRFLR DST 02 9140-9485 PKRFLR 9110-9485 PKRFLR **DST 03** PRODUCTION TESTS: CUT 5% /64CK 54B 016HRS PTS 9168-9380 PERF 9168-9380 FRRKP. 500 GALS A ACID ACID 9168-9380 5000 GALS A FBRKP: 47B CUT % /64CK 024HRS PIS

LOG SURVEYS:

. NE

OTHER WELL INFO:

PERF

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

9168-9380

*** Horizontal Drilling Data ***

MAGAOLIA PETROLEUM COMPANY DRILLING MUD HISTORY

Lease and Well No: T. D. Pope No. 3 Owner of Tools: Helmerich and Payne	
Field: Denton District: Kermit Division: West Texas	
Location: Sec. 27, T-14-S, R-37-E County or Parish: Lea State New Me	ಸ್ತ
Date Spudded: 12-1-52 Date Completed: 1-23-53 Date of Report: 9-1-53	
Total Depth Drilled: 12628 Perforated with holes in dia, from 12218 to 1262	8
Initial Production Test on 1=23 1953 made 199 thrub/64in choke	
Initial Static BHP: 4483 PSIG on 4-29-53,	
CASING AND CEMENT RECORD STRING OF PIPE SIZE DEPTH SET SIZE HOLE DEPTH HOLE CEMENT CALCULATED TEMP SURVEY FOR INTERVAL DRILL PIPE NO	
STRING OF PIPE SIZE DEPTH SET SIZE HOLE DEPTH HOLE CEMENT CALCULATED TEMP SURVEY FOR INTERVAL DRILL PIPE NO	TRIPS
SURFACE 13-3/8 450 17-1/2 450 425 Circ - 15 sx. ntermediate 9-5/8 4605 12-1/4 & 11 4805 3600 540 10 10 10 10 10 10 10 10 10 10 10 10 10	
ntermediate 9-5/8 1:805 12-1/1 & 11 1:805 3600	

DRILL STEM TEST	DRIL!	S	TE	M	TE	ES'	TS
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INTERVAL	OF DEPTH	DURATION OF TEST	SIZE DRILL PIPE		
FROM	10	DOIGNI ON TEST	SIZE ORILL PIPE		
9160	9212	1:30	•		
9212	9262	1:00			
10355	10387				
		1:00			
12208	12290	2:00			
12290	12383	2:00			
·					
	1				

MUD HISTORY

Treatment Started at <u>4800 and</u> Drilling Mud Characteristics					D O.	epths	-1000	F.W. M	ulsion	Mud
Drining that Ondrations	4.8		9.3			11.4		12.6	,	
Weight, Lbs. per Gallon	10.1		8.8		1	8.6		8.7		<u> </u>
Pressure, PSI per IOO ft. of Depth	52.5		45.7				15.25	15.2		— —
Pressure, PSI at Bottom Depth Shown	1		4250						,	 -
Funnel Vis., sec. (1500 cc. in-Qt. out)	2520				ı	- 1	5566	5702		
Stormer Vis., cp.	Ţto_		48		52	67	68	83	 	
Stormer Initial Gel, Gms.	<u> </u>									
Stormer IOmin. Gel, Gms.									 	
Filtratemin. @ 100 PSI, cc.	25		9ميلا		9.2	6.5	8.0	8		
Filtrate 30 min. @ 100 PSI,cc.	65		TrieA		9.2	0.5	D ₀ U		 	
									 	
Cake Thickness, 32nds of an inch Temp. at Sampling Point, F										
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pH Mud pH Filtrate	 		-						 :-	
·	 						·			 -
pH Method	ļ									
Sand Content,% by Vol.	ļ						<u> </u>	- 	 	
Salt Content, PPM		ļ							 	
Filtrate Analysis:							٤ -		ļ	ļ
PPM OH										L
PPM GO,										
PPM HCO,	ļ	ļ							<u> </u>	ļ
PPM			<u> </u>						<u> </u>	
Mud Materials and Chemicals	F	ounds	Added	During	Interv	al Sho	wn Abov	e Total Pounds	Price Per Pound	Cost
Weighting (Magcobar)								15,000		292
Bentonite (Magcogel)								191,000	<u> </u>	1070
Total Mud Materials								206,000	 	4362
Tannin (Quebracho)	 							8,500	1	1230
Caustic Soda		<u> </u>						7,000		483
Soda Ash							-	8,000	 	312
	-								 	
Salt	 						 -		 	460
Lost Circulation Material	 	 				ļ				2812
Driscose					· · · · · · · · · · · · · · · · · · ·		-	200	1	160
Lime	-					<u> </u>		300		5
Starch						 		7,500	 	1163
Bi-Carb. of Soda		ļ	 						 	58
Drayage and Tax	 		 			 	 	700	 	952
Total Chemicals	-	ļ					 	71,500		7635
Total Mud and Chemicals						ļ	 -	277,500	1	11997
Total Cost of Mud and Chemicals/Foot	1	1	1			l	1	ce:	1	0.95

MAGNOLIA PETROLEUM COMPANY WELL RECORD

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Section 4 Drill Stem Tests Section 10- Summary of Operations	Section 2- Formation Summary	_		Section Section	n 9- Acidizing or Oti		er at ion
Section 5- Perforating and Squeeze Record	Section 4 Drill Stem Tests			Section Section	n 10-Summary of Ope	rations	

SECTION NO. 1 - PRODUCTION TESTS AND FOTENTIAL TEST DATA:

Potentail test completed on h-22-53 in the Dolomite fernation,
Devenies some: Top 12,180', bottom 12,628'; perforated with
Jet shots, h SFY: 12218 - 1223h, 122hh - 12256, 1226h - 12276,
12307 - 123h7, 12379 - 12h33, 12h51 - 12h96, and 12553 - 12628,
Well flowed on 2h hr. test, Rate per day: h98.70 bbls. oil & ne
water, Gas h13 NCF. G.O.R. 830/1. Choke Size: 18/6h", Tubing
Pressure: 550 - 750f, CP: 0 - 150f. A.P.I. Gravity: h5.2 dag,
Allow: 256 bbls, per day, Service Pipe Line Go, will run the oil.

SECTION NO. 2 - FORD		D.8,7, GR.	BLECTRIC	
Formation	<u>10</u>	NO. LOG RUN	TOO BIE	DESCRIPTIVE REMARKS
Anhydrite	2124		· · ·	
Intes	31.36	•		
San Andres	4620		·	
Olerieta	6208		3	
Tabbs	7330	·	. 	
Abo	8013		. 🛂 🚾	
Perms Penm,	9190	1,2,43	7	Lost directation @ 10361'.
Miss.	11353		.	Regained circo in 12 hrs.
Voodford	12070	1	ī	
Devonies	12180	445 1	1	Producing Formation.
: · · · · · · · · · · · · · · · · · · ·	TH MEASUREMENT	'S	a	

DEPTH	FOR-W.LCG ORLEG.LCG	TO FLAME	Surface Flance Depth
Surface String Seat and ASO 1990 to	en († 1777) Profesional († 1787)	1.57 A. 1.52	136
8-5/8* edg. set at 4805	• 4805	16 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4791
Total Depth 12628	£12630	The same and the	12616
Liner 50% 12628	#1.2630	The second second	Dist
Top Of Lines h610	* i	2h*	4596
Perforations 12218 - 12234 - 12256 12264 - 12276	#12220 - 12236 #12216 - 12258 #12266 - 12278	11.0 12: 11.0 12:	152 - 12264
12307 = 12347 12379 = 12433 1 12451 = 12496 12553 = 12628	#12309 - 12349 #12381 - 12435 #12453 - 12498 #12555 - 12630	110 110 112 121 121 121 121 121 121 121	367 - 12421 139 - 12484

SECTION NO. & - INILE STEM TESTS:

					Tool	, COPP	aktes '	Water	Time
Io.	Date	From	<u>To</u>	Kind of Hole	Set 0	Top	Bottom	Cashion	Tested
1.	1-23-53	9160	9212	Open Hele	9212	1"	5/8"	Home	la hre, (Permo
	Used 2 p	sekers,	gas to	surface 9 min.	too small	to me	esure. Rec.	8650* free	oil. Grav.Penn)
	38.7 € 6	dag, R	SV. TOG	overy. SIP: Ler	D. BHTP:	515 - 2	2675 4. Glos	ed 15 min.	III 4150 - 4120.

: (875)\

- 2. 1-26-53 9212 9262 Open Hole 9262 1" 5/8" None 1 Hr. Used 2 packers, NTS, rec. 5' drlg. mud w/no show. SFP: 0. Closed 15 min. SIP: 0. HH: 4300 in and out. (Permo Fenn).
- 3. 2-15-53 10355 10387 Open Hole 10387 1" 5/8" Home 1 Hr. Used 2 prks., NTS, rec. 7690' sulphur & 90' drlg. mad. SFP: 0, BHFP: 3975#. Closed 15 min. SIP: 4020#. HH: 4595 in 4485# out. (Forme Penn).
- h. 3-25-53 12208 12290 Open Hole 12290 1" 5/8" Nome 2 Hrs. (Dev.)
 Used 2 pkrs., gas in 8 min. 21 MCF/dsy. No fluid to surface. Rec. 270° free cil. Grav. h5.5
 630° cil cut drlg. mud. SFP: 0, BHFP: 130 265#. Closed 15 min. SIP: 1160#. HH: 5660-5390.
- 5. 3-29-53 12290 12386 Open Hole 12386 1" 5/8" Home 2 Hrs. Used 2 pkrs., Gas to surface 8 min., 23.5 MCF/day. Rec. 210' OCDM plus 1500' free oil. Grav. 45.2 SFP: 0. BHFP: 750 550%. Closed 15 min. SIP: 2550%. HRs 5850% in & out. (Devonian).