STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

E-30-27N-8W

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 9-20-82

RE: Proposed MC _____
Proposed DHC ∝
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 9-17-82

for the Union Texas Petroleum Navajo Indian B #5M E-30-27N-8W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

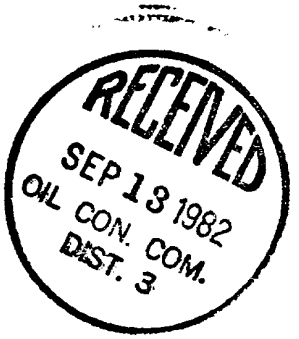
Yours truly,

Frank T. Chavez

Union Texas Petroleum

P.O. Box 808
Farmington, N.M. 87401

September 9, 1982



State of New Mexico
Oil Conservation Division
P. O. Box 2083
Albuquerque, New Mexico 87501

Attention: Mr. Joe Ramey

Dear Mr. Ramey:

Union Texas Petroleum proposes to commingle production in the Dakota and Mesaverde formations in the Navajo Indian "B" #5-M well. This well is located 1745 feet from the North line and 870 feet from the West line of Section 30, Township 27 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.

The Navajo Indian "B" #5-M was drilled and dually completed in the Dakota and Mesaverde formations in August 27, 1980. The gas produced from the Dakota and Mesaverde formations were first delivered to the El Paso Natural Gas Gathering on November 11, 1981 and December 23, 1981, respectively.

Union Texas Petroleum has a 100% working interest and an 87.5% revenue interest in both zones. The Dakota in the Navajo Indian "B" #5-M well is currently producing 184 MCFD, 3 BOPD and 1 BWPD. The Mesaverde in the Navajo Indian #5-M is currently logged off. Historically, the Mesaverde in the Navajo Indian "B" #5-M produces 1 - 5 BOPD with little gas. Unloading fluids on the Mesaverde side of the Navajo Indian "B" #5-M well is a constant problem because of the low gas-oil ratio produced.

The Dakota and Mesaverde in the Navajo Indian "B" #5-M are produced through dual strings of 2-1/16" tubing inside a 5-1/2" casing string (well diagram is attached). A pumping unit is needed to restore production in the Navajo Indian "B" #5-M Mesaverde; however, the present mechanical set-up would not be favorable for such a unit. This past summer, it cost Union Texas Petroleum $500,000 to fish the rods and

pump out of our Zachry #15-E well which had a similar mechanical set-up as the Navajo Indian "B" #5-M.

Therefore, Union Texas Petroleum proposes to replace the dual strings of 2-1/16" tubing with a single string of 2-3/8" tubing and commingle production from the Dakota and Mesaverde formations.

Attached is the necessary information you have requested for reviewing downhole commingling. Your approval in this matter will be greatly appreciated.

UNION TEXAS PETROLEUM

Rudy D. Motto
Field Operations Manager

BTW:dlb

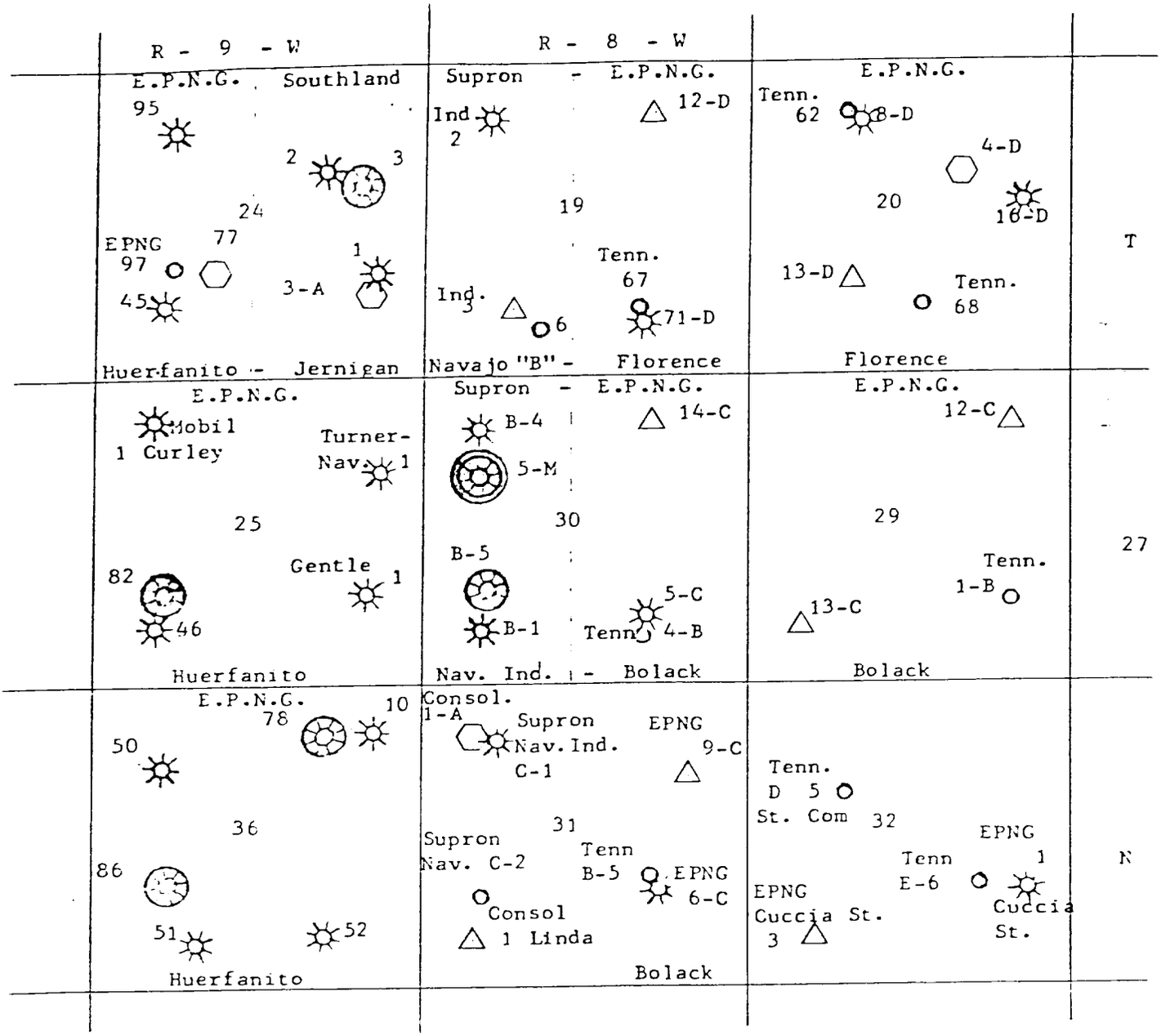
attachments

cc: Oil Conservation Division
Aztec, New Mexico office
✓Attn: Frank Chavez

SUPRON ENERGY CORPORATION

WELL: NAVAJO INDIAN "B" NO. 5-M

LOCATION: 1745 Feet from the North line and 870 feet from the West line of Section 30, Township 27 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.



Proposed Dual Basin Dakota and Blanco Mesaverde

Dakota

Mesaverde - Dakota

Pictured Cliffs

Mesaverde

Pictured Cliffs - Mesaverde

NEW MEXICO OIL CONSERVATION COMMISSION

GAS – OIL RATIO TESTS

C-116

Revised 1-1-65

Operator	Pool	County
Union Texas Petroleum	Mesaverde	San Juan

Address	TYPE OF TEST – (X)	Scheduled	Completion	Special
P. O. Box 808, Farmington, New Mexico 87401		X		

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT./BBL.
Navajo Indian "B"	5-M		30	27	8	9-1 to 9-2-82			Logged Off							

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

John C. Reston
(Signature)

Production Foreman
(Title)

9-4-82
(Date)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS - OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
Union Texas Petroleum	Dakota	San Juan

Address	TYPE OF TEST - (X)	
P. O. Box 808, Farmington, New Mexico 87401	Scheduled [X]	Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT./BBL.
Navajo Indian "B"	5-M		30	27-N	8-W	9-1 to 9-2-82	F	.750	310		24	1	58°	3.34	184	55000

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

John C. Recto
(Signature)

Production Foreman
(Title)

9-4-82
(Date)

YEAR & MO.	MONTHLY ALLOW. GAS	MONTHLY PROD. GAS	MONTHLY ALLOW. OIL	MONTHLY OIL PROD. RUNS—OIL	DAYS PROD.	CUMUL. PROD. GAS	CUMUL. PROD. OIL	LIFE. CUMUL. PROD. GAS	LIFE CUMUL. PROD. OIL
1980 TOTAL									
BAL. FWD.									
1981 JAN.									
FEB.									
MAR.		1st Delivery 12-23-81							
APR.									
MAY									
JUNE									
JULY									
AUG.									
SEP.									
OCT.									
NOV.									
DEC.		44			1				
TOTAL									
BAL. FWD.									
1982 JAN.		38			30				
FEB.		67			1				
MAR.		41			4				
APR.		0			0				
MAY		0		222	0				
JUNE		0			0				
JULY									
AUG.									
SEP.									
OCT.									
NOV.									
DEC.									
TOTAL									

WELL NAME Navajo Indian "B" #5-M (Dual) SEC. 30 TWN. 27-N RGE. 8-W CTY. San Juan POOL Blanco Mv.

YEAR & MO.	MONTHLY ALLOW. GAS	MONTHLY PROD. GAS	MONTHLY ALLOW. OIL	MONTHLY OIL PROD. RUNS—OIL	DAYS PROD.	CUMUL. PROD. GAS	CUMUL. PROD. OIL	LIFE. CUMUL. PROD. GAS	LIFE CUMUL. PROD. OIL
1980 TOTAL									
BAL. FWD.									
1981 JAN.									
FEB.									
MAR.		1st	Delivery 11-11-81						
APR.									
MAY									
JUNE									
JULY									
AUG.									
SEP.									
OCT.									
NOV.		2851		458	3				
DEC.		5616		239	19				
TOTAL		8467		697	22			8467	697
BAL. FWD.									
1982 JAN.		5319		227	18				
FEB.		5257		225	25				
MAR.		4219		218	31				
APR.		3633		232	30				
MAY		2987			24				
JUNE		3654		231	30				
JULY									
AUG.									
SEP.									
OCT.									
NOV.									
DEC.									
TOTAL									

WELL NAME Navajo Indian "B" #5-M (Dual) SEC. 30 TWN. 27-N RGE. 8-W CTY. San Juan POOL Basin Dakota

NAVAJO "B" #5-M
Sec. 30, T-27N, R-8W
San Juan County, New Mexico

Current prices for the gas and oil produced from the Navajo Indian "B" #5-M well are as follows:

Dakota gas:	$ 3.55/MCF
Mesaverde gas:	$ 3.55/MCF
Dakota oil:	$ 34.00/BBL
Mesaverde oil:	$ 34.00/BBL

There is little production history for the Navajo Indian "B" #5-M because it was recently completed in the Dakota and Mesaverde formations. Estimated reserves for the Dakota and Mesaverde formations in the Navajo Indian "B" #5-M are 600 MMCF, 10 MBO and 350 MMCF, 4 MBO, respectively. These reserve figures were used to determine the production allocation of each zone. The production allocation of each zone is as follows:

RESERVE FIGURES FOR NAVAJO INDIAN "B" #5-M

	GAS (MMCF)	OIL (MBO)
Dakota	600	10
Mesaverde	350	4
TOTAL	950	14

	GAS ALLOCATION	OIL ALLOCATION
Dakota	$\frac{600 \text{ MMCF}}{950 \text{ MMCF}} = 65\%$	$\frac{10 \text{ MBO}}{14 \text{ MBO}} = 70\%$
Mesaverde	$\frac{350 \text{ MMCF}}{950 \text{ MMCF}} = 35\%$	$\frac{4 \text{ MBO}}{14 \text{ MBO}} = 30\%$

Form 9-330
(Rev. 5-63)

well file

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

RECEIVED
OCT 10 1980
GEOLOGICAL SURVEY
FARMINGTON, N. M.

5. LEASE DESIGNATION AND SERIAL NO.: I - 149 - IND. 8468

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo Indian

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Navajo Indian "B"

9. WELL NO.: 5-M

10. FIELD AND POOL, OR WILDCAT: Blanco Mesaverde

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 30, T-27N, R-8W N.M.P.M.

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexi

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: Supron Energy Corporation

3. ADDRESS OF OPERATOR: P.O. Box 808, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface: 1745 Ft./N; 870 Ft./W line
At top prod. interval reported below: Same as above
At total depth: Same as above

14. PERMIT NO. | DATE ISSUED

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
1/2/80	1/17/80	8/27/80	6074 R.K.B.	6063

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
6720 MD & TVD	6615 MD & TVD	2	→	0 - 6720	- - -

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
4289 - 4580 Point Lookout MD & TVD

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN
Induction Electric and Compensated Neutron Density

27. WAS WELL CORED: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	20.00	256	12-1/4"	150 Sacks	
5-1/2"	15.50	6720	7-7/8"	900 Sacks (3 Stages)	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-1/16"IJ	4520	6321

31. PERFORATION RECORD (Interval, size and number)
1 - 0.42" hole at each of the following depths:
4289,4294,4302,4304,4307,4311,4325,4333,
4335,4337,4339,4343,4353,4356,4359,4363,
4378,4379,4382,4385,4399,4401,4405,4408,
4411,4464,4466,4575,4578,4580.(30 Holes)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
4289 - 4580	2000 gal. 15% HCL, 90,000 lb. 20-40 sand, & 120,000 gal. 1% KCL water.

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
	Flowing	Shut-In

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
8/27/80	3	3/4"			43		

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
18	309			347		

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
Vented

TEST WITNESSED BY: John Rector

35. LIST OF ATTACHMENTS

ACCEPTED FOR RECORD

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Original signed by Kenneth E. Roddy TITLE Production Superintendent DATE October 8, 19

OCT 14 1980

*(See Instructions and Spaces for Additional Data on Reverse Side)

FARMINGTON DISTRICT
BY

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

Well File

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

RECEIVED
OCT 10 1980
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

5. LEASE DESIGNATION AND SERIAL NO.: I - 149 - IND. 8468

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo Indian

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Navajo Indian "B"

9. WELL NO.: 5-M

10. FIELD AND POOL, OR WILDCAT: Basin Dakota

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 30, T-27N, R-8W N.M.P.M.

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: Supron Energy Corporation

3. ADDRESS OF OPERATOR: P.O. Box 808, Farmington, New Mexico 87401

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 1745 Ft./N; 870 Ft./W line
At top prod. interval reported below: Same as above
At total depth: Same as above

14. PERMIT NO.: — DATE ISSUED:

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
1/2/80	1/17/80	8/27/80	6074 R.K.B.	6063

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
6720 MD & TVD	6615 MD & TVD	2	→	0 - 6720	- - -

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 6381 - 6609 Dakota MD & TVD

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: Induction Electric and Compensated Neutron Density

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	20.00	256	12-1/4"	150 Sacks	
5-1/2"	15.50	6720	7-7/8"	900 Sacks (3 Stages)	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-1/16"IJ	6321	6321

31. PERFORATION RECORD (*Interval, size and number*)
1 - 0.42" hole at each of the following depths:
6381, 6382, 6439, 6442, 6444, 6446, 6459, 6507, 6509, 6516, 6518, 6520, 6529, 6531, 6545, 6547, 6590, 6591, 6592, 6594, 6608, 6609. (Total of 22 shots)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6381 - 6609	2500 gal. 15% HCL, 30 lb. X-linked gel w/1#,2#,3# 20-40 sand per gal, & 2% KCL water

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
	Flowing	Shut-In

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
8/20/80	3	3/4"			161		

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
100	- - -			1289		

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*): Vented

TEST WITNESSED BY: John Rector

35. LIST OF ATTACHMENTS

ACCEPTED FOR RECORD

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

SIGNED Kenneth E. Roddy (Original signed by Kenneth E. Roddy) TITLE Production Superintendent DATE Oct. 8, 1980

OCT 15 1980

*(See Instructions and Spaces for Additional Data on Reverse Side)

FARMINGTON DISTRICT

BY

OPERATOR

TEMPERATURE ★ **Wilson Service Co.** ★ SURVEYS ★ ★

P. O. BOX 1619 • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 327-2575

Pressure Survey

COMPANY Union Texas Petroleum	LEASE Navajo Indian "B"	WELL 5-M
FIELD Basin Dakota	LOCATION Sec 30, T-27N, R-8W	
COUNTY San Juan	STATE New Mexico	DATE 8-30-82
SHUT-IN 8-23-82	ELEVATION	DATUM
ZERO POINT KB	TBG. PRESSURE	CASING PRESSURE
TBG. DEPTH 6321'	CASING SET 6720'	P.B.T.D. 6678'
PACKER SET 6321	CASING PERF. 6381 - 6609	MAX. TEMP.
FLUID LEVEL None Noted		

DEPTH	PRESSURE	GRADIENT
Lube	705#	0.00
1000	724#	0.02
3000	769#	0.02
4500	803#	0.02
5500	825#	0.02
6000	833#	0.02
6300	836#	0.02
6500	840#	0.02

TEMPERATURE ★ **Wilson Service Co.** ★ SURVEYS ★

P. O. BOX 1619 • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 327-2575

Pressure Survey

COMPANY Union Texas Petroleum LEASE Navajo Indian "B" WELL 5-M

FIELD Blanco Mesa Verde LOCATION Sec. 30, T-27N, R-8W

COUNTY San Juan STATE New Mexico DATE 8-18-82

SHUT-IN 8-9-82 ELEVATION DATUM

ZERO POINT KB TBG. PRESSURE CASING PRESSURE

TDG. DEPTH 4520' CASING SET 6720 P.B.T.D. 6678

PACKER SET 6321 CASING PERF. 4289 - 4580 MAX. TEMP.

FLUID LEVEL 4250' + or =

DEPTH	PRESSURE	GRADIENT
Lube	812#	0.00
1000	826#	0.01
3000	875#	0.02
4000	914#	0.04
4250	920#	0.02
4500	975#	0.20

NOWSCO SERVICES

P.O. Box 1079 • Farmington, NM 87401 • Phone 505-327-4911

August 19, 1982

UNION TEXAS PETROLEUM
4001 Bloomfield Hwy.
P. O. Box 808
Farmington, NM 87401

Attention: Brad Wall

Dear Sir:

The following is NOWSCO Services water analysis with laboratory testing for compatability with the produced oil.

WELL: #B-5		WELL: #B-5M	
LEASE: Navajo Indian		LEASE: Navajo Indian	
Formation	Dakota	Formation	Dakota
API Gravity	65° @ 70°F	API Gravity	58°F @ 70°F
Pour Point	less than -120°F	Pour Point	less than -120°F
Flash point	less than -120°F	Flash point	less than -120°F
Formation	Mesa Verde	Formation	Mesa Verde
API Gravity	52° @ 70°F	API Gravity	46° @ 70°F
Pour Point	+20°F	Pour Point	+20°F
Flash Point	+8°F	Flash Point	+10°F

Produced oil samples from each well showed complete compatability even with the combined produced water.

Brad, we appreciate the opportunity to work with Union Texas Petroleum on this project and hope that this aid in your requirements for comingling these wells.

Respectfully,

Drew Bates
District Engineer

SCO
VICES
1079 • Formington, NM 87401 • Phone 505-327-4911

API WATER ANALYSIS REPORT FORM

DATE 8-13-82
COMPANY Union Texas Petroleum
SAMPLE NO #1
DATE SAMPLED 8-12-82
FIELD Basin Dakota
COUNTY OR PARISH
STATE New Mexico

TYPE SAMPLE Produced Fluid
DEPTH
FORMATION Dakota
WELL NO. B-5-M
LEASE Navajo Indian
SAMPLED BY Brad Wall
REPORT BY Joe Schulte

DISSOLVED SOLIDS

Cations	mg/l	me/l	x Valence	= Product
Sodium, Na & K	6744		1	
Calcium, Ca	260		2	
Magnesium, Mg	48.6		2	
Barium, Ba				
TOTAL	7052.6			

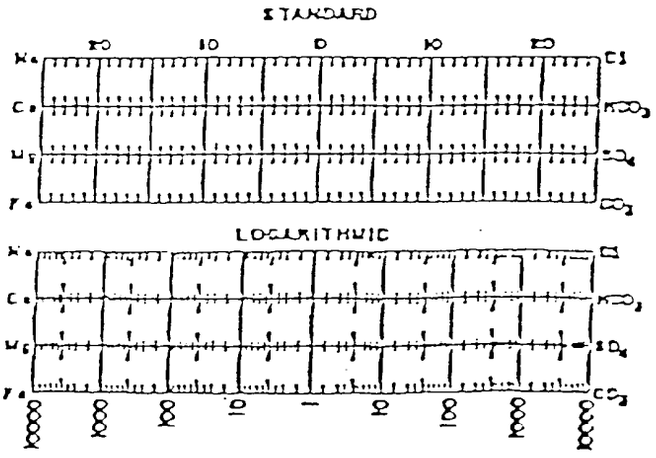
Anions				
Chloride, Cl	8540		1	
Sulfate, SO_4	3000		2	
Bicarbonate, HCO_3	354		1	
Carbonate, CO_3	36		-	
TOTAL	11930			

Total Hardness = 85
Total Dissolved Solids (calc.) 18983

Iron, Fe (total) .5 PPM
Sulfide, as H_2S None
Specific Gravity @ 1.011
pH @ Temp. 6.75 @ 75°F
Resistivity
BHT °F

Remarks: The API gravity was found to be 59°

WATER PATTERNS — me/l.



NOWSCO
SERVICES
P.O. Box 1079 • Formington, NM 87401 • Phone 505-327-4911

API WATER ANALYSIS REPORT FORM

Date August 19, 1982.
Company Union Texas Petroleum
Sample No.
Date Sampled 8-15-82
Field Navajo Indian
County or Parish Rio Arriba
State New Mexico

Type Sample water
Depth
Formation Dakota
Well No. B 5 M
Lease Navajo Indian
Sampled By Rudy Motto
Report By Drew Bates

DISSOLVED SOLIDS Cations	mg/l	me/l	x Valence	= Product
Sodium, Na+K	5600		1	
Calcium, Ca	226.5		2	
Magnesium, Mg	59.3		2	
Barium, Ba	0			
TOTAL	5885.7			

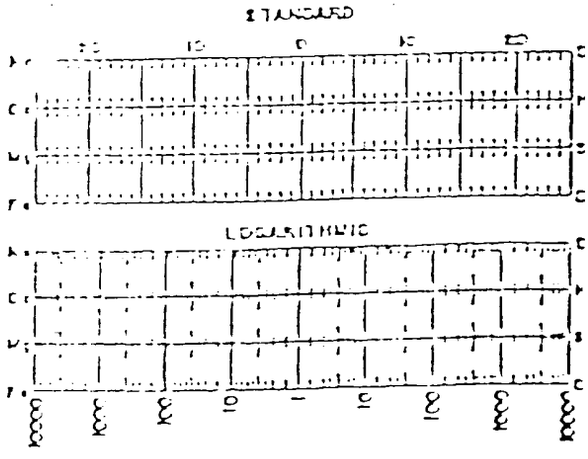
Anions				
Chloride, Cl	8619		1	
Sulfate, SO_4	500		2	
Carbonate, CO_3	12		-	
Bicarbonate HCO_3	354		1	
TOTAL	9485			

Total Dissolved Solids (calc.) 15,370

Iron, Fe (total)	.2
Sulfide, as H_2S	0
pH When Sampled	7.4 @ 70°F
Resistivity	
Temp °F	

Remarks:

WATER PATTERNS — me/l



NOWSCO SERVICES
P.O. Box 1079 • Formington, NM 87401 • Phone 505-327-4911

API WATER ANALYSIS REPORT FORM

DATE 8-13-82
COMPANY Union Texas Petroleum
SAMPLE NO. # 1
DATE SAMPLED 8-12-82
FIELD Basin Dakota
COUNTY OR PARISH
STATE New Mexico

TYPE SAMPLE Produced Fluid
DEPTH
FORMATION Mesa Verde
WELL NO. B-5-M
LEASE Navajo Indian
SAMPLED BY Brad Wall
REPORT BY F.M. Platt

DISSOLVED SOLIDS Cations	mg/l	me/l	x Valence	= Product
Sodium, Na & K	6211.15		1	
Calcium, Ca	28.8		2	
Magnesium, Mg	46.67		2	
Barium, Ba	Unknown			
TOTAL	6285.62			

Anions				
Chloride, Cl	9245.77		1	
Sulfate, SO_4	0		2	
Bicarbonate, HCO_3	896.2		1	
Carbonate, CO_3	0		–	
TOTAL	10141.97			

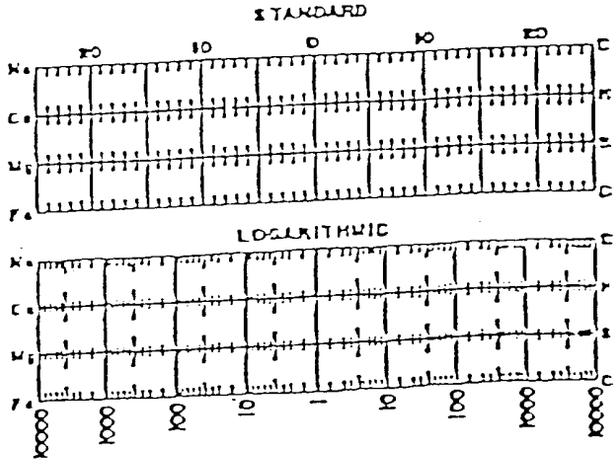
Total Hardness = 50
Total Dissolved Solids (calc.) 16433.09

Iron, Fe (total) 4.5 PPM
Sulfide, as H_2S None
Specific Gravity @ 1.010 @ 76°F

pH @ Temp. 7.7 @ 76°F
Resistivity
BHT °F

Remarks: Oil sample from Mesa Verde was a high API (46°) gravity oil most likely condensate with a small oil cut

WATER PATTERNS — me/l.



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SERVICES
P.O. Box 1079 • Farmington, NM 87401 • Phone 505-327-4911

API WATER ANALYSIS REPORT FORM

Date	August 19, 1982	Type Sample	water
Company	Union Texas Petroleum	Depth	
Sample No.		Formation	Mesa Verde
Date Sampled	August 15, 1982	Well No.	#B5M
Field	Navajo Indian	Lease	Navajo Indian
County or Parish	Rio Arriba County	Sampled By	Rudy Motto
State	New Mexico	Report By	Drew Bates

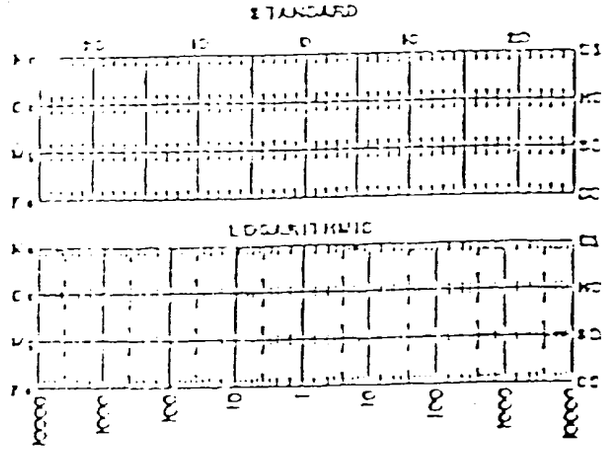
DISSOLVED SOLIDS Cations	PPM	me/l	x	Valence	=	Product
Sodium, Na+K	5647			1		
Calcium, Ca	81.6			2		
Magnesium, Mg	37.9			2		
Barium, Ba	0					
TOTAL	5762.5					
Anions						
Chloride, Cl	8501			1		
Sulfate, SO_4	0			2		
Carbonate, CO_3	0			–		
Bicarbonate HCO_3	793			1		
TOTAL	9294					

Total Dissolved Solids (calc.) 15,060
TOTAL HARDNESS = 3C
Iron, Fe (total) .1 PPM
Sulfide, as H_2S 0

pH at 70°F 7.35 @ 70°F
Resistivity
BHT °F

Remarks:

WATER PATTERNS — me/l



Union Texas Petroleum

P.O. Box 808
Farmington, N.M. 87401

September 9, 1982

Southland Royalty Company
P. O. Drawer 570
Farmington, New Mexico 87401

Gentlemen:

Union Texas Petroleum proposes to commingle production in the Dakota and Mesaverde formations in the Navajo Indian "B" #5-M well located 1745 feet from the North line and 870 feet from the West line of Section 30, Township 27 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.

Our records indicate that you are the owner and operator of acreage which adjoins this drilling block. If you have no objections to this proposed commingling, we would appreciate your signing the attached two (2) copies of this letter and returning same to this office.

Your prompt consideration of this will be greatly appreciated.

UNION TEXAS PETROLEUM

Rudy D. Motto
Field Operations Manager

RDM:dlb

This above proposed commingling is hereby approved.

BY:_____

TITLE:_____

DATE:_____

Union Texas Petroleum

P.O. Box 808
Farmington, N.M. 87401

September 9, 1982

Consolidated Oil & Gas Company
Lincoln Tower Building
1860 Lincoln Street
Denver, Colorado 80203

Gentlemen:

Union Texas Petroleum proposes to commingle production in the Dakota and Mesaverde formations in the Navajo Indian "B" #5-M well located 1745 feet from the North line and 870 feet from the West line of Section 30, Township 27 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.

Our records indicate that you are the owner and operator of acreage which adjoins this drilling block. If you have no objections to this proposed commingling, we would appreciate your signing the attached two (2) copies of this letter and returning same to this office.

Your prompt consideration of this will be greatly appreciated.

UNION TEXAS PETROLEUM

Rudy D. Motto
Field Operations Manager

RDM:dlb

This above proposed commingling
is hereby approved.

BY:_____

TITLE:_____

DATE:_____

Union Texas Petroleum

P.O. Box 808
Farmington, N.M. 87401

September 9, 1982

El Paso Exploration
P. O. Box 289
Farmington, New Mexico 87401

Gentlemen:

Union Texas Petroleum proposes to commingle production in the Dakota and Mesaverde formations in the Navajo Indian "B" #5-M well located 1745 feet from the North line and 870 feet from the West line of Section 30, Township 27 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.

Our records indicate that you are the owner and operator of acreage which adjoins this drilling block. If you have no objections to this proposed commingling, we would appreciate your signing the attached two (2) copies of this letter and returning same to this office.

Your prompt consideration of this will be greatly appreciated.

UNION TEXAS PETROLEUM

Rudy D. Motto
Field Operations Manager

RDM:dlb

This above proposed commingling
is hereby approved.

BY:_____

TITLE:_____

DATE:_____

(b) For Wells Involving a Gas Zone:

(1) That the commingling is necessary to permit a zone or zones to be produced which would not otherwise be economically producible.

(2) That there will be no crossflow between the zones to be commingled.

(3) That any zone which is producing from fluid-sensitive sands, which may be subject to damage from water or other produced liquids, is protected from contact from such liquids produced from other zones in the well.

(4) The fluids from each zone are compatible with the fluids from the other(s), and combining the fluids will not result in the formation of precipitates which might damage any of the reservoirs.

(5) That ownership of the zones to be commingled is common (including working interest, royalty, and overriding royalty).

(6) The bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum.

2. To obtain approval for downhole commingling, the operator of the well shall submit the following in duplicate to the Division Director plus one copy to the appropriate District Office of the Division.

(a) Name and address of the operator.

(b) Lease name, well number, well location, name of the pools to be commingled.

(c) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

(d) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone.

(e) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)

(f) Estimated bottom-hole pressure for each artificially lifted zone. A current (within 30 days) measured bottom-hole pressure for each zone capable of flowing.

(g) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.

(h) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.

(i) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.

(j) A statement that all offset operators and, in the case of a well on Federal land, the United States Geological Survey, have been notified in writing of the proposed commingling.

3. The Division Director may approve the proposed downhole commingling in the absence of a valid objection within 20 days after the receipt of the application if, in his opinion, there is no disqualifying disparity of bottomhole pressures or other reservoir characteristics, waste will not result thereby, and correlative rights will not be violated. The 20-day waiting period may be dispensed with upon receipt of waivers of objection from all parties mentioned in Section 2, paragraph (j).

4. Upon such approval, the well shall be operated in accordance with the provisions of the administrative order which authorized the commingling, and allocation of the commingled production from the well to each of the producing zones shall be in accordance with the allocation formula set forth in the order. The production from a well with commingled oil zones shall be subject to the lower of the daily gas-oil ratio limitations applicable to the reservoirs. The production attributable to an oil zone commingled with a gas zone shall be subject to the daily gas-oil ratio limitation applicable to such oil zone or pool. Wells shall be tested on a commingled basis annually, except that a well penalized for a high gas-oil ratio shall be tested semi-annually.

5. The Division Director may rescind authority to commingle production in the well-bore and require both zones to be produced separately, if, in his opinion, waste or reservoir damage is resulting thereby or the efficiency of any secondary recovery project is being impaired, or if any change of conditions renders the installation no longer eligible for downhole commingling under the provisions of Section 1(a) or 1(b).

RULE 303. SEGREGATION OF PRODUCTION FROM POOLS

A. SEGREGATION REQUIRED

Each pool shall be produced as a single common source of supply and the wells therein shall be completed, cased, maintained, and operated so as to prevent communication, within the well-bore, with any other specific pool or horizon, and the production therefrom shall at all times be actually segregated, and the commingling or confusion of such production, before marketing, with the production from any other pool or pools is strictly prohibited.

B. SURFACE COMMINGLING

The Division Director shall have the authority to grant an exception to Rule 303-A to permit the commingling in common facilities of the commonly owned production from two or more common sources of supply, without notice and hearing, provided that the liquid hydrocarbon production from each common source of supply is to be accurately measured or determined prior to such commingling in accordance with the applicable provisions of the Division "Manual for the Installation and Operation of Commingling Facilities," then current.

Applications for administrative approval to commingle the production from two or more common sources of supply shall be filed in triplicate with the Santa Fe Office of the Division. The application must contain detailed data as to the gravities of the liquid hydrocarbons, the values thereof, and the volumes of the liquid hydrocarbons from each pool, as well as the expected gravity and value of the commingled liquid hydrocarbons production; a schematic diagram of the proposed installation; a plat showing the location of all wells on the applicant's lease and the pool from which each well is producing. The application shall also state specifically whether the actual commercial value of such commingled production will be less than the sum of the values of the production from each common source of supply and, if so, how much less.

Where State or Federal lands are involved, applicant shall furnish evidence that the Commissioner of Public Lands for the State of New Mexico or the Regional Supervisor of the United States Geological Survey has consented to the proposed commingling.

C. DOWNHOLE COMMINGLING

1. The Director of the Division shall have the authority to grant an exception to Rule 303-A to permit the commingling in the well-bore of oil-oil, gas-gas, or gas-oil zones in a well when the following facts exist and the following conditions are met:

(a) For wells involving oil zones:

(1) The total combined daily oil production from oil zones before commingling (as determined in accordance with Section 2, paragraphs (d) and (e) below) does not exceed the following:

Bottom perforation, lowermost pool	Bbls/day oil
Less than 4,999 feet	20
5,000 feet to 5,999 feet	30
6,000 feet to 6,999 feet	40
7,000 feet to 7,999 feet	50
8,000 feet to 8,999 feet	60
9,000 feet to 9,999 feet	70
More than 10,000 feet	80

(2) Oil zones require artificial lift, or, both zones are capable of flowing. (Special consideration may be given to an exception to this latter requirement in the case in which a particular well's characteristics may justify same; however, the commingled production must be artificially lifted if either zone required artificial lift prior to commingling.)

(3) Neither zone produces more water than the combined oil limit as determined in paragraph (1) above.

(4) The fluids from each zone are compatible with the fluids from the other, and combining the fluids will not result in the formation of precipitates which might damage either reservoir.

(5) The total value of the crude will not be reduced by commingling.

(6) Ownership of the zones to be commingled is common (including working interest, royalty, and overriding royalty).

(7) The commingling will not jeopardize the efficiency of present or future secondary recovery operations in either of the zones to be commingled.

NAVAJO INDIAN "B" #5-M
Sec. 30, T27N, R8W

RECOMMENDED WORKOVER PROCEDURE

OBJECTIVE: To replace existing dual strings of 2-1/16" tubing with a single string of 2-3/8" tubing. Install 114 Cabot pumping unit.

DATUM: DF = 13' above G.L.

PROCEDURE:

1. M.I.R.U.
2. Kill well with 2% KCL water
3. Install and test B.O.P.
4. Pull Mesaverde production string of hole. Pull Dakota production string and Baker Lokset (Retrievable) Packer out of hole.
5. Run in with 3-1/2" bailer and clean fill to P.B.T.D. of 6615'.
6. Run in with 2-3/8" tubing and set at 6585'
7. Run in with rods, pump and seating nipple. Pump and seating nipple should be set at 6555'.
8. R.D.M.O.
9. Place on production.

Navajo Indian "B" No. 5-M
1745 Ft./N; 870 Ft./W line
Sec. 30, T-27N, R-8W
San Juan County, New Mexico