

THE APPLICATION OF SUPRON ENERGY  
CORPORATION FOR A DUAL COMPLETION

ORDER NO. MC-2819

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 112-A, Supron Energy Corporation made application to the New Mexico Oil Conservation Division on December 17, 1980, for permission to dually complete its USA No. 1 located in Unit P of Section 24, Township 32 North, Range 13 West, NMPM, San Juan County, New Mexico, in such a manner as to permit production of gas from the Blanco Mesaverde Pool and the Basin Dakota Pool.

Now, on this 24th day of April, 1981, the Division Director finds:

1. That application has been filed under the provisions of Rule 112-A of the Division's Rules and Regulations;
2. That satisfactory information has been provided that all operators of offset acreage have been duly notified;
3. That no objections have been received within the waiting period as prescribed by said rule;
4. That the proposed dual completion will not cause waste nor impair correlative rights.
5. That the mechanics of the proposed dual completion are feasible and consonant with good conservation practices.

IT IS THEREFORE ORDERED:

That the applicant herein, Supron Energy Corporation, be and the same is hereby authorized to dually complete its USA No. 1 located in Unit P of Section 24, Township 32 North, Range 13 West, NMPM, San Juan County, New Mexico, in such a manner as to permit production of gas from the Blanco Mesaverde Pool and the Basin Dakota Pool through the casing-tubing annulus and the tubing respectively.

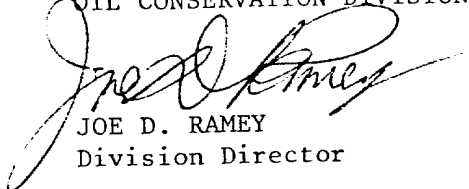
PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY  
Division Director

OIL CONSERVATION COMMISSION  
Albuquerque DISTRICT

OIL CONSERVATION COMMISSION  
BOX 2088  
SANTA FE, NEW MEXICO

DATE 1-22-81

RE: Proposed MC 2  
Proposed DHC \_\_\_\_\_  
Proposed NSL \_\_\_\_\_  
Proposed SWD \_\_\_\_\_  
Proposed WFX \_\_\_\_\_  
Proposed PMX \_\_\_\_\_

Gentlemen:

I have examined the application dated 12-16-80  
for the Supron Energy Corp. 26.8A #1 P-24-32N-13W  
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve w/ stipulations for annular production  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

Frank J. Chang

NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
APPLICATION FOR MULTIPLE COMPLETION

Form C-107  
5-1-61

Operator Supron Energy Corporation c/o John H. Hill et al The Lakes at Bent Tree		County San Juan	Date October 1, 1980
Address 17400 Dallas Pkwy., Suite 210 Dallas, Texas 75252		Lease SF-078818 A U.S.A.	Well No. 1
Location of Well	Unit P	Section 24	Township T32N
			Range R13W

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_; Operator Lease, and Well No.: \_\_\_\_\_

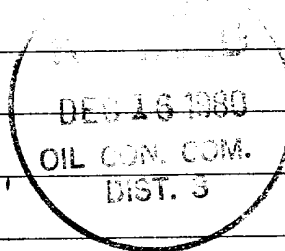
3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	MESA VERDE		DAK
b. Top and Bottom of Pay Section (Perforations)			
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

4. The following are attached. (Please check YES or NO)

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

See Attached



6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES \_\_\_\_\_ NO X. If answer is yes, give date of such notification \_\_\_\_\_.

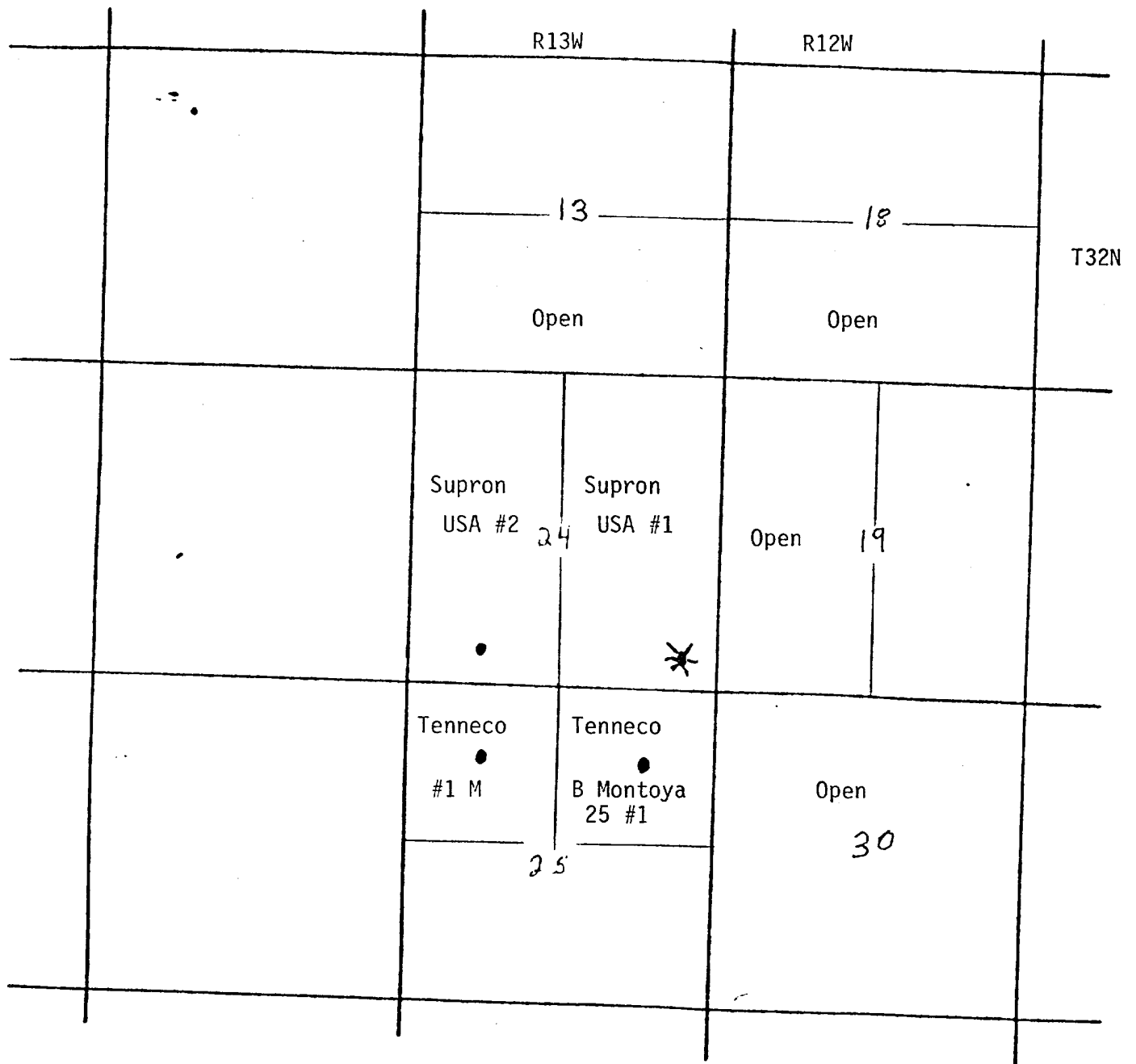
CERTIFICATE: I, the undersigned, state that I am the Drilling/Production Mgr. of the Supron Energy % John H. Hill (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

*[Signature]*  
Signature

\*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

SAN JUAN COUNTY, NEW MEXICO



Addresses of Operators

Supron Energy Corporation  
c/o John H. Hill, et al.  
The Lakes at Bent Tree  
Suite 210, 17400 Dallas Parkway  
Dallas, TX 75252

Tenneco Oil Company  
Box 2511, 1010 Milam  
Houston, TX 77001

PS Form 3811, Jan. 1979

SENDER: Complete items 1, 2, and 3.  
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☐ Show to whom and date delivered.....¢
- ☐ Show to whom, date and address of delivery.....¢
- ☐ RESTRICTED DELIVERY
- ☐ Show to whom and date delivered.....¢
- ☐ RESTRICTED DELIVERY.
- Show to whom, date, and address of delivery.\$\_\_\_\_

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

Tenneco Oil Company  
Box 2511, 1010 Milam  
Houston, Texas 77001

3. ARTICLE DESCRIPTION:

REGISTERED NO. CERTIFIED NO. INSURED NO.

P05 5416882

(Always obtain signature of addressee or agent)

I have received the article described above.  
SIGNATURE ☐ Addressee ☐ Authorized agent

4. DATE OF DELIVERY

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S  
INITIALS

☆GPO : 1979-233-848

JOHN H. HILL

The Lakes of Bent Tree  
17400 Dallas Parkway  
Suite 210  
Dallas, Texas 75252  
(214) 385-9100

Suite 020, Kyser Building  
300 W. Arrington  
Farmington, New Mexico 87401  
(505) 327-9620

November 20, 1980

✓ Tenneco Oil Company  
Box 2511, 1010 Milam  
Houston, Texas 77001

RE: Dual Completion Notification  
to satisfy N.M.O.G.C.C.'s C-107  
Requirements

Gentlemen:

In order to comply with the New Mexico Oil and Gas Conservation Commission (N.M.O.G.C.C.), an Operator is required to notify all offset operators of their intention to complete a well in two or more formations. This will serve as official notice to your company of our intention to multiple complete the below well in the below listed formations.

John H. Hill et al is acting on the behalf of the designated operator, Supron Energy Corporation. This letter will also serve as notice from Supron.

WELL NAME: U.S.A. #1 Section 24

LOCATIONS: T 32 N R 13 W, SE /4 SE /4, 812 FS L, 804 FE L

FORMATIONS TO BE MULTIPLE COMPLETED: Mesa Verde  
Dakota

Yours very truly,



Steve R. Connor  
Exploration/Producing Manager

SRC/lkw

cc: Mr. Herman Wallis, Farmington, New Mexico  
Well File

JOHN H. HILL ET AL

BAKER PACKERS DIVISION

SINGLE COMP.

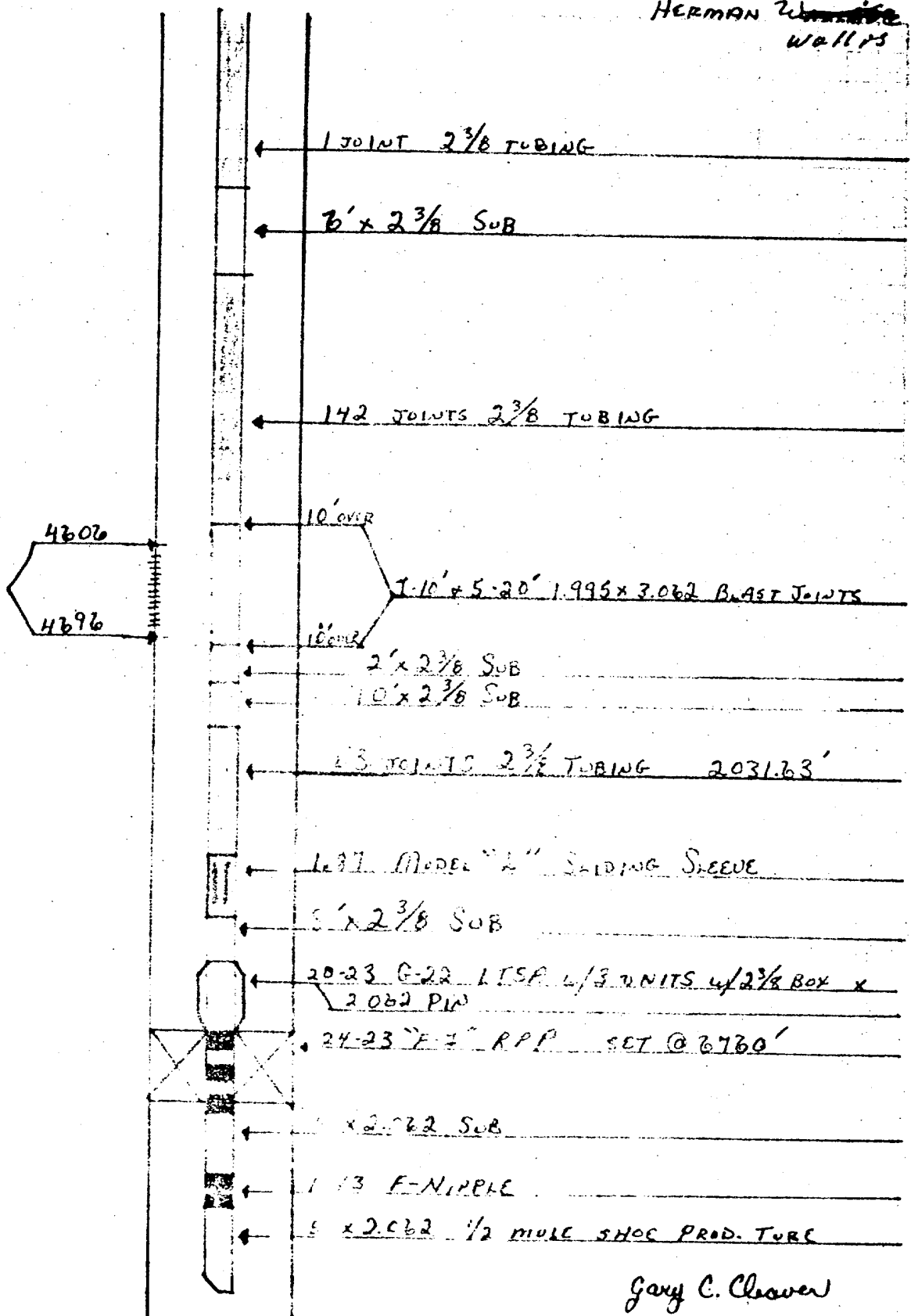
DATE 10-17-80

WELL NO. 1

LEASE USA

FIELD SSI-373-62601

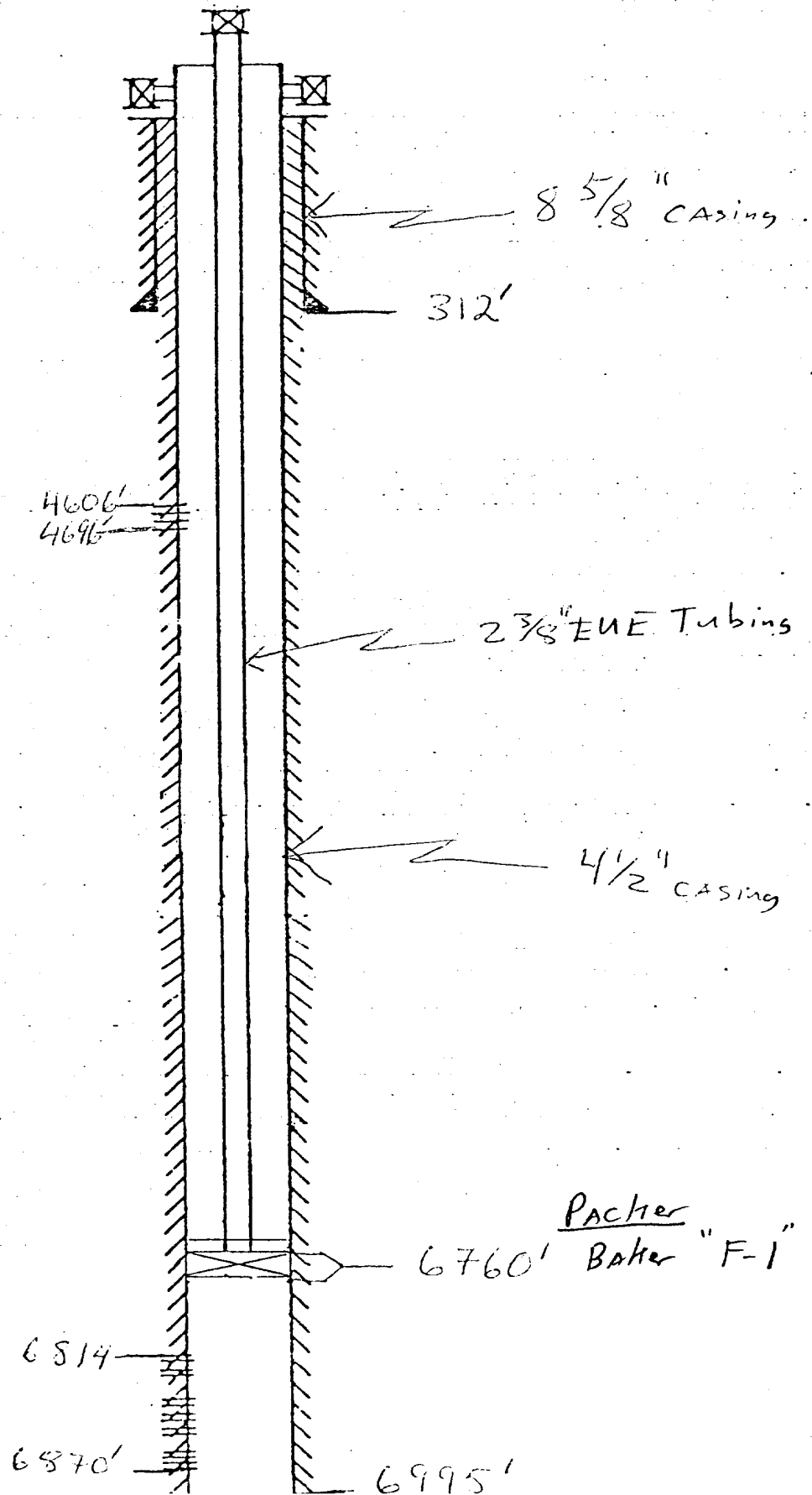
HERMAN WALLIS



Gary C. Chover



U. S. A. # 1





BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

December 19, 1980

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

Mr. Steve R. Conner  
John H. Hill et al  
17400 Dallas Parkway, Suite 210  
Dallas, Texas 75252

Re: Supron Energy Corp. U.S.A. #1 P-24-32N-13W

Dear Steve:

We have received your application for multiple completion of the referenced well. Before we can make a recommendation to the Director for approval we need more information regarding the efficiency of producing the Mesaverde formation up the annulus of this well.

Please submit data such as well tests, projected volumes of gas and liquid production, and such other data as will show that liquids will not accumulate in the well bore causing inefficient production.

If you have any questions please contact this office.

Yours truly,

A handwritten signature in cursive script, appearing to read "Frank T. Chavez".

Frank T. Chavez  
District Supervisor  
FTC/lis

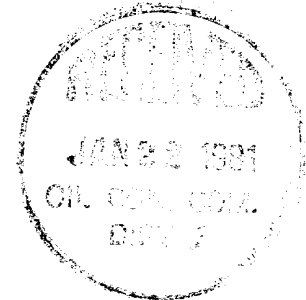
Xc: Santa Fe Carl Ulvog  
U.S.G.S., Farmington

JOHN H. HILL  
SUITE 210, 17400 DALLAS PARKWAY  
THE LAKES AT BENT TREE  
DALLAS, TEXAS 75252  
214/385-9100

January 19, 1981

State of New Mexico  
Energy & Minerals Department  
Oil Conservation Division  
Aztec District Office  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

Attention: Mr. Frank T. Chavez  
District Supervisor



RE: Your letter dated 12/19/80  
Supron Energy Corp./John H. Hill  
Farmout Well U.S.A. #1  
P-24-32N-13W Mesa Verde/Dakota Dual  
and our C-107 Application

Dear Frank:

Thank you for your recent letter concerning efficient production of the Mesa Verde formation in our well U.S.A. #1. We appreciate and can understand your concern about this situation and trust this letter will resolve any questions in your mind.

There were several interlinking factors that affected our selection of the long string size. The U.S.A. #1 was one of the first deeper Dakota wells that was drilled at the beginning of the John H. Hill/Supron Energy Corporation Farmout drilling program. We had originally permitted the well with the U.S.G.S. for a Dakota Single. After logging the well we discovered, by surprise, that the Mesa Verde formation was commercial. This caught our logistical situation by surprise because we had no 5½" casing in stock. After hurriedly checking, none was found available in the local San Juan Basin area. We had on order, dual trees but delivery at that point was four months away. We had to run 4½" casing, which was in stock, instead of the preferable 5½". However, we included special provisions to insure efficient production.

Mr. Frank T. Chavez  
Page Two  
January 19, 1981

Attached please find the C-122 well tests for Mesa Verde and Dakota formation in the U.S.A. #1. It is our opinion that the annular velocity up around the 2-3/8" tubing will certainly be high enough to lift any liquid production for a long time. Liquid production in this part of the Glade Area is approximately 20 Bbls. per day. Gas production takes averages 500 Mcf per day. This calculates to be a ratio of 1 Bbl. per 25 Mcf per day. Annular capacities with packer at 6760' are 70.1 Bbls. or 397 Cu. Ft.

#### GAS ANNULAR VELOCITY

$$\begin{array}{llll} \frac{500,000 \text{ Cu. Ft.}}{\text{Day}} & \cdot 6760 \text{ Feet} & \cdot \frac{1 \text{ Lin Ft}^*}{17.011 \text{ Cu Ft}} & = \text{? Ft/Sec} \\ \frac{500,000 \text{ Cu. Ft. (1 Day, 1 Hour, 1 Minute)}}{\text{Day (24 Hrs., 60 Min., 60 Sec.)}} & \cdot 6760 \text{ Feet} & \cdot \frac{1 \text{ Lin Ft.}}{17.011 \text{ Cu Ft}} & = \text{? Ft/Sec} \\ & & & = \underline{\underline{2299 \text{ Ft/Sec}}} \end{array}$$

#### LIQUID ANNULAR VELOCITY

$$\begin{array}{llll} \frac{20 \text{ Bbls.}}{\text{Day}} & \cdot 6760 \text{ Feet} & \cdot \frac{1 \text{ Lin Ft}^*}{95.51 \text{ Bbls.}} & = \text{? Ft/Sec} \\ \frac{20 \text{ Bbls. (1 Day, 1 Hour, 1 Minute)}}{\text{Day (24 Hrs., 60 Min., 60 Sec.)}} & \cdot 6760 \text{ Feet} & \cdot \frac{1 \text{ Lin Ft}}{95.51 \text{ Bbls.}} & = \text{? Ft/Sec} \\ & & & = \underline{\underline{.0163 \text{ Ft/Sec}}} \end{array}$$

#### RATIO OF GAS A.V. : FLUID A.V.

$$\frac{2299 \text{ Ft/Sec}}{.0163 \text{ Ft/Sec}} = \frac{1}{141,043} \quad \underline{\underline{1:141,043}}$$

\* Volume and Height between 2-3/8" tubing and 4 1/2" casing (10.50)

At a ratio of 1:141,043, we feel that the above amount of liquid produced will be efficiently lifted to the surface and no annular fluid accumulation should occur.

However, to insure that if in time gas volumes decrease and/or liquid production increases, we propose the following procedure. The operator will make annular fluid measurements periodically beginning at the time of the annual well test to the Commission. This should indicate how much, if any, liquid build-up has occurred compared to past years. (Length of periodic measurements to be approved by the Commission.)

Mr. Frank T. Chavez  
Page Three  
January 19, 1981

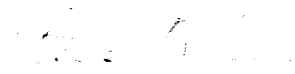
Also, as tubing we ran 2-3/8" EUE 8 rd. Above the packer, we installed a Baker Model L "Sliding Sleeve" which can be opened and closed easily by a wireline tool (see attached sketch). The purpose of the sliding sleeve was mainly for efficient production. If significant fluid build-up has occurred to impair efficient production, then the operator shall make application to the Commission to open by wireline the sliding sleeve, thus "flushing" the annulus by unloading any Mesa Verde fluids with Dakota gas which is at a higher pressure. Commingling of gases should only be for less than a few hours per flushing.

In closing, we wish to state that we concur in theory with your thoughts of 5½" casing with two tubing strings being somewhat more desirable. We hope that you can understand our reasons in this particular case why we ran 4½" casing. We will endeavor to run where ever possible 5½" casing in all of our dual completions in the future. We feel that in the U.S.A. #1, little or no annular fluid accumulation should occur. However, if any does occur, we feel we have made proper contingencies to insure efficient production by means of the sliding sleeve.

We hope our response to your letter is acceptable to yourself and the Commission and that you recommend to the Director, approval to produce this multiple completion.

If you require anything further, please feel free to call me.

Yours truly,

  
Steve R. Connor  
Manager of Exploration/Production

SRC/lkw  
Attachments

cc: Mr. Bruce Wamsley, U.S.G.S., Farmington, New Mexico  
Mr. Rudy Motto, Supron Energy Corporation, Farmington, New Mexico  
Mr. Jerry Lee, Supron Energy Corporation, Dallas, Texas

JOHN H. HILL ET AL

## BAKER PACKERS DIVISION

SINGLE COMP.

DATE 10-17-80

WELL NO. 1

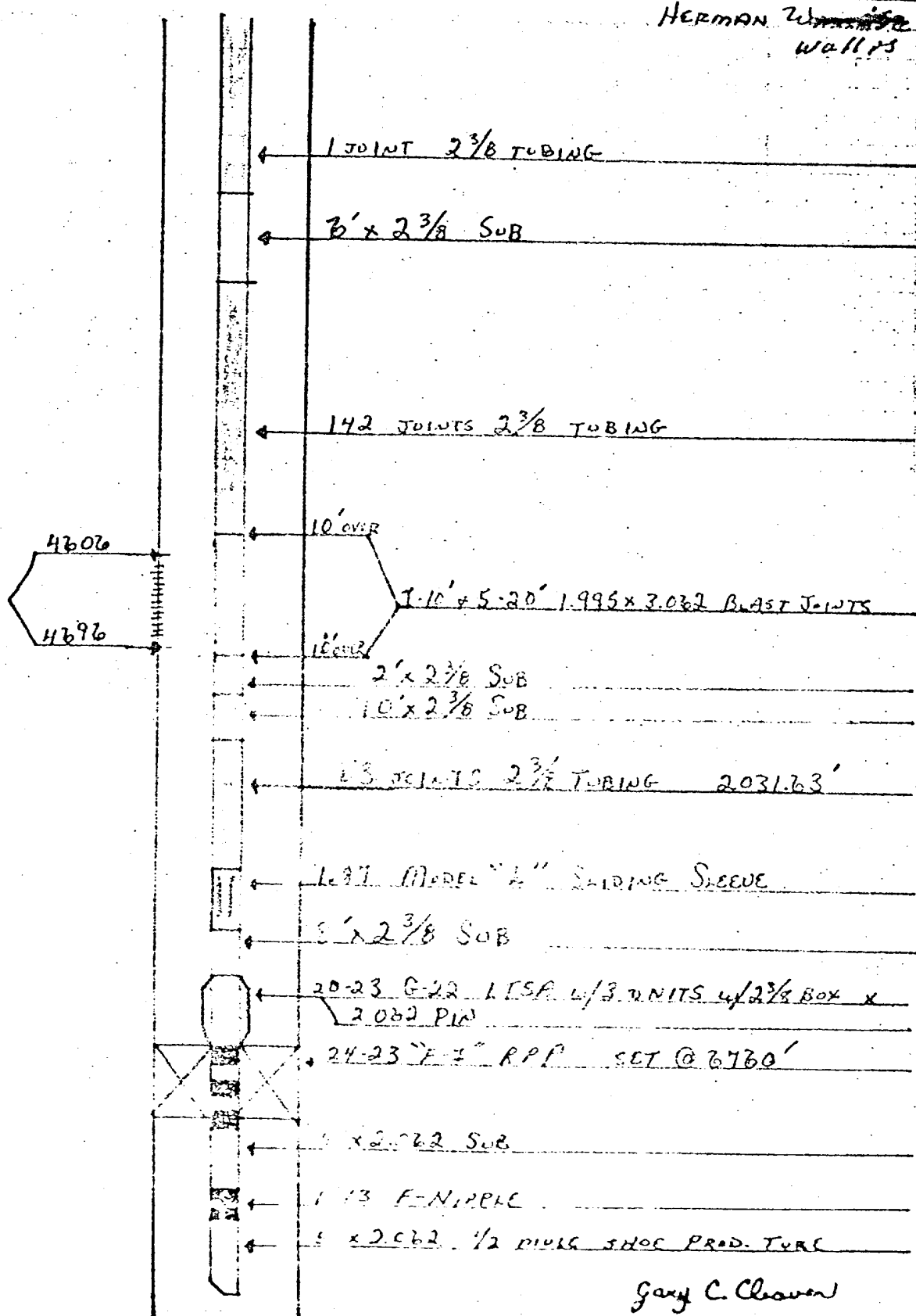
LEASE

USA

FIELD

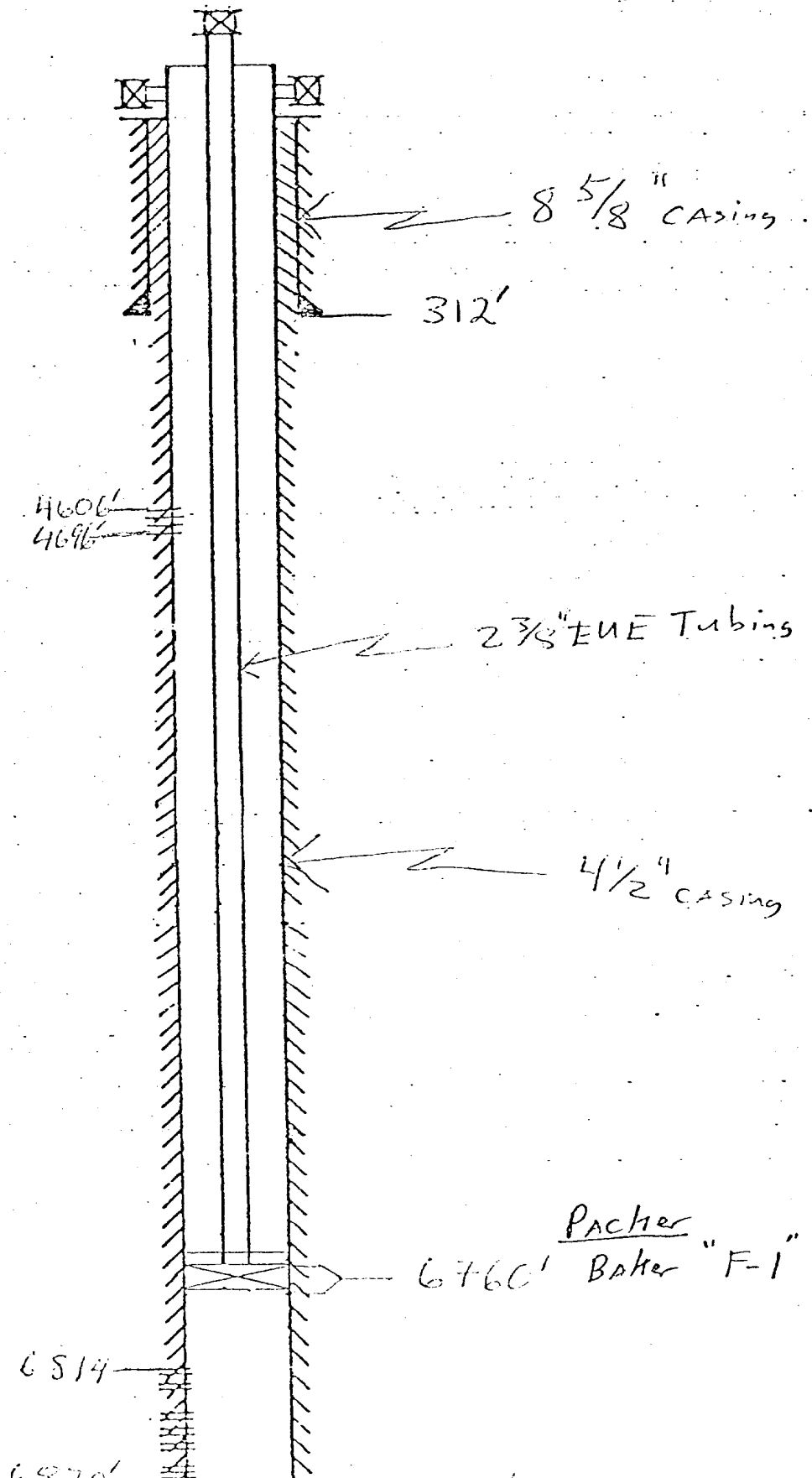
SSI-373-62601

HERMAN WALLIS



Gary C. Cleaver

U. S. A. #1



MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL.

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 12/11/80	
Company Supron Energy Corp.				Connection	
Pool Basin				Formation Dakota	
Completion Date 11/26/80		Total Depth 7000		Plug Back TD	
				Elevation 5925 G	
Csg. Size 4.500		Wt. 10.50		Set At 4.052	
				6995	
Perforations: From 6814 To 6970				Well No. 1	
Trq. Size 2.375		Wt. 4.7		Set At 1.995	
				6790	
Perforations: From Open ended To				Unit Soc. Twp. Rge. P-24-32N-13W	
Type Well - Single - Brodenhead - G.G. or G.O. Multiple G - G Multiple				Packer Set At 6760	
Producing thru Tubing				County San Juan	
Reservoir Temp. °F p				State New Mexico	
L		H		Cg est. .675	
				% CO <sub>2</sub>	
				% N <sub>2</sub>	
				% H <sub>2</sub> S	
				Prover	
				Meter Run	
				Taps	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
1.			.750	54		60	1681 (Dakota)		1094 (Mesaverde)		15 Days
2.											3 Hrs.
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	Rate of Flow Q, Mcfd
1.	12.365		66	1.0000	.9427	1.0000	769
2.							
3.							
4.							
5.							

NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ X X X X X X X X
3.					Specific Gravity Flowing Fluid _____ X X X X X
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

P <sub>c</sub> 1693    P <sub>c</sub> <sup>2</sup> 2866249		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0033$		(2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0025$	
NO.	P <sub>r</sub>	P <sub>w</sub>	P <sub>r</sub> <sup>2</sup>	P <sub>r</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	
1.	4356	98	9531	2856718	
2.					
3.					
4.					
5.					

Absolute Open Flow 771		Mcf/d @ 15.025		Angle of Slope 0		Slope, n .75	
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## OIL CONSERVATION DIVISION

STATE OF NEW MEXICO  
OIL AND MINERALS DEPARTMENT

P. O. BOX 2688

SANTA FE, NEW MEXICO 87501

Form C-177  
Revised 10-1-78

## MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test		<input checked="" type="checkbox"/> Initial		<input type="checkbox"/> Annual		<input type="checkbox"/> Special		Test Date		12/4/80	
Company				Connection							
Supron Energy Corp											
Pool				Formation				Unit			
Blanco				Mesaverde							
Completion Date		Total Length		Plug Back TD		Elevation		Form of Lease Hold			
11/26/80						5925 GL		USA			
Coq. Size	Wt.	d	Set At	Perforations		Well No.					
4.500	10.50	4.052	6995	From 4606 To 4696		1					
Tq. Size	Wt.	d	Set At	Perforations		Unit		Sec.		Twp.	
2.375	4.70	1.995	6760	From None To		P-24-32N-13W					
Type Well - Single - Bradenhead - C.G. or C.O. Multiple						Packer Set At		County			
G-G Multiple						6760		San Juan			
Producing Thru		Reservoir Temp. °F		Mean Annual Temp. °F		Baro. Press. - P <sub>g</sub>		State			
Casing		P						New Mexico			
L	H	Gg	% CO <sub>2</sub>	% N <sub>2</sub>	% H <sub>2</sub> S	Prover	Meter Run	Temp			
		est .675									

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
1.			.750	99		60	1612 (Dakota)		1097 (Mesaverde)		7 Days
2.									99		3 Hrs.
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	Rate of Flow Q, Mhd
1	12.3550		111	1.000	.9427	1.000	1294
2.							
3.							
4.							
5.							

NO.	P <sub>1</sub>	Temp. °R	T <sub>1</sub>	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1					A.P.I. Gravity of Liquid Hydrocarbons	Deg.
2.					Specific Gravity Separator Gas	XXXXXX
3.					Specific Gravity Flowing Fluid	XXXXXX
4.					Critical Pressure	P.S.I.A.
5.					Critical Temperature	R

P <sub>1</sub> 1109	P <sub>2</sub> 1229881					
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>2</sub>	P <sub>2</sub> <sup>2</sup>	P <sub>2</sub> <sup>2</sup> - P <sub>1</sub> <sup>2</sup>	(1) $\frac{P_2^2}{P_2^2 - P_1^2} = 1.0143$	(2) $\left[ \frac{P_2^2}{P_2^2 - P_1^2} \right]^n = 1.0107$
1	12321	132	17363	1212518		
2.						
3.						
4.						
5.						

Absolute Open Flow		1308	Mhd @ 15.025	Angle of Slope °	Slope, n .75
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After 24 minutes well blew light for of distillate and water for remainder of test.