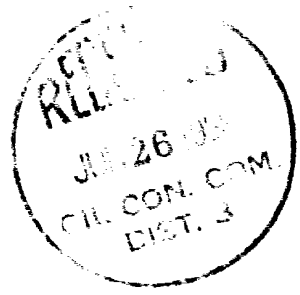
El Paso Natural Gas Company

El Paso, Texas

June 25, 1958

ADDRESS REPLY TO
POST OFFICE BOX 997
FARMINGTON, NEW MEXICO



Mr. A. L. Porter
Secretary and Director
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Sir:

This is a request for administrative approval for a well dually completed in the Blanco Mesa Verde Extension and the South Blanco Pictured Cliffs Pools. The El Paso Natural Gas Company Schwerdtfeger No. 14-A (PM) is located 990 feet from the South line and 1750 feet from the West line of Section 8, Township 27 North, Range 8 West, N.M.P.M., San Juan County, New Mexico.

This well has been completed in the Point Lookout section of the Mesa Verde formation and in the Pictured Cliffs formation. Completion has been accomplished in the following manner:

1. 10 3/4" surface casing set at 173 feet with 150 sacks of cement circulated to the surface.
2. 7 5/8" intermediate casing set at 4932 feet and cemented in two stages; 250 sacks at the base of the casing and 150 sacks across the Pictured Cliffs formation.
3. 5 1/2" liner set from 4887 feet to 5349 feet with 150 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. The Point Lookout section was perforated in four intervals and fractured with water and sand.
6. The Pictured Cliffs formation was perforated in two intervals and fractured with water and sand.
7. All perforations were cleaned out after treatment and completion was accomplished by setting a Baker Model "EGJ" production packer on 2" EUE tubing at 2980 feet with tubing perforations set opposite the Point Lookout perforations. 1 1/4" EUE tubing siphon string was run with tubing perforations set opposite the Pictured Cliffs perforations. The Point Lookout gas will be produced through the 2" tubing and the Pictured Cliffs gas through the casing.
8. Initial potential tests have been run and commercial production has been found in both zones. A packer leakage test has been run and witnessed by a member of the Aztec office of the Oil Conservation Commission. This test shows no communication in the well bore between the two producing formations.

COPY

Administrative approval is requested for the dual completion to allow production from both known producing formations, eliminating the high initial cost of drilling two separate wells.

Since El Paso Natural Gas Company holds all leases immediately adjacent to the drilling block, permission to dually complete this well has not been sought from any other operator. Enclosed are:

(a) Two copies of the schematic diagram of the mechanical installations.
(b) Two copies of the affidavit from the packer setting company stating that the packer used was set at the depth shown.
(c) Two copies of the packer leakage test as observed by a member of the Oil Conservation Commission.
(d) Two copies of the initial potential test showing commercial production from the two formations.

It is intended to dedicate the W/2 of Section 8, Township 27 North, Range 8 West to the Mesa Verde formation and the SW/4 of Section 8, Township 27 North, Range 8 West to the Pictured Cliffs formation.

Any further information required will be furnished upon your request. Thank you for your consideration in this matter.

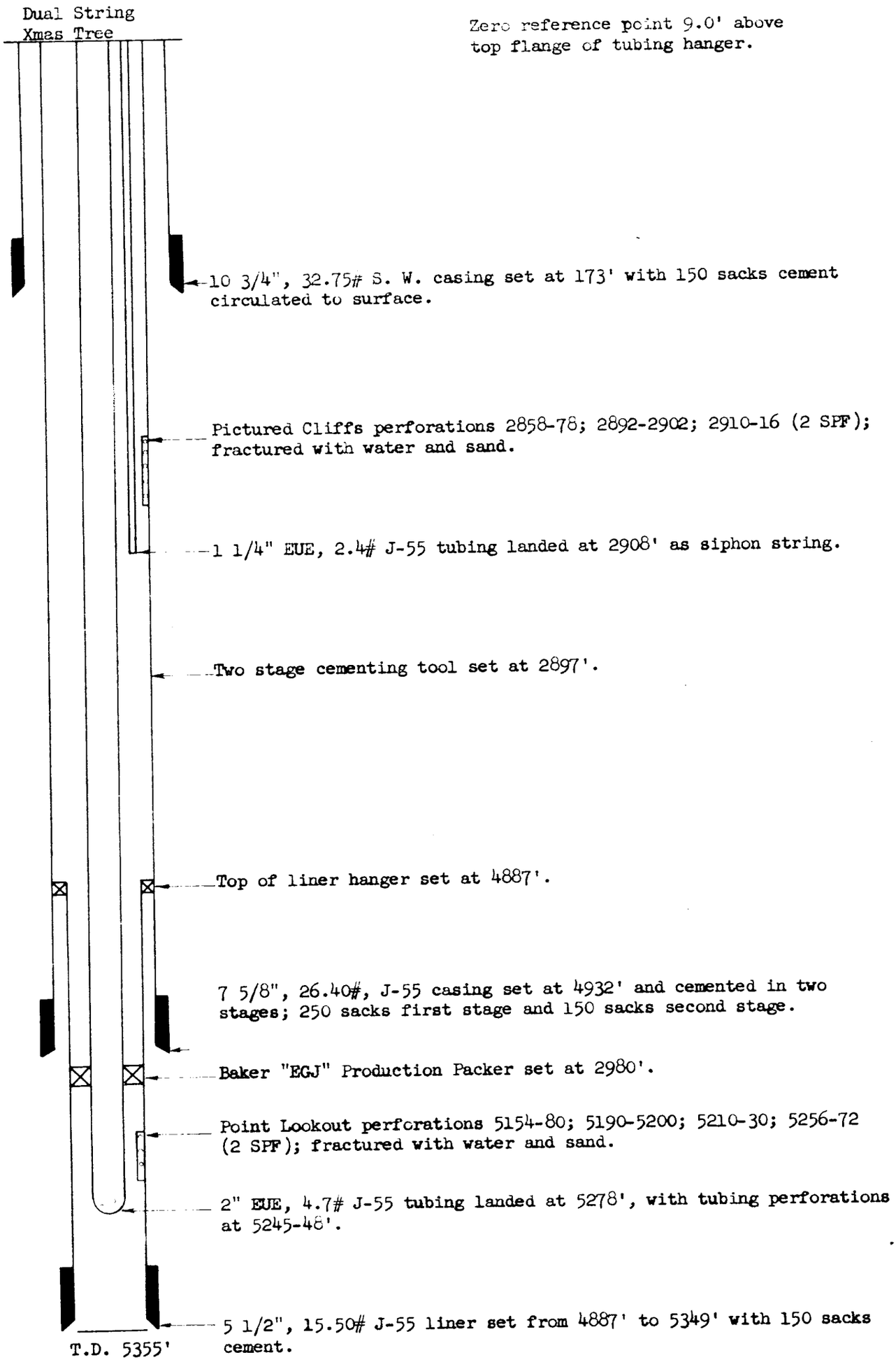
Yours very truly,

ORIGINAL SIGNED E. S. OBERLY

E. S. Oberly,
Division Petroleum Engineer

ESO:dgb
Encl.
cc: NMOCC (Emery Arnold)
Sam Smith
USGS (Phil McGrath)

SCHEMATIC DIAGRAM OF DUAL COMPLETION
El Paso Natural Gas Co. Schwerdtfeger No. 14-A (PM)
SW/4 Section 8, T-27-N, R-8-W



STATE OF NEW MEXICO)
)
COUNTY OF SAN JUAN)

I, Mack M. Mahaffey, being first duly sworn upon my oath depose and say as follows:

I am an employee of Baker Oil Tools, Inc., and that on March 27, 1956, I was called to the location of the El Paso Natural Gas Company Schwerdtfeger No. 14-A (PM) Well located in the SESW/4 of Section 8, Township 27 North, Range 8 W st, N.M.P.M., for advisory service in connection with installation of a production packer. In my presence, a Baker Model "EGJ" Production Packer was set in this well at 2980 feet in accordance with the usual practices and customs of the industry.

Mack M Mahaffey

Subscribed and sworn to before me, a Notary Public in and for San Juan County, New Mexico, the 24th day of June, 1956.

Notary Public in and for San Juan
County, New Mexico

My commission expires February 24, 1960.

EL PASO NATURAL GAS COMPANY

P. O. Box 997
Farmington, New Mexico

May 27, 1958

Mr. E. C. Arnold
O l Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico

Re: Packer Leakage Test on the El Paso Natural Gas Company Well, Schwerdtfeger 14-A (MV), 990S, 1750W, 8-27-8, San Juan County, New Mexico.

Dear Mr. Arnold:

The subject well was dually completed in the Pictured Cliffs and Mesa Verde zones and a packer was set at 2980 feet. The Mesa Verde zone was tested through a 3/4" choke for three hours May 15, 1958, with the following data obtained:

PC SIPC 800 psig; shut-in 46 days
PC SIPT 801 psig;

MV SIPT 1042 psig; shut-in 46 days

Time Minutes	MV Flowing Pressure Tubing Psig	PC SIPC Psig	MV Working Pressure, Psig	Temp °F
15	445	802		66
30	405	802		68
45	387	802		66
60	368	802		68
120	-	-		-
180	313	802		66

The choke volume for the Mesa Verde was 3800 MCF/D with an AOF of 5373 MCF/D.

The Pictured Cliffs zone was tested May 23, 1958, with a 3/4" choke for 3 hours with the following data obtained:

PC SIPC 806 psig; shut-in 54 days
PC SIPT 807 psig;

MV SIPT 1051 psig; shut-in 8 days

Time Minutes	PC Flowing Pressure Casing Psig	MV SIPT Psig	PC Working Pressure, Psig Tbg.	Temp ° F
15	663	1051	672	62
30	561	1051	592	63
45	551	1051	562	65
60	531	1051	540	66
120	-	-	-	-
180	415	1053	427	69

The choke volume for the Pictured Cliffs test was 5,077 MCF/D with an AOF of 7,040 MCF/D.

The results of the above tests indicate there is no packer leakage.

Very truly yours,

M. W. Rischard
Gas Engineer

MWR/nb

cc: W. H. Rodgers
E. S. Oberly (6)
File

FORM 23-75 (4-55)

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION DATE May 15, 1958

Operator: El Paso Natural Gas Company		Lease: Schwerdtfeger 14-A (M)	
Location: 990S, 1750W, 8-27-8		County: San Juan	State: New Mexico
Formation: Mesa Verde		Pool: Blanco	
Casing: Diameter: 7-5/8"	Set At: Feet: 4922	Tubing: Diameter: 2"	Set At: Feet: 5269
Pay Zone: From: 5154	To: 5272	Total Depth: 5355 c/o 5315	shut-in 3/29/58
Stimulation Method: Sand Water Frac		Flow Through Casing	Flow Through Tubing: X

Choke Size, Inches: .75	Choke Constant: C: 12.365	5-1/2" liner 4887 - 5349	
Shut-in Pressure, Casing: 800 PSIG	+ 12 = PSIA: 812	Days Shut-in: 47	Shut-in Pressure, Tubing: 1042 PSIG + 12 = PSIA: 1054
Flowing Pressure: P: 313 PSIG	+ 12 = PSIA: 325		Working Pressure: P_w: (Calc.) PSIG + 12 = PSIA: 641
Temperature: T: 66 °F	n = .75	Fpv (From Tables): 1.038	Gravity: .717

Initial SIPC (PC) 800 psig 1-1/4 at 2899 **Packer at** 2980
Final SIPC (PC) 802 psig

CHOKE VOLUME = Q $= C \times P_t \times F_t \times F_g \times F_{pv}$

$Q = (12.365)\ (325)\ (.9943)\ (.9161)\ (1.038) =$ 3,800 MCF/D

OPEN FLOW Aof $Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

Aof $\left(\frac{1110916}{700035} \right)^n$ $(1.5869)^{.75}\ (3800) = (1.4140)\ (3800)$

Aof 5,373 MCF D

TESTED BY S. V. Roberts and Frank Clark

WITNESSED BY

Louis D. Galloway

L. D. Galloway

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE May 26, 1958

Operator: El Paso Natural Gas		Lease: Schwerdfeger 14-A (P)	
Location: 990S, 1750W, 8-27-8		County: San Juan	State: New Mexico
Formation: Pictured Cliffs		Pool: South Blanco	
Casing: Diameter: 7-5/8	Set At: Feet: 4922	Tubing: Diameter: 1-1/4	Set At: Feet: 2899
Pay Zone: From: 2858	To: 2916	Total Depth: 5355	Shut-in 3/29/58
Stimulation Method: Sand Water Frac		Flow Through Casing: X	Flow Through Tubing

Choke Size, Inches: .75	Choke Constant: C: 12.365	5-1/2 liner 4887 - 5349	
Shut-in Pressure, Casing: 806 (PC)	PSIG + 12 = PSIA: 818	Days Shut-in: 54	Shut-in Pressure, Tubing: 807 (PC) PSIG + 12 = PSIA: 819
Flowing Pressure: P: 415	PSIG + 12 = PSIA: 427	Working Pressure: P_w: 427 PSIG + 12 = PSIA: 439	
Temperature: T: 69	n: .85	Fpv (From Tables):	Gravity: .635

Initial SIPC (MV) 1051 Packer 2980

Final SIPC (MV) 1053 2" at 5269

CHOKE VOLUME $Q = C \times P_t \times F_t \times F_g \times F_{pv}$

$Q = 12.365 \times 427 \times .9915 \times .9721 \times 1.037 = 5,277$ MCF/D

OPEN FLOW Aof $Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

Aof $\left(\frac{670,761}{478,040} \right)^n$ $(1.4031)^{.85} (5,277) = (1.3340)(5,277)$

Aof 7,040 MCF/D

TESTED BY: S. V. Roberts and Malcolm Rischard

WITNESSED BY:

Louis D. Galloway

L. D. Galloway