

El Paso Natural Gas Company

El Paso, Texas

June 10, 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 Pool Extension and in the South Blanco Pictured Cliffs Pool. The El Paso Natural Gas Company Schwerdtfeger No. 11-A (PM) is located 1700 feet from the North line and 1601 feet from the East line of Section 6, 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 4799 feet and cemented with a two stage cementing procedure; 250 sacks at the base of the casing and 100 sacks across the Pictured Cliffs formation.
3. 5 1/2" liner set from 4724 feet to 5141 feet with 100 sacks of cement.
4. The casing and liner were tested for leaks before perforating.
5. The Point Lookout section was perforated in six 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 4740 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.

C O P Y

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, no other operators have been notified of intentions to dually complete this well. 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 E/2 of Section 6, Township 27 North, Range 8 West to the Mesa Verde formation and the NE/4 of Section 6, 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,

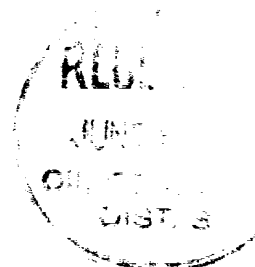
ORIGINAL SIGNED E. S. OBERLY

E. S. Oberly,
Division Petroleum Engineer

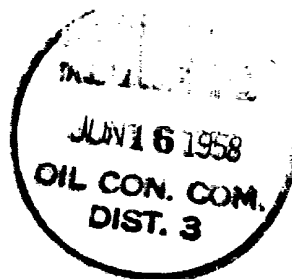
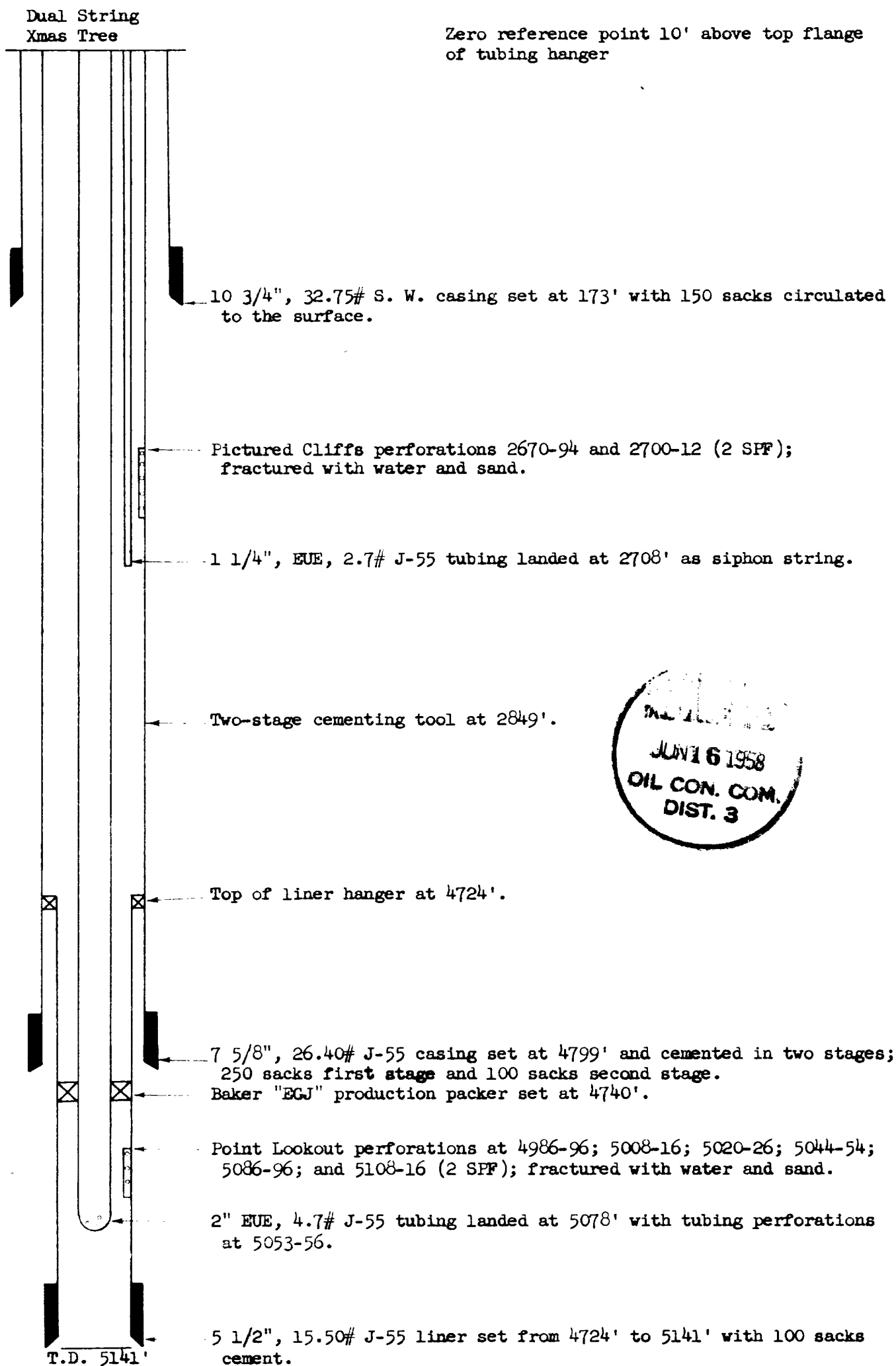
ESO:dgb

Encl.

cc: NMOCC (Emery Arnold) ✓
Sam Smith
USGS (Phil McGrath)



SCHEMATIC DIAGRAM OF DUAL COMPLETION
El Paso Natural Gas Co. Schwerdtfeger No. 11-A (PM)
NE/4 Section 6, 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 February 13, 1958, I was called to the location of the El Paso Natural Gas Company Schwerdtfeger No. 11-A (PM) Well located in the SWNE/4 of Section 6, Township 27 North, Range 8 West, 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 4740 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 4th day of June, 1958.

EL PASO NATURAL GAS COMPANY

P. O. Box 997
Farmington, New Mexico

April 3, 1958

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

Re: Packer Leakage Test on the El Paso Natural Gas
Company Well, Schwerdtfeger No. 11-A (PM), 1710N,
1001E, 6-27-8, 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 4740 feet. The Mesa Verde zone was tested through a 3/4" choke for three hours March 10, 1958 with the following data obtained:

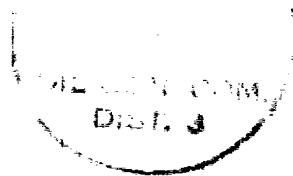
PC SIPC 807 psig; shut-in 24 days
MV SIPT 1024 psig; shut-in 24 days

Time Minutes	MV Flowing Pressure Tubing Psig	PC SIPC Psig	MV Working Pressure, Psig	Temp ° F
15	435	808		51
30	403	809		53
45	383	809		55
60	372	809		59
120	343	809		62
180	328	809	(Calc) 653	63

The choke volume for the Mesa Verde was 4022 MCF/D with an AOF of 5989 MCF/D.

The Pictured Cliffs zone was tested April 1, 1958 with a 3/4" choke for 3 hours with the following data obtained:

PC SIPC 818 psig; shut-in 45 days
MV SIPT 1023 psig; shut-in 21 days



EL PASO NATURAL GAS COMPANY

Schwerdtfeger No. 11-A (PM) Page Two

<u>Time</u> <u>Minutes</u>	<u>PC Flowing Pressure</u> <u>Casing Psig</u>	<u>MV SIPT</u> Psig	<u>PC Tbg. Working</u> <u>Pressure, Psig</u>	<u>Temp ° F</u>
15	587	1023		59
30	555	1023	565	60
45	518	1024		62
60	481	1025	491	63
120	388	1025	397	66
180	351	1026	364	66

The choke volume for the Pictured Cliffs test was 4499 MCF/D with an AOF of 5465 MCF/D.

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

Very truly yours,

R. R. Davis
R. R. Davis

RRD/nb

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



EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DATE March 10, 1958

DUAL COMPLETION

Operator El Paso Natural Gas Company		Lease Schwerdtfeger No. 11A (M)	
Location 1710N, 1601E, 6-27-8		County San Juan	State New Mexico
Formation Mesa Verde		Pool Blanco	
Casing: Diameter 7-5/8"	Set At: Feet 4787	Tubing: Diameter 2"	Set At: Feet 5074
Pay Zone: From 4986'	To 5016'	Total Depth: 5140'	Shut-In: 2-14-58
Stimulation Method Sand Water Frac		Flow Through: Casing	Flow Through: Tubing X

Choke Size, Inches .750		Choke Constant: C 12.365	
Shut-In Pressure: Casing, PSIG 807 (PC)	PSIA 819	Days Shut-In 24	Shut-In Pressure: Tubing, PSIG 1024 (MV)
Flowing Pressure: P, PSIG 328	PSIA 340		Working Pressure: Pw, PSIG (Calc.) 665
Temperature: T, F 63	F .750	Fpv (From Tables) 1.040	Gravity .707

Final SIPC (PC) = 809 PSIG, 1-1/4" at 2698.

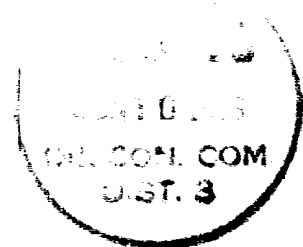
CHOKE VOLUME: $Q = C \times P_c \times F_c \times F_g \times F_{pv}$

$$Q = 12.365 (340) (.9971) (.9225) (1.040) = 4,022 \text{ MCF/D}$$

$$\text{OPEN FLOW } A_{of} = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$A_{of} = \left(\frac{1073296}{631071} \right)^n (1.7007)^{.75} (4022) = (1.4890) (4022)$$

$$A_{of} = 5989 \text{ MCF/D}$$



TESTED BY R. R. Davis

WITNESSED BY _____

Lewis D. Galloway
L. D. Galloway

EL PASO NATURAL GAS COMPANY

OPEN FLOW TEST DATA

DUAL COMPLETION

DATE April 1, 1958

Operator El Paso Natural Gas		Lease Schwerdtfeger No. 11-A (P)	
Location 1710N, 1601E; 6-27-8		County San Juan	State New Mexico
Formation Pictured Cliffs		Pool	
Casing: Diameter 7-5/8"	Set At: Feet 4787	Tubing: Diameter 1-1/4"	Set At: Feet 2698
Pay Zone: From 2670	To 2712	Total Depth: 5140	Shut-in 2-14-58
Stimulation Method Sand Water Frac		Flow Through Casing X	Flow Through Tubing

Choke Size, Inches .750	Choke Constant: C 12.365	5-1/2" Liner 4724' - 5141'	
Shut-In Pressure, Casing, PSIG 818 (PC)	PSIA 830	Days Shut-In 45	Shut-In Pressure, Tubing, PSIG 819 (PC)
Flowing Pressure: P, PSIG 351	PSIA 363	Working Pressure: P _w , PSIG 364	PSIA 376
Temperature: T, °F 66	Gravity .850	F _{pv} (From Tables) 1.033	Gravity .634

Initial SIPT (MV) = 1023 Psig,

Packer at 4740'

Final SIPT (MV) = 1026 Psig

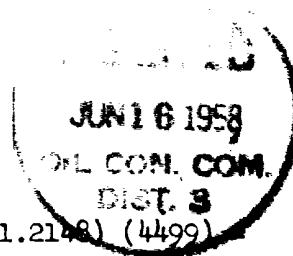
CHOKE VOLUME $Q = C \times P_1 \times F_1 \times F_g \times F_{pv}$

$$Q = 12.365 (363) (.9943) (.9759) (1.033) = 4499 \text{ MCF/D}$$

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

$$Aof = \left(\frac{690561}{549185} \right)^n (1.2574)^{.85} (4499) = (1.2148) (4499)$$

$$Aof = 5465 \text{ MCF/D}$$

TESTED BY R. R. Davis and Malcolm Rischard

WITNESSED BY _____

Lewis D. Galloway
L. D. Galloway