Case 1161

NORTHWEST PRODUCTION CORPORATION

ALBUQUERQUE, NEW MEXICO

REPLY TO:
520 SIMMS-BUILDING
ALBUQUERQUE, NEW MEXICO

March 21, 1957

Case #

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter

Gentlemen:

On November 13, 1956, the Oil Conservation Commission issued Order No. R-917, Case No. 1161, granting approval for the completion of Northwest Production Corporation's Well "W" 1-7 in the Pictured Cliffs, Mesaverde and Dakota formations.

In accordance with the provisions of Order R-917, attached in duplicate are:

1. Diagramatic sketch of the Triple Completion.
2. Packer Setting Affidavits.
3. Initial Tests for each completion.
4. Packer Leakage Tests.

Should you desire additional information regarding the completion of Well "W" 1-7, please advise.

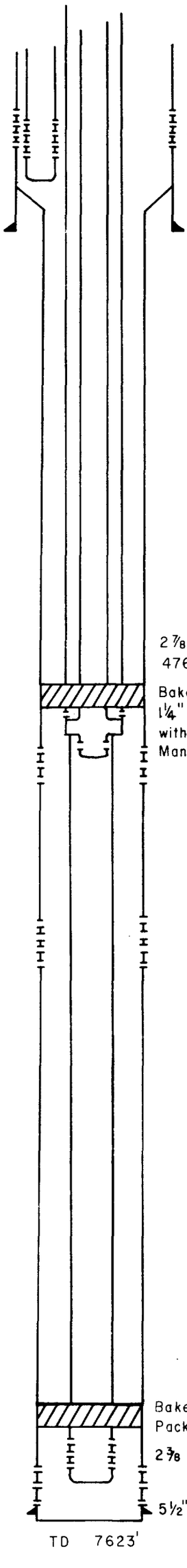
Very truly yours,

NORTHWEST PRODUCTION CORPORATION

W. R. Johnston, Manager
Production Operations

WRJ/RP/nt
In duplicate

cc: NMOCC, Aztec, New Mexico, less encls.
USGS, Farmington, New Mexico, less encls.



PICTURED CLIFFS DATA:

Top of Pictured Cliffs 3054'

Bottom of Pictured Cliffs 3146'

Perforations: 3060-3092, 3110-3126

MESAVERDE DATA:

Top of Mesaverde 4800'

Bottom of Mesaverde 5480'

Perforation: 4808-4832, 5018-5028
5042-5052, 5208-5216
5286-5336, 5382-5388
5404-5408

DAKOTA DATA:

Top of Dakota 7420'

Dakota to TD of 7623'

Perforations: 7432-7442, 7470-7480
7504-7524, 7568-7576
7598-7607, OH 7615-7623

DIAGRAMTIC SKETCH OF TRIPLE GAS COMPLETION FOR "W" WELL 1-7

NORTHWEST PRODUCTION CORPORATION
ALBUQUERQUE, NEW MEXICO

APPLICATION FOR TRIPLE GAS COMPLETION OF "W" WELL 1-7 IN PICTURED CLIFFS, MESAVERDE AND DAKOTA FORMATION

RIO ARRIBA COUNTY
NEW MEXICO

CONTRACT # 152

Drawn. W.H. McGahey
Approved. Ray Phillips

Scale. 400' = 1"
Date. 3-12-57

NORTHWEST PRODUCTION CORPORATION

"W" Well No. 1-7

PACKER SETTING AFFIDAVIT

On December 10, 1956, a Baker Model "D" production packer was set at 7397.20 feet to separate the Mesaverde and Dakota formations in "W" Well No. 1-7. Top of the casing perforations for producing the Dakota formation is 7432 feet and the bottom perforation for producing the Mesaverde formation is 7623 feet.

A three hour test of the Dakota formation was taken on February 25, 1957 with the Mesaverde shut in. The shut-in pressure on the Mesaverde was 1153#, the pressure increased to a maximum of 1161# at the beginning of the test, and was 1156# at the end of the test.

The Mesaverde formation was tested for three hours on March 11, 1957 with the Dakota shut in. The shut-in pressure on the Dakota was 2561# and increased to a maximum of 2566# at the end of the test.

Results of the packer leakage test indicates there is no commingling of gases between the Mesaverde and Dakota formations.

W. R. Johnston, Manager
Production Operations
NORTHWEST PRODUCTION CORPORATION

Subscribed and sworn to this 21st day of March 1957.

Notary Public in and for the
County of Bernalillo, New Mexico

My commission expires July 15, 1959.

NORTHWEST PRODUCTION CORPORATION

"W" Well No. 1-7

PACKER SETTING AFFIDAVIT

On December 10, 1956, a Baker "EOJ" production packer was set at 4761.76 feet to separate the Pictured Cliffs and Mesaverde formations in "W" Well No. 1-7. Top of the casing perforations for producing the Mesaverde formation is 4808 feet and the bottom perforations for producing the Pictured Cliffs formation is 3126 feet.

A three hour test of the Pictured Cliffs formation was taken on March 4, 1957, with the Mesaverde shut in. The shut-in pressure on the Mesaverde was 1158# at the beginning of the test and was 1155# at the end of the test.

The Mesaverde formation was tested for three hours on March 11, 1957 with the Pictured Cliffs shut in. The shut-in pressure on the Pictured Cliffs was 1015# and increased to a maximum of 1017# at the end of the test.

Results of the packer leakage test indicate there is no commingling of gases between the Pictured Cliffs and Mesaverde formations.

W. R. Johnston, Manager
Production Operations
NORTHWEST PRODUCTION CORPORATION

Subscribed and sworn to this 21st day of March, 1957.

Notary Public in and for the
County of Bernalillo, New Mexico

My commission expires July 15, 1959.

NEW MEXICO OIL CONSERVATION COMMISSION

NM OCC-3 ✓
Geo Poppin-1
L.G.Truby-1
File-1

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **South Blanco** Formation **Pictured Cliffs** County **Rio Arriba**

Initial **XX** Annual _____ Special _____ Date of Test **3-4-57**

Company **Northwest Production Corp.** Lease **"W"** Well No. **1-7**

Unit **"M"** Sec. **7** Twp. **26N** Rge. **5W** Purchaser **Not connected**

Casing **7-5/8** Wt **24.0#** I.D. _____ Set at **3295** Perf. **3060** To **3126**

Tubing **1-1/4** Wt. **2.3#** I.D. _____ Set at **3115** Perf. _____ To _____

Gas Pay: From **3060** To **3126** L _____ xG **.650** -GL **2032** Bar.Press. **12**

Producing Thru: Casing **XX** Tubing _____ Type Well **Triple - G-G-G**
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: **12-30-56** Packer _____ Reservoir Temp. _____

OBSERVED DATA

Tested Through ~~(Prover)~~ (Choke) ~~(Meter)~~ Type Taps _____

	Flow Data					Tubing Data		Casing Data		
No.	(Prover) (Line) Size	(Choke) (~~Orifice~~) Size	Press. psig	Diff. h_w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	Duration of Flow Hr.
SI								**1022**		**SI**
1.		**3/4**	**31**		**53**			**31**	**53**	**3 hours**
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	**14.1605**		**43**	**1.0068**	**.9608**	**1.000**	**589**
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl. Specific Gravity Separator Gas _____
Gravity of Liquid Hydrocarbons _____ deg. Specific Gravity Flowing Fluid _____
F_c **.527** $(1-e^{-s})$ **.137** P_c **1034** P_c^2 **1,069,156**

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	**43**	**1849**	**310.4**	**963**	**132**	**1981**	**1,068,958**		**1.0001**
2.									
3.									
4.									
5.									

Absolute Potential: **589** MCFPD; n **.85/1.0001**
COMPANY **~~Pacific Northwest Pipeline Corp.~~**
ADDRESS **405½ West Broadway, Farmington, New Mexico**
AGENT and TITLE **C.R. Wagner, Well Test Engineer**
WITNESSED _____
COMPANY _____

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

PACIFIC NORTHWEST PIPELINE CORPORATION

DRILLING DEPARTMENT

COMPANY **Northwest Production Corp.**

LEASE **"W"** WELL NO. **1-7**

DATE OF TEST **3-4-57**

SHUT IN PRESSURE (PSIG): TUBING **PC 1022** CASING **MV 1158 DK 2555** S.I. PERIOD **7** DAYS

SIZE BLOW NIPPLE **3/4" Choke**

FLOW THROUGH **PC - Csg** WORKING PRESSURES FROM

TIME HOURS	TIME MINUTES	PC PRESSURE	Q (MCFD) 15.025 PSIA & 60°F	WELLHEAD WORKING PRESSURE (PSIG)	TEMP
	34.5	49	1156 MV	2554 DK	56
	41.5	47	1155	2553	57
	50	44	1151	2553	57
1	0	42	1155	2556	58
	12	41	1155	2556	56
	26.5	39	1155	2557	55
	44	37	1154	2557	55
2	5	35	1155	2558	54
	30	33	1155	2558	54
3	0	31	1155	2558	53

START TEST AT **12:50 pm** END TEST AT **3:50 pm**

REMARKS: **Opened 1½" tub - thru "PC", gas died in approx 1 min - left open for 25 mins, still dead**

"csg"

Start (PC) test thru (2" Valve) with 3/4" choke at 12:50 pm

TESTED BY **C. R. Wagner**

NM OCC-3 ✓
Geo Peppin-1
L.G.Truby-1
File-1

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Wildcat Formation Dakota County Rio Arriba

Initial X Annual ____ Special ____ Date of Test 2-25-57

Company Northwest Production Corp. Lease "W" Well No. 1-7

Unit "M" Sec. 7 Twp. 26N Rge. 5W Purchaser Not connected

Casing 5½ Wt. 14#, 15.5#, & 17.0# I.D. ____ Set at 7615 Perf. 7432 To 7608

Tubing 1-1/4 Wt. 2.3# I.D. ____ Set at 4769 Perf. ____ To ____

Gas Pay: From 7432 To 7623 L 7400 xG .650 =GL 4810 Bar.Press. 12

Producing Thru: Casing ____ Tubing XX Type Well Triple - G-G-G
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 12-30-56 Packer Yes Reservoir Temp. ____

OBSERVED DATA

Tested Through ~~(Prover)~~ (Choke) ~~(Meter)~~ Type Taps ____

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) ~~(Orifice)~~ Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						2564				81
1.		3/4"	36		52	36	52			3 hours
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	14.1605		48	1.0078	.9608	1.000	658
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____

Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____

F_c 24.62 $(1-e^{-s})$ .295 P_c 2576 P_c^2 6636

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	48	2.3	12.21	149.2	36.1	38.4	6598		1.00576
2.									
3.									
4.									
5.									

Absolute Potential: 661 MCFPD; n .75 1.00418

COMPANY Pacific Northwest Pipeline Corp.

ADDRESS 405½ West Broadway, Farmington, New Mexico

AGENT and TITLE C. B. Wagner, Well Test Engineer

WITNESSED ____

COMPANY ____

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

PACIFIC NORTHWEST PIPELINE CORPORATION

DRILLING DEPARTMENT

COMPANY Northwest Production Corp.

LEASE "W" WELL NO. 1-7

DATE OF TEST 2-25-57

SHUT IN PRESSURE (PSIG): TUBING Dakota 2564 CASING PC 1015 MV 1153 S.I. PERIOD 7 DAYS

SIZE BLOW NIPPLE 3/4" Choke

FLOW THROUGH Dakota WORKING PRESSURES FROM

TIME HOURS	TIME MINUTES	DK PRESSURE	PC Q (MCFD) 15.025 PSIA & 60°F	MV WELLHEAD WORKING PRESSURE (PSIG)	TEMP
	34.5	40	1016	1161	49
	41.5	46	1017	1161	50
	30	43	1018	1156	50
1	0	43	1018	1156	50
	12	42	1018	1156	51
	26.5	41	1019	1156	51
	44	40	1019	1156	52
2	5	38	1019	1156	52
	30	37	1020	1156	52
3	0	36	1020	1156	52

START TEST AT 12:30 pm END TEST AT 3:30 pm

REMARKS: Very wet with H_2O

TESTED BY C. R. Wagner

NM OCC-3 ✓
Geo Peppin-1
Truby-1
File-1

[illegible] NORTHWEST PIPELINE CORPORATION
DRILLING DEPARTMENT

COMPANY Northwest Production Corporation

LEASE "W" WELL NO. 1-7

DATE OF TEST 3-11-57

SHUT IN PRESSURE (PSIG): TUBING DK 2561 CASING MV 1159 PC 1015 S. I. PERIOD 7 DAYS

SIZE BLOW NIPPLE 3/4" Choke (B. of Mines)

FLOW THROUGH tubing or Mesaverde WORKING PRESSURES FROM _____

TIME HOURS	TIME MINUTES	MV PRESSURE	Q (MCFD) 15.025 PSIA & 60°F	WELLHEAD WORKING PRESSURE (PSIG)		TEMP
	15	73	1015 PC	2563	DK	48
	30	48	1016	2565		51
	45	37	1017	2565		55
1	0	28	1017	2566		57
	30					
2	0	16	1017	2566		56
	30	13	1017	2566		55
3	0	12	1017	2566		54
		10" H_2O	372.6 MCFD			

START AT 10:45 am END TEST AT 1:45 pm

REMARKS: Inst. 2" blow nipple. Downstream of 3/4 choke at 2 hours and 45 mins. for 1st gauge reading.

TESTED BY C. E. Wagner
WITNESS: A.R. Kendrich, NM OCC

Form C-122-B

NEW MEXICO OIL CONSERVATION COMMISSION
INITIAL POTENTIAL TEST-DATA SHEET

This form must be used for reporting all pitot tube tests made in the State. It is particularly important that it be used for reporting Initial Potential Tests in the San Juan Basin as prescribed by Order No. R-333 and by the New Mexico Oil Conservation Commission Manual of Tables and Procedure for Initial Potential (Pitot Tube) Tests.

POOL Blanco FORMATION Mesaverde

COUNTY Rio Arriba DATE WELL TESTED 3-11-57

Operator Pacific Northwest Pipeline Lease "F" Well No. 1-7

1/4 Section NW Unit Letter M Sec. 7 Twp. 26N Rge. 5W

Casing: 5½ "O.D. Set At 7613 Tubing 2-3/8 & 1.77 "WT. 4.7 & 2.5 Set At 7405

Pay Zone: From 4898 to 5400 Gas Gravity: Meas. Est. .650

Tested Through: Casing NX NW Tubing

Test Nipple 1.947 I.D. Type of Gauge Used NX - Hg
(Spring) (Monometer)

OBSERVED DATA

Shut In Pressure: Casing NW 1150 PC 1015 Tubing: NX 2561 S.I. Period 7

Time Well Opened: 10:45 am Time Well Gauged: 1:45pm

Impact Pressure 150 on 30" Hg

Volume (Table I)	372.4	(a)
Multiplier for Pipe or Casing (Table II)	1.068	(b)
Multiplier for Flowing Temp. (Table III) 540	1.0030	(c)
Multiplier for SP. Gravity (Table IV)	1.000	(d)
Ave. Barometer Pressure at Wellhead (Table V) 6545'	11.5	
Multiplier for Barometric Pressure (Table VI)	.963	(e)

Initial Potential, Mcf/24 hrs. (a) x (b) x (c) x (d) x (e) = 393 - 393 MCF

Witnessed by A.E. Hendrick Tested by: C. E. Wagner

Company: NW GPC Company: Pacific Northwest Pipeline Corp.

Title: Engineer Title: Well Test Engineer

NM OCC-3
Peppin-1
Truby-1
File-1

Sheet 1 of 2
8-15-56

NEW MEXICO
OIL CONSERVATION COMMISSION

PACKER LEAKAGE TEST (SAN JUAN BASIN)

Operator Northwest Production Pool (~~Upper~~ Middle Completion) So. Blanco PC
Lease "W" Pool (Lower Completion) Wildcat - Mesaverde
Location: Unit M, S. 7, T. 26N R. 5W, Rio Arriba County, N. Mex. Wildcat - Dakota

Pre-Test Shut-In

	Upper Completion	Lower Completion
Shut-in (date)	--	2-18-57
Pressure Measured (Dwt.) (date)	--	2-25-57

Flow Test No. 1

Dakota
Test commenced at (hour, date) 12:30 PM 2-25-57 Choke size 3/4"
Completion producing Dakota Completion shut-in Mesaverde & PC

	Upper Completion PC	Upper Completion MV	Lower Completion
Pressure at beginning of test. S.I.	1015	1153	2564 psi
Maximum pressure during test	1020	1161	46 psi
Minimum pressure during test	1016	1156	36 psi
Pressure at end of test	1020	1156	36 psi
Maximum pressure change during test	5	8	2528 psi

Oil flow rate during test: -- BOPD based on -- BO in -- hours
Gas Flow rate during test:
Choke volume 658 MCFD; Meter volume ____ MCFD.
CAOF 661

Mid-Test Shut-In

	Upper Completion	Lower Completion
Shut-in (date)	2-25-57	--
Pressure measured (Dwt) (date)	3- 4-57	--

Flow Test No. 2

Pictured Cliffs
Test commenced at (hour,date) 12:50 pm 3-4-57 .Choke size 3/4"
Completion producing Pictured Cliffs Completion shut-in MV & DK

	Upper Completion PC	Lower Completion MV	Lower Completion DK
Pressure at beginning of test. SI	1022	1158	2555 psi
Maximum pressure during test	49	1156	2558 psi
Minimum pressure during test	31	1151	2554 psi
Pressure at end of test	31	1155	2558 psi
Maximum pressure change during test	991	7	4 psi

Oil flow rate during test: -- BOPD based on -- BO in -- hours
Gas flow rate during test:
Choke Volume 589 MCFD; Meter volume -- MCFD.
CAOF 589

Test performed by C.R. Wagner Title Well test Engineer
Witnessed by ____ Title ____
REMARKS: See sheet #2

NOTE: Recording gauge pressure charts, test data sheet, and a graphic depiction of all phases of the test shall be submitted with this report.

AFFIDAVIT:

I HEREBY CERTIFY that all conditions prescribed by the Oil Conservation Commission of the State of New Mexico for this packer leakage test were complied with and carried out in full, and that all dates and facts set forth in this form and all attached material are true and correct.

C.R. Wagner For Pacific Northwest Pipeline Corp.
(Representative of Company) (Company Making Test)

INSTRUCTIONS

(NORTHWEST NEW MEXICO ONLY)

1. At least seventy-two hours prior to the commencement of this test, the operator shall have notified the Aztec Office of the Oil Conservation Commission in writing of the exact time said test is to be commenced.

2. The packer leakage test shall commence with both sides of the completion shut-in. Both sides of the completion must be shut-in at least seven days. This shut-in must show on the charts of the pressure recorder and also must appear on the data sheets.

3. For Flow Test No. 1, one side of the dual completion shall be produced with the other side shut-in. Such test shall be continued for seven days, and shall be at a rate of flow approximating the normal rate of flow for the zone being produced. Note: Where gas is flowed to the atmosphere in taking the initial packer test, the well shall be flowed for three hours.

4. Following the completion of flow test No. 1, the well will again be shut-in for seven days.

5. Flow Test No. 2 shall be performed with the previously shut-in side of the dual completion flowing and with the flowing side of the completion used in Flow Test No. 1 remaining shut-in. This test shall be conducted exactly as outlined under Flow Test No. 1, and must be performed even though no leak was indicated by Flow Test No. 1.

6. All pressures, throughout the entire test, must be continuously measured and recorded with recording pressure gauges.

7. The accuracy of the recording gauges shall be checked at regular intervals throughout the test with a dead weight test gauge (Dwt), and such readings shall be recorded on the test data sheet provided.

8. This form must be completed and filed in duplicate with the Aztec Office of the Oil Conservation Commission within 15 days following the completion of the testing, and must be accompanied by:

   a. all of the charts, or copies thereof, used on the pressure recorders during the test.

   b. The test data-sheet (s), or copies thereof, required under paragraph 7 above.

   c. a graph depicting the pressures and their changes, for both sides of the completion over the entire test.

9. This packer leakage test shall be performed upon the dual completion of any new wells so approved by the Commission. This test shall also be required each year during the annual deliverability test on gas wells. This test shall be required until such time as the Commission has sufficient information on testing dual completions in San Juan Basin on which to base a simplified packer leakage test. The Commission may also request packer leakage tests at any time they feel that a new test is desirable.

NEW MEXICO
OIL CONSERVATION COMMISSION

PACKER LEAKAGE TEST (SAN JUAN BASIN)

Operator Northwest Production Corp. Pool (~~Upper~~ Middle Completion) South Blanco PC Wildcat - Mesaverde
Lease "W" Pool (Lower Completion) Wildcat - Dakota
Location: Unit M, S. 7, T. 26N R. 5W, Rio Arriba County, N. Mex.

Pre-Test Shut-In

	~~Upper~~ Completion	Lower Completion
Shut-in (date)	3-4-57	
Pressure Measured (Dwt.) (date)	3-11-57	

Flow Test No. 1

Mesaverde

Test commenced at (hour, date) Choke size 3/4"
Completion producing Mesaverde Completion shut-in PC & DK

	Upper Completion PC	Upper Completion MV	Lower Completion DK
Pressure at beginning of test. SI	1015 psi	1159 psi	2561 psi
Maximum pressure during test	1017 psi	73 psi	2566 psi
Minimum pressure during test	1015 psi	12 psi	2563 psi
Pressure at end of test	1017 psi	12 psi	2566 psi
Maximum pressure change during test	2 psi	1147 psi	5 psi

Oil flow rate during test: BOPD based on BO in hours
Gas Flow rate during test:
Choke volume 372 MCFD; Meter volume MCFD.
CAOF 393

Mid-Test Shut-In

	Upper Completion	Lower Completion
Shut-in (date)		
Pressure measured (Dwt) (date)		

Flow Test No. 2

Test commenced at (hour, date) .Choke size
Completion producing Completion shut-in

	Upper Completion	Lower Completion
Pressure at beginning of test	psi	psi
Maximum pressure during test	psi	psi
Minimum pressure during test	psi	psi
Pressure at end of test	psi	psi
Maximum pressure change during test	psi	psi

Oil flow rate during test: BOPD based on BO in hours
Gas flow rate during test:
Choke Volume MCFD; Meter volume MCFD.

Test performed by C. R. Wagner Title Well Test Engineer
Witnessed by A. R. Kendrick Title N.M. Oil Conservation Commission
REMARKS: Mesaverde test witnessed

NOTE: Recording gauge pressure charts, test data sheet, and a graphic depiction of all phases of the test shall be submitted with this report.

AFFIDAVIT:

I HEREBY CERTIFY that all conditions prescribed by the Oil Conservation Commission of the State of New Mexico for this packer leakage test were complied with and carried out in full, and that all dates and facts set forth in this form and all attached material are true and correct.

C. R. Wagner For Pacific Northwest Pipeline Corp.
(Representative of Company making test) (Company Making Test)

INSTRUCTIONS

(NORTHWEST NEW MEXICO ONLY)

1. At least seventy-two hours prior to the commencement of this test, the operator shall have notified the Aztec Office of the Oil Conservation Commission in writing of the exact time said test is to be commenced.

2. The packer leakage test shall commence with both sides of the completion shut-in. Both sides of the completion must be shut-in at least seven days. This shut-in must show on the charts of the pressure recorder and also must appear on the data sheets.

3. For Flow Test No. 1, one side of the dual completion shall be produced with the other side shut-in. Such test shall be continued for seven days, and shall be at a rate of flow approximating the normal rate of flow for the zone being produced. Note: Where gas is flowed to the atmosphere in taking the initial packer test, the well shall be flowed for three hours.

4. Following the completion of flow test No. 1, the well will again be shut-in for seven days.

5. Flow Test No. 2 shall be performed with the previously shut-in side of the dual completion flowing and with the flowing side of the completion used in Flow Test No. 1 remaining shut-in. This test shall be conducted exactly as outlined under Flow Test No. 1, and must be performed even though no leak was indicated by Flow Test No. 1.

6. All pressures, throughout the entire test, must be continuously measured and recorded with recording pressure gauges.

7. The accuracy of the recording gauges shall be checked at regular intervals throughout the test with a dead weight test gauge (Dwt), and such readings shall be recorded on the test data sheet provided.

8. This form must be completed and filed in duplicate with the Aztec Office of the Oil Conservation Commission within 15 days following the completion of the testing, and must be accompanied by:

    a. all of the charts, or copies thereof, used on the pressure recorders during the test.

    b. The test data-sheet (s), or copies thereof, required under paragraph 7 above.

    c. a graph depicting the pressures and their changes, for both sides of the completion over the entire test.

9. This packer leakage test shall be performed upon the dual completion of any new wells so approved by the Commission. This test shall also be required each year during the annual deliverability test on gas wells. This test shall be required until such time as the Commission has sufficient information on testing dual completions in San Juan Basin on which to base a simplified packer leakage test. The Commission may also request packer leakage tests at any time they feel that a new test is desirable.