



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

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
15051 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 10-5-83

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

Gentlemen:

I have examined the application dated 9-27-83
for the Southland Royalty Co. Wellbore #6 N-15-32N-12W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank J. Long



Southland Royalty Company

September 26, 1983

Mr. Joe D. Ramey
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Downhole Commingling
SRC - Hubbard #6 (Frt/PC)
SW/4, Section 15, T32N, R12W
San Juan County, New Mexico

Dear Mr. Ramey:

Southland Royalty Company requests permission to downhole commingle production from the Fruitland and Pictured Cliffs formations in this dual well. The Fruitland formation can not continuously produce enough gas to lift the oil it produces. With the additional gas from the Pictured Cliffs formation, we feel that the Fruitland oil will be produced with fewer problems.

The gas produced from each zone is similar, and the Fruitland oil produced should have no adverse effect on the Pictured Cliffs formation. Bottom hole pressures are similar for the two formations, and there will be no crossflow between the zones, therefore no production will be lost.

Production allocation between the two zones was determined from the decline curves and cumulative production from each zone. Proposed allocation is as follows:

Oil Production	100% Fruitland
Gas Production	85% Fruitland
	15% Pictured Cliffs

RECEIVED
SEP 27 1983
OIL CON. DIV.
DIST. 3

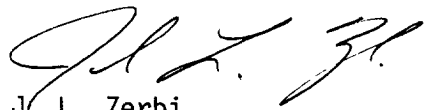
Mr. Joe D. Ramey
Page Two
September 26, 1983

Royalty ownership in both zones of the well is identical. The well is currently unproductive and no current 24 hour productivity test can be supplied, therefore we have included the original multipoint production test data. In addition, copies of gas analysis from each zone, decline curves, production plat, and miscellaneous data are included with this package for your information.

A copy of this application has also been sent to the Bureau of Land Management and all offset operators.

Sincerely,

SOUTHLAND ROYALTY COMPANY



J. L. Zerbi
Petroleum Engineer

JLZ/eg

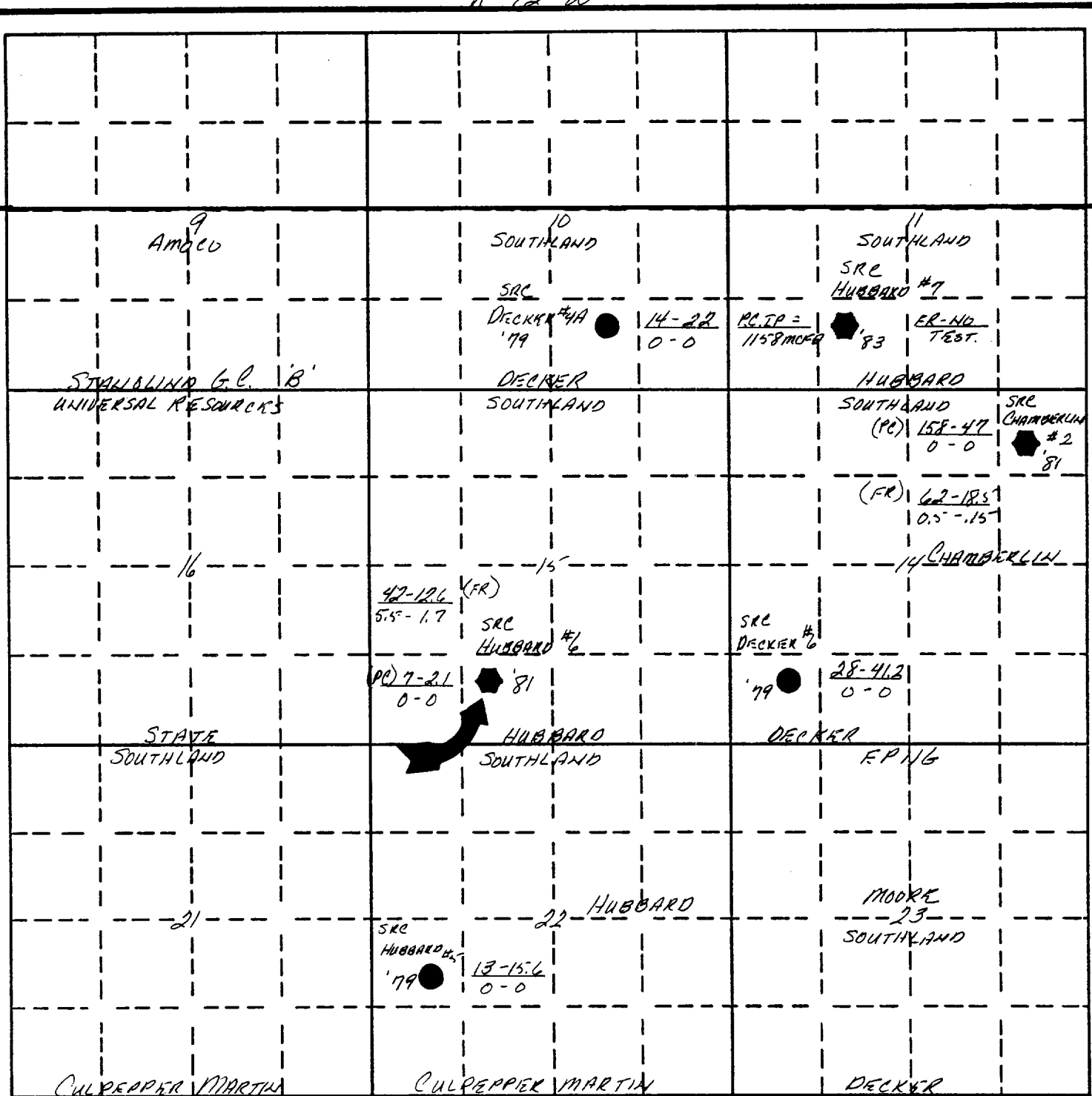
Enclosures

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SEP 27 1983
OIL CO.
L

MISCELLANEOUS DATA

Fruitland Bottom Hole Pressure	=	1086 psi
Pictured Cliffs Bottom Hole Pressure	=	1014 psi
Fruitland Oil Gravity	=	43° API

R-12-W



000

N
M

T
32
N

S.R.C.

● F.R.-P.C. DUAL

● P.C. SINGLE

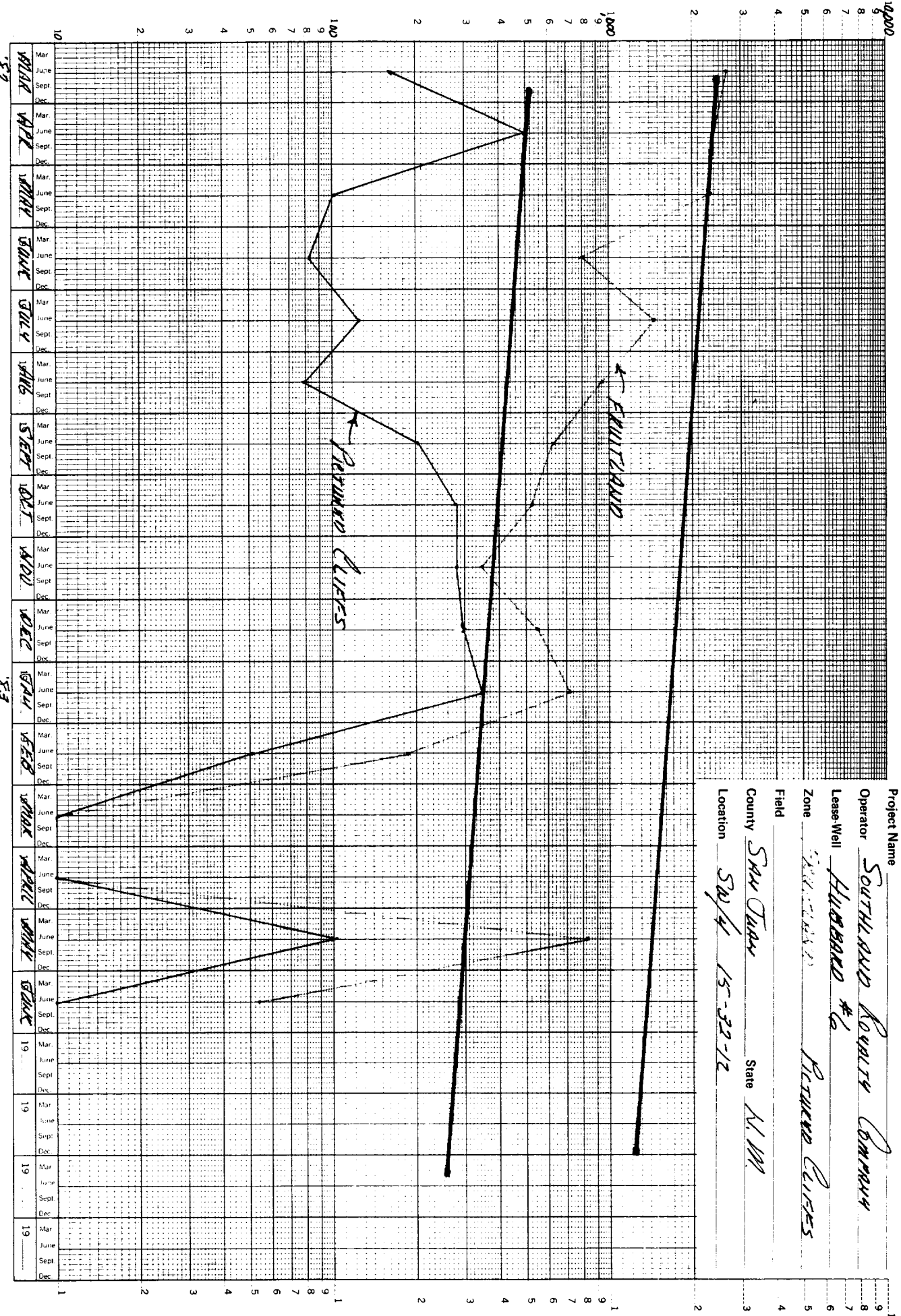
SOUTHLAND ROYALTY COMPANY					
AREA HUBBARD #6					
LOCATION SW/4 15-32-12					
TYPE OF MAP PRODUCTION 12AT					
CONTOURED				C.I.	
BY	DATE	REVISED BY	DATE	REFERENCE	DATE
NOTES MCFD - M ² IF BOPD - MBO					
COMPLETION DATE					

PRODUCTION FIGURES THROUGH 12/82



Southland Royalty Company

Project Name SOUTHLAND ROYALTY COMPANY
Operator HUBBARD #6
Lease-Well PICTURED CLIFFS
Zone FRUITLAND
Field FRUITLAND
County SAN JUAN State N.M.
Location SW/4 15-32-12



SOUTHERN UNION GATHERING COMPANY
REPORT OF BTU TEST RESULTS

TO: SOUTHLAND ROYALTY CO (826)

REF: HUBBARD 6 PC
9250
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 11/07/82
DATE OF LAST TEST: 10/07/82
TEST FREQUENCY: 12

RESULTS: SPECIFIC GRAVITY: 0.6456
BTU/CF @ 14.73/60F/DRY: 1149.2

	MOL %	G. P. M.
CARBON DIOXIDE	0.164	0.0000
NITROGEN	0.274	0.0000
METHANE	88.920	0.0000
ETHANE	5.770	1.5420
PROPANE	2.946	0.8100
ISOBUTANE	0.593	0.1930
N-BUTANE	0.711	0.2240
ISOPENTANE	0.278	0.1010
N-PENTANE	0.190	0.0680
HEXANE +	0.161	0.0700
	-----	-----
TOTAL	100.007	3.0080

SOUTHERN UNION GATHERING COMPANY
REPORT OF BTU TEST RESULTS

TO: SOUTHLAND ROYALTY CO (826)

REF: HUBBARD 6 JRT
9327
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 11/07/82
DATE OF LAST TEST: NO PRIOR TEST
TEST FREQUENCY: 12

RESULTS: SPECIFIC GRAVITY: 0.6465
BTU/CF @ 14.73/60F/DRY: 1151.1

	MOL %	G. P. M.
CARBON DIOXIDE	0.162	0.0000
NITROGEN	0.252	0.0000
METHANE	88.950	0.0000
ETHANE	5.750	1.5370
PROPANE	2.946	0.8100
ISOBUTANE	0.597	0.1950
N-BUTANE	0.712	0.2240
ISOPENTANE	0.279	0.1020
N-PENTANE	0.193	0.0690
HEXANE +	0.190	0.0830
	-----	-----
TOTAL	100.031	3.0200

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

Type Test ☐ Initial ☐ Annual ☒ Special		Test Date 10-30-81		OIL CON. DIV. RE-TEST***	
Company Southland Royalty Company		Connection Southern Union Gathering			
Pool Undesignated		Formation Fruitland		Unit	
Completion Date 8-22-81		Total Depth 2685'		Plug Back TD 2624'	
Elevation 6090' GR		Farm or Lease Name Hubbard			
Csg. Size 4.500	Wt. 10.5#	d 4.052	Set At 2669'	Perforations: From 2154' To 2363'	
Well No. 6					
Tog. Size -----	Wt. -----	d -----	Set At -----	Perforations: From To	
Unit N	Sec. 15	Twp. 32N	Rge. 12W		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Multiple - G.G.			Packer Set At 2399'		County San Juan
Producing Thru Casing		Reservoir Temp. °F 8		Mean Annual Temp. °F 12.2	
Baro. Press. - P _a 12.2		State New Mexico			
L	H	Gg .700	% CO ₂	% N ₂	% H ₂ 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 _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI											
1.	2"	X	3/8"						996		
2.									226		1 hr
3.									174		2 hrs
4.									151		3 hrs
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{py}	Rate of Flow Q, Mcfd
1	3.03		163.2	1.0000	.9258	1.0000	458
2.							
3.							
4.							
5.							

NO.	P _t	Temp. °R	T _r	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 _c 1008.2 P _c ² 1016467.2			
NO.	P _t ²	P _w	P _w ²
1		163.2	26634.2
2			
3			
4			
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0269$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 468$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0228$

Absolute Open Flow _____ 468 _____ Mcfd @ 15.025	Angle of Slope @ _____	Slope, n _____ .85
Remarks: _____		

Approved by Division	Conducted By: Jim Choquette	Calculated By: James Smith	Checked By: L. O. Van Ryan
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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☐ Initial ☐ Annual ☒ Special		Test Date 10-30-81		***RE-TEST***	
Company Southland Royalty Company		Connection Southern Union Gathering		Oil & Gas Div.	
Pool Blanco		Formation Pictured Cliffs		Unit DIST. 3	
Completion Date 8-22-81		Total Depth 2685'		Plug Back TD 2624'	
Elevation 6090' GR		Farm or Lease Name Hubbard			
Csq. Size 4.500	Wt. 10.5#	d 4.052	Set At 2669'	Perforations: From To	
Inq. Size 1.900	Wt. 2.9#	d 1.610	Set At 2474'	Perforations: From 2486' To 2510'	
Type Well - Single - Drdhead - G.G. or G.O. Multiple Multiple - G.G.		Packer Set At 2399'		County San Juan	
Producing Thru Tubing		Reservoir Temp. °F #		Mean Annual Temp. °F	
		Baro. Press. - P _g 12.2		State New Mexico	
L	H	G _q .700	% CO ₂	% N ₂	% H ₂ 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 _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI							924			
1.	2"	X	3/8"				80			
2.							48			
3.							36			
4.										
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mcfd
1	3.03		48.2	1.0000	.9258	1.0000	135
2.							
3.							
4.							
5.							

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

P _r 936.2	P _w 876470.4	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0027$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0022$
NO	P _r	P _w	P _w ²
1		48.2	2323.2
2			
3			
4			
5			

Absolute Open Flow 135		Mcf @ 15.025	Angle of Slope @ _____	Slope, n .85
Remarks: _____				

Approved by Division	Conducted By: Jim Choquette	Calculated By: James Smith	Checked By: L. O. Van Ryan
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