MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

		 	_	
Revis	ed	12.	-1	-55

Poc	ol Blanco-P	ioture	l Clif	fa F	'ormatio	n Pietr	wred Cli	ffe	County_	Sag	Juan	
	tial X											
	ipany Paa ar											
	t p											
	ing 1-1/2											
	ing 1-1/4											
	Pay: From											12
Pro	ducing Thru	ı: Ca	sing	1	Tu	ıbing	<u></u>	Type W				46
Date	ducing Thru	tion:	June 1	0. 1946	Packe	r Rona	Sir	gle-Brad	enhead-G.	G. or	G.O. D	ual
	•		#363 J	-15 -6/2	r done	- HATTA	···	neserv	ort femb.		7	
Test	tod Theorem	('a	()		ED DATA					
	ted Through				(Resear)				Туре Тар	s		
	(FEFEE	(Ch	Flow Doke)	Press.	Diff.	Temp.	Tubing Press.	Data Temp.	Casing D			Duration
No.	(Line) Size	(633	1366)	1	1 1	ļ.	ļ	o _F ,	ł	1	ĺ	of Flow Hr.
SI 1.	Shut in 1	days					1034	 	10%		 -	
2.	20	1	.	173		(ost)	201	60°(ost)	173	60°(e)	E)	1 bre.
3. 4.												
5.												
$\neg \Gamma$	Coeffic	Lent		Pr	essure		CULATION	S Gravity	10			
No.	(24 – Hoı		√ h _w i		psia	Fact	tor	Factor	Factor	٠	Q-MCF	
1.	12.365		V 'W	- 1	185	,	t	F _g	F _{pv}	•	Ø 15.0	25 psia
2. 3. 4.												
5.												
					PRE	ESSURE CA	LCULATIO	MC				
ıs Li	iquid Hydro	carbon	Ratio	,		cf/bbl.	TOO.WIT(g:	_		_
avit	ty of Liqui	d Hydr	ocarbo	ns -e ^{-s})		deg.		Specia	fic Gravit fic Gravit	y Flow	ing Fl	uid
			/1	_e <u></u>				Pc	1046	P _c 1	,094,1	16
10.	$P_{\mathbf{W}}$	2	Τ_			1	.2		2 0			
	Pt (psia)	$P_{\mathbf{t}}^2$	Fc	Q	$(F_cQ)^2$	(F _c	Q) ² e ^{-s})	P _w 2	$P_c^2 - P_w^2$	Ca: P,		Pw Pc
								5.349	,048,747		*	
											ŢŢ.	
											\pm	
OMPA				tro Leve	Corpor	MCFPD;	n 0,55					
DDRE GENT	and TITLE	L87.	Farmi n	urton.	leer Herri	40	Pm	/ >	Λ			
TTNE	'99ED			* ***		ETHEST.	Fyn	e sauce	7.1/2.			
J. II A	**** <u>*</u>					REMA	RKS			111	IN	
		•									m /	

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 ($P_{\rm W}$). MCF/da. @ 15.025 psia and 60° F.
- $P_c = 72$ hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia
- PwT Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- Pt Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia
- P_f Meter pressure, psia.
- hw Differential méter pressure, inches water.
- Fg = Gravity correction factor.
- $F_t = Flowing temperature correction factor.$
- F_{DV} Supercompressability factor.
- n _ Slope of back pressure curve.
- Note: If $P_{\rm W}$ cannot be taken because of manner of completion or condition of well, then $P_{\rm W}$ must be calculated by adding the pressure drop due to friction within the flow string to $P_{\rm t}$.

OIL CONSERVAT	ION COMMIS	SION
AZTEC DIST	RICT OFFICE	Ē
No. Copies Recei	ved 3	
DISTRI	BUTION	
	NO. FURNISHED	
Operator		
Santa Fe		
Proretion Ornce		
State Land Office		
U. B. Q. S.		
Trensporter		
File		1



Initial Deliverability

NEW MEXICO OIL CONSERVATION COMMISSION GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA EXCEPT BARKER DOME STORAGE AREA)

Tubing		To	(a) (b) (c) (d) (e) (f) (f) (i) (g) (g) (h) (i) (j) (k) (i) (i) (i) (k) (i) (i) (i) (i) (i) (i) (i) (i) (i) (i
Sec. Twp Rge. Pay Zone: From Sising: OD WT. Set At WT. Tubing: OD MT. Set At WT. Set At WT	WT. 2.3 d 0.600 7-3-59 art 8q. 26.	To	(a) (b) (c) (d) (e) (f) (f) (g) (h) (i) (g) (h) (i) (i) (i) (i) (i) (i) (i) (i) (i) (i
Sec. Twp Rge. Pay Zone: From Sing: OD WT. Set At 33. Tubing: OD MT. Se	WT. 2.3 d 0.600 7-3-59 art 8q. 26.	To	(a) (b) (c) (d) (e) (f) (f) (g) (h) (i) (g) (h) (i) (i) (i) (i) (i) (i) (i) (i) (i) (i
Set At Tubing: OD A WT. Set At Tubing: OD A Conduced Through: Casing Tubing Gas Gravity: Measured and of Flow Test: From To To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and of Flow Test: From To A Date S.I.P. Measured and Description of Flow Test: From Test: From To A Date S.I.P. Measured and Description Test: From Tes	WT. 2.3 d 0.4000 T-3-59 mt Sq. Rb.	T. Perf Estimated	(a) (b) (c) (d) (e) (f) (f) (g) (g) (h) (h) (i) (g) (g) (g) (g) (g) (g) (g) (g) (g) (g
roduced Through: Casing Tubing Gas Gravity: Measured the of Flow Test: From To To Size Total Part S.I.P. Measured the of Flow Test: From To Orifice Size Type Character Run Size Set Size Size Type Character Run Size Set Size Size Size Size Size Size Size Size		Estimated	(a) (b) (c) (d) (e) (d) (e) (f) (f) (g) (h) (f) (i) (j) (ii) (k) (ii) (k) (ii) (k) (iii) (k) (k) (k) (k) (k) (k) (k) (k) (k) (k
owing casing pressure (Dwt) owing tubing pressure (Dwt) owing meter pressure (Dwt) owing meter pressure (Dwt) owing meter pressure (meter reading when Dwt, measurement taken: Normal chart reading Square root chart reading (7-3-59 art Sq. Rb. =	Type Taps	(a) (b) (c) (d) (d) (e) (f) (d) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f
owing casing pressure (Dwt) owing tubing pressure (Dwt) owing meter pressure (Dwt) owing meter pressure (meter reading when Dwt, measurement taken: Normal chart reading Square root chart reading ((a) (b) (c) (d) (d) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f
OBSERVED DATA owing casing pressure (Dwt)	=	psia psia psia psia psia psia psia psia	(a) (b) (c) (c) (d) (d) (e) (d) (e) (f) (f) (g) (g) (h) (i) (i) (i) (i) (i) (i) (i) (i) (i) (i
owing casing pressure (Dwt) owing tubing pressure (Dwt) owing meter pressure (Dwt) owing meter pressure (meter reading when Dwt. measurement taken: Normal chart reading Square root chart reading (=	psia psia psia psia psia psia psia psia	(b) (c) (d) (e) (d) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f
owing tubing pressure (Dwt)	=	psia psia psia psia psia psia psia psia	(b) (c) (d) (e) (d) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f
owing tubing pressure (Dwt)	=	psia psia psia psia psia psia psia psia	(c) (d) (d) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f
owing meter pressure (Dwt)	=	psia psia psia psia psia psia psia psia	(d) (d) (e) (f) (f) (g) (g) (g) (g) (g) (g) (g) (g) (g) (g
Super cooking meter pressure (meter reading when Dwt, measurement taken: Normal chart reading	=	psia psia psia psia psia psia psia psia	(d) (e) (f) (f) (g) (g) (g) (g) (g) (g) (g) (g) (g) (g
Square root chart reading (=	psia psia psia psia psia psia psia psia	(d) (e) (f) (f) (g) (g) (g) (g) (g) (g) (g) (g) (g) (g
ster error (c) - (d) or (d) - (c) fiction loss, Flowing column to meter: (b) - (c) Flow through tubing: (a) - (c) Flow through casing even day average static meter pressure (from meter chart): Normal chart average reading	=	psi psi psia psia psia psia psia psia ps	(e) (f) (g) (g) (h) (g) (h) (g) (h) (g) (h) (l) (g) (l) (g) (l) (g) (l) (g) (g) (g) (g) (g) (g) (g) (g) (g) (g
cirction loss, Flowing column to meter: (b) - (c) Flow through tubing: (a) - (c) Flow through casing even day average static meter pressure (from meter chart): Normal chart average reading	= 24 = 24 = 304 = 304	psia psia psia psia psia psia psia psia	(f) (g) (g) (h) (i) (k) (k) (k) (l) (moss (n)
(b) - (c) Flow through tubing: (a) - (c) Flow through casing even day average static meter pressure (from meter chart): Normal chart average reading	= 24 = 24 = 304 = 304	psia psia psia psia psia psia	(g) (g) (h) (i) (j) (j) (j) (j) (j) (j) (j) (j) (j) (j
even day average static meter pressure (from meter chart): Normal chart average reading	= 24 = 24 = 304 = 304	psia psia psia psia psia psia	(g) (g) (h) (i) (j) (j) (j) (j) (j) (j) (j) (j) (j) (j
Normal chart average reading	= 24 = 24 = 304 = 304	psia psia psia psia psia psia psia	x (g x (h x (i) x (j) x (j) x (k x (l) x (n
Square root chart average reading (= 24 = 24 = 104 = 104	psia psia psia psia	(h) (i) (i) (j) (k) (k) (l) (s) (n)
Corrected seven day avge, meter press. (pf) (g) + (e) $f = (h) + (f)$ sellhead casing shut-in pressure (Dwt) cellhead tubing shut-in pressure (Dwt) psig + 1 psi	2 =	psia psia psia psia	i (i) i (j) i (k i (l) os (n
eilhead casing shut-in pressure (Dwt) eilhead tubing shut-in pressure (Dwt) psig + 1	2 =	psia psia psia psia	n (j) n (k n (l) os (n
ellhead tubing shut-in pressure (Dwt)	=	psia psia	n (k n (1) os (n
Summary Summ	-	psiaoAb	r (1) os (n
lowing Temp. (Meter Run) $d = \frac{1}{2} P_{c} = \frac{1}{2} (1)$ $= \frac{1}{2} P_{c} = \frac{1}{2} (1)$ $= \frac{1}{2} P_{c} = \frac{1}{2} (1)$ $= \frac{1}{2} P_{c} = \frac{1}{2} P_{c} =$	= 2	• Ab	s (n
$= \underbrace{\begin{array}{c} \text{Integrated} \\ \text{Integrated} \end{array}} \times \underbrace{\begin{array}{c} \text{FLOW RATE CALCULATION} \\ \text{V(d)} \\ \text{V(d)} \\ \text{DELIVERABILITY CALCULATION} \\ \text{Pc-Pd} \\ \text{Pc-Pd} \\ \text{Pc-Pd} \\ \text{O 3 2 1/5} \\ \text{SUMMARY} \end{array}}_{n}$	=	*	•
$= \underbrace{\begin{array}{c} \text{FLOW RATE CALCULATION} \\ \text{V(d)} \\ \\ \text{DELIVERABILITY CALCULATION} \\ \\ \text{P}_{c}^{2} - \text{P}_{d}^{2} \\ \\ \text{P}_{c}^{2} - \text{P}_{w}^{2} \\ \\ \end{array}}_{n} \underbrace{\begin{array}{c} \text{DELIVERABILITY CALCULATION} \\ \text{7.75} \\ \text{V} \\ \text{1.03} \\ \text{2.11} \\ \text{2.11} \\ \text{3.21} \\ \text{1.03} \\ \text{2.11} \\ \text{3.21} \\ 3.2$			ı (n
$= Q \qquad \qquad \begin{bmatrix} (P_{c}^{2} - P_{d}^{2}) = 820587 \\ (P_{c}^{2} - P_{w}^{2}) = 1032115 \end{bmatrix}^{n} \qquad \qquad$	=	мс	CF/da
$= Q \qquad \qquad \begin{bmatrix} P_{c}^{2} - P_{d}^{2} \\ P_{c}^{2} - P_{w}^{2} \end{bmatrix} = \begin{bmatrix} 820587 \\ 9.002 \end{bmatrix}^{n} \qquad 9.002 \end{bmatrix}^{n}$ SUMMARY			
	2 <i>21</i> = 39	мсг	F/da.
and 1946			
psid Computy Par	can Petrol	ma Corpora	tion
=Mcf/day By	B.	m. Barer	by
psia Witnessed by			
Mcf/day Company			
This is date of completion test. Meter error correction factor			
REMARKS OR FRICTION CALCULATIONS		-	
GL $(1-e^{-5})$ $(F_cQ)^2$ $(FcQ)^2$ $(1-e^{-5})$		P,2+R2	$P_{\mathbf{w}}$
R2	Pt ²	• • • •	w
	Pt ² (Column i)	• 1	w
Printiem Loss Negligible			

INITIAL DELIVERABILITY TEST

()I



_ - . (

Initial Pest

NEW MEXICO OIL CONSERVATION COMMISSION GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA EXCEPT BARKER DOME STORAGE AREA)

ool Blance	-Pictured Cl	Lite -	Formation	Platured Cli	ffe Cou	nty San June	
urchasing Pi	ipeline R Pas	a Materal	Cas Company	D	ate Test Filed	October 21	, 1959
perator p	American Pet	relawn Co	Lease_Ro	thelle Ges Uni		Well No.	
				Pay Zone: Fr			6
				Tubing: OD			
				Gas Gravity: M			
ate of Flow	Test: From	5-59	То 9-13-59	_* Date S.I.P. Med	sured	77	
leter Run Siz	e		Orifice Size	Ту	pe Chart Sq.	Type T	ops Flan
•			OBSERV	ED DATA			
				pı			
				ps			
				ps	sig + 12 =	· · · · · · · · · · · · · · · · · · ·	psia
	pressure (meter read t reading	rud wuen Dwi		n: ps	sia + 12 =		psia
) ² x sp					psia psia
	· (d) or (d) - (c)	, ,	±		=		psi
• •	lowing column to m	eter:					•
(b) - (c) Flow	w through tubing: (a) - (c) Flow th	rough casing		=		psi
even day avero	age static meter pre	ssure (from me	eter chart):				
Normal chart	t average reading_		. 2	ps	sig + 12 =	41.0	psia
	chart average readin				=	22.9	psia
	even day avge. mete	r press. (p _f) (g) + (e)		= <u> </u>	249	psia psia
t = (h) + (f) ellhead casino	g shut-in pressure (I	Owt)		16% p	sig + 12 =	046	psia
	shut-in pressure (D				_	046	psia
-	whichever well flower				=1	016	psia
lowing Temp.				60	=	529	°Abs
$P_d = \frac{1}{2} P_c = \frac{1}{2} ($	(1)				=	523	psia
(integrated	x		(c) =	=	=		MCF/de
		<u> </u>	DELIVERABILIT	Y CALCULATION			
= Q 45 2	2*	P ² - P ² =	620,587 1.032.115	n <u>0.8230</u>	= <u></u>	372	_ MCF/da.
SUMM A	L) ·			<u>.</u> .		-43 Ca	
=101 6			psia	Company	AMERICAN P	strolom Go	
- 452			Mcf/day	By Are	a Backness	kwu sa	uer,
w =			psia	11tle			
d 523			psia Mcf/day	Witnessed by Company			
This is date of	f completion test.						
Meter error cor	-	BE	MARKS OR FRICT	ION CALCULATION	vs		
			(FeQ)		Pt ²		
GL	(1-e ^{-s})	(F _c Q)2	(1 00)			P _t ² + F	R ² Pw
				R2	(Column i) 	- None
_						200 mm	13 75
Pric	tion Loss Ka g	ligible	i				
- All &							ார் இநி கூண்ண
-7 SELUTEUS	d by pipeline	Comfaul)	•			i sili	
THITTAL D	ELIVERABILITY	TEST		,		는 기계	
alalain ii						7 T	
CORRECTED	COPY			썱			
						*	

NEW MEXICO OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

Form C-110 Revised 7/1/55

١

(File the original and 4 copies with the appropriate district office)

CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

company or Operator ran American	Petroleum Corporation Lease Rochelle Gas Unit
Well No. 1 Unit Letter P	S & T 29N R 9W Pool Blanco Pictured Cliffs
	of Lease (State, Fed. or Patented) Federal
well produces oil or condensate, g	
uthorized Transporter of Oil or Co	toon Petro. Corp.
ddress	1 mc/l 11/3 14-0
(Give address to which a	pproved copy of this form is Mo be sent)
uthorized Transporter of Gas	Paso Natural Gas Company
ddress Kl Paso, Tex	Date Connected # pproved copy of this form is to be sent)
das is not being soid, give reason	s and also explain its present disposition:
Waiting on pipeline connection.	
easons for Filing:(Please check pro	ner how New Well
ge in Transporter or Check One): Oil () Dry Gas () C'head () Condensate (
hange in Ownership	() Other
emarks:	(Give explanation below)
pitot tube measurement. he undersigned certifies that the Ruission have been complied with.	JUN3 0 1959 OIL CON. COM. ales and Regulations of the Oil Conservation Com-
recuted this the 26th day of June	ORIGINAL SIGNED BY R. M. Bauer, Jr.
proved	19 Title Area Engineer
OIL CONSERVATION COMMISS Original Signed By	GION Company Pan American Petroleum Corp
A. R. KENDRICK	Address Box 487
tle_PETROLEUM ENGINEER DIST. NO. 3	Farmington, New Mexico
	Attn: L. O. Speer, Jr.

COMMISSION	
TRICT OFFICE	OIL CONSER
	No. Copies Re
BUTION	DIS
NO.	
2.	2
- P	Onerator
	Santa Fa
	Proration Off
-	State Land Office
	U. S. G. S.
	Transporter
1 2 2	File

٨

•

ξ