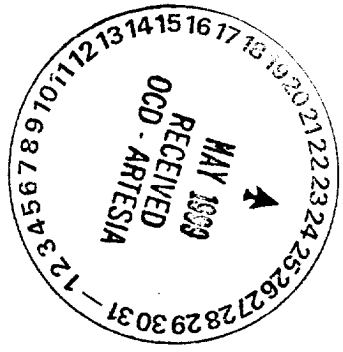
UNITED BANK PLAZA
400 N. PENN. SUITE 1000

CHARLES B. READ
PRESIDENT

PHONE 505 622-3770
FAX: 505 622-8643

Read & Stevens, Inc.
Oil Producers
P. O. Box 1518
Roswell, New Mexico 88202



May 21, 1999

New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210-2834

RE: Harris Federal #11 ✓
Section 26 T15S-R27E
Chaves County, New Mexico
De Novo Case #11514
Order #R10622

Ladies & Gentlemen:

Enclosed please find Form C-122-C for the subject well. Per the subject order number, Read & Stevens, Inc. is required to conduct a deliverability test into the pipeline on the subject well. The deliverability test was performed April 24, 1999 and the Artesia OCD office was advised of the date and time of the test.

Please note on the Form C-122-C that the stabilized test rate into the pipeline was 1,206 MCF, and the calculated deliverability at pipeline pressure using the "n" from the Multipoint Back Pressure Test was 1,922 MCFD. Taking the deliverability of 1,922 MCFD times fifty percent (50%) would yield an allowable of 961 MCFD for the subject well.

If you have any questions, please advise.

Sincerely,

READ & STEVENS, INC.

John C. Maxey, Jr.
Operations Manager

JCM/sr/jcmltrs/ocdha11L3.wpd

Enclosure
xc: File, Partners

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122-C
Revised 10-1-78

RECEIVED
MAY 1999
OCD - ARTESIA

DELIVERABILITY TEST REPORT

Type Test: ☐ Initial ☐ Annual ☒ Special				Test Date: 4/24/99	
Company: Read & Stevens, Inc.			Connection: GPM Gas Corporation		Unit
Pool: Buffalo Valley			Formation: Morrow		
Completion: 4-19-97	Total Depth: 9050'		Plug Back TD: 8998'	Elevation: 3492' GR	Farm or Lease Name: Harris Federal
Csg. Size: 5 1/2" / Wt.: 17# / d: 4.892 / Set At: 9040'			Perforations: From 8654' To 8678'		Well No.: 11
Tbg. Size: 2 3/8" / Wt.: 4.6# / d: 1.995 / Set At: 8546'			Perforations: From To		Unit: N / Sec.: 26 / Twp.: 15S / Rge.: 27E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single			Packer Set At: 8546'		County: Chaves
Producing Thru: Tubing	Reservoir Temp. °F: 157 @ 8660'	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2		State: New Mexico

L	H	Gg.	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
8666	8666	0.634	0.3	1.20				

	FLOW DATA				TUBING DATA		CASING DATA		
NO.	Prover Line Size X Choke Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI	Total Flow Meter			50	390				48 hrs
1.				62	220				3 hrs

NO.	Coefficient (24-Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor Fpv	Rate of Flow Q, Mcfd
1.				0.9981	1.256	1.022	1206

NO.	P_r	Temp. R.	T_r	Z
	0.456	522	1.55	0.958

P_d 63.2
P_d^2 3.99
P_c 435.0 P_c^2 200.9

Gas Liquid Hydrocarbon Ratio: Dry Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: Dry Deg.
Specific Gravity Separator Gas: 0.634 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 674 p.s.i.a. p.s.i.a.
Critical Temperature: 367 R R
Pf Pf²

NO.	P_t	P_t^2	$P_c^2 - P_t^2$	P_w	P_w^2	$P_c^2 - P_w^2$	P_s	P_s^2	$P_f^2 - P_s^2$
	233	54.4	108.2	315.8	99.7	62.9	381.4	145.5	

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right] = \left[\frac{162.6-2.94}{162.6-99.7}\right] = 2.539$

$\text{Log}\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right] = 0.4047$

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right]^n = 1.594$

$n \text{ Log}\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right] = 0.202$

$\text{Deliv.} = Q\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right]^n$

Deliv. 1922 Mcfd
n 0.50
Multi Point Back Pressure Test
(Source of n)

Division
Company Read & Stevens, Inc.
Others