



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

August 12, 1996

CF 9368
9925

WFX-591

PDEV0020600591

Coastal Management Corporation
P.O. Box 2726
Midland, Texas 79702-2726

Attn: Mr. Robert Lee

**RE: Injection Pressure Increase
Blackhawk Federal Waterflood Project - 2 wells,
Geronimo Federal Waterflood Project - 3 wells,
Eddy County, New Mexico.**

Dear Mr. Lee:

Reference is made to your request dated July 23, 1996 to increase the surface injection pressure on five wells in the above referenced projects. This request is based on step rate tests conducted on these wells on June 17 and 18, 1996. The results of the tests have been reviewed by my staff and we feel an increase in injection pressures on these wells is justified at this time.

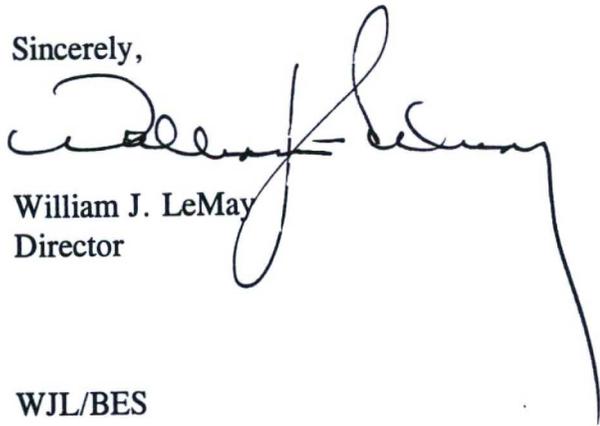
You are therefore authorized to increase the surface injection pressure on the following wells:

<i>Well and Location</i>	<i>Maximum Injection Surface Pressure</i>
Blackhawk Federal Well No.3 Unit L, Section 24, Township 18 South, Range 31 East	2000 PSIG
Blackhawk Federal Well No.7 Unit K, Section 24, Township 18 South, Range 31 East	1860 PSIG
Geronimo Federal Well No.2 Unit B, Section 24, Township 18 South, Range 31 East	1700 PSIG
Geronimo Federal Well No.7 Unit H, Section 24, Township 18 South, Range 31 East	1760 PSIG
Inca Federal Well No.4 Unit D, Section 19, Township 18 South, Range 31 East	1155 PSIG
All wells located in Eddy County, New Mexico.	

Injection Pressure Increase
Coastal Management Corporation
August 12, 1996
Page 2

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

A handwritten signature in black ink, appearing to read 'William J. LeMay', with a long, sweeping tail extending downwards and to the right.

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Hobbs
Bureau of Land Management - Carlsbad
Files: Case File Nos.9368 and 9925; WFX-591

JUL 29 1996

OIL CONSERVATION DIVISION

Coastal Management Corporation

July 23, 1996

Mr. David Catanach
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Request for Increased Injection Pressure
East Shugart Waterflood Area

Dear Mr. Catanach:

Coastal Management Corporation ("CMC") respectfully requests an increase in injection pressure for wells in the East Shugart Waterflood located in Section 18-31, Eddy County and Section 18-32, Lea County. This property was formerly operated by Siete Oil & Gas Inc. ("Siete") in Roswell and has been acquired by CMC. Prior to the demise of Siete, some step rate tests were performed and witnessed by Mike Stubblefield from the OCD office in Artesia. To perform these tests, surface pressures were recorded by John West Engineering and corrected for friction.

The following is a list of wells and their results:

<u>Well</u>	<u>Results</u>
Blackhawk No. 3	Broke @ 3704#
Blackhawk No. 7	Broke @ 1917#
f60rnc [Geronimo No. 2	Ran out of rate before it broke
	Possible break @ 1810#
Inca No. 4	Broke @ 1200#

The current surface pressure limits are:

Blackhawk No. 3	1150#
Blackhawk No. 7	754#
Geronimo No. 2	1000#
Geronimo No. 7	1000#
Inca No. 4	1000#

Prior to performing these step rate tests, the Geronimo No. 2 and Inca No. 4 were acidized to attempt to reduce the injection pressure. These wells were injecting 300 to 400 psi above the previous pressure limit. The injection pressure only dropped a few hundred pounds but was still

over the allowable pressure. It was then necessary to run step rate tests and try to increase the pressure limits.

The Blackhawk No. 3 and Blackhawk No. 7 saw definite breaks in pressure. The pressures on the Blackhawk No. 3 seems excessive. I believe we may have a collapsed plastic liner in the tubing. If we are restricted in this manner, John Wests' friction calculation will not reduce the pressure enough. We are planning on running a sinker bar to see if we are obstructed.

The Geronimo No. 7 has a possible break of 1810#. There are two zones open in this well, the Penrose at 3750' - 3770' and the Grayburg at 4250' - 4310'. The shift @ 1810# may be due to one zone fracturing but not the other one. This type of curve shape did not occur in any of the other wells.

The Inca No. 4 saw a change in slope at 1250#. The Geronimo No. 2 did not see a change of slope. It was stimulated a few weeks before the step rate test and the pump truck reached it's maximum rate before the formation broke.

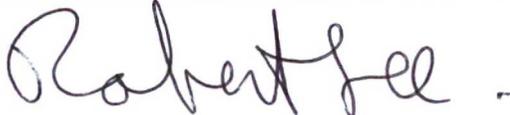
The initial completion for wells in the area was examined and it was found that the average pressure for the formation to break was around 2600#. Based on this and the results of these tests, we request the following injection pressures:

case 9369 9925	28657  R-9184 9184	Well Blackhawk No. 3 Blackhawk No. 7. - wlx 591 Geronimo No. 2 Geronimo No. 7 Inca No. 4 FEDERAL	Injection Pressure 2,000# 20405 920 W L 241831 1,860# 26503 2310 W F 241831 1,700# 950N 2310 E B 241831 1,760# 1750N 990E H 241831 1,250# 1155 791831 760N 420W D
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We are requesting an increase in the Geronimo No. 2 injection pressure even though we did not see a break in the step rate test. The 1,700# we've requested is below all but one parting pressure in the rest of the field and there was no evidence of the formation parting on the step rates at this pressure.

Thank you for your assistance.

COASTAL MANAGEMENT CORPORATION



Robert Lee

RL/le

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: SIETE OIL AND GAS CORPORATION

DATE: JUNE 18, 1996

WELL NAME: BLACKHAWK FEDERAL NO. 3
EDDY COUNTY, NEW MEXICO

WO#: 96-14-0675

PERFS = 3722-3746

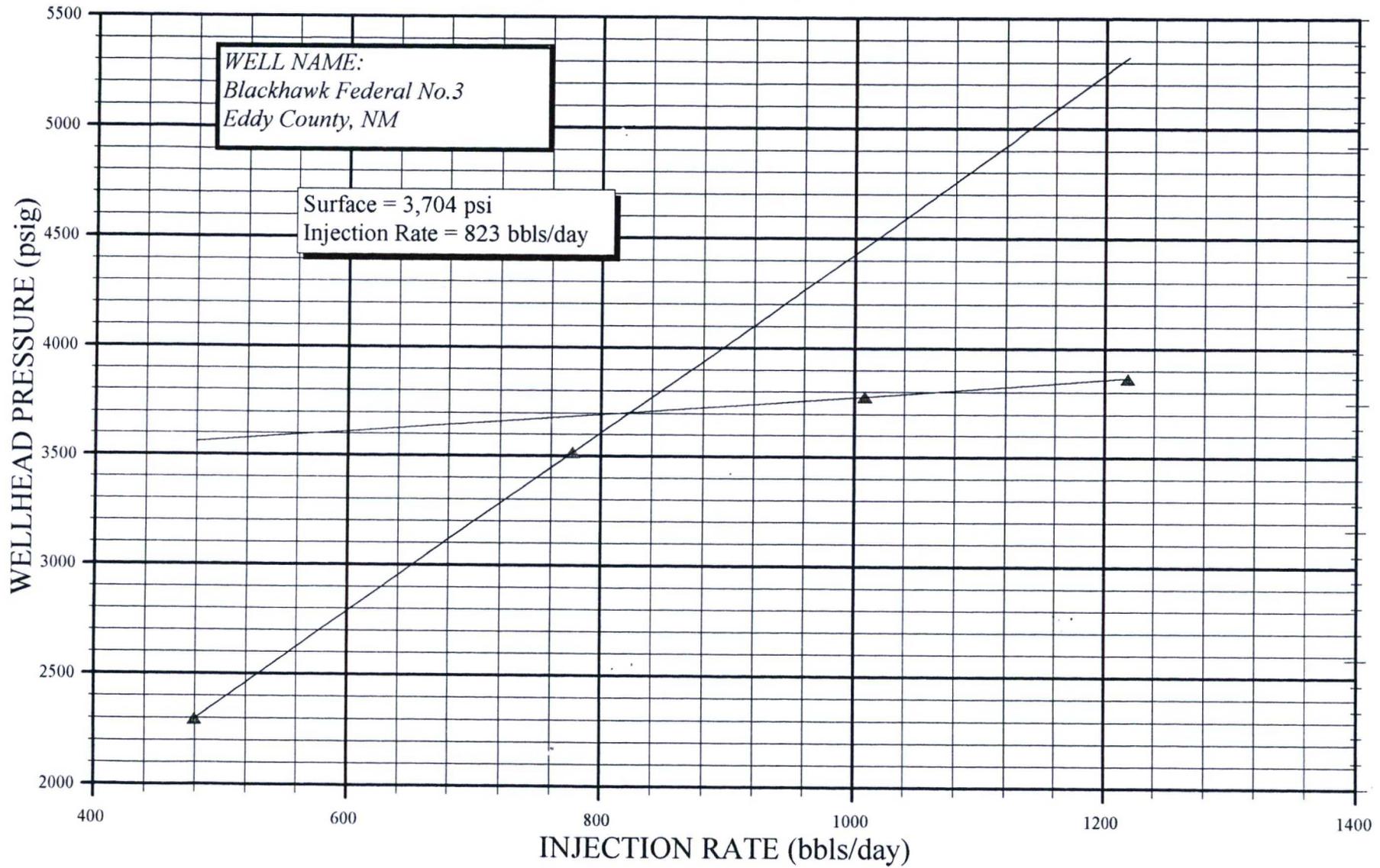
PACKER DEPTH = 3652

BHP GAUGE DEPTH - SURFACE ONLY

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34,2657	(7) MEASURED BHP (psi)
	8:15	620.7				620.7		
	8:20	2275.4	1.6	460.8	7.683	2267.7	13.44	
	8:25	2300.3	3.3	489.6	8.595	2291.7	14.28	
1	8:30	2297.8	5.0	489.6	8.595	2289.2	14.28	
				480.0				
	8:35	3575.6	7.6	748.8	18.862	3556.7	21.84	
	8:40	3526.5	10.3	777.6	20.226	3506.3	22.68	
2	8:45	3517.7	13.1	806.4	21.634	3496.1	23.52	
				777.6				
	8:50	4011.4	16.6	1008.0	32.690	3978.7	29.40	
	8:55	3786.5	20.1	1008.0	32.690	3753.8	29.40	
3	9:00	3780.2	23.6	1008.0	32.690	3747.5	29.40	
				1008.0				
	9:05	4121.0	27.9	1238.4	47.842	4073.2	36.12	
	9:10	3959.8	32.1	1209.6	45.804	3914.0	35.28	
4	9:15	3866.8	36.3	1209.6	45.804	3821.0	35.28	
				1219.2				
FALLOFF	9:16	1401.9				1401.9		
	9:17	1335.7				1335.7		
	9:18	1293.2				1293.2		
	9:19	1264.5				1264.5		
	9:20	1242.1				1242.1		
	9:25	1170.9				1170.9		
	9:30	1128.4				1128.4		

STEP RATE INJECTION TEST

SIETE OIL AND GAS CORPORATION



▲ RECORDED WELLHEAD PRES.

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: SIETE OIL AND GAS CORPORATION

DATE: JUNE 17, 1996

WELL NAME: BLACKHAWK FEDERAL NO. 7
EDDY COUNTY, NEW MEXICO

WO#: 96-14-0676

PERFS - 3756-4277

PACKER DEPTH = 3731

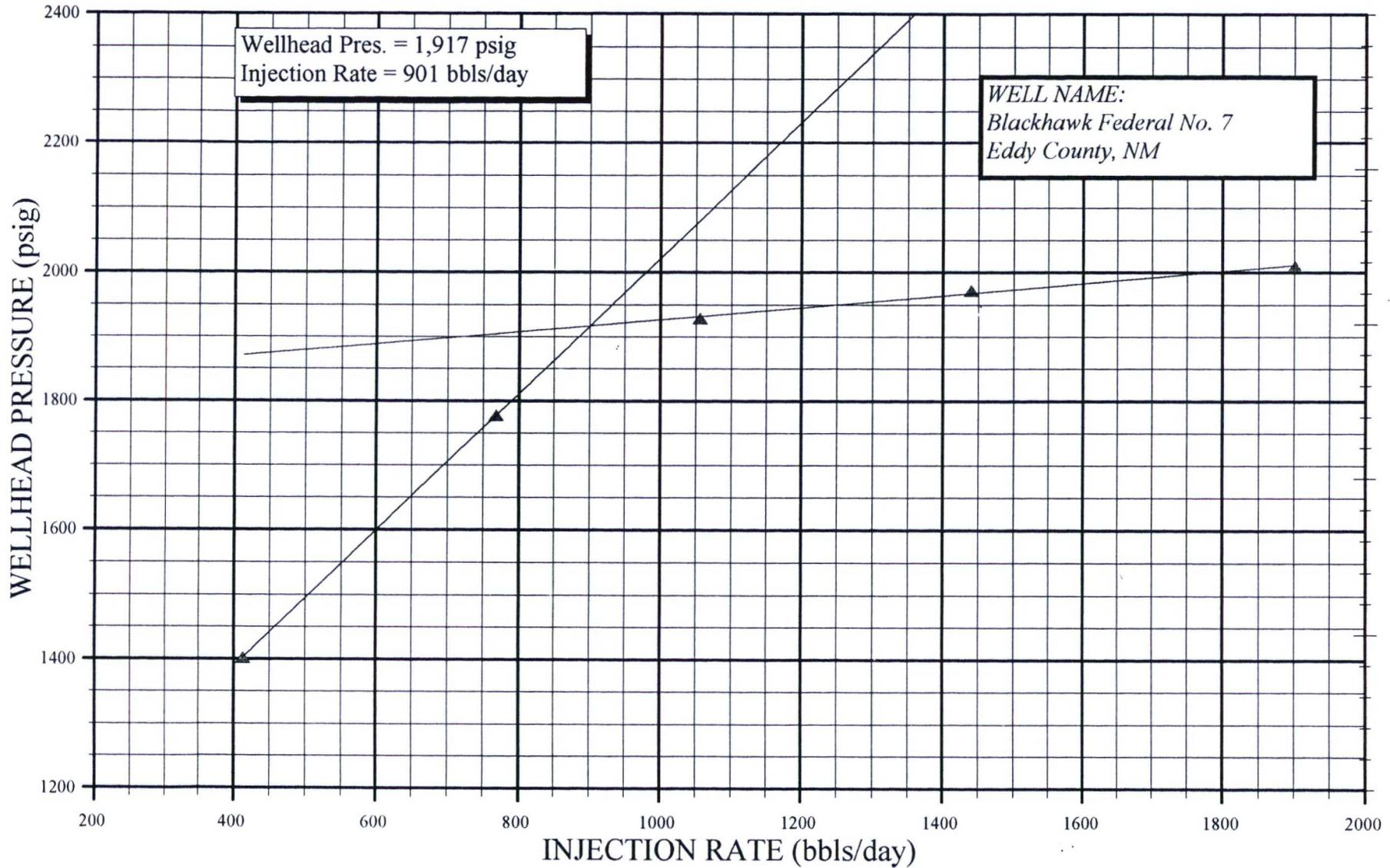
BHP GAUGE DEPTH = SURFACE ONLY

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	1:35	239.0				239.0		
	1:40	1255.9	1.4	403.2	6.454	1249.4	11.76	
	1:45	1357.0	2.8	403.2	6.454	1350.5	11.76	
1	1:50	1403.2	4.3	432.0	7.333	1395.9	12.60	
				412.8				
	1:55	1701.4	7.0	777.6	21.754	1679.6	22.68	
	2:00	1743.9	9.7	777.6	21.754	1722.1	22.68	
2	2:05	1777.6	12.3	748.8	20.287	1757.3	21.84	
				768.0				
	2:10	1876.1	16.1	1094.4	40.937	1835.2	31.92	
	2:15	1891.1	19.7	1036.8	37.040	1854.1	30.24	
3	2:20	1929.8	23.3	1036.8	37.040	1892.8	30.24	
				1056.0				
	2:25	1986.0	28.2	1411.2	65.521	1920.5	41.16	
	2:30	1983.5	33.2	1440.0	68.016	1915.5	42.00	
4	2:35	1972.3	38.3	1468.8	70.554	1901.7	42.84	
				1440.0				
	2:40	2058.4	44.9	1900.8	113.677	1944.7	55.44	
	2:45	2039.7	51.6	1929.6	116.883	1922.8	56.28	
5	2:50	2009.7	58.1	1872.0	110.511	1899.2	54.60	
				1900.8				
FALLOFF	2:51	1438.1				1438.1		
	2:52	1340.8				1340.8		
	2:53	1325.8				1325.8		
	2:54	1313.4				1313.4		
	2:55	1299.6				1299.6		
	2:56	1287.2				1287.2		
	2:57	1273.4				1273.4		

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	2:58	1259.7				1259.7		
	2:59	1246.0				1246.0		
	3:00	1232.2				1232.2		
	3:01	1218.5				1218.5		
	3:02	1204.8				1204.8		
	3:03	1192.3				1192.3		
	3:04	1179.8				1179.8		
	3:05	1171.1				1171.1		

STEP RATE INJECTION TEST

Siete Oil and Gas Corporation



▲ RECORDED WELLHEAD PRES.

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: SIETE OIL AND GAS CORPORATION

DATE: JUNE 18, 1996

WELL NAME: GERONIMO FEDERAL NO. 2
EDDY COUNTY, NEW MEXICO

WO#: 96-14-0679

PERFS = 3770-4306

PACKER DEPTH = 3678

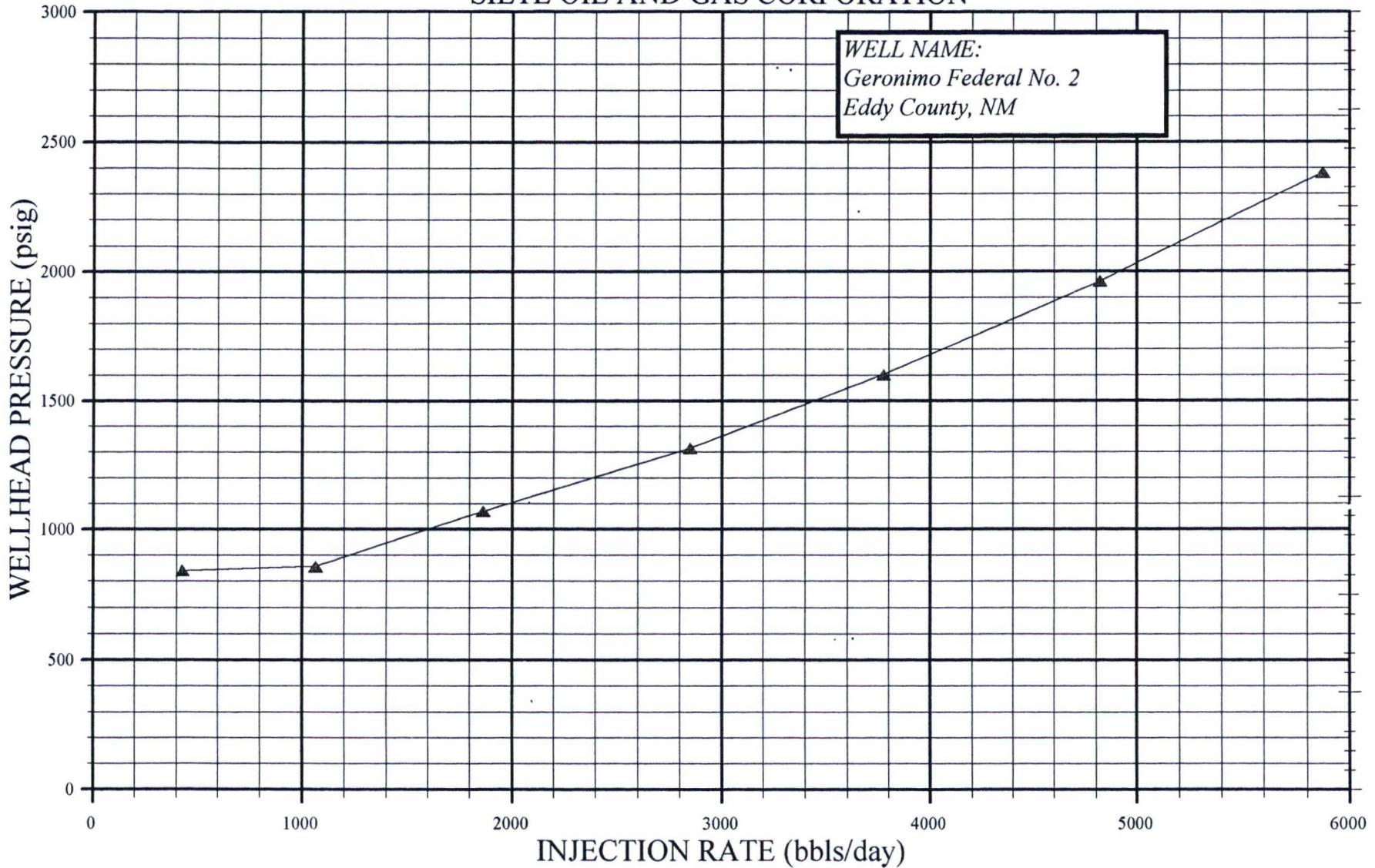
BHP GAUGE DEPTH = SURFACE ONLY

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	10:00	729.5				729.5		
	10:05	747.0	1.5	432.0	7.373	739.6	12.60	
	10:10	772.0	3.0	432.0	7.373	764.6	12.60	
1	10:15	843.0	4.5	432.0	7.373	835.6	12.60	
				432.0				
	10:20	836.8	8.2	1065.6	39.180	797.6	31.08	
	10:25	845.5	12.0	1094.4	41.161	804.3	31.92	
2	10:30	856.8	15.6	1036.8	37.243	819.6	30.24	
				1065.6				
	10:35	1021.1	22.1	1872.0	111.116	910.0	54.60	
	10:40	1044.8	28.5	1843.2	107.974	936.8	53.76	
3	10:45	1069.8	35.0	1872.0	111.116	958.7	54.60	
				1862.4				
	10:50	1285.8	44.8	2822.4	237.496	1048.3	82.32	
	10:55	1324.5	54.7	2851.2	241.998	1082.5	83.16	
4	11:00	1317.0	64.7	2880.0	246.540	1070.5	84.00	
				2851.2				
	11:05	1576.7	77.6	3715.2	394.892	1181.8	108.36	
	11:10	1597.9	90.8	3801.6	412.049	1185.9	110.88	
5	11:15	1602.9	104.0	3801.6	412.049	1190.9	110.88	
				3772.8				
	11:20	1931.2	120.6	4780.8	629.633	1301.6	139.44	
	11:25	1962.4	137.3	4809.6	636.668	1325.7	140.28	
6	11:30	1963.7	154.2	4867.2	650.845	1312.9	141.96	
				4820.2				
	11:35	2373.6	174.7	5904.0	930.319	1443.3	172.20	
	11:40	2377.3	195.1	5875.2	921.941	1455.4	171.36	
7	11:42	2382.3	206.4			2382.3		

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2637	(7) MEASURED BHP (psi)
FALLOFF	11:43	1147.3				1147.3		
	11:44	1142.3				1142.3		
	11:45	1134.8				1134.8		
	11:46	1128.5				1128.5		
	11:47	1123.6				1123.6		
	11:48	1118.6				1118.6		
	11:49	1114.8				1114.8		
	11:50	1111.1				1111.1		
	11:55	1097.3				1097.3		

STEP RATE INJECTION TEST

SIETE OIL AND GAS CORPORATION



WELL NAME:
Geronimo Federal No. 2
Eddy County, NM

—▲— RECORDED WELLHEAD PRES.

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: SIETE OIL AND GAS CORPORATION

DATE: JUNE 17, 1996

WELL NAME: GERONIMO FEDERAL NO. 7
EDDY COUNTY, NEW MEXICO

WO#: 96-14-0677

PERFS = 3750-4309

PACKER DEPTH = 3714

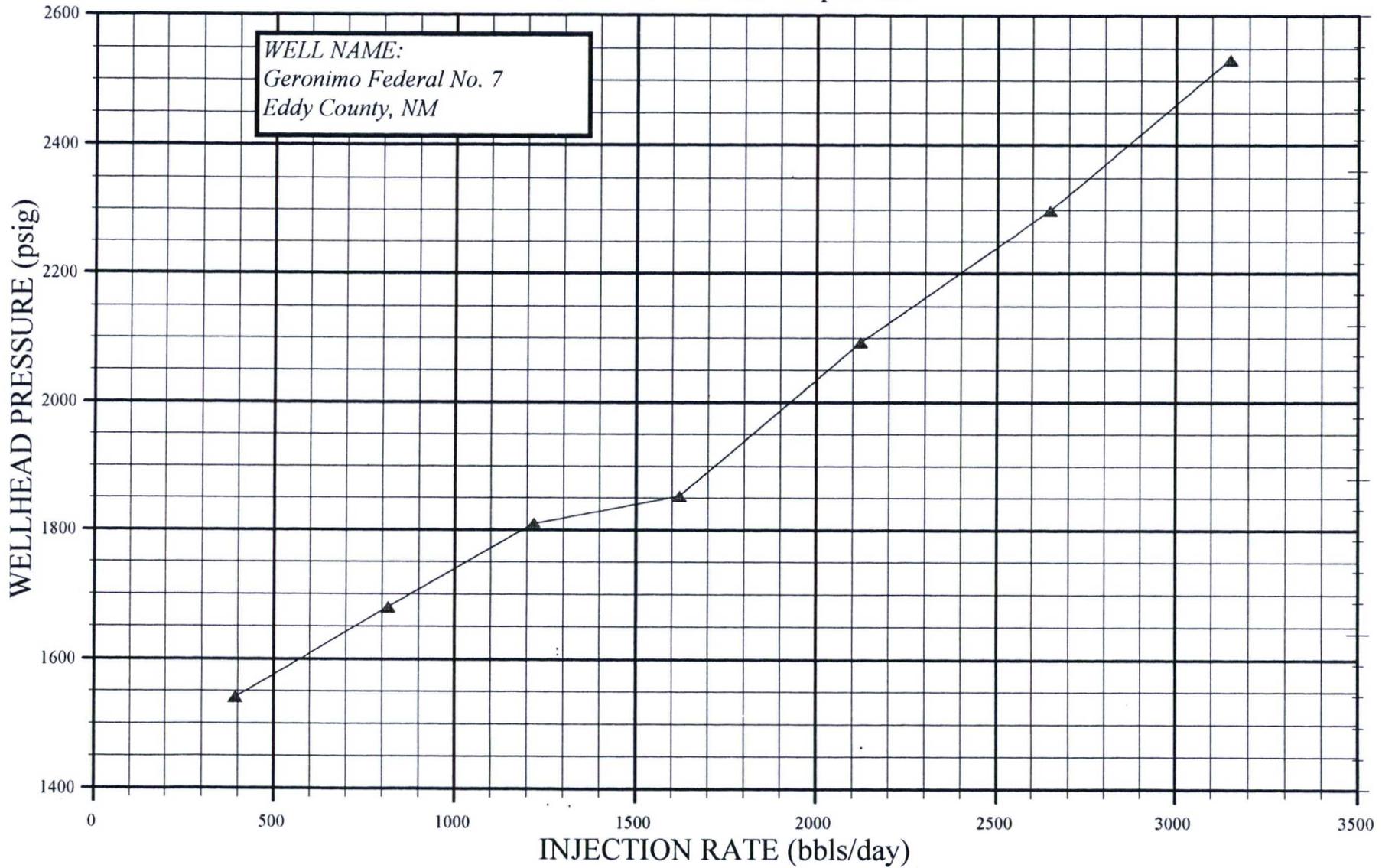
BHP GAUGE DEPTH = SURFACE ONLY

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	3:35	411.7				411.7		
	3:40	1637.8	1.4	403.2	6.475	1631.3	11.76	
	3:45	1594.1	2.8	403.2	6.475	1587.6	11.76	
1	3:50	1541.7	4.1	374.4	5.646	1536.1	10.92	
				393.6				
	3:55	1713.9	6.7	748.8	20.353	1693.5	21.84	
	4:00	1716.3	9.6	835.2	24.909	1691.4	24.36	
2	4:05	1680.2	12.6	864.0	26.521	1653.7	25.20	
				816.0				
	4:10	1791.2	16.8	1209.6	49.423	1741.8	35.28	
	4:15	1772.5	21.0	1209.6	49.423	1723.1	35.28	
3	4:20	1810.0	25.3	1238.4	51.622	1758.4	36.12	
				1219.9				
	4:25	1862.5	30.9	1612.8	84.152	1778.3	47.04	
	4:30	1856.3	36.6	1641.6	86.953	1769.3	47.88	
4	4:35	1853.9	42.2	1612.8	84.152	1769.7	47.04	
				1622.4				
	4:40	2051.2	49.6	2131.2	140.928	1910.3	62.16	
	4:45	2075.0	57.0	2131.2	140.928	1934.1	62.16	
5	4:50	2093.9	64.3	2102.4	137.425	1956.5	61.32	
				2121.6				
	4:55	2302.7	73.5	2649.5	210.812	2091.9	77.28	
	5:00	2306.6	82.7	2649.6	210.827	2095.8	77.28	
6	5:05	2300.0	91.9	2649.6	210.827	2089.2	77.28	
				2649.6				
	5:10	2564.7	102.8	3139.2	288.508	2276.2	91.56	
	5:15	2545.8	113.7	3139.2	288.508	2257.3	91.56	
7	5:20	2533.1	124.7	3168.0	293.423	2239.7	92.40	
				3148.8				

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
STEP NO. & REMARKS	TIME	SURFACE TUBING PRESS. (psig)	CUMMULATIVE VOL. INJECTED (bbls)	INJECTION RATE (bbls/day)	FRICTION HEAD LOSS (psi)	CORRECTED TUBING PRESS. (psi) (1) - (4)	INJECTION RATE (gpm) (3)/34.2837	MEASURED BHP (psi)
FALLOFF	5:21	1445.9				1445.9		
	5:22	1415.9				1415.9		
	5:23	1399.6				1399.6		
	5:24	1387.1				1387.1		
	5:25	1378.4				1378.4		
	5:30	1333.3				1333.3		

STEP RATE INJECTION TEST

Siete Oil and Gas Corporation



—▲— RECORDED WELLHEAD PRES.

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: SIETE OIL AND GAS CORPORATION

DATE: JUNE 18, 1996

WELL NAME: INCA FEDERAL NO. 4
EDDY COUNTY, NEW MEXICO

WO#: 96-14-0678

PERFS = 3768-4279

PACKER DEPTH = 3690

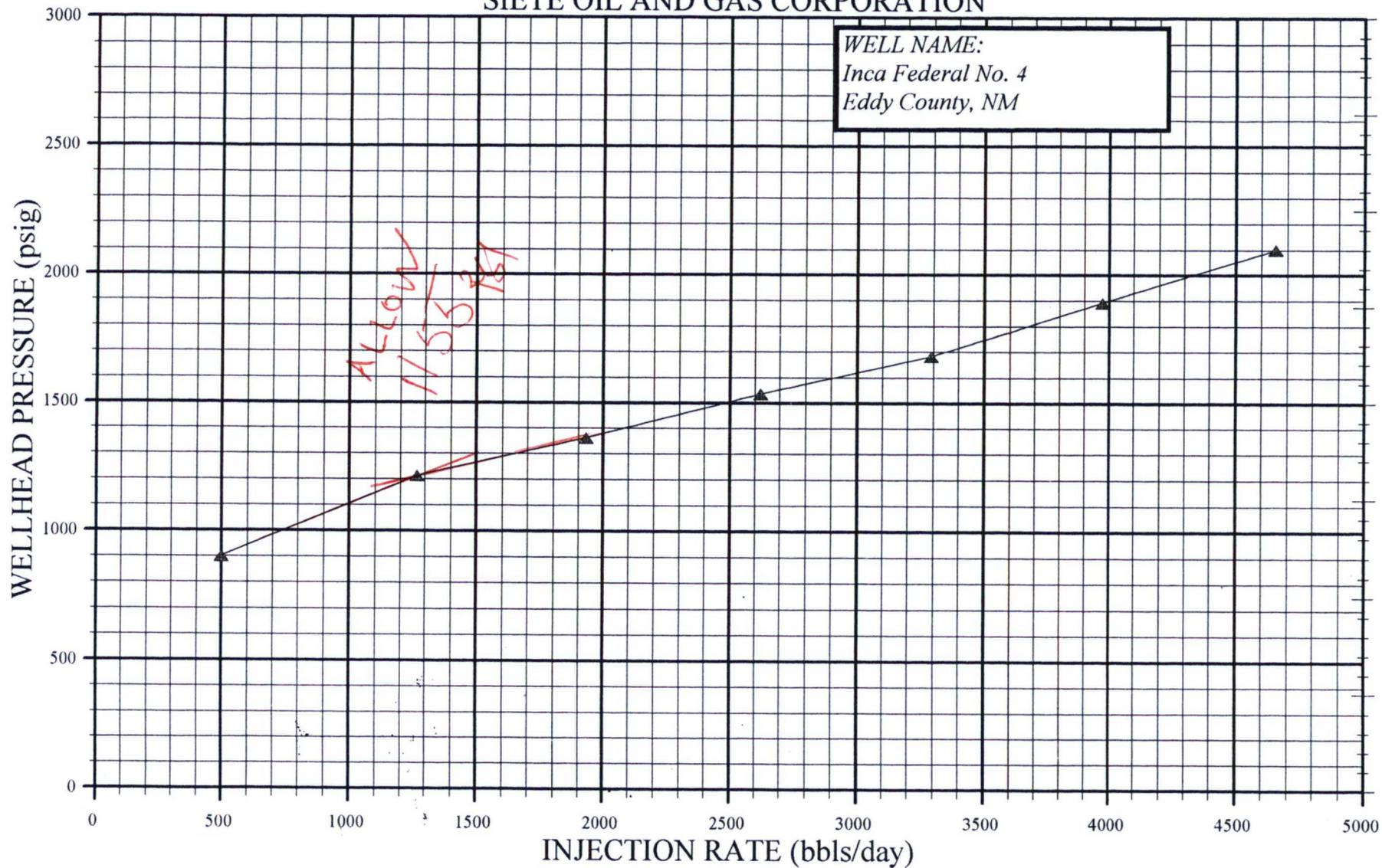
BHP GAUGE DEPTH = SURFACE ONLY

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2657	(7) MEASURED BHP (psi)
	12:30	679.0				679.0		
	12:35	816.0	1.7	489.6	9.260	806.7	14.28	
	12:40	868.3	3.5	518.4	10.293	858.0	15.12	
1	12:45	902.0	5.2	489.6	9.260	892.7	14.28	
				499.2				
	12:50	1102.5	9.5	1238.4	51.545	1051.0	36.12	
	12:55	1152.4	14.0	1296.0	56.068	1096.3	37.80	
2	1:00	1213.6	18.4	1267.2	53.785	1159.8	36.96	
				1267.2				
	1:05	1330.8	25.1	1929.6	117.087	1213.7	56.28	
	1:10	1350.8	31.9	1958.4	120.341	1230.5	57.12	
3	1:15	1363.3	38.5	1900.8	113.875	1249.4	55.44	
				1929.6				
	1:20	1515.5	47.6	2620.8	206.299	1309.2	76.44	
	1:25	1524.2	56.7	2620.8	206.299	1317.9	76.44	
4	1:30	1536.7	65.8	2620.8	206.299	1330.4	76.44	
				2620.8				
	1:35	1680.2	77.2	3283.2	313.000	1367.2	95.76	
	1:40	1675.2	88.6	3283.2	313.000	1362.2	95.76	
5	1:45	1683.9	100.1	3312.0	318.099	1365.8	96.60	
				3292.8				
	1:50	1871.0	113.7	3916.8	433.828	1437.2	114.24	
	1:55	1891.0	127.6	4003.2	451.698	1439.3	116.76	
6	2:00	1893.5	141.5	4003.2	451.698	1441.8	116.76	
				3974.4				
	2:05	2079.5	157.6	4636.8	592.787	1486.7	135.24	
	2:10	2098.2	173.8	4665.6	599.617	1498.6	136.08	
7	2:15	2099.4	190.0	4665.6	599.617	1499.8	136.08	
				4656.0				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psf)
FALLOFF	2:16	1288.5				1288.5		
	2:17	1272.2				1272.2		
	2:18	1256.0				1256.0		
	2:19	1241.1				1241.1		
	2:20	1229.8				1229.8		
	2:25	1189.9				1189.9		
	2:30	1164.9				1164.9		

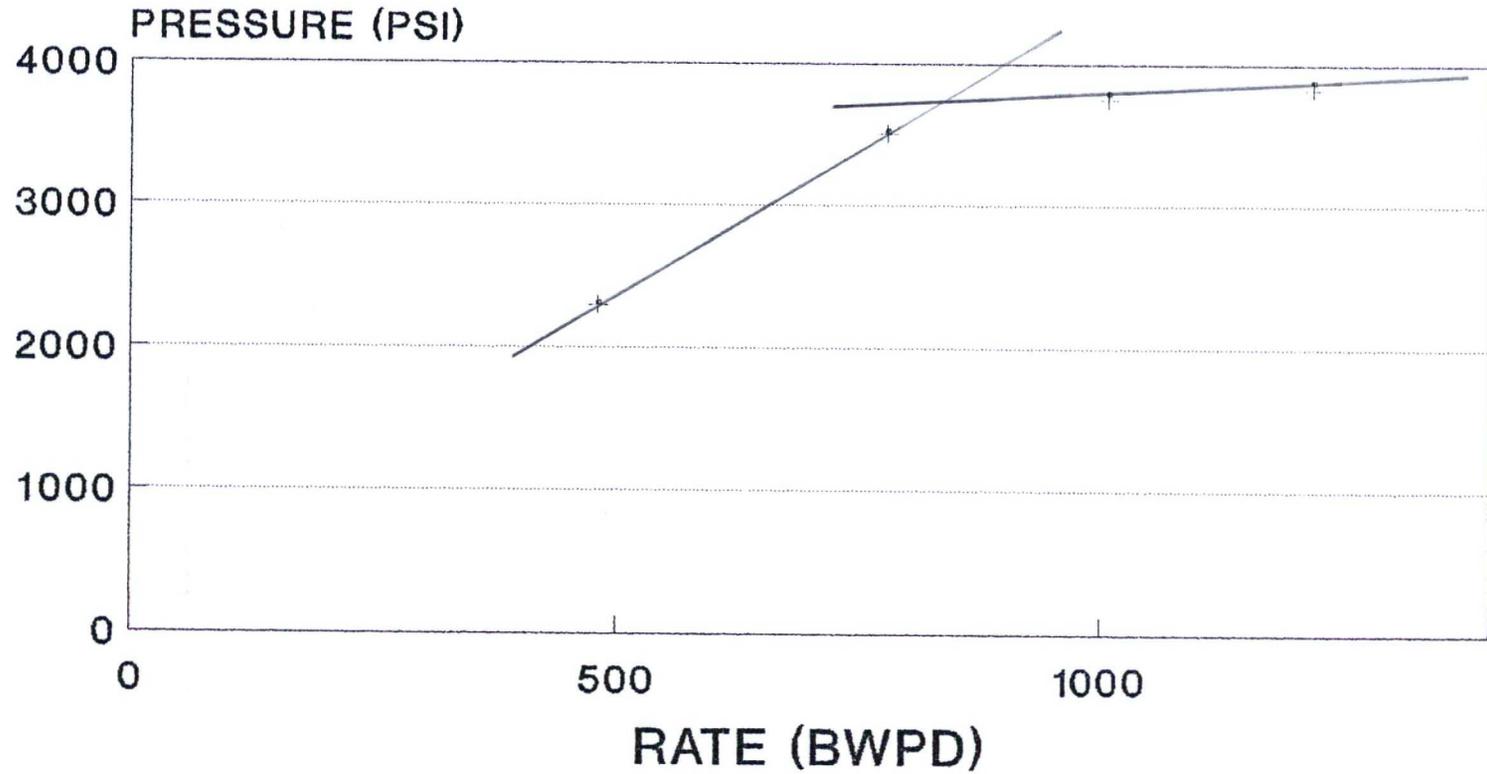
STEP RATE INJECTION TEST

SIETE OIL AND GAS CORPORATION



—▲— RECORDED WELLHEAD PRES.

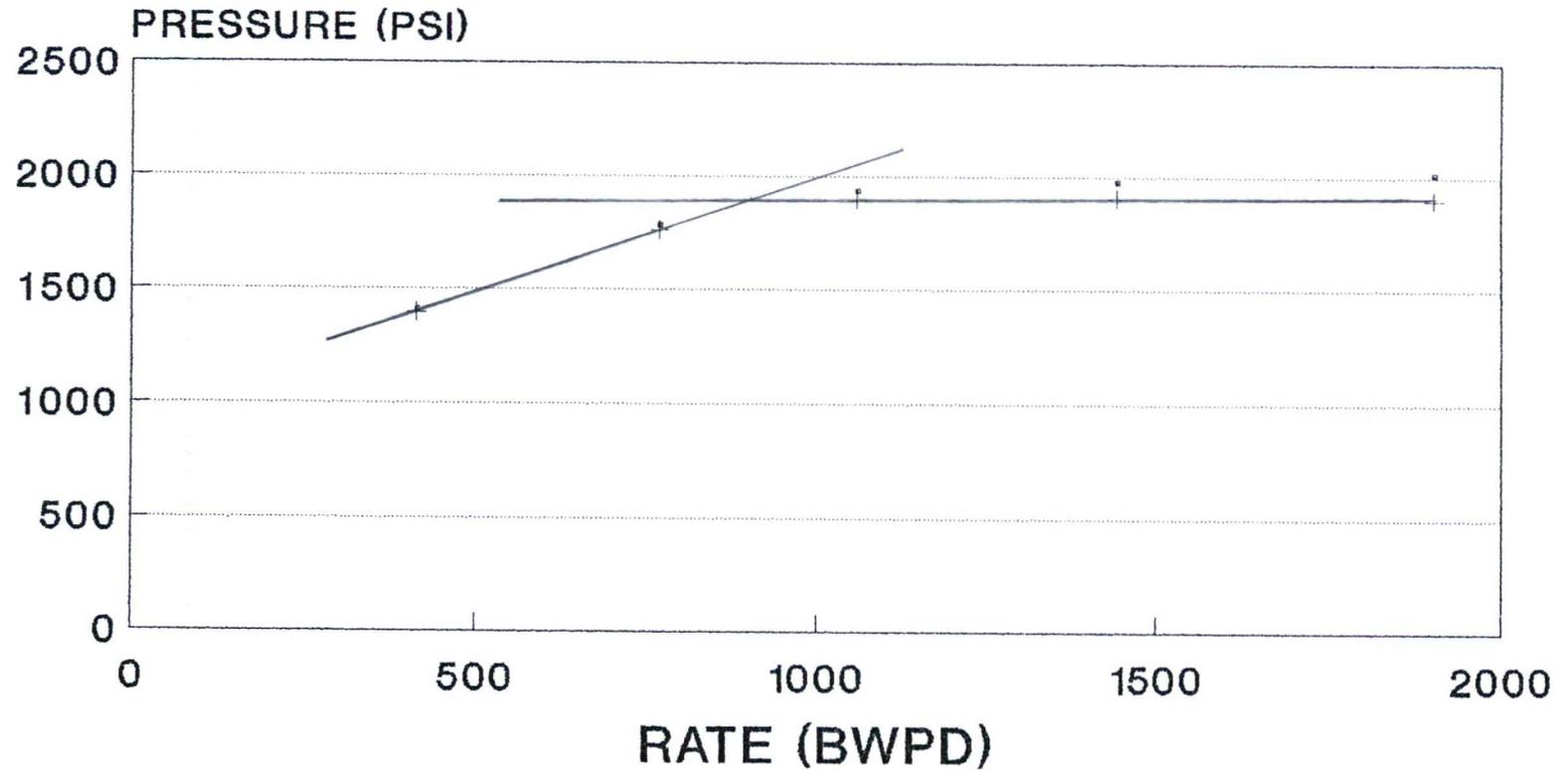
BLACKHAWK FEDERAL #3 STEP-RATE TEST



• RECORDED TUBING PSI + CORRECTED TUBING PSI

B3SRT

BLACKHAWK FEDERAL #7 STEP-RATE TEST

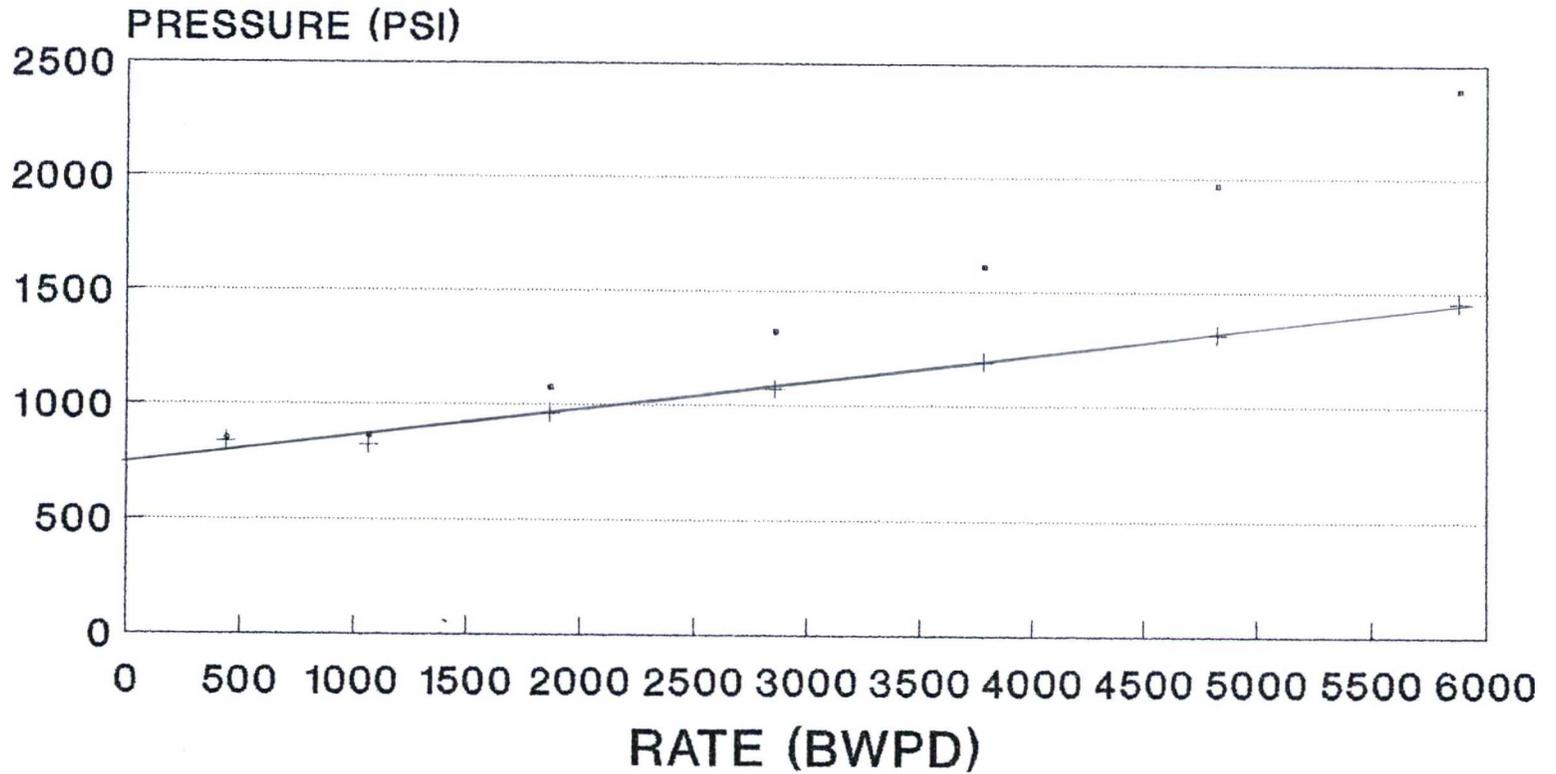


· RECORDED TUBING PSI + CORRECTED TUBING PSI

B7SRT

GERONIMO FEDERAL #2

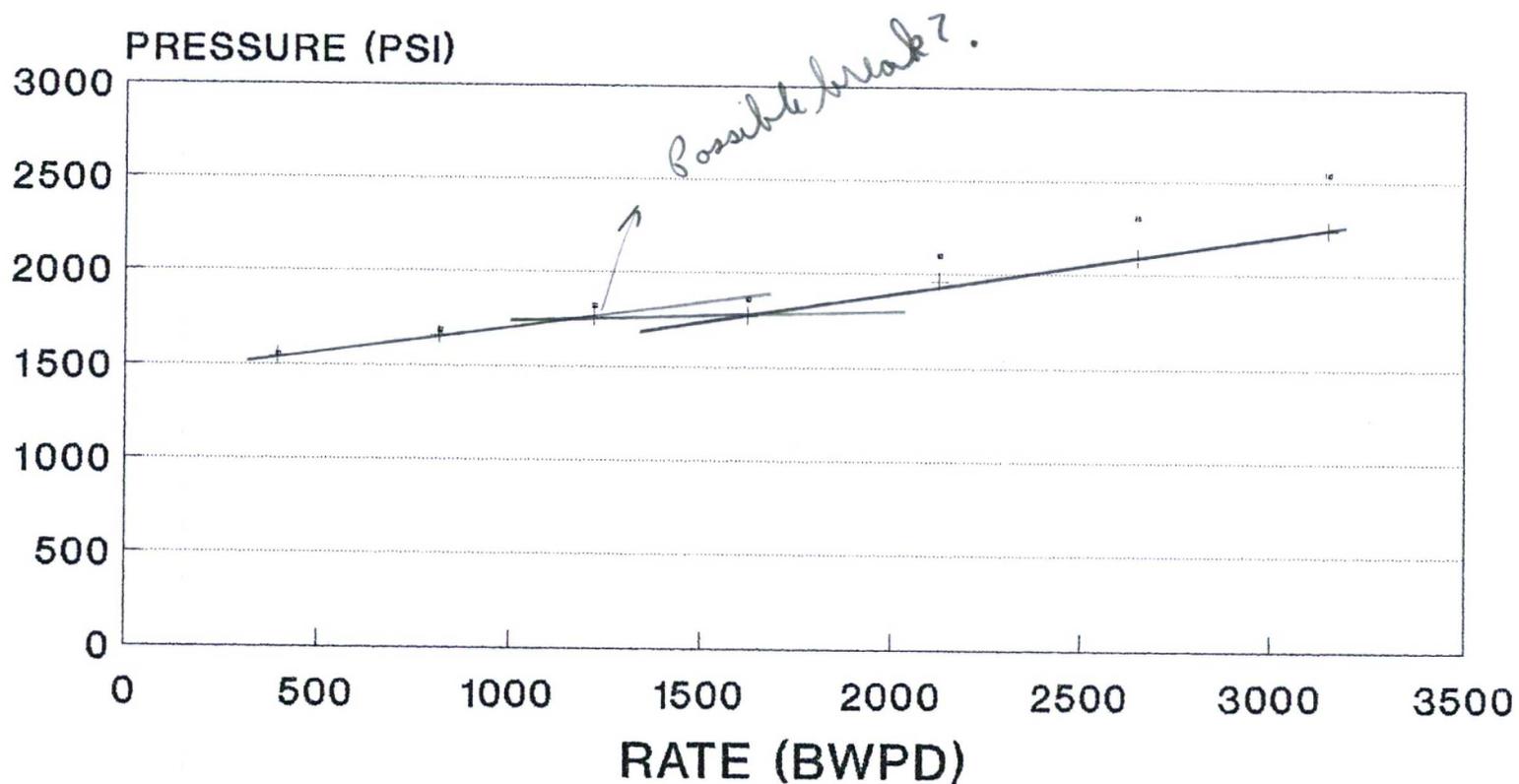
STEP-RATE TEST



• RECORDED TUBING PSI + CORRECTED TUBING PSI

G2SRT

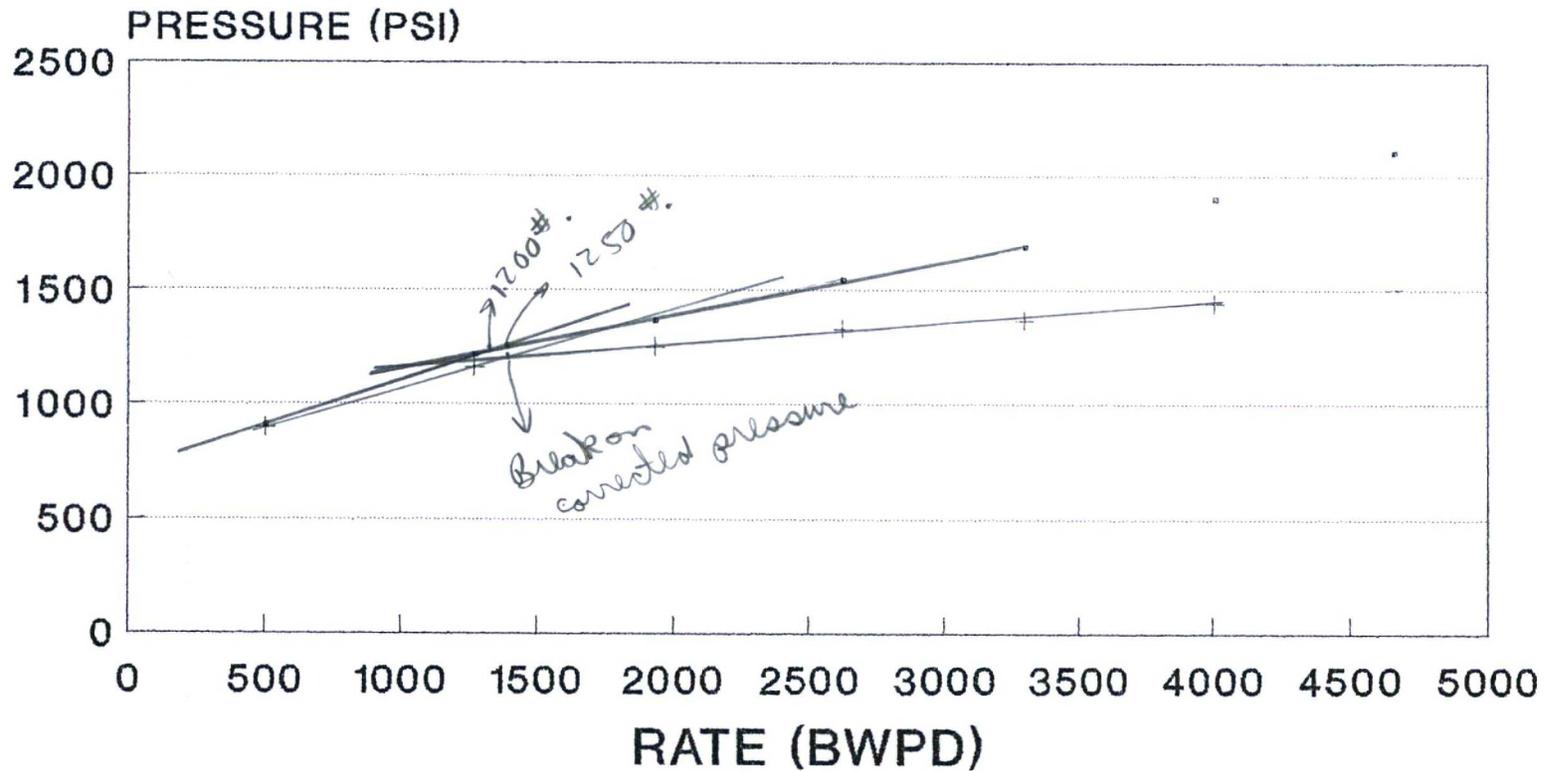
GERONIMO FEDERAL #7 STEP-RATE TEST



• RECORDED TUBING PSI + CORRECTED TUBING PSI

G7SRT

INCA FEDERAL #4 STEP-RATE TEST



• RECORDED TUBING PSI + CORRECTED TUBING PSI

I4SRT