

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION**

**IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION COMMISSION FOR
THE PURPOSE OF CONSIDERING:**

**APPLICATION OF POGO PRODUCING COMPANY
FOR APPROVAL OF TWO NON-STANDARD GAS
SPACING AND PRORATION UNITS IN THE
JALMAT GAS POOL, LEA COUNTY, NEW MEXICO.**

RECEIVED

JUN 06 2007

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

**Case No. 13,274 (*de novo*)
Order No. R-12366-A**

APPLICATION FOR REHEARING

Pursuant to NMSA 1978 §70-2-25, applicant Pogo Producing Company ("Pogo") applies for a rehearing on the above order. In support thereof, Pogo states:

I. **INTRODUCTION.**

The S½ of Section 20, Township 23 South, Range 37 East, NMPM currently forms a non-standard 320 acre in the Jalmat Gas Pool. In 2003 Pogo acquired 100% of the working interest in the Jalmat Gas Pool in the SE¼ (and the NE¼SW¼) of Section 20. Pogo sought approval of (i) a non-standard gas spacing and proration unit comprised of the SW¼ of Section 20, to be dedicated in the Jalmat Gas Pool to the Steeler "A" Well No. 1, located in the NW¼SW¼ of Section 20, to be operated by Westbrook Oil Corporation, and (ii) a non-standard gas spacing and proration unit comprised of the SE¼ of Section 20, in said township and range, to be dedicated in the Jalmat Gas Pool to the Resler "B" Well No. 1, located in the NW¼SE¼ of Section 20, to be operated by Pogo. By Order No. R-12366-A, the Commission denied Pogo's application, stating:

... Pogo Producing Company provided insufficient geologic and engineering evidence to support its opinion that drainage in the Jalmat Gas Pool is less than 160 acres, and that,

therefore, two non-standard 160-acre Jalmat gas units are needed to protect correlative rights.

Finding Paragraph 21. The Commission indicated that severing the current 320 acre unit into two well units would adversely affect the correlative rights of the opponents, Resler and Sheldon.

Finding Paragraph 19.

Pogo submits that this conclusion is both legally and factually incorrect, and requests that a rehearing be granted.

II. COMMISSION AUTHORITY.

The Commission's overall mandate is to prevent waste and protect correlative rights.

NMSA 1978 §70-2-11. In furtherance of this mandate, the Commission (and the Division) has the right to:

- A. Fix the spacing of wells. **NMSA 1978 §70-2-12.B(10);**
- B. Establish proration units, "such being the area that can be efficiently and economically drained and developed by one well." **NMSA 1978 §70-2-17.B;** and
- C. Establish non-standard spacing or proration units. **NMSA 1978 §70-2-18.C**

Pursuant to this authority, the Division, in Order No. R-8170-P, fixed spacing in the Jalmat Gas Pool as follows:

- (i) 640 acre gas well spacing. **Rule 2(A);**
- (ii) Locations 660 feet from a quarter section line. **Rule 3(A)(2);**
- (iii) One well per quarter section. **Rule 3(C);**
- (iv) Non-standard units of 160 acres (or multiples thereof). **Rule 4(C).**

This order essentially holds that at least one well per quarter section is necessary to adequately drain the reservoir.

III. ARGUMENT.

Pogo submits that 160 acre well units are proper and will not adversely affect correlative rights, and that by denying its application the Commission ignores Order No. R-8170-P and the evidence presented in this case.

A. The Commission's Order is Contrary to Order No. R-8170-P.

The Resler "B" Well No. 1 is located 1980 feet from the south line and 1980 feet from the east line of Section 20, for which Pogo has requested a 160 acre unit comprised of the SE¼. This is in conformance with the well density provisions of Order No. R-8170-P, yet the Commission essentially held that approving such a unit for the well will adversely affect the correlative rights of Resler and Sheldon. That finding contradicts Order No. R-8170-P, which held that one well per quarter section is "the area that can be efficiently and economically drained and developed by one well." **NMSA 1978 §70-2-17.B.** If the Commission is now stating that one well per 160 acres adversely affects offset owners correlative rights, the Division should reopen the pool rules for the Jalmat Gas Pool to further restrict the number of wells allowed on a well unit. It should also order Fulfer Oil & Cattle, LLC to immediately shut-in its J.C. Johnson Well No. 3, located 1980 feet from the north line and 660 feet from the east line of Section 20, because under the Commission's reasoning that well is adversely affecting the correlative rights of the interest owners in the S½ of Section 20.¹

B. There is no Impairment of Correlative Rights.

The S½ of Section 20 is currently dedicated to Resler and Sheldon's Steeler A. Well No. 1, located in the NW¼SW¼ of Section 20. That well has produced over 1.6 BCF of gas from the Jalmat Gas Pool. **See Pogo Exhibit 15.** Thus, the correlative rights of the interest

¹ As discussed in Exhibit B attached hereto, the Fulfer well is equivalent in producing ability to the Resler B Well No. 1.

owners in the SW¼ of Section 20 have been protected by production from that well (it is still producing nearly 50 years after its completion).

Moreover, correlative rights is defined as the "opportunity" for each owner to produce his or her equitable share of gas in a pool. **NMSA 1978 §70-2-33.H.** Producing Pogo's Resler B Well No. 1 on a 160 acre basis does not impair anyone's correlative rights because (i) the well complies with the spacing and setback provisions of Order No. R-8170-P, and (ii) the interest owners in the SW¼ of Section 20 can propose and drill a well offsetting Resler B Well No. 1. Approving Pogo's application does not deny the interest owners in the SW¼ of Section 20 (primarily Resler and Sheldon) the "opportunity" to drill a well if they believe their rights are affected.

C. The Evidence Shows Limited Drainage.

Without rehashing all of the evidence presented at hearing, Pogo demonstrated that due to the lower quality of the Jalmat reservoir in this area, additional wells are needed in each section to adequately produce reserves and protect the correlative rights of the interest owners. This is shown by Pogo's Lamunyon Well Nos. 32 and 78, which are simultaneously dedicated to a single 160 acre unit comprised of the NW¼ of offsetting Section 28 (approved by Division Administrative Order NSL-1873). **See Pogo Exhibit 15.** Pogo also presented the testimony of Thomas Gentry, a reservoir engineer, that drainage was substantially less than 160 acres. In fact, the vast bulk of Jalmat development in this area of the reservoir is developed on small, non-standard units. **See Pogo Exhibit 3.** This evidence was uncontroverted by Resler and Sheldon, and thus Pogo presented, at a minimum, a *prima facie* case in support of its application. It was incumbent upon Resler and Sheldon to rebut this case, but they did not do so

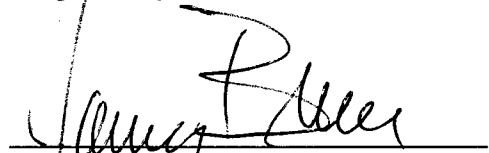
(they presented no technical evidence). As a result, Pogo's application should have been approved by the Commission.

In addition, Pogo has prepared additional evidence on drainage. That evidence is attached hereto as Exhibits A and B. Exhibit A is additional documentation by Glenn Curry, Pogo's geologist, setting forth the Jalmat reservoir's petrophysical properties. Based on that data, in Exhibit B, Mr. Gentry, **calculated drainage from the Resler B Well No. 1 at 11 acres.** Based thereon, 160 acre non-standard units are proper in Section 20, and no one's correlative rights are adversely if Pogo's application is approved.

IV. CONCLUSION.

For the reasons stated above, Pogo request that the Commission grant a rehearing in this matter.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "James Bruce", is written over a horizontal line.

James Bruce
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043


Attorney for Pogo Producing Company

CERTIFICATE OF SERVICE

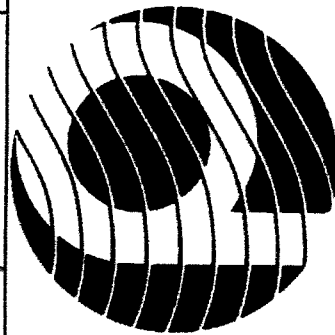
The foregoing pleading was served upon the following counsel of record this 6th of June, 2007 by hand delivery:

J. Scott Hall
Suite 300
150 Washington Avenue
Santa Fe, New Mexico 87501

Cheryl L. Bada
Oil Conservation Commission
1220 South St. Francis Drive
Santa Fe, New Mexico 87505


James Bruce

0. 15



Jalmat T-Y-7R Field

Lea County, NM
Yates Structure
Jaimat Production



POSTED WELL DATA

PROD BY FORM - W TANSILL VATESSEVEN

SYMBOL HIGHLIGHT

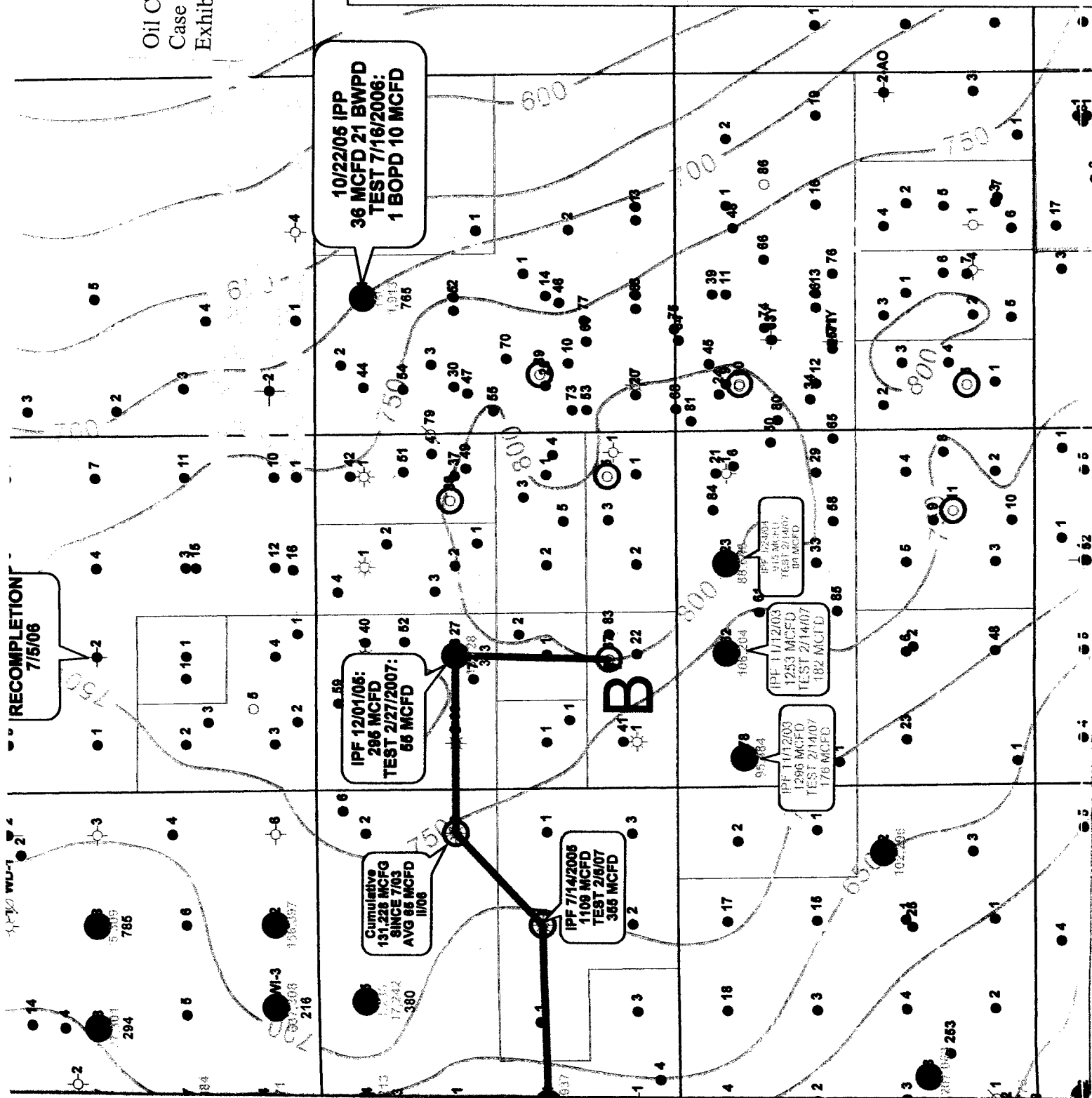
JALMATT_Y_7R PRODUCERS

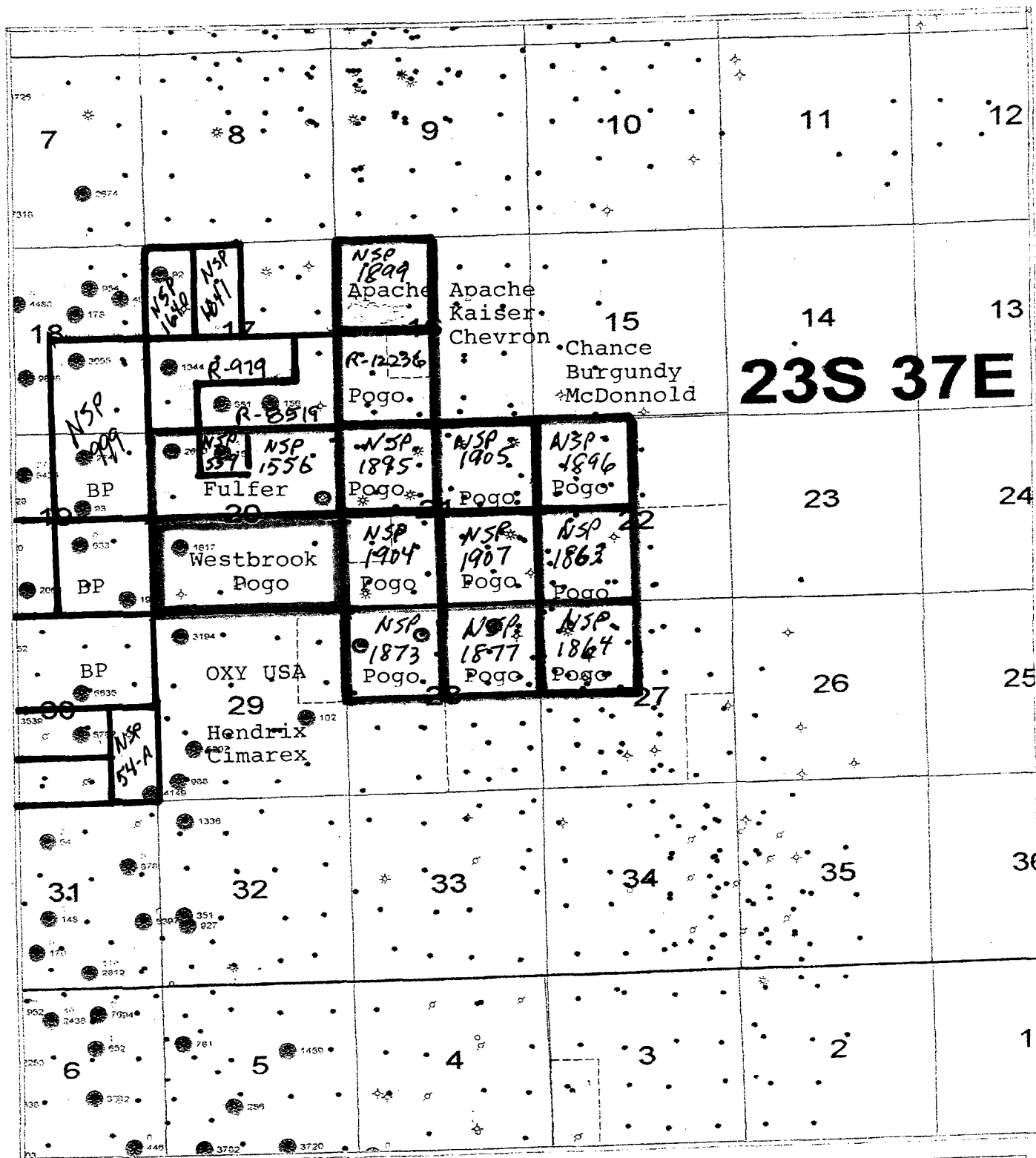
NEW JALMAT T_Y_7R PRODUCERS

JALMAT WELLS DRILLING AND COMPLETING

By: GC

March 7, 2007





LEGEND

- PROD T-Y-7
- Recent Jalmat Completions

Oil Conservation Commission
 Case No. 13275
 Exhibit No. 3

ARCH PETROLEUM INC

TEAGUE FIELD AREA
 LEA COUNTY, NEW MEXICO
 JALMAT PROD MAP

GLENN CURRY

ALL WELLS

Scale 1:49000

10/1/80

JALMAT

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

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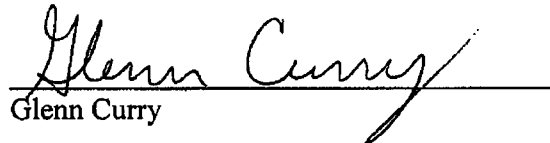
Case No. 13,274 (*de novo*)

AFFIDAVIT OF GLENN CURRY

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

Glenn Curry, being duly sworn upon his oath, deposes and states:

1. I am over the age of eighteen, and have personal knowledge of the matters stated herein.
2. I am a senior geologist for Pogo Producing Company, and I testified before the Division and Commission in this matter.
3. Attached hereto as Exhibit A is a write-up, prepared by me, concerning the calculation of porosity, net pay, and water saturation in the Resler B Well No. 1.


Glenn Curry

SUBSCRIBED AND SWORN TO before me this 6TH day of June, 2007, by Glenn Curry.

My Commission Expires: _____


Notary Public

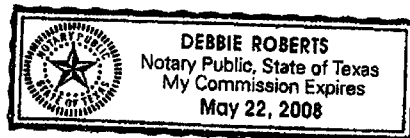


EXHIBIT A

Resler B # 1

Volumetric Analysis

Petrophysical Properties

The Resler B # 1 is located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 20, T23S-R37E, Lea County, New Mexico. It is a gas well completed in the Tansill, Yates, and Seven Rivers formations through perforations from 2513' to 3004'. The well is currently shut in.

The Tansill, Yates, and Seven Rivers formations consist primarily of fine crystalline dolomites with varying amounts of anhydrite and quartz sand grains. The environment of deposition is low energy back reef. Some of the original intercrystalline porosity has been leached out and partially occluded with anhydrite.

Porosity Measurements

Porosity measurements used in the volumetric calculations of the Resler B #1 were derived from the Black Warrior Wireline Corporation (BWWC) cased hole Gamma Ray-Compensated Neutron Log (CNL) dated 3/24/2004. The porosity was run on Sandstone, Limestone, and Dolomite matrix. The well log was compared to nearby openhole Neutron Density crossplot porosity in the Lamunyon ## 87, 88, 90 and Saltmount # 5 wells. The BWWC CNL dolomite matrix porosity was too low, and the sandstone matrix was too high. The BWWC CNL limestone matrix porosity was chosen to be the most accurate measure available for the volumetric calculations. Each of the wells above may be examined on attached Cross Section C-C' (Exhibit # 1). Cross Section C-C' is a west to east structural cross section. Geologic horizons are indicated starting with the Tansill, Yates, Seven Rivers, and base of the Jalmat Pool. All volumetric parameters are measured within these vertical limits. The index map below the cross section indicates the location of each well. The map has a Yates structure contour displayed and cumulative production is posted below each Jalmat producer.

Net Pay

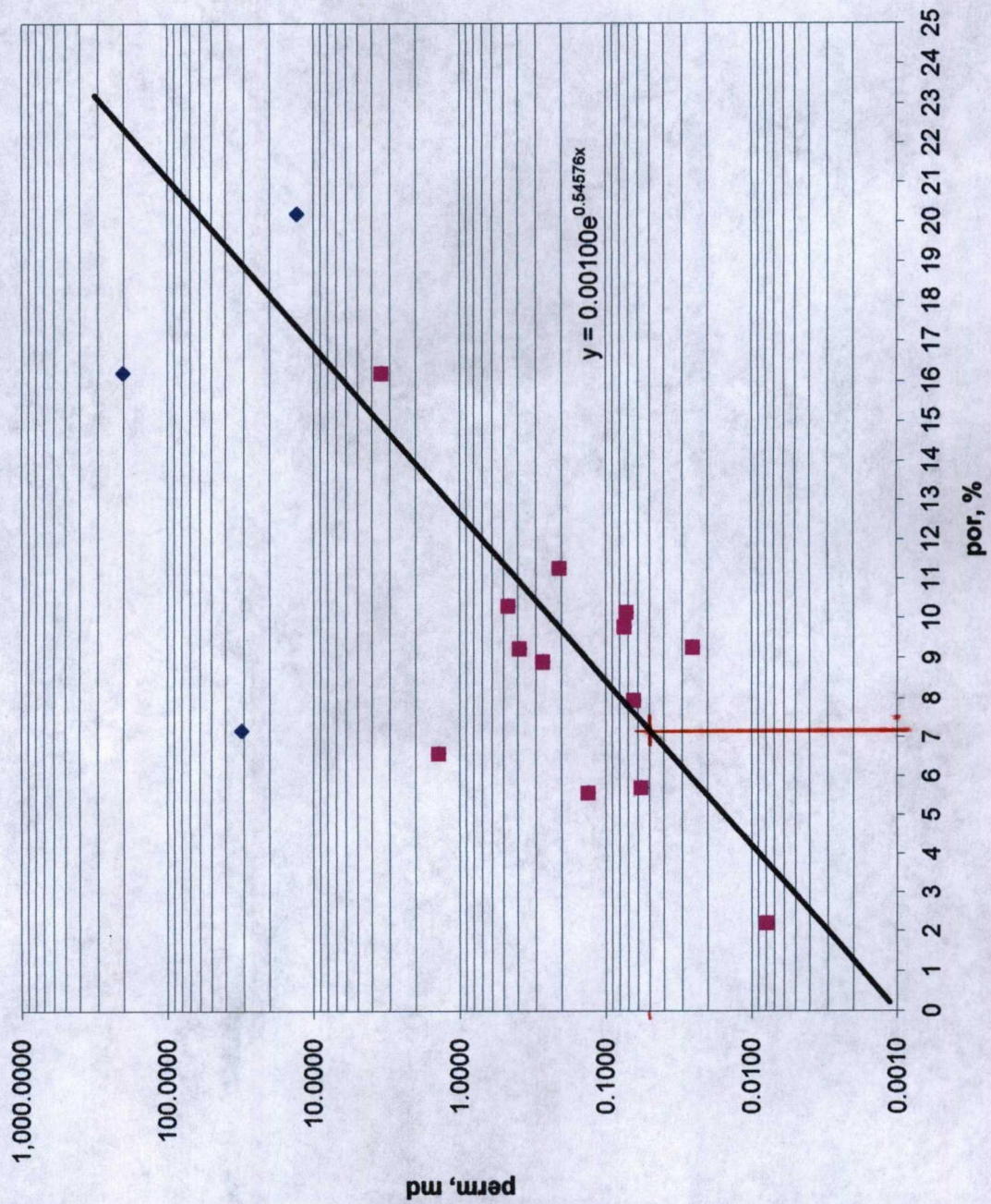
Total net pay calculations for the Resler B #1 was 98.5 feet greater than 7% porosity. The maximum recorded porosity was 17% with an average porosity in the pay of 10.5%. Pay cut off of 7% was derived from a study of sidewall core data acquired in the nearby Lamunyon #87 well. A plot of core permeability versus core porosity is attached as Exhibit # 2. The plot shows data points for each sidewall core in the Tansill, Yates, and Seven Rivers formations. The diamond shaped points represent high permeability due to natural occurring fractures in the core. The square shaped points represent matrix porosity and permeability. The diagonal line is an exponential best fit that expresses the relationship of porosity and permeability for the square points only. We disregarded the fractured cores. A red vertical line drawn from the intersection of the best fit diagonal line and 0.05 md was drawn. The assumption is made that 0.05 md is the minimum permeability required to produce natural gas from this reservoir. The vertical line intersects the x axis at about 7%. This is the pay cutoff used in the volumetric analysis.

Water Saturation

The Resler B # 1 well logs were run in cased hole and therefore no resistivity logs were run. The average water saturation used in the volumetric calculations is 44%. This value for water saturation is based on calculation of openhole logs from the near by Lamunyon # 87 well. The product of average porosity and average water saturation equals the bulk volume water. In the case of the Resler B #1: $0.105 \times 0.44 = 0.046$ Bulk Volume water. This would indicate a completion with very little water production. The Resler B # 1 produces 1 barrel of water per day or less based on recorded well tests.

Glenn Curry
Senior Geologist
Pogo Producing Company

Lamu 87 por vs perm



- ◆ Por vs. Perm
- Filtered Perm (no fracs)
- Expon. (Filtered Perm (no fracs))

Drilled Sidewall Core Analysis Report

Company : Pogo Producing Company
 File No. : 07644
 Well : C.E. Lamunyon No. 87
 Location : 990' FSL & 1930' FWL, Sec 21, T23S, R37E

Field: Langlie-Mattix
 Formation:
 County : Lea County, New Mexico

Sample Number	Depth ft	Grain Density g/cc	Porosity			Klinkenberg			Confining Pressure 500psi			Confining Pressure 1,000psi		
			%			Permeability mD			Air			Permeability mD		
1	2,499.0	2.94										1.57	0.0039	0.0011
2	2,511.0	2.89										4.23	0.0970	0.0669
3	2,613.0	2.68										14.8	1.58	1.36
4	2,625.0	2.93										5.83	11.5 (f)	10.7 (f)
5	2,647.0	2.76										8.36	0.2296	0.1737
6	2,675.0	2.80										13.05	3.76 (f)	3.35 (f)
7	2,789.0	2.83										6.88	0.0520	0.0318
8	2,807.0	2.75										8.79	0.0599	0.0363
9	2,839.0	2.86										8.54	0.0193	0.0096
10	2,905.0	2.95										5.42	0.7069	0.5838
11	2,951.0	2.88										4.69	0.0524	0.0327
12	2,959.0	2.84										15.40	78.4 (f)	76.0 (f)
13	3,003.0	2.87										9.39	0.0634	0.0408
14	3,037.0	2.69										10.11	0.1690	0.1229
15	3,095.0	2.73										9.37	0.3454	0.0276
16	3,123.0	2.84										7.87	0.2192	0.1639
17	3,203.0	2.92										3.44	0.0385	0.0228
18	3,295.0	2.76										5.79	0.1224	0.0863
19	3,387.0	2.73										12.93	0.4476	0.3547
20	3,391.0	2.67										16.72	9.96	9.24

Langlie-Mattix
 ← Tolmat

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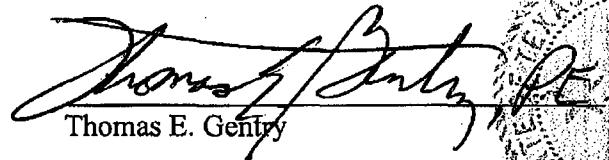
Case No. 13,274 (*de novo*)

AFFIDAVIT OF THOMAS E. GENTRY

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

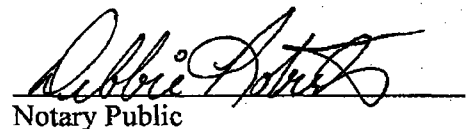
Thomas E. Gentry, being duly sworn upon his oath, deposes and states:

1. I am over the age of eighteen, and have personal knowledge of the matters stated herein.
2. I am a consulting reservoir engineer, employed by Pogo Producing Company in this matter, and I testified before the Commission in this case.
3. Attached hereto as Exhibit A is a write-up, prepared by me, calculating reserves and drainage in the Resler B Well No. 1.


Thomas E. Gentry

SUBSCRIBED AND SWORN TO before me this _____ day of June, 2007, by
Thomas E. Gentry.

My Commission Expires: _____


Notary Public

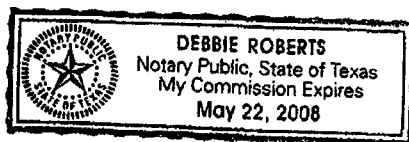


EXHIBIT **B**

June 6, 2007

DISCUSSION AND BASIS OF RESERVES AND DRAINAGE

RESLER B Well #1

Jalmat Pool

Tansill Yates Seven Rivers Reservoir

Lea County, New Mexico

An attempt has been made to determine recoverable reserves and an estimated drainage for the captioned well. Glenn Curry, Pogo geologist, and I have coordinated efforts on this project in order to incorporate the available petrophysical and reservoir engineering information known to exist from the well and certain other wells in the immediate area. I need to mention that the characteristics of low anticipated reserves, shallow depth, and numerous analogous wells in the area from which to predict performance do in most cases preclude the gathering of even basic data to define reservoir characteristics adequately. In this case however, the available data, coupled with common geological and engineering assumptions, have revealed an answer for drainage so low that it supports, even with overwhelming conservatism, previous hearing testimony by both Glenn Curry and me that drainage from the Resler B #1 is definitely less than 160 acres. **In fact, the quantified conclusion of this investigation is that drainage is about 11 acres based on the data, calculations, and assumptions used for this analysis.**

Exhibit # 1 is a P/Z plot using Ryder Scott software for the Resler B #1 that indicates movable gas in place of 352 MMCF, and recoverable gas of 334 MMCF, using an assumed 100 psia bottom-hole abandonment pressure. This method of reserves determination was used because this well has not been produced at capacity enough to have established a depletion decline rate for decline-curve analysis. The initial pressure for the P/Z was from a 7-6-05 completion report (Exhibit # 2) where a 1400 psig SITP was reported after the well had been SI for approximately 95.5 hours. Prior to SI, the well had been flowed to recover frac load for approximately 36.5 hours. During that flow period, 234 MCF of gas was measured during the last 15 hours of flow. The SITP was extrapolated to a SIBHP of 1548 psia using standard engineering methods and assuming no fluid in the hole. The second P/Z BHP pressure of 948 psia was recorded on 6-4-07, after the well had been SI approximately 116 days (Exhibit # 3). Gas properties from a 6-4-07 gas sample were used for this analysis (Exhibit # 4). Ultimate recoverable reserves for another well in this area of comparable vintage were determined by decline curve analysis in order to check the reasonableness of the Resler B #1 P/Z analysis. This well is the Fulfer Oil & Cattle Co. J.C. Johnson # 3, which has produced continuously since 2-04 after having been recompleted to the Jalmat Pool. It is estimated that this well will produce about 375 MMCF ultimate gas, which compares closely to the 334 MMCF projected for the Resler B #1. Exhibit # 5 and Exhibit # 6 show this well's production plot from PI Dwight's data and an Aries economics output indicating the ultimate expected recovery.

After establishing the initial SIBHP and ultimate estimated gas recovery for the Resler B #1, a gas reservoir volumetric calculation was made to determine drainage using the

EXHIBIT A

geologic reservoir parameters of 10.5% average porosity, 44% average water saturation and 98.5 feet of net pay thickness. Using original pressure conditions measured for the Resler B #1 along with the 334 MMCF calculated ultimate recovery from P/Z, the calculated approximate drainage by volumetric analysis is 11 acres. This result, along with the input data, is displayed on Exhibit # 7 using Ryder Scott software.

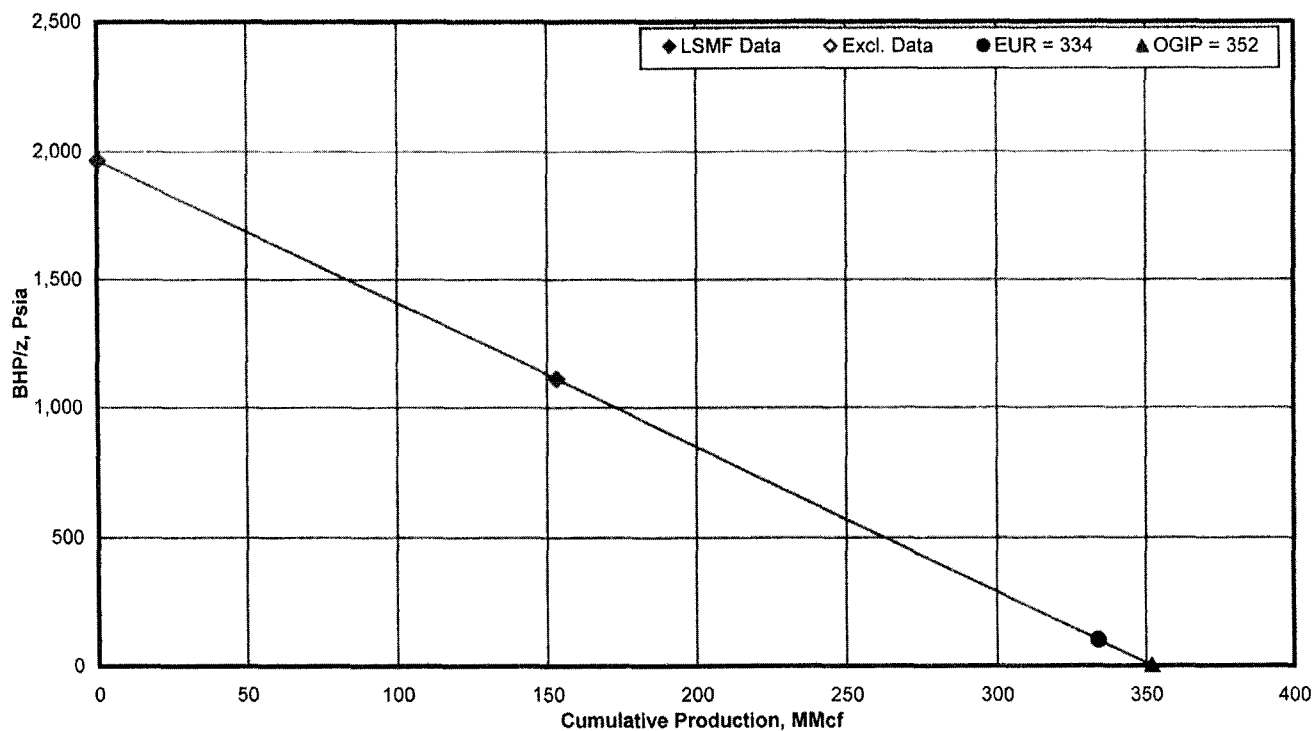
Thomas E. Gentry, P.E.
Texas Licensed Professional #83457

**Houston
Denver
Calgary**



WELLHEAD TEMP, °F:	57.0	SOUR GAS	MOLE %
BOTTOMHOLE TEMP, °F:	80.7	N ₂	11.31
WET GAS GRAVITY:	0.711	CO ₂	0.00
TVD, FEET:	2,758	H ₂ S	0.00
COND. CORR? (Y/N):	N		
Corrected* Tc, °R:	365.13		
Corrected* Pc, Psia:	649.91		

Least Squares Mean Fit Results	
Y-Intercept, BHP/z	1,967
OGIP, MMCF	352
EUR, MMCF	334
Recovery Factor	0.9483
BHP/z @ Abandonment	101

[illegible]

POGO PRODUCING COMPANY
DAILY WORKOVER/COMPLETION REPORT

Date: 07/06/05	Well: RESLER B #1	AFE # 541129	AFE \$
Days: 15	TD 3086'	Present TOTP	Daily Cost: \$10,100
Comp/Drlg/Tot	PBTD 3035'	Operation	Total Cost: \$342,760
	Supervisor: RAY HENLEY	Phone: 432-664-0699	Rig: BUSTER'S 536

FLOW/PUMP TEST

GENERAL DATA

Hrs.	Tbg.	Csg.	Choke	Oil	Gas	Water	TUBULARS				PUMPING EQUIPMENT			
Prod.	Press.	Press.	64th	Bbl	MCF	Bbl	Surf	8 5/8	24	1104	Unit			
							Inter				Plunger			
							Prod	4 1/2	11.6	3086	Stroke			
							Liner				SPM			
							TBG	2.375	4.7	2458.35	Rods			
Line Press.:							Zone/Perfs: YATES - SEVEN RIVERS 2513' TO 3004' = 25 HOLES							
Test Co.							Zone/Perfs:							
Meter Run Data			OD"		Orifice		Static		Diff		Temp.		Coef	

LOAD RECOVERIES

	Today	Total	%
BLWR	1	1833	
BLOr			
BNW			
BNO			
Init BLWTBR		1949	
Init BLOrBR			
BLWTBR			
BLOrBR			

PACKER / PLUG DETAIL

Make/Model		Set @	# Tens/Comp
Pkr #1			
#2			
Plug #1	W/L RICO	UNSET	2465
#2			
#3			
Nipple			
Nipple			
Nipple			

SWAB REPORT

Initial FL	
Ending FL	
Recovery, Bbls	
Hrs. Swabbed	
No. of Runs	
Final Entry Rate	
Final Oil %	

DESCRIPTION OF DAILY ACTIVITIES

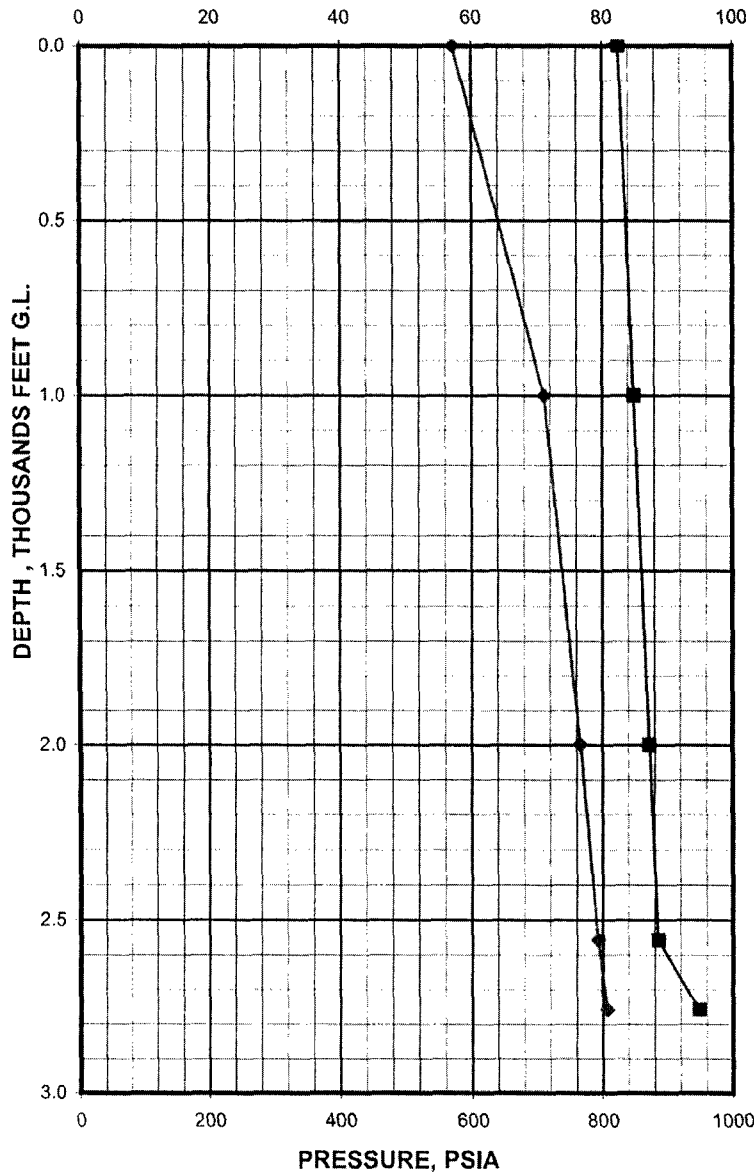
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WELL GRADIENT SHEET

COMPANY POGO PRODUCING LEASE RESLER B WELL NO. 1
 FIELD _____ COUNTY LEA STATE NM
 FORMATION _____ SHUT IN DATE & TIME _____ HOURS SHUT IN _____
 TEST DATE 6/4/2007 TIME 10:42 WELL STATUS STATIC JOB NUMBER 73311

TEMPERATURE, °F



MEAS. DEPTH FEET G.L.	TRUE DEPTH FEET G.L.	TEMP. °F	PRESSURE PSIA	GRADIENT PSI/FT
0	0	57.1	824.65	
1000	1000	71.0	848.23	0.0236
2000	2000	76.6	872.14	0.0239
2558	2558	79.3	885.49	0.0239
2758	2758 MPP	80.7	947.94	0.3123

Elev. K.B. -	G.L. -
Pressure Datum	
Tubing 2.375	Depth 2466
S.N.	Depth 2466
Casing 4.5	Depth
Perforations 2513-3004	
Total Depth 3090	
Casing Pressure	
Tubing Pressure	
Instrument No. PPS-1539	
Run By DENNIS HELDT	
Calculated By CAMERON NEWTON	

—■— PRESSURE —◆— TEMPERATURE

Laboratory Services, Inc.

2609 West Marland
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pogo Producing Company
Attention: Richard Wright
P. O. Box 10340
Midland, Texas 79702

SAMPLE: Tubing Gas
IDENTIFICATION: Resler B #1
COMPANY: Pogo Producing Company
LEASE:
PLANT:

SAMPLE DATE/DATE SAMPLED: 6/4/07 8:30am

ANALYSIS DATE: 6/4/2007

PRESSURE - P: 250

SAMPLE TEMP. °F

ATMOS. TEMP. 70

GAS (XX) LIQUID ()

SAMPLED BY: Will McDaniel

ANALYSIS BY: Vicki McDaniel

REMARKS: H2S = 0

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)	0.000	
Nitrogen (N2)	11.311	
Carbon Dioxide (CO2)	0.000	
Methane (C1)	74.141	
Ethane (C2)	9.101	2.428
Propane (C3)	3.587	0.986
I-Butane (IC4)	0.347	0.113
N-Butane (NC4)	0.909	0.286
I-Pentane (IC5)	0.157	0.057
N-Pentane (NC5)	0.230	0.083
Hexane Plus (C6+)	0.217	0.094
	100.000	4.047

BTU/CU.FT. - D 1067

AT 14.650 DRY 1064

AT 14.650 WET 1045

AT 14.73 DRY 1069

AT 14.73 WET 1051

MOLECULAR W 20.5889

SPECIFIC GRAVITY -

CALCULATED 0.711

MEASURED

EXHIBIT 4

FIELD: LANGLEIE-MATTIX

LEASE: J C JOHNSON #3
 ZONE: SEVEN RVR QN GRBG
 OPER: FULLER OIL & CATTLE COMPANY LL
 RES CLASS:

GAS

Water - BBL/D 1000
 Gas Mcf/D 1000
 Oil Bbl/D 1000

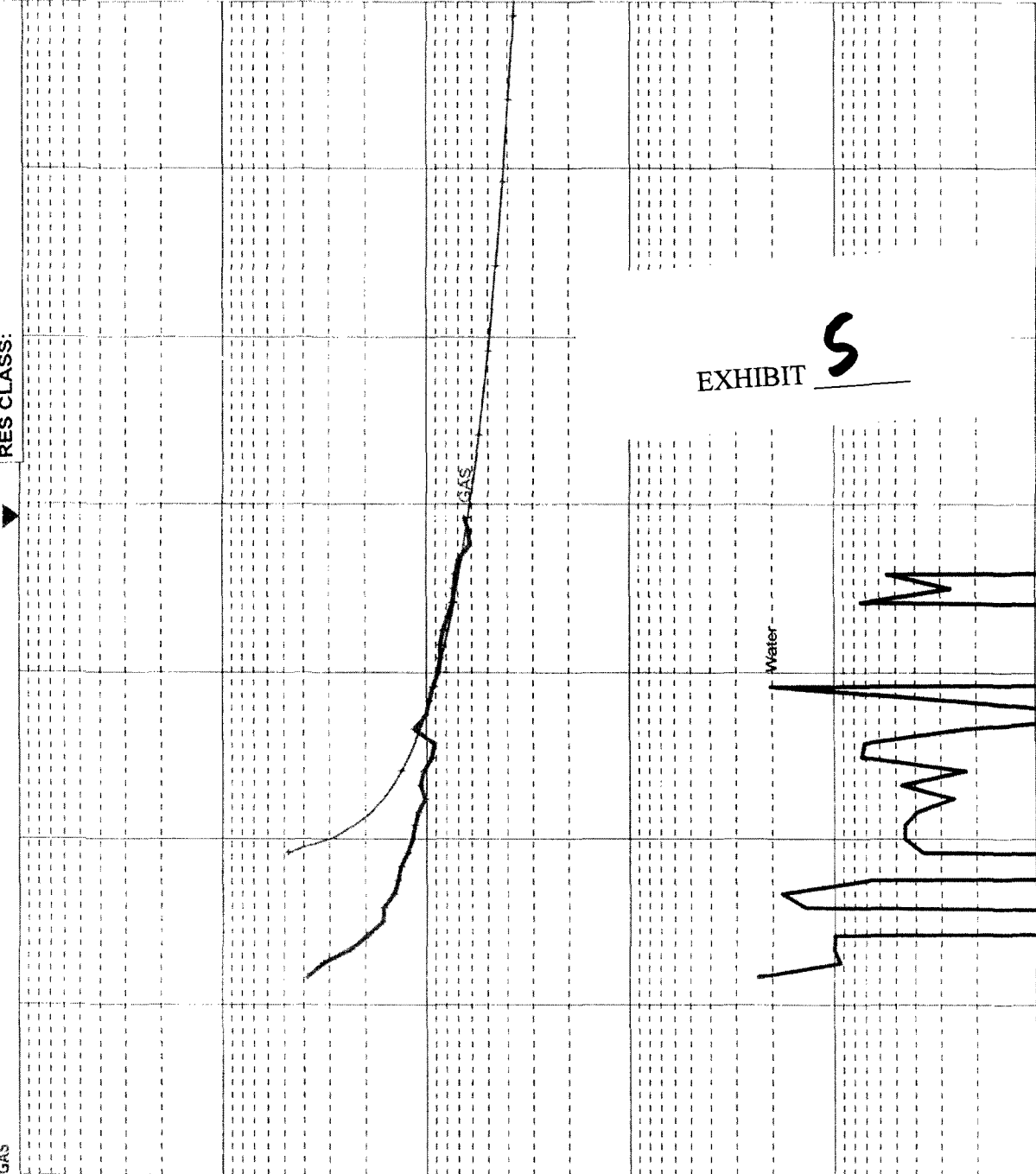


EXHIBIT 5

TIME

Oil - Bbl/D
 Ref= 12/2006
 Cum= 14746

Gas Mcf/D
 Qual= PG2008
 Ref= 12/2006
 Cum= 320464
 Rem= 321911
 EUR= 642375
 Yrs= 112.082

Qref= 62.6
 De= 20.364396
 Dmin= 4.000
 b= 1.737100
 Qab= 0.3

Water - BBL/D
 Ref= 12/2006
 Cum= 525

Yield - Bbl/
 Ref= 12/2006
 Cum= 194773

POGO PRODUCING COMPANY

ESTIMATED FUTURE RESERVES AND INCOME

DATE: 06/05/2007
Time: 15:50:34
Input Settings: PG2007
Input Settings:
Input Settings:
Scenario: PG2007
DBS: POGOCORP

AS OF DATE: 12/2006

PROPERTY DESCRIPTION

LEA CO., NM
OPERATOR - FULFER OIL & CATTLE C
J C JOHNSON #3
RESERVOIR: SEVEN RVR QN GRBG
PRODUCTION QUALIFIER - PG2008
PRICES/COSTS QUALIFIER - NONE
OWNERSHIP QUALIFIER - POGO

PROFITABILITY INDICATORS

	BFIT	AFIT
RATE OF RETURN(%)	100.0	100.0
PAYOUT(yrs)	0.0	0.0
DISC. PAYOUT(yrs)	0.0	0.0
UNDISC. REV/INV	0.0	0.0
DISC. REV/INV	0.0	0.0
LIFE(yrs)	33.2	
DISCOUNT RATE	10.0	

REVENUE INTERESTS

	EXPENSE INTEREST	Oil/Condensate	Gas	NGL
INITIAL	100.0000	0.0000	85.6250	0.0000
FINAL	100.0000	0.0000	85.6250	0.0000

GAS SHRINKAGE: 0.48

NET PRESENT VALUE

	DISC.	FUTURE NET INCOME-M\$	BFIT	AFIT
6.00%		518.71	337.11	
8.00%		465.62	302.60	
10.00%		423.00	274.99	
12.00%		388.14	252.23	
15.00%		346.42	225.11	

GROSS PRODUCTION

NET PRODUCTION

PRICES

SALES REVENUE

--END--	Total	OIL	GAS	NGL	OIL	GAS	NGL	OIL	GAS	NGL	OIL	GAS	NGL
MO-YEAR	Wells	MMbbl	MMCF	MMbbl	MMbbl	MMCF	MMbbl	\$/B	\$/M	\$/B	M\$	M\$	M\$
11-2007	1.0	0.00	20.28	2.04	0.00	8.32	1.75	0.00	6.15	36.75	0.00	51.20	64.22
11-2008	1.0	0.00	16.73	1.68	0.00	6.86	1.44	0.00	6.96	40.65	0.00	47.77	58.59
11-2009	1.0	0.00	14.49	1.46	0.00	5.94	1.25	0.00	6.88	40.30	0.00	40.89	50.31
11-2010	1.0	0.00	12.92	1.30	0.00	5.30	1.11	0.00	6.88	40.30	0.00	36.46	44.85
11-2011	1.0	0.00	11.74	1.18	0.00	4.82	1.01	0.00	6.88	40.30	0.00	33.13	40.77
11-2012	1.0	0.00	10.82	1.09	0.00	4.44	0.93	0.00	6.88	40.30	0.00	30.53	37.56
11-2013	1.0	0.00	10.07	1.01	0.00	4.13	0.87	0.00	6.88	40.30	0.00	28.42	34.96
11-2014	1.0	0.00	9.45	0.95	0.00	3.88	0.81	0.00	6.88	40.30	0.00	26.66	32.81
11-2015	1.0	0.00	8.92	0.90	0.00	3.66	0.77	0.00	6.88	40.30	0.00	25.18	30.98
11-2016	1.0	0.00	8.47	0.85	0.00	3.47	0.73	0.00	6.88	40.30	0.00	23.90	29.40
S-Tot	1.0	0.00	123.90	12.47	0.00	50.82	10.67	0.00	6.77	39.77	0.00	344.14	424.45
Rem	1.0	0.00	123.28	12.40	0.00	50.56	10.62	0.00	6.88	40.30	0.00	347.87	428.01
Total	1.0	0.00	247.18	24.87	0.00	101.38	21.29	0.00	6.83	40.03	0.00	692.01	852.46
Cumulative		0.0	125.7	0.0									
Ultimate		0.0	372.9	0.0									

OPERATING COSTS & TAXES

CAPITAL INVESTMENTS

BFIT CASH FLOW

--END--	Other Revenue	Total Net Revenue	Severance Taxes	Operating Costs	Advalorem Taxes	Tangible	Intangible	Cash Flow	Cumulative CF	Cum. Disc
MO-YEAR	M\$	M\$	M\$	M\$	M\$	M\$	M\$	BFIT	CF BFIT	CF BFIT
11-2007	0.00	115.42	9.45	18.00	2.06	0.00	0.00	85.91	85.91	81.48
11-2008	0.00	106.36	8.71	18.00	1.90	0.00	0.00	77.75	163.66	149.04
11-2009	0.00	91.20	7.47	18.00	1.63	0.00	0.00	64.10	227.76	199.64
11-2010	0.00	81.31	6.66	18.00	1.45	0.00	0.00	55.20	282.96	239.24
11-2011	0.00	73.90	6.05	18.00	1.32	0.00	0.00	48.53	331.49	270.88
11-2012	0.00	68.09	5.58	18.00	1.21	0.00	0.00	43.30	374.79	296.55
11-2013	0.00	63.38	5.19	18.00	1.13	0.00	0.00	39.06	413.85	317.60
11-2014	0.00	59.47	4.87	18.00	1.06	0.00	0.00	35.54	449.40	335.01
11-2015	0.00	56.16	4.60	18.00	1.00	0.00	0.00	32.56	481.95	349.50
11-2016	0.00	53.30	4.37	18.00	0.95	0.00	0.00	29.99	511.94	361.64
S-Tot	0.00	768.58	62.95	180.00	13.70	0.00	0.00	511.94	511.94	361.64
Rem	0.00	775.88	63.54	180.00	13.83	0.00	0.00	280.01	791.95	423.00
Total	0.00	1544.47	126.49	598.50	27.52	0.00	0.00	791.95	791.95	423.00

AFTER TAX ECONOMICS

AFIT CASH FLOW

--END--	Operating Cash Flow	Depr. Expense	Depr. Expense	Tang. Expense	Interest Expense	Taxable Income	Tax Credit	Total Tax Paid	Cash Flow	Cumulative CF	Cum. Disc
MO-YEAR	M\$	M\$	M\$	M\$	M\$	M\$	M\$	M\$	AFIT	CF AFIT	CF AFIT
11-2007	85.91	0.00	0.00	0.00	0.00	85.91	0.00	30.07	55.84	55.84	53.24
11-2008	77.75	0.00	0.00	0.00	0.00	77.75	0.00	27.21	50.54	106.38	97.05
11-2009	64.10	0.00	0.00	0.00	0.00	64.10	0.00	22.44	41.67	148.04	129.88
11-2010	55.20	0.00	0.00	0.00	0.00	55.20	0.00	19.32	35.88	183.93	155.58
11-2011	48.53	0.00	0.00	0.00	0.00	48.53	0.00	16.99	31.55	215.47	176.13
11-2012	43.30	0.00	0.00	0.00	0.00	43.30	0.00	15.16	28.15	243.62	192.79
11-2013	39.06	0.00	0.00	0.00	0.00	39.06	0.00	13.67	25.39	269.01	206.45
11-2014	35.54	0.00	0.00	0.00	0.00	35.54	0.00	12.44	23.10	292.11	217.76
11-2015	32.56	0.00	0.00	0.00	0.00	32.56	0.00	11.39	21.16	313.27	227.17
11-2016	29.99	0.00	0.00	0.00	0.00	29.99	0.00	10.50	19.49	332.76	235.05
S-Tot	511.94	0.00	0.00	0.00	0.00	511.94	0.00	179.18	332.76	332.76	235.05
Rem	280.01	0.00	0.00	0.00	0.00	280.01	0.00	98.00	182.01	514.77	274.89
Total	791.95	0.00	0.00	0.00	0.00	791.95	0.00	277.18	514.77	514.77	274.89

***** BONUS TABLE *****

DISCOUNT(%)	BFIT NPV	AFIT NPV	AFIT BONUS
6.00%	518.709	337.112	420.409
8.00%	465.618	302.598	365.761
10.00%	423.001	274.894	324.666
12.00%	388.142	252.234	292.660
15.00%	346.416	225.112	256.034
18.00%	313.755	203.884	228.511
20.00%	295.660	192.124	213.656

EXHIBIT

6

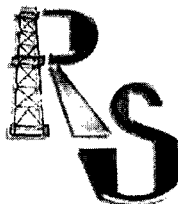
RyVOL**Gas Reservoir Volumetric Analysis**Input:
Calculated:

(Protected)

Field: **JALMAT GAS** Date: **6/5/2007** Geol/Engr: **TEG**
 County/Parish: **LEA** Operator: **POGO PRODUCING CO.**
 State/Country: **NEW MEXICO** Lease: **RESTLER B**

Reservoir: **TANSILL YATES 7 RIVERS** Fault Block:
 Wells: Penetrations: Press. Base, psia: **14.73**
 Temp. Base, °F: **60**

Accumulation: **Non-Associated Gas**
 Avg. Depth, Ft (ss)
 Limiting Contact, Ft (lkg)

**Reservoir & Fluid Parameters**

Avg. Porosity, ϕ (%)	10.50%
Avg. S_w (%)	44.00%
Res. Temp. (°F)	80.7
Res. Press. (psia)	1,548
Sep. Gas Grav. (Air=1)	0.711
Cond. Grav. (°API)	
Cond. Yield (B/MM)	

Check, if °R ☐

	Mole %
N ₂ :	11.311
CO ₂ :	0.00
H ₂ S:	0.00

Data Source

CASED -HOLE GR-CNLS w/7% CUT-OFF
 AREA LOG CALCULATION
 MEASURED DURING BHP RUN 6-4-07
 REPORTED SITP 7-6-05 EXTRAP TO BHP
 MEASURE BY GAS ANALYSIS 6-4-07

Calculated Gas Properties (May be entered)

Wet Gas Gravity (Air=1)	0.711	Gas Deviation, z	0.7877
T _c (°R)	365.13	B _g (Scf/Rcf)	128.3
P _c (psia)	649.91	Cond. Shrink. (%)	0.00%
OGIP, Wet (Mcf/AF)	328.6		
OGIP, Dry (Mcf/AF)	328.6		

$=43.56 \times \phi \times (1-S_w) \times B_g$
 $=(OGIP, Wet) \times (1-Cond. Shrink.)$

Reservoir Volumetric Parameters

	Proved	Probable	Possible
Res. Area (AC)	11.		
ANET (Ft)	98.5		
Res. Volume (AF)	1,084		
Producing Status	Shut-in	Undeveloped	Undeveloped
Well Name/No.	RESTLER B #1		

Hydrocarbon Recovery

	MMcf	Bbl		MMcf	Bbl		MMcf	Bbl	
In-Place	356	0							
RecFac/Yield (%) B/MM	95.00		if %			if %			if %
Rec. Reserves	338	0							
Cum. Production	153								
Remaining Res.	185	0							

As of Date: **June 4, 2007**

Notes: WELL HAS BEEN SI SINCE 2-8-07. CUMULATIVE PRODUCTION TO 2-8-07 IS 153,370 MCF. BHP RUN 6-4-07
 MEASURED AT 948 PSIA. ORIGINAL SITP RECORDED ON 7-6-05 AT 1400 PSIG. THIS SURFACE PRESSURE CONVERTS
 TO 1548 PSIA AT MID-PERFS OF 2758 FEET. BHT RUN 6-4-07 MEASURED AT 80.7 deg F.