Attachment for #32 Acid, Shot, Fracture, Cement Squeeze etc.

8847' - 9097'	Spot 500 gal MOD 101 acid at 9100', set PPI at 8789'. Displaced acid w/10 bbls KCL.
8830'	Set CIBP, dumped 35' cement on CIBP
8639' - 8697'	Spot 500 gal MOD 101 acid + additives, displaced acid w/10 bbls KCL
8620'	Set Easy-Drill cement retainer, squeezed w/1000 gal Injectrol "G", 100 sx premium cement w/.5% Halad 322 + 100 sx premium cement w/.5% CFR3
8477' - 8551'	Spotted 500 gal MOD 101 w/additives, displaced acid w/10 bbls KCL. Isolate perfs 8527' - 8551', acidized w/1800 gal MOD 101. Acidize upper perfs 8477' - 8493' w/1800 gal MOD 101

DST #1 8470'-8560' (Devonian)
Opn on 1st flow for 30 min., opn w/strong blow
Switched to 3/16" choke, 7 PSIG at end of flow
SI for 2 hrs, opn w/strong blow
Switched to 3/8" choke, 17 PSIG in 3 min.
Gas to surf. in 25 min.
Press increased to 21 PSIG & remained at 21-22 PSIG throughout 3 hr flow period.
SI for final shut in period
Final 3 hr flow was 125 MCF per day rate
SI for 9 hours

FSI recovery: 217 feet of gas cut drilling mud
Sampler Recovery: Sampler pressure 135 PSIG
610 cc of drilling mud & 0.875 cubic feet of gas
Bottom hole temperature 196°.

Initial Hydrostatic	6453 PSIG
Final Hydrostatic	4540 PSIG
First Flow (30 min.)	85-85 PSIG
First Shut in (2 hrs)	2964 PSIG
Final Flow (3 hrs)	85 PSIG increasing to 170 PSIG
Final Shut in (9 hr)	3186 PSIG

Examiner Stogner
Case No. 9390
EXHIBIT NO. 3

BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
Enfield EXHIBIT NO. 3
CASE NO. 9390

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: 4-POINT [XX] Initial [ ] Annual [ ] Special				Test Date: 3-30-88	1660' FNL
Company: ROBERT ENFIELD		Connection: TO AIR NEW WELL			990' FWL
Pool: WILDCAT		Formation: DEVONIAN			Unit
Completion Date	Total Depth	Plug Back TD: 8610 FT		Elevation: 4305 GL	Farm or Lease Name: E. McCOMBS
Csg. Size: 4.5 / Wt.: 11.6 / d / Set At: 9182		Perforations: From 8477 To 8551			Well No.: #1
Tbg. Size: 2.375 / Wt.: 4.7 / d: 1.995 / Set At: 8404		Perforations: From OPEN To ENDED			Unit: / Sec.: 29 / Twp.: 7S / Rge.: 31E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE		Packer Set At: 8144			County: CHAVES
Producing Thru: TUBING	Reservoir Temp. °F: 165 @ 8514	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
8514	8514	0.808	3.66	4.53	0		4.0	FLANGE

	FLOW DATA				TUBING DATA		BHP DATA		
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	Duration of Flow
SI					2210		3145	165	145
1.	4.03X 1.250	210	8.0	85	1960		3014	165	1
2.	4.03X 1.250	210	14.0	85	1840		2941	165	1
3.	4.03X 1.250	210	25.0	85	1720		2800	165	1
4.	4.03X 1.250	210	56.0	76	1570		2529	165	1
5.									

RATE OF FLOW CALCULATIONS

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	7.47	42.26	223.2	.9768	1.1125	1.0258	352.
2.	7.47	55.90	223.2	.9768	1.1125	1.0258	465.
3.	7.47	74.77	223.2	.9768	1.1125	1.0258	622.
4.	7.47	114.28	233.2	.9850	1.1125	1.0258	962.
5.							

NO.	P_t	Temp. °R	T_f	Z
1	0.33	545.	1.35	0.950
2.	0.33	545.	1.35	0.950
3.	0.33	545.	1.35	0.950
4.	0.33	536.	1.35	0.946
5				

Gas Liquid Hydrocarbon Ratio 8.9 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 64.700 Deg.

Specific Gravity Separator Gas	0.808	XXXXXXXXX
Specific Gravity Flowing Fluid	XXXXX	1.047
Critical Pressure	670. P.S.I.A.	658. P.S.I.A.
Critical Temperature	405. R	480 R

P_c 1881.7 P_c^2 3541.

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1777.	3157	384
2		1718.	2953	588
3		1610.	2594	947
4		1416.	2005	1536
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.3050$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.8737$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1802.$

Absolute Open Flow 1802. Mcfd @ 15.025 | Angle of Slope θ 53.1 | Slope, n 0.752

Remarks: BHP MEASURED BY AMERADA PRESSURE GUAGES

Approved By Division	Conducted By: BENNETT & CATHEY	Calculated By: RICHARD TOWNLEY	Checked By:

P1 OF 2