NORTHWEST #1-E GAVILAN
DRILL STEM TEST PRESSURE
OF NIOBRARA MEMBER
7-10-83

Service Company (Johnston) extrapolated pressure at 6768'		2177 psia
Same pressure adjusted to 7033'*		2292 psia
	=	2280 psia

Datum of "C" zone:

Elevation	7319'
Depth of "C" zone	7033'
Datum of "C" zone	+286'

*Depth of "C" zone (265' x .4335 + 2177 = 2292#)

Note: The above pressure cannot be considered representative of true formation conditions for the following reasons:

1. Pressure was taken following an acid treatment in which the formation was overpressured; insufficient time allowed for pressures to equalize.

2. See note next page of drill pipe leak during the test.

3. Drill pipe recovery was 16 barrels water, very slightly oil cut but highly gas cut (probably acid gas).

4. No indigenous reservoir fluids were produced; so there is no assurance that direct communication with the reservoir was obtained.

As a consequence of the above, the above pressure simply represents overpressuring.

JOHNSTON-MACCO
Schlumberger

WESTERN REGION
1745 STOUT SUITE 300
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JULY 18, 1983

INTRODUCTION;

DST #4 ON GAVILAN #1E IN RIO ARRIBA COUNTY, NEW MEXICO, WAS A MECHANICALLY UNSUCCESSFUL TEST DUE TO A DRILL PIPE LEAK PRIOR TO AND DURING THE TEST. WITHOUT Q (FLOW RATE), IT IS IMPOSSIBLE TO DETERMINE RESERVOIR PARAMETERS. LOG-LOG AND HORNER PLOTS HAVE BEEN GENERATED FOR THE INITIAL SHUT-IN PRESSURE BUILD-UP. RESERVOIR PRESSURE EXTRAPOLATED TO 2177 PSIA FROM THE INITIAL SHUT-IN.

Debora Hallford

DEBORA HALLFORD
SR. CHART ANALYST
DENVER RESERVOIR EVALUATION DEPT.
FIELD REPORT NO. 36867 E
TEST NO. 4

JOHNSTON-MACCO
Schlumberger

Field Report # 36867 E

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Dickinson Testing..... (701) 225-4451
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DST DATA SUMMARY

ELEV. 7307 GL
7314 RKB

Company NORTHWEST EXPLORATION COMPANY Well GAVILAN #I-E

County RIO ARRIBA State NEW MEXICO

Date 7-10-83 Test # 4

Location SEC. 26 T25N R2W

HOLE

T.D. 8160 ft Test Interval 6804 ft to 7366 ft

Formation GALLUP Packer Depths 6753 ft

MUD

Weight 8.4 lb/gal Resistivity ____ Ω -m @ ____ °F

MUD FILTRATE

Chlorides 12000 ppm Nitrates ____ ppm

Resistivity ____ Ω -m @ ____ °F

REPORTED PIPE RECOVERY

	Fluid	% Oil	Length	Volume
1	HIGHLY GAS CUT (WATER, VERY SLIGHTLY OIL CUT)		4299 ft	16.6 bbl
2	HIGHLY GAS CUT (OIL CUT WATER)		70	.3
3				
4				

Test Tool ↑

PIPE RECOVERY FLUID PROPERTIES

	Fluid	Resistivity	Chlorides	Nitrates
1		Ω -m @ °F	186K ppm	ppm
2			198K	
3				
4				

Test Tool ↑

Oil Gravity ____ °API @ ____ °F

SAMPLE CHAMBER RECOVERY

Fluid 1. Gas ____ Volume ____ ft³ Pressure ____ psig

2. Oil ____ ____ cc GOR ____ scf/bbl

3. ____ ____ GLR ____ scf/bbl

4. ____ ____ Oil Gravity ____ °API @ ____ °F

BOTTOMHOLE PRESSURE

BHT 162 °F

Gauge I-253

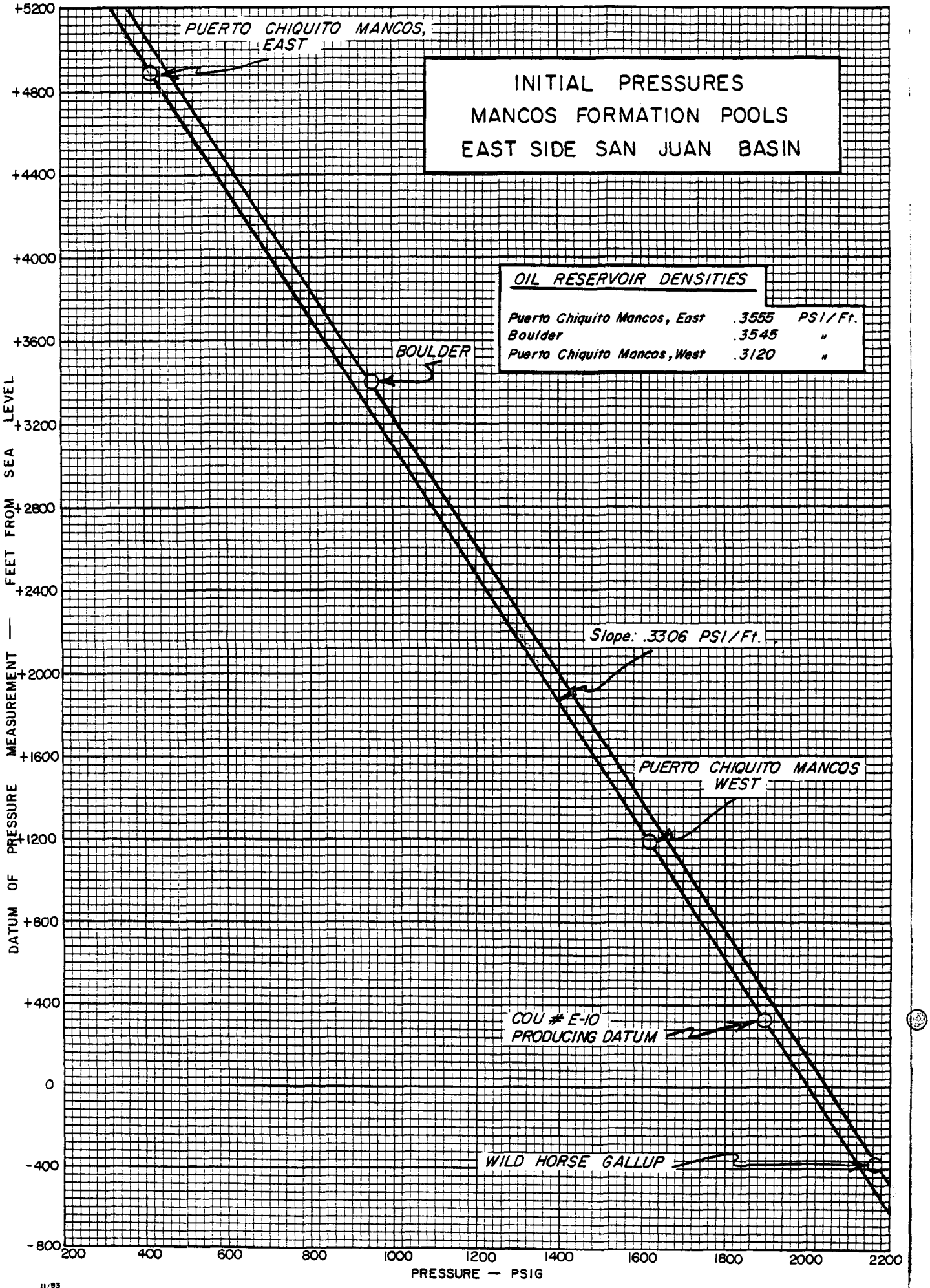
Depth 6768 ft

Period		Duration	Pressures	
1	Initial Flow X	4 min	964 psia	to 526 psia
2	INITIAL SHUT-IN	90	526	2154
3	SECOND FLOW	60	819	1234
4	SECOND SHUT-IN	58	1234	1851
5	THIRD FLOW	10	1397	1402
6	FINAL SHUT-IN	172	1402	1926
	FINAL FLOW	723	1660	1923

Initial Hydrostatic 2698 psia Final Hydrostatic 2776 psia

*Gas Volume is Corrected to Final Flowing Pressure ____ psia

& Reservoir Temperature ____ °F


INITIAL PRESSURES
MANCOS FORMATION POOLS
EAST SIDE SAN JUAN BASIN
PUERTO CHIQUITO MANCOS, EAST
BOULDER
PUERTO CHIQUITO MANCOS WEST
WILD HORSE GALLUP
Slope: .3306 PSI/Ft.
COU # E-10 PRODUCING DATUM
OIL RESERVOIR DENSITIES
Puerto Chiquito Mancos, East .3555 PSI/Ft.
Boulder .3545 "
Puerto Chiquito Mancos, West .3120 "
DATUM OF PRESSURE MEASUREMENT — FEET FROM SEA LEVEL
+5200
+4800
+4400
+4000
+3600
+3200
+2800
+2400
+2000
+1600
+1200
+800
+400
0
-400
-800
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
PRESSURE — PSIG
11/93