OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78

RECEIVED
OCT 20 1981
O. C. D.
ARTESIA, OFFICE

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

C/SF C-122

Type Test: [X] Initial FOUR POINT [ ] Annual [ ] Special			Test Date: 10-7-81	660 FWL 660 FNL
Company: SANDERS PETROLEUM CORP. ✓	Connection: AIR NEW WELL			Unit: D
Pool: WILDCAT Abo.	Formation: ABO			
Completion Date: 10-2-81	Total Depth: 5,348	Plug Back TD: 4,547	Elevation: 3,726 KB	Farm or Lease Name: ISLER Fee
Csg. Size: 4,500 / Wt.: 10.50 / d: 4.052 / Set At: 4,569		Perforations: From ~~4463~~ 4493 To 4523		Well No.: 1
Tbg. Size: 2.375 / Wt.: 4.70 / d: 1.995 / Set At: 4,465		Perforations: From OPEN To ENDED		Unit: D / Sec.: 15 / Twp.: 7S / Rge.: ~~28E~~ 26
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: SINGLE		Packer Set At: NONE		County: CHAVES
Producing Thru: TUBING	Reservoir Temp. °F: 101 @ 4,508	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
4.508	4.508	0.6564	0.107	10.296			3"	FLANGE

	FLOW DATA					TUBING DATA		CASING 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	~~B.H.P.~~ P.S.I.G.	Temp. °F	Duration of Flow
SI						924	60	1055		48 HRS.
1.	3"	X 1.25	400	1.8	47	877.	60	1008		1
2.	3"	X 1.25	420	16.0	50	869	61	1003		1
3.	3"	X 1.25	420	52.0	49	864	62	1008		1
4.	3"	X 1.25	415	76.0	54	847	60	1016		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	7.7710	27.27	413.2	1.0127	1.2347	1.0358	274.
2	7.7710	83.25	433.2	1.0098	1.2347	1.0370	836.
3	7.7710	150.09	433.2	1.0107	1.2347	1.0375	1510.
4	7.7710	180.40	428.2	1.0058	1.2347	1.0358	1803.
5							

NO.	P_r	Temp. °R	T_r	Z
1	.63	507	1.47	.932
2	.66	510	1.48	.930
3	.66	509	1.47	.929
4	.66	514	1.49	.932
5				

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
Specific Gravity Separator Gas .6560 xxxxxxxxx
Specific Gravity Flowing Fluid xxxxx .6560
Critical Pressure 653 P.S.I.A. _____ P.S.I.A.
Critical Temperature 345 R _____ R

P_c 1068.2 P_c^2 1141.1

NO	P_w	P_w^2	$P_c^2 - P_w^2$
1	1021.2	1042.8	98.0
2	1016.2	1032.7	108.0
3	1021.2	1042.8	98.0
4	1029.2	1059.3	82.0
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 13.9153$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.7303$

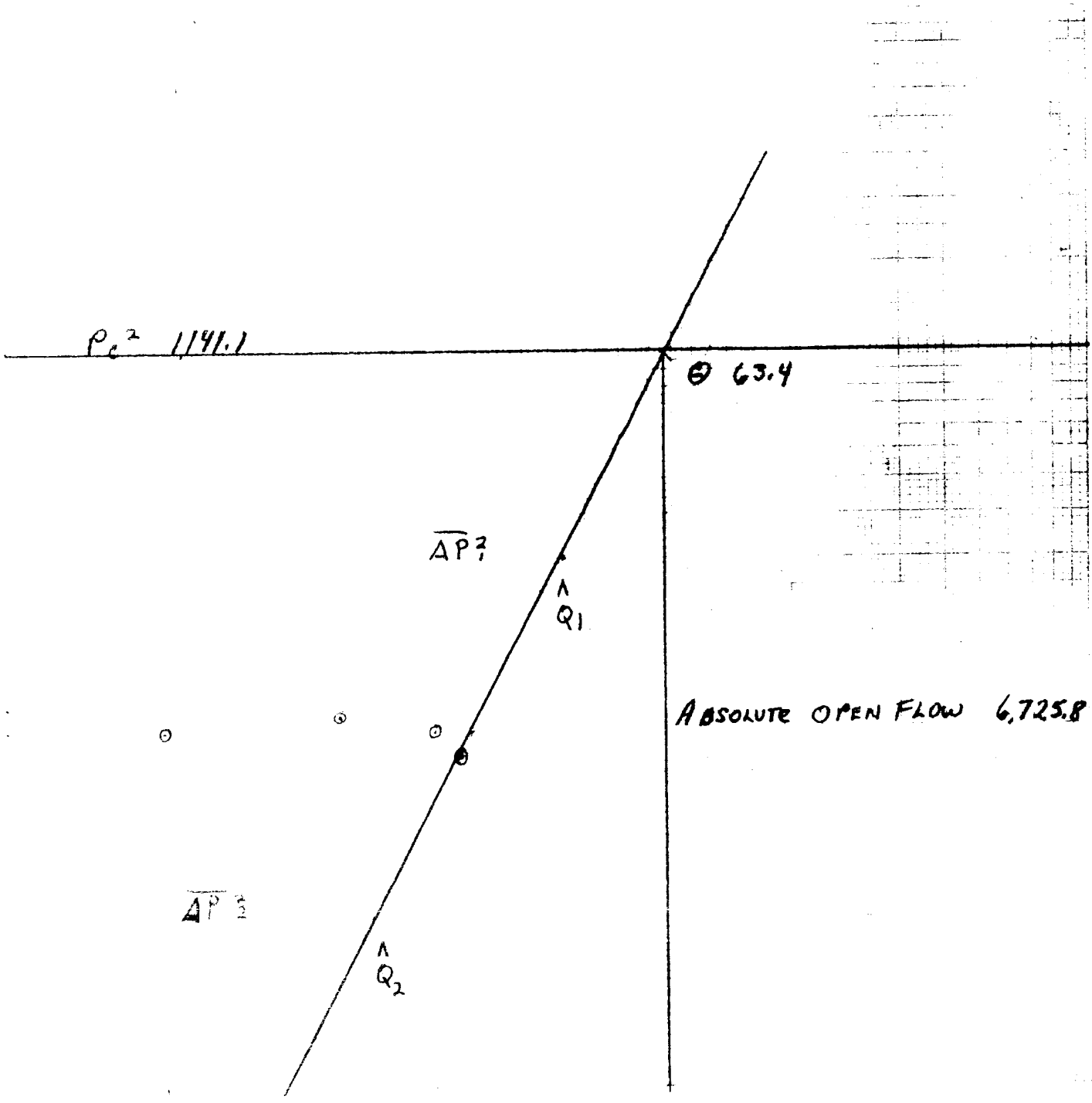
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 6,725.8$

Absolute Open Flow 6,725.8 Mcfd @ 15.025 | Angle of Slope θ 63.4 | Slope, n 5.000

Remarks: BOTTOM HOLE PRESSURE MESASURED WITH AMERADA PRESSURE GUAGES.

Approved By Division	Conducted By:	Calculated By:	Checked By:
	DON BENNETT	WOHLFORD & JENKINS	

Sanders Petroleum Corp
"LER WELL NO 1
UNIT D, Sec 15, Twp 7S, Rge 28E
Chaves County, New Mexico
October 7, 1981



$\overline{AP}_1^2$ $P_c^2 - P_w^2 = 300$

$\overline{AP}_2^2$ $P_c^2 - P_w^2 = 30$

Q_1 3260 MCFD

Q_2 1031 MCFD

Log Q_1 3.5132

Log Q_2 3.0132

N .500

NEW-TEX LAB
P. O. BOX 1161
HOBBS, N.M. 88240

No. 5768
Run No.
Date of Run 10-5-81
Date Secured 10-3-81

CERTIFICATE OF ANALYSIS

A Sample of Sanders Petroleum Isler E1
Secured from Bennett-Cathey
At Box 787 Secured by
Artesia, NM 88210 Time Date
Sampling conditions Press
Temp.

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	.107		
Air			
Nitrogen	10.296		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	82.702		
Ethane	4.109		1.096
Propane	1.462		.401
Butanes			
Iso-Butane	.229		.075
N-Butane	.439		.138
Pentanes			
Iso-Pentane	.130		.047
N-Pentane	.134		.048
Hexanes	.096		.039
Heptanes	.296		.136
Octanes			
TOTAL	100.000		1.990

Calc. Sp. Gr.— 0.6564
Calc. A.P.I.—
Calc. Vapor Press.— PSIA
Sp. Gr.
Mol. Wt. 19.04

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M.	.401
Butanes Calc. G.P.M.	.213
Pentanes Plus. G.P.M.	.270
Ethane Calc. G.P.M.	1.096
___ RVP Gasoline G.P.M.	

B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 998
Wet Basis 981

Sulfur Analysis by Titration Gr./100 Cu. Ft.
Hydrogen Sulfide
Mercaptans
Sulfides
Residual Sulfur
Total Sulfur

Run by R H Hamilton Checked by Deane Simpson Approved by Deane Simpson

Additional Data and Remarks

BENNETT - CATHEY
Artesia, New Mexico 88210

CHARLES SANDERS

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY SANDERS PETROLEUM CORP. WELL NAME ISLER WELL NO. 1
DATE OF TEST 10-7-81 TO 10-8-81 FORMATION ABO

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3 #21121 RANGE 0 - 5,000 LBS.
CLOCK NUMBER 4075 RANGE 24 HOURS
TIME WELL SHUT IN 1700 HOURS 10-7-81 FOLLOWING FOUR POINT TEST
TIME CLOCK STARTED 1053 HOURS
DEAD WEIGHT ELEMENT ON SURFACE 937 LBS.
TIME ELEMENT REACHED BOTTOM 1217
DEAD WEIGHT ELEMENT ON BOTTOM 937 LBS.
ELEMENT SET AT 4508 FEET.
TEMPERATURE 4508 FT. 101 °F.
935 P.S.I.A. DEAD WEIGHT AT THE END OF 18 HOURS 1 MINUTES.

DATE	HOUR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psia	PRESSURE AT MID-POINT OF PERFORATIONS psia
10-7-81		1217		1055	13.2		1068
START TEST	0	1300		1055	13.2		1068
	1/4	1315		1042	13.2		1055
	1/2	1330		1030	13.2		1043
	3/4	1345		1022	13.2		1035
END RATE 1	1	1400		1016	13.2		1029
	1-1/4	1415		1011	13.2		1024
	1-1/2	1430		1011	13.2		1024
	1-3/4	1445		1008	13.2		1021
END RATE 2	2	1500		1008	13.2		1021
	2-1/4	1515		1003	13.2		1016
	2-1/2	1530		999	13.2		1012
	2-3/4	1545		1001	13.2		1014
END RATE 3	3	1600		1003	13.2		1016
	3-1/4	1615		1003	13.2		1016
	3-1/2	1630		1003	13.2		1016
	3-3/4	1645		1006	13.2		1019
END RATE 4	4	1700		1008	13.2		1021
START BUILD UP	0	1700		1008	13.2		1021
	1/4	1715		1011	13.2		1024
	1/2	1730		1012	13.2		1025
	3/4	1745		1013	13.2		1026
	1	1800		1016	13.2		1029
	1-1/4	1815		1017	13.2		1030
	1-1/2	1830		1018	13.2		1031
	1-3/4	1845		1019	13.2		1032
	2	1900		1021	13.2		1034
	3	2000		1025	13.2		1038
	4	2100		1026	13.2		1039
	5	2200		1029	13.2		1042
	6	2300		1031	13.2		1044
	7	2400		1034	13.2		1047
10-8-81	8	0100		1036	13.2		1049
	9	0200		1037	13.2		1050
	10	0300		1037	13.2		1050
	15	0800		1038	13.2		1051
	17-1/2	1030		1038	13.2		1051

TEST DATE: 10-7-81 TO 10-8-81
TEST DEPTH: 4,508 FEET

ELEMENT NO.: RPG3 #21121
RANGE: 0 - 5,000 LBS.

CLOCKS: #4075
RANGE: 24 HOURS

OPERATOR: STEVE HARWELL

Note: See attached sheet Tabulation of Pressure

CHARLES SANDERS

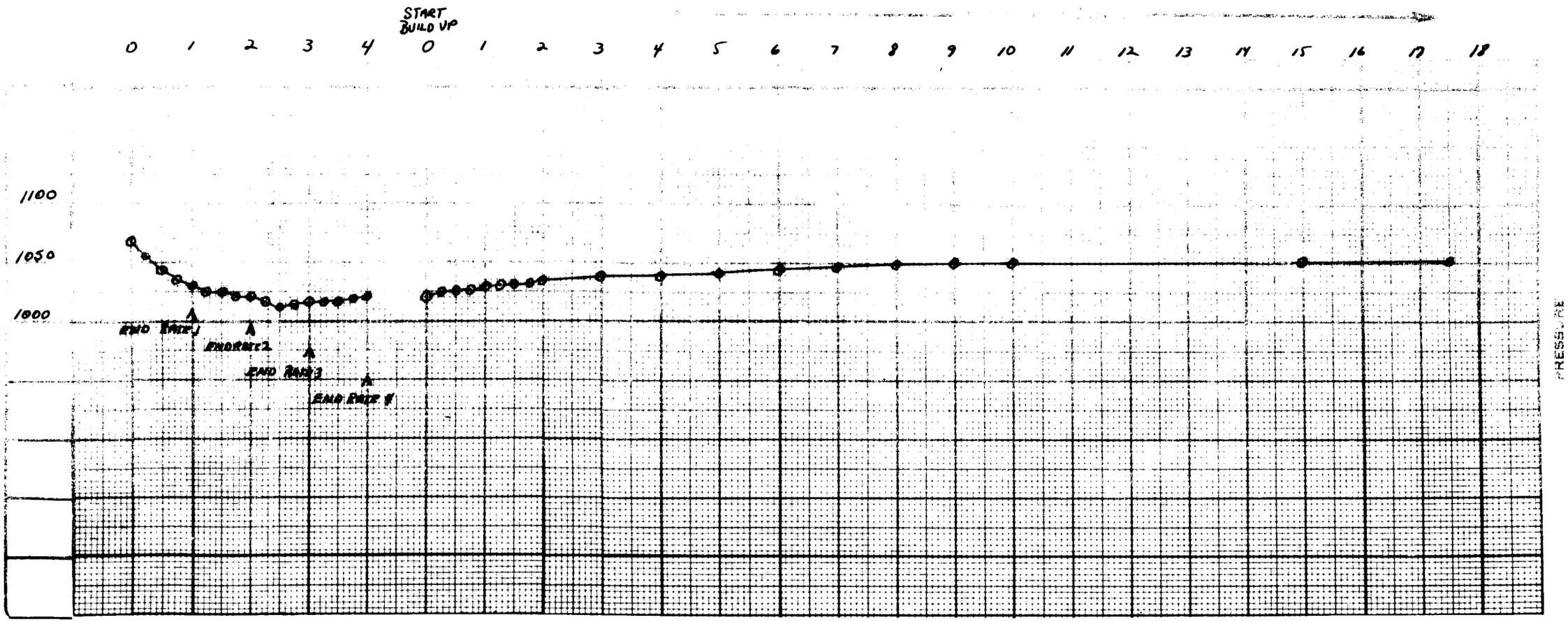
SANDERS PETROLEUM CORPORATION

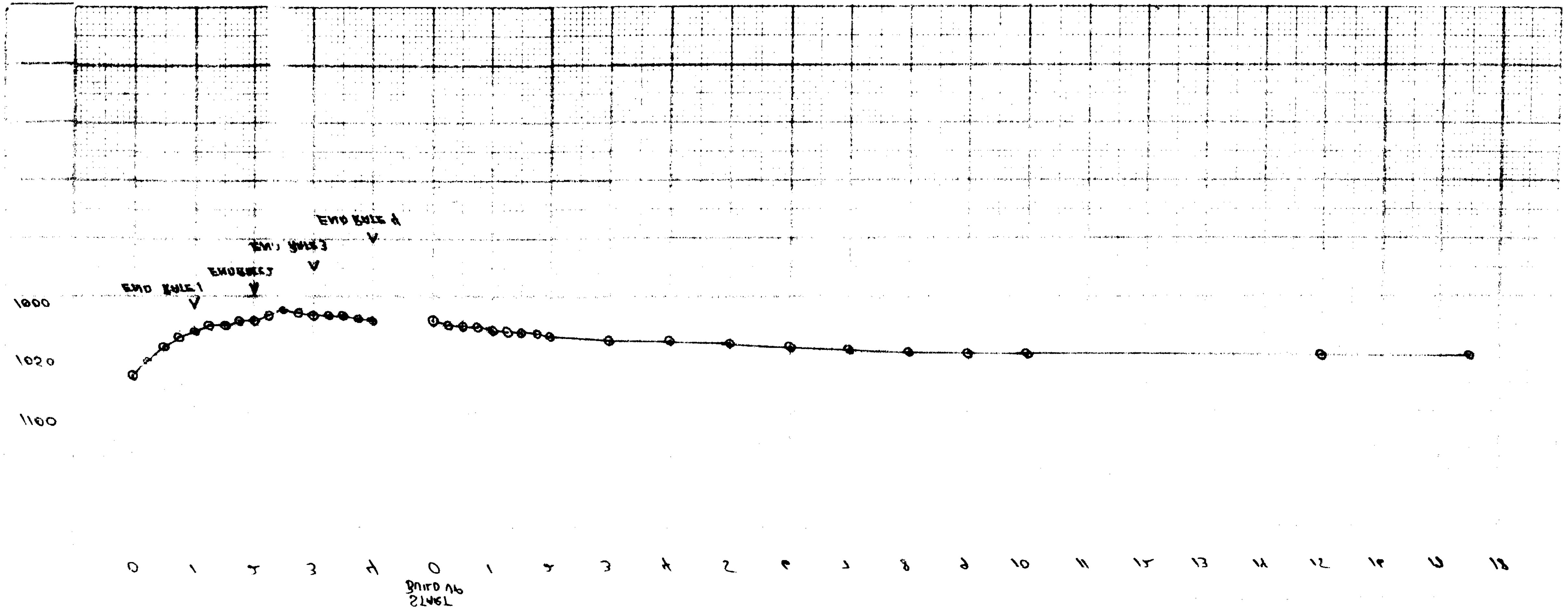
ISLER WELL NO. 1

BENNETT-CATHEY WIRE LINE SERVICE
Box 787 Artesia, N.M. 88210 505/746-3281
Drawn By: Scale As Shown

BENNETT-
CATHEY
WELL SERVICES

NOTE: FOUR POINT BACK PRESSURE TEST AND 17½ HOUR BUILD UP.





OPERATOR
RANGE
CLOCKS
RANGE
ELEMENT NO.
TEST DEPTH
TEST DATE

BENNETT-CATHEY WELL SERVICES

BENNETT-CATHEY WELL SERVICES

BENNETT-CATHEY WIRE LINE SERVICE
P. O. BOX 787
ARTESIA, NEW MEXICO 88210
Phone 746-3281

BOTTOM HOLE PRESSURE SURVEY REPORT

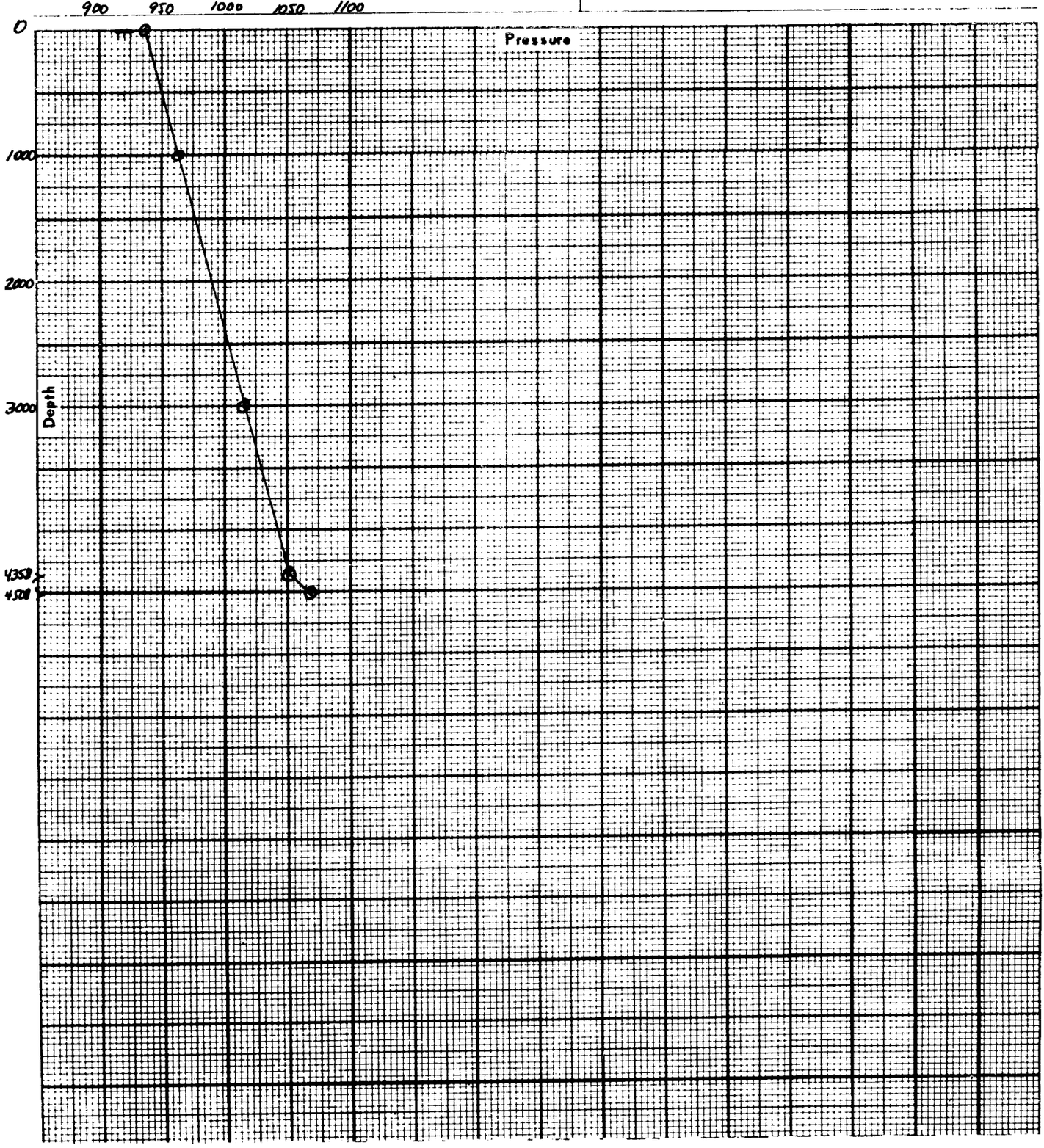
OPERATOR SANDERS PETROLEUM
LEASE ISLER
WELL NO. 1
POOL _____ **FORMATION** ABO
DATE 10-7-81 **TIME** 1217 HOURS

STATUS SHUT IN **TEST DEPTH** 4,508
TIME S.I. 1217 HOURS **LAST TEST DATE** FIRST TEST
CAS. PRES. 10-5-81 **BHP LAST TEST** _____
TUB. PRES. 937 **BHP CHANGE** _____
ELE. _____ **FLUID TOP** _____
DATUM PLANE _____ **WATER TOP** _____
DATUM PSIA 1067 **RUN BY** STEVE HARWELL
TEMP 101° **PRESSURE RANGE** 5,000
CLOCK NO. 4075
ELEMENT NO. RPG3# 21121

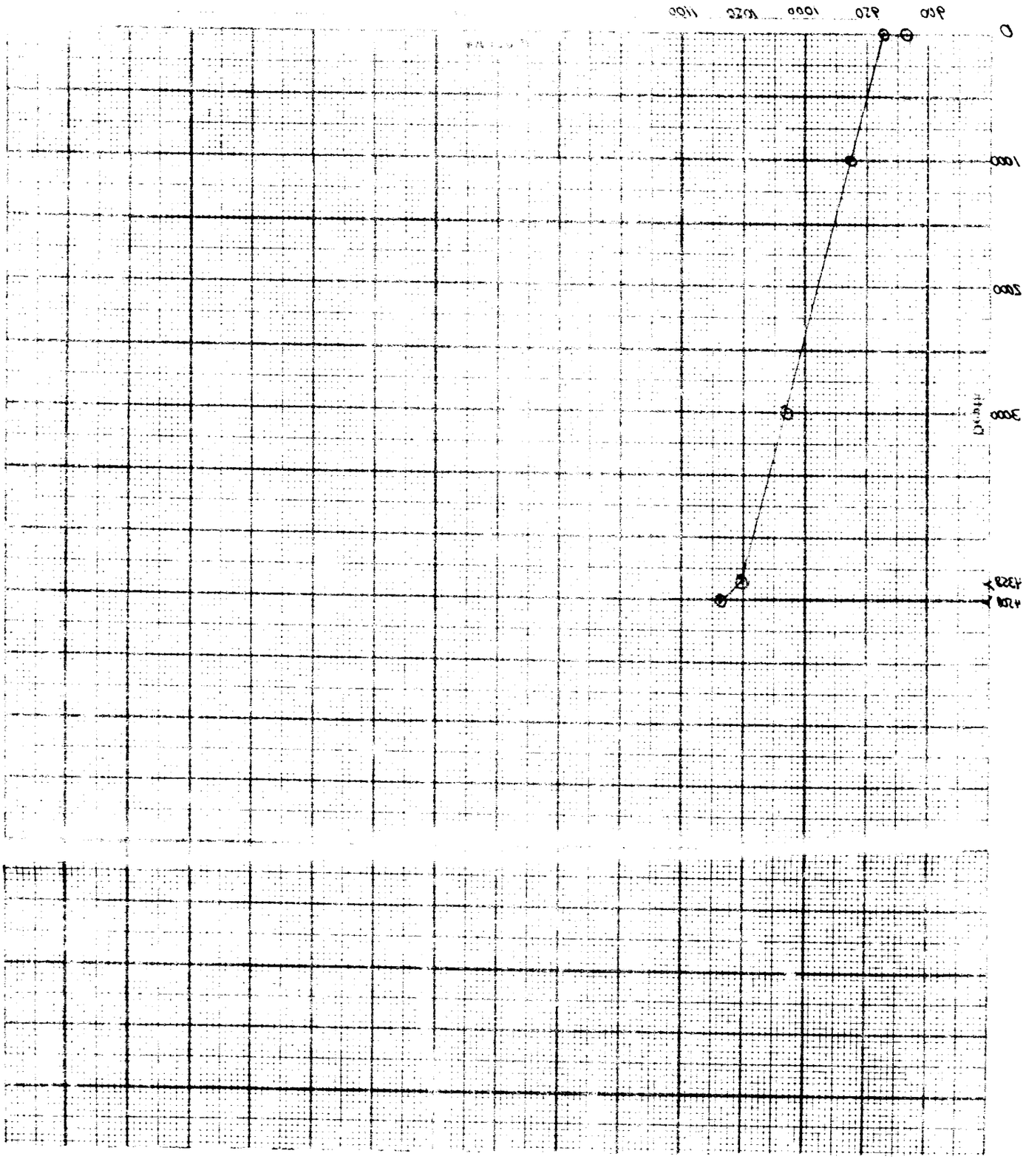
DEPTH	PRESSURE	GRADIENT
0	937	
1,000	963	2.6
3,000	1014	2.6
4,358	105±	2.7
4,508	1068	11.3

TIME B.H.P. MEASURED: 1217 HOURS 10-7-

LENGTH OF TIME WELL SHUT IN: 48 HOURS



BOTTOM HOLE PRESSURE SURVEY REPORT



SUGGESTED FIELD DATA SHEET (Not Required To File)

660 FNL
660 FWL

Type Test: Four Point ☒ Initial [ ] Annual [ ] Special — Test Date: 10-3-81
Company: Sanders Petroleum Corp — Connection: Air New Well
Field: Wild Cat — Reservoir: ABO — Location
Completion Date: 10-2-81 — Total Depth: 5348 — Plug Back TD: 4547 — Elevation: 3726 KB
Lease No. or Serial No.
Allottee
Unit: O
Farm or Lease Name: ISLER
Well No.: 1
Sec.: 15 — Twp.-Blk.: 7S — Rge.: 28E
County or Parish: Chaves
State: New Mexico

Csg. Size	Wt.	d	Set At	Perforations: From	To
4.500	10.5	4.052	4567	4493	4523
Tbg. Size	Wt.	d	Set At	Perforations: From	To
2.375	4.7	1.995	4465	OPEN ENDED	

Type Completion (Describe): Single — Packer Set At: NONE
Producing Thru: Tubing — Reservoir Temp. °F: 101 — Mean Annual Temp. °F: 60 — Baro. Press. – P_a: 13.2
State: New Mexico

L	H	G_g	% CO_2	% N_2	% H_2S	Prover	Meter Run
4508	4508	0.6564	0.107	10.296	0		3"

DATE Time of Reading	ELAP. TIME Hrs.	Wellhead Working Pressure: Thg. Psig.	Csg. Psig.	Temp. °F	METER OR PROVER: Pressure Psig.	Diff.	Temp. °F	Orifice	REMARKS (Include liquid production data: Type A.P.I. Gravity—Amount)
									SHUTIN 4:10 PM 9-26-81
								1½	
1045		781							SHUT IN Deal Weight 10.3#
1155	0	725						¼	Bit Dropping to test changed
1210	¼	679		78	395	7	84		Panics from 1½ to ¼ to 1 to ½ to
1225	½	662		79	395	6	86		¼"
1240	¾	642		81	395	6	86		
1255	1	635		81	395	5.5	86		End Rate 1
1310	1¼	630		84	395	21.	84		
1325	1½	627		84	395	21.	85		
1340	1¾	623		84	395	21.	84		
1355	2	623		84	395	20.5	85		End Rate 2
1410	2¼	619		84	395	42.	85		
1425	2½								Started Heavy Water Production
1440	2¾	675		84	395	52	85		DTH dropped to 0 opened Wide Up
1455	3	685		85	395	51	85		End Rate 3
1510	3¼	670		85	395	24		½	changed Panics to try to get
1525	3½	661		85	395	56			draw Down - Unsuccessful
1540	3¾	704		74	395	32	76		
1555	4	762		75	395	26	76		End Rate 4

Test Data NOT good due to FLUID IN Well

Notes: Watch Choke
Pressure 3000# to 4000# Held AT 270 Lbs Tubing 1516

Page ___ of ___ — Data By Don Sanders

Bennett Wire Line Service

P. O. Box 787 • Phone 746 - 3281

Artesia, New Mexico - 88210

OCTOBER 10, 1981

CHARLES SANDERS
SANDERS PETROLEUM CORP.
11000 D. STAIN RD. N.E.
ALBUQUERQUE, N.MM 87111

DEAR CHARLES,

ATTACHED IS THE REPORT OF THE STATIC, FLOWING AND BUILD UP BOTTOM HOLE PRESSURE TEST ON YOUR ISLER WELL NO. 1, SECTION 15, TOWNSHIP 7 SOUTH, RANGE 28 EAST, CHAVES COUNTY, NEW MEXICO.

ON OCTOBER 3, 1981 WE ATTEMPTED A FOUR POINT BACK PRESSURE TEST. AS SHOWN BY THE FIELD DATA SHEETS, THIS TEST DID NOT GIVE US VALID DATA DUE TO HIGH WATER PRODUCTION.

ON OCTOBER 7, 1981 WE AGAIN ATTEMPTED A FOUR POINT BACK PRESSURE TEST, AFTER THE WELL HAD BEEN CLEANED AND SHUT IN FOR 48 HOURS. AS SHOWN BY THE FIELD DATA SHEET AND BOTTOM HOLE PRESSURES, THE WELL HAD FAIRLY WELL STABILIZED. A DECREASING SEQUENCE METHOD WAS USED. IF THE WELL HAD BEEN FLOWED UNTIL EACH POINT HAD STABILIZED COMPLETELY, THEN A SOMEWHAT LOWER POTENTIAL WOULD HAVE RESULTED. THE FOUR POINTS OF THE PLOTTING DATA DO NOT ALIGN. THE BACK PRESSURE CURVE DRAWN THROUGH THE LAST POINT HAD A SLOPE OF .5000 AND RESULTED IN A CALCULATED OPEN FLOW POTENTIAL OF 6,725.8 MCFD. WATER PRODUCTION STARTED AFTER ELEVEN MINUTES OF THE FIRST FLOW PERIOD AND THEN DECREASED DURING THE REMAINDER OF THE TEST.

IF YOU HAVE ANY QUESTIONS CONCERNING THIS TEST PLEASE NOTIFY ME.

SINCERELY,

Don Bennett

DON BENNETT
PRESIDENT