Phone (303) 790-2705

BAKER OIL TOOLS

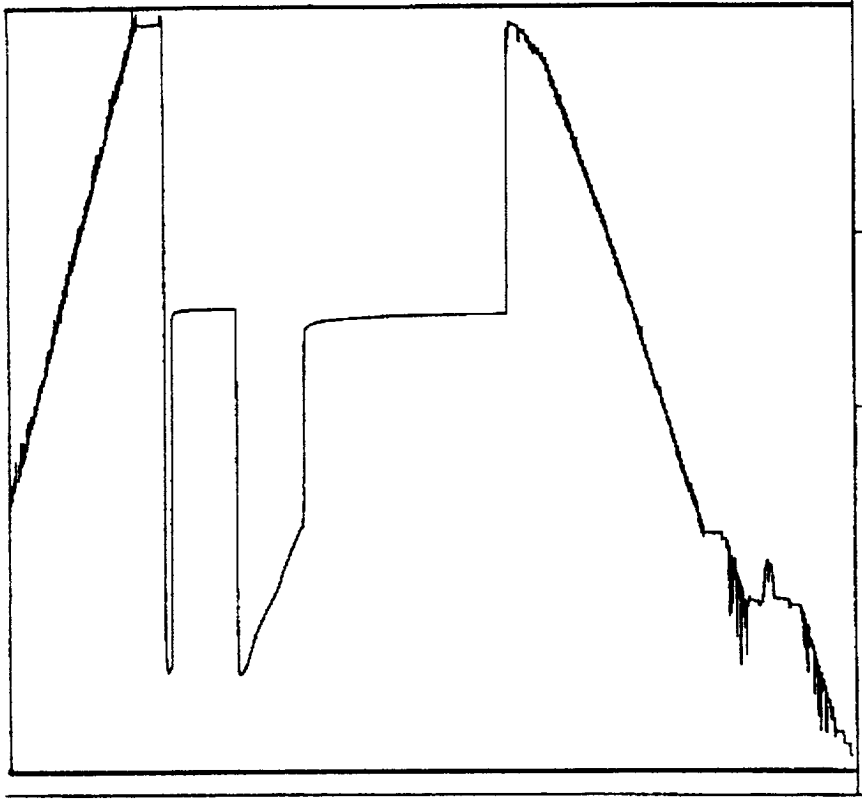
56 Inverness Drive East
Englewood, CO 80112

CHARLES B. GILLESPIE, JR.
TICKET #011964

BAER #2
STRAWN ~ 11556' - 11596'

DST #1
08-24-1995

Contractor	Peterson Drlg.	Surface Choke	1/4" & 1/2"	Mud Type	--
Rig No.	3	Bottom Choke	3/4"	Weight	8.9
Spot	810' FSL & 2200' FEL	Hole Size	7 7/8"	Viscosity	37
Sec	32	Core Hole Size	None	Water Loss	--
Twp.	15 S	DP Size & Wt.	4 1/2" 16.60	Filter Cake	--
Rng	35 E	Wt. Pipe	None	Resistivity	2.1 @ 60 °F
Field	[redacted]	I.D. of DC	2 1/4"		2,000 Ppm. NaCl
County	Lea	Length of DC	818'	B.H.T.	175.1 °F
State	New Mexico	Total Depth	11596'	Co. Rep	B.Crow/K.Widner
Elevation	--	Type Test	Conventional	Tester	Berry Fisher
Formation	Strawn	Interval	11556'- 11596'	Baker Dist	Hobbs NM



		REPORTED	CORRECTED	
Opened Tool @		10:45		hrs
Flow No.	1	5	6	min.
Shut-in No.	1	60	59	min.
Flow No	2	60	60	min.
Shut-in No.	2	180	188	min.
Flow No.	3	None Taken		min.
Shut-in No.	3	"	"	min.

Recorder Type	STI 8000		
No. 01097	Cap	6500	psi
Depth		11567	feet
Inside		Clock	
Outside	x	Range	hrs.

Initial Hydrostatic	A	5361
Final Hydrostatic	K	5352
Initial Flow	B	677
Final Initial Flow	C	720
Initial Shut-in	D	3317
Second Initial Flow	E	663
Second Final Flow	F	1731
Second Shut-in	G	3277
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	

Pipe Recovery

Flowed 24 bbl oil during final flow & final shut-in
Reverse circulated:
2502' Gas cut oil = 20.0 bbl.

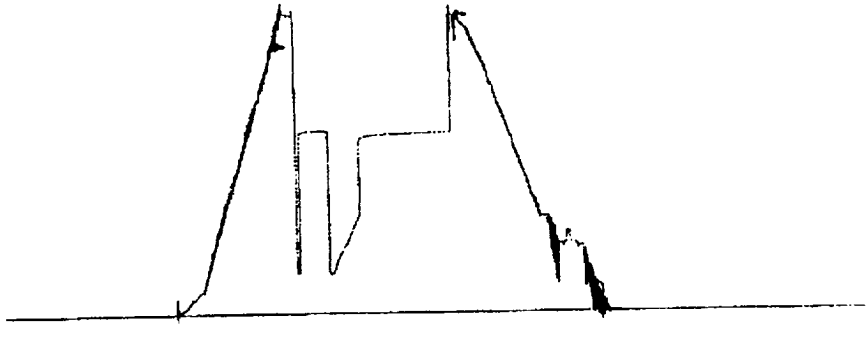
Gravity: 42.0 Deg API @ 60 Deg F

Company: Charles B. Gillespie, Jr.
Well: Baer #2
DST No: 1

08-24-1995

Recorder Type	Kuster K-3		
No 16833	Cap	6850	psi
Depth		11538	feet
Inside x	Clock		
Outside	Range	24	hrs

Initial Hydrostatic	A	5330
Final Hydrostatic	K	5305
Initial Flow	B	575
Final Initial Flow	C	566
Initial Shut-In	D	3287
Second Initial Flow	E	614
Second Final Flow	F	1679
Second Shut-In	G	3245
Third Inital Flow	H	
Third Final Flow	I	
Third Shut-In	J	



Recorder Type	Kuster K-3		
No 21680	Cap	7500	psi
Depth		11567	feet
Inside	Clock		
Outside x	Range	24	hrs.

Initial Hydrostatic	A	5374
Final Hydrostatic	K	5359
Initial Flow	B	658
Final Initial Flow	C	642
Initial Shut-In	D	3311
Second Initial Flow	E	661
Second Final Flow	F	1725
Second Shut-In	G	3284
Third Inital Flow	H	
Third Final Flow	I	
Third Shut-In	J	

D.R.S.

Company: Charles B. Gillespie, Jr.
Well: Baer #2, DST #1
Field: [redacted] 08-24-1995

Gauge Depth ..... 11567.0 feet

[INPUT PARAMETERS]
(Build-Up Analysis)

Well Type - OIL			
Reservoir Pressure	psia	P	3287
Reservoir Temperature	Deg F	T	175
Final Shut-in Pressure	psia	Psi	3277
Final Flowing Pressure	psia	Pwf	1731
Gas Flow Rate	mcf	Qg	1081
Oil Flow Rate	STB/D	Qo	921
Sand Thickness	feet	hnet	20
Wellbore Radius	feet	rw	0.3250
Formation Porosity	%	POR	6
Extrapolated Pressure	psia	P*	3272
Extrapolated Press @ 1hr	psia	P1hr	3248
Semi-Log Slope	psi/cycle	M	-72.400
Production Time	hrs	tp	1.10
Shut-in Time	hrs	tsi	3.10

Uo (cp)	3.8082E-01	Bo (RB/STB)	1.4696E+00
Co (1/psi)	7.9054E-05	Ct (1/psi)	9.8915E-05

[TYPE CURVE MATCH POINTS]

dP	1445.441	Pd	24.147
dt	0.102	tD/Cd	141.512

Cde2S 1E +20

[CALCULATED RESULTS]

(Semi-Log) Analysis			Pressure Method
Transmissibility	md-ft/cp	kh/u	3039.824
Flow Capacity	md-ft	kh	1157.618
Permeability	md	k	57.881
Skin Damage	total	S	+18.19
Pressure Drop due to Skin	psia	dP	+1143.64
Flow Efficiency	%	FE	+26.49
Drainage Radius	feet	rd	258

Type Curve (Log-Log) Analysis			
Transmissibility	md-ft/cp	kh/u	3192.743
Flow Capacity	md-ft	kh	1215.852
Permeability	md	k	60.793
Skin Damage	total	S	+21.09
Pressure Drop due to Skin	psia	dP	+1262.21
Flow Efficiency	%	FE	+18.87

D.R.S.

ARC PRESSURE DATA INCORPORATED

OPERATIONS LOG

COMPANY: CHARLES GILLESPIE

WELL NUMBER: 2

LEASE: BAER

FIELD: [redacted]

COUNTY: LEA STATE: NM

TEST TYPE: BUILDUP/GRADIENT

INSTRUMENT USED FOR REPORTING: 22274

ENGINEER: KEVIN WIDNER

FIELD REP:

JOB RUN BY: TOM EVANS

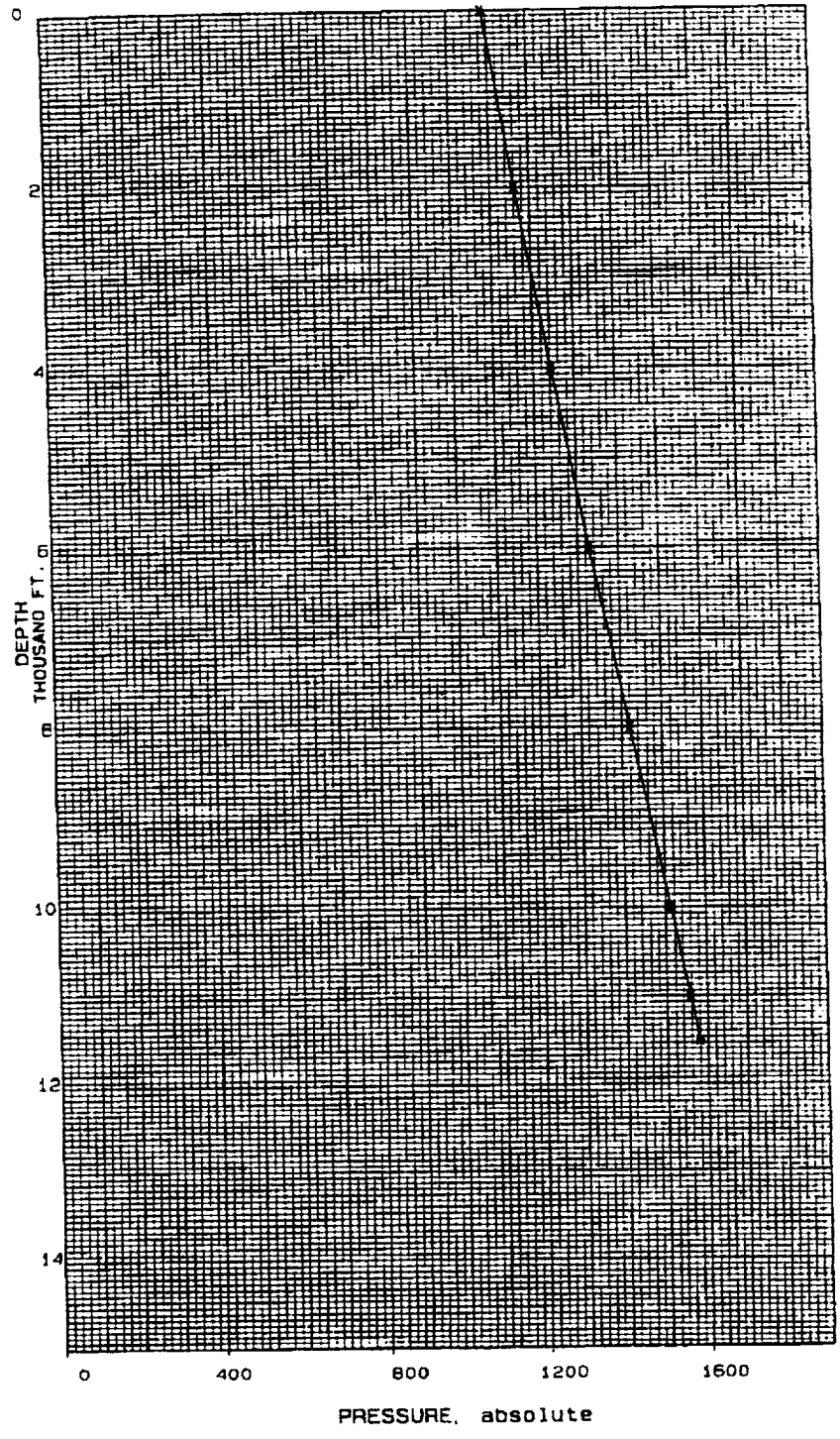
DATA PREPARED BY: STEPHEN CASSEL

DATE	TIME	DWG	OPERATIONS LOG
1/19/96	12:40:00 PM		ON LOCATION/WELL FLOWING
1/19/96	2:29:00 PM		START MECHANICAL GAUGE 45423
1/19/96	2:32:00 PM		START ELECTRONIC GAUGE 22274
1/19/96	2:39:00 PM	130	IN LUBRICATOR WITH GAUGES
1/19/96	3:44:00 PM		ON BOTTOM W/GAUGES
1/19/96	4:59:00 PM		SHUT-IN WELL FOR BUILDUP
1/22/96	8:30:00 AM		ON LOCATION TO RETRIEVE TOOLS/WELL SHUTIN
1/22/96	8:51:00 AM		IN LUBRICATOR TO RETRIEVE TOOLS/WELL SHUTIN
1/22/96	9:22:00 AM		OFF BOTTOM W/TOOLS
1/22/96	10:30:00 AM	1090	IN LUBRICATOR WITH GAUGES
1/22/96	11:25:00 AM		OFF BOTTOM W/BAR
1/22/96	11:40:00 AM		RIG DOWN

PRESSURE DATA
INCORPORATED

INDIVIDUAL WELL DATA SHEET

COMPANY CHARLES GILLESPIE LEASE BAER WELL No. 2
FIELD [redacted] (STRAWN) COUNTY LEA STATE NM
TEST DATE 1/22/96 TIME 9:22 STATUS OF WELL STATIC SHUT IN 15:59 1/19/96



Depth feet	(G.L.)	Pressure Lbs. Sq. In.	Gradient Psi/Ft.
0		1087.3	
2000		1162.0	.0374
4000		1242.9	.0404
6000		1327.5	.0423
8000		1419.1	.0458
10000		1512.6	.0468
11000		1558.2	.0455
11506	R.D.	1579.5	.0423

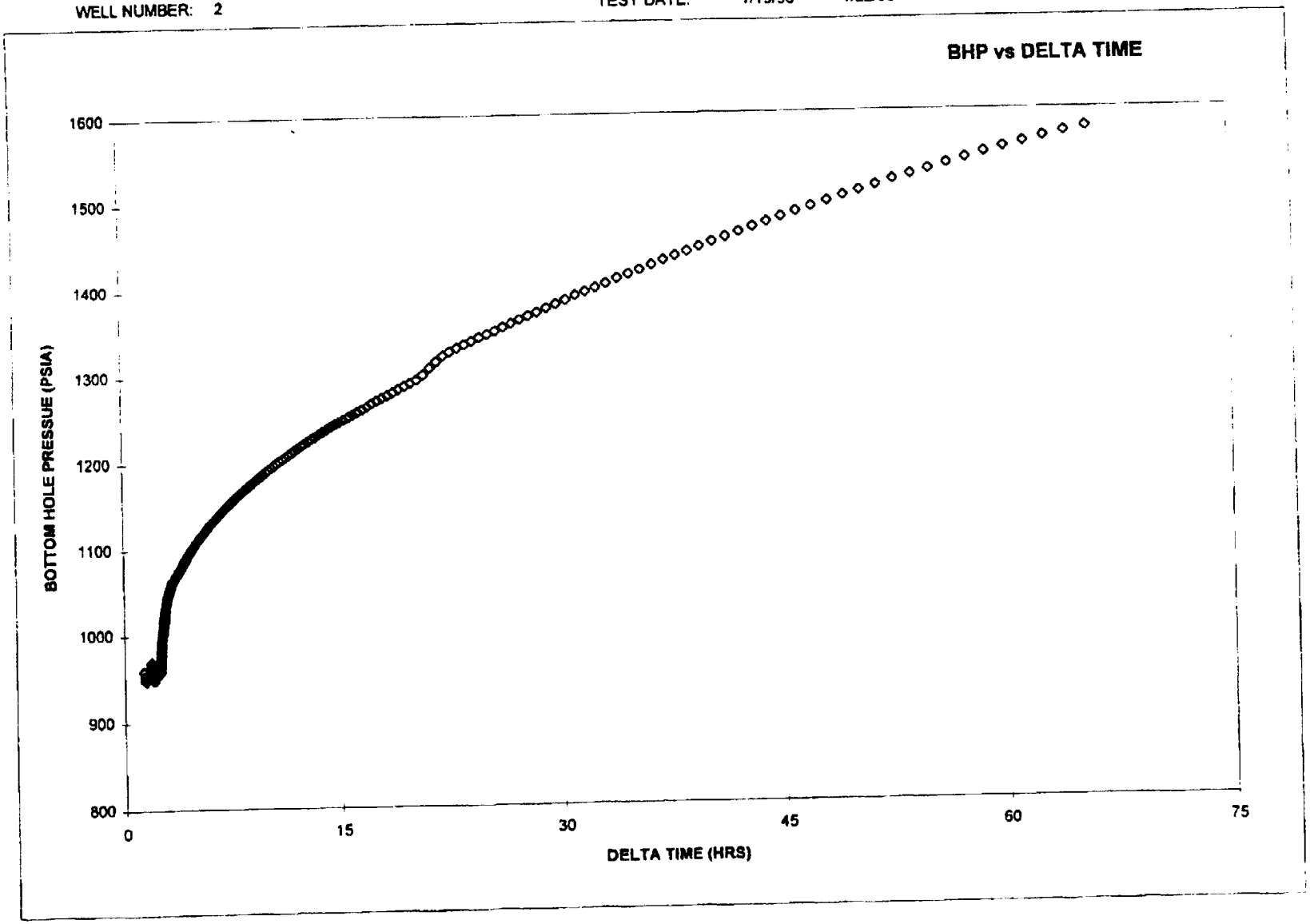
Elev: K.B. - 14 G.L. - 3968
Pressure Datum
Top of pay
Tubing 2.875 Depth 11513
S. N. Packer 11476
Casing 5 1/2 Depth 11770
Perf 11554 - 11568
Total Depth 11712 PBTD
Formation STRAWN
Casing Pressure
Tubing Pressure 1090
Top of fluid NONE
Top of water NONE
Hrs shut in Flowing
Temp. @ 11496 G.L. = 176 deg F
Last Test Date
Press Last Test
B. H. P. Change 0.0
Instrument No. 22274
Run By TOM EVANS
Calculated By STEPHEN CASSEL

ARC PRESSURE DATA INCORPORATED

P.O. Box 13268 • Odessa, Texas 79768-3268 • 915/563-2371 • FAX 915/550-0092

COMPANY: CHARLES GILLESPIE
LEASE: BAER
WELL NUMBER: 2

COUNTY: LEA
FIELD: [redacted] STRAWN
TEST DATE: 1/19/96 - 1/22/96



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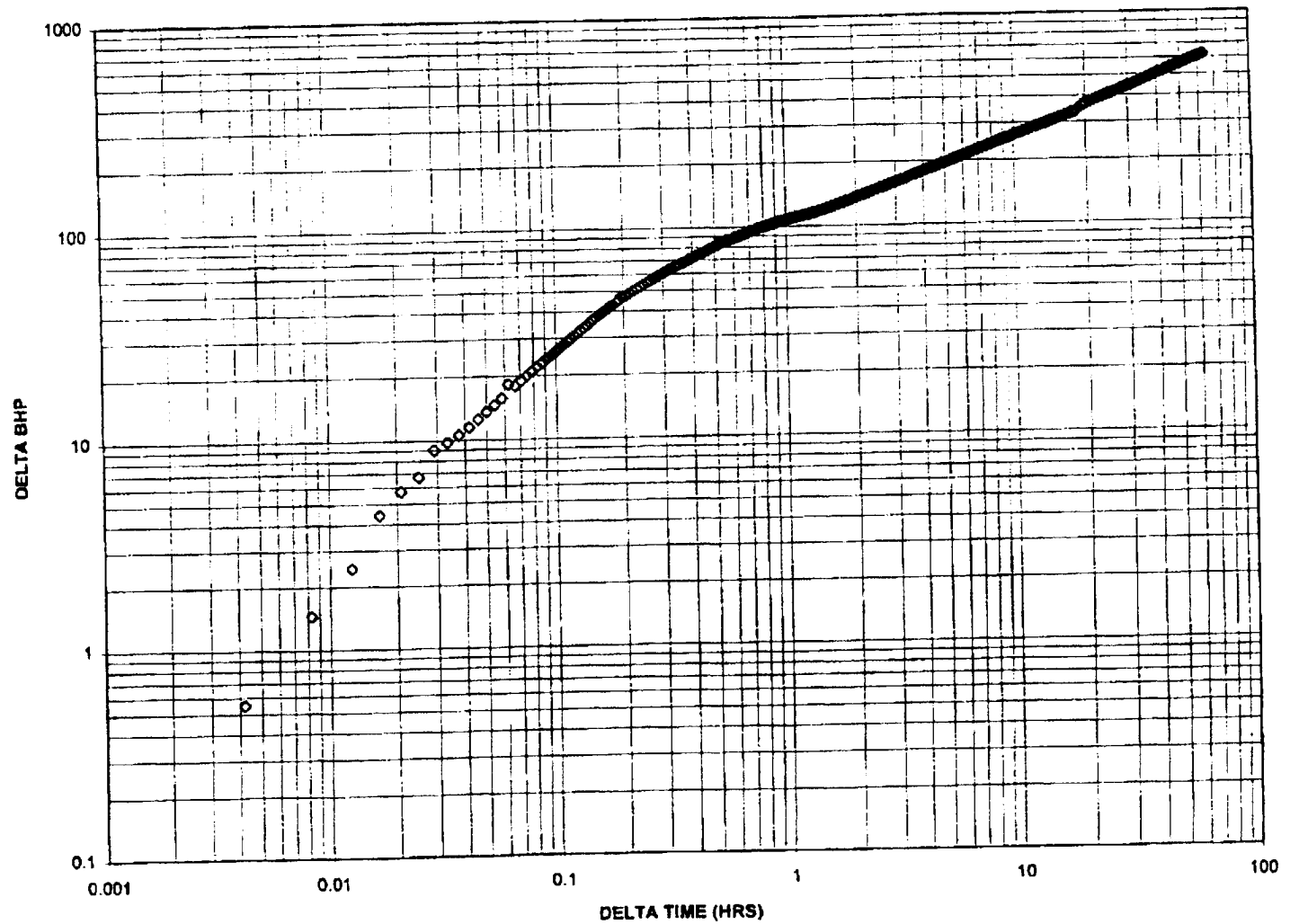
COMPANY: CHARLES GILLESPIE
LEASE: BAER
WELL NUMBER: 2

COUNTY: LEA
FIELD: [redacted] STRAWN
TEST DATE: 1/19/96 - 1/22/96

LOG-LOG PLOT

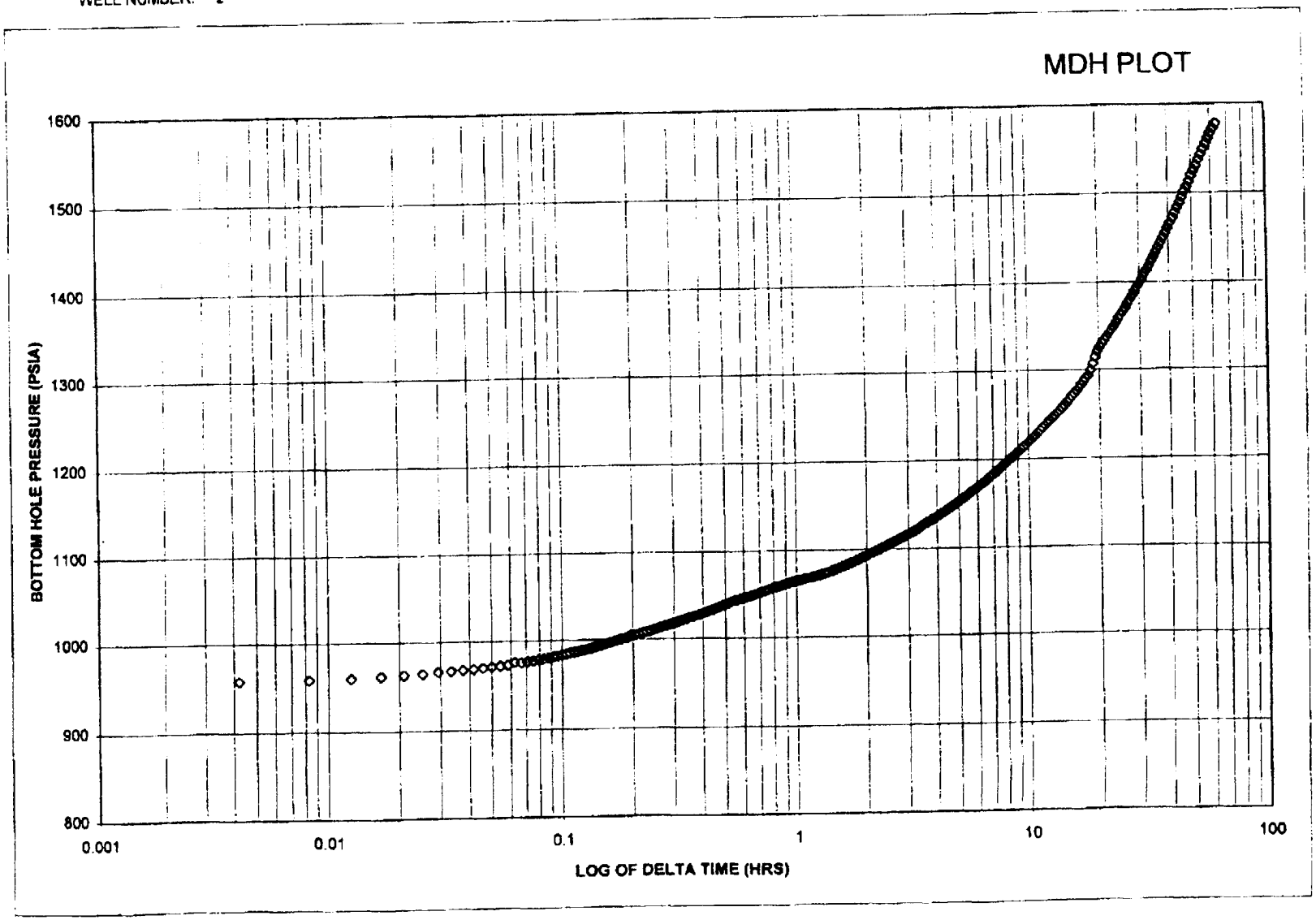


APC PRESSURE DATA INCORPORATED

P.O. Box 13268 • Odessa, Texas 79768-3268 • 915/563-2371 • FAX 915/550-0092

COMPANY: CHARLES GILLESPIE
LEASE: BAER
WELL NUMBER: 2

COUNTY: LEA
FIELD: [redacted] STRAWN
TEST DATE: 1/19/96 - 1/22/96



John C. McDermett, Petroleum Engineer

2207 Marcie Lane, Midland, Texas 79707 *(915) 682-5902*

February 28, 1996

Charles B. Gillespie, Jr.
P. O. Box 8
Midland, TX 79702

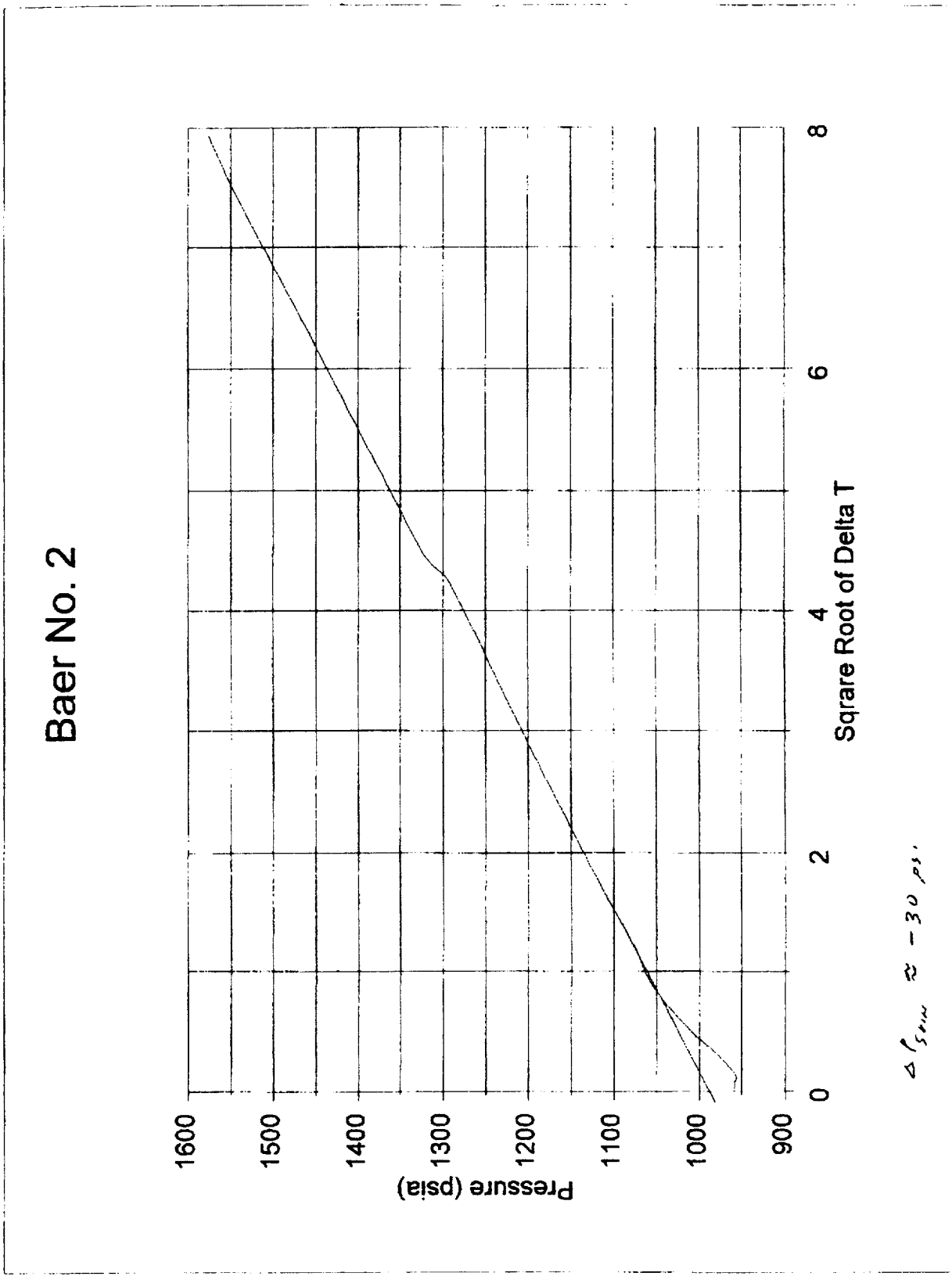
Re: Pressure Buildup Analysis [redacted]
Baer No. 2, 1/19/96 - 1/22/96
[redacted]
Lea County, New Mexico

Attention: Mr. Kevin Widner

Gentlemen:

Gillespie's Baer No. 2 and Amerind's Mobil-State No. 1 were both shut in for pressure buildup testing on the above dates. Cumulative production to that date has amounted to 54,914 BO + 43,984 MCF and 153,073 BO + 225,730 MCF, respectively. The Mobil-State No. 1 buildup curve behaved somewhat like curves of wells in the main field, with rapid buildup to radial flow conditions. The Horner extrapolated pressure, P*, for this well was 2583 psia. The Baer No. 2 buildup curve, on the other hand, exhibited linear flow throughout the 63 hour shut in period. Prolonged linear flow periods are usually caused by large fractures or faults intersecting the wellbore. Such data can be reliably analyzed only when reservoir size and shape are known. Even type curve analysis is not very helpful until the shut in time is sufficient to start coming out of linear and into pseudo-radial flow conditions.

The Baer No. 2 DST did not exhibit this linear flow behavior, so we have to assume that the acid treatment broke into a large fracture or some other linear feature. Extrapolated pressure from the DST was reported as 3272 psia, which was very close to the estimated reservoir pressure in the Mobil-State No. 1 at that time. This would indicate probable communication between the two wells. An extrapolated reservoir pressure cannot be obtained from the linear flow data in the latest test on the Baer No. 2. The Baer No. 2 DST also showed significant damage with a skin factor of +18.19 from the semi-log analysis. The long linear flow period in this latest test qualitatively indicates a large negative skin factor. The attached Square Root Plot further shows a ΔP_{skin} of - 30 psi, indicating no formation damage at the fracture face.


Baer No. 2
Pressure (psia)
1600
1500
1400
1300
1200
1100
1000
900
0
2
4
6
8
Sqrare Root of Delta T

[redacted]

Constant Composition (Flash) Fluid Data

Well	Date	Cum Oil	Cum Gas	Cum GOR	Adjusted Cum GOR	P @ -7532	Bt (Flash)	Bg
Mobil State #1 (BU)	04/05/95	0	0	1.850	1.85	4357	2.2322	
Mobil State #1 (BU)	05/03/95	11237	17225	1.533	1.7700	4045	2.2594	0.747
Mobil State #1 (BU)	06/05/95	26556	45103	1.698	1.7600	3760	2.3183	0.76
Mobil State #1	07/11/95	46022	77518	1.684				
Baer #2 (DST)	08/21/95	68155	111572	1.637	1.676	3274	2.4548	0.808
Mobil State #1	01/19/96	207987	269714	1.297	1.5101	2583	2.7985	0.9786