

Well Name: HERL TRUST #2
Company : LIBOC INC
Location - Sec: 3
County: RUSH
Date: 11/8/95

Twp: 16S
State: KS
Rge: 18W

TRILOBITE TESTING L.L.C.

OPERATOR : Liboc Inc.
 WELL NAME: Herl Trust #2
 LOCATION : 3-16S-18W, Rush Cty KS
 INTERVAL : 3436.00 To 3496.00 ft

DATE 11-08-95
 KB 1942.00 ft TICKET NO: 8653 DST #1
 GR 1933.00 ft FORMATION: Penn Sand
 TD 3496.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----
PF 15	Rec.	24174	24174	23512			PF Fr. 1155 to 1210 hr
SI 30	Range(Psi)	3050.0	3050.0	4995.0	0.0	0.0	IS Fr. 1210 to 1240 hr
SF 15	Clock(hrs)	AK-1	AK-1	Alpin			SF Fr. 1240 to 1255 hr
FS 45	Depth(ft)	3473.0	3473.0	3440.0	0.0	0.0	FS Fr. 1255 to 1340 hr

	Field	1	2	3	4	
A. Init Hydro	1757.0	1745.0	1753.0	0.0	0.0	T STARTED 1039 hr
B. First Flow	728.0	730.0	745.0	0.0	0.0	T ON BOTM 1153 hr
B1. Final Flow	781.0	7701150.0	800.0	0.0	0.0	T OPEN 1155 hr
C. In Shut-in	1160.0	0.0	1178.0	0.0	0.0	T PULLED 1340 hr
D. Init Flow	758.0	750.0	760.0	0.0	0.0	T OUT 1450 hr
E. Final Flow	835.0	759.0	864.0	0.0	0.0	
F. Fl Shut-in	1160.0	1153.0	1177.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	1720.0	1714.0	1702.0	0.0	0.0	Tool Wt. 1500.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 20000.00 lbs
						Wt Pulled Loose 55000.00 lbs
						Initial Str Wt 50000.00 lbs
						Unseated Str Wt 52000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 0.00 in
						D. Pipe ID 3.80 in
						D.C. Length 0.00 ft
						D.P. Length 3436.00 ft

RECOVERY

Tot Fluid 175.00 ft of 0.00 ft in DC and 175.00 ft in DP
 135.00 ft of Gassy mud cut oil - 5% gas, 75% oil, 20% mud
 40.00 ft of Gassy heavy oil cut mud -
 30% gas, 30% oil, 40% mud

SALINITY 0.00 P.P.M. A.P.I. Gravity 28.00

BLOW DESCRIPTION

Initial Blow -
 Very strong; gas to surface in 2
 minutes. See report

Initial Shutin -
 3" blow

Final Blow -
 Strong gauging gas--mist of mud in 3
 minutes - lasting throughout flow

Final Shutin -
 Strong through shutin
 SAMPLES: caught 2 in citrate and 1 in steel
 SENT TO: Amarillo Texas

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/cf
Vis.	45.00 S/L
W.L.	8.80 in3
F.C.	0.00 in
Mud Drop N	
Amt. of fill	0.00 ft
Btm. H. Temp.	107.00 F
Hole Condition	good
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out	
Tool Chased	
Tester	Paul Simpson
Co. Rep.	Jeff Zoller
Contr.	Duke
Rig #	4
Unit #	
Pump T.	

Test Successful: Y

TEST HISTORY

#8653 Libco Inc. Herl Trust #2 DST #1

Flag Points

t (Min.)	P (PSIG)
A: 0.00	1753.41
B: 0.00	745.10
C: 14.00	799.91
D: 32.00	1178.29
E: 0.00	759.71
F: 15.00	864.20
G: 46.00	1177.33
Q: 0.00	1701.71

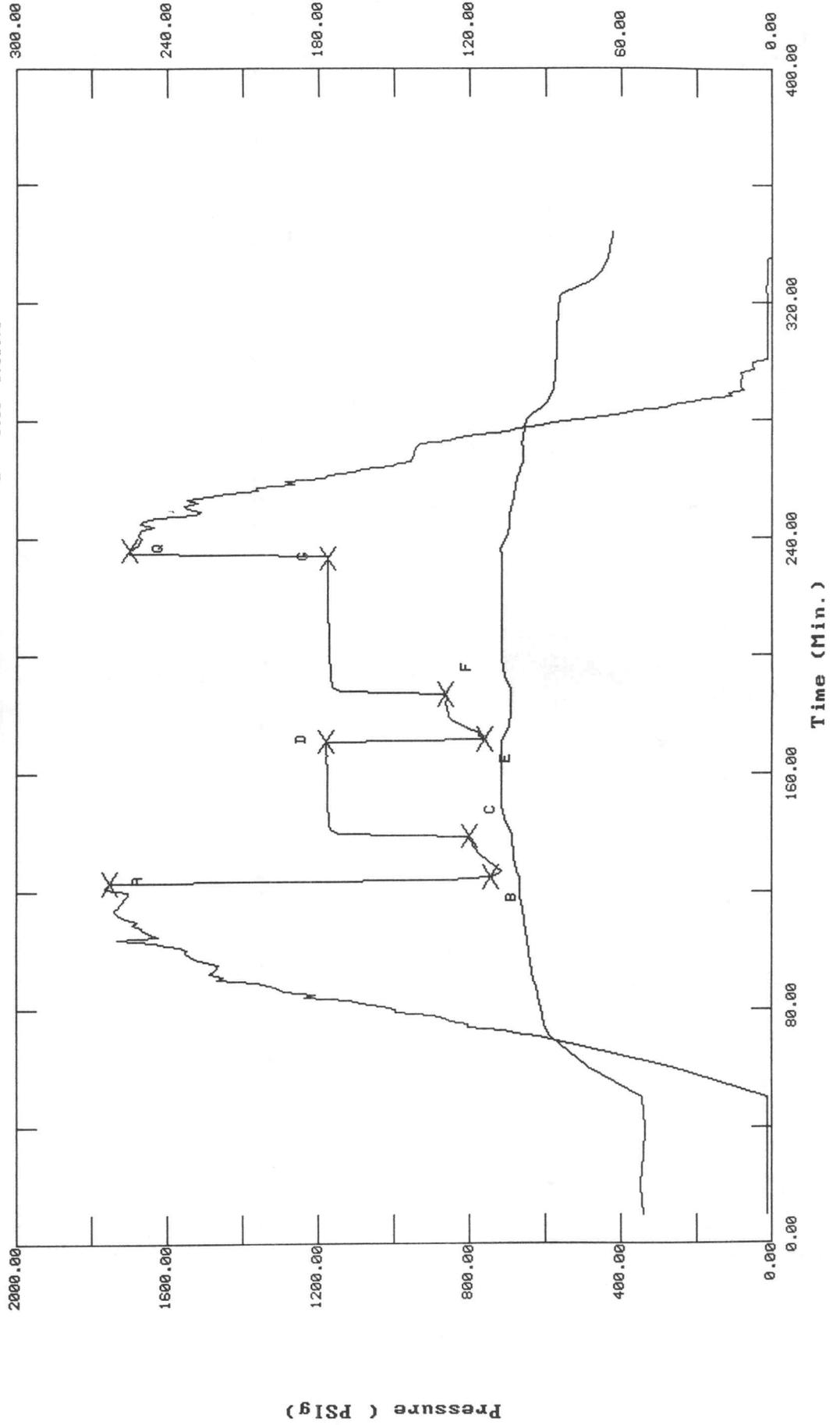
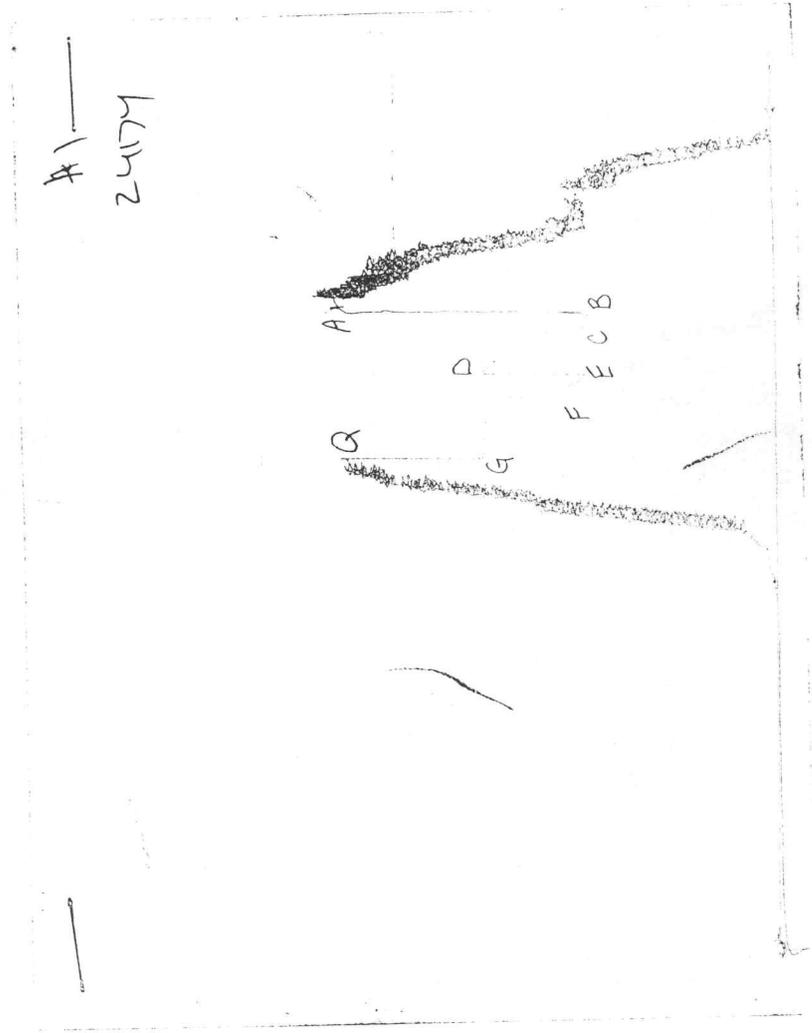


CHART PAGE



This is an actual photograph of recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: #8653 Liboc Inc. Herl Trust #2 DST #1

DATE: 11/08/95 TIME: 09:51:46

	Time	Pressure PSI _g	delta P PSI _g	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
***** Initial Hydro.	123.00	1753.4	0.0	99.97		
***** Start Flow 1	0.00	745.1	0.0	100.06		
	1.00	724.0	-21.1	100.71		
	2.00	716.2	-28.9	101.11		
	3.00	727.8	-17.3	101.48		
	4.00	735.7	-9.4	101.78		
	5.00	747.5	2.4	102.04		
	6.00	755.1	10	102.25		
	7.00	766.7	21.6	102.46		
	8.00	776.1	31.0	102.61		
	9.00	780.4	35.3	102.71		
	10.00	786.8	41.7	102.78		
	11.00	791.3	46.2	102.84		
	12.00	792.4	47.3	102.89		
	13.00	800.1	55.0	102.92		
***** End Flow 1	14.00	799.9	54.8	102.95		
***** Start Shutin 1	0.00	799.9	0.0	102.95	0.0000	0.640
	1.00	1147.0	347.1	103.00	15.0000	1.316
	2.00	1165.3	365.4	103.40	8.0000	1.358
	3.00	1168.4	368.4	104.07	5.6667	1.365
	4.00	1170.0	370.1	104.77	4.5000	1.369
	5.00	1171.1	371.2	105.37	3.8000	1.372
	6.00	1172.4	372.5	105.85	3.3333	1.374
	7.00	1173.1	373.2	106.25	3.0000	1.376
	8.00	1173.4	373.5	106.57	2.7500	1.377
	9.00	1174.2	374.3	106.83	2.5556	1.379
	10.00	1174.3	374.4	107.03	2.4000	1.379
	11.00	1174.7	374.8	107.23	2.2727	1.380
	12.00	1175.5	375.6	107.31	2.1667	1.382
	13.00	1175.3	375.4	107.35	2.0769	1.381
	14.00	1175.6	375.7	107.42	2.0000	1.382
	15.00	1176.2	376.3	107.52	1.9333	1.384
	16.00	1176.1	376.2	107.55	1.8750	1.383
	17.00	1176.7	376.8	107.57	1.8235	1.385
	18.00	1176.5	376.6	107.58	1.7778	1.384
	19.00	1177.1	377.2	107.59	1.7368	1.386
	20.00	1177.2	377.3	107.57	1.7000	1.386
	21.00	1177.0	377.1	107.55	1.6667	1.385
	22.00	1177.2	377.3	107.52	1.6364	1.386
	23.00	1177.3	377.4	107.49	1.6087	1.386
	24.00	1177.4	377.5	107.44	1.5833	1.386
	25.00	1178.0	378.1	107.37	1.5600	1.388
	26.00	1178.1	378.2	107.35	1.5385	1.388
	27.00	1177.8	377.9	107.32	1.5185	1.387
	28.00	1178.0	378.1	107.31	1.5000	1.388
	29.00	1178.5	378.6	107.30	1.4828	1.389
	30.00	1178.2	378.3	107.30	1.4667	1.388
	31.00	1178.3	378.4	107.28	1.4516	1.388
***** End Shut-in 1	32.00	1178.3	378.4	107.23	1.4375	1.388
***** Start Flow 2	0.00	759.7	0.0	106.73		
	1.00	774.9	15.2	106.02		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: #8653 Liboc Inc. Herl Trust #2 DST #1

DATE: 11/08/95

TIME: 09:51:46

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	2.00	776.2	16.4	105.42		
	3.00	793.4	33.7	104.89		
	4.00	811.5	51.8	104.51		
	5.00	828.6	68.9	104.23		
	6.00	842.2	82.5	104.03		
	7.00	850.5	90.8	103.89		
	8.00	856.3	96.6	103.79		
	9.00	857.2	97.5	103.68		
	10.00	857.6	97.9	103.64		
	11.00	861.1	101.4	103.62		
	12.00	862.0	102.3	103.62		
	13.00	860.7	101.0	103.60		
	14.00	859.9	100.2	103.61		
***** End Flow 2	15.00	864.2	104.5	103.61		
***** Start Shutin 2	0.00	864.2	0.0	103.61	0.0000	0.747
	1.00	1141.3	277.1	103.63	30.0000	1.303
	2.00	1160.7	296.5	103.90	15.5000	1.347
	3.00	1163.8	299.6	104.46	10.6667	1.354
	4.00	1165.6	301.4	105.01	8.2500	1.359
	5.00	1166.8	302.6	105.49	6.8000	1.362
	6.00	1167.8	303.6	105.91	5.8333	1.364
	7.00	1168.5	304.3	106.24	5.1429	1.365
	8.00	1168.9	304.7	106.51	4.6250	1.366
	9.00	1169.8	305.6	106.75	4.2222	1.368
	10.00	1169.9	305.7	106.96	3.9000	1.369
	11.00	1170.3	306.1	107.13	3.6364	1.370
	12.00	1171.1	306.9	107.28	3.4167	1.372
	13.00	1171.5	307.3	107.31	3.2308	1.372
	14.00	1171.8	307.6	107.34	3.0714	1.373
	15.00	1171.7	307.5	107.44	2.9333	1.373
	16.00	1172.5	308.3	107.52	2.8125	1.375
	17.00	1172.7	308.5	107.56	2.7059	1.375
	18.00	1172.5	308.4	107.58	2.6111	1.375
	19.00	1173.2	309.0	107.60	2.5263	1.376
	20.00	1173.5	309.3	107.59	2.4500	1.377
	21.00	1173.2	309.0	107.58	2.3810	1.376
	22.00	1173.9	309.7	107.58	2.3182	1.378
	23.00	1173.6	309.4	107.57	2.2609	1.377
	24.00	1173.8	309.6	107.57	2.2083	1.378
	25.00	1174.6	310.4	107.56	2.1600	1.380
	26.00	1174.2	310.0	107.53	2.1154	1.379
	27.00	1174.4	310.2	107.50	2.0741	1.379
	28.00	1174.6	310.4	107.48	2.0357	1.380
	29.00	1174.7	310.5	107.45	2.0000	1.380
	30.00	1175.3	311.1	107.41	1.9667	1.381
	31.00	1175.4	311.2	107.35	1.9355	1.382
	32.00	1175.6	311.4	107.35	1.9062	1.382
	33.00	1175.7	311.5	107.32	1.8788	1.382
	34.00	1176.0	311.8	107.31	1.8529	1.383
	35.00	1176.1	311.9	107.30	1.8286	1.383
	36.00	1175.8	311.6	107.30	1.8056	1.383

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

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DATE: 11/08/95

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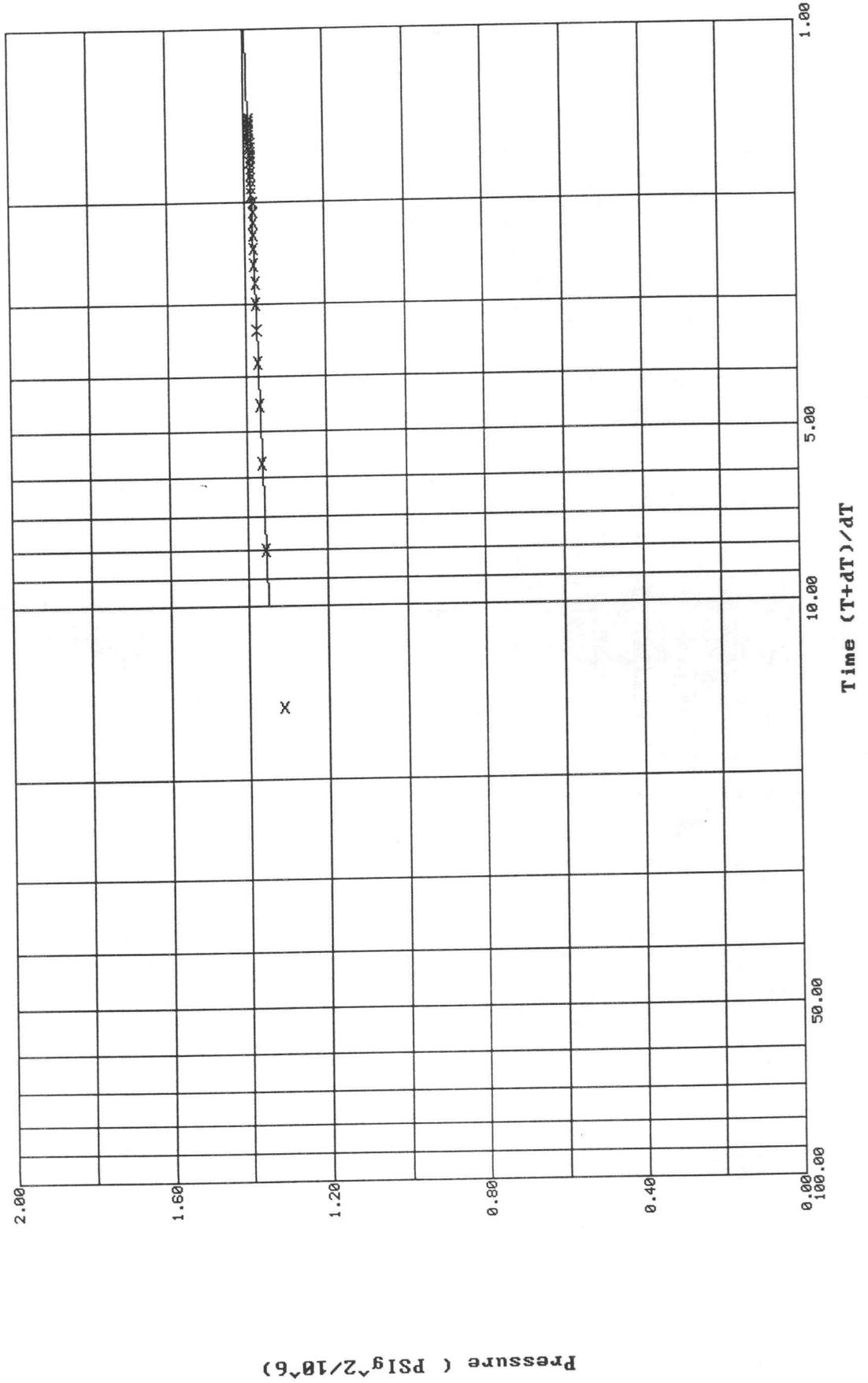
	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
	37.00	1176.3	312.1	107.30	1.7838	1.384
	38.00	1176.0	311.8	107.29	1.7632	1.383
	39.00	1176.6	312.4	107.27	1.7436	1.384
	40.00	1176.7	312.5	107.24	1.7250	1.385
	41.00	1176.8	312.6	107.22	1.7073	1.385
	42.00	1176.5	312.3	107.19	1.6905	1.384
	43.00	1177.1	312.9	107.14	1.6744	1.386
	44.00	1177.2	313.0	107.11	1.6591	1.386
	45.00	1177.2	313.1	107.08	1.6444	1.386
***** End Shut-in 2	46.00	1177.3	313.1	107.06	1.6304	1.386
***** Final Hydro.	236.00	1701.7	0.0	107.71		

P² Horner Plot: shut-in #1

#8653 Liboc Inc. Herl Trust #2 DST #1

Slope: 0.0467 $\text{PSig}^2/10^6/\text{cycle}$

Ext. Pressure: 1181.5580 PSig

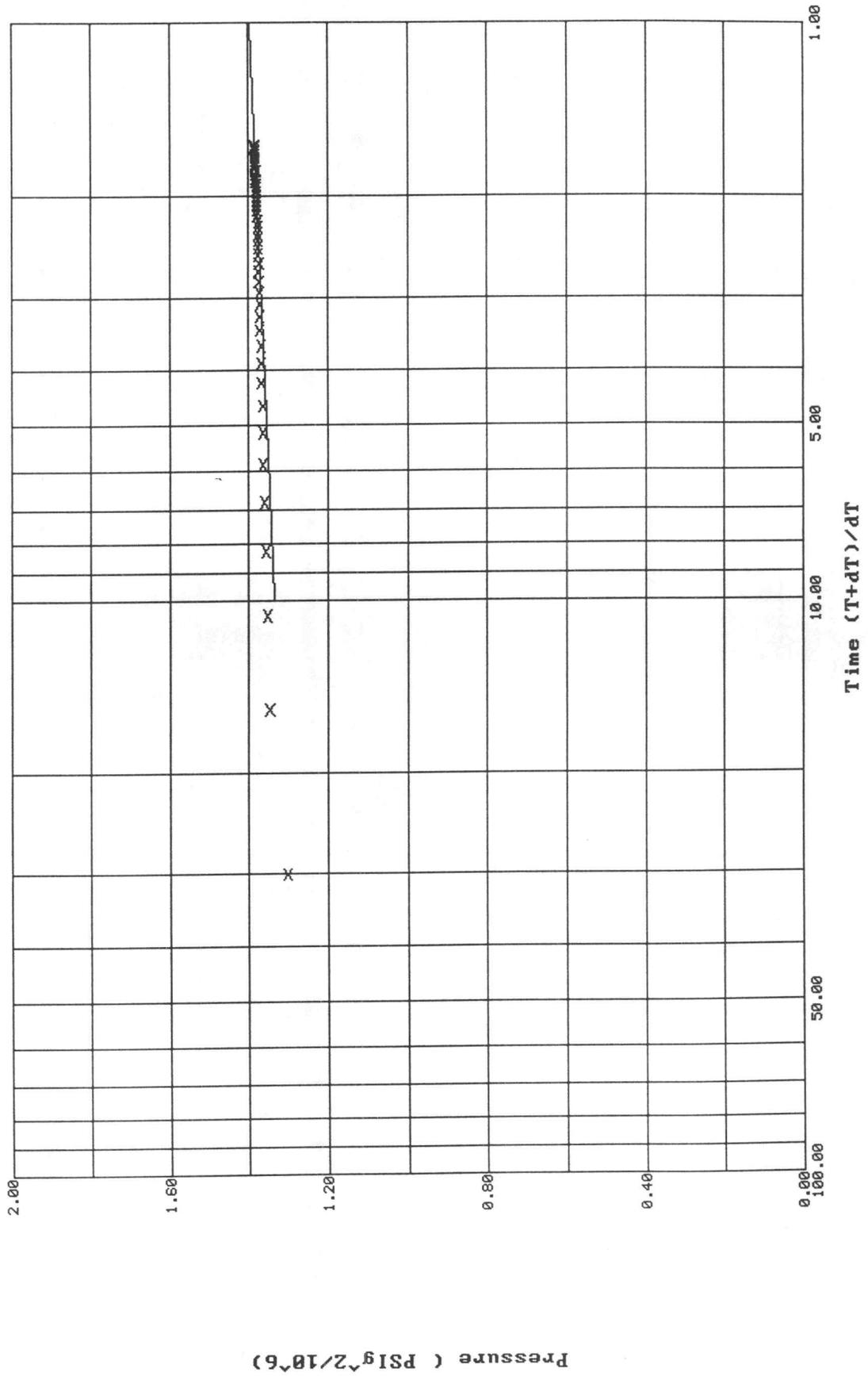


P² Horner Plot: shut-in #2

#8653 Liboc Inc. Herl Trust #2 DST #1

Slope: 0.0630 $\text{PSig}^2/10^6/\text{cycle}$

Ext. Pressure: 1182.9597 PSig



GAS RECOVERY

COMPANY: Liboc Inc.

DATE: 11-08-95

WELL NAME: Herl Trust #2

KB Elev: 1942.00 ft TICKET #8653 DST #1

WELL LOCATION: 3-16S-18W, Rush Cty KS

GR Elev: 1933.00 ft FORMATION: Penn Sand

INTERVAL Fr.: 3436.00 To 3496.00 T.D.: 3496.00 ft TEST TYPE: CONVENTIONAL

GAS RECOVERY MEASURED WITH Merla

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	1.50	18	0	1824000.0
8	1.50	25	0	2258000.0
15	1.50	40	0	3155000.0

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	1.50	26	0	2319000.0
10	1.50	48	0	3633000.0
15	1.50	48	0	3633000.0

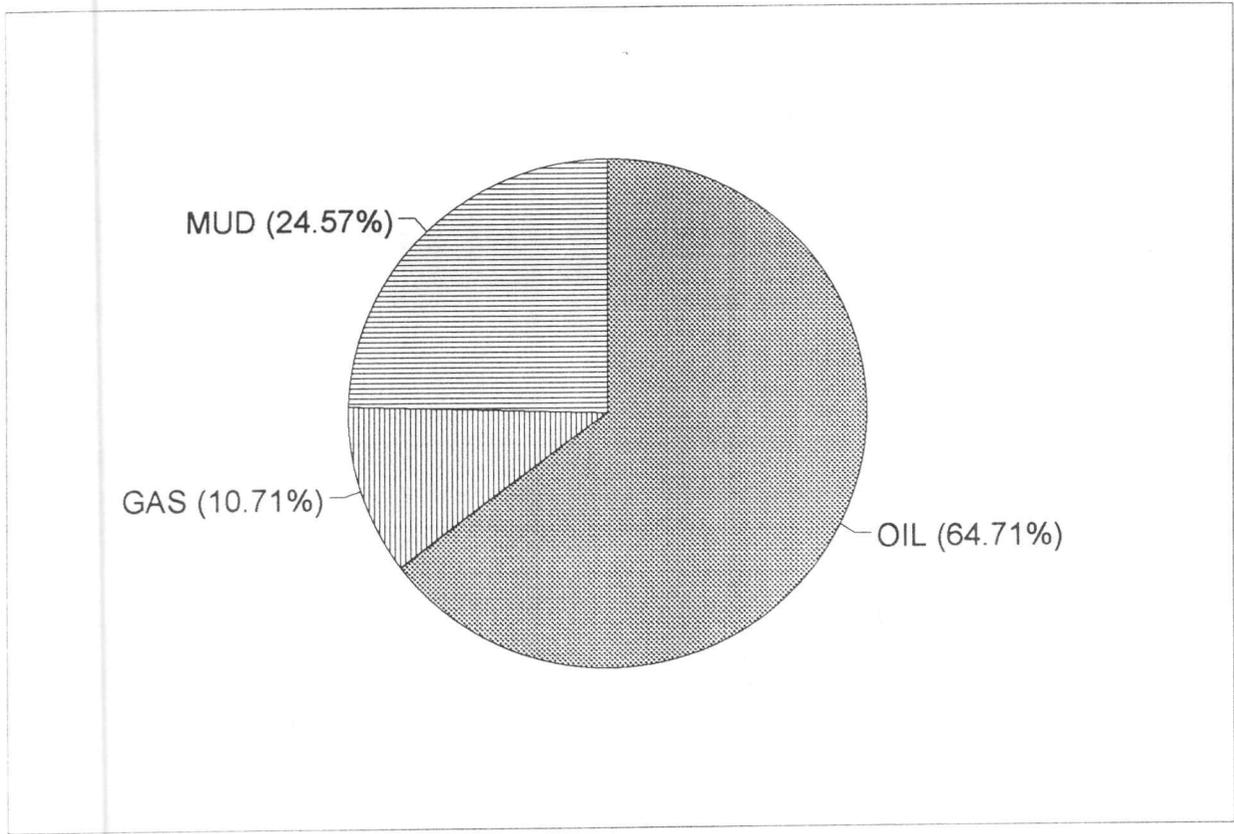
CALCULATED RECOVERY ANALYSIS - DRILL PIPE

DST # 1

TICKET # 8653

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
1	135	5	6.75	75	101.25		0	20	27
2	40	30	12	30	12		0	40	16
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
TOTAL	175	10.71	18.75	64.71	113.25	0	0	24.57	43

		HRS OPE	BBL/DAY
BBL OIL=	1.610415	*	0.50 77.30
BBL WATER=	0	*	0.00
BBL MUD=	0.61146		
BBL GAS	0.266625		



*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Herl Trust #2

LOCATION : 3-16S-18W, Rush Cty KS

TICKET No. 8653 D.S.T. No. 1 DATE 11-08-95

TOTAL TOOL TO BOTTOM OF TOP PACKERS 20

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 29

TOTAL TOOL 49

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single 1 Total 31

TOTAL ASSEMBLY 80

D.C. ABOVE TOOLS.Stands Single Total

D.P. ABOVE TOOLS.Stands55 Single 1 Total 3436

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3516

TOTAL DEPTH 3496

TOTAL DRILL PIPE ABOVE K.B. 20

REMARKS:

P.O. SUB	
C.O. SUB changeover sub	3416
S.I. TOOL Shutin tool	3422
HMV Hydraulic tool	3427
JARS n/a	
SAFETY JOINT n/a	
PACKER Top Packer	3431
PACKER Bottom Packer	3436
DEPTH 3436	
STUBB 1'	3437
ANCHOR	
3' perf	3440
Alpine recorder	3440
1 joint of drill pipe & subs to	3473
T.C. DEPTH	
AK-1 recorder	3473
5' perf	3478
5' perf	3483
5' perf	3488
5' perf	3493
BULLNOSE 3' bullplug	
T.D.	3496