

WELL NAME: Mary J. Betts #1-31
COMPANY: Zinke & Trumbo Inc
LOCATION: Sec. 31 Twp. 31S Rge. 37W
Stevens County Kansas
DATE: 1-7-97

*** TOOL DIAGRAM *** CONV.

WELL NAME: Mary J. Betts #1-31

LOCATION : 31-31s-37w Stevens, KS

TICKET No. 9072 D.S.T. No. 1 DATE 1/3/97

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30 ft.

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 23 ft.

TOTAL TOOL 53 ft.

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands1 Single Total 59 ft.

S.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY 112 ft.

D.C. ABOVE TOOLS.Stands8 Single Total 489 ft.

S.P. ABOVE TOOLS.Stands87 Single Total 5403 ft.

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 6004 ft.

TOTAL DEPTH 5980 ft.

TOTAL DRILL PIPE ABOVE K.B. 24 ft.

REMARKS:

SAMPLER

1000 ml mud

100 PSI

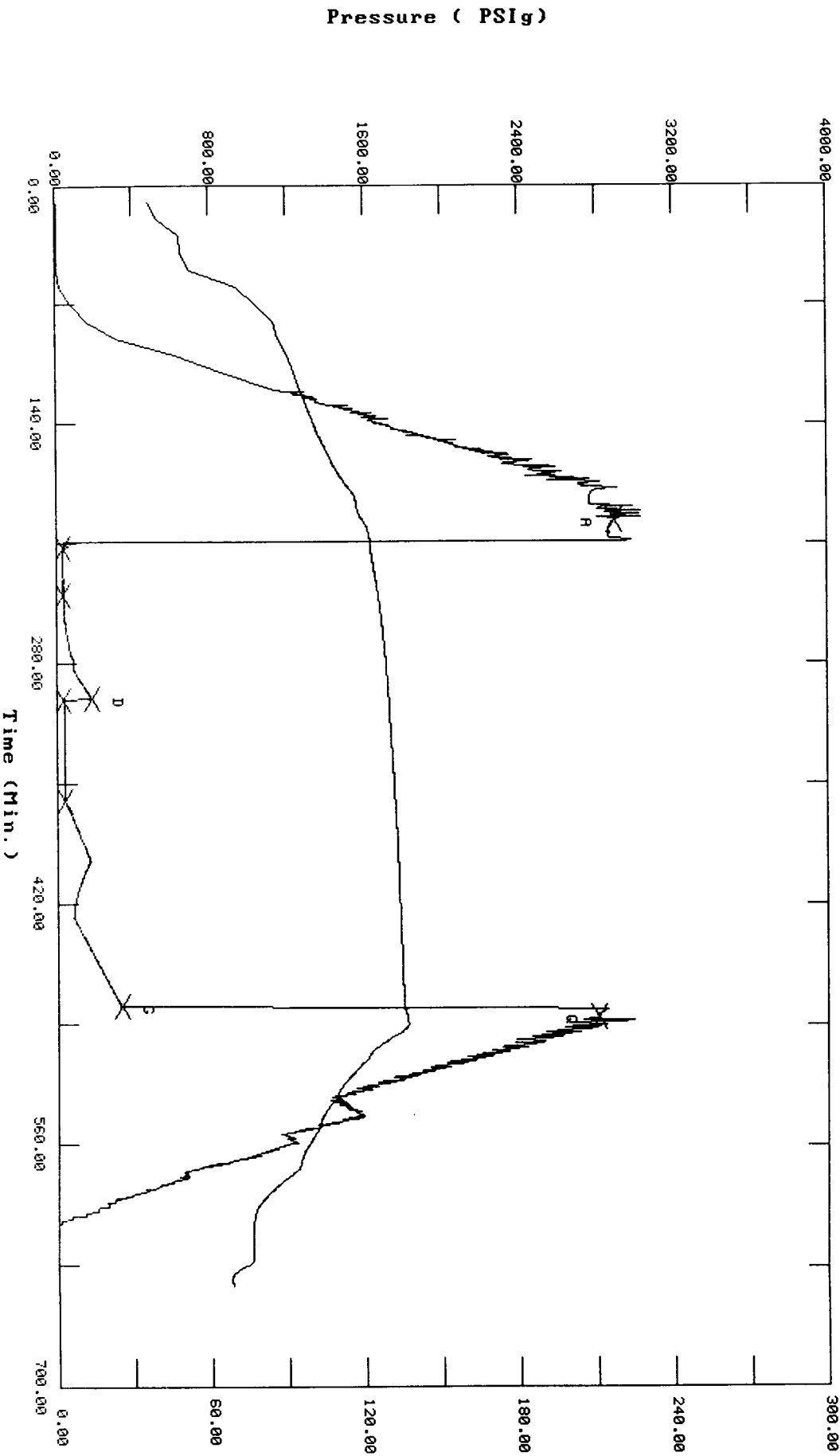
P.O. SUB	
C.O. SUB	5868
S.I. TOOL	5874
Sampler	5877
HMV Hyd. Tool	5882
JARS	5887
SAFETY JOINT	5889
PACKER	5893
PACKER	5898
DEPTH 5898	
STUBB 1 ft.	5899
ANCHOR Perf 1 ft.	5900
Perf 5 ft.	5905
Alpine Rec. @	5906
Perf 5 ft.	5910
T.C.	
DEPTH	
Perf 4 ft.	5914
C.O. sub 1 ft.	5915
D.C. 59 ft.	5974
C.O. sub 1 ft.	5975
AK-1 Rec. @	5977
BULLNOSE Bull Plug 5 ft.	5980
T.D.	

9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

TEST HISTORY

Flag Points

Flag Points	Time (Min.)	Pressure (PSig)
A:	0.00	2895.42
B:	0.00	29.37
C:	27.00	32.30
D:	61.00	179.51
E:	0.00	30.37
F:	58.50	39.61
G:	119.50	330.83
H:	0.00	2805.95



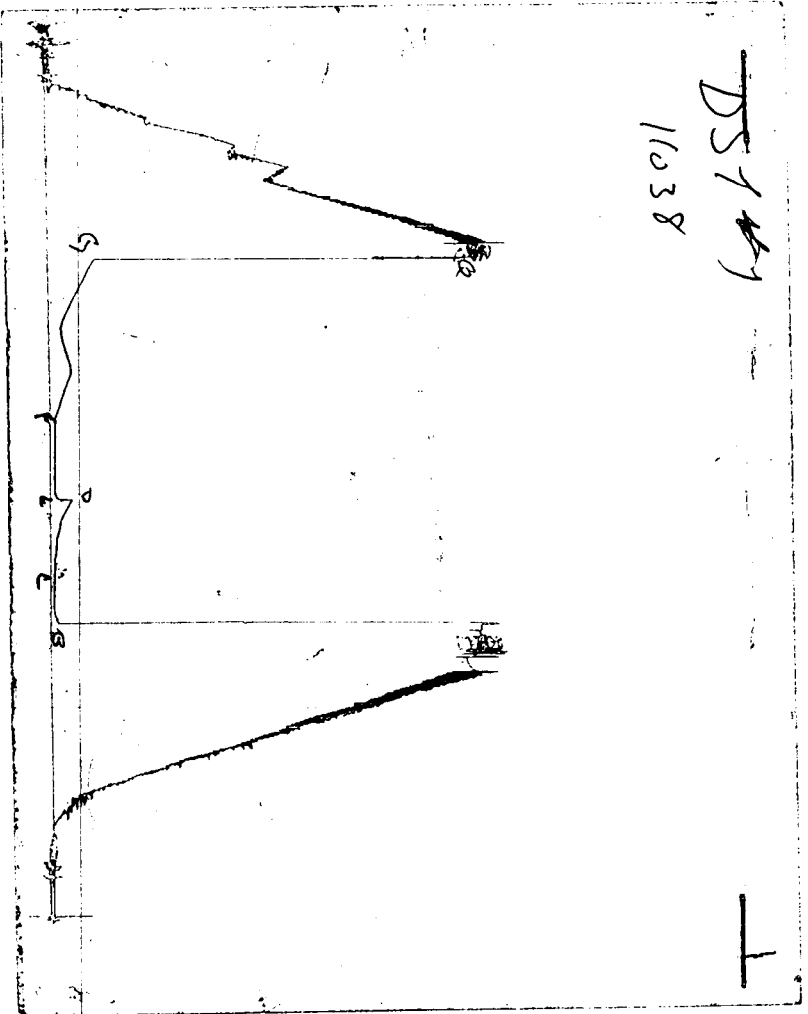
Temperature (DEG F)

Pressure (PSig)

Time (Min.)

CHART PAGE

DS 1 ~~45~~
11038



This is a photocopy of the actual AK-1 recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.
 DATE: 01/03/97 TIME: 03:23:19

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
***** Initial Hydro.	197.00	2895.4	0.0	119.56		
***** Start Flow 1	0.00	29.4	0.0	122.37		
	0.50	29.5	0.2	122.40		
	1.00	29.5	0.1	122.44		
	1.50	28.5	-0.8	122.48		
	2.00	29.4	0.0	122.52		
	2.50	29.6	0.3	122.57		
	3.00	32.0	2.6	122.62		
	3.50	30.0	0.7	122.65		
	4.00	30.6	1.3	122.72		
	4.50	30.9	1.5	122.77		
	5.00	31.5	2.1	122.82		
	5.50	31.0	1.6	122.87		
	6.00	31.1	1.8	122.93		
	6.50	30.4	1.0	122.98		
	7.00	30.5	1.1	123.04		
	7.50	30.5	1.2	123.09		
	8.00	30.5	1.1	123.15		
	8.50	31.0	1.6	123.21		
	9.00	30.7	1.3	123.26		
	9.50	31.5	2.2	123.32		
	10.00	31.8	2.4	123.37		
	10.50	31.3	1.9	123.43		
	11.00	30.8	1.4	123.48		
	11.50	30.7	1.3	123.54		
	12.00	32.6	3.3	123.60		
	12.50	32.1	2.8	123.66		
	13.00	31.4	2.0	123.71		
	13.50	31.5	2.2	123.77		
	14.00	31.7	2.3	123.83		
	14.50	32.6	3.2	123.88		
	15.00	32.3	2.9	123.93		
	15.50	31.4	2.0	123.99		
	16.00	31.1	1.8	124.05		
	16.50	32.6	3.3	124.11		
	17.00	31.8	2.4	124.16		
	17.50	33.2	3.9	124.21		
	18.00	31.8	2.4	124.27		
	18.50	33.2	3.9	124.33		
	19.00	31.7	2.3	124.38		
	19.50	32.9	3.5	124.43		
	20.00	31.5	2.2	124.49		
	20.50	33.0	3.6	124.54		
	21.00	31.5	2.1	124.60		
	21.50	32.7	3.4	124.64		
	22.00	33.4	4.0	124.70		
	22.50	32.6	3.3	124.76		
	23.00	33.9	4.5	124.80		
	23.50	32.6	3.3	124.86		
	24.00	33.8	4.4	124.91		
	24.50	32.5	3.1	124.96		

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97

TIME: 03:23:19

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
	25.00	33.2	3.9	125.01		
	25.50	33.0	3.6	125.06		
	26.00	33.9	4.5	125.11		
	26.50	34.7	5.4	125.16		
***** End Flow 1	27.00	32.3	2.9	125.22		
***** Start Shutin 1	0.00	32.3	0.0	125.22	0.0000	0.001
	0.50	35.3	3.0	125.26	55.0000	0.001
	1.00	36.8	4.5	125.31	28.0000	0.001
	1.50	36.8	4.4	125.36	19.0000	0.001
	2.00	36.4	4.1	125.41	14.5000	0.001
	2.50	36.3	4.0	125.45	11.8000	0.001
	3.00	36.2	3.9	125.50	10.0000	0.001
	3.50	36.2	3.9	125.55	8.7143	0.001
	4.00	36.2	3.9	125.60	7.7500	0.001
	4.50	36.2	3.9	125.65	7.0000	0.001
	5.00	36.3	4.0	125.69	6.4000	0.001
	5.50	36.3	4.0	125.74	5.9091	0.001
	6.00	36.4	4.1	125.79	5.5000	0.001
	6.50	36.4	4.1	125.82	5.1538	0.001
	7.00	36.6	4.3	125.87	4.8571	0.001
	7.50	36.5	4.2	125.92	4.6000	0.001
	8.00	36.5	4.2	125.96	4.3750	0.001
	8.50	36.5	4.2	126.00	4.1765	0.001
	9.00	36.7	4.4	126.04	4.0000	0.001
	9.50	36.7	4.4	126.09	3.8421	0.001
	10.00	36.7	4.4	126.13	3.7000	0.001
	10.50	36.7	4.4	126.17	3.5714	0.001
	11.00	36.8	4.5	126.21	3.4545	0.001
	11.50	37.0	4.7	126.26	3.3478	0.001
	12.00	37.0	4.7	126.30	3.2500	0.001
	12.50	37.0	4.7	126.35	3.1600	0.001
	13.00	37.0	4.7	126.39	3.0769	0.001
	13.50	37.0	4.7	126.42	3.0000	0.001
	14.00	37.0	4.7	126.47	2.9286	0.001
	14.50	37.5	5.2	126.50	2.8621	0.001
	15.00	38.4	6.1	126.54	2.8000	0.001
	15.50	39.3	7.0	126.58	2.7419	0.002
	16.00	39.9	7.6	126.63	2.6875	0.002
	16.50	41.7	9.4	126.66	2.6364	0.002
	17.00	42.5	10.2	126.70	2.5882	0.002
	17.50	43.4	11.1	126.74	2.5429	0.002
	18.00	44.0	11.7	126.78	2.5000	0.002
	18.50	44.5	12.2	126.81	2.4595	0.002
	19.00	44.7	12.4	126.85	2.4211	0.002
	19.50	45.1	12.8	126.89	2.3846	0.002
	20.00	45.6	13.3	126.93	2.3500	0.002
	20.50	46.4	14.1	126.96	2.3171	0.002
	21.00	47.0	14.7	126.99	2.2857	0.002
	21.50	47.2	14.9	127.03	2.2558	0.002
	22.00	47.4	15.1	127.07	2.2273	0.002
	22.50	48.4	16.1	127.10	2.2000	0.002

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97 TIME: 03:23:19

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
23.00	49.4	17.1	127.14	2.1739	0.002
23.50	49.9	17.6	127.17	2.1489	0.002
24.00	50.3	18.0	127.21	2.1250	0.003
24.50	50.9	18.5	127.24	2.1020	0.003
25.00	52.7	20.4	127.28	2.0800	0.003
25.50	53.6	21.3	127.31	2.0588	0.003
26.00	54.5	22.2	127.34	2.0385	0.003
26.50	55.4	23.1	127.38	2.0189	0.003
27.00	56.1	23.8	127.41	2.0000	0.003
27.50	56.9	24.6	127.45	1.9818	0.003
28.00	57.5	25.2	127.48	1.9643	0.003
28.50	58.1	25.8	127.51	1.9474	0.003
29.00	58.6	26.3	127.54	1.9310	0.003
29.50	59.0	26.7	127.58	1.9153	0.003
30.00	59.6	27.3	127.60	1.9000	0.004
30.50	60.1	27.8	127.64	1.8852	0.004
31.00	62.2	29.9	127.68	1.8710	0.004
31.50	63.4	31.1	127.70	1.8571	0.004
32.00	64.1	31.8	127.74	1.8438	0.004
32.50	64.7	32.4	127.76	1.8308	0.004
33.00	66.5	34.2	127.80	1.8182	0.004
33.50	68.8	36.5	127.83	1.8060	0.005
34.00	70.4	38.1	127.86	1.7941	0.005
34.50	71.7	39.4	127.89	1.7826	0.005
35.00	72.3	39.9	127.92	1.7714	0.005
35.50	72.8	40.5	127.95	1.7606	0.005
36.00	73.3	41.0	127.98	1.7500	0.005
36.50	73.7	41.4	128.01	1.7397	0.005
37.00	76.9	44.6	128.04	1.7297	0.006
37.50	79.6	47.3	128.08	1.7200	0.006
38.00	81.4	49.1	128.10	1.7105	0.007
38.50	84.4	52.1	128.13	1.7013	0.007
39.00	86.4	54.0	128.16	1.6923	0.007
39.50	86.8	54.5	128.18	1.6835	0.008
40.00	86.5	54.2	128.22	1.6750	0.007
40.50	86.5	54.2	128.24	1.6667	0.007
41.00	86.4	54.0	128.27	1.6585	0.007
41.50	86.1	53.8	128.30	1.6506	0.007
42.00	86.4	54.1	128.33	1.6429	0.007
42.50	86.4	54.1	128.35	1.6353	0.007
43.00	86.3	54.0	128.39	1.6279	0.007
43.50	86.4	54.1	128.41	1.6207	0.007
44.00	86.9	54.6	128.43	1.6136	0.008
44.50	88.4	56.1	128.46	1.6067	0.008
45.00	89.8	57.5	128.49	1.6000	0.008
45.50	92.3	60.0	128.52	1.5934	0.009
46.00	95.4	63.1	128.54	1.5870	0.009
46.50	98.4	66.1	128.57	1.5806	0.01
47.00	101.2	68.9	128.60	1.5745	0.010
47.50	104.1	71.8	128.61	1.5684	0.011
48.00	106.2	73.9	128.65	1.5625	0.011

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97 TIME: 03:23:19

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
	48.50	109.2	76.9	128.67	1.5567	0.012
	49.00	112.0	79.7	128.69	1.5510	0.013
	49.50	115.1	82.8	128.72	1.5455	0.013
	50.00	117.8	85.5	128.74	1.5400	0.014
	50.50	120.7	88.4	128.77	1.5347	0.015
	51.00	123.5	91.2	128.79	1.5294	0.015
	51.50	126.5	94.2	128.82	1.5243	0.016
	52.00	129.2	96.9	128.84	1.5192	0.017
	52.50	132.1	99.8	128.87	1.5143	0.017
	53.00	134.8	102.5	128.89	1.5094	0.018
	53.50	137.6	105.3	128.91	1.5047	0.019
	54.00	140.4	108.1	128.94	1.5000	0.020
	54.50	143.3	111.0	128.97	1.4954	0.021
	55.00	146.0	113.7	128.99	1.4909	0.021
	55.50	148.9	116.6	129.02	1.4865	0.022
	56.00	151.6	119.3	129.04	1.4821	0.023
	56.50	154.4	122.1	129.06	1.4779	0.024
	57.00	157.4	125.1	129.08	1.4737	0.025
	57.50	160.0	127.7	129.11	1.4696	0.026
	58.00	162.8	130.5	129.13	1.4655	0.027
	58.50	165.6	133.3	129.16	1.4615	0.027
	59.00	168.4	136.0	129.18	1.4576	0.028
	59.50	171.0	138.7	129.20	1.4538	0.029
	60.00	173.7	141.4	129.23	1.4500	0.030
	60.50	176.6	144.3	129.24	1.4463	0.031
***** End Shut-in 1	61.00	179.5	147.2	129.27	1.4426	0.032
***** Start Flow 2	0.00	30.4	0.0	129.29		
	0.50	35.5	5.1	129.31		
	1.00	33.6	3.2	129.32		
	1.50	34.4	4.0	129.35		
	2.00	34.5	4.1	129.36		
	2.50	34.8	4.4	129.39		
	3.00	35.1	4.7	129.40		
	3.50	35.3	5.0	129.42		
	4.00	35.1	4.7	129.44		
	4.50	34.4	4.0	129.45		
	5.00	35.0	4.6	129.47		
	5.50	35.1	4.7	129.49		
	6.00	35.6	5.2	129.51		
	6.50	36.2	5.9	129.53		
	7.00	36.3	6.0	129.55		
	7.50	36.8	6.5	129.57		
	8.00	37.1	6.7	129.59		
	8.50	35.2	4.8	129.61		
	9.00	35.8	5.5	129.63		
	9.50	36.8	6.5	129.65		
	10.00	36.8	6.4	129.68		
	10.50	36.4	6.0	129.69		
	11.00	37.3	7.0	129.71		
	11.50	36.2	5.9	129.73		
	12.00	37.3	7.0	129.75		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97

TIME: 03:23:19

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
12.50	35.5	5.1	129.77		
13.00	36.8	6.4	129.79		
13.50	37.6	7.2	129.81		
14.00	36.1	5.7	129.83		
14.50	37.5	7.1	129.86		
15.00	35.9	5.5	129.87		
15.50	37.1	6.7	129.89		
16.00	37.8	7.4	129.91		
16.50	36.1	5.7	129.93		
17.00	37.2	6.8	129.95		
17.50	38.3	8.0	129.98		
18.00	36.0	5.6	130.00		
18.50	36.3	6.0	130.02		
19.00	36.3	6.0	130.03		
19.50	36.2	5.9	130.06		
20.00	38.2	7.8	130.08		
20.50	37.7	7.3	130.10		
21.00	36.4	6.0	130.13		
21.50	39.3	8.9	130.15		
22.00	36.8	6.4	130.17		
22.50	37.8	7.5	130.19		
23.00	37.6	7.2	130.21		
23.50	36.5	6.1	130.23		
24.00	38.7	8.3	130.26		
24.50	38.1	7.7	130.27		
25.00	36.0	5.6	130.29		
25.50	39.3	8.9	130.32		
26.00	35.9	5.5	130.34		
26.50	38.7	8.3	130.36		
27.00	35.7	5.4	130.38		
27.50	39.0	8.6	130.40		
28.00	36.2	5.8	130.42		
28.50	38.7	8.3	130.44		
29.00	38.1	7.7	130.47		
29.50	36.2	5.8	130.49		
30.00	39.1	8.7	130.51		
30.50	36.6	6.2	130.54		
31.00	35.8	5.5	130.56		
31.50	38.9	8.6	130.57		
32.00	36.5	6.1	130.59		
32.50	38.8	8.4	130.61		
33.00	38.2	7.8	130.64		
33.50	38.2	7.8	130.66		
34.00	37.8	7.5	130.68		
34.50	37.8	7.5	130.70		
35.00	40.1	9.7	130.72		
35.50	36.9	6.5	130.74		
36.00	37.4	7.0	130.77		
36.50	40.0	9.7	130.79		
37.00	36.8	6.5	130.81		
37.50	37.0	6.6	130.83		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97 TIME: 03:23:19

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
	38.00	39.8	9.4	130.85		
	38.50	36.6	6.2	130.87		
	39.00	38.3	8.0	130.89		
	39.50	37.7	7.3	130.91		
	40.00	38.3	7.9	130.93		
	40.50	38.4	8.1	130.95		
	41.00	37.4	7.0	130.97		
	41.50	37.7	7.3	130.99		
	42.00	37.0	6.6	131.01		
	42.50	36.7	6.3	131.03		
	43.00	39.6	9.2	131.05		
	43.50	36.4	6.0	131.07		
	44.00	39.5	9.1	131.10		
	44.50	38.8	8.5	131.12		
	45.00	38.5	8.1	131.14		
	45.50	38.3	8.0	131.15		
	46.00	38.0	7.6	131.17		
	46.50	37.8	7.4	131.19		
	47.00	40.0	9.7	131.21		
	47.50	37.2	6.8	131.24		
	48.00	37.0	6.6	131.25		
	48.50	39.9	9.6	131.28		
	49.00	39.4	9.0	131.29		
	49.50	39.3	8.9	131.31		
	50.00	38.8	8.5	131.33		
	50.50	39.1	8.7	131.35		
	51.00	37.8	7.4	131.36		
	51.50	38.6	8.2	131.39		
	52.00	37.9	7.6	131.41		
	52.50	37.5	7.1	131.43		
	53.00	39.4	9.0	131.44		
	53.50	37.2	6.8	131.47		
	54.00	39.4	9.1	131.48		
	54.50	38.4	8.1	131.50		
	55.00	38.4	8.1	131.52		
	55.50	38.7	8.3	131.54		
	56.00	37.8	7.5	131.56		
	56.50	37.8	7.5	131.58		
	57.00	37.7	7.3	131.60		
	57.50	40.4	10.1	131.61		
	58.00	37.3	6.9	131.63		
***** End Flow 2	58.50	39.6	9.2	131.66		
***** Start Shutin 2	0.00	39.6	0.0	131.66	0.0000	0.002
	0.50	39.2	-0.4	131.67	172.0000	0.002
	1.00	41.5	1.8	131.69	86.5000	0.002
	1.50	43.5	3.9	131.71	58.0000	0.002
	2.00	45.6	6.0	131.73	43.7500	0.002
	2.50	47.9	8.3	131.74	35.2000	0.002
	3.00	49.9	10.3	131.76	29.5000	0.002
	3.50	52.0	12.4	131.78	25.4286	0.003
	4.00	54.0	14.4	131.80	22.3750	0.003

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97

TIME: 03:23:19

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
4.50	56.1	16.4	131.83	20.0000	0.003
5.00	58.1	18.5	131.83	18.1000	0.003
5.50	60.1	20.5	131.86	16.5455	0.004
6.00	62.1	22.5	131.87	15.2500	0.004
6.50	64.1	24.5	131.89	14.1538	0.004
7.00	66.0	26.4	131.91	13.2143	0.004
7.50	67.9	28.3	131.93	12.4000	0.005
8.00	69.9	30.3	131.94	11.6875	0.005
8.50	71.7	32.1	131.96	11.0588	0.005
9.00	73.7	34.1	131.99	10.5000	0.005
9.50	75.6	36.0	132.00	10.0000	0.006
10.00	77.5	37.9	132.02	9.5500	0.006
10.50	79.4	39.8	132.03	9.1429	0.006
11.00	81.2	41.6	132.05	8.7727	0.007
11.50	83.2	43.6	132.07	8.4348	0.007
12.00	85.0	45.4	132.08	8.1250	0.007
12.50	86.9	47.3	132.11	7.8400	0.008
13.00	88.8	49.2	132.13	7.5769	0.008
13.50	90.7	51.1	132.14	7.3333	0.008
14.00	92.6	53.0	132.16	7.1071	0.009
14.50	94.4	54.8	132.18	6.8966	0.009
15.00	96.4	56.8	132.19	6.7000	0.009
15.50	98.3	58.7	132.21	6.5161	0.01
16.00	100.1	60.5	132.23	6.3438	0.010
16.50	102.0	62.4	132.24	6.1818	0.010
17.00	103.8	64.2	132.26	6.0294	0.011
17.50	105.7	66.1	132.28	5.8857	0.011
18.00	107.5	67.9	132.29	5.7500	0.012
18.50	109.5	69.9	132.31	5.6216	0.012
19.00	111.3	71.7	132.33	5.5000	0.012
19.50	113.3	73.7	132.34	5.3846	0.013
20.00	115.1	75.5	132.36	5.2750	0.013
20.50	117.1	77.5	132.37	5.1707	0.014
21.00	119.0	79.4	132.39	5.0714	0.014
21.50	120.8	81.2	132.41	4.9767	0.015
22.00	122.7	83.1	132.42	4.8864	0.015
22.50	124.6	85.0	132.43	4.8000	0.016
23.00	126.4	86.8	132.45	4.7174	0.016
23.50	128.3	88.7	132.47	4.6383	0.016
24.00	130.2	90.6	132.48	4.5625	0.017
24.50	132.0	92.4	132.50	4.4898	0.017
25.00	133.9	94.3	132.53	4.4200	0.018
25.50	135.8	96.2	132.54	4.3529	0.018
26.00	137.6	98.0	132.55	4.2885	0.019
26.50	139.6	100	132.56	4.2264	0.019
27.00	141.4	101.8	132.59	4.1667	0.020
27.50	143.3	103.7	132.60	4.1091	0.021
28.00	145.1	105.5	132.62	4.0536	0.021
28.50	147.0	107.4	132.63	4.0000	0.022
29.00	148.9	109.3	132.64	3.9483	0.022
29.50	150.7	111.1	132.67	3.8983	0.023

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97

TIME: 03:23:19

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
30.00	152.7	113.1	132.68	3.8500	0.023
30.50	154.6	115.0	132.69	3.8033	0.024
31.00	156.5	116.9	132.71	3.7581	0.024
31.50	158.3	118.7	132.72	3.7143	0.025
32.00	160.2	120.6	132.73	3.6719	0.026
32.50	162.0	122.4	132.75	3.6308	0.026
33.00	164.0	124.4	132.76	3.5909	0.027
33.50	165.9	126.3	132.78	3.5522	0.028
34.00	167.8	128.2	132.79	3.5147	0.028
34.50	169.6	130.0	132.81	3.4783	0.029
35.00	167.9	128.3	132.82	3.4429	0.028
35.50	166.3	126.6	132.83	3.4085	0.028
36.00	164.5	124.9	132.85	3.3750	0.027
36.50	162.7	123.1	132.85	3.3425	0.026
37.00	160.9	121.3	132.88	3.3108	0.026
37.50	158.5	118.9	132.90	3.2800	0.025
38.00	156.3	116.7	132.90	3.2500	0.024
38.50	153.8	114.2	132.92	3.2208	0.024
39.00	151.6	112.0	132.94	3.1923	0.023
39.50	148.9	109.3	132.95	3.1646	0.022
40.00	146.6	107.0	132.96	3.1375	0.021
40.50	144.4	104.8	132.97	3.1111	0.021
41.00	142.1	102.5	132.99	3.0854	0.020
41.50	139.9	100.3	133.00	3.0602	0.020
42.00	137.8	98.2	133.02	3.0357	0.019
42.50	135.5	95.9	133.02	3.0118	0.018
43.00	133.0	93.4	133.04	2.9884	0.018
43.50	131.6	92.0	133.05	2.9655	0.017
44.00	130.4	90.8	133.06	2.9432	0.017
44.50	129.1	89.5	133.07	2.9213	0.017
45.00	127.7	88.1	133.09	2.9000	0.016
45.50	126.4	86.8	133.09	2.8791	0.016
46.00	125.0	85.4	133.12	2.8587	0.016
46.50	123.5	83.9	133.13	2.8387	0.015
47.00	122.0	82.4	133.14	2.8191	0.015
47.50	120.5	80.9	133.16	2.8000	0.015
48.00	119.0	79.4	133.16	2.7812	0.014
48.50	117.4	77.8	133.18	2.7629	0.014
49.00	115.6	76.0	133.18	2.7449	0.013
49.50	113.9	74.3	133.20	2.7273	0.013
50.00	112.0	72.4	133.21	2.7100	0.013
50.50	110.5	70.9	133.22	2.6931	0.012
51.00	108.8	69.2	133.23	2.6765	0.012
51.50	107.4	67.8	133.25	2.6602	0.012
52.00	105.9	66.3	133.26	2.6442	0.011
52.50	104.6	65.0	133.27	2.6286	0.011
53.00	103.2	63.6	133.28	2.6132	0.011
53.50	101.9	62.3	133.29	2.5981	0.010
54.00	100.7	61.1	133.31	2.5833	0.010
54.50	99.4	59.8	133.33	2.5688	0.01
55.00	98.3	58.7	133.33	2.5545	0.01

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97

TIME: 03:23:19

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
55.50	97.3	57.7	133.34	2.5405	0.009
56.00	96.2	56.6	133.36	2.5268	0.009
56.50	95.1	55.5	133.36	2.5133	0.009
57.00	94.2	54.6	133.38	2.5000	0.009
57.50	93.2	53.5	133.39	2.4870	0.009
58.00	92.4	52.8	133.40	2.4741	0.009
58.50	91.6	52.0	133.41	2.4615	0.008
59.00	90.7	51.1	133.43	2.4492	0.008
59.50	89.8	50.2	133.44	2.4370	0.008
60.00	89.0	49.4	133.45	2.4250	0.008
60.50	88.4	48.8	133.46	2.4132	0.008
61.00	87.8	48.2	133.47	2.4016	0.008
61.50	86.9	47.3	133.49	2.3902	0.008
62.00	86.3	46.7	133.51	2.3790	0.007
62.50	85.7	46.1	133.51	2.3680	0.007
63.00	85.1	45.5	133.52	2.3571	0.007
63.50	84.6	45.0	133.54	2.3465	0.007
64.00	84.1	44.5	133.55	2.3359	0.007
64.50	83.4	43.8	133.57	2.3256	0.007
65.00	83.0	43.4	133.57	2.3154	0.007
65.50	82.5	42.9	133.58	2.3053	0.007
66.00	82.0	42.4	133.60	2.2955	0.007
66.50	81.7	42.0	133.61	2.2857	0.007
67.00	81.3	41.7	133.62	2.2761	0.007
67.50	80.9	41.3	133.63	2.2667	0.007
68.00	81.5	41.9	133.65	2.2574	0.007
68.50	84.1	44.5	133.66	2.2482	0.007
69.00	86.7	47.1	133.67	2.2391	0.008
69.50	89.3	49.7	133.68	2.2302	0.008
70.00	91.8	52.2	133.70	2.2214	0.008
70.50	94.3	54.7	133.71	2.2128	0.009
71.00	96.8	57.2	133.72	2.2042	0.009
71.50	99.0	59.4	133.73	2.1958	0.01
72.00	101.4	61.8	133.74	2.1875	0.010
72.50	103.9	64.3	133.76	2.1793	0.011
73.00	106.4	66.8	133.78	2.1712	0.011
73.50	108.8	69.2	133.79	2.1633	0.012
74.00	111.1	71.5	133.80	2.1554	0.012
74.50	113.5	73.9	133.81	2.1477	0.013
75.00	116.0	76.4	133.83	2.1400	0.013
75.50	118.3	78.7	133.84	2.1325	0.014
76.00	120.8	81.2	133.85	2.1250	0.015
76.50	123.2	83.6	133.87	2.1176	0.015
77.00	125.5	85.9	133.87	2.1104	0.016
77.50	127.9	88.3	133.89	2.1032	0.016
78.00	130.3	90.7	133.91	2.0962	0.017
78.50	132.8	93.2	133.92	2.0892	0.018
79.00	135.1	95.5	133.93	2.0823	0.018
79.50	137.6	98.0	133.94	2.0755	0.019
80.00	140.0	100.4	133.96	2.0688	0.020
80.50	142.3	102.7	133.97	2.0621	0.020

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97 TIME: 03:23:19

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
81.00	144.9	105.2	133.98	2.0556	0.021
81.50	147.3	107.7	134.00	2.0491	0.022
82.00	149.6	110.0	134.01	2.0427	0.022
82.50	152.0	112.4	134.02	2.0364	0.023
83.00	154.4	114.8	134.04	2.0301	0.024
83.50	156.8	117.2	134.04	2.0240	0.025
84.00	159.3	119.7	134.06	2.0179	0.025
84.50	161.7	122.1	134.07	2.0118	0.026
85.00	164.2	124.5	134.09	2.0059	0.027
85.50	166.4	126.8	134.10	2.0000	0.028
86.00	168.9	129.3	134.11	1.9942	0.029
86.50	171.4	131.8	134.13	1.9884	0.029
87.00	172.5	132.9	134.15	1.9828	0.030
87.50	175.0	135.4	134.15	1.9771	0.031
88.00	177.4	137.8	134.17	1.9716	0.031
88.50	179.8	140.2	134.18	1.9661	0.032
89.00	182.3	142.7	134.20	1.9607	0.033
89.50	184.7	145.1	134.21	1.9553	0.034
90.00	187.2	147.5	134.22	1.9500	0.035
90.50	189.5	149.9	134.23	1.9448	0.036
91.00	191.9	152.3	134.25	1.9396	0.037
91.50	194.5	154.8	134.25	1.9344	0.038
92.00	196.8	157.2	134.27	1.9293	0.039
92.50	199.2	159.6	134.28	1.9243	0.040
93.00	201.7	162.1	134.29	1.9194	0.041
93.50	204.0	164.4	134.31	1.9144	0.042
94.00	206.5	166.9	134.32	1.9096	0.043
94.50	208.6	168.9	134.34	1.9048	0.043
95.00	211.1	171.5	134.35	1.9000	0.045
95.50	213.5	173.9	134.36	1.8953	0.046
96.00	216.0	176.4	134.38	1.8906	0.047
96.50	218.4	178.8	134.39	1.8860	0.048
97.00	220.8	181.2	134.40	1.8814	0.049
97.50	223.2	183.6	134.41	1.8769	0.050
98.00	225.6	186.0	134.42	1.8724	0.051
98.50	228.1	188.5	134.44	1.8680	0.052
99.00	230.5	190.9	134.45	1.8636	0.053
99.50	233.1	193.5	134.46	1.8593	0.054
100.00	235.5	195.9	134.47	1.8550	0.055
100.50	237.9	198.3	134.48	1.8507	0.057
101.00	240.4	200.8	134.50	1.8465	0.058
101.50	242.6	203.0	134.52	1.8424	0.059
102.00	245.2	205.6	134.53	1.8382	0.060
102.50	247.6	208.0	134.53	1.8341	0.061
103.00	250.1	210.5	134.55	1.8301	0.063
103.50	252.6	213.0	134.56	1.8261	0.064
104.00	255.0	215.4	134.58	1.8221	0.065
104.50	257.4	217.8	134.58	1.8182	0.066
105.00	259.7	220.1	134.60	1.8143	0.067
105.50	262.3	222.7	134.60	1.8104	0.069
106.00	264.5	224.9	134.62	1.8066	0.070

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9072 DST #1 Mary J. Betts #1-31 Zinke & Trumbo Inc.

DATE: 01/03/97

TIME: 03:23:19

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶	
106.50	267.0	227.4	134.62	1.8028	0.071	
107.00	269.5	229.9	134.64	1.7991	0.073	
107.50	271.9	232.3	134.66	1.7953	0.074	
108.00	274.4	234.7	134.67	1.7917	0.075	
108.50	276.9	237.3	134.69	1.7880	0.077	
109.00	279.4	239.8	134.70	1.7844	0.078	
109.50	281.8	242.2	134.70	1.7808	0.079	
110.00	284.3	244.7	134.71	1.7773	0.081	
110.50	286.7	247.1	134.73	1.7738	0.082	
111.00	289.1	249.5	134.74	1.7703	0.084	
111.50	291.6	252.0	134.75	1.7668	0.085	
112.00	294.1	254.5	134.76	1.7634	0.086	
112.50	296.5	256.9	134.78	1.7600	0.088	
113.00	298.9	259.3	134.79	1.7566	0.089	
113.50	301.5	261.9	134.81	1.7533	0.091	
114.00	303.8	264.2	134.81	1.7500	0.092	
114.50	306.2	266.6	134.82	1.7467	0.094	
115.00	308.8	269.2	134.84	1.7435	0.095	
115.50	311.1	271.5	134.85	1.7403	0.097	
116.00	313.5	273.9	134.86	1.7371	0.098	
116.50	316.1	276.5	134.87	1.7339	0.10	
117.00	318.7	279.1	134.89	1.7308	0.102	
117.50	321.0	281.4	134.89	1.7277	0.103	
118.00	323.4	283.8	134.91	1.7246	0.105	
118.50	325.9	286.3	134.92	1.7215	0.106	
119.00	328.4	288.8	134.93	1.7185	0.108	
***** End Shut-in 2	119.50	330.8	291.2	134.94	1.7155	0.109
***** Final Hydro.	485.50	2806.0	0.0	136.09		

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 9072 Date 1-3-97
Company Name Zinke & Trumbo Inc.
Lease Mary J. Betts #1-31 Test No. #1
County Stevens Ks. Sec. 31 Twp. 315 Rng. 37w

SAMPLER RECOVERY

Gas _____ ML
Oil _____ ML
Mud 4000 ML
Water _____ ML
Other _____ ML
Pressure 200 PSI
Total 4000 ML

PIT MUD ANALYSIS

Chlorides 1400 ppm.
Resistivity _____ ohms @ _____ F
Viscosity 60
Mud Weight 9.2
Filtrate 8.0
Other LCM 2"

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
Gravity _____ corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

MIDDLE
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

BOTTOM
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

TRILOBITE TESTING L.L.C.

OPERATOR : Zinke & Trumbo Inc. DATE 01-05-97
 WELL NAME: M.J.Betts #1-31 KB 3154.00 ft TICKET NO: 9482 DST #2
 LOCATION : 31-31S-37W Stevens KS GR 3144.00 ft FORMATION: St.Louis
 INTERVAL : 6170.00 To 6280.00 ft TD 6280.00 ft TEST TYPE: CONV.

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30	Rec.	13788	13788	3024		PF Fr. 2058 to 2128 hr
SI 60	Range(Psi)	4650.0	4650.0	4995.0	0.0	IS Fr. 2128 to 2228 hr
SF 60	Clock(hrs)	12 HR	12 HR	Elec.		SF Fr. 2228 to 2328 hr
FS 120	Depth(ft)	6277.0	6277.0	6190.0	0.0	FS Fr. 2328 to 0128 hr

	Field	1	2	3	4	
A. Init Hydro	3067.0	3026.0	3041.0	0.0	0.0	T STARTED 1739 hr
B. First Flow	170.0	186.0	116.0	0.0	0.0	T ON BOTM 2048 hr
B1. Final Flow	512.0	507.0	469.0	0.0	0.0	T OPEN 2058 hr
C. In Shut-in	1823.0	1811.0	1790.0	0.0	0.0	T PULLED 0128 hr
D. Init Flow	525.0	544.0	479.0	0.0	0.0	T OUT 0550 hr
E. Final Flow	908.0	904.0	873.0	0.0	0.0	
F. Fl Shut-in	1811.0	1801.0	1782.0	0.0	0.0	
G. Final Hydro	2951.0	2932.0	2949.0	0.0	0.0	
Inside/Outside	O	O	I	T		

TOOL DATA-----
 Tool Wt. 2100.00 lbs
 Wt Set On Packer 24000.00 lbs
 Wt Pulled Loose 115000.00 lbs
 Initial Str Wt 88000.00 lbs
 Unseated Str Wt 100000.00 lbs
 Bot Choke 0.75 in
 Hole Size 7.88 in
 D Col. ID 2.25 in
 D. Pipe ID 3.80 in
 D.C. Length 458.00 ft
 D.P. Length 5716.00 ft

RECOVERY

Tot Fluid 1790.00 ft of 458.00 ft in DC and 1332.00 ft in DP
 380.00 ft of Gas cut Mud
 300.00 ft of Gas Cut Muddy Water 5%Gas 20%Mud 75%Water
 1110.00 ft of Gasy Salt Water
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of EST. FT. OF PAY-----5
 SALINITY 78000.00 P.P.M. A.P.I. Gravity 0.00

MUD DATA-----
 Mud Type Chemical
 Weight 9.20 lb/c
 Vis. 57.00 S/L
 W.L. 6.40 in3
 F.C. 0.20 in
 Mud Drop N

BLOW DESCRIPTION

Initial Flow:
 Strong blow, Bottom of bucket in
 8 minutes.

Initial Shut In:
 Fair to strong blow.

Final Flow:
 Strong blow, Bottom of bucket in
 6.5 minutes.

Final Shut In:
 Fair to strong blow.

SAMPLES: none
 SENT TO:T.M. / Liberal Ks

Amt. of fill 1.00 ft
 Btm. H. Temp. 155.00 F
 Hole Condition good
 % Porosity 18.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00 N
 Cushion Type None
 Reversed Out N
 Tool Chased N
 Tester Gary Pevoteaux
 Co. Rep. Ken LaBlanc
 Contr. Val Energy
 Rig # 2
 Unit #
 Pump T. LCM 4#/bl

Test Successful: Y

*** TOOL DIAGRAM *** CONV.

WELL NAME: M.J.Betts #1-31
 LOCATION : 31-31S-37W Stevens KS
 TICKET No. 9482 D.S.T. No. 2 DATE 01-05-97
 TOTAL TOOL TO BOTTOM OF TOP PACKERS 29
 INTERVAL TOOL
 BOTTOM PACKERS AND ANCHOR 20
 TOTAL TOOL 49
 DRILL COLLAR ANCHOR IN INTERVAL
 D.C. ANCHOR STND.Stands1 Single 1 Total 90
 D.P. ANCHOR STND.Stands Single Total
 TOTAL ASSEMBLY 139
 D.C. ABOVE TOOLS.Stands7 Single 1 Total 458
 D.P. ABOVE TOOLS.Stands92 Single Total 5716
 TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 6313
 TOTAL DEPTH 6280
 TOTAL DRILL PIPE ABOVE K.B. 33

REMARKS:
 FLUID SAMPLER DATA
 (not run)
 GAS-----Trace
 OIL-----
 MUD-----Trace
 WATER-----2600
 OTHER-----
 PRESSURE-----810 PSI
 RW-----0.14 ohms @
 55 degrees F
 CHLORIDES-----80,000 ppm

P.O. SUB	
C.O. SUB @ Top of Tool	6141
S.I. TOOL	6147
Sampler	6150
HMV	6155
JARS	6159
SAFETY JOINT	6161
PACKER	6165
PACKER	6170
DEPTH 6170	
STUBB 1'	6171
ANCHOR	
13'perfs & sub to	6184
Alpine rec. @	6190
T.C.	
DEPTH	
3 Jt. drill collar and sub to	6275
AK-1 rec. @	6277
BULLNOSE 5' perforated to T.D.	6280

9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

Flag Points

t (Min.)	P (PSig)
A: 0.00	3041.44
B: 0.00	116.14
C: 29.00	468.90
D: 61.00	1790.00
E: 0.00	479.48
F: 58.00	872.95
G: 121.00	1781.99
Q: 0.00	2949.38

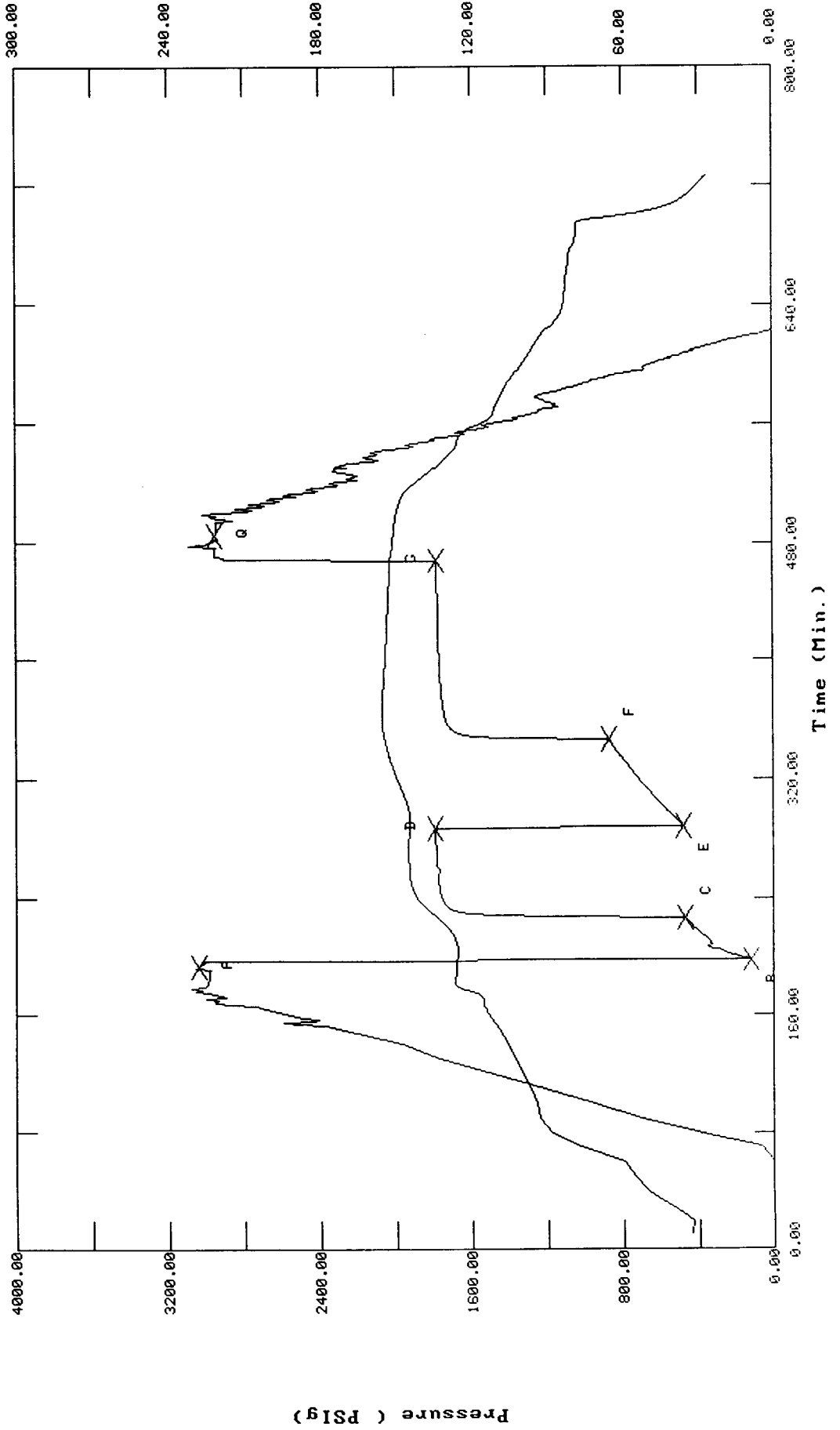
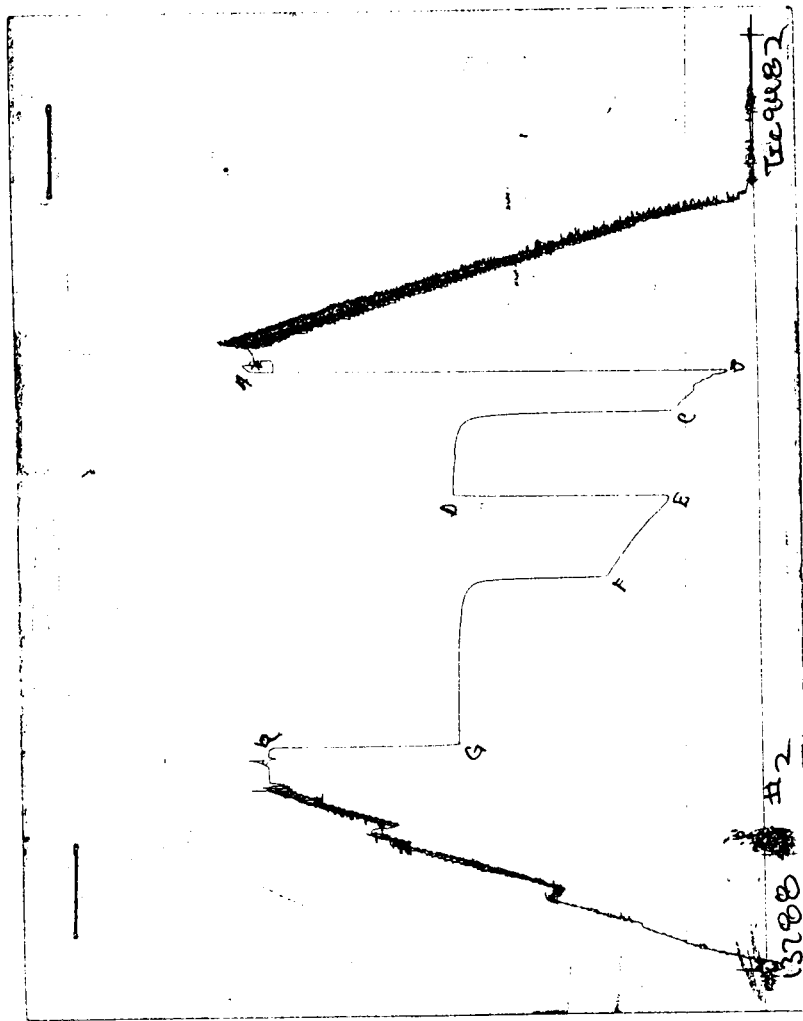


CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

DATE: 01/05/97

TIME: 17:39:56

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
***** Initial Hydro.	193.00	3041.4	0.0	125.76		
***** Start Flow 1	0.00	116.1	0.0	125.66		
	1.00	153.8	37.7	125.53		
	2.00	183.5	67.4	125.39		
	3.00	211.6	95.5	125.30		
	4.00	246.5	130.4	125.24		
	5.00	259.8	143.6	125.20		
	6.00	281.1	164.9	125.20		
	7.00	297.1	181.0	125.24		
	8.00	314.9	198.8	125.30		
	9.00	340.7	224.6	125.40		
	10.00	352.9	236.8	125.54		
	11.00	328.4	212.2	125.69		
	12.00	330.1	213.9	125.88		
	13.00	335.2	219.0	126.06		
	14.00	339.4	223.3	126.26		
	15.00	345.4	229.2	126.48		
	16.00	360.1	244.0	126.73		
	17.00	370.4	254.2	127.02		
	18.00	380.5	264.3	127.34		
	19.00	387.9	271.8	127.71		
	20.00	400.0	283.9	128.13		
	21.00	409.1	292.9	128.56		
	22.00	419.4	303.3	129.03		
	23.00	426.2	310.1	129.52		
	24.00	431.3	315.2	130.07		
	25.00	437.1	320.9	130.61		
	26.00	445.5	329.4	131.19		
	27.00	452.4	336.3	131.76		
	28.00	461.0	344.9	132.38		
***** End Flow 1	29.00	468.9	352.8	133.06		
***** Start Shutin 1	0.00	468.9	0.0	133.06	0.0000	0.220
	1.00	1170.5	701.6	133.78	30.0000	1.370
	2.00	1482.8	1013.9	134.50	15.5000	2.199
	3.00	1606.4	1137.5	135.28	10.6667	2.581
	4.00	1662.2	1193.3	136.05	8.2500	2.763
	5.00	1691.5	1222.6	136.82	6.8000	2.861
	6.00	1709.0	1240.1	137.51	5.8333	2.921
	7.00	1720.9	1252.0	138.18	5.1429	2.961
	8.00	1729.7	1260.8	138.80	4.6250	2.992
	9.00	1736.6	1267.7	139.37	4.2222	3.016
	10.00	1742.0	1273.1	139.92	3.9000	3.035
	11.00	1746.5	1277.6	140.42	3.6364	3.050
	12.00	1750.5	1281.6	140.88	3.4167	3.064
	13.00	1753.6	1284.7	141.30	3.2308	3.075
	14.00	1756.6	1287.7	141.67	3.0714	3.085
	15.00	1759.0	1290.1	142.01	2.9333	3.094
	16.00	1761.3	1292.4	142.35	2.8125	3.102
	17.00	1763.3	1294.4	142.65	2.7059	3.109
	18.00	1765.1	1296.2	142.92	2.6111	3.116
	19.00	1766.7	1297.8	143.16	2.5263	3.121

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

DATE: 01/05/97

TIME: 17:39:56

Time	Pressure PSI _g	delta P PSI _g	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶	
20.00	1768.1	1299.2	143.37	2.4500	3.126	
21.00	1769.3	1300.4	143.55	2.3810	3.130	
22.00	1770.5	1301.6	143.73	2.3182	3.135	
23.00	1771.7	1302.8	143.89	2.2609	3.139	
24.00	1772.7	1303.8	144.03	2.2083	3.142	
25.00	1773.6	1304.7	144.15	2.1600	3.146	
26.00	1774.5	1305.6	144.27	2.1154	3.149	
27.00	1775.4	1306.5	144.36	2.0741	3.152	
28.00	1776.1	1307.2	144.44	2.0357	3.155	
29.00	1777.0	1308.1	144.52	2.0000	3.158	
30.00	1777.7	1308.8	144.59	1.9667	3.160	
31.00	1769.0	1300.1	144.65	1.9355	3.129	
32.00	1767.0	1298.1	144.69	1.9062	3.122	
33.00	1769.0	1300.1	144.74	1.8788	3.129	
34.00	1776.4	1307.5	144.78	1.8529	3.156	
35.00	1779.4	1310.5	144.81	1.8286	3.166	
36.00	1780.6	1311.7	144.82	1.8056	3.171	
37.00	1781.4	1312.5	144.84	1.7838	3.174	
38.00	1782.1	1313.2	144.87	1.7632	3.176	
39.00	1782.7	1313.8	144.88	1.7436	3.178	
40.00	1783.2	1314.3	144.90	1.7250	3.180	
41.00	1783.7	1314.8	144.90	1.7073	3.182	
42.00	1784.2	1315.2	144.91	1.6905	3.183	
43.00	1784.6	1315.7	144.91	1.6744	3.185	
44.00	1785.0	1316.1	144.91	1.6591	3.186	
45.00	1785.4	1316.5	144.92	1.6444	3.188	
46.00	1785.8	1316.9	144.90	1.6304	3.189	
47.00	1786.1	1317.2	144.90	1.6170	3.190	
48.00	1786.5	1317.6	144.91	1.6042	3.191	
49.00	1786.8	1317.9	144.89	1.5918	3.193	
50.00	1787.2	1318.3	144.90	1.5800	3.194	
51.00	1787.3	1318.4	144.88	1.5686	3.195	
52.00	1787.6	1318.7	144.89	1.5577	3.196	
53.00	1788.0	1319.1	144.87	1.5472	3.197	
54.00	1788.2	1319.3	144.87	1.5370	3.198	
55.00	1788.5	1319.6	144.84	1.5273	3.199	
56.00	1788.8	1319.9	144.83	1.5179	3.200	
57.00	1789.0	1320.1	144.82	1.5088	3.201	
58.00	1789.3	1320.4	144.80	1.5000	3.202	
59.00	1789.5	1320.6	144.79	1.4915	3.202	
60.00	1789.8	1320.9	144.78	1.4833	3.203	
***** End Shut-in 1	61.00	1790.0	1321.1	144.77	1.4754	3.204
***** Start Flow 2	0.00	479.5	0.0	144.76		
	1.00	486.5	7.0	144.69		
	2.00	493.7	14.2	144.62		
	3.00	501.5	22.1	144.55		
	4.00	507.9	28.4	144.49		
	5.00	518.2	38.7	144.48		
	6.00	526.1	46.7	144.49		
	7.00	535.5	56.0	144.52		
	8.00	544.3	64.8	144.58		

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

DATE: 01/05/97

TIME: 17:39:56

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
9.00	552.9	73.4	144.67		
10.00	561.7	82.2	144.78		
11.00	568.9	89.4	144.93		
12.00	576.9	97.5	145.08		
13.00	583.9	104.4	145.23		
14.00	591.7	112.3	145.40		
15.00	598.4	118.9	145.59		
16.00	605.8	126.3	145.78		
17.00	613.4	133.9	146.00		
18.00	620.3	140.9	146.22		
19.00	627.9	148.4	146.45		
20.00	635.4	155.9	146.68		
21.00	642.8	163.3	146.94		
22.00	649.1	169.6	147.16		
23.00	655.8	176.3	147.41		
24.00	663.2	183.7	147.65		
25.00	671.3	191.8	147.91		
26.00	678.4	199.0	148.16		
27.00	685.2	205.7	148.41		
28.00	693.2	213.8	148.67		
29.00	698.7	219.3	148.92		
30.00	706.4	226.9	149.18		
31.00	711.9	232.4	149.43		
32.00	718.8	239.4	149.67		
33.00	725.4	245.9	149.91		
34.00	732.2	252.7	150.16		
35.00	737.8	258.4	150.37		
36.00	745.3	265.8	150.60		
37.00	751.0	271.6	150.82		
38.00	757.7	278.3	151.05		
39.00	763.5	284.0	151.25		
40.00	769.1	289.6	151.46		
41.00	774.8	295.3	151.66		
42.00	781.7	302.3	151.86		
43.00	787.9	308.4	152.06		
44.00	794.0	314.5	152.25		
45.00	800.4	320.9	152.43		
46.00	806.1	326.6	152.59		
47.00	812.0	332.5	152.76		
48.00	817.2	337.7	152.92		
49.00	823.3	343.9	153.09		
50.00	829.2	349.7	153.24		
51.00	834.6	355.1	153.39		
52.00	839.6	360.1	153.54		
53.00	846.1	366.6	153.70		
54.00	851.8	372.3	153.83		
55.00	857.8	378.3	153.98		
56.00	864.2	384.7	154.11		
57.00	868.0	388.6	154.25		
***** End Flow 2	58.00	873.0	393.5	154.37	
***** Start Shutin 2	0.00	873.0	0.0	154.37	0.0000 0.762

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

DATE: 01/05/97

TIME: 17:39:56

Time	Pressure PSI _g	delta P PSI _g	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
1.00	1432.1	559.2	154.52	88.0000	2.051
2.00	1579.2	706.3	154.64	44.5000	2.494
3.00	1639.8	766.9	154.77	30.0000	2.689
4.00	1669.4	796.4	154.90	22.7500	2.787
5.00	1686.7	813.8	155.01	18.4000	2.845
6.00	1698.4	825.5	155.11	15.5000	2.885
7.00	1707.1	834.2	155.18	13.4286	2.914
8.00	1714.0	841.0	155.25	11.8750	2.938
9.00	1719.6	846.7	155.32	10.6667	2.957
10.00	1724.3	851.4	155.36	9.7000	2.973
11.00	1728.3	855.4	155.39	8.9091	2.987
12.00	1731.9	858.9	155.42	8.2500	2.999
13.00	1734.9	861.9	155.45	7.6923	3.010
14.00	1737.5	864.6	155.47	7.2143	3.019
15.00	1739.8	866.9	155.48	6.8000	3.027
16.00	1741.9	869.0	155.48	6.4375	3.034
17.00	1743.8	870.8	155.48	6.1176	3.041
18.00	1745.5	872.5	155.48	5.8333	3.047
19.00	1747.0	874.1	155.46	5.5789	3.052
20.00	1748.4	875.5	155.45	5.3500	3.057
21.00	1749.7	876.8	155.44	5.1429	3.062
22.00	1751.0	878.1	155.42	4.9545	3.066
23.00	1752.1	879.2	155.40	4.7826	3.070
24.00	1753.2	880.2	155.38	4.6250	3.074
25.00	1754.2	881.2	155.35	4.4800	3.077
26.00	1755.1	882.1	155.33	4.3462	3.080
27.00	1755.9	883.0	155.30	4.2222	3.083
28.00	1756.8	883.8	155.26	4.1071	3.086
29.00	1757.6	884.6	155.23	4.0000	3.089
30.00	1758.3	885.3	155.19	3.9000	3.092
31.00	1759.0	886.1	155.16	3.8065	3.094
32.00	1759.7	886.7	155.11	3.7188	3.096
33.00	1760.3	887.4	155.07	3.6364	3.099
34.00	1760.9	888.0	155.02	3.5588	3.101
35.00	1761.7	888.8	154.98	3.4857	3.104
36.00	1762.4	889.5	154.96	3.4167	3.106
37.00	1763.0	890.0	154.91	3.3514	3.108
38.00	1763.5	890.5	154.87	3.2895	3.110
39.00	1764.0	891.1	154.83	3.2308	3.112
40.00	1764.5	891.6	154.79	3.1750	3.114
41.00	1765.0	892.0	154.75	3.1220	3.115
42.00	1765.4	892.5	154.72	3.0714	3.117
43.00	1765.9	892.9	154.67	3.0233	3.118
44.00	1766.3	893.3	154.63	2.9773	3.120
45.00	1766.7	893.7	154.58	2.9333	3.121
46.00	1767.1	894.1	154.54	2.8913	3.123
47.00	1767.4	894.5	154.50	2.8511	3.124
48.00	1767.8	894.8	154.46	2.8125	3.125
49.00	1768.1	895.2	154.41	2.7755	3.126
50.00	1768.5	895.5	154.39	2.7400	3.128
51.00	1768.8	895.9	154.35	2.7059	3.129

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

DATE: 01/05/97

TIME: 17:39:56

Time	Pressure PSI _g	delta P PSI _g	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
52.00	1769.2	896.2	154.30	2.6731	3.130
53.00	1769.5	896.5	154.27	2.6415	3.131
54.00	1769.8	896.8	154.23	2.6111	3.132
55.00	1770.1	897.2	154.19	2.5818	3.133
56.00	1770.4	897.5	154.15	2.5536	3.134
57.00	1770.8	897.8	154.12	2.5263	3.136
58.00	1771.0	898.1	154.08	2.5000	3.137
59.00	1771.3	898.4	154.05	2.4746	3.138
60.00	1771.7	898.7	154.01	2.4500	3.139
61.00	1772.0	899.0	153.98	2.4262	3.140
62.00	1772.2	899.2	153.95	2.4032	3.141
63.00	1772.5	899.5	153.92	2.3810	3.142
64.00	1772.7	899.8	153.88	2.3594	3.143
65.00	1773.0	900.0	153.85	2.3385	3.144
66.00	1773.3	900.3	153.82	2.3182	3.144
67.00	1773.5	900.6	153.80	2.2985	3.145
68.00	1773.7	900.8	153.77	2.2794	3.146
69.00	1774.0	901.0	153.73	2.2609	3.147
70.00	1774.1	901.2	153.70	2.2429	3.148
71.00	1774.3	901.4	153.67	2.2254	3.148
72.00	1774.5	901.5	153.64	2.2083	3.149
73.00	1774.6	901.6	153.62	2.1918	3.149
74.00	1774.8	901.9	153.58	2.1757	3.150
75.00	1775.0	902.0	153.55	2.1600	3.151
76.00	1775.2	902.3	153.52	2.1447	3.151
77.00	1775.5	902.5	153.48	2.1299	3.152
78.00	1775.6	902.7	153.47	2.1154	3.153
79.00	1775.9	902.9	153.42	2.1013	3.154
80.00	1776.1	903.2	153.40	2.0875	3.155
81.00	1776.3	903.3	153.37	2.0741	3.155
82.00	1776.5	903.5	153.33	2.0610	3.156
83.00	1776.7	903.7	153.31	2.0482	3.157
84.00	1776.8	903.9	153.28	2.0357	3.157
85.00	1777.0	904.0	153.25	2.0235	3.158
86.00	1777.2	904.3	153.22	2.0116	3.159
87.00	1777.4	904.5	153.20	2.0000	3.159
88.00	1777.6	904.6	153.17	1.9886	3.160
89.00	1777.7	904.8	153.14	1.9775	3.160
90.00	1777.9	904.9	153.11	1.9667	3.161
91.00	1778.0	905.1	153.09	1.9560	3.161
92.00	1778.2	905.3	153.05	1.9457	3.162
93.00	1778.3	905.4	153.02	1.9355	3.162
94.00	1778.5	905.5	152.98	1.9255	3.163
95.00	1778.7	905.7	152.96	1.9158	3.164
96.00	1778.8	905.9	152.93	1.9062	3.164
97.00	1779.0	906.0	152.89	1.8969	3.165
98.00	1779.1	906.2	152.86	1.8878	3.165
99.00	1779.3	906.3	152.83	1.8788	3.166
100.00	1779.4	906.5	152.79	1.8700	3.166
101.00	1779.6	906.6	152.76	1.8614	3.167
102.00	1779.7	906.8	152.72	1.8529	3.167

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9482 DST#2 M.J.BETTS #1-31 ZINKE & TRUMBO INC.

DATE: 01/05/97

TIME: 17:39:56

	Time	Pressure PSI _g	delta P PSI _g	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
	103.00	1779.8	906.9	152.69	1.8447	3.168
	104.00	1780.0	907.0	152.66	1.8365	3.168
	105.00	1780.1	907.1	152.62	1.8286	3.169
	106.00	1780.2	907.3	152.59	1.8208	3.169
	107.00	1780.4	907.4	152.56	1.8131	3.170
	108.00	1780.5	907.5	152.53	1.8056	3.170
	109.00	1780.6	907.7	152.50	1.7982	3.171
	110.00	1780.7	907.8	152.46	1.7909	3.171
	111.00	1780.9	907.9	152.43	1.7838	3.171
	112.00	1781.0	908.0	152.41	1.7768	3.172
	113.00	1781.1	908.2	152.38	1.7699	3.172
	114.00	1781.2	908.3	152.34	1.7632	3.173
	115.00	1781.4	908.4	152.32	1.7565	3.173
	116.00	1781.4	908.5	152.30	1.7500	3.174
	117.00	1781.6	908.6	152.27	1.7436	3.174
	118.00	1781.7	908.7	152.25	1.7373	3.174
	119.00	1781.8	908.8	152.21	1.7311	3.175
	120.00	1781.9	908.9	152.19	1.7250	3.175
***** End Shut-in 2	121.00	1782.0	909.0	152.17	1.7190	3.175
***** Final Hydro.	485.00	2949.4	0.0	150.82		

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 9482 Date ~~9~~ 1-5-97
Company Name ZINKE & TRUMBOW INC.
Lease M.S. BITTS # 1-31 Test No. 2
County STEVENS K.S. Sec. 31 Twp. 31^S Rng. 37^W

SAMPLER RECOVERY

Gas Trace ML
Oil None ML
Mud Trace ML
Water 2,600 ML
Other --- ML
Pressure 810 PSI
Total 2,600 ML

PIT MUD ANALYSIS

Chlorides 2,000 ppm.
Resistivity 3.64 ohms @ 54 F
Viscosity 57
Mud Weight 9.2
Filtrate 6.4 cc.
Other L.C.M. 4# / BL.

SAMPLER ANALYSIS

Resistivity 0.14 ohms @ 55 F
Chlorides 80,000 ppm.
Gravity N/A corrected @ 60 F

PIPE RECOVERY

TOP 380' DRUG MUD. (Gas cut)
Resistivity 1.99 ohms @ 58 F
Chlorides 4,800 ppm.
MIDDLE 300' M.W. (Gas cut)
Resistivity 0.19 ohms @ 58 F
Chlorides 50,000 ppm.
BOTTOM 1,110 Gassy Salt Water!
Resistivity 0.14 ohms @ 57 F
Chlorides 78,000 ppm.

2650
144 440
158 @
432 944
1770
2550