TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co.**

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

15-10-31 Thomas,Ks

Maurath "A" #1-15

Start Date: 2002.04.06 @ 18:35:33

End Date: 2002.04.07 @ 01:49:32

Job Ticket #: 15085 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Downing Nelson Oil Co.
PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15085 **DST#: 1**

Test Start: 2002.04.06 @ 18:35:33

GENERAL INFORMATION:

Formation: **KC**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:40:32
Time Test Ended: 01:49:32

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 15

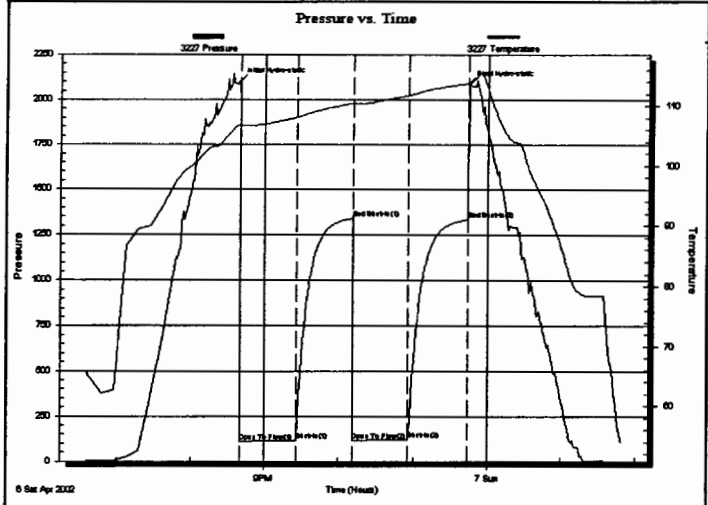
Interval: 4175.00 ft (KB) To 4275.00 ft (KB) (TVD)
Total Depth: 4275.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3010.00 ft (KB)
3003.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 3227 **Inside**

Press@RunDepth:	121.46 psig @	4176.00 ft (KB)		Capacity:	7000.00 psig
Start Date:	2002.04.06	End Date:	2002.04.07	Last Calib.:	1899.12.30
Start Time:	18:35:33	End Time:	01:49:32	Time On Btm:	2002.04.06 @ 20:39:32
				Time Off Btm:	2002.04.06 @ 23:45:02

TEST COMMENT: Mud dropped 70-100' when tool opened, 11"in blow died in 40 min.
No return
Good surge to open tool, no blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.09	106.76	Initial Hydro-static
1	111.30	106.68	Open To Flow (1)
47	114.87	108.04	Shut-In(1)
92	1341.06	110.42	End Shut-In(1)
92	116.85	110.32	Open To Flow (2)
137	121.46	111.70	Shut-In(2)
185	1335.59	113.73	End Shut-In(2)
186	2087.25	113.86	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	drilling mud 100%mud	2.52

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

TOOL DIAGRAM

TRILOBITE TESTING, INC

Downing Nelson Oil Co.

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15085 **DST#: 1**

Test Start: 2002.04.06 @ 18:35:33

Tool Information

Drill Pipe:	Length:	4185.00 ft	Diameter:	3.80 inches	Volume:	58.70 bbl	Tool Weight:		1500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		30000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	58.70 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		30.00 ft					String Weight:	Initial	50000.00 lb
Depth to Top Packer:		4175.00 ft						Final	53000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		100.00 ft							
Tool Length:		120.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			4156.00		
S.I. Tool	5.00			4161.00		
HMV	5.00			4166.00		
Packer	5.00			4171.00	20.00	Bottom Of Top Packer
Packer	4.00			4175.00		
Stubb	1.00			4176.00		
Recorder	0.00	3227	Inside	4176.00		
Perforations	30.00			4206.00		
C.O. Sub	1.00			4207.00		
drillpipe	62.00			4269.00		
C.O. Sub	1.00			4270.00		
Recorder	0.00	11057	Outside	4270.00		
Bullnose	5.00			4275.00	100.00	Bottom Packers & Anchor
Total Tool Length:	**120.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

TRILOBITE TESTING, INC

Downing Nelson Oil Co.
PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15085 **DST#: 1**

Test Start: 2002.04.06 @ 18:35:33

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.38 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

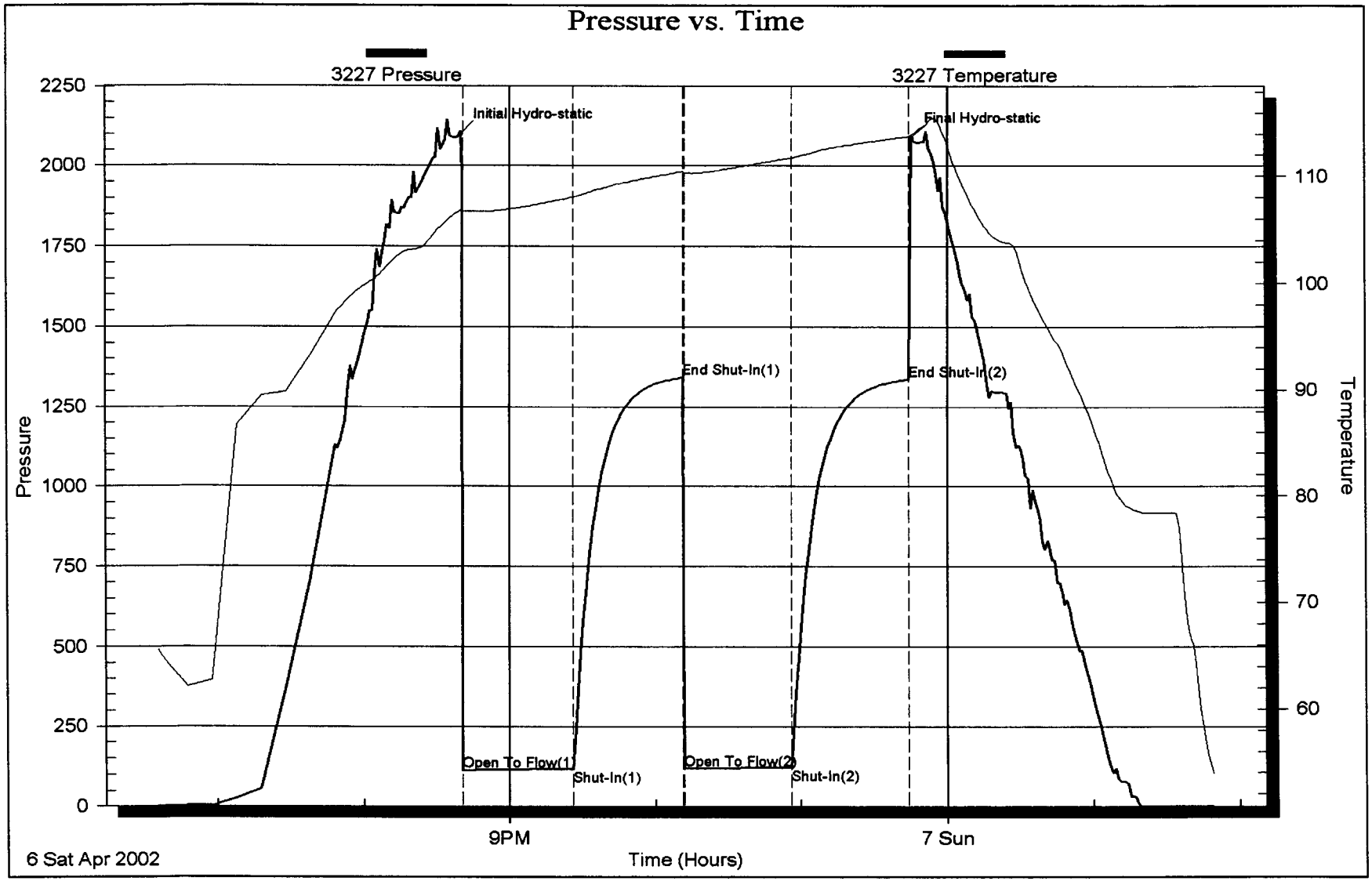
Length ft	Description	Volume bbl
180.00	drilling mud 100%mud	2.525

Total Length: 180.00 ft Total Volume: 2.525 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
3227 Pressure
3227 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2250
2000
1750
1500
1250
1000
750
500
250
0
110
100
90
80
70
60
9PM
7 Sun
6 Sat Apr 2002
Time (Hours)

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co.**

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

15-10-31 Thomas,Ks

Maurath "A" #1-15

Start Date: 2002.04.07 @ 13:46:21

End Date: 2002.04.07 @ 20:58:20

Job Ticket #: 15086 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Downing Nelson Oil Co.
PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15086 **DST#:2**

Test Start: 2002.04.07 @ 13:46:21

GENERAL INFORMATION:

Formation: **KC**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:06:20
Time Test Ended: 20:58:20

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 15

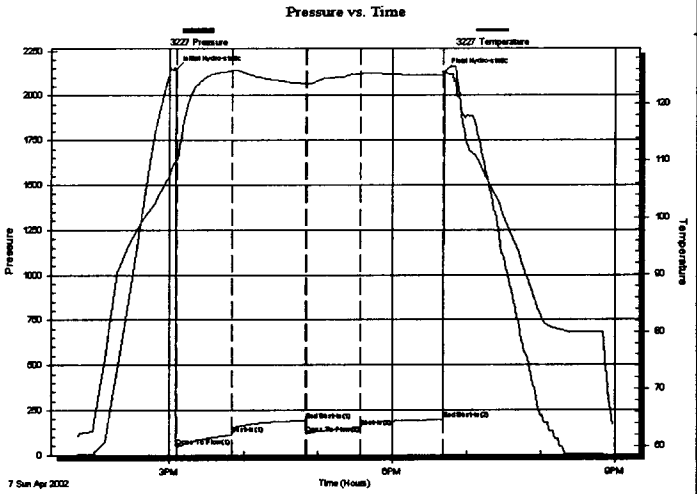
Interval: 4302.00 ft (KB) To 4335.00 ft (KB) (TVD)
Total Depth: 4335.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3010.00 ft (KB)
3003.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 3227 **Inside**

Press@RunDepth:	152.36 psig @	4303.00 ft (KB)		Capacity:	7000.00 psig
Start Date:	2002.04.07	End Date:	2002.04.07	Last Calib.:	1899.12.30
Start Time:	13:46:21	End Time:	20:58:20	Time On Btm:	2002.04.07 @ 15:05:20
				Time Off Btm:	2002.04.07 @ 18:41:50

TEST COMMENT: B.O.B in 3 min.
1 1/2"in return
B.O.B. in 13 min.
1 1/2"in return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2147.31	109.95	Initial Hydro-static
1	48.20	110.11	Open To Flow (1)
45	115.31	125.81	Shut-In(1)
105	192.63	123.54	End Shut-In(1)
106	119.33	123.52	Open To Flow (2)
149	152.36	125.26	Shut-In(2)
216	196.08	125.03	End Shut-In(2)
217	2128.63	125.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
210.00	c g o 25%g 75%o	2.95
180.00	g m c o 35%g 50%m 15%o	2.52

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

TOOL DIAGRAM

TRILOBITE TESTING, INC.

Downing Nelson Oil Co.

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15086 **DST#: 2**

Test Start: 2002.04.07 @ 13:46:21

Tool Information

Drill Pipe:	Length:	4312.00 ft	Diameter:	3.80 inches	Volume:	60.49 bbl	Tool Weight:		1500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		30000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	60.49 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		30.00 ft					String Weight:	Initial	51000.00 lb
Depth to Top Packer:		4302.00 ft						Final	53000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		33.00 ft							
Tool Length:		53.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			4283.00		
S.I. Tool	5.00			4288.00		
HMV	5.00			4293.00		
Packer	5.00			4298.00	20.00	Bottom Of Top Packer
Packer	4.00			4302.00		
Stubb	1.00			4303.00		
Recorder	0.00	3227	Inside	4303.00		
Perforations	27.00			4330.00		
Recorder	0.00	11057	Outside	4330.00		
Bullnose	5.00			4335.00	33.00	Bottom Packers & Anchor
Total Tool Length:	**53.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

TRILOBITE TESTING, INC.

Downing Nelson Oil Co.
PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15086 **DST#: 2**

Test Start: 2002.04.07 @ 13:46:21

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	43.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.39 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

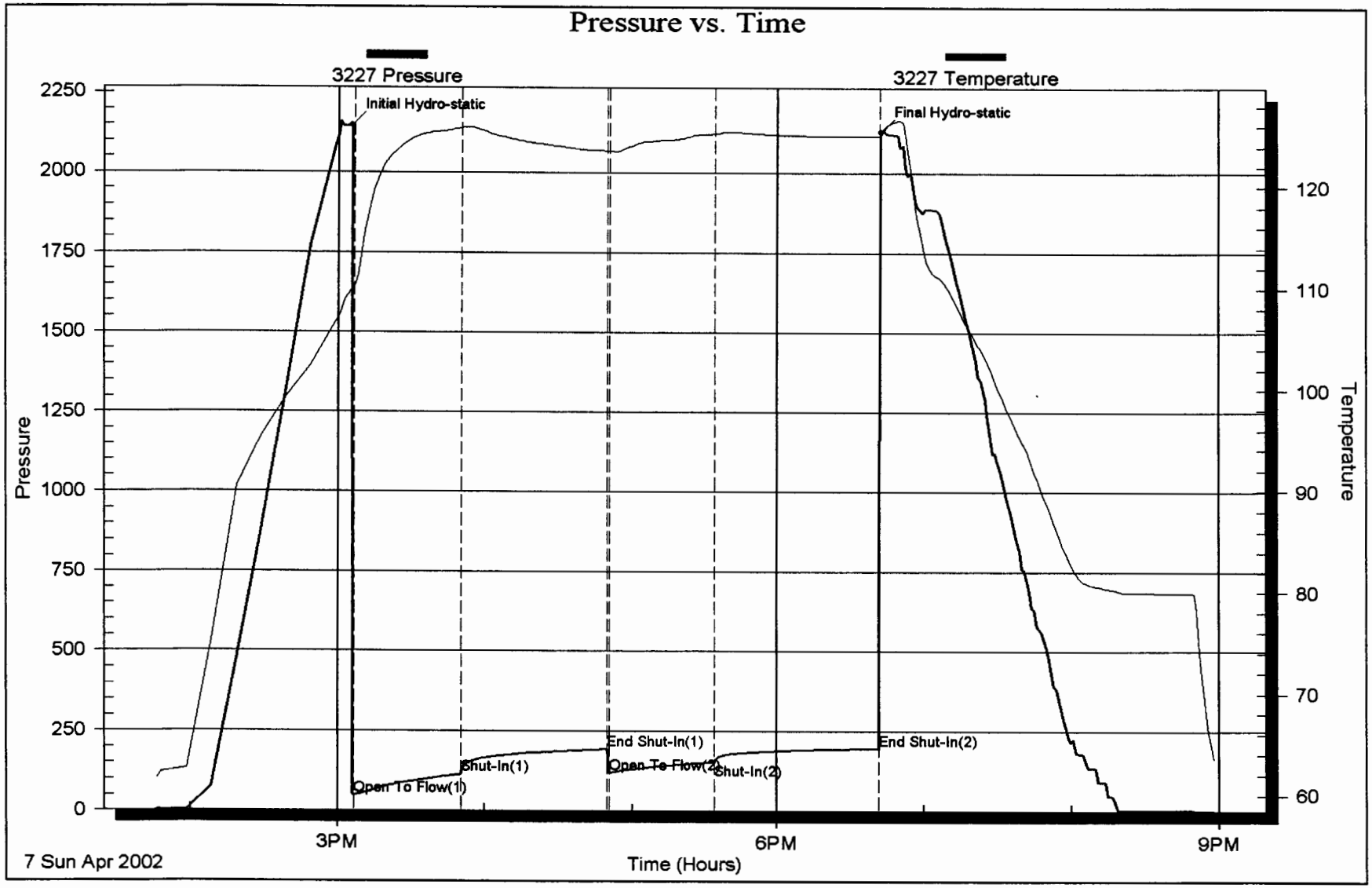
Length ft	Description	Volume bbl
210.00	c g o 25%g 75%o	2.946
180.00	g m c o 35%g 50%m 15%o	2.525

Total Length: 390.00 ft Total Volume: 5.471 bbl

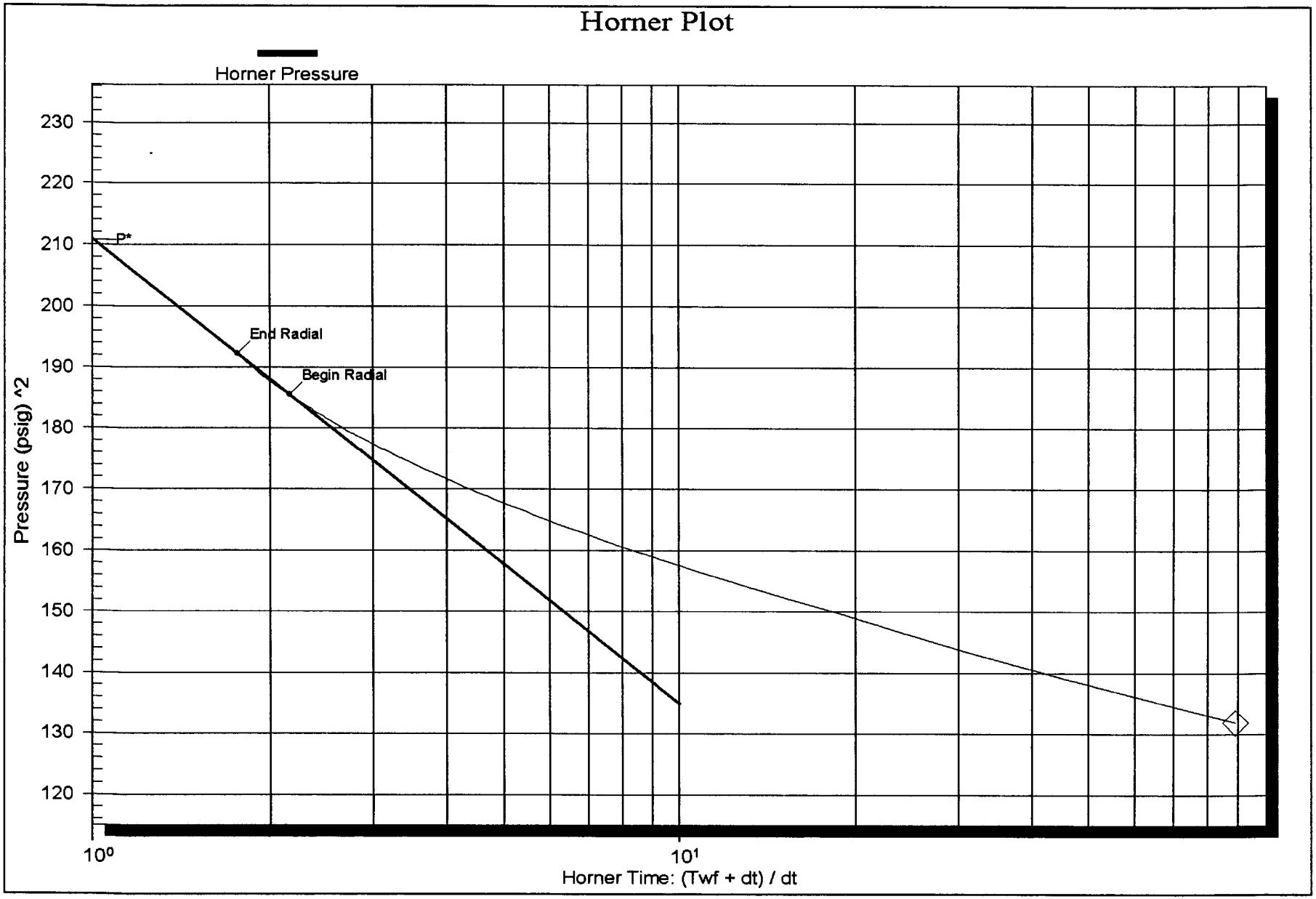
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

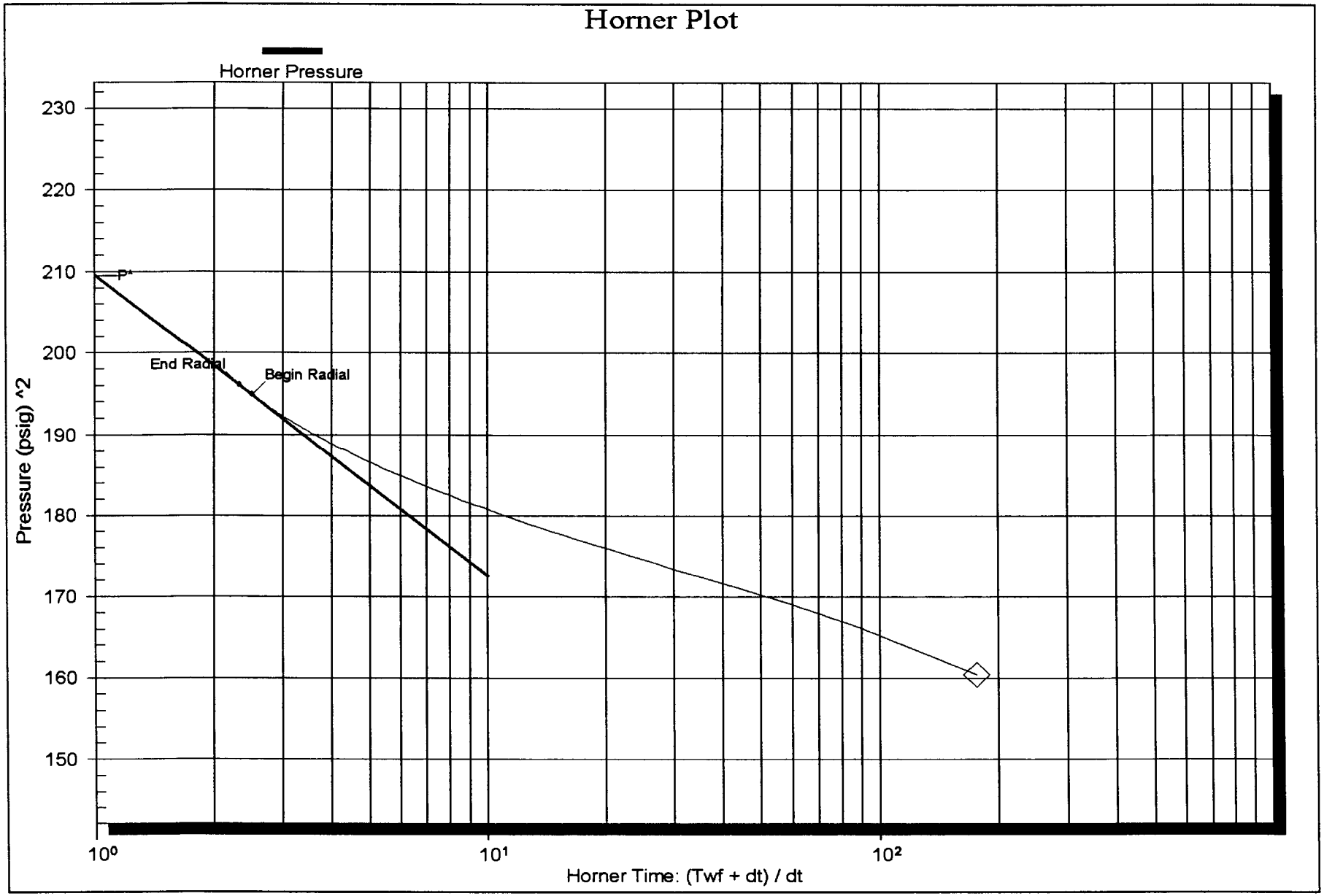

Pressure vs. Time
3227 Pressure
3227 Temperature
Initial Hydro-static
Final Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
Shut-In(2)
End Shut-In(2)
Pressure
Temperature
2250
2000
1750
1500
1250
1000
750
500
250
0
120
110
100
90
80
70
60
3PM
6PM
9PM
Time (Hours)
7 Sun Apr 2002

Downing Nelson Oil Co. 2002.04.07 @ 13:46:21 15-10-31 Thomas,Ks



Serial Number: 3227 (Inside) P* : 14.52 Slope (m) : 75.95 kpa/log cycle Flow Cycle: 1

Downing Nelson Oil Co. 2002.04.07 @ 13:46:21 15-10-31 Thomas,Ks



Serial Number: 3227 (Inside) P* : 14.48 Slope (m) : 36.96 kpa/log cycle Flow Cycle: 2

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co.**

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

15-10-31 Thomas,Ks

Maurath "A" #1-15

Start Date: 2002.04.08 @ 10:42:55

End Date: 2002.04.08 @ 15:21:24

Job Ticket #: 15087 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Downing Nelson Oil Co.
PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15087 **DST#: 3**

Test Start: 2002.04.08 @ 10:42:55

GENERAL INFORMATION:

Formation: **pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:53:54
Time Test Ended: 15:21:24

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 15

Interval: 4440.00 ft (KB) To 4483.00 ft (KB) (TVD)
Total Depth: 4483.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

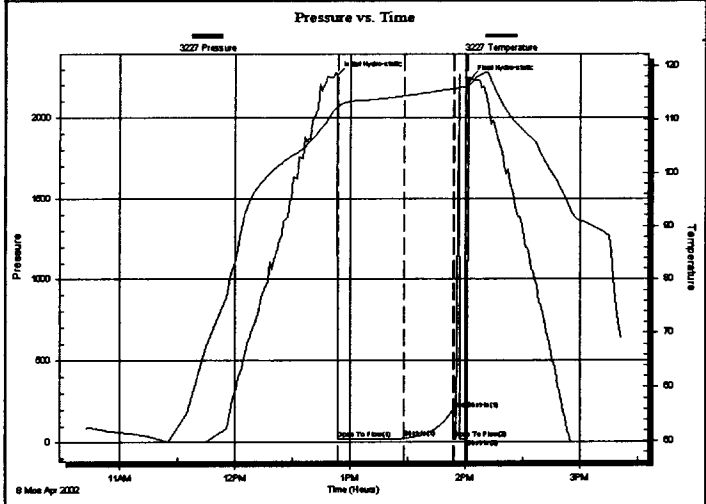
Reference Elevations: 3010.00 ft (KB)
3003.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 3227 **Inside**

Press@RunDepth: 24.49 psig @ 4441.00 ft (KB)
Start Date: 2002.04.08 End Date: 2002.04.08
Start Time: 10:42:55 End Time: 15:21:24

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2002.04.08 @ 12:53:24
Time Off Btm: 2002.04.08 @ 14:02:24

TEST COMMENT: Weak surface blow died in 12 min.
No return
No blow flush tool , good surge , no blow pull tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2261.63	112.27	Initial Hydro-static
1	19.88	112.28	Open To Flow (1)
35	24.49	114.34	Shut-In(1)
61	198.06	115.68	End Shut-In(1)
61	20.10	115.70	Open To Flow (2)
68	21.74	116.06	Shut-In(2)
69	2240.72	116.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	drilling mud 100%m	0.07

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

TOOL DIAGRAM

TRILOBITE TESTING, INC

Downing Nelson Oil Co.

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15087 **DST#: 3**

Test Start: 2002.04.08 @ 10:42:55

Tool Information

Drill Pipe:	Length:	4435.00 ft	Diameter:	3.80 inches	Volume:	62.21 bbl	Tool Weight:		1500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		30000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	62.21 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		15.00 ft					String Weight:	Initial	51000.00 lb
Depth to Top Packer:		4440.00 ft						Final	51000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		43.00 ft							
Tool Length:		63.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			4421.00		
S.I. Tool	5.00			4426.00		
HMV	5.00			4431.00		
Packer	5.00			4436.00	20.00	Bottom Of Top Packer
Packer	4.00			4440.00		
Stubb	1.00			4441.00		
Recorder	0.00	3227	Inside	4441.00		
Perforations	37.00			4478.00		
Recorder	0.00	11057	Outside	4478.00		
Bullnose	5.00			4483.00	43.00	Bottom Packers & Anchor
Total Tool Length:	**63.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

TRILOBITE TESTING, INC.

Downing Nelson Oil Co.

PO Box 372
Hays ,Ks

ATTN: Downing Nelson Oil

Maurath "A" #1-15

15-10-31 Thomas,Ks

Job Ticket: 15087 **DST#: 3**

Test Start: 2002.04.08 @ 10:42:55

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	45.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.97 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

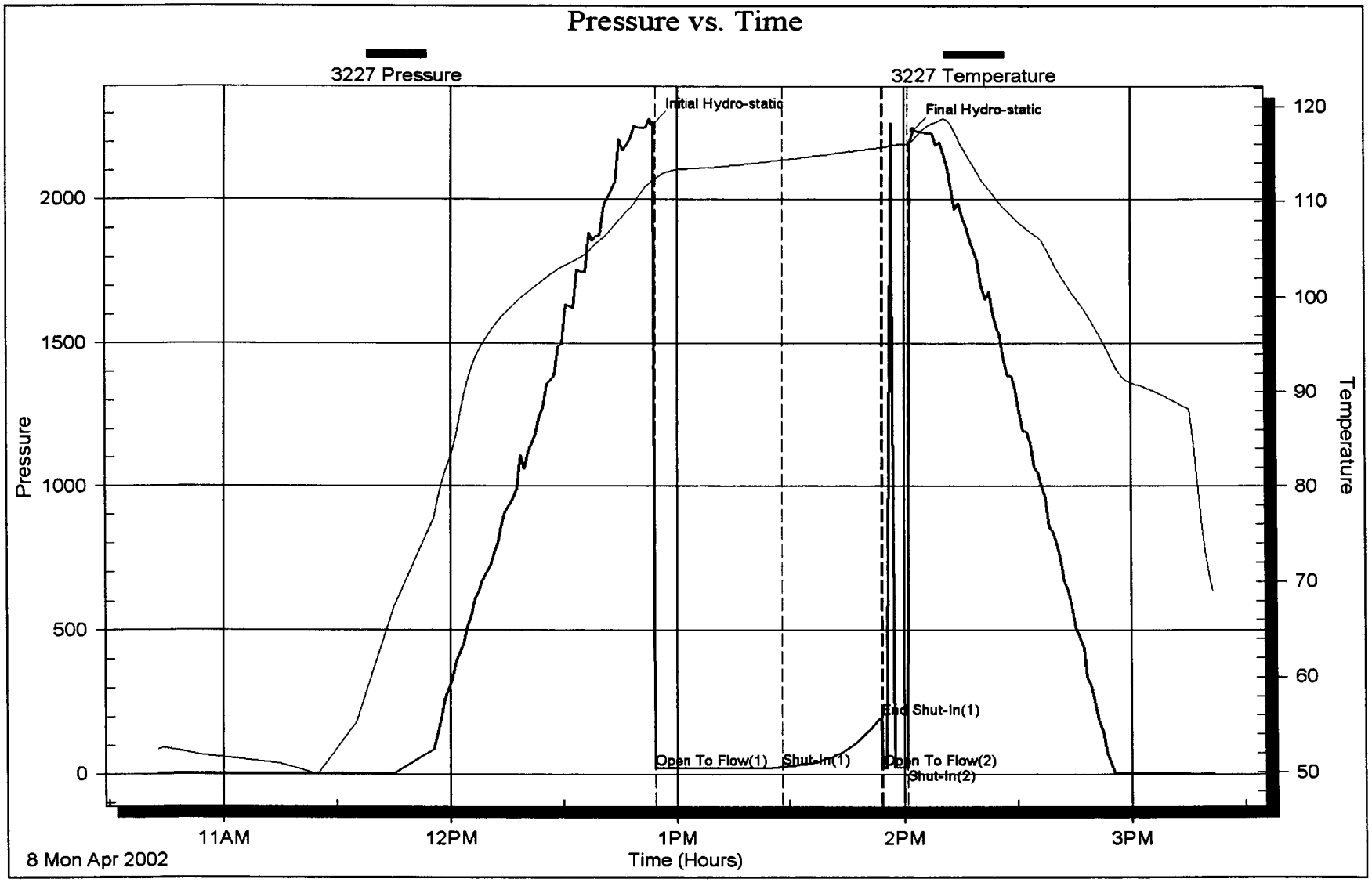
Length ft	Description	Volume bbl
5.00	drilling mud 100%m	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
3227 Pressure
3227 Temperature
Initial Hydro-static
Final Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2000
1500
1000
500
0
120
110
100
90
80
70
60
50
11AM
12PM
1PM
2PM
3PM
8 Mon Apr 2002
Time (Hours)

TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

№ 15085

Test Ticket

Well Name & No. Maxwell "A" #1-15 Test No. #1 Date 4-6-02

Company Downing-Nelson Oil Co Inc. Zone Tested KC

Address P.O. Box 372 Hays, Ks 67601 Elevation 3010' KB 3003' GL

Co. Rep / Geo. Ron Nelson Cont. D.'s #1 Est. Ft. of Pay ___ Por. ___ %

Location: Sec. 15 Twp. 10 Rge. 31 Co. Thomas State Ks

No. of Copies None Distribution Sheet (Y, N) ___ Turnkey (Y, N) ___ Evaluation (Y, N) ___

Interval Tested 4175 4275 | Initial Str Wt./Lbs. 50,000 | Unseated Str Wt./Lbs. 52,000

Anchor Length 100' | Wt. Set Lbs. 30,000 | Wt. Pulled Loose/Lbs. 20,000

Top Packer Depth 4170 | Tool Weight 1,500

Bottom Packer Depth 4175 | Hole Size — 7 7/8" ✓ | Rubber Size — 6 3/4" ✓

Total Depth 4275 | Wt. Pipe Run ___ | Drill Collar Run —

Mud Wt. 9.5 LCM Tr Vis. 52 WL 7.4 | Drill Pipe Size 4 1/2 XH | Ft. Run 4247'

Blow Description Mud dropped 70' to 100' when tool opened. 11" in blow died in 40 min. ISI: No return
F.F.: Good Surge to open tool - No blow
F.S.I.: No return

Recovery — Total Feet 180' GIP — Ft. in DC — Ft. in DP 180'

Rec. 180'	Feet Of Drilling Mud	%gas	%oil	%water	%mud
Rec.	Feet Of	%gas	%oil	%water	%mud
Rec.	Feet Of	%gas	%oil	%water	%mud
Rec.	Feet Of	%gas	%oil	%water	%mud
Rec.	Feet Of	%gas	%oil	%water	%mud

BHT 114 °F Gravity — °API D@ — °F Corrected Gravity — °API

RW — @ — °F Chlorides — ppm Recovery Chlorides 500 ppm System

	AK-1	Alpine				
(A) Initial Hydrostatic Mud		2100 PSI	Recorder No. 3227		T-On Location 16:30 p.m.	
(B) First Initial Flow Pressure	Clock	111 PSI	(depth) 4176'		T-Started 17:15 p.m.	
(C) First Final Flow Pressure		115 PSI	Recorder No. 11057		T-Open 19:15 p.m.	9:15
(D) Initial Shut-In Pressure	Stopped	1341 PSI	(depth) 4270'		T-Pulled 22:15 p.m.	
(E) Second Initial Flow Pressure		116 PSI	Recorder No.		T-Out 12:45 a.m.	
(F) Second Final Flow Pressure		121 PSI	(depth)		T-Off Location 1:45 a.m.	
(G) Final Shut-in Pressure		1335 PSI	Initial Opening 45		Test X 800	
(Q) Final Hydrostatic Mud		2087 PSI	Initial Shut-in 45		Jars	
			Final Flow 45		Safety Joint	
			Final Shut-in 45		Straddle	
					Circ. Sub X n/c	
					Sampler	
					Extra Packer	
					Elec. Rec X 150	
					Mileage X 60 1 way	
					Other	
					TOTAL PRICE $ 1010	

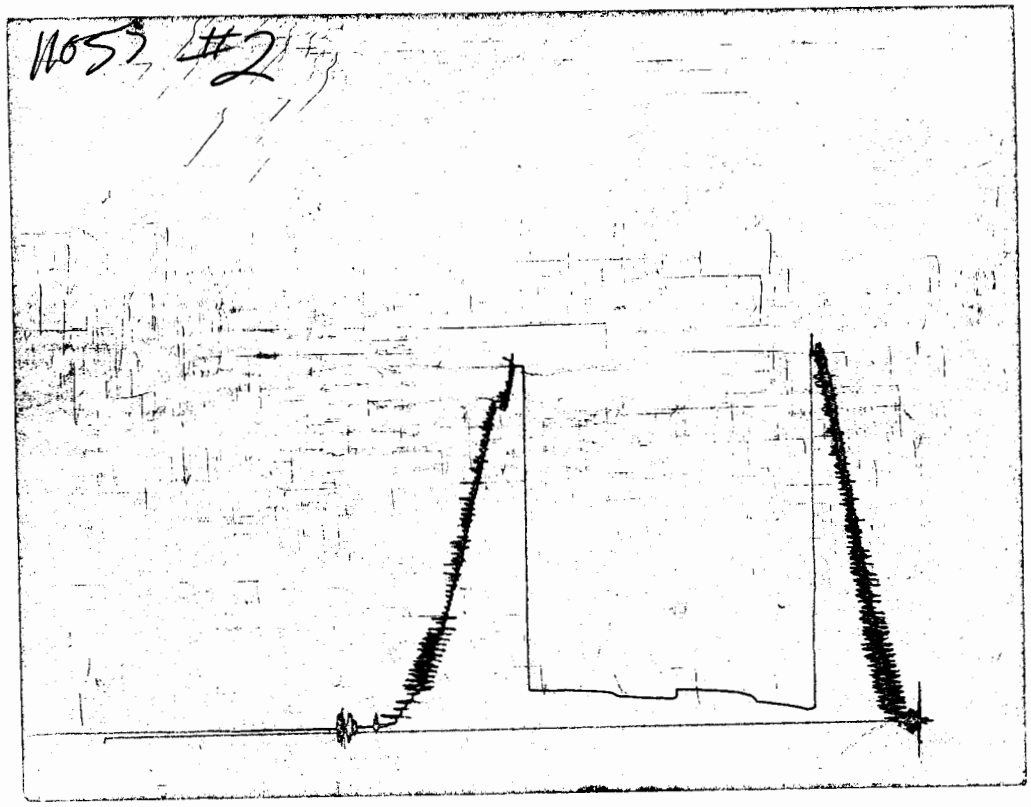
TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By ___

Our Representative [signature]

CHART PAGE

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



TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

№ 15086

Test Ticket

Well Name & No. Murrath "A" 1-15 Test No. #2 Date 4-7-02

Company Downing Nelson Oil Co. Zone Tested RC

Address Hays, Ks Elevation 3010 KB 3003 GL

Co. Rep / Geo. Ron Nelson Cont. Dis #1 Est. Ft. of Pay ____ Por. ____ %

Location: Sec. 15 Twp. 10 Rge. 31 Co. Thomas State Ks

No. of Copies None Distribution Sheet (Y, N) ____ Turnkey (Y, N) ____ Evaluation (Y, N) ____

Interval Tested 4302 4335

Anchor Length 33

Top Packer Depth 4297

Bottom Packer Depth 4302

Total Depth 4335

Mud Wt. 9.5 LCM Tr Vis. 43 WL 7.4

Initial Str Wt./Lbs. 50,000 Unseated Str Wt./Lbs. 52,000

Wt. Set Lbs. 30,000 Wt. Pulled Loose/Lbs. 70,000

Tool Weight 1500

Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓

Wt. Pipe Run — Drill Collar Run —

Drill Pipe Size 4½ XH Ft. Run 4312'

Blow Description B.O.B in 3 min.
Return blow in 2 min. built to 1½ in.
B.O.B in 3 min
Return blow in 2 min built to 1½ in.

Recovery — Total Feet 396' GIP 990' Ft. in DC — Ft. in DP ____

Rec. 210'	Feet Of C 90	25 %gas	75 %oil	%water	%mud
Rec. ____	Feet Of gmo	35 %gas	15 %oil	%water 50	%mud
Rec. ____	Feet Of	%gas	%oil	%water	%mud
Rec. ____	Feet Of	%gas	%oil	%water	%mud
Rec. ____	Feet Of	%gas	%oil	%water	%mud

BHT 125° °F Gravity 40 °API D@ 60° °F Corrected Gravity 40 °API

RW — @ — °F Chlorides — ppm Recovery Chlorides 500 ppm System

	AK-1	Alpine				
(A) Initital Hydrostatic Mud		2147 PSI	Recorder No. 3227		T-On Location 13:00 pm
(B) First Initial Flow Pressure		48 PSI	(depth) 4303		T-Started 13:10 p.m.
(C) First Final Flow Pressure		115 PSI	Recorder No. 11057		T-Open 14:45 p.m. 8
(D) Initial Shut-In Pressure		192 PSI	(depth) 4330		T-Pulled 18:15 p.m
(E) Second Initial Flow Pressure		119 PSI	Recorder No. ____		T-Out 21:00 p.m.
(F) Second Final Flow Pressure		152 PSI	(depth) ____		T-Off Location 22: p.m.
(G) Final Shut-in Pressure		196 PSI	Initial Opening 45		Test x 800
(Q) Final Hydrostatic Mud		2128 PSI	Initial Shut-in 60		Jars ____
			Final Flow 45		Safety Joint ____
			Final Shut-in 60		Straddle ____
					Circ. Sub x n/c
					Sampler ____
					Extra Packer ____
					Elec. Rec. x 150
					Mileage x 60 1 way
					Other -180 rig time
					TOTAL PRICE $ 830

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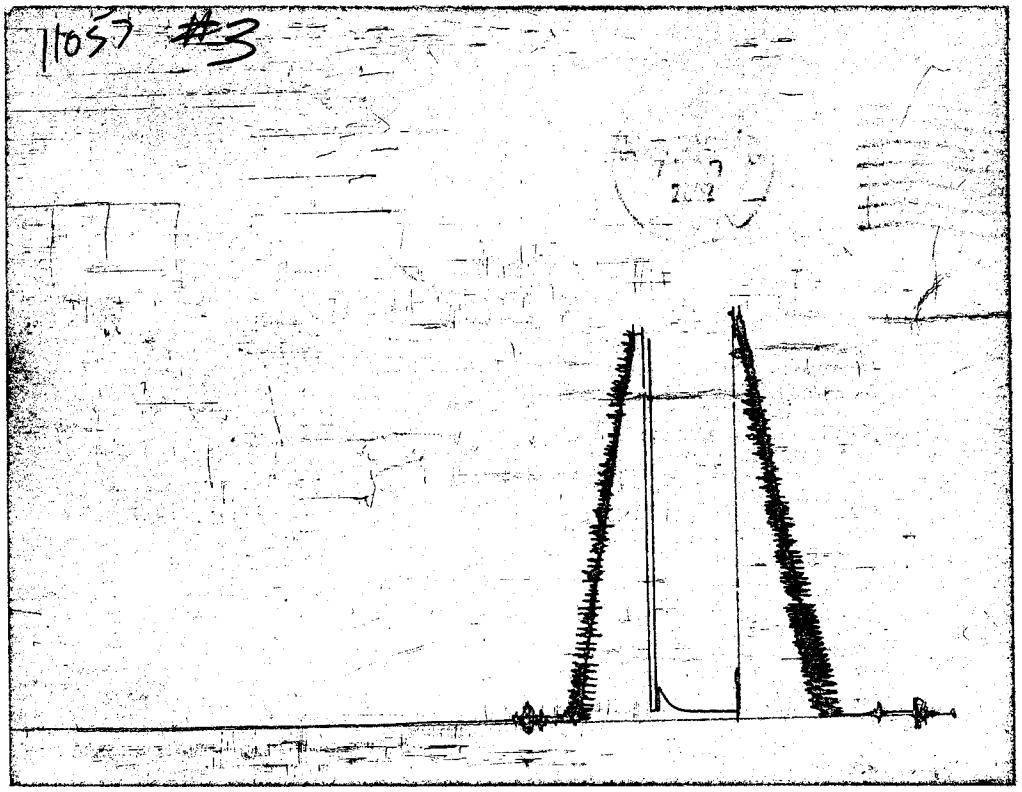
Approved By ____

Our Representative ____

10/10

CHART PAGE

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



TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

№ 15087

Test Ticket

Well Name & No. Manrath "A" #1-15 Test No. 3 Date 4-8-02

Company Downing Nelson Oil Co. Zone Tested Pawnee

Address Hays Ks Elevation 3010 KB 3003 GL

Co. Rep / Geo. Ron Nelson Cont. Dis #1 Est. Ft. of Pay ___ Por. ___ %

Location: Sec. 15 Twp. 10 Rge. 31 Co. Thomas State Ks

No. of Copies None Distribution Sheet (Y, N) ___ Turnkey (Y, N) ___ Evaluation (Y, N) ___

Interval Tested 4440 4483 Initial Str Wt./Lbs. 51,000 Unseated Str Wt./Lbs. 51,000

Anchor Length 43 Wt. Set Lbs. 30,000 Wt. Pulled Loose/Lbs. 70,000

Top Packer Depth 4435 Tool Weight 1500

Bottom Packer Depth 4440 Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓

Total Depth 4483 Wt. Pipe Run — Drill Collar Run —

Mud Wt. 9.6 LCM Tr Vis. 45 WL 8.0 Drill Pipe Size 4 1/2 XH Ft. Run 4435'

Blow Description Weak Surface blow died in 12 min
No return
No blow, Flush tool, good Surge, no blow Pull tool

Recovery — Total Feet 5' GIP — Ft. in DC — Ft. in DP 5'

Rec. 5' Feet Of Drilling Mud %gas %oil %water 100 %mud

Rec. ___ Feet Of ___ %gas %oil %water %mud

Rec. ___ Feet Of ___ %gas %oil %water %mud

Rec. ___ Feet Of ___ %gas %oil %water %mud

Rec. ___ Feet Of ___ %gas %oil %water %mud

BHT 116° °F Gravity — °API D@ — °F Corrected Gravity — °API

RW — @ — °F Chlorides — ppm Recovery Chlorides 500 ppm System

	AK-1	Alpine					
(A) Initial Hydrostatic Mud		2261	PSI	Recorder No.	3227	T-On Location	9:50 a.m.
(B) First Initial Flow Pressure		19	PSI	(depth)	4441'	T-Started	10:15 a.m.
(C) First Final Flow Pressure		24	PSI	Recorder No.	16057	T-Open	12:25 p.m.
(D) Initial Shut-In Pressure		198	PSI	(depth)	4478'	T-Pulled	13:30 p.m.
(E) Second Initial Flow Pressure		20	PSI	Recorder No.		T-Out	15:15 p.m.
(F) Second Final Flow Pressure		21	PSI	(depth)		T-Off Location	16:10 p.m.
(G) Final Shut-in Pressure		—	PSI	Initial Opening	30	Test ✓	800
(Q) Final Hydrostatic Mud		2240	PSI	Initial Shut-in	30	Jars	
				Final Flow	5	Safety Joint	
				Final Shut-in	—	Straddle	
						Circ. Sub ✓	n/c
						Sampler	
						Extra Packer	
						Elec. Rec. ✓	150
						Mileage ✓	60 1 way
						Other	
						TOTAL PRICE $	1010

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Approved By ___

Our Representative Steve McBride