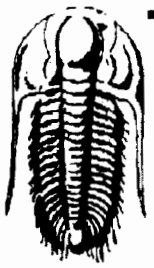
15-025-21237

ORIGINAL



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Horseshoe Operating Inc**

300 W Texas ste 1190 Midland Tx79701

RECEIVED
MAR - 1 2002
KCC WICHITA

ATTN: Roger

21 33S 22W

Degnan #1

Start Date: 2002.02.03 @ 02:36:00

End Date: 2002.02.03 @ 12:42:00

Job Ticket #: 14177 DST #: 1

Horseshoe Operating Inc | Degnan #1 | 21 33S 22W | DST #1 | Morrow Sand | 2002.02.03

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

ORIGINAL

DRILL STEM TEST REPORT

Horseshoe Operating Inc

300 W Texas ste 1190 Midland Tx 79701

ATTN: Roger

Degnan #1

21 33S 22W

Job Ticket: 14177 **DST#: 1**

Test Start: 2002.02.03 @ 02:36:00

GENERAL INFORMATION:

Formation: **Morrow Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:24:45
Time Test Ended: 12:42:00

Test Type: Bottom Hole
Tester: Jakki Kreklau
Unit No: 17

Interval: 5342.00 ft (KB) To 5422.00 ft (KB) (TVD)
Total Depth: 5422.00 ft (KB) (TVD)
Hole Diameter: 7.78 inches Hole Condition: Fair

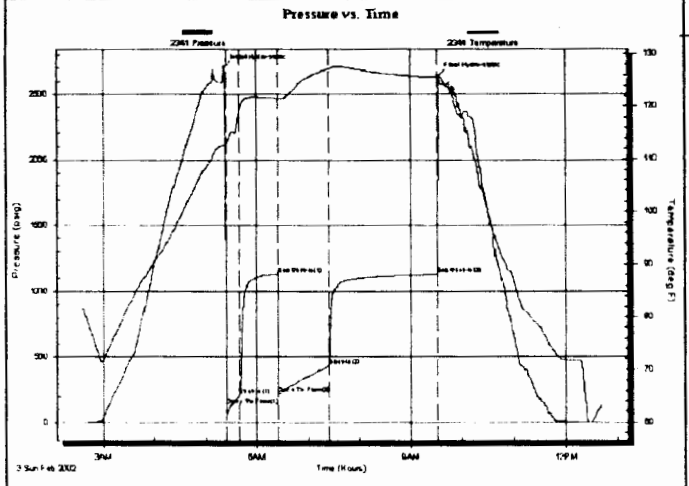
Reference Elevations: 2010.00 ft (KB)
2000.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 2341 **Inside**

Press@RunDepth: 433.92 psig @ 5343.00 ft (KB)
Start Date: .2002.02.03 End Date: 2002.02.03
Start Time: 02:36:01 End Time: 12:42:00

Capacity: 7000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2002.02.03 @ 05:22:45
Time Off Btm: 2002.02.03 @ 09:33:00

TEST COMMENT: IF- strong blow BOB 1min 30 sec thru opening
ISI- blow back built to 10 inches
FF- strong blow BOB as soon as opened " no gas "
FSI- blow back built to BOB 30 mins gas to surface gas will burn gas



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2703.33	112.75	Initial Hydro-static
2	125.82	113.01	Open To Flow (1)
18	204.31	119.24	Shut-In(1)
62	1129.87	121.53	End Shut-In(1)
63	218.63	121.52	Open To Flow (2)
123	433.92	127.22	Shut-In(2)
249	1126.28	125.61	End Shut-In(2)
251	2636.10	125.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	GCM	0.37
62.00	VSIG&OCM 2% oil 98% mud	0.30
124.00	SIG & OC & WCM 10%gas 5% oil 35% w	0.615
603.00	SIGC MC WTR 80% WTR 20% mud	7.60
	show F oil in top of tool	

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Horseshoe Operating Inc

300 W Texas ste 1190 Midland Tx 79701

ATTN: Roger

Degnan #1

21 33S 22W

Job Ticket: 14177 DST#: 1

Test Start: 2002.02.03 @ 02:36:00

Tool Information

Drill Pipe:	Length:	4977.00 ft	Diameter:	3.80 inches	Volume:	69.81 bbl	Tool Weight:	1800.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	355.00 ft	Diameter:	2.25 inches	Volume:	1.75 bbl	Weight to Pull Loose:	78000.00 lb
					Total Volume:	71.56 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		17.00 ft					String Weight: Initial	70000.00 lb
Depth to Top Packer:		5342.00 ft					Final	72000.00 lb
Depth to Bottom Packer:		ft						
Interval betw een Packers:		80.00 ft						
Tool Length:		107.00 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			5316.00		
S.I. Tool	5.00			5321.00		
HMV	5.00			5326.00		
Jars	5.00			5331.00		
Safety Joint	2.00			5333.00		
Packer	5.00			5338.00	27.00	Bottom Of Top Packer
Packer	4.00			5342.00		
Stubb	1.00			5343.00		
Recorder	0.00	2341	Inside	5343.00		
Perforations	7.00			5350.00		
C.O. Sub	1.00			5351.00		
Blank Spacing	62.00			5413.00		
C.O. Sub	1.00			5414.00		
Perforations	5.00			5419.00		
Recorder	0.00	13423	Inside	5419.00		
Bullnose	3.00			5422.00	80.00	Bottom Packers & Anchor
Total Tool Length:	**107.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Horseshoe Operating Inc

300 W Texas ste 1190 Midland Tx 79701

ATTN: Roger

Degnan #1

21 33S 22W

Job Ticket: 14177 DST#: 1

Test Start: 2002.02.03 @ 02:36:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	110000 ppm
Viscosity:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

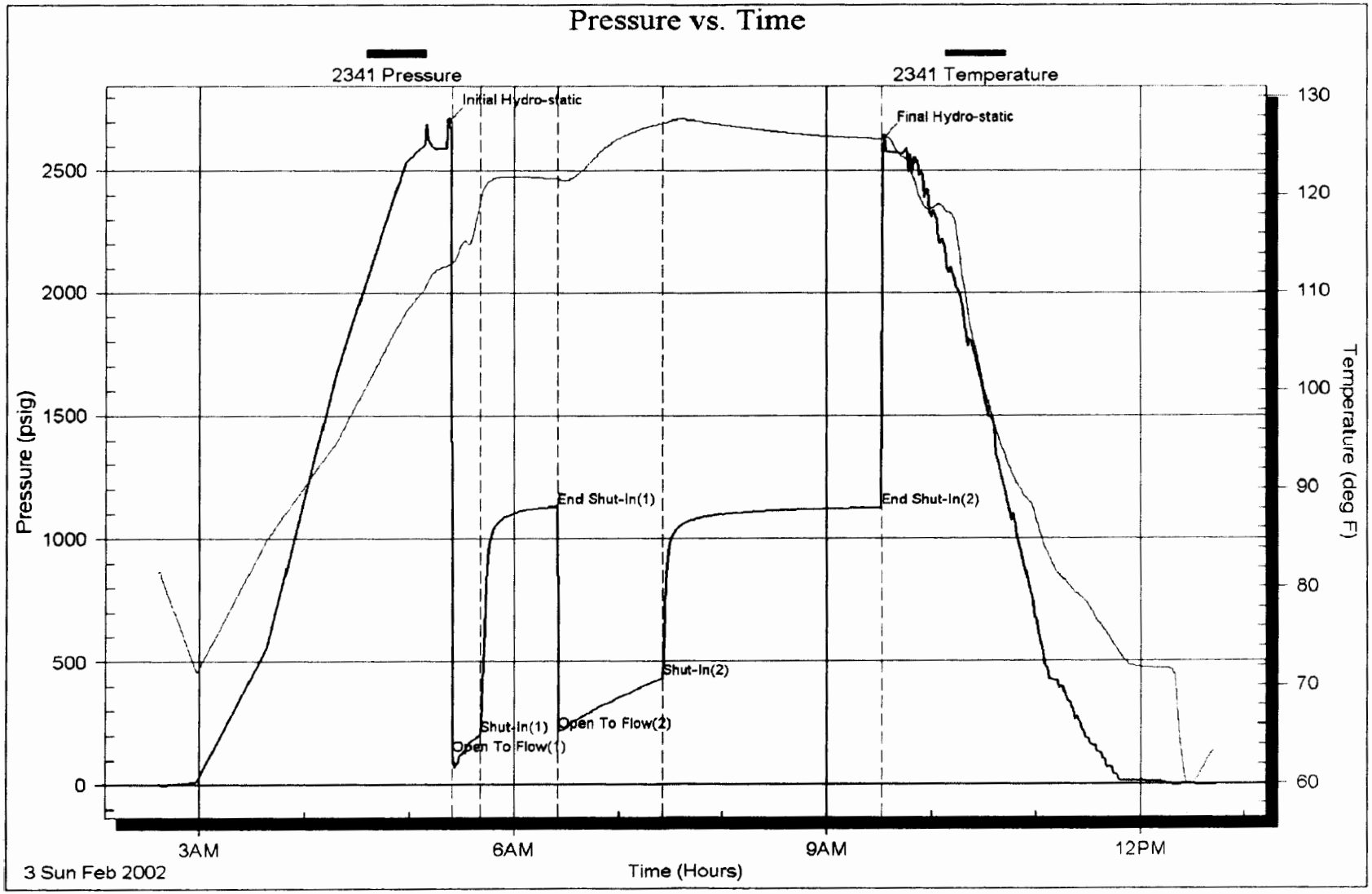
Length ft	Description	Volume bbl
75.00	GCM	0.369
62.00	VSIG&OCM 2% oil 98% mud	0.305
124.00	SIG & OC & WCM 10%gas 5% oil 35% w ater	0.610
603.00	SIGC MC WTR 80% WTR 20% mud	7.602
	show F oil in top of tool	

Total Length: 864.00 ft Total Volume: 8.886 bbl

Num Fluid Samples: 1 Num Gas Bombs: 1 Serial #:

Laboratory Name: Caraw ay Laboratory Location: Liberal, Ks

Recovery Comments:


Pressure vs. Time
2341 Pressure
2341 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Shut-In(2)
Open To Flow(2)
Pressure (psig)
Temperature (deg F)
2500
2000
1500
1000
500
0
130
120
110
100
90
80
70
60
3AM
6AM
9AM
12PM
3 Sun Feb 2002
Time (Hours)

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601 Nº 14177

Test Ticket

Well Name & No. DEGNAN #1 Test No. 1 Date 02-03-02

Company Horseshoe Operating Inc Zone Tested Morrow Sand

Address 300 W Texas Ste 1190 Midland TX 79701 Elevation 2000 KB 2010 GL

Co. Rep / Geo. Roger Martin Cont. Big A #1 Est. Ft. of Pay ____ Por. ____ %

Location: Sec. 21 Twp. 33S Rge. 22W Co. Clark State Ks

No. of Copies ____ Distribution Sheet (Y, N) ____ Turnkey (Y, N) ____ Evaluation (Y, N) ____

Interval Tested 5342 - 5422 Initial Str Wt./Lbs. 70000 Unseated Str Wt./Lbs. 72000

Anchor Length 80 Wt. Set Lbs. 30000 Wt. Pulled Loose/Lbs. 78000

Top Packer Depth 5338 Tool Weight 1800

Bottom Packer Depth 5342 Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓

Total Depth 5422 Wt. Pipe Run ____ Drill Collar Run 355

Mud Wt. 9.2 LCM 3 Vis. 47 WL 8.0 Drill Pipe Size 4½ X H Ft. Run 4799

Blow Description IF - Strong blow BOB 1½ thru opening

ISI - Blow Back Built to 10 in

FF - Strong blow BOB as soon as opened "No Gas"

FSI - Blow Back built to BOB, 30 min Gas to Surface, Gas Will Burn, Sample Caught

Recovery — Total Feet 864 GIP ____ Ft. in DC 355 Ft. in DP 509

Rec. 75'	Feet Of	G&O cut Mud	%gas		%oil		%water		%mud
Rec. 62'	Feet Of	VSIG+OCM	%gas	2	%oil		%water	98	%mud
Rec. 124'	Feet Of	SIG+OC+WCM	%gas	10	%oil	5	%water	35	%mud
Rec. 603	Feet Of	SIGCMCWtr	%gas		%oil		%water	80	%mud
Rec. 20	Feet Of	Show F.O.i in top of tool	%gas		%oil		%water		%mud

BHT 126 °F Gravity ____ °API D@ ____ °F Corrected Gravity ____ °API

RW 0.08 @ 67 °F Chlorides 110 000 ppm Recovery Chlorides 5000 ppm System

	AK-1	Alpine					
(A) Initial Hydrostatic Mud		2703	PSI	Recorder No.	2341	T-On Location	0000
(B) First Initial Flow Pressure		125	PSI	(depth)	5345	T-Started	0236
(C) First Final Flow Pressure		204	PSI	Recorder No.	13423	T-Open	0525
(D) Initial Shut-In Pressure		1129	PSI	(depth)	5422	T-Pulled	0932
(E) Second Initial Flow Pressure		218	PSI	Recorder No.		T-Out	1042
(F) Second Final Flow Pressure		433	PSI	(depth)		T-Off Location	
(G) Final Shut-in Pressure		1126	PSI	Initial Opening	15	Test ✓	900
(Q) Final Hydrostatic Mud		2636	PSI	Initial Shut-in	45	Jars ✓	200
				Final Flow	60	Safety Joint ✓	50
				Final Shut-in	120	Straddle	
						Circ. Sub	
						Sampler	
						Extra Packer	
						Elec. Rec. ✓	150
						Mileage	110
						Other	3hrs 90
						TOTAL PRICE $	1500

Approved By Roger Martin

Our Representative Jackie Lucklan

CHART PAGE

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