

DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
butch1dst1

Company Chieftain Oil Company, Inc. Lease & Well No. Butch No. 1
Elevation 1513 KB Formation Toronto Effective Pay _____ Ft. Ticket No. K187
Date 10-18-14 Sec. 32 Twp. 32S Range 11W County Barber State Kansas
Test Approved By Aaron Young Diamond Representative Jason McLemore

Formation Test No. 1 Interval Tested from 3,654 ft. to 3,685 ft. Total Depth 3,685 ft.
Packer Depth 3,649 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 3,654 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,635 ft. Recorder Number 5513 Cap. 5,000 psi.
Bottom Recorder Depth (Outside) 3,636 ft. Recorder Number 5588 Cap. 6,000 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor Fossil Drilling, Inc. - Rig 2 Drill Collar Length 155 ft I.D. 2 1/4 in.
Mud Type Chemical Viscosity 47 Weight Pipe Length _____ ft I.D. _____ in.
Weight 9.1 Water Loss 9.2 cc. Drill Pipe Length 3,466 ft I.D. 3 in.
Chlorides 4,800 P.P.M. Test Tool Length 33 ft Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 6 Anchor Length 31 ft. Size 4 1/2-FH in.
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4-FH in.

Blow: 1st Open: Weak blow increasing to 3/4 in. No blow back during shut-in.
2nd Open: Weak blow increasing to 1 in. No blow back during shut-in.

Recovered 75 ft. of drilling mud w/oil specks = .369000 bbls. (Grind out: <1%-oil; >99%-mud)

Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Remarks Tool slid 7 ft. on 1st open.

Time Set Packer(s) 11:53 P.M. Time Started off Bottom 3:23 A.M. Maximum Temperature 109°
Initial Hydrostatic Pressure.....(A) 1744 P.S.I.
Initial Flow Period.....Minutes 30 (B) 41 P.S.I. to (C) 55 P.S.I.
Initial Closed In Period.....Minutes 60 (D) 331 P.S.I.
Final Flow Period.....Minutes 45 (E) 60 P.S.I. to (F) 62 P.S.I.
Final Closed In Period.....Minutes 75 (G) 212 P.S.I.
Final Hydrostatic Pressure.....(H) 1718 P.S.I.



JASON MCLEMORE

CELL # 620-617-0527

General Information

Company Name	Chieftain Oil Company, Inc	Contact	Ryan Molz	Job Number	K187
Well Name	DST #1 Toronto	Butch #1	Representative	Jason McLemore	
Unique Well ID	3654-3685	Well Operator	Chieftain Oil Company, Inc	Jason McLemore	
Surface Location	32-32s-11w-Barber	Prepared By	Wildcat	Aaron Young	
Field		Qualified By	Vertical	Test Unit	6
Well Type					

Test Information

Test Type	Drill Stem Test	Representative	Jason McLemore
Formation	Toronto	Well Operator	Chieftain Oil Company, Inc
Well Fluid Type	01 Oil	Report Date	2014/10/19
Test Purpose (AEUB)	Initial Test	Prepared By	Jason McLemore
Start Test Date	2014/10/18	Start Test Time	21:52:00
Final Test Date	2014/10/19	Final Test Time	05:27:00

Test Results

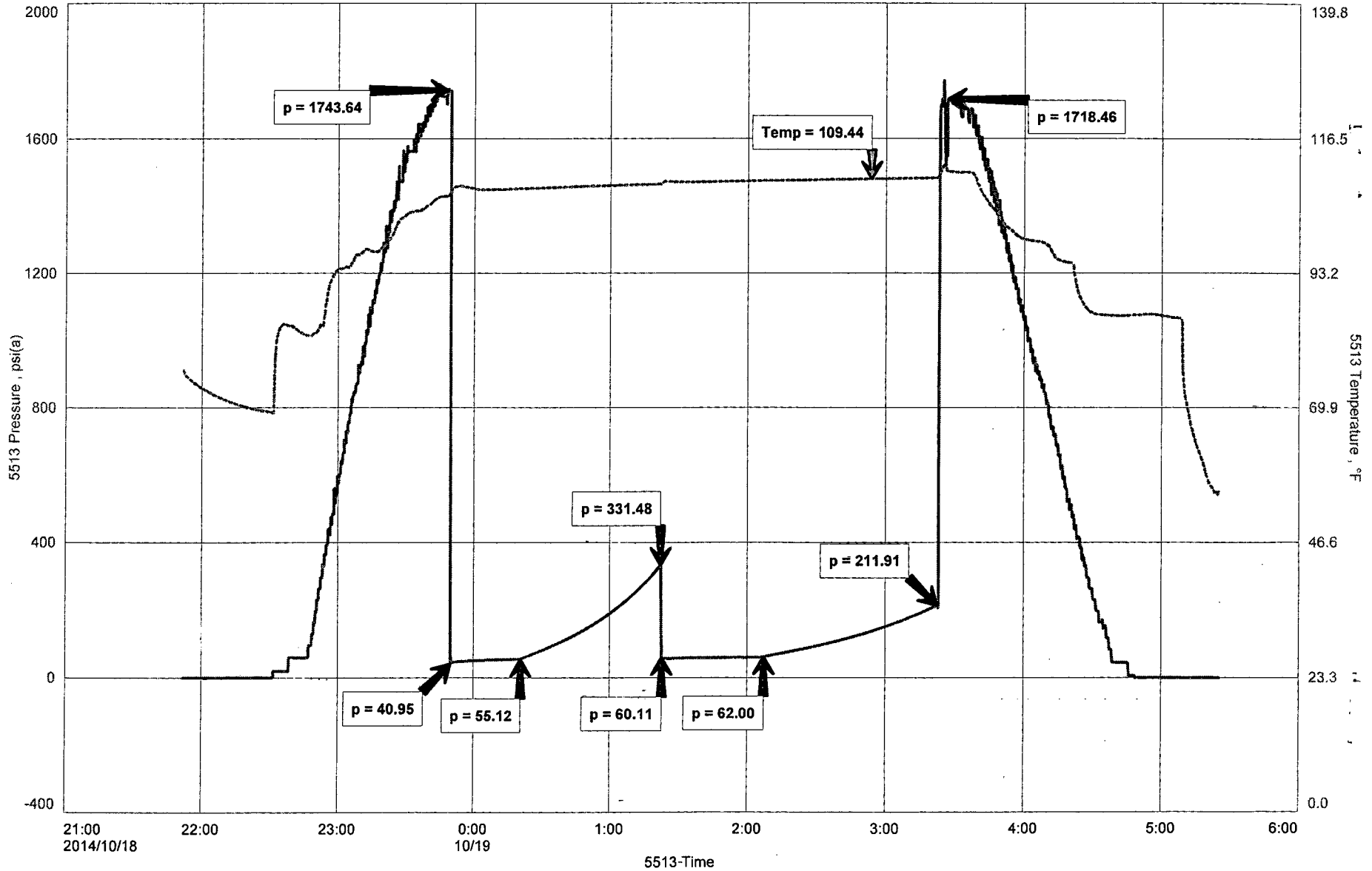
RECOVERED:

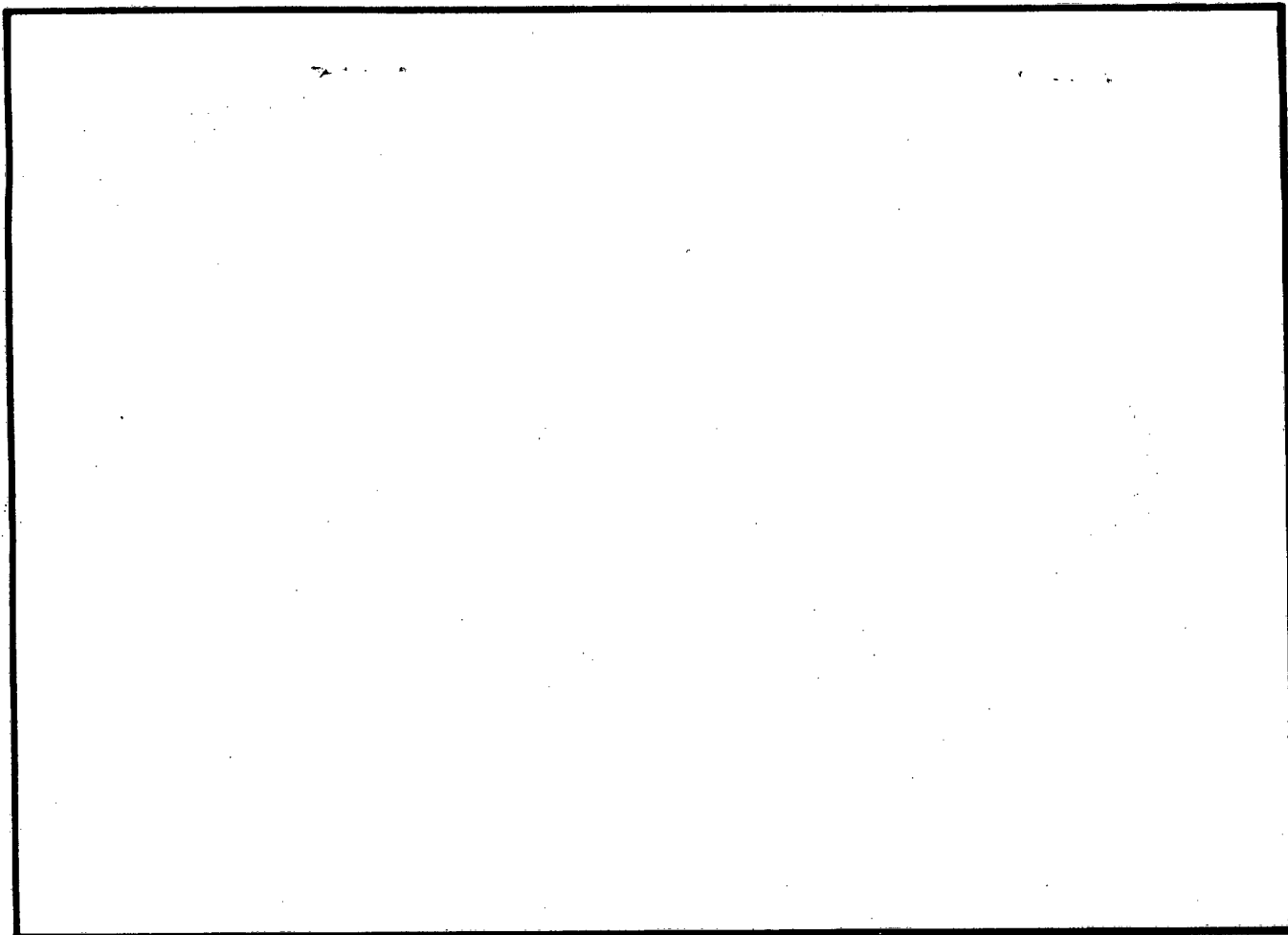
75	Drilling Mud W/Oil Specks, <1% Oil
75	TOTAL FLUID

Chieftain Oil Company, Inc
DST #1 Toronto 3654-3685
Start Test Date: 2014/10/18
Final Test Date: 2014/10/19

Butch #1
Formation: Toronto
Pool: Wildcat
Job Number: K187

Butch #1





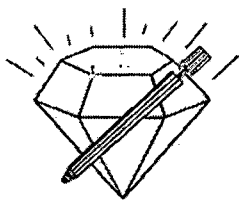
This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Electronic Reading	
(A) Initial Hydrostatic Mud	1744	PSI
(B) First Initial Flow Pressure	41	PSI
(C) First Final Flow Pressure	55	PSI
(D) Initial Closed-in Pressure	331	PSI
(E) Second Initial Flow Pressure	60	PSI
(F) Second Final Flow Pressure	62	PSI
(G) Final Closed-in Pressure	212	PSI
(H) Final Hydrostatic Mud	1718	PSI

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b¹	= Approximate Radius of Investigation (Net Pay Zone h ¹)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h¹	= Net Pay Thickness	Feet
K	= Permeability	md
K¹	= Permeability (From Net Pay Zone h ¹)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF¹	= Maximum Indicated Flow Rate	MCF/D
OF²	= Minimum Indicated Flow Rate	MCF/D
OF³	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF⁴	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P^S	= Extrapolated Static Pressure	Psig.
P^F	= Final Flow Pressure	Psig.
P[∇]	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q¹	= Theoretical Production w/Damage Removed	bbls/day
Q^g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r^w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t[∇]	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
u	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.



DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
butch1dst2

Company Chieftain Oil Company, Inc. Lease & Well No. Butch No. 1
Elevation 1513 KB Formation Douglas Effective Pay _____ Ft. Ticket No. K188
Date 10-19-14 Sec. 32 Twp. 32S Range 11W County Barber State Kansas
Test Approved By Aaron Young Diamond Representative Jason McLemore

Formation Test No. 2 Interval Tested from 3,713 ft. to 3,732 ft. Total Depth 3,732 ft.
Packer Depth 3,708 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 3,713 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,694 ft. Recorder Number 5513 Cap. 5,000 psi.
Bottom Recorder Depth (Outside) 3,695 ft. Recorder Number 5588 Cap. 6,000 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor Fossil Drilling, Inc. - Rig 2 Drill Collar Length 155 ft I.D. 2 1/4 in.
Mud Type Chemical Viscosity 47 Weight Pipe Length _____ ft I.D. _____ in.
Weight 9.0 Water Loss 9.2 cc. Drill Pipe Length 3,525 ft I.D. 3 in.
Chlorides 4,500 P.P.M. Test Tool Length 33 ft Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 6 Anchor Length 19 ft. Size 4 1/2-FH in.
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4-FH in.

Blow: 1st Open: Good blow increasing. Off bottom of bucket in 10 mins. No blow back during shut-in.
2nd Open: Good blow increasing. Off bottom of bucket in 10 mins. No blow back during shut-in.

Recovered 875 ft. of muddy water = 8.567400 bbls. (Grind out: 95%-water; 5%-mud) Chlorides: 140,000 Ppm PH: 7.0 RW: .85 @ 60°
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Remarks Tool slid 10 ft. on 1st open.

Time Set Packer(s) 4:55 P.M. Time Started off Bottom 7:55 P.M. Maximum Temperature 116°
Initial Hydrostatic Pressure.....(A) 1755 P.S.I.
Initial Flow Period.....Minutes 30 (B) 72 P.S.I. to (C) 285 P.S.I.
Initial Closed In Period.....Minutes 60 (D) 1301 P.S.I.
Final Flow Period.....Minutes 30 (E) 288 P.S.I. to (F) 448 P.S.I.
Final Closed In Period.....Minutes 60 (G) 1288 P.S.I.
Final Hydrostatic Pressure.....(H) 1734 P.S.I.



JASON MCLEMORE

CELL # 620-617-0527

General Information

Company Name	Chieftain Oil Company, Inc	
Contact	Ryan Molz	Job Number K188
Well Name	Butch #1	Representative Jason McLemore
Unique Well ID	DST #2 Douglas 3713-3732	Well Operator Chieftain Oil Company, Inc
Surface Location	32-32s-11w-Barber	Prepared By Jason McLemore
Field	Wildcat	Qualified By Aaron Young
Well Type	Vertical	Test Unit 6

Test Information

Test Type	Drill Stem Test	Representative Jason McLemore
Formation	Douglas	Well Operator Chieftain Oil Company, Inc
Well Fluid Type	01 Oil	Report Date 2014/10/19
Test Purpose (AEUB)	Initial Test	Prepared By Jason McLemore
Start Test Date	2014/10/19	Start Test Time 14:24:00
Final Test Date	2014/10/19	Final Test Time 22:21:00

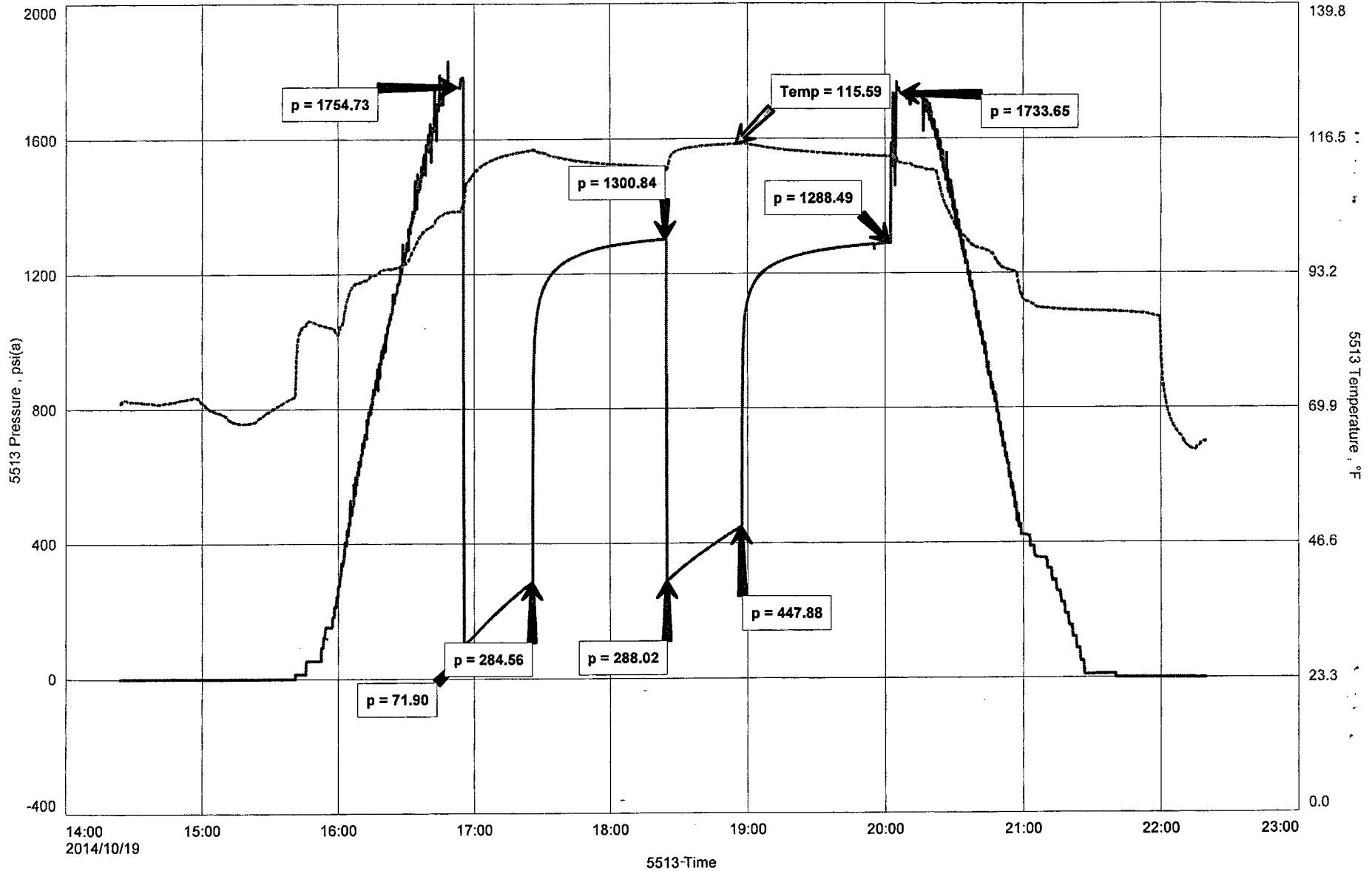
Test Results

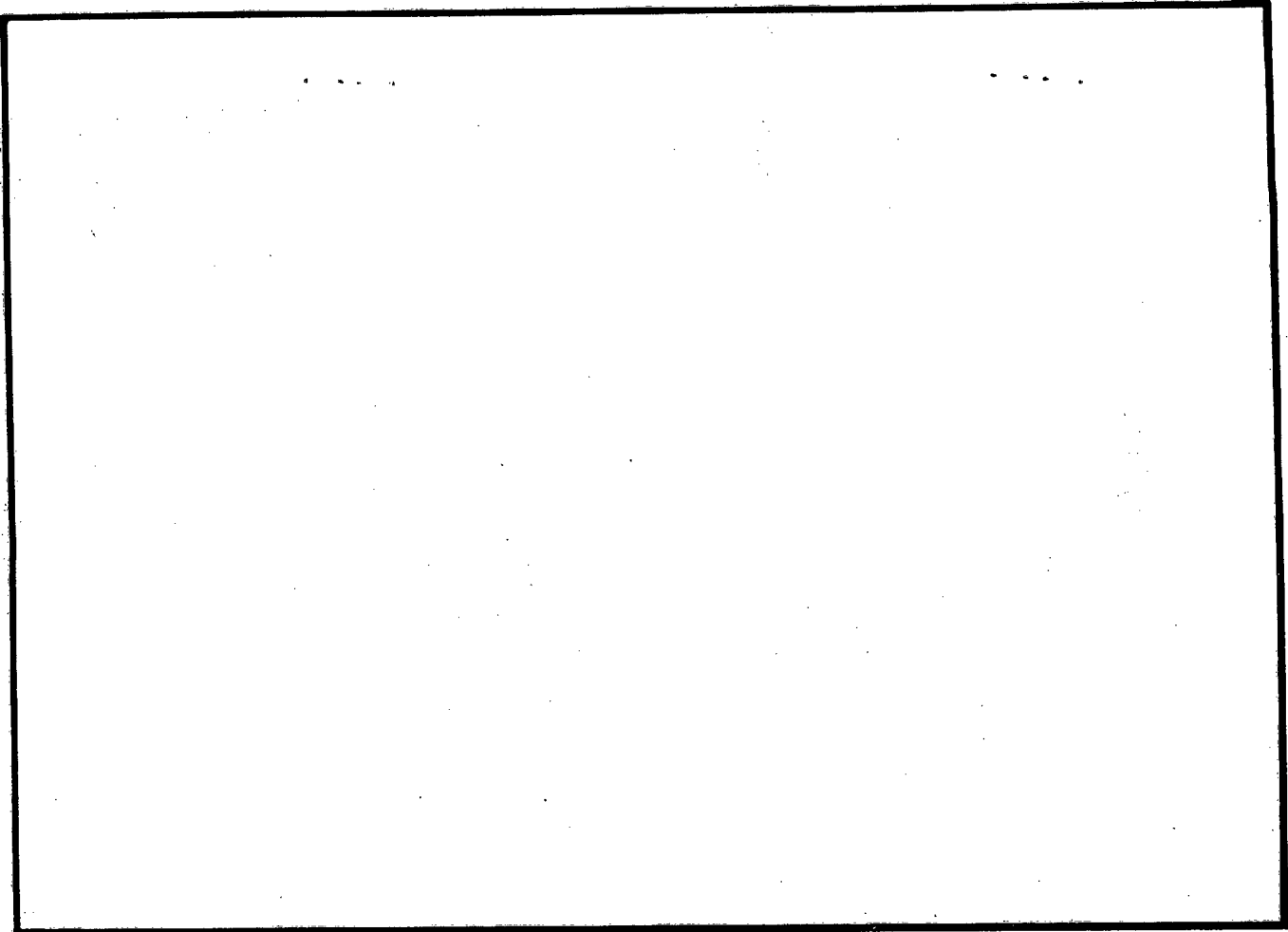
RECOVERED:

875 Muddy Water, 95% Water, 5% Mud
875 TOTAL FLUID

CHLORIDES: 140,000
PH: 7
RW: .850 @ 60

Butch #1





This is an actual photograph of recorder chart.

POINT	PRESSURE Electronic Reading	
(A) Initial Hydrostatic Mud	1755	PSI
(B) First Initial Flow Pressure	72	PSI
(C) First Final Flow Pressure	285	PSI
(D) Initial Closed-in Pressure	1301	PSI
(E) Second Initial Flow Pressure	288	PSI
(F) Second Final Flow Pressure	448	PSI
(G) Final Closed-in Pressure	1288	PSI
(H) Final Hydrostatic Mud	1734	PSI

NOMENCLATURE

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GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h¹	= Net Pay Thickness	Feet
K	= Permeability	md
K¹	= Permeability (From Net Pay Zone h ¹)	md
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OF¹	= Maximum Indicated Flow Rate	MCF/D
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OF⁴	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P^S	= Extrapolated Static Pressure	Psig.
P^F	= Final Flow Pressure	Psig.
P^{PT}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q¹	= Theoretical Production w/Damage Removed	bbls/day
Q^g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r^w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t^o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	———
u	= Viscosity Gas or Liquid	CP
Log	= Common Log	

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