

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY Range Oil Company, Inc.

LEASE Madden Unit #1

FIELD W/C

LOCATION 1460' FWL + 1390' FWL, NW/4

SEC 31 TWP 19S RGE 6E

COUNTY Chase STATE KS

CONTRACTOR C + G Drilling, Rig #1

SPUD 5/29/14 COMP 6/3/14

RTD 2262' LTD 2260'

MUD UP 1500' TYPE MUD Chem

ELEVATIONS

KB 1469'

DF _____

GL 1460'

Measurements Are All From KB

FASTING SURFACE 8 5/8" @ 210' w/ 135' sx
PRODUCTION 5 1/2" @ 2253'

ELECTRICAL SURVEYS
DI/GR - Anal ϕ
Mixer

SAMPLES SAVED FROM 1560' TO RTD

DRILLING TIME KEPT FROM 1500' TO RTD

SAMPLES EXAMINED FROM 1500' TO RTD

GEOLOGICAL SUPERVISION FROM 1500' TO RTD

GEOLOGIST ON WELL Ken Wallace

FORMATION TOPS LOG SAMPLES

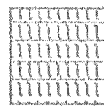
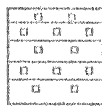
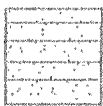

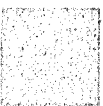

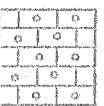


Lansing	1668 (-139)	1592 (-123)
B/KC	1943 (-474)	1930 (-461)
Cherokee sh	2106 (-637)	2095 (-626)
cong/ sd	2123 (-654)	2127 (-658)
Vt/a	2174 (-705)	2178 (-709)
Smp sd	2244 (-775)	2237 (-768)
RTD		
LTD	2260 (-791)	2262 (-793)

REMARKS Production pipe set to further evaluate Viola.

Ken Wallace

5/28/14 MIRT
5/29/14 8am Drlg
5/30/14 7am Drlg @ 915'; 1/4" @ 210'; 1/2" @ 875'
5/31/14 7:30am Drlg @ 2060'; 1/2" @ 1534'
6/1/14 8am PTD 2208' prep for DST #2; 1" @ 2188'
6/2/14 7am RTD 2262', Running DST #3
6/3/14 7am Ran Logs, LTD 2260', set 5 1/2" casing PD @ 5:45 am 6/4/14

LEGEND

								
Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool.Lime	Chert	Dolomite

SCALE " = 100'

DEPTH	Lithology	DST#	DRILLING TIME - Minutes Per Foot Rate of Penetration Decreases	SAMPLE DESCRIPTIONS	REMARKS
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1500

FUD MUD @ 210'

20

FUD MUD @ 1534'

V 30
wt. 8.7
LCM 0

40

Bit Trip

Ls, gy, sl foss, cky, & sh, gy

60

ss, gy, v fgl, mica, & sh, gy
NS, NF

80

Sh, gy-mgy, mica

LANSING
1592 (-123)

1600

Ls, brn, fxl, pug, NS
sh, gy, sm red

20

Ls, off wh - lt gy, fxl,
sl foss, ool mpt w/ gy
oolts, NS, NF

40

Ls, off wh, sl ool, foss, sl cky,
fxl - granlr, NUP, NS, NF

60

sh, grn, gy, grn/gy

Ls, gy-tan, sm brn, ool w/ gy
oolts, foss, NS, NF

80

Ls, gy-tan, ool, foss, cky
NS, NF

AA sm fxl, cky, NS

1700

sh, gy, red

20

Ls, off wh, ool, foss, sm
fxl, cky, NS, NF

Ls, tan, sm lt brn, ool, foss,

FIG 6, sl Δty, NS, NF

40
60
80
1000
20
40
60
80
1900
20
40



CFS ①

Ls, ltgy, granlr, sdy in pt,
ool, NS, NF

Ls, gy, fxln, cky, sl foss,
NS, NF

sh, gy - dkgy, calc
Ls, mgy, fxln-granlr, argl,
vΔty (gy/wh Δ), NS

Ls, tan, sl ool, foss, sl Δ,
NS, NF

Ls, dk tan, dse, fxln,
sl cky, NS, NF

sh, gy, grn

Ls, tan, fxln-dse, cky,
NS, NF

Ls, em-tan, fxln-dse, cky,
sm off wh, cky

Ls, tan, fxln-dse, NS

sh, dk gy

Ls, gy, dse, fxln, hard,
NS, NF

sh, dkgy w dkgy, argl,
Ls

Ls, tan, vool, foss, cky,
NS, NF

Ls, offwh, ool, cky, vΔty,
NS, NF

sh, bl

Ls, gy-tan, fxh-dse,
ool in pt, Δty, NS, NF

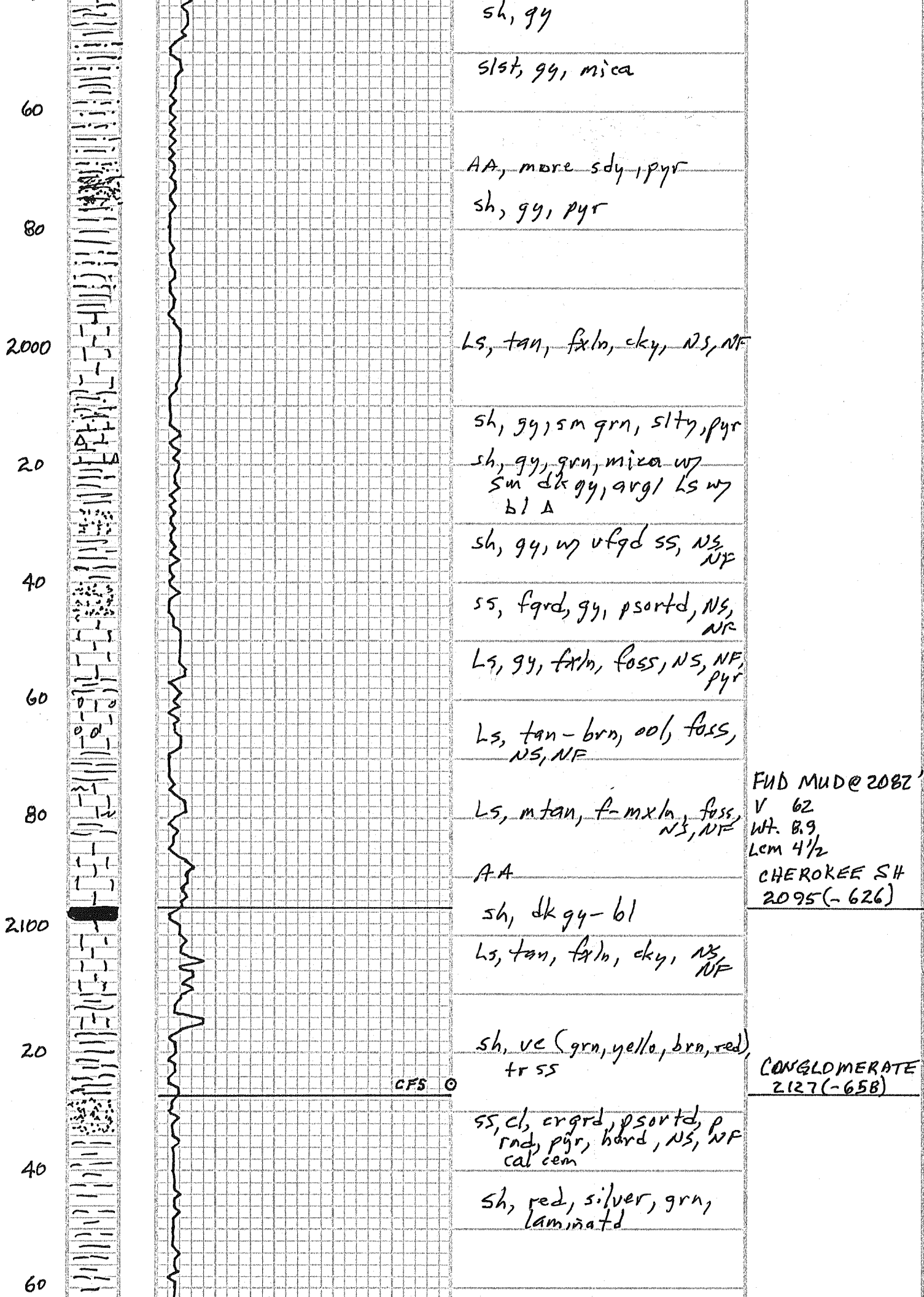
Ls, gy-mgy, ool, fxln,
foss, cky, NS

sh, gy

Ls, gy, ool, cky, NS

AA

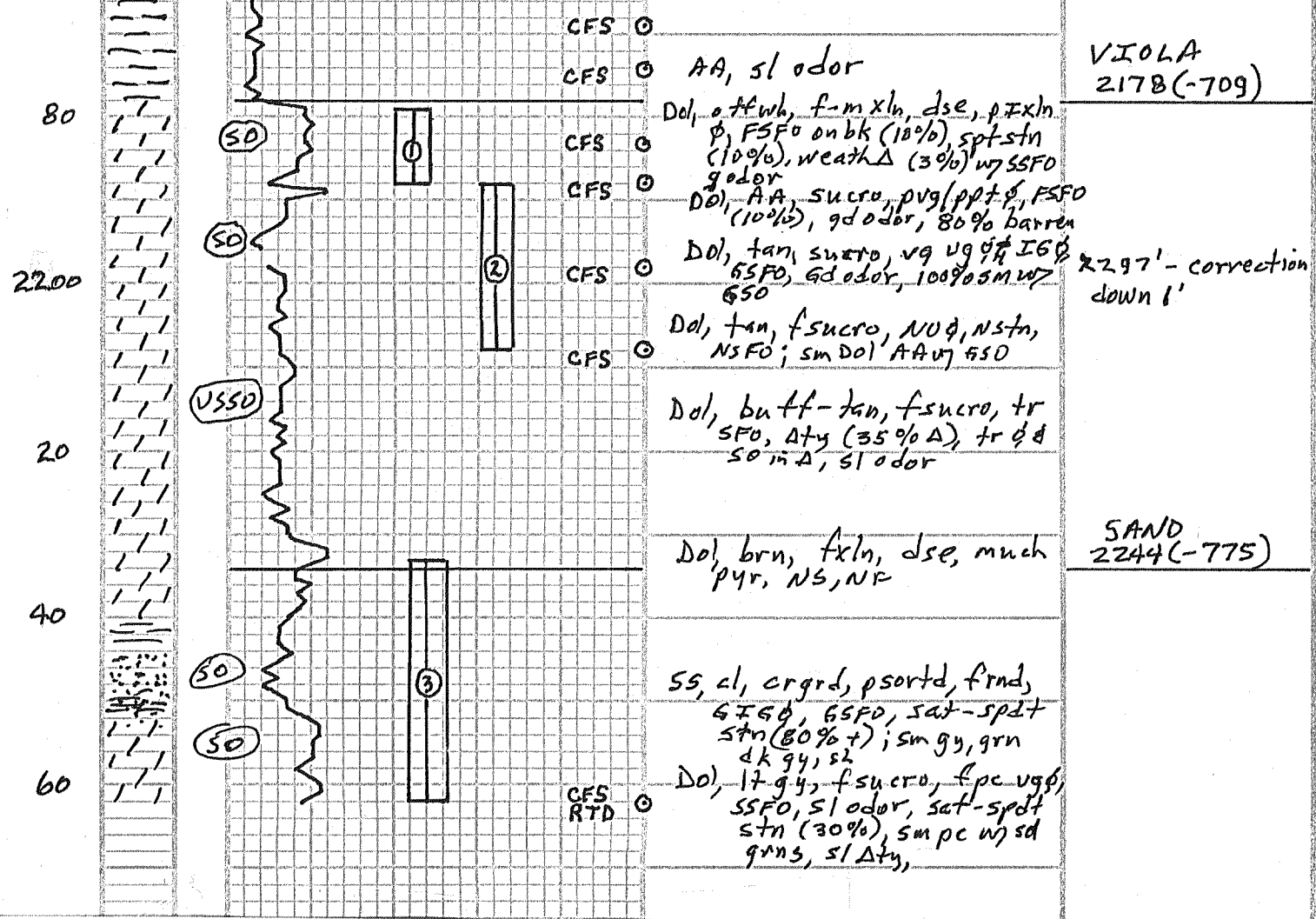
B/KC
1930(-461)



FUD MUD@2082'
 V 62
 WT. 8.9
 Lcm 4 1/2
 CHEROKEE SH
 2095(-626)

CONGLOMERATE
 2127(-658)

AA



Diamond Testing General Report

**JAKE
FAHRENBRUCH - TESTER**
Cell: (620) 282-8977

P.O. Box 157
Hoisington KS 67544
Office: (800) 542-7313

General Information

Company Name Range Oil Co., LLC
Well Operator Range Oil Co., LLC
Contact John Washburn
Site Contact Ken Wallace
Field Wildcat
Well Type Vertical
Prepared By Jake Fahrenbruch

Well Name Madden Unit #1
Unique Well ID DST #1 Viola (2179'-2188')
Surface Location Sec 31-19s-6e-Chase Co.-KS
Test Unit #5
Pool Wildcat
Job Number F277
Qualified By Ken Wallace

Test Information

Test Type BH w/S.J.
Formation Viola (2179'-2188')
Start Test Date 2014/05/31
Final Test Date 2014/06/01

Test Purpose Initial Test
Gauge Name Inside 5951
Start Test Time 18:49:00
Final Test Time 02:07:00

Test Results

30 min I.F.P. Building blow, increased to 7 1/2".
 30 min I.S.I.P. No blow-back.
 60 min F.F.P. Building blow, increased to 9 1/2".
 60 min F.S.I.P. No blow-back.

Total fluid recovery: 260'

240' Clean Heavy Oil 100% oil @ 29 gravity (corrected)
 20' Oil Cut Mud 20% oil, 80% mud
 — Tool Sample: MCO 85% oil, 15% mud
 — Bottom-Hole Temp: 97 Deg F

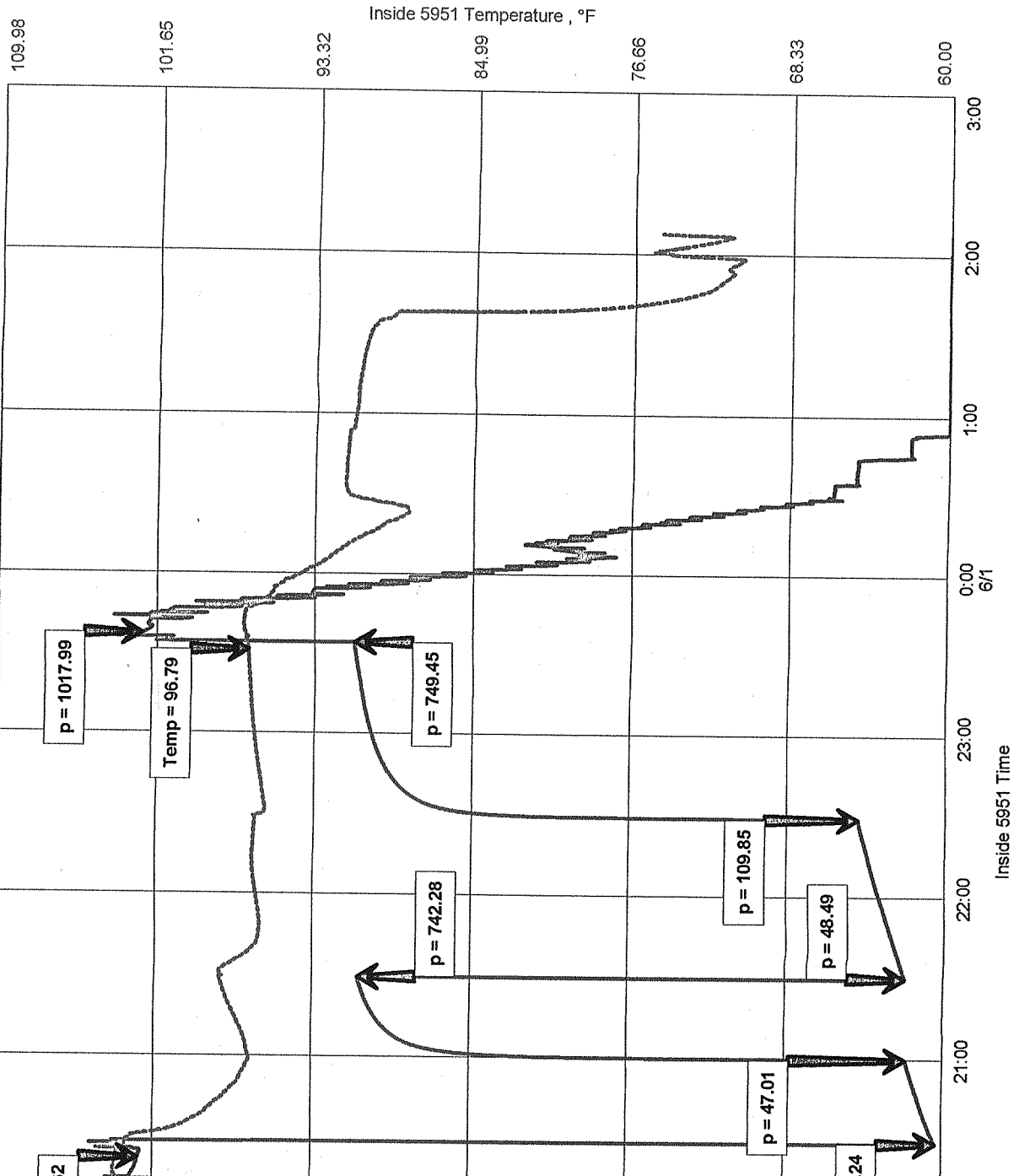
Pressures:

IHP: 1019
 IFP: 8-47
 ISIP: 742
 FFP: 48-110
 FSIP: 749
 FHP: 1018

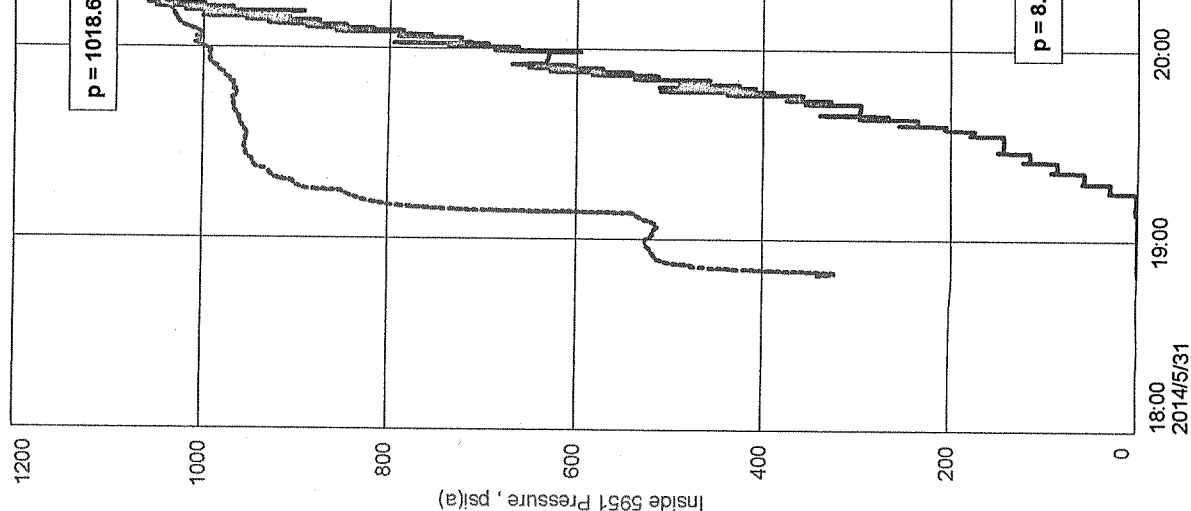
Thanks!

Madden Unit #1
 Formation: Viola (2179'-2188')
 Pool: Wildcat
 Job Number: F277

Madden Unit #1



Range Oil Co., LLC
 DST #1 Viola (2179'-2188')
 Start Test Date: 2014/05/31
 Final Test Date: 2014/06/01



Users\Diamond Testing 5\Desktop\Drill-stem Test\MADDEUNIT1.DST1.ft 01-J



Diamond Testing General Report

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 Cell: (620) 282-8977

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General Information

Company Name Range Oil Co., LLC
 Well Operator Range Oil Co., LLC
 Contact John Washburn
 Site Contact Ken Wallace
 Field Wildcat
 Well Type Vertical
 Prepared By Jake Fahrenbruch

Well Name Madden Unit #1
 Unique Well ID DST #2, Viola (2188'-2208')
 Surface Location Sec 31-19s-6e-Chase Co.-KS
 Test Unit #5
 Pool Wildcat
 Job Number F278
 Qualified By Ken Wallace

Test Information

Test Type BH w/S.J.
 Formation Viola (2188'-2208')
 Start Test Date 2014/06/01
 Final Test Date 2014/06/01

Test Purpose Initial Test
 Gauge Name Inside 5951
 Start Test Time 09:09:00
 Final Test Time 17:12:00

Test Results

FLOWS & SHUT-INS:

30 min I.F.P. Blow increased to B.O.B. in 15 minutes.....11-115
 30 min I.S.I.P. No blowback.....735
 60 min F.F.P. Blow increased to B.O.B. in 25 minutes.....118-187
 60 min F.S.I.P. No blowback.....729

PRESSURES:

IHP.....1041

FHP.....1041

Bottom-Hole Temp: 94 Deg F

RECOVERED 460' OF FLUID

400' Clean Heavy Oil 100% oil, 29 gravity (corrected)
 60' OCM 15% oil, 85% mud

--- TOOL SAMPLE: OM 47% oil, 53% mud

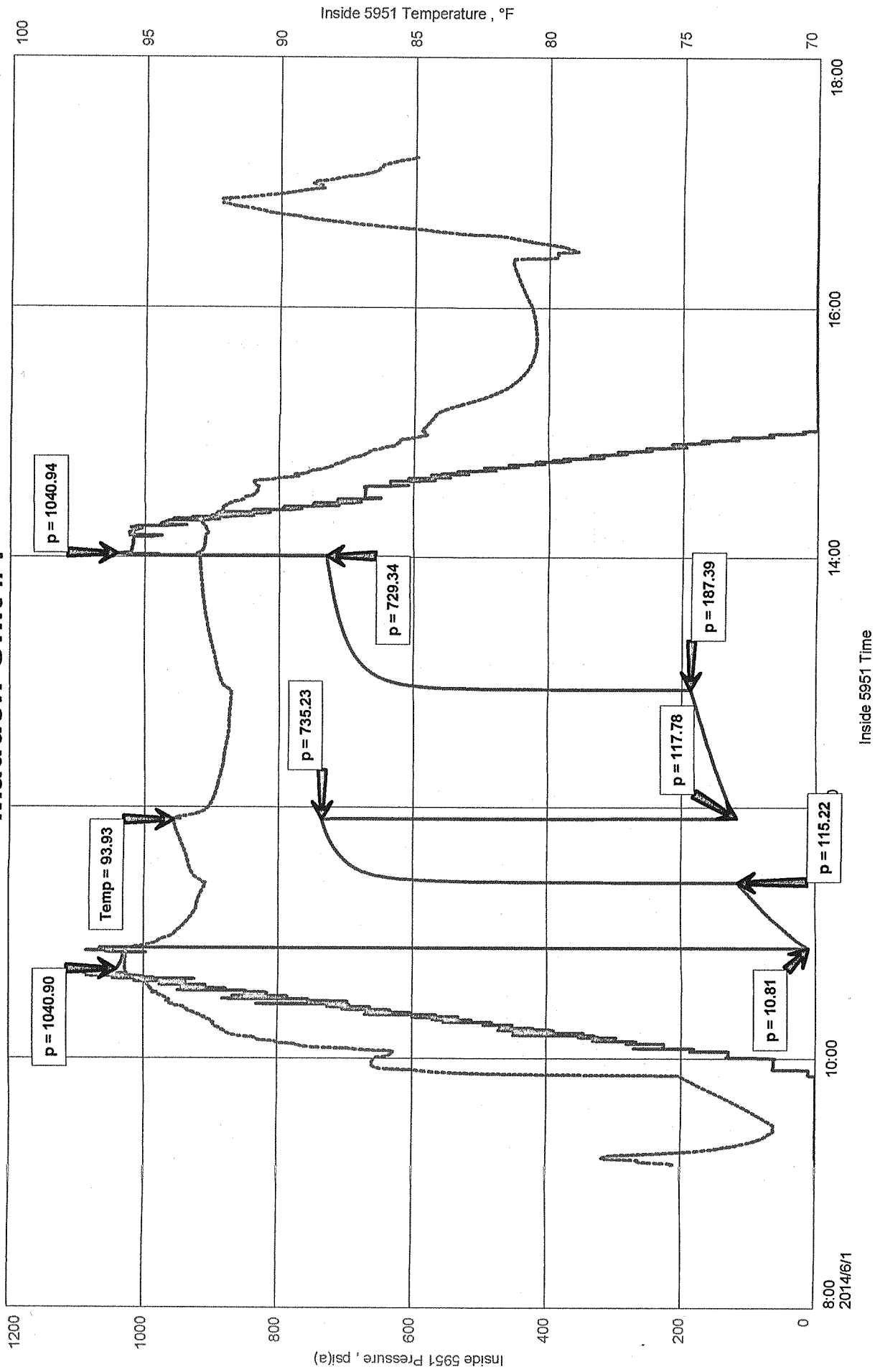
Thanks



Range Oil Co., LLC
DST #2, Viola (2188'-2208')
Start Test Date: 2014/06/01
Final Test Date: 2014/06/01

Madden Unit #1
Formation: Viola (2188'-2208')
Pool: Wildcat
Job Number: F278

Madden Unit #1





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FAHRENBRUCH - TESTER**
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Office: (800) 542-7313

General Information

Company Name Range Oil Co., LLC
Well Operator Range Oil Co., LLC
Contact John Washburn
Site Contact Ken Wallace
Field Wildcat
Well Type Vertical
Prepared By Jake Fahrenbruch

Well Name
Unique Well ID DST #3, Simpson Sand (2233'-2262')
Surface Location Sec 31-19s-6e-Chase Co.-KS
Test Unit #5
Pool Wildcat
Job Number F279
Qualified By Ken Wallace

Madden Unit #1

Test Information

Test Type BH w/safety joint
Formation Simpson Sand (2233'-2262')
Start Test Date 2014/06/02
Final Test Date 2014/06/02

Test Purpose Initial Test
Gauge Name Inside 5951
Start Test Time 03:28:00
Final Test Time 12:22:00

Test Results

FLOWS & SHUT-INS

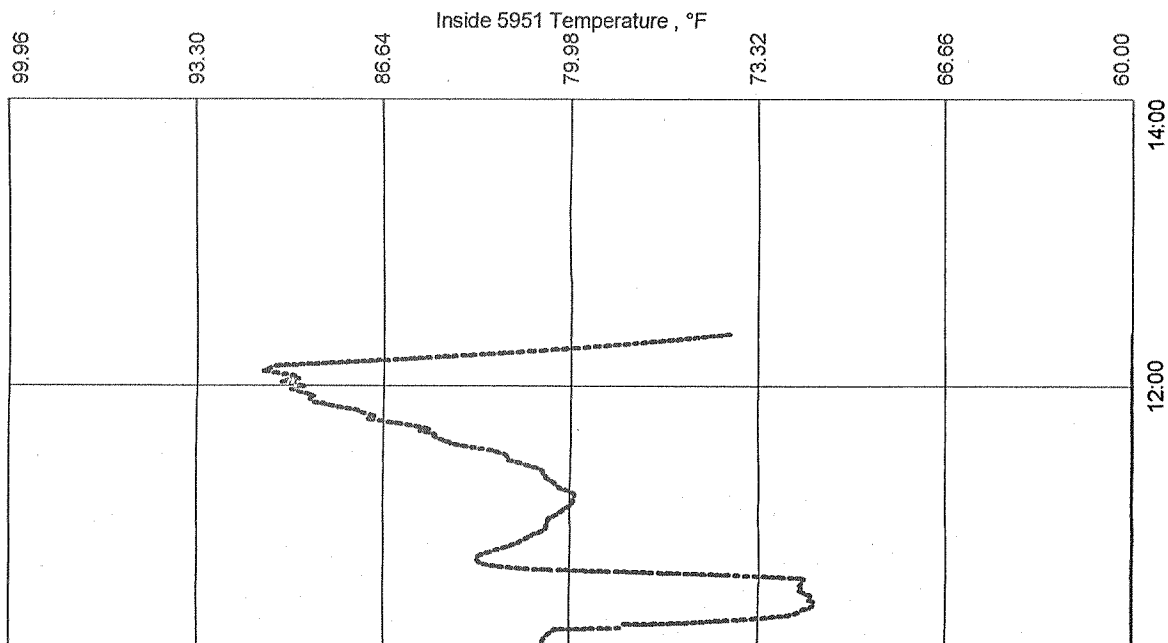
PRESSURES

.....IHP: 1071
30 min I.F. — Blow increased to B.O.B. in 10 minutes..... IFP: 10-179
30 min I.S.I. — No blow-back..... ISIP: 778
60 min F.F. — Blow increased to B.O.B. in 11 minutes..... FFP: 181-335
60 min F.S.I. — No blow-back..... FSIP: 774
.....FHP: 1070
.....Bottom-Hole Temp: 92 Deg F

Recovered 740' of SMCW w/TR OIL SPECKS.....<1% oil, >93%wtr, 6% mud
(TOOL SAMPLE: OSMW.....1% oil, 60% wtr, 39% mud)
10,000 PPM CHLORIDES
RW: .55 ohm @ 82 Deg F
PH: 7.5

Thanks

Madden Unit #1
Formation: Simpson Sand (2233'-2262')
Pool: Wildcat
Job Number: F279



Fast

Range Oil Co., LLC
DST #3, Simpson Sand (2233'-2262')
Start Test Date: 2014/06/02
Final Test Date: 2014/06/02

Madden Unit #1

