

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY Range Oil Company, Inc.

LEASE Schmidt B #1

FIELD _____

LOCATION 1625' FSL + 2540' FELS SE/4

SEC 21 TWP 21 S RGE 10 E

COUNTY Lyon STATE KS

CONTRACTOR Summit Drilling

SPUD 10-1-13 COMP 10-11-13

RTD 2683' LTD 2679'

MUD UP 1100' TYPE MUD Chem

ELEVATIONS

KB 1291'

DF _____

GL 1281'

Measurements Are All
From KB

CASING

SURFACE 8 5/8 @ 221 mg 1205
PRODUCTION N.A.

ELECTRICAL SURVEYS

Dens/vent pors - DTL

SAMPLES SAVED FROM Surf. casing TO RTD

DRILLING TIME KEPT FROM 1150 TO RTD

SAMPLES EXAMINED FROM 1150 TO RTD

GEOLOGICAL SUPERVISION FROM 1150 TO RTD

GEOLOGIST ON WELL Ken Wallace

FORMATION TOPS

LOG

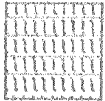

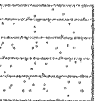

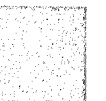

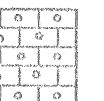
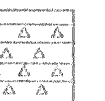

SAMPLES

<u>Oread</u>	<u>846 (+451)</u>	<u>850 (+441)</u>
<u>Lansing</u>	<u>1178 (+113)</u>	<u>1184 (+107)</u>
<u>B/Lansing</u>	<u>1294 (-3)</u>	<u>1289 (-2)</u>
<u>Starle</u>	<u>1558 (-267)</u>	<u>1562 (-271)</u>
<u>B/KK</u>	<u>1613 (-322)</u>	<u>1612 (-321)</u>
<u>Bartleville Sol</u>	<u>2062 (-771)</u>	<u>2060 (-768)</u>
<u>Eros Miss</u>	<u>2205 (-919)</u>	<u>2204 (-913)</u>
<u>Miss</u>	<u>2222 (-931)</u>	<u>2222 (-931)</u>
<u>KK Dol</u>	<u>2634 (-1343)</u>	<u>2638 (-1347)</u>
<u>Viola</u>	<u>2657 (-1366)</u>	<u>2660 (-1369)</u>

REMARKS 3 negative DSTs - well #1A
Ken Wallace

- 10-1-13 MIRU 1/4° @ 232'
- 10-2-13 9 AM, PTD 232', set SC, WOC
- 10-3-13 7:50 AM, Drlg 695', 1/2° @ 703'
- 10-4-13 8 AM, Drlg 1310', 1 1/2° @ 1206'
- 10-5-13 7:50 AM, Drlg 1835', 1° @ 1519', 1 1/4° @ 1801'
- 10-6-13 8 AM, PTD 2076', prep for DST #1
- 10-7-13 8 AM, PTA 2110', Running DST #2
- 10-8-13 8 AM, Drlg 2334', 1 1/2° @ 2076'
- 10-9-13 7:50 AM, Drlg 2595', 1 3/4° @ 2366'
- 10-10-13 8 AM, RTD 2683', prep to Log
- 10-11-13 9 AM, RTD 2683', Logging complete, to 9 #A

LEGEND

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

SCALE " = 100'

7505

1150'

60

80

1200

20

40

60

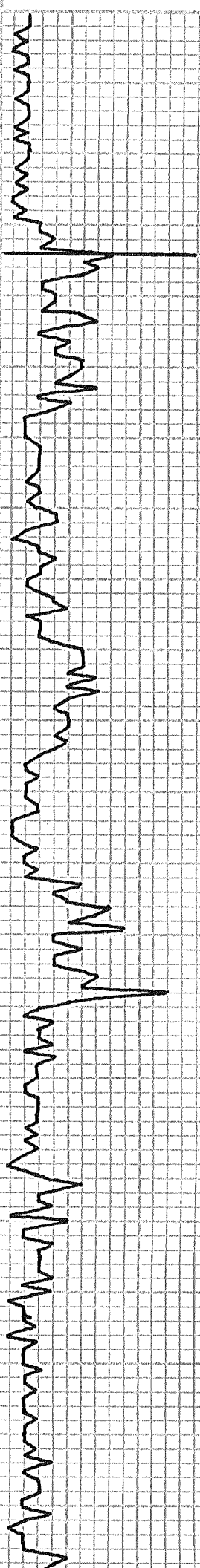
80

1300

20

40

60



Sh, gy, slst, gy

Ls, brwn-tan, foss, cxln, cky n-part, sl ool, with Ca xls

v 40, wt. 9.2, lcm 4

Ls, buff-lt gy, sm brwn, cxln, foss, cky, tr pyr, NS, NF, NO

Ls, wh, sl ool, foss, cky, NS, NF, NO

Ls, md gy, foss, with specs of gy, NS, NF, NO

v 42, wt. 9.2, lcm 4

Sh, lt grn-gy

Ls, lt gy, fxln, sl foss, cky, NS, NF, NO

Ls, buff, ool, foss, p ooc porsty, sm vg porsty, NS, NF, NO

Ls, buff-tan, fxln-cky, foss (bryozoans), NS, NF, NO

Jet #3
adjust clock 2 min.
v 40 wt. 9.2, lcm 4

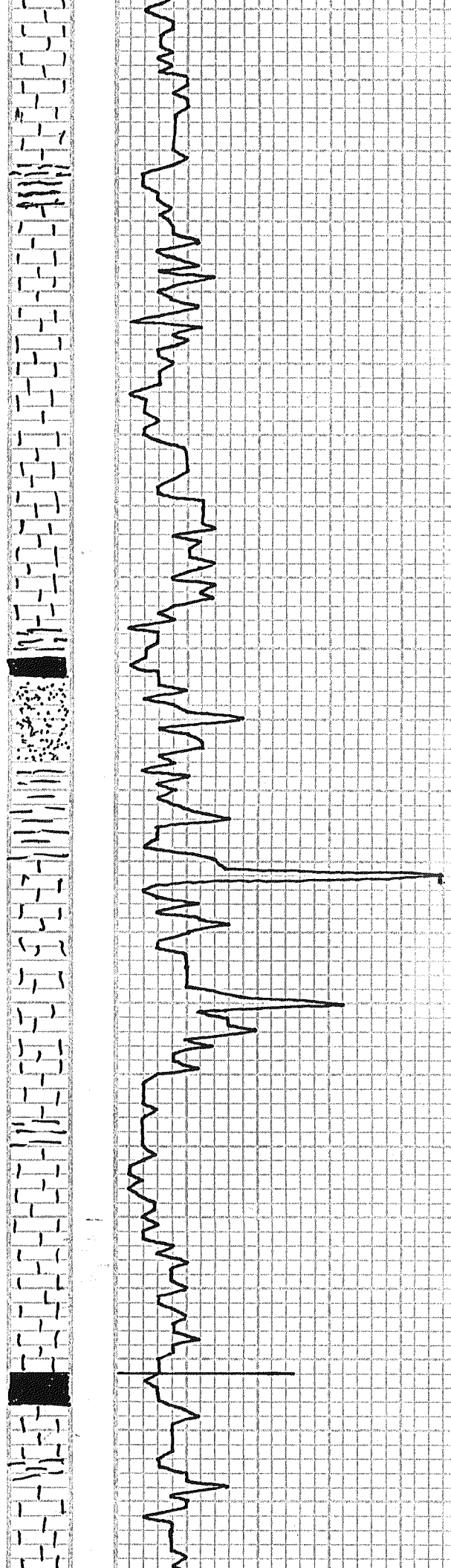
Sh, gy

Ls, buff, foss, NS, NF (slough?) with gy sh

v 40, wt. 9.3, lcm 4

Sh, gy with gy slst

80
1400
20
40
60
80
1500
20
40
60
80



Ls, lt gy-tan, ool, foss, s cherty, sm gy oolts, NS, NF

Sh, gy

Ls, md gy, ool, cxln, NS, NF

Ls, wh-buff, ool, foss (bryozoans), fxln-cky NS, NF

v 39, wt. 9.3, lcm 4

Ls, wh, ool, foor prosty, NS, NF

As above, more lt gy, with smaller oolts, foss, NS, NF

Ss, gy, fgnd, s&p tex, Ca cement, abd coal, NS, NF

v 40, wt. 9.2, lcm 4

Sh, grn, gy

v 40, wt. 9.2, lcm 3.5

Ls, buff, sl ool, foss, cky, NS, NF

adjust clock 9 min.

LS, tan, foss, micritic, dse, foss, cherty (foss chert), NS, NF

v 39, wt. 9.3, lcm 4

Ls, tan, ool, vfoss, f ooc porsty, NS, NF

As above

v 38, wt. 9.3, lcm 4

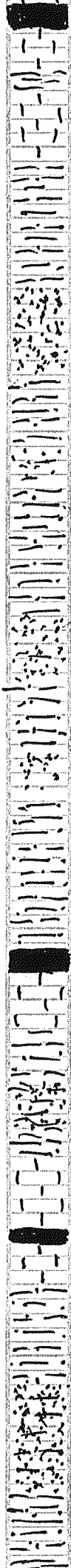
Ls, lt gy-tan, ool, fxln, cky, NS, NF

Sh, black

Ls, tan, ool foss, dse, cky n-part, sl cherty, NS, NF

Ls, gy, sm brwn, fxln, sl foss, m xln, dse cky NS, NF

1600



Ss, cky, NS, NF

Sh, black

v 47, wt. 9.3, lcm 4.5

Ls, lt grn, cky, sl foss, NS, NF

Sh, gy, micacs with gy slst

20

Ss, md gy, fgnd, psrtd, prnd, micacs, well
cemt, Ca cemt, sl glauco, NS, NF

40

Sh, gy, with Ss as above

v 45, wt. 9.3, lcm 4

60

Sh, gy, slst with coal

80

Slst, gy

1700

v 43, wt. 9.3, lcm 4

20

Sh, black (coal?)

Ls, tan-buff, fxln, sl foss, NS, NF

40

Sh, gy, sm lt grn slst

Ls, buff-tan, sl ool, dse, cky, NS, NF

60

Sh, black

LS, brwn, ool, foss, NS, NF

80

Sh, gy, grn, slty

Ss, lt gy-lt grn, vfgnd, p srtd, f rnd,
much, gy sh and slst, NS, NF
NS, NF

1800

Sh, gy, slty

20
40
60
80
1900
20
40
60
80
2000
20



DNF
#1

Ls, brwn-tan, ool, foss, fxln-dse, NS, NF

Sh, gy

Ls, brwn, fxln, NS, NF

Sh, black

Ls, md gy, arg, to sh, gy

Sh, gy

Jet #1

Ss, lt gy, micacs, p srted, f rnd, sl gluco, well cem, Ca cem, NS, NF

Sh, black

Ls, tan-brwn, cxln, dse, NS, NF

Sh, black

V 48, wt. 9.3, lcm 4

Ss, cl-lt gry, fgnd, w srted, f rnd, sl gluco well cem with Ca cem, NS, NF

V 47, wt. 9.3, lcm 2.5

Slst, gy, with gy sh

adjust clock 6 min.

Sh, gy with Ss, gy, p srted, prnd, pyr, much gy-brwn sh, NS, NF

Ls, tan, v foss, fxln NS, NF

Sh, black, coal

Sh, gy-brwn, slty

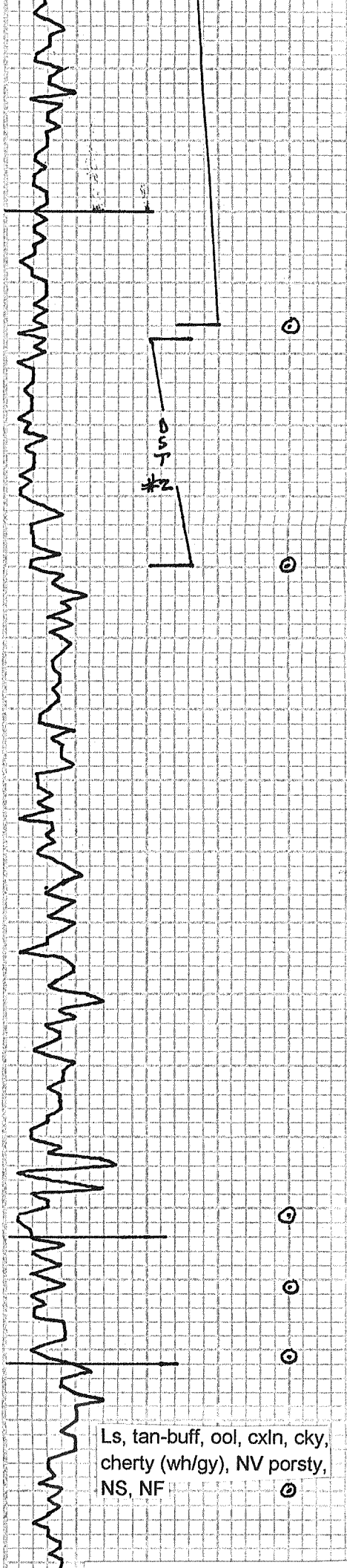
v 44, wt. 9.4, lcm 3

Sh, bl, brwn, gy, slty

Ss, gy, vfgnd, micacs, p srted, f rnd, v slty, sm gy sh, NS, NF

v 42, wt. 9.4, lcm 2

40
60
80
2100
20
40
60
80
2200
20
40



Ss, lt gy, fgnd, p-f srtd, p-f rnd, s&p tex, p cem, Ca cem, NS, NF

Jet #3

Ss, gy, fgnd, fsrtd, frnd, s&p tex, GIG porsty, Ca cem, friable, G od, GSFO, GbritFL (15%), FO in tray

2076'- 15"- As above, Gbrit FL(15%+) GSO, G od
30"- As above

Ss, lt gy, fgnd, fsrtd, frnd, G IG porsty, Ca cem, GSO, G od, Brit FL (25%+)

Ss, as above, GSO, less odor, 25% FL

2110'- 15"- SS, gy, vfgnd, sl micacs, Well cem, Ca cem, less friable, NS, NF; sm gy sh
30"- As above

Ss, gy, vfgnd, argl, with sh lamina, hard, NS, NF

Sh, dk gy-gy

Sh, gy to black

V 50, wt. 9.3, lcm 2

Sh, gy-brwn, slty

Sh, gy sm red: Ls, dk brwn, foss, cherty (foss chert)

2201'- 15" - As above with black shale
30"- Ls and sh as above and Ss, lt brwn, fgnd, psrtd, Si cem, well rnd, NS, NF

2211'- 15"/30"- Chert, weathered and Fresh (mostly lt gy, sm foss chert), sm chert and crs sand grains in Si cem (Cg Ss), sm loose sand grns, NS, NF

V 51, wt. 9.3, lcm 2

2221'-15"- Cg Ss as above: fresh chert (foss and ool chert), NS, NF

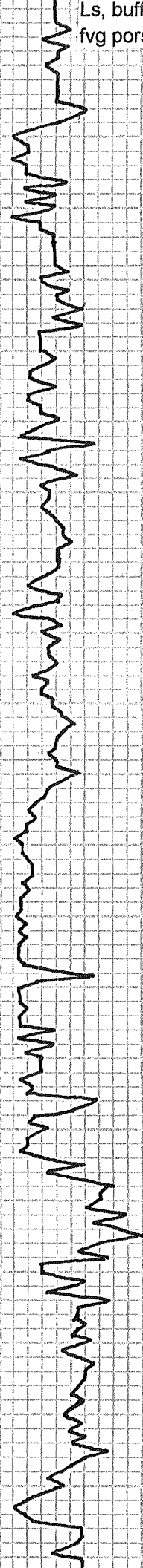
Ls, tan-buff, ool, cxln, cky, cherty (wh/gy), NV porsty, NS, NF

30" - mstly chert (wh, gy, dk gy, ool, Foss chert); sm Cg Ss as above with gy sh, NS, NF

2240'-15"/30"- Ls, tan, ool, cherty, cky,

Ls, buff, ool, cxln, sl foss, cky, NS, NF
fvg porsty, wh chert, NS, NF

60



Ls, as above, sm f-mxln Ls, with glauco
f ppt porsty, cherty, NS, NF

80

Ls, as above, more ool, more cxln,
sl gluaco, cherty, NS, NF

2300

Ls as above, more tan, sl dolm (fsuroc)
foss (clam), sl cherty (clr-opaq chert),
NS, NF

20

V 49, wt. 9.4, lcm 2

As above, abd blu/gy and wh chert,
more Limy vs Dolm, NS, NF

40

Dolm/Ls, f suros, v cherty (wh, gy,
blu/gy), NS, NF

60

Ls, m-dk brwn, ool, cxln, cherty,
NS, NF

80

Chert (90%+), with dol to dolm ls
as above, NS, NF

2400

Chert and Dolm/LS as above, NS, NF

20

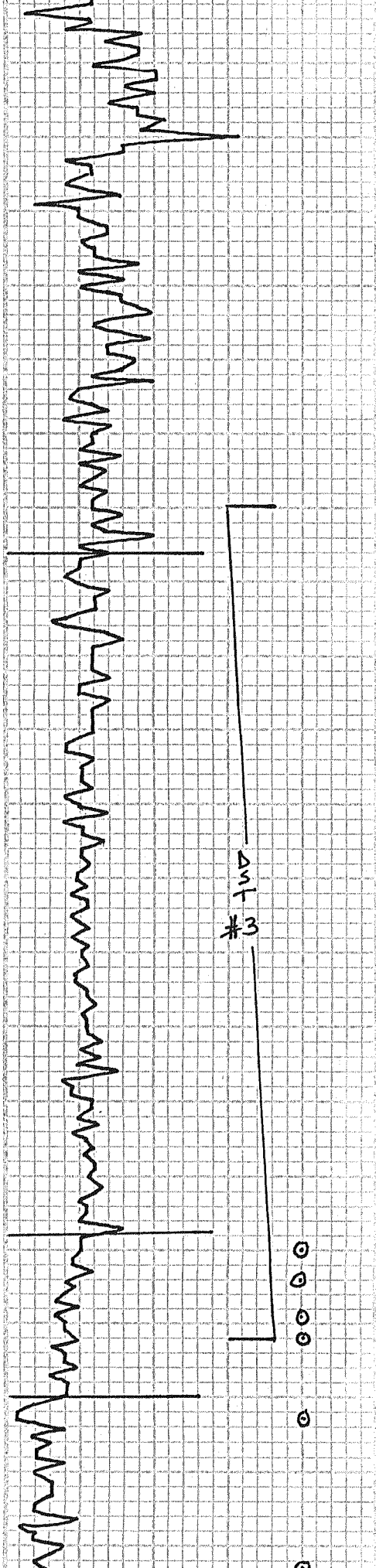
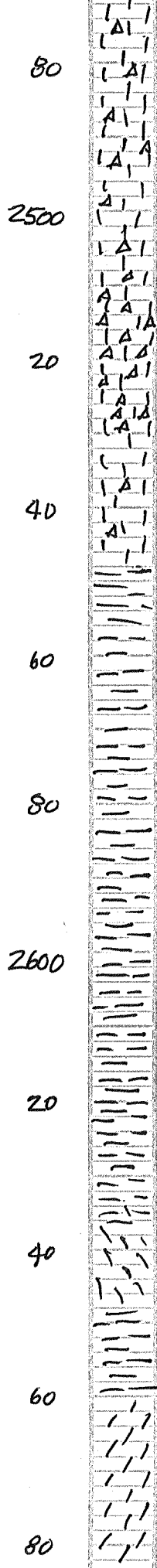
Dol, brwn, fsucro, v cherty, f vug porsty,
NS, NF

40

Dol and chert (wh, gy, blu/gy), NS, NF

60

As above



Ls, sl dolm, lt gy vcln, cherty, cxln, NS, NF

Ls, tan, fxln cky, sl cherty

As above but more cherty

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

Sh, gy, grn

As above

Sh, gy-dk gy

2640'- 15" - Sh, gy with gy slst, hard
 30" - Dol, dk gy-dk brwn, m sucro, GSFO, few pcs with good vg porsty, dull FL, sl odor,

2644'- 15" - Mstly dk brwn sh (95%+), tr dol as above with SSO, N vis porsty, NF, s odor
 30" - Mstly dk brwn sh

2649'- 15/30" - Sh, dk brwn

2652'- 15/30" - As above

2663'- 15" - Sh, dk brwn
 30" - Dol, lt gy, vf surco, v cherty 95% chert, (wh chert), sm dd strn, no vis porsty, hvy FO in 2% of spls, NF, sl odor

Dol, lt gy, fvg porsty, mxln, cherty (10%) sm pyr, NS, NF, sl odor

2638'- 15" - Dol, gy-tan, sucro, gvg porsty,

V 44, wt. 9.4, lcm 2

V 40, wt. 9.4, lcm 2

V 50, wt. 9.3, lcm 2

2700

sl cherty (3%), NS, NF, NO
30"- Dol, tan, dse, f sucro, pvg porsty,
sl chert, NS, NF, NO

DST #1 1960-2076

30-30-60-60

IF 1/2 inch blow increase to 3"

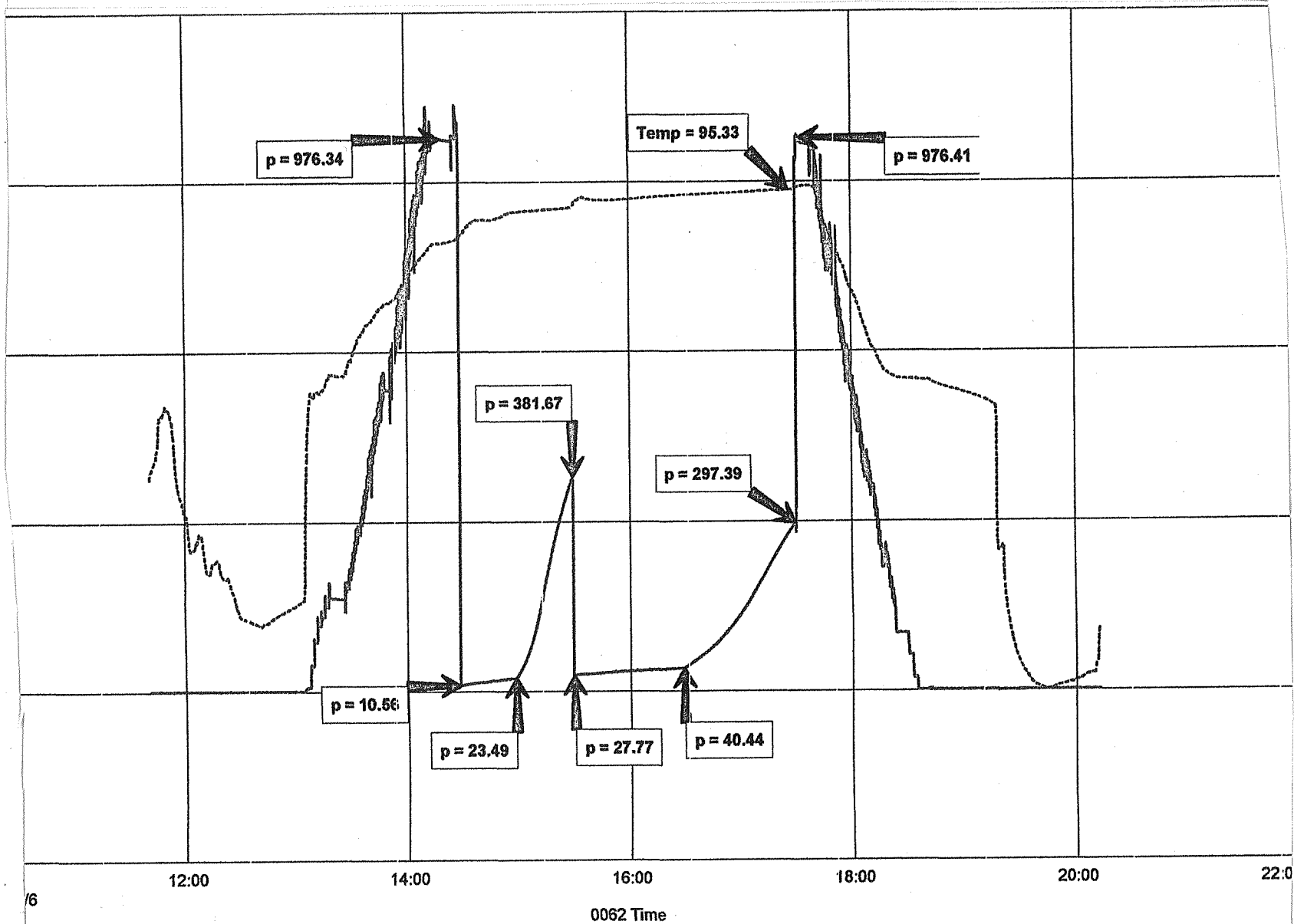
FF 1/2 inch blow increased to 9.5"

Rec: 60' GIP, 63'OSM (3% oil, 97% mud)

IF 11/23# FF 28/40#

ISIP 382# FSIP 297#

Schmidt B #1



DST #2 2078-2110

30-30-60-60

IF 1/4 inch blow increase to 1"

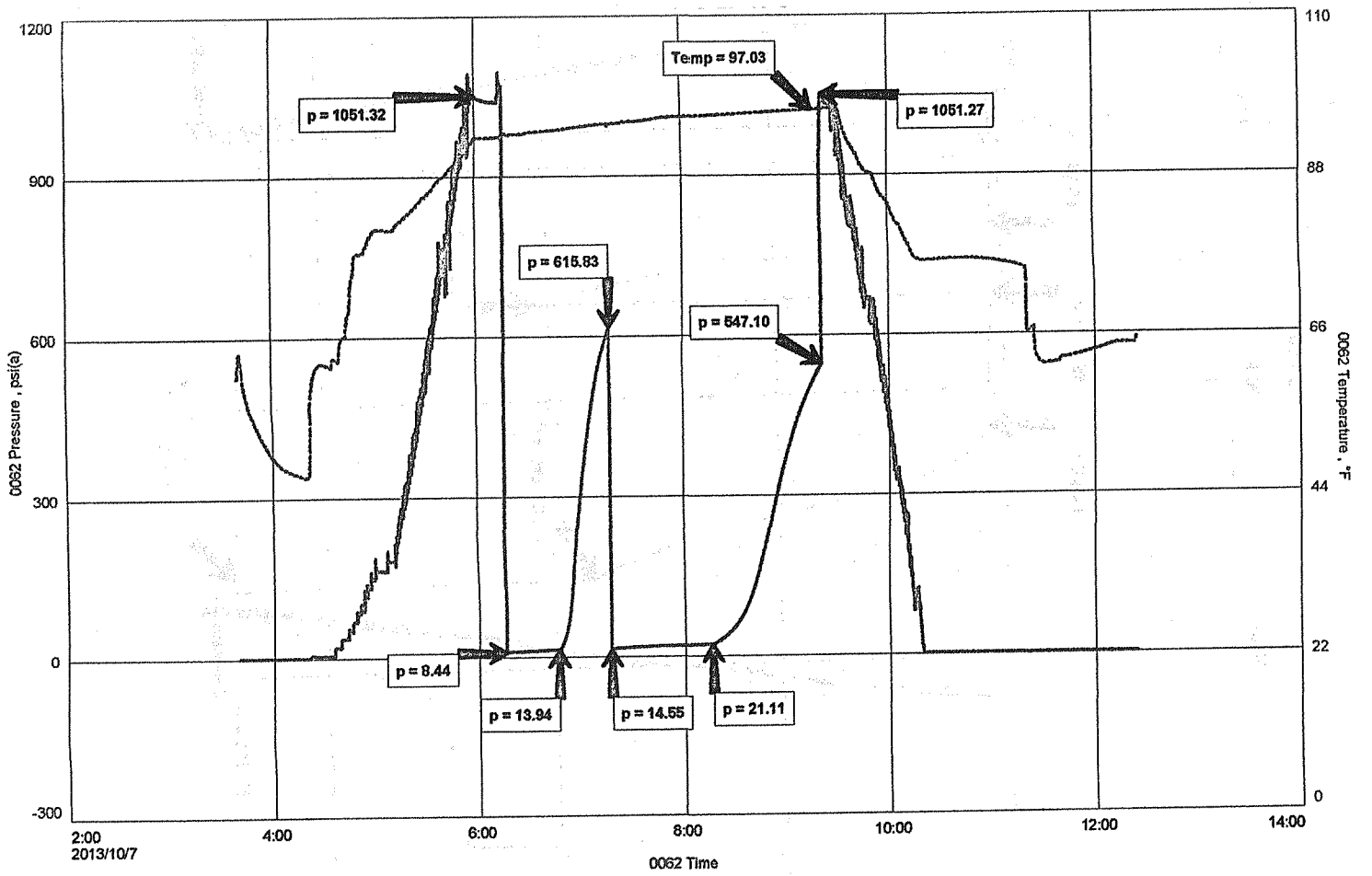
FF surface blow increased to 1/2"

Rec: 10' OSM (2% oil, 98% mud)

IF 8/14# FF 15/21#

ISIP 616# FSIP 547#

Schmidt B #1



DST #3 2540-2652
 30-30-30-30
 IF 1 inch blow died in 20"
 FF no blow
 Rec: 5' mud
 IF 11/12# FF 10-12#
 ISIP 22\$ FSIP 27#

Schmidt B #1

