

MAXWELL LAFON WELLSITE GEOLOGY**WELL INFO**

Well Name: Solko #1
 Location: NE SE SE SW sec. 19, T. 1S, R. 31W
 Footage: 2340' FEL, 500' FNL
 County/State: Rawlins Co., Kansas
 Field: Wildcat
 Coordinates: N 39.945495 , W 100.842697
 API #: 15-153-21234

Ground Elev: 2865' KB Elev: 2871'
 Logged Interval: 3000' - TD Total Depth: 4130'

OPERATOR INFO

Company: Meridian Energy Inc.
 Address: 1475 Ward Cir.
 Franktown, CO 80116

CONTRACTOR

Contractor: Flex Drilling
 Rig #: 1
 Rig Type: Rotary Double
 Spud Date: 7/2/2019 Time: 7:30 PM
 TD Date: 7/10/2019 Time: 10:45 AM
 Rig Release: Time:

WELLSITE GEOLOGIST

Geologist: Maxwell LaFon
 Address: PO Box 9867
 Denver, CO 80209
 Phone: 303-594-0515
 Email: mjlafon@gmail.com

DRILL STEM TESTS



| No. | Interval | Formation | Recovery |
|-----|-------------|------------------|--|
| 1 | 3696 - 3810 | Toronto/Toronto' | 125' MCW w/ tr Oil, 62' WCM w/ tr Oil, 45' M w/ tr Oil |
| 2 | 3840 - 3910 | Lansing B | 42' GWOCM, 40' SW/MCO, 30' SMCO, 135' GIP |
| 3 | 3806 - 3884 | Lansing A | 635' SMCW w/ tr Oil, 165' MCW w/ tr Oil |
| 4 | 3986 - 4045 | Lansing E | 1' WCM |
| 5 | 3932 - 4018 | Lansing D | 3' M |

FORMATIONS

| Formation | Depth - Samples | Depth - Logs | Subsea |
|------------------|------------------------|---------------------|---------------|
| Stone Corral | 2653' (+218) | 2650' | +221 |
| Neva | 3250' (-379) | 3246' | -375 |
| Red Eagle | 3325' (-454) | 3324' | -454 |
| Foraker | 3374' (-503) | 3372' | -501 |
| Topeka | 3636' (-765) | 3633' | -762 |
| Oread | 3689' (-818) | 3682' | -811 |
| Heebner | 3706' (-835) | 3700' | -829 |
| Toronto | 3759' (-888) | 3750' | -879 |

| | | | |
|-----------------|---------------|-------|-------|
| Lansing A/KC | 3829' (-958) | 3820' | -949 |
| Lansing B | 3881' (-1010) | 3871' | -1000 |
| Lansing C | 3928' (-1057) | 3920' | -1049 |
| Lansing D | 3971' (-1100) | 3968' | -1097 |
| Lansing E | 4016' (-1145) | 4012' | -1141 |
| Lansing F | 4057' (-1186) | 4054' | -1183 |
| Base Lansing/KC | 4111' (-1240) | 4112' | -1241 |
| TD | 4130' | 4130' | |

ROCK TYPES










| | | | |
|--|--|---|--|
|  Lmst fw<7 |  Ss |  Shbck |  Slst |
|  Lmst fw7> |  Shgy |  Shcol |  Anhy vert |

OTHER SYMBOLS

OIL SHOWS

- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn
- D Dead Oil Stn
- Fluorescence

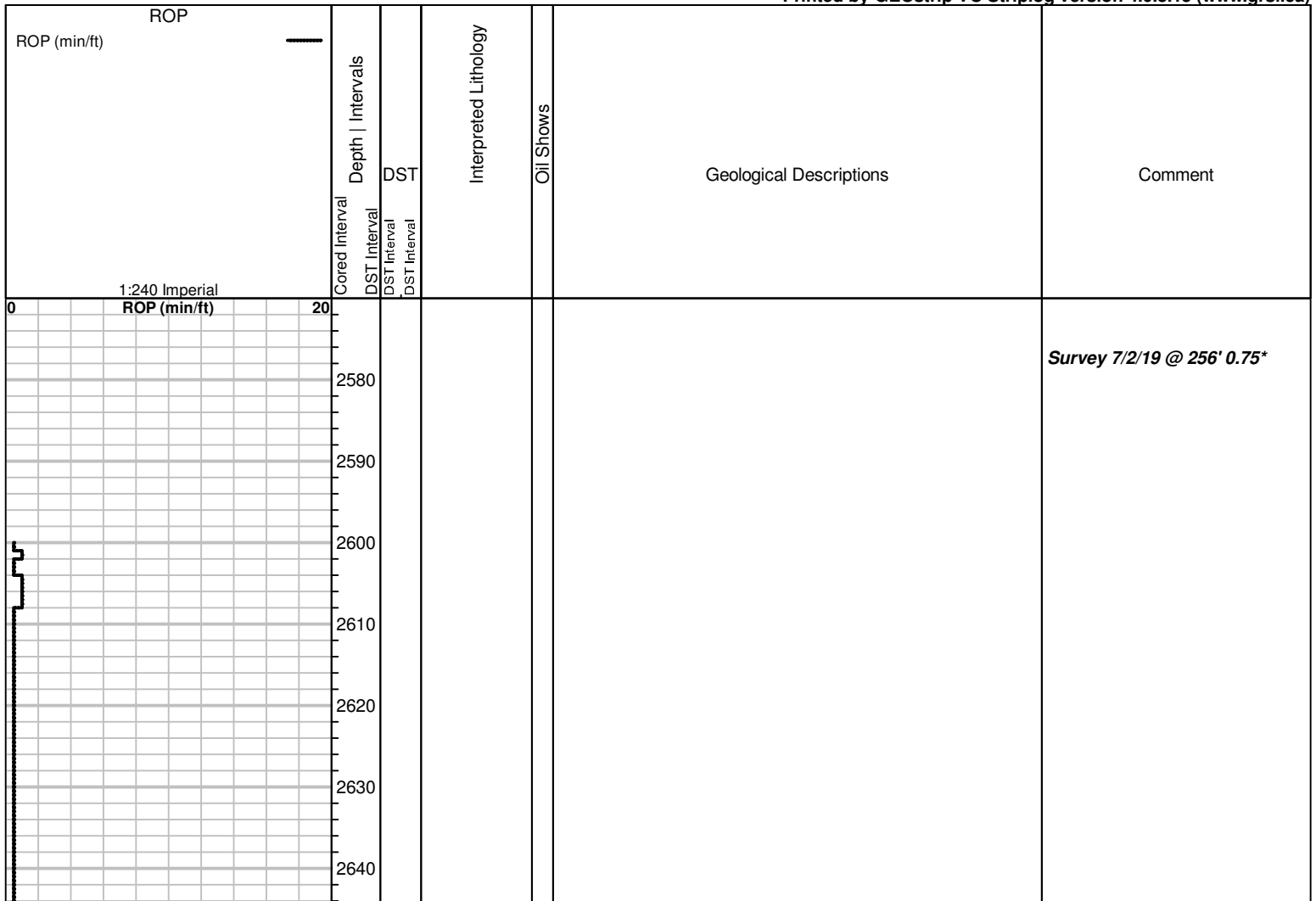
MISC

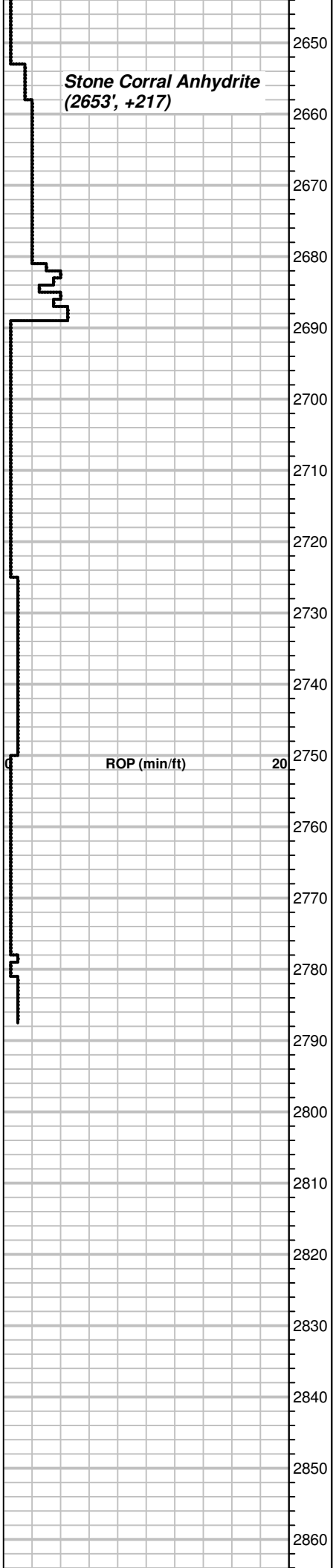
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-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt

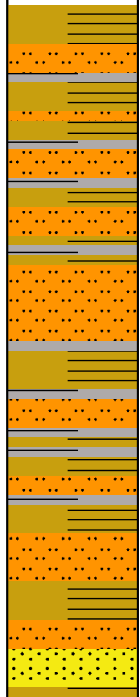
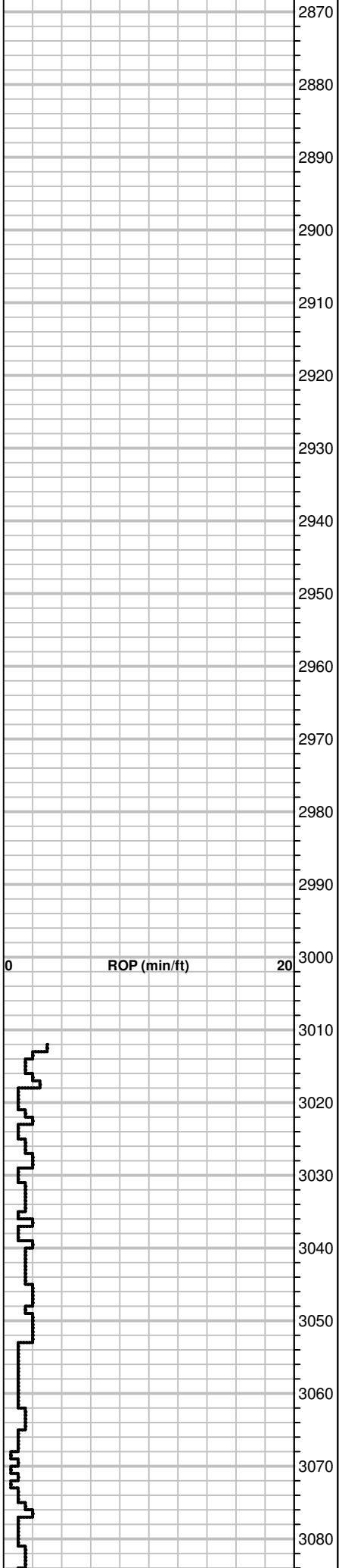
DST

-  DST Interval
-  DST Interval

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)







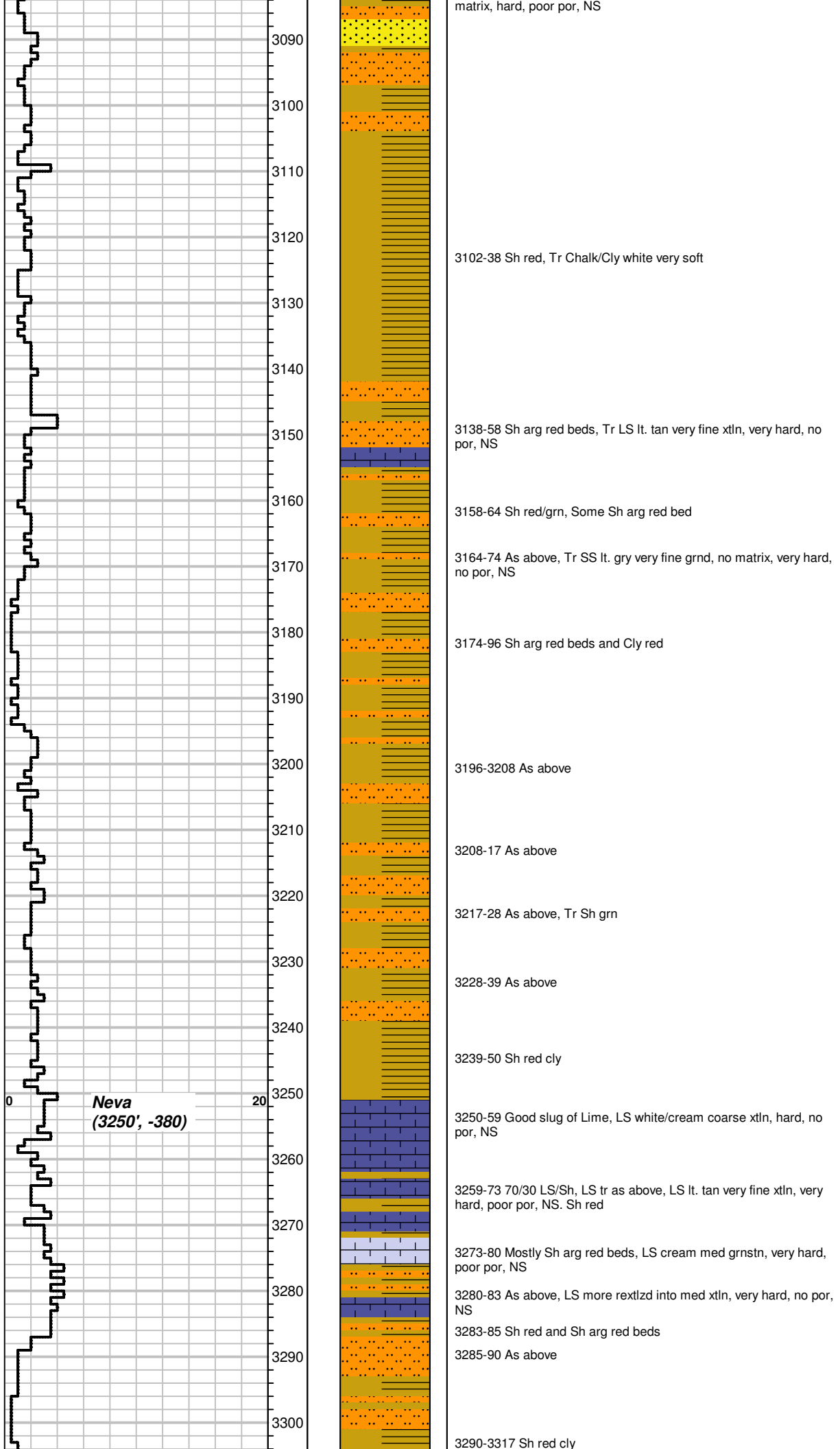
3012-41 Mostly Sh arg red bed, Tr Sh grn and gry

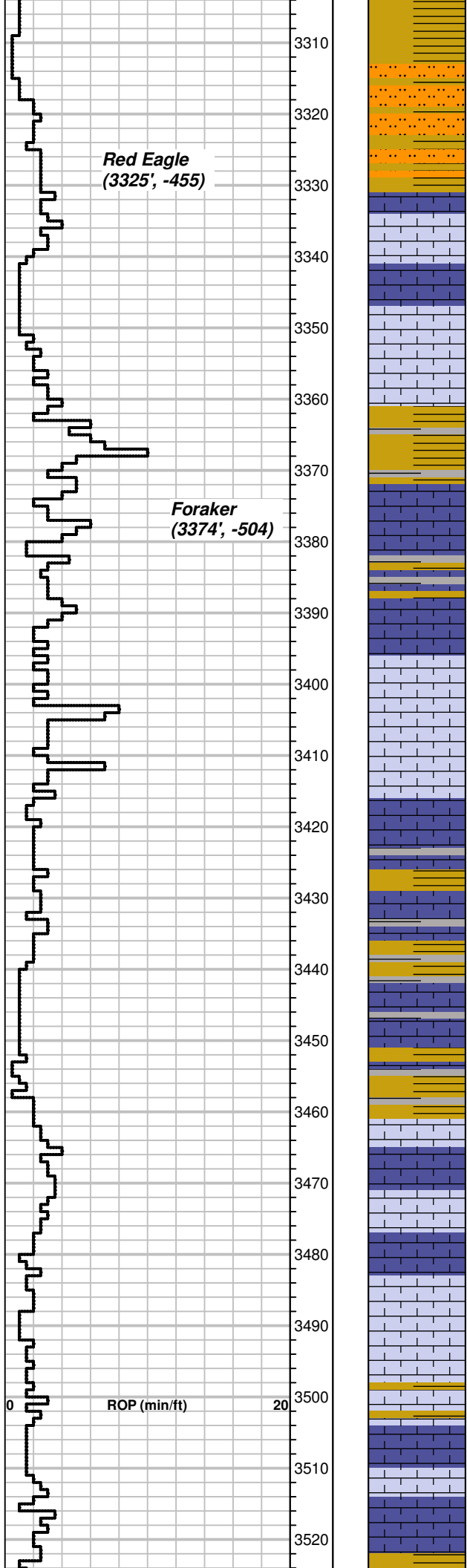
3041-67 As above

3067-3102 Sh arg red bed, Tr SS white very fine grnd, cloudy white

**Bit trip, swap PDC for cone
Survey 7/4/19 @ 3014' 1***

**KS Drilling Technologies
Mud check 7/5/19**
 Depth: 3025' Btms Up: 30 min
 Wt: 8.4 Vis: 80 Filt: 7.0
 Cake: 1/32" LCM: 2# YP: 20
 Chlor: 1000 ppm Grad: 0.437 psi/ft





3310

3317-30 Sh red and Sh arg red beds

3320

Red Eagle (3325', -455)

3330

3330-34 Good slug of Lime, LS lt. gry very fine xtn, very hard, no por, NS. Tr Sh arg red

3340

3334-46 LS lt. gry grnstn, very hard, no por, NS. Some LS lt. gry - gry xtn, very hard, no por, NS

3350

3346-66 70/30 LS/Sh Ls gry grnstn, slightly friable, no por, NS. Sh red.

3360

3366-72 As above, Tr Sh dk gry

3370

Foraker (3374', -504)

3372-82 All LS lt. gry very fine sucrosic xtn, hard, no por, NS

3380

3382-89 As above, Tr Sh red and dk gry

3390

3389-3403 LS cream very fine xtn partly chlky, slightly friable, no por, NS. Also LS cream fine grnstn, hard, no por, NS. Tr LS dk gry fine xtn, very hard, no por, NS

3400

3403-09 LS cream grnstn, very hard, no por, NS. LS gry - dk gry grnstn, very hard, no por, NS

3410

3409-15 LS lt. gry partially fossiliferous fine grnstn, slightly friable, no por, NS

3420

3415-25 Mixture of LS ranging from lt gry - gry - dk gry xtn and fine xtn, hard, no por, NS

3430

3425-30 As above, Also Sh red and Tr Sh dk gry

3430-35 As above

3440

3435-58 Some Sh red and dk gry, LS cream microxtln, very hard, no por, NS

3450

3458-68 LS gry fine grnstn, very hard, no por, NS. LS gry/brwn w/ purple, med xtn, very hard, NS

3460

3468-73 LS gry very fine xtn slightly friable, no por, NS. LS cream fine - med grnstn, hard, no por, NS

3470

3473-81 LS cream from above. LS gry/brwn dirty xtn, very hard, no por, NS

3480

3481-91 LS tan fine grnstn, very hard, no por, NS. LS gry/brwn dirty from above

3490

3491-3504 LS cream fine - med grnstn, hard, no por, NS. Tr Sh red

3500

3504-14 LS gry xtn, very hard, no por, NS. Some LS cream as above

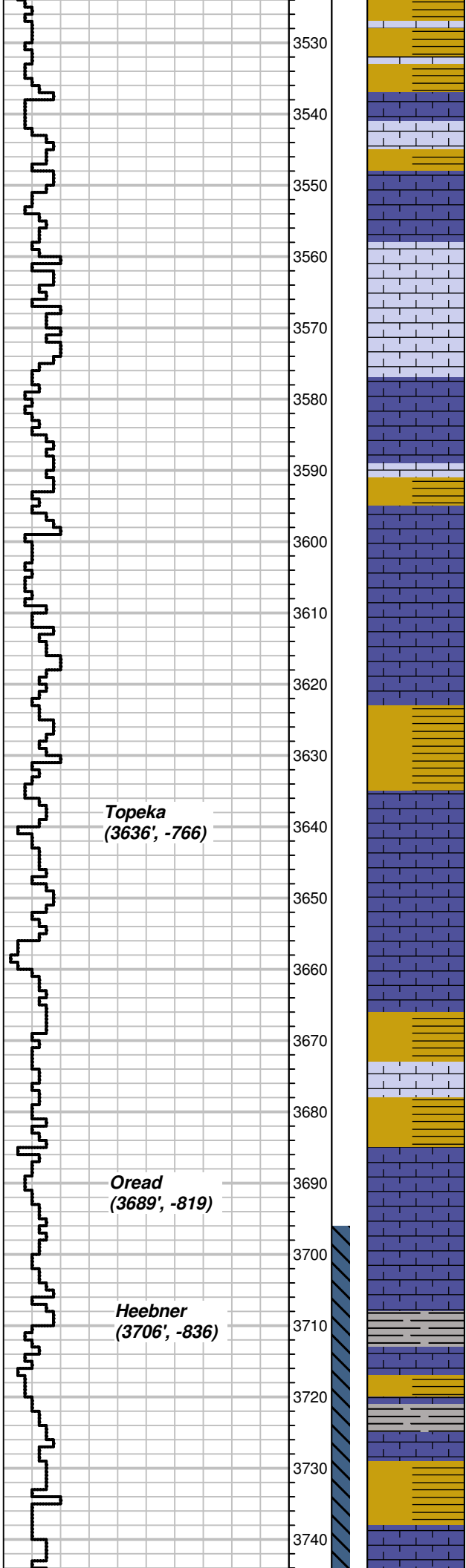
3510

3514-23 Sh gry LS lt. gry/brwn dirty coarse xtn, very hard, no por, NS

3520

ROP (min/ft)

KS Drilling Technologies
Mud check 7/6/19
 Depth: 3518' Btms Up: 34 min
 Wt: 8.8 Vis: 44 Filt: 10.0
 Cake: 1/32" LCM: 2# YP: 15
 Chlor: 2000 ppm Grad: 0.458 psi/ft



3523-37 Sh red cly. Trace LS lt. tan fine grnstn, very hard, no por, NS

3537-48 LS gry xtlN very hard, no por, NS. LS cream fine fossiliferous grnstn, very hard, no por, NS. Tr Sh red and brwn

3548-60 LS gry - lt. gry - purple xtlN very hard, no por, NS. Tr LS cream fine xtlN, very hard, no por, NS

3560-69 Tr LS gry - lt gry as above, Mostly LS cream grnstn prtly rextlzd, very hard, no por, NS

3569-77 LS cream lt. tan grnstn partially rextlzd, very hard no por, NS

3577-88 LS gry xtlN very hard, no por, NS. Some LS grnstn from above, Some LS gry/purple arg xtlN, dirty, very hard, no por, NS

3588- 95 As above, Also Sh red

3595-3608 LS white/lt. gry xtlN, very hard, no por, NS. LS gry fine xtlN, very hard, no por, NS

3608-19 LS white microxtln, very hard, no por, NS. LS white/cream med-coarse xtlN very hard, no por, NS. Trace LS white med grnstn partly rextlzd, very hard, no por, NS

3619-27 As above, 50/50 LS/Sh red

3627-37 Sh red and LS gry/red arg xtlN, very hard, no por, NS. transitional facies

3637-45 As above, Also LS gry microxtln, very hard, no por, NS

3645-55 As above

3655-66 As above, Mostly LS arg xtlN

3666-74 Mostly Sh red and Cly red

3674-84 LS lt. tan fine grnstn, slightly friable, poor por, NS. Chalk white, Sh red

3684-97 LS white med xtlN, very hard, no por, NS. Oread, good slug Lime

3697-3704 As above, Also LS cream fine - med xtlN, very hard, no por, NS

3704-16 As above, Some LS gry microxtln, very hard, no por, NS. Some Sh red cly

3716-27 As above, Tr Sh blk, Heebner? not blocky

3727-41 Sh rust. LS cream xtlN, very hard, no por, NS. Tr LS gry microxtln, very hard, no por, NS

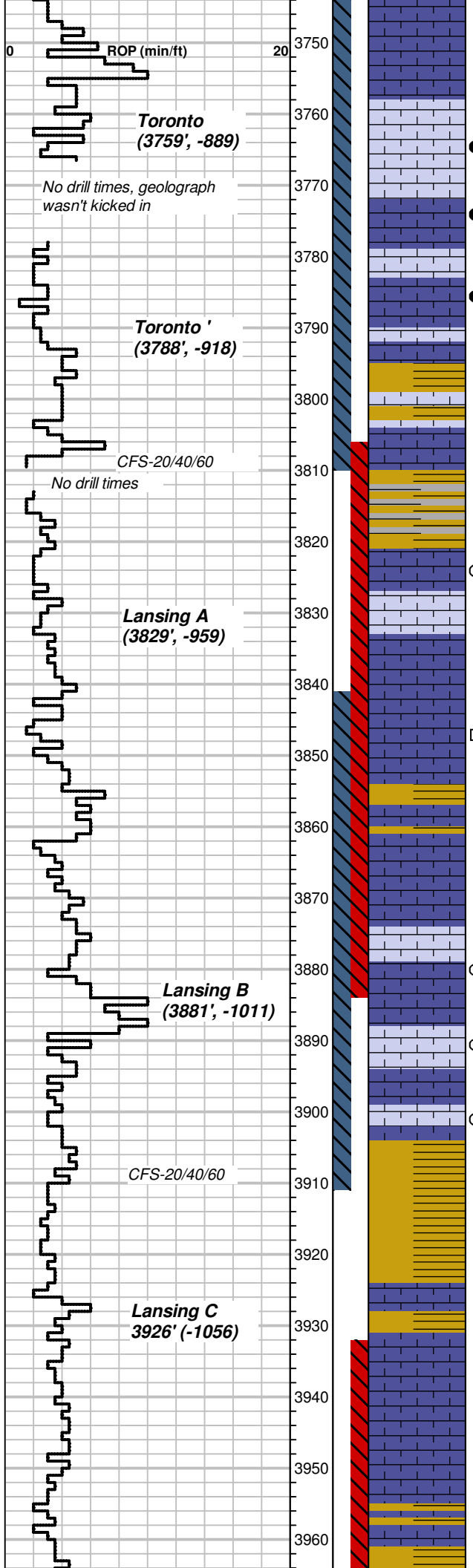
Topeka
(3636', -766')

Oread
(3689', -819')

Heebner
(3706', -836')

DST #1 (3700-3810)
Toronto/Toronto'
2-45-60-90
Recovery: 125' MCW w/ tr
Oil, 62' WCM w/ tr O, 45' M w/
tr Oil
IF: 23-29 SF: 35-129
Shut Ins: 1223/1142

2" IF - Built to 3"
45" ISI - Blow back built to 1/8"
60" FF - BOB in 26 min, built to
22.5"
90" FSI - No blow back
Rw: 0.210 ohms @ 86.4 deg
Chlorides: 27,000 ppm



3741-54 Good slug Lime. LS lt. gry micro - xtln, very hard, no por, NS

3754-58 LS lt. gry - gry microxtln, All Lime, good slug

3758-68 LS white grnstrn, fair - good intrgrnlr por, friable, weak odor, oil filled pores, great sat, heavy and dark oil, limited free oil. Lots of oil scum and heavy oil in cup, not forming droplets, LS lt. gry microxtln w/ small vugs, sparse show free oil in some vugs

3768-78 Some LS as above w/ show. Mostly LS white xtln, hard, no por, NS

3778-90 LS lt. gry-grn microxtln, very hard, no por, NS. Trace LS white grnstrn w/ bleeding free oil show, same heavy dark oil from above but more moveable, faint odor, good show, great sat.

3790-3800 LS lt. gry - gry microxtln, very hard, no por, NS. Trace Sh red

3800-05 As above

3805-10 LS lt. gry microxtln very hard, no por, NS.

3810-17 Sh red/grn/dk gry

3817-30 Sh red, Mostly LS lt. tan/cream microxtln, very hard, no intrxtln por, very sparse samples w/ small - med vugs, oil stain present and heavy tarry oil - moveable free oil, some drops in cup, doesn't looks like free oil. Few cuttings LS white grnstrn friable, fair por, dead light oil in pores, NSFO

3830-39 LS lt. gry microxtln, very hard, no por, NS. One cutting w/ dead show from above

3839-54 As above, Tr LS white chalky xtln w/ dead bitumen layers, NSFO

3854-61 Some Sh red and gry, LS lt gry - gry microxtln, very hard, no por, NS

3861-73 Sh grn, LS lt. gry xtln, hard, no por, NS. LS microxtln from above

3873-85 Good slug lime, LS lt. tan - lt. gry microxtln, very hard, no por, NS. LS lt. gry grnstrn, hard, very poor por, looks tight, sparse show free oil, doesn't bleed much when crushed, bound in porosity, slight odor, poor - fair show

3885-91 LS cream micltxtln, no intrxtln por, med vugs w/ oil staining, no free oil seen in vugs however few oil drops and scum in cup, fair - good odor in cup, LS white fine grnstrn friable, poor intrgrnlr por, oil drops present when crushed, fair show

3891-3901 LS white/lt. gry xtln, very hard, no por, NS. Some LS grnstrn w/ show from above

3901-07 LS lt. gray opaque microxtln, very hard, no por, NS. Sh red

3907-10 As above, more Sh

3912-21 Sh red and tr grn

3921-31 60/40 Sh/LS. Sh as above, LS lt. gry fine xtln, very hard, no por, NS. Some cuttings friable, no por, NS

3931-42 Good slug lime. LS lt. gry microxtln, very hard, no por, NS. LS gry xtln, very hard, no por, NS

3942-50 As above

3950-60 LS xtln, very hard, no por, NS. Tr Sh red

DST #1 - Solko 1.pdf

Toronto - 3768'.JPG

Toronto' - 3790'.JPG

Wt: 9.1
Vis 50
LCM 1 #

Survey 7/7/19 @ 3810' 3/4"
Pipe Strap 1.54' Long
KS Drilling Technologies
Mud check 7/7/19
Depth: 3810' Btms Up: 36 min
Wt: 9.1 Vis: 57 Filt: 9.2
Cake: 1/32" LCM: 1.5# YP: 15
Chlor: 2000 ppm Grad: 0.473 psi/ft

Lansing A - 3830.JPG

DST # 3 (3806-3884)
Lansing A
2-45-60-120
Recovery: 635' SMCW w/ tr Oil, 165' MCW w/ tr Oil
IF: 44-58 SF: 72-396
Shut Ins: 1269/1239

2" IF - Built to 7"
45" ISI - Surface Blow back
60" FF - BOB in 11 min, built to 82.5"
90" FSI - No blow back
Rw: 0.140 ohms @ 65.4 deg
Chlorides: 60,000 ppm

DST #3 - Solko 1.pdf

Lansing B - 3885'.JPG

Lansing B - 3891'.JPG

DST # 2 (3840-3910)
Lansing B
2-45-60-90
Recovery: 42' GWOCM, 40' SW/MCO, 30' SMCO, 135' GIP
IF: 20-23 SF: 27-58
Shut Ins: 963/927

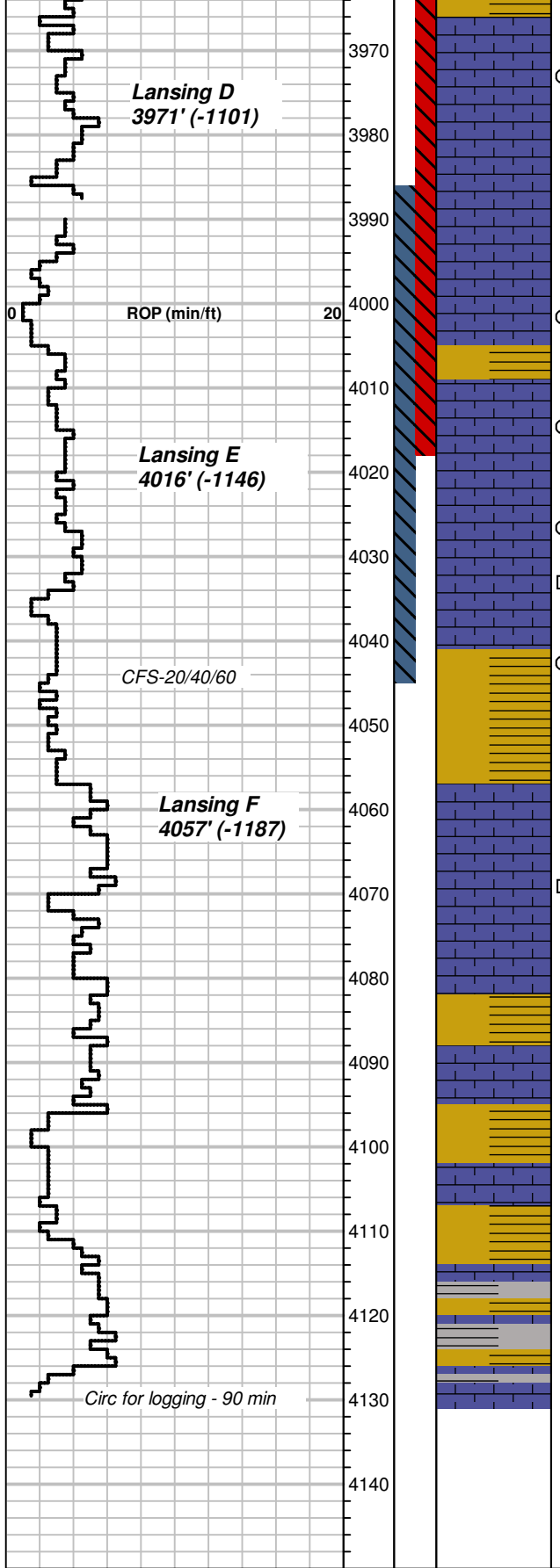
2" IF - Built to 1.5"
45" ISI - Blow back built to 1/8"
60" FF - BOB in 26.5 min, built to 22"
90" FSI - No blow back
Oil gravity: 27.8 API

DST #2 - Solko 1.pdf

KS Drilling Technologies
Mud check 7/9/19
Depth: 3950' Btms Up: 37 min
Wt: 8.9 Vis: 51 Filt: 8.8
Cake: 1/32" LCM: 1.5# YP: 15
Chlor: 3000 ppm Grad: 0.463 psi/ft

DST # 5 (3932-4018)
Lansing D
2-45-45-60
Recovery: 3" M
IF: 19-20 SF: 21-23
Shut Ins: 249/74

2" IF - Built to 0.5"
45" ISI - No Blow back



3960-69 Sh red. LS tan coarse xtn, very hard, no por, NS.

3969-79 LS from above, LS cream fine microxtln, very hard, no por, NS. LS cream med xtn, friable, poor intrxtln por, small vugs w/ oil stain, very few cuttings w/ show, looked at 4 trays and found 2 cuttings w/ show

3979-86 LS lt. gry/gry med xtn, very hard, no por, NS

3986-94 LS as above, LS cream microxtln, very hard, no por, NS

3994-4009 LS lt. tan microxtln, very hard, no intrxtln por, streaky vugs w/ oil stain, LS gry fossiliferous grnstrn, very hard, no por, NS, Sh red

4009-21 LS lt tan fine grnstrn, slightly friable, fair por, NS. LS cream - lt. tan microxtln, very hard, no por, NS, LS lt. gry fine - med xtn, very poor intrxtln por, very hard, bleeding oil when crushed. LS lt. gry fine xtn, very hard, poor intrxtln por, lots of oil staining, some free oil drops when crushed, all shows sparse

4021-29 Same LS fine xtn as above, similar show. Mostly LS cream microxtln, very hard, no intrxtln por, some med streaky vugs in some cuttings, oil stain, no free oil

4029-33 LS white microxtln, very hard, no por. Few cuttings w/ dead tarry bitumen stain, NSFO

4033-40 LS lt. gry microxtln, very hard, no por, NS. Pyrite

4040-45 LS as above, some with small dense pinpoint vugs and oil stain, NS. Also Sh red

4045-52 Sh red/dk gry

4052-64 Some Sh red/dk gry, Mostly LS cream microxtln very hard, no por, NS. LS tan/brwn microxtln, very hard, no por, NS

4062-73 LS lt. gry/blue, xtn, very hard, no por, NS, LS cream microxtln, very hard, no por, some w/ dead bitumen stain, NSFO

4073-83 LS lt. gry - white microxtln, very hard, no por, NS

4083-90 50/50 Sh red/dk gry, LS gry xtn very hard, no por, NS.

4090-96 50/50 Sh red/dk gry, LS cream fine xtn, slightly friable, no por, NS.

4096-4114 LS cream - lt. tan microxtln, very hard, no por, NS, Some Sh red/dk gry

4114-21 LS lt. gry microxtln, very hard, no por, NS. Sh dk gry

4121-25 As above, Also Sh red

4125-30 As above

Driller TD 4130'
Logger TD 4130'

45" FF - No Blow
60" FSI - No blow back

DST #5 - Solko 1.pdf

Lansing D - 3979'.JPG

** Connection at 3894' had a 2' error on board. Interval 3894' to 3990' shifted 2' higher due to error. 2' of drill time omitted from ROP curve at 3894' and 2' at 3988' was drilled w/o geologist to correct error.*

Lansing E - 4021'.JPG

Lansing E - 4022'.JPG

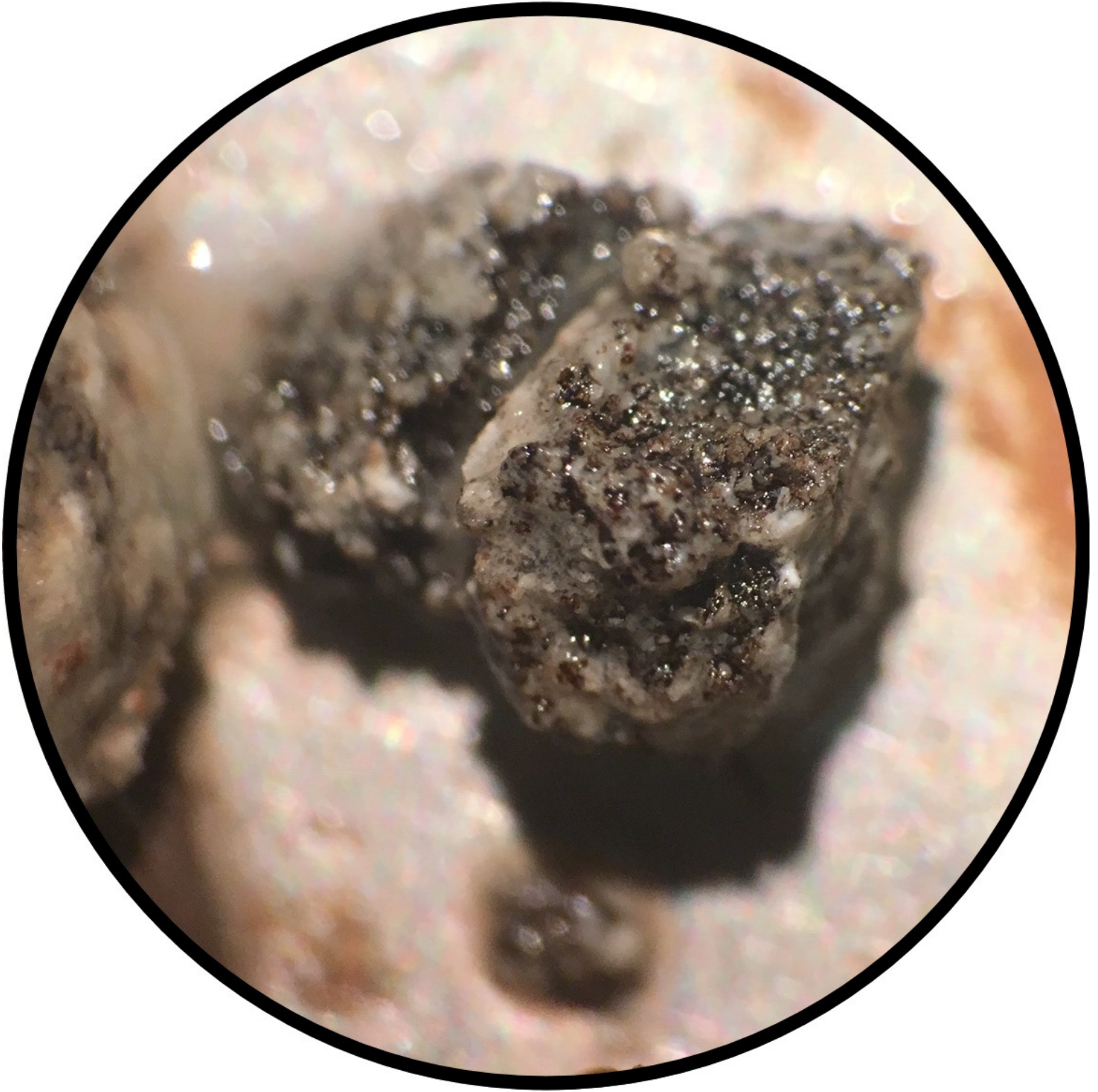
DST # 4 (3986-4045)
Lansing E
2-45-45-60
Recovery: 1' WCM
IF: 18-17 SF: 17-18
Shut Ins: 353/59

2" IF - Built to 1/8"
45" ISI - No blow back
60" FF - No blow
90" FSI - No blow back
Rw: 0.557 ohms @ 69.1 deg
Chlorides: 12,000 ppm

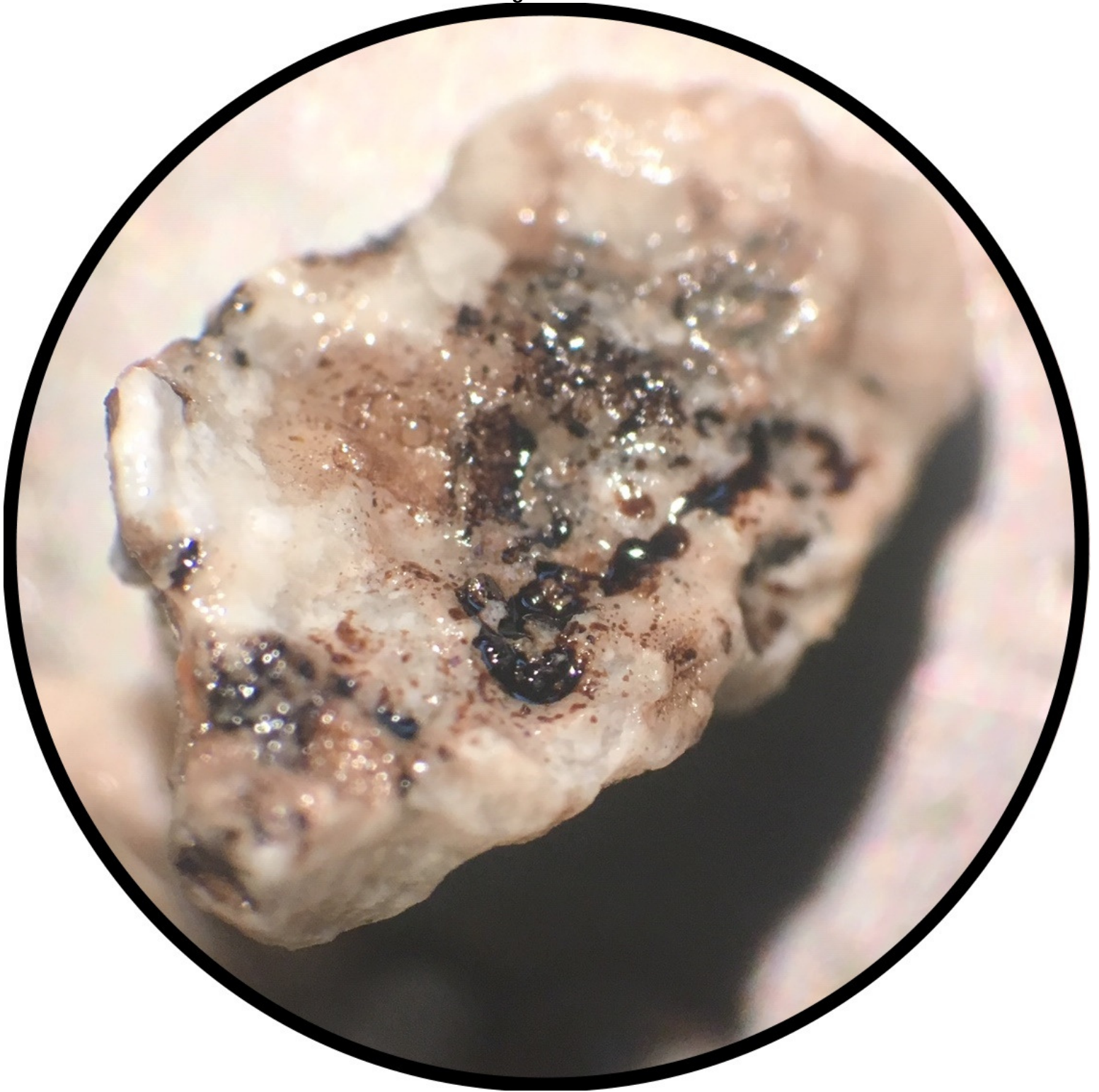
DST #4 - Solko 1.pdf

KS Drilling Technologies
Mud check 7/10/19
Depth: 4130' Btms Up: 39 min
Wt: 9.2 Vis: 50 Filt: 9.6
Cake: 1/32" LCM: 1.5# YP: 15
Chlor: 3000 ppm Grad: 0.478 psi/ft

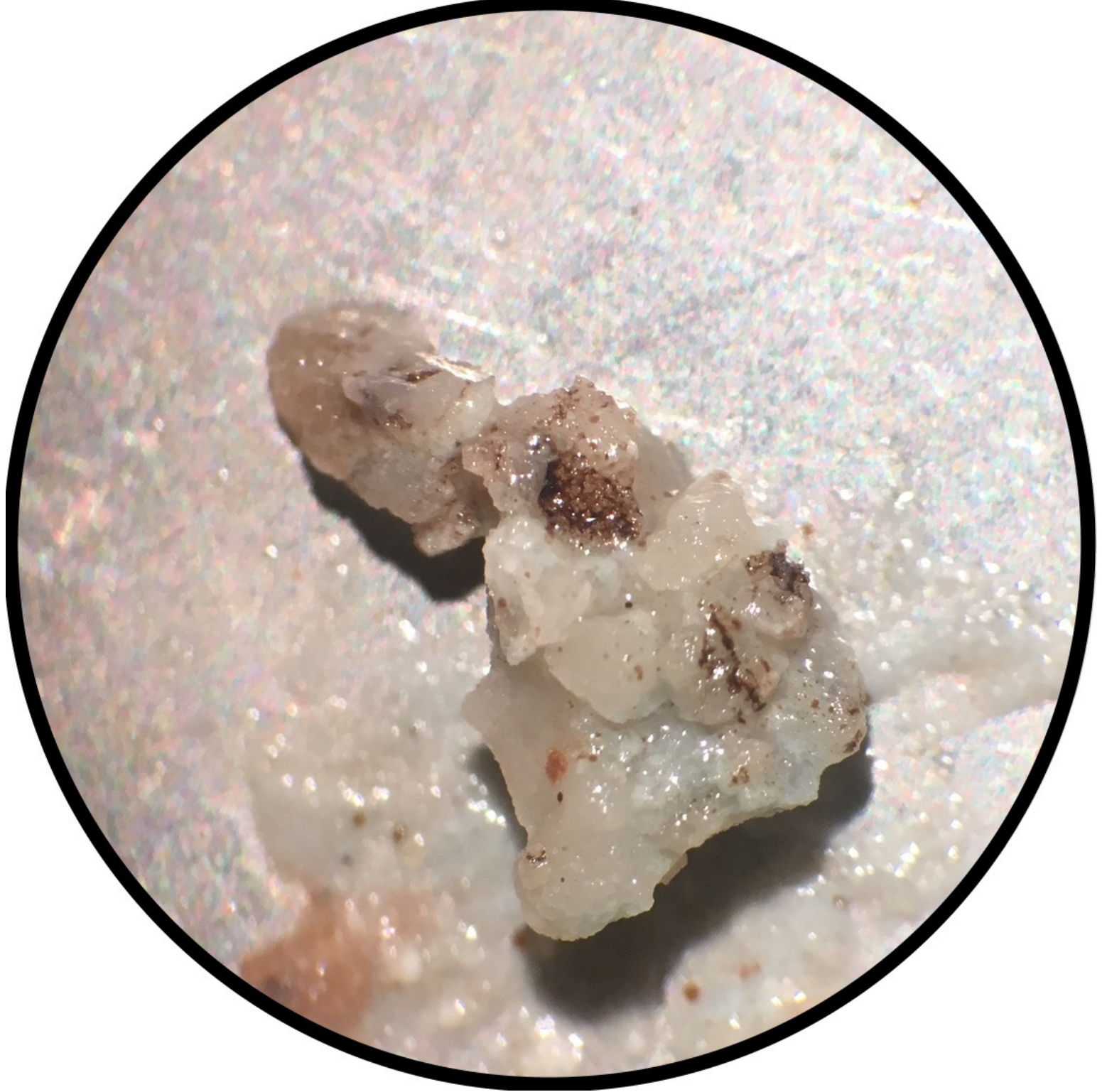
7/10/19 @ 4130'
Survey 1*
Pipe Strap - 0.27' long











Lansing D - 3979'.JPG

