



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: BRULL FARMS #1
API: 15-051-26685-00-00
Location: SE NW NW NE SECTION 25 13S 19W
License Number: 5663
Spud Date: 4/11/2014
Surface Coordinates: 335' FROM NORTH LINE OF SECTION
2294' FROM EAST LINE OF SECTION
Bottom Hole Coordinates: 335' FROM NORTH LINE OF SECTION
2294' FROM EAST LINE OF SECTION
Ground Elevation (ft): 2019' K.B. Elevation (ft): 2024'
Logged Interval (ft): 2900' To: 3672 Total Depth (ft): 3672
Formation: ARBUCKLE
Type of Drilling Fluid: CHEMICAL, MUD-CO

Region: ELLIS CO. KS.
Drilling Completed: 4/20/2014

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OPERATOR

Company: HESS OIL COMPANY
Address: P.O. BOX 1009
MCPHERSON, KANSAS 67460-1009
(620) 241-4640

GEOLOGIST

Name: DAVID GOULD (LOGGER)
Company: DMT COMPANY
Address: 532 SUNRISE
PRATT, KANSAS 67124
(620) 388-2847

Comments

CONTRACTOR:

MALLARD, J.V., INC. Rig #2

BIT RECORD:

#A, 12 1/4", RT, RR, 0-218

#1, 7 7/8, F27, RR, 218-3672

SURVEYS:

218', 1 DEGREE

3110', 3/4 DEGREE

3672', 1 DEGREE

DAILY STATUS: (6:00 AM)

4/11/14 Moved in Mallard Drilling rig. Spudded @ 3:25 pm. Drilled to 218' and ran 5 jts. 8-5/8" x 20# x 211' surface casing. Set @ 218' and cemented w/150 sx Common, 2% gel, 3% cc. CDC. PD @ 9:45 pm 4/11/14

4/12/14 Drilling @ 1950'

4/13/14 Drilling @ 2715'

4/14/14 Drilled to 3110'. Good break, gas kick, free oil in sample. DST #1 3063' - 3110'. 47' anchor. 45-60-45-60. Rec. SOSMW (5% mud, 95% water)

4/15/14 Drilled to 3245'. 100 unit gas kick, free oil in sample. Still above Heebner (correlation well called it the Shaw).

DST #2: 3235'-3245'. 45-60-45-60. Rec. 840' sl MCW (95% W, 5% M); 300' MCW (60% W, 40% M); 30' W&MCO (80% O, 5% W, 5% M).

4/16/14 Drilled to 3324'. 4' drilling break in Toronto, 50 unit gas kick, fair show in tight rocks. DST #3: 3289'-3324'. 45-45-45-45. Rec 240' MW (10% M, 90% W w/oil spots; 63' GMCW (10% G, 10% M, 80% W w/oil spots; 93' GWCO (10% G, 10% W, 80% O). Drilled to 3361'. DST #4: 3345'-3361'. 45-45-45-45. Rec 240' MOCG (10% M, 40% O, 50% G); 15' GMCO (10% G, 40% M, 50% O); 10' Oil

4/17/14 Drilled to 3405'. DST #5: 3369'-3405'. 45-45-45-45. Rec. 180' MW (10% M, 90% W, w/oil spots); 241' WM (10% M, 90% W, w/oil spots). Drilled to 3535'. DST #6: 3419'-3535'. 45-45-45-45. Rec. 60' MW (40% M, 60% W w/oil spots); 210' M (100% M w/oil spots).

4/18/14 Drilled to 3666'. DST #7: 3615'-3666'. 45-45-45-45. Rec 30' M w/light oil skim. Drilled to 3672' RTD.

4/19/14 DST #8: 3615'-3672'. 45-45-45-45. Rec 63' SGHOHWCM (5%G, 20%O, 20%W 55%M); 53' SGHO CM (5%G, 25%O, 70%M); 10' Clean oil. Decided to run casing based on the Lansing A test, and to evaluate the lower Lansing zones. Ran logs. LTD 3668'.

4/20/14 Ran 87 jts. 5 1/2" x 15.5# casing. Set @ 3662'. DV tool @ 1271'. Cemented bottom stage w/120 sx ASC, 5# gil. PD @ 8:45 am. Cemented top stage w/275 sx 60/40 pozmix, 4% gel, 1/4# floseal/sk. CDC. 30 sx RH, 15 sx MH. PD @ 1:45 pm 4/20/14.

4/21/14 Moved out rig

Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 1 Interval Tested: 3063 – 3110

Zone Tested: Topeka Times: 45-60-45-60

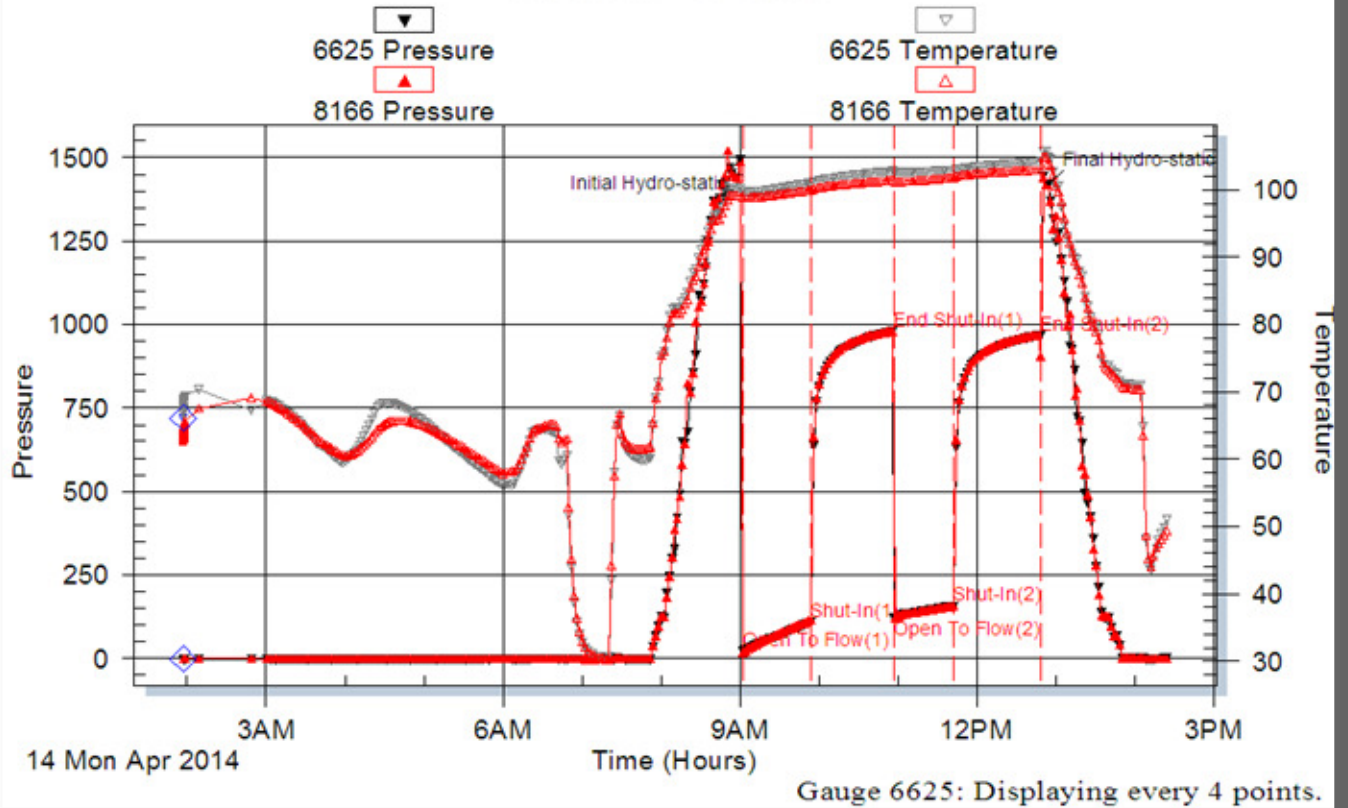
Blow Description: IFP: ½" Int. Blow built to 8" in 45 Min. ISI: No blow back FFP: Pulled WSB Started @ 2 Min. built to 5 ½" in 45 Min. FSI: No blow back

Rec: 292 Feet of SOSMW 0% Gas 0% Oil 95% Water 5% Mud, Rec. Total: 292', BHT: 105 Gravity: N/A

Initial Hydrostatic: 1494 First Initial Flow: 21 First Final Flow: 110 Initial Shut-In: 980

Second Initial Flow: 120 Second Final Flow: 157 Final Shut-In: 968 Final Hydrostatic: 1422

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 2 Interval Tested: 3235 – 3245

Zone Tested: Shaw Times: 45-60-45-60

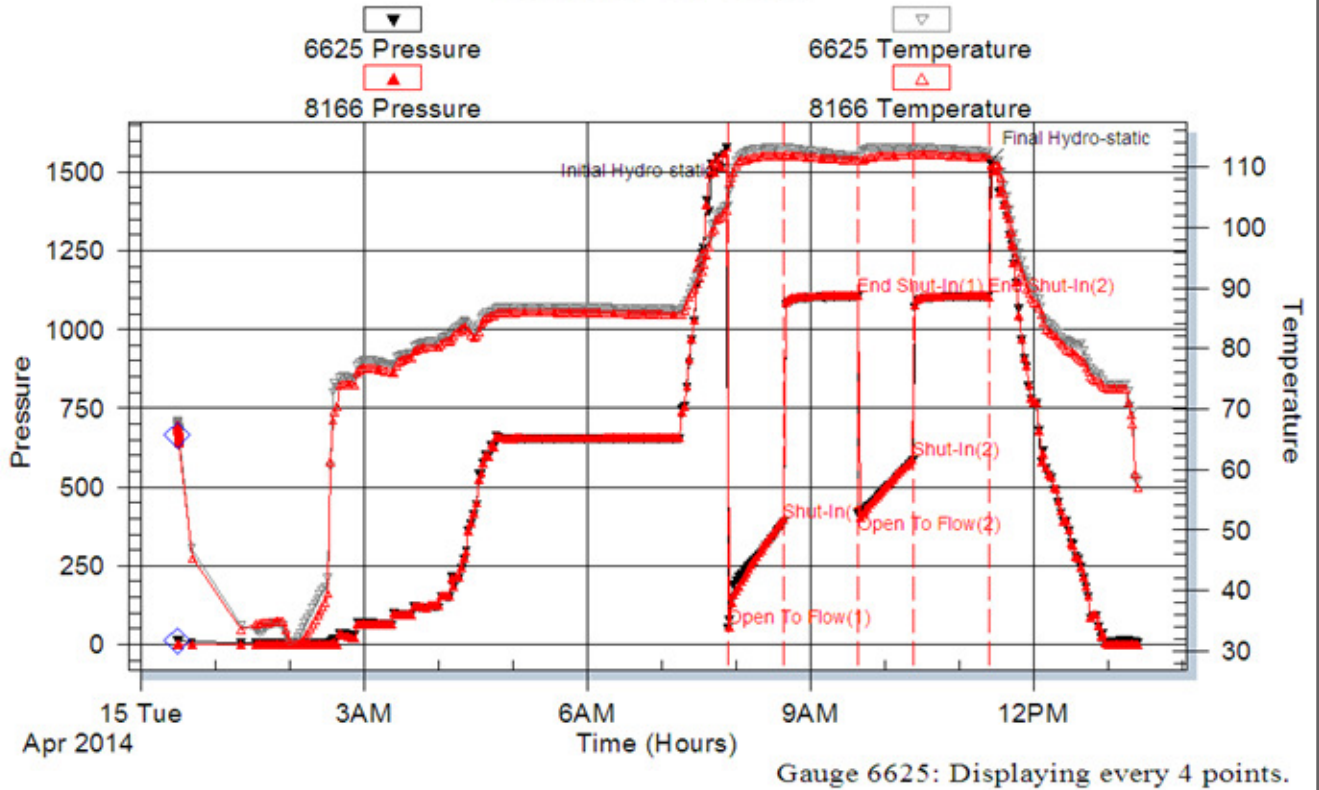
Blow Description: IFP: BOB in 14 Min. Flushed tool twice ISI: No blow back FFP: BOB in 5 Min. FSI: 5 ¼" Min.

Rec: 840 Feet of SMCW 0% Gas 0% Oil 95% Water 5% Mud, 300 Feet of MCW 0% Gas 0% Oil 60% Water 40% Mud, 30 Feet of WMCO 0% Gas 80% Oil 10% Water 10% Mud, Rec. Total: 1170', BHT: 113 Gravity: N/A

Initial Hydrostatic: 1579 First Initial Flow: 50 First Final Flow: 386 Initial Shut-In: 1104

Second Initial Flow: 416 Second Final Flow: 583 Final Shut-In: 1105 Final Hydrostatic: 1530

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 3 Interval Tested: 3289 – 3324

Zone Tested: Toranto Times: 45-45-45-45

Blow Description: IFP: BOB in 10 Min. ISI: 5 3/4" FFP: BOB in 9 Min. FSI: 7 1/4"

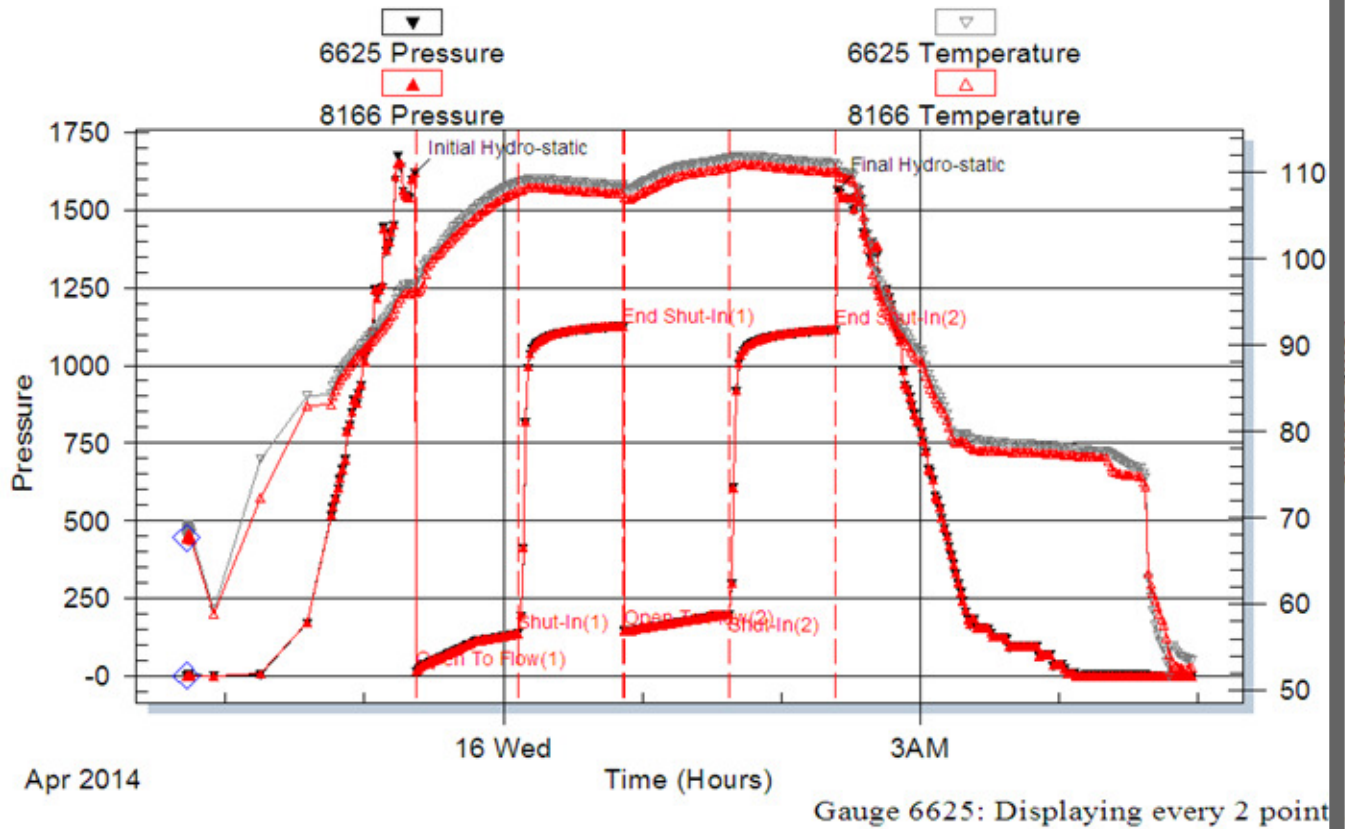
Rec: 240 Feet of MW with oil spots 0% Gas 0% Oil 90% Water 10% Mud, 63 Feet of GMCW with oil spots 10% Gas 0% Oil 80% Water 10% Mud, 93 Feet of GWCO 10% Gas 80% Oil 10% Water 0% Mud, Rec.

Total: 396', BHT: 111 Gravity: N/A

Initial Hydrostatic: 1618 First Initial Flow: 15 First Final Flow: 135 Initial Shut-In: 1122

Second Initial Flow: 148 Second Final Flow: 198 Final Shut-In: 1113 Final Hydrostatic: 1563

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 4 Interval Tested: 3345 – 3361

Zone Tested: Lansing Times: 45-45-45-45

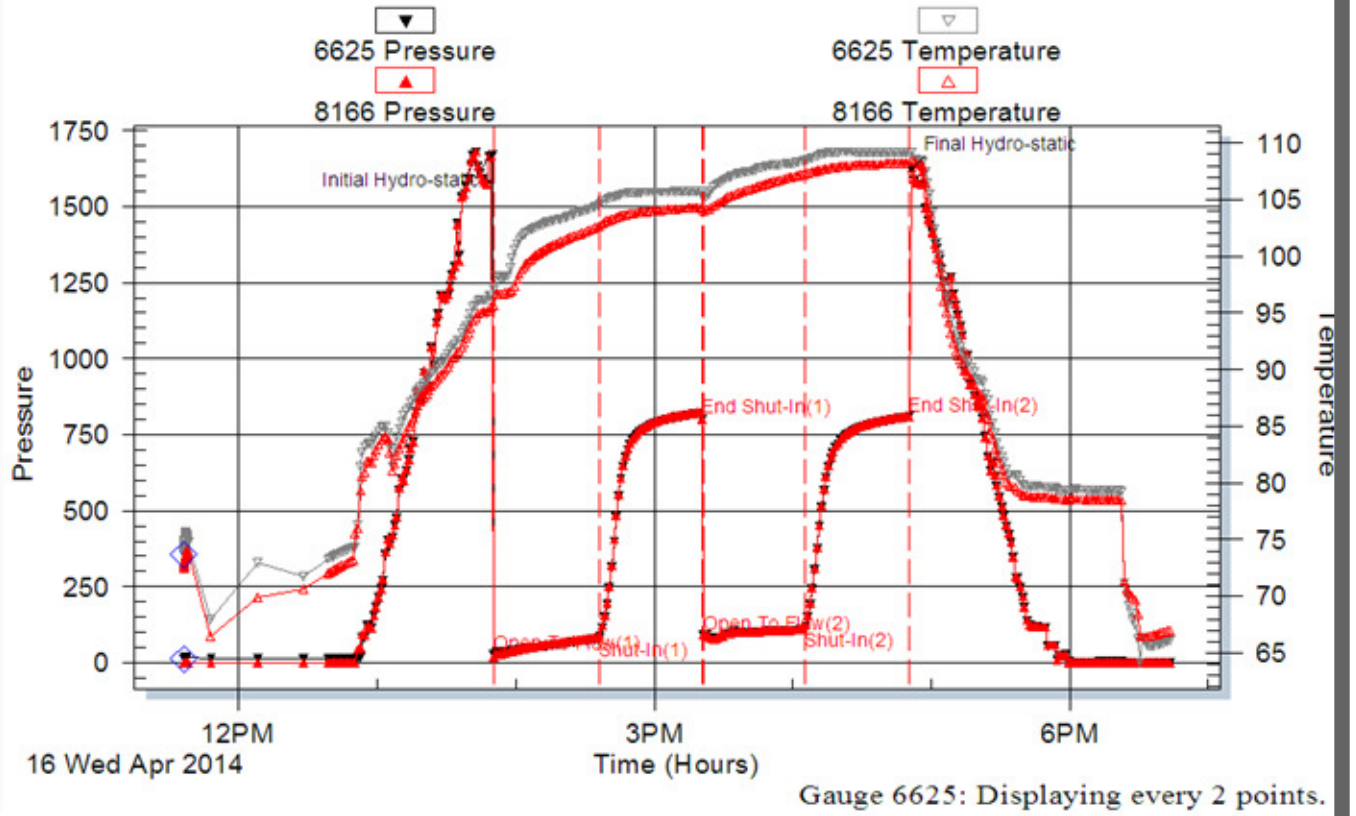
Blow Description: IFP: BOB in 5 Min. ISI: Built to 1 ¼", Died back to ¾" FFP: BOB in 5 Min. FSI: Built to 1 ¼", Died back to 1"

Rec: 240 Feet of MOCG 50% Gas 40% Oil 0% Water 10% Mud, 15 Feet of GMCO 10% Gas 50% Oil 0% Water 40% Mud, 10 Feet of O 0% Gas 100% Oil 0% Water 0% Mud, 315 Rec. Total: 265', BHT: 109 Gravity: 42

Initial Hydrostatic: 1668 First Initial Flow: 26 First Final Flow: 79 Initial Shut-In: 803

Second Initial Flow: 91 Second Final Flow: 108 Final Shut-In: 808 Final Hydrostatic: 1624

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 5 Interval Tested: 3369 – 3405

Zone Tested: Lansing Times: 45-45-45-45

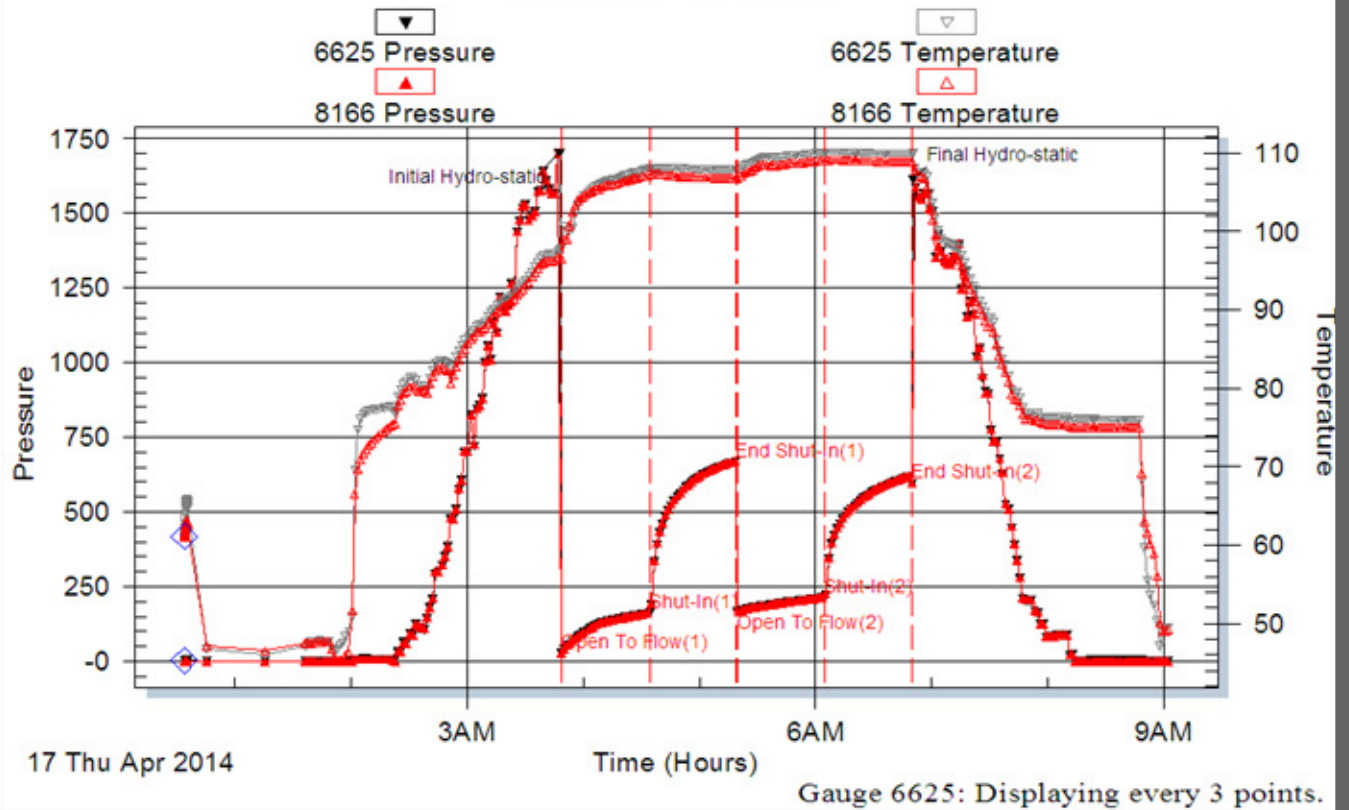
Blow Description: IFP: BOB in 11 Min. ISI: No blow back FFP: BOB in 20 Min. FSI: 1/4" Blow back

Rec: 180 Feet of MW with oil spots 0% Gas 0% Oil 90% Water 10% Mud, 241 Feet of WM with oil spots 0% Gas 0% Oil 10% Water 90% Mud, Rec. Total: 421', BHT: 110 Gravity: N/A

Initial Hydrostatic: 1702 First Initial Flow: 28 First Final Flow: 161 Initial Shut-In: 337

Second Initial Flow: 167 Second Final Flow: 213 Final Shut-In: 595 Final Hydrostatic: 1312

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 6 Interval Tested: 3419 – 3535

Zone Tested: Lansing Times: 45-45-45-45

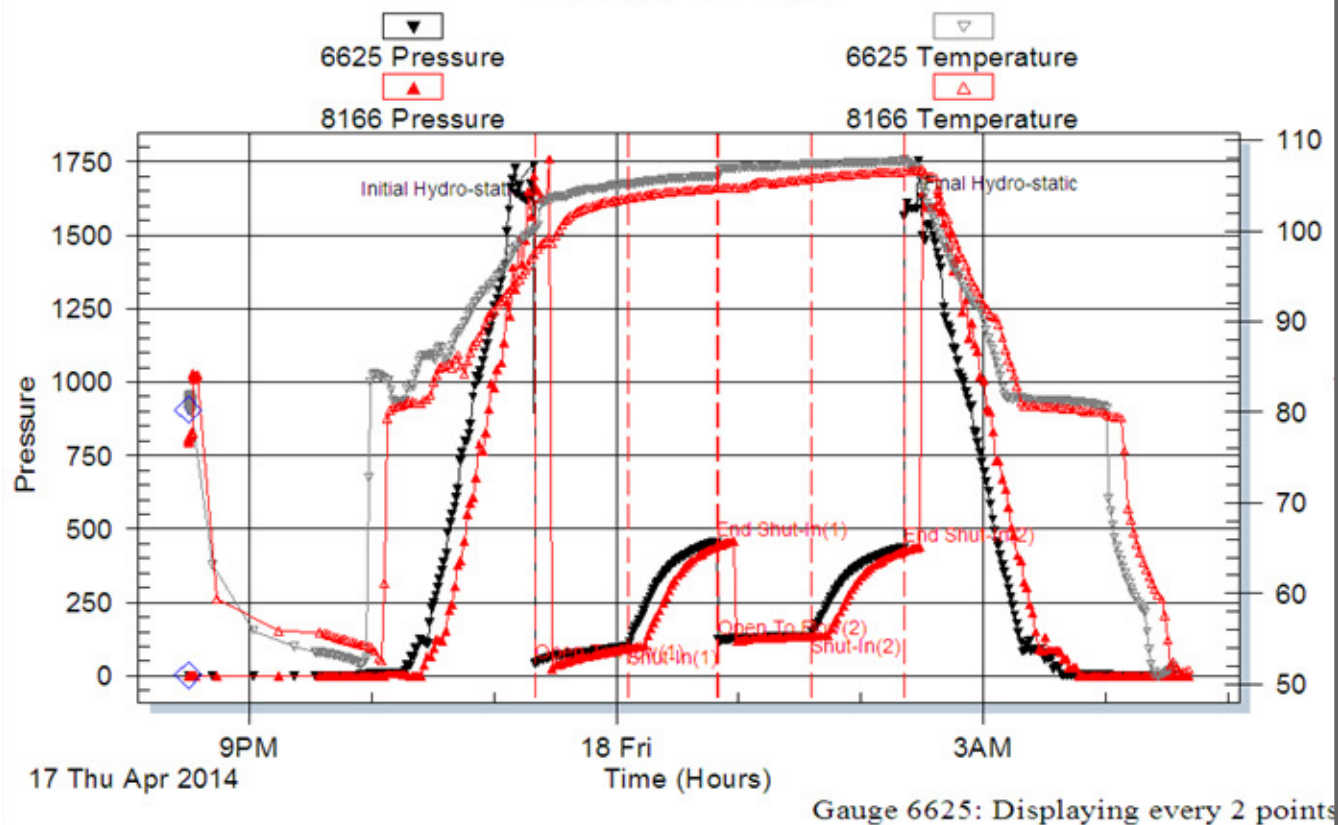
Blow Description: IFP: BOB in 10 Min. ISI: Built to 1/2", died back to weak surface blow FFP: Built to 8"
FSI: Built to 1/2", died in 33 Min.

Rec: 60 Feet of MW with oil spots 0% Gas 0% Oil 60% Water 40% Mud, 210 Feet of M 0% Gas 0% Oil 0%
Water 100% Mud, Rec. Total: 270', BHT: 107 Gravity: N/A

Initial Hydrostatic: 1727 First Initial Flow: 42 First Final Flow: 100 Initial Shut-In: 457

Second Initial Flow: 123 Second Final Flow: 137 Final Shut-In: 437 Final Hydrostatic: 1649

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 7 Interval Tested: 3615 – 3666

Zone Tested: Arbuckle Times: 45-45-45-45

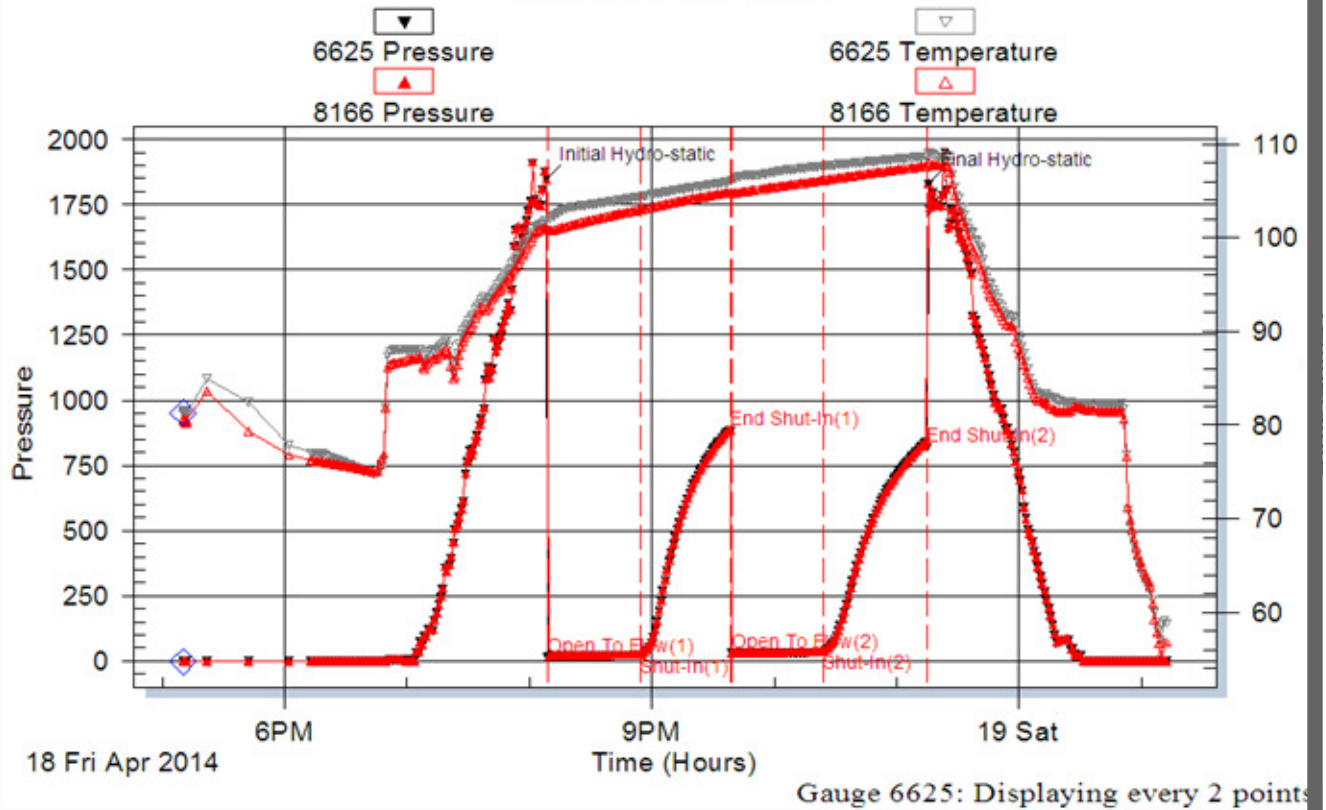
Blow Description: IFP: Built to 1" died back to 3/4" ISI: No blow back FFP: No Blow FSI: No blow back

Rec: 30 Feet of M with oil skim 0% Gas 0% Oil 0% Water 100% Mud, Rec. Total: 30', BHT: 109 Gravity: N/A

Initial Hydrostatic: 1848 First Initial Flow: 16 First Final Flow: 23 Initial Shut-In: 883

Second Initial Flow: 30 Second Final Flow: 34 Final Shut-In: 820 Final Hydrostatic: 1829

Pressure vs. Time



Well Name & No.: Brull Farms #1 Company: Hess Oil Co. Test No.: 8 Interval Tested: 3615 – 3672

Zone Tested: Arbuckle Times: 45-45-45-45

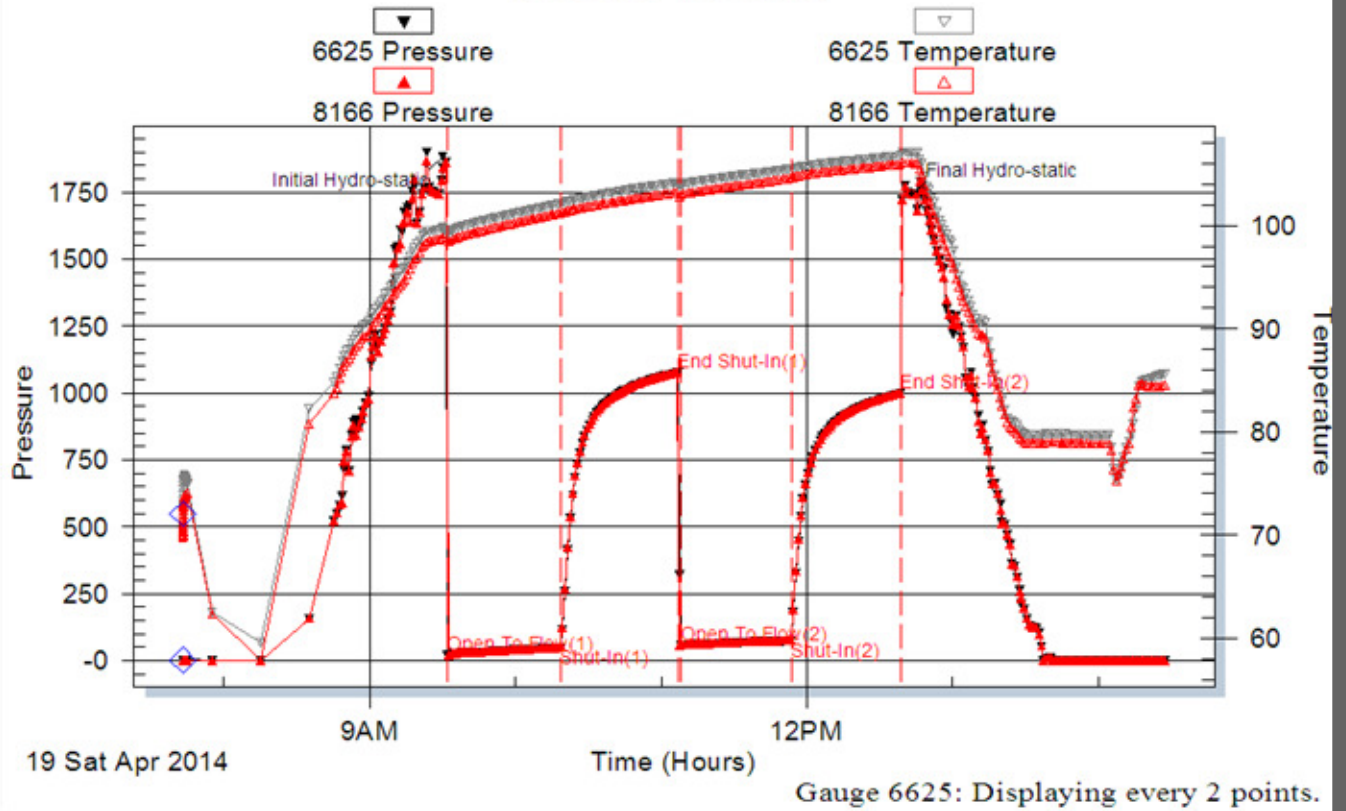
Blow Description: IFP: 1/2" Int. Blow built to 4 1/2" in 45 Min. ISI: No blow back FFP: weak surface blow @ 10 Min. built to 1" FSI: No blow back

Rec: 10 Feet of Clean oil 0% Gas 100% Oil, 53 Feet of SGHOCM 5% Gas 25% Oil 0% Water 70% Mud, 63 Feet of SGHOHWCM 5% Gas 20% Oil 20% Water 55% Mud, Rec. Total: 131', BHT: 110 Gravity: N/A


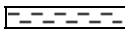

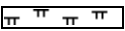
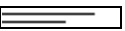
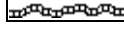




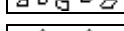


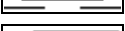





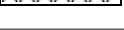
Initial Hydrostatic: 1884 First Initial Flow: 20 First Final Flow: 50 Initial Shut-In: 1077

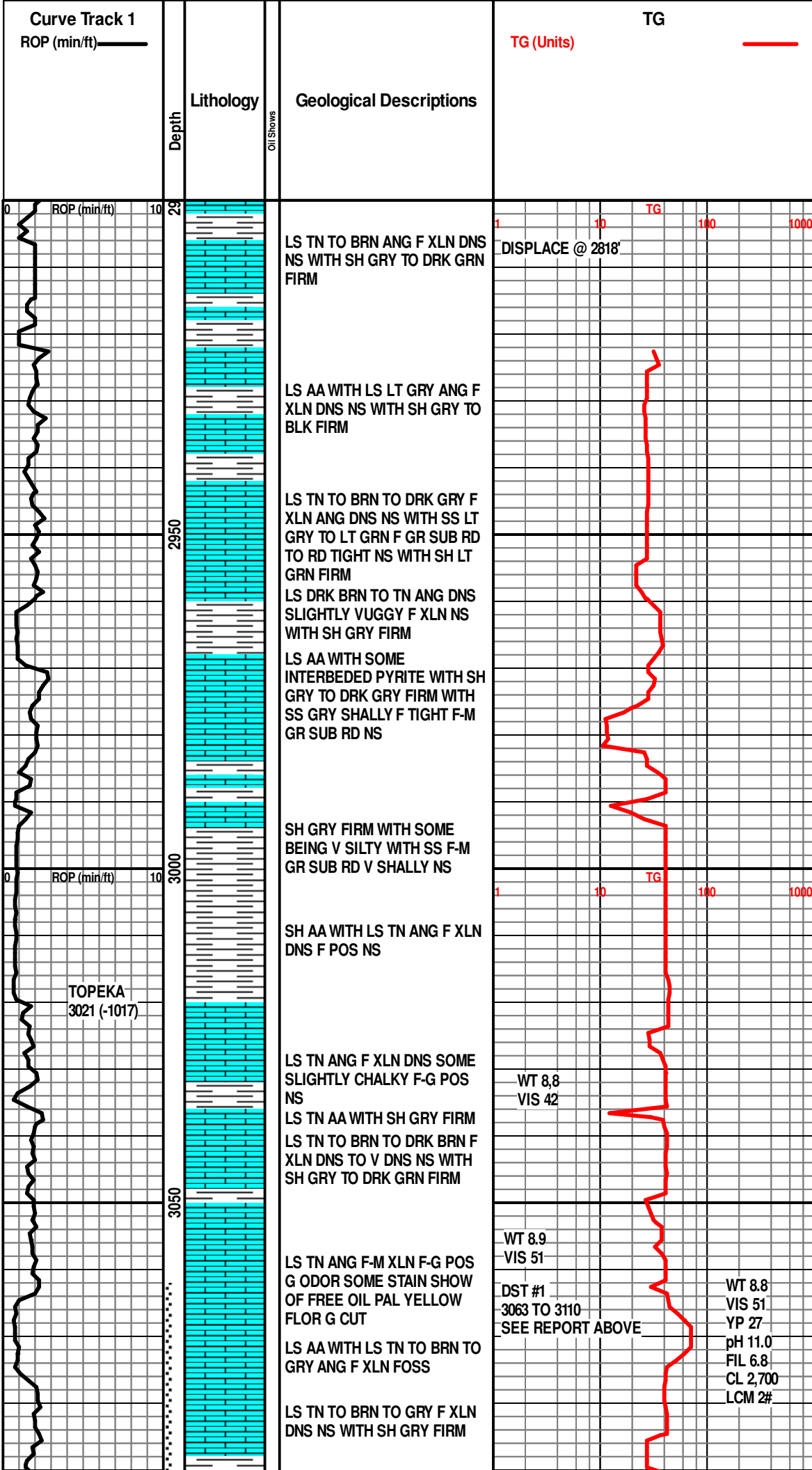
Second Initial Flow: 58 Second Final Flow: 76 Final Shut-In: 997 Final Hydrostatic: 1743

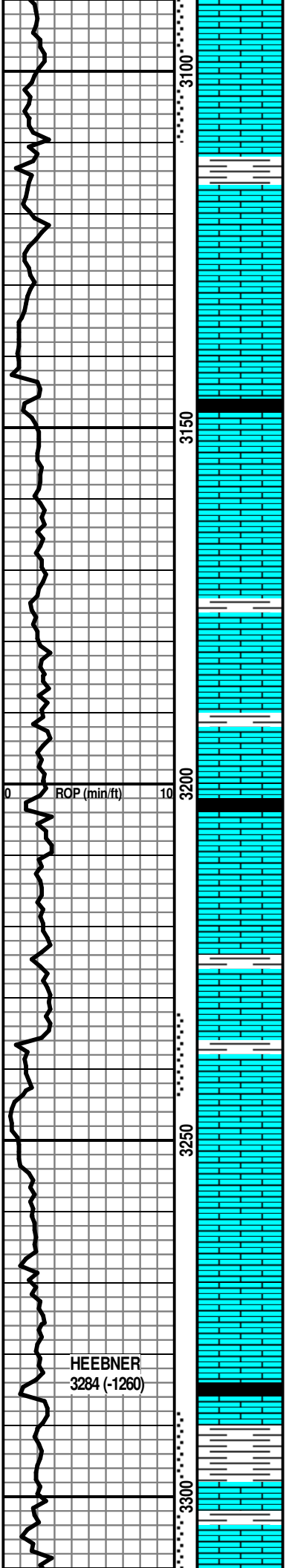
Pressure vs. Time



ROCK TYPES

 Anhy	 Clyst	 Gyp	 Mrlst	 Shgy
 Bent	 Coal	 Igne	 Salt	 Sltst
 Brec	 Congl	 Lmst	 Shale	 Ss
 Cht	 Dol	 Meta	 Shcol	 Till





LS AA WITH SH GRN FIRM

LS TN TO BRN ANG F XLN DNS
TO V DNS NS WITH TR CHERT
DRK GRY SHARP WITH SH
GRY FIRM WITH TR PYRITE

LS AA WITH SH GRY TO DRK
GRY FIRM

LS BRN ANG F-M XLN MOSTLY
DNS SOME V POS NS WITH SH
DRK GRY TO BLK SOME CARB

LS CRM TO TN ANG F XLN DNS
SOME SLIGHTLY CHERTY NS
WITH LS OFF WHT VF XLN
CHALKY SOFT

LS CRM TO TN TO BRN ANG F
XLN DNS NS

LS AA WITH LS TN ANG F XLN
DNS FOS WITH INTERBEDDED
PYRITE NS WITH CHERT GRY
SHARP V HD

LS TN TO BRN ANG F XLN DNS
NS

LS AA WITH INTERBEDDED
PYRITE WITH SH BLK CARB

LS CRM TO TN ANG F XLN DNS
WITH SOME LS OFF WHT VF
XLN CHALKY SOFT

LS CRM TO TN AA WITH SH
GRY TO DRK GRY FIRM

LS TN ANG F XLN DNS G PIN
POS G ODER G TO VG FLOR G
CUT G STAIN GOOD SHOW OF
FREE OIL

LS OFF WHT TO TN ANG F XLN
SOME VG POS G SHOW AA
WITH SOME SLIGHTLY
CHALKY

LS TN ANG F XLN DNS NS
WITH SH GRY TO GRN FIRM

LS AA WITH CHERT WHT TO
GRY SHARP HD

LS TN TO LT TN ANG F XLN
DNS WITH SH BLK CARB

LS GRY TO LT BRN ANG F XLN
DNS NS SOME SLIGHTLY
CHAKLY

LS OFF WHT TO TN ANG F-VF
XLN DNS P-VP POS V GOOD
STAIN SHOW OF FREE OIL
GOOD BRIGHT FLOR GOOD
CUT WITH STREAMERS

WT 9.0
VIS 47

WT 9.1
VIS 50

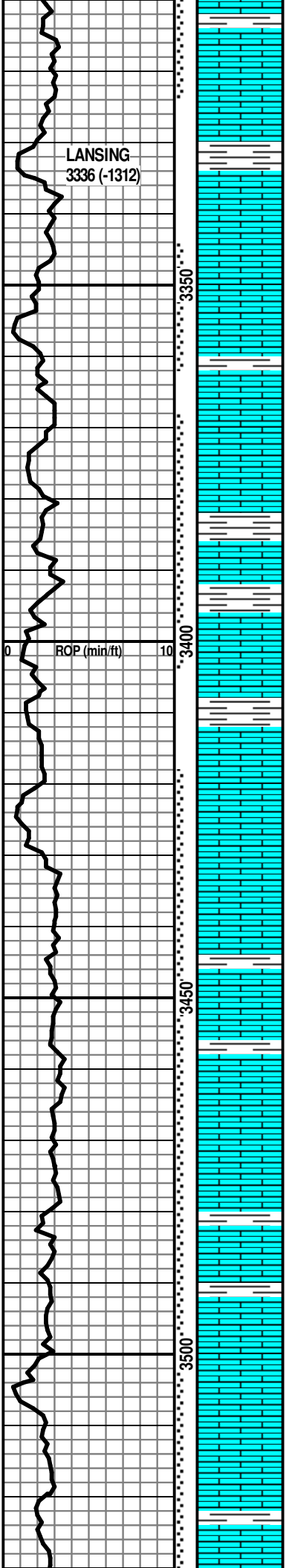
DST #2
3235 TO 3245
SEE REPORT ABOVE

WT 9.1
VIS 54

DST #3
3289 TO 3324
SEE REPORT ABOVE

WT 9.0
VIS 46
YP 19
pH 10.5
FIL 7.6
CL 2,800
LCM 2#

TG



LS AA WITH SAME SHOW WITH
LS BRN TO DRK BRN ANG V
DNS NS

LS OFF WHT TO TN ANG F XLN
DNS NS

LS GRY TO BRN ANG F XLN
DNS NS WITH SH GRY TO DRK
GRY FIRM

LS GRY TO DRK GRY ANG F
XLN DNS TO V DNS NS

WT 9.1
VIS 53

WT 9.0
VIS 54
YP 25
pH 10.5
FIL 6.0
CL 2,700
LCM 2#

DST #4
3345 TO 3361
SEE REPORT ABOVE

LS TN F XLN G-VG POS VG
STAIN GOOD SHOW OF FREE
OIL PAL FLOR VG CUT

LS AA WITH LS OFF WHT TO
LT TN ANG F XLN DNS NS

WT 8.9
VIS 45

LS OFF WHT TO TN ANG F XLN
SLIGHTLY FOSS NS WITH SH
GRY FIRM

DST #5
3369 TO 3405
SEE REPORT ABOVE

LS TN ANG F XLN F TO G POS
GOOD ODOR GOOD OIL STAIN
SLIGHT SHOW OF FREE OIL F
FLOR G CUT

WT 9.1
VIS 47

LS AA WITH LOTS OF FREE
OIL WITH SH DRK GRY TO BLK
FIRM

LS OFF WHT TO TN ANG F XLN
F POS G STAIN SLIGHT SHOW
OF FREE OIL V FLOR G CUT

TG 10 100 1000

LS OFF WHT TO TN TO LT GRY
ANG F XLN DNS WITH LS WHT
VF XLN CHALKY SOFT

DST #6
3419 TO 3535
SEE REPORT ABOVE

WT 9.0
VIS 54
YP 26
pH 10.0
FIL 6.8
CL 3,200
LCM 2#

MOSTLY LS AA WITH LS TN TO
BRN ANG F XLN DNS F POS
SLIGHTLY FRAC SOME STAIN
SHOW OF FREE OIL G ODOR
G YELLOW FLOR G CUT WITH
STREAMERS LS OFF WHT TO
TN ANG F XLN DNS F POS G
STAIN G ODER SHOW OF
FREE OIL G YELLOW FLOR G
CUT

LS AA WITH LS GRY ANG F
XLN WITH INTERBED SHALLY
DNS WITH LS BRN ANG F TO
VF XLN V DNS NS

LS CRM TO TN ANG F XLN DNS
NS WITH LOTS OF CHERT TN
SHARP HD

LS CRM TO TN AA WITH SOME
SLIGHT STAIN SLIGHT ODOR
NO FREE OIL

LS AA WITH LESS STAIN WITH
LS BRN ANG F-VF XLN V DNS
NS

WT 9.1
VIS 52

LS LT TN ANG F XLN G -VG
OOLIC POS GOOD STAIN F
ODOR VG SHOW OF FREE OIL
G YELLOW FLOR G
STREAMING CUT

LS AA WITH LS TN ANG F XLN
DNS V SLIGHT OIL STAIN NO
FREE OIL LS CRM TO LT TN
ANG F XLN DNS WITH
INTERBED PYRITE NS

LS OFF WHT TO LT TN ANG F
XLN P-F POS F STAIN GOOD
SHOW OF FREE OIL F FLOR
GOOD CUT WHEN BROKEN

