ROGER L. MARTIN

INDEPENDENT PETROLEUM GEOLOGIST 316-250-6970

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY HESS OIL CO., LLC.

LEASE UMC #1-35

FIELD WILDCAT

LOCATION 1520' FSL & 2309' FEL (SE-SW-NW-SE/4)

SECTION 35 **TOWNSHIP** 8S **RANGE** 23W

COUNTY GRAHAM **STATE** KANSAS

ELEVATIONS

KB 2180' **GL** 2175'

Measurements Are All From KB: 2180'

API 15-065-24132-00-00

CONTRACTOR WW Drilling; Rig#8

SPUD 6:30pm/5/16/17 **COMP** 6:00 AM on 5/23/17

RTD 4073' (-1893) **LTD** 4075' (-1895)

ELECTRICAL SURVEYS

ELI: DIL, CNL/CDL/PE

2 DST's by TRILOBITE TESTING

CASING

SURFACE 8&5/8" set @ 215' cmt'd w/150sx Common, 3% CaCl; 2% gel

PRODUCTION NONE

P&A

FORMATION TOPS	LOG	SAMPLES
STONE CORRAL ANHYDRITE	1824' (+356)	1824' (+356)
BASE/SC ANHYDRITE	1859' (+321)	1859' (+321)
TOPEKA	3256' (-1076)	3251' (-1071)
HEEBNER SH	3473' (-1293)	3470' (-1290)
TORONTO	3495' (-1315)	3495' (-1315)
LANSING	3511' (-1331)	3510' (-1330)
BASE/ KANSAS CITY	3726' (-1546)	3725' (-1545)
ARBUCKLE	3979' (-1799)	3980' (-1800)
TOTAL DEPTH (LTD/RTD)	4075' (-1895)	4073' (-1893)

CHRONOLOGY

5/16/17; MIRU WW Drlg Rig#8; Spud @ 6:30pm. Drilled to 215'. Ran 5 jts of 8&5/8"x 23# Surf.csg. Set @ 215' & cmt'd w/ 150sx Common, 3%CaCl, 2%gel. Plug Down @ 11:45pm.

5/17/17; WOC @ 215' @ 6:30am.

5/18/17; Drlg @ 1918' @ ~6:30am. (Bit Trip @1950')

5/19/17; Drlg @ 2901'@~6:30am.
Displaced mud system @ 3088'

5/20/17; Drlg @ 3495 @ 6:30am. CFS @ 3566'
DST#1 @ 3523'--->3598' (LKC: B-->F zones)

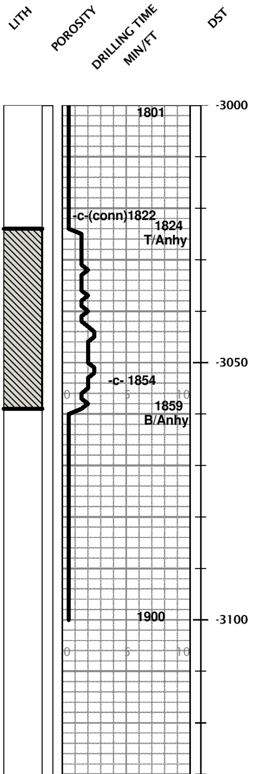
5/21/17; CFS @ 3693' @~6:30am.
DST#2 @ 3622'-->3744' {LKC: H-->L zns)

5/22/17; Drlg @ 3890' @~6:30am
Drilled to RTD:4073'; Ran ELI E-Logs: DIL & CNL/CDL. LTD:4075'

5/23/17; Plugged w/ 290sx 60/40 poz mix; 4%gel, + 1/4# Flo seal/sk; 50sx@3960' & 50sx@1840' & 100sx@1020' & 50sx@260' & 10sx@40' & 30sx in RH. PD @ 6:00am on 5/23/17; By Quality Oilwell, Russell, Ticket # 0237

REMARKS: THROUGH SAMPLE ANALYSIS, OPEN HOLE DRILL STEM TESTING, AND OPEN HOLE E-LOG EVALUATION, IT WAS DETERMINED THAT THERE WERE NO ZONES OF COMMERCIAL VALUE IN THIS TEST WELL. THEREFORE, THE HESS OIL CO. UMC #1-35 WAS PLUGGED AND ABANDONED ON 5/23/2017.

RESPECTFULLY SUBMITTED,
ROGER L MARTIN, GEOLOGIST (WELLSITE)



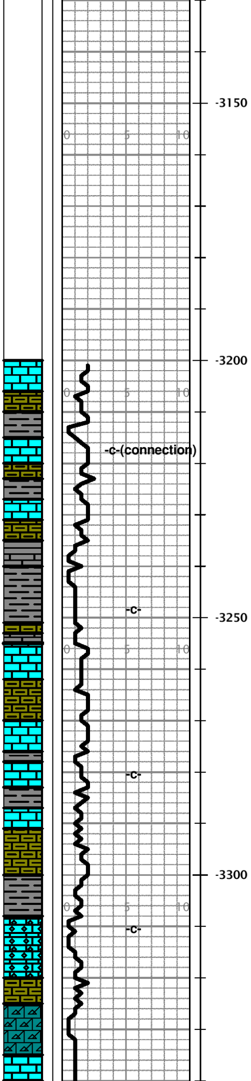
SAMPLE DESCRIPTION

REMARKS

1824' (+356) TOP/ STONE CORRAL ANHYDRITE

1859' (+321) BASE/ANHYDRITE

Mud-Co report
5/18/17@8:30am
Bit trip @ 1950'
Wt:9.7 Vis:30
pH:7.0 WL:NC
Cl: 29,000 ppm
Ca: Hvy
LCM: Nil



3220'sample (spl)} LS: gray-white (gy-wh), microXln {mx} to fnXln, some {sm} granlr, pr-Fr InterXln Porosity {IXP) w/ No Show {NS); sm chlky & sm dn & argil; NS; & SH: pred gy, sm calc.

3240'&3260'spls} SH: gy, sm calc & Lmy; & LS: dk-Lt-gy, argil-shly & dense(dn).

3280'spl} SH: As Above (AA)

3280'spl cont'd} TOPEKA} LS: (sharp increase) cream (cm)-gy & buff (bf) mx- Rare (Rr) fnXln, sm fos- Pkst-Wkst, & sm dn & argil- Mdst; Poor Visible Porosity to No Visible Porosity (PrVP-NVP) w/ NS; & SH: AA.

3300'spl} LS: gy-bf-cm, Rr tan(tn); mx-fnXln, sm fos & ool - Pkst, w/ pr-Fr Porosity(Poro), Very rare (Vrr) Gd Poro: IXP & I.Gr & Vug Poro w/ NS; sm dn & argil LS.

3320'spl} LS: gy-bf-cm, sm mot- Pkst, & mx-fnXln, pr-Fr & Rr Gd Poro: I.Gr & IXP, pin point (pp) vug Poro w/ NS; sm wh-chlky LS; sm argil; & sm SH: AA.

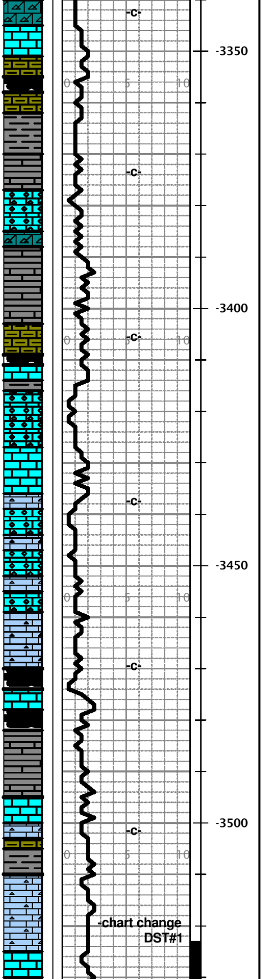
3340'spl} LS: cm-bf-gy, sm mx-fnX; & sm fn ool & fos-Pkst- Grst w/ Fr-Gd Poro w/ NS; sm wh-chlky; NS.

3360'spl} LS: bf-cm-tn, mx-fnXln, Abndt VfnXln- sucro-dolomc; sm fos- Pkst; pred pr-Fr Visibl Poro; Rr Gd Poro: IXP, pp & IGr Poro w/ NS; Sl Cherty.

20 ft samples wet
(& dried by RLM)

3255' (-1075)
TOPEKA
(Corrected)

Mud-Co report
5/19/17@8:55am
Drlg@2965'
Wt:9.5 Vis:29
pH:7.0 WL:NC
Cl: 32,000 ppm
Ca: Hvy
LCM: Trc



3380'spl} LS: cm-tn-gy, mx-fnXln, Vrr prt MdXln, sm 2nd ReX; sm dolomc; pred pr-Fr Visbl Poro, Rr Gd Poro w/ NS; sm dn & argil LS; Vrr bk carb SH.

3400'spl} sm SH: Variegated (V-gated) AA.

3400'spl.cont'd} LS: gy-tn-cm, mx-fnXln, sm prt ool & prt oomldc w/ Fr to VGd Poro: oomldc & I.ool Poro & sm IXP w/ NS. (3410'spl} LS: cm-bf-tn, mx-VfnXln, sm dolomc-sucro, sm granlr- Pkst-Grst, Vrr prt oomldc; sm Fr-Gd Poro: IXP, IGr, & oomldc Poro w/ NS; Sl Cherty.

3420'spl} LS: AA; incrs dn Mdst & Wkst, gy-tn-cm, w/ PrVP-NVP w/ NS; Sl Cherty; & SH: AA; V-gated.

3430'spl} SH: pred maroon(mrn) - red(rd) & green-gray(gn-gy); & LS: cm-gy-bf, pred dn Mdst-Wkst w/ PrVP-NVP w/ NS.

3440'spl} LS: gy-bf-cm, mx-fnXln, profusely oomldc, & sm prt ool & prt oomldc & Pkst-Grst; sm Fr-VGd Poro: oomldc & I.ool Poro w/ NS.

3450'spl} LS: AA; & (incrs) dn Mdst & Wkst w/ Pr-NVP; NS.

3460'spl} LS: cm-gy-tn, mx-fnX; sm prt ool & prt oomldc; Rr V.oomldc w/ Gd-VGd Poro: AA w/ NS; Abndt dn LS w/ PrVP-NVP w/ NS. Cherty: gy, sm fos.

3470'&3480'spls} LS: AA; Vrr profus.oomldcl; Vrr Crs-VCrs X's; sm fos.mold Poro w/ NS; sm wh-chlky w/ NS; Sl Cherty; NS; sm argil LS; NS; sm SH: AA.

3490'spl} HEEBNER} SH: bk carb- V.carb;
& LS: tn-gy-bn, dn- mx & Mdst, sm argil, pred NVP; NS.

3500'spl} SH: gy-bk, sm calc, sm mrn-rd; (Abndt LS: AA; NS).

3510'spl} TORONTO} LS: gy-bf-cm, sm mot-Pkst- fos; & abndt dn Mdst-Wkst; sm argil; pred PrVP-NVP w/ NS.
3520'spl} LS: wh-cm-bf, prt chlky, sm ool & fos; Cherty; pred Pr Visbl Poro (PrVP)-NVP w/ NS; & SH: V-gated AA.

3530'spl} LANSING} A zn} LS: wh-gy-tn, mx-fnX- 2nd ReX; & Rr Pkst, w/ pr-Fr Poro: I.Gr, I.fos, & IXP w/ NS; Cherty.

3540'spl} tn-gy-wh, pred dn to chlky w/PrVP-NVP w/NS;
Rr fragmntl Pkst- fos w/ pr-Fr Poro w/NS;
Rr SH: AA, mrn-rd.

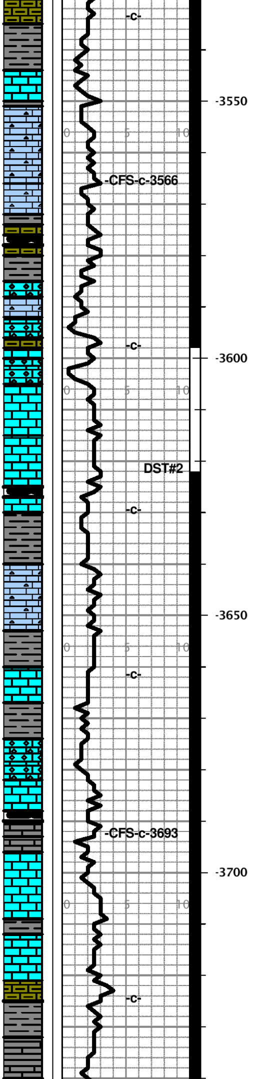
**10 ft samples; wet
(& dry by RLM)**

**3470' (-1290)
HEEBNER SH**

**3495' (-1315)
TORONTO**

**3510' (-1330)
LANSING**

**Mud-Co report
5/20/17@8:48am
Drlg@3548'
Wt:9.0 Vis:51
pH:11.5 WL:6.0
Alkal.filtr:1.1/1/3
Cl: 2,000 ppm
Ca:Nil LCM:2#
ECD: 9.64 #/gal**



3550'spl} SH: gy & bk, & mrn-rd, sm bk carb; & LS: AA w/ NS.

3560'spl} B zn} LS: wh-gy-bf; prt chlky, sm fnly granlr-Pkst-Grst w/ pred pr-Fr Poro: I.Gr.Poro; <5% w/ spt'd O.STN & Cut, & Trc SFO (Trace Show Free Oil).

3566'drlg&circ spls} C-D zns} LS: wh-gy-tn, mx-fnX; Rr Md to CrsX's, sm 2nd ReX; prt chlky, sm fos & granlr Pkst; pr-Fr I.Gr & IXP; Trc oomldc; ~5%<10% w/ spt'd O.STN, SlSFO & Cut, & Vsl Odor; Cherty.

3580'spl} E zn} LS: gy-tn-wh, pred dn- mx-fnX, sm chlky, sm Pkst; Vrr Poro: AA w/ SFO-STN-Cut AA;
Vrr bk carb SH.

3590'spl} (sm LS: AA) Incrs argil LS & SH: V.gated AA.

3598'drlg&circ.spls} F zn} LS: gy-tn-cm, mx-fnXln, prt ool & fos, & prt oomldc; >5%~10% w/ Fr-Gd Poro: I.ool & moldc & IXP; w/ SlSFO, spt'd O.STN & Cut; Vsl Odor.

(3610'spl} pred cavings after DST#1) (3620'spl} G zn} LS: cm-bf-tn, mx-fnXln, w/ Fr- VGd Poro: vug & moldc, & pr-Fr IXP; Trc (<5%) SFO-STN-Cut, Pred Barren Poro.

3630'spl} LS: gy-wh, pred dn- mx, w/ sm fn-MdX's- 2nd ReX; sm chlky; pred PrVP-NVP w/ NS.

3640'spl} LS: dk-Lt-gy, argil & dn Mdst, sm shly; & SH: gy, & bk- sm carb, sm mrn-rd SH.

3650'spl} LS: tn-gy, & gy-bn, dn- mx & Mdst, sm argil; Cherty: Lt-dk-gy, sharp; & SH: AA; V.gated.

3660'&3670'spls} SH:AA, pred gy & bk, sm carb;
Abndt LS: {H zn} gy-bf-wh, pred dn- mx- Rr fnX, & Mdst & Wkst; Vrr Pkst; sm chlky; pred Vpr Poro- NVP w/ NS.

3680'spl} I zn} LS: md-dk-tn&gy, pred dn- crypto-mx; & Mdst-Wkst; Rr Pkst; Vrr (~5%) w/ pr-Fr Poro: pp & I.Gr.Poro, Trc Gd visbl Poro; ~5% w/ spt'd to sat O.STN & SlSFO & Cut, Vsl Odor; & SH: mrn-rd, V.gated.

3690'drlg&3693'circ.&3700'spls} J zn} LS: cm-gy-tn, mx-VfnX; sm fn ool- Pkst; & Trc Grst; w/ pr-Fr Poro: I.ool & I.Gr & pp-vug Poro {~5%} Spt'd O.STN, SlSFO & Cut, & Vsl Odor.

3700'&3710'spls} SH: Very rare (Vrr) bk carb SH; sm dk-gy & gn-gy, & mrn-rd; (LS:AA).

3720'&30'spls} K zn} LS: gy-tn-cm, mx-fnX; & Pkst, sm ool & fos; ~5%<10% w/ pr-Fr Poro: pp-vug & IGr & IXP w/spt'd to subsat O.STN & SlSFO; Trc FrSFO; Sl-Fr milky Cut, Sl Odor; Sm SH: AA.

3730'&40'spls} incrs SH: V.gated, gn-gy, & mrn-rd, & sm bk carb; (L zn} LS: gy-tn-wh, pred dn-mx; sm Wkst-Pkst; Vrr (~5%) pr-Fr Poro: pp-vug & IGr Poro w/ O.STN & VSlSFO & Sl milky Cut; Vsl Odor;
Sm argil-shly LS.

3744'circ.spls} B/KC} Sharp incrs in maroon-red (mrn-rd) SH; & V-gated SH- SILTS: sm calc & Lmy; & LS: {incrs in 1hr spl} tn-gy Mdst-Wkst, Rr Pkst w/ pred PrVP-NVP w/ NS.

{Trc SFO)

{SlSFO)
(Slight Show
of Free Oil)

{SlSFO)

{SlSFO)

{Trc SFO)

{SlSFO)

{SlSFO)

{SlSFO)

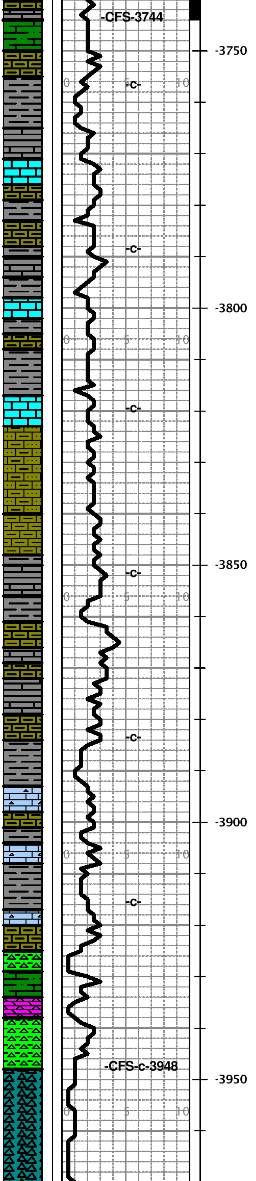
{VSlSFO)
(Very Slight Show
of Free Oil)

3725' (-1545)
B/ KANSAS CITY

DST#1;LKC:B->Fzn
3523'-->3590'
15-45-45-60 min.
IF: Wk->Strong
blow; BOB ~10min
ISI: No Blow Back
FF: Wk->strong
blow; BOB~25min
FSI: No BB.
Rec: 90' Mdy Wtr
w/ a Sl Show of Oil
(<1%Oil, ~75%Wtr,
~25%Mud)
375' of Water
Rw=0.14@55deg.F
Cl=60,000 ppm
465' Total Fluid
IHP: 1701
IFP: 37--112
ISIP: 865
FFP: 122--247
FSIP: 835
FHP: 1678
Temp=111deg.F

DST#2;LKC:H->L
3622'-->3744'
30-45-30-45 min.
IF: Wk blow:
1/2"-->3/4"
ISI: No BB
FF: No blow,
Flushed tool,
surge; No blow
Rec: 65'Mud, NS
IHP: 1763
IFP: 21--38
ISIP: 1206
FFP: 44--65
FSIP: 1162
FHP: 1726
Temp: 107deg.F

Mud-Co report
5/21/17@9:05am
Drlg@3712'
Wt:9.4   Vis:56
pH:11.0 WL:6.8
Alkal.filtr:1.1/1/3
Cl: 2,800 ppm
Ca:40 LCM:2#
ECD:10.05 #/gal



3750'&60'spls} Pred cavings: V.gated SH's AA & LS:AA.

3760'&70'spls} SILTS-SH: V.gated; gn-gy, mrn-rd sm calc; & LS: gy-tn-wh, pred dn-mx; sm argil w/ Vpr-NVP.

3780'spl} Pred SH: mrn-rd, & gn-gy, V.gated; (Vrr LS:AA).

3790'spl} LS: (incrs) bf-gy, dn & mx; & Mdst-Wkst, Rr Pkst; sm argil-shly; pred Vpr-NVP; NS.

3800'spl} LS: gy-tn, dn Mdst & Wkst, Rr Pkst; PrVP-NVP; NS; & SH: V.gated- AA.

3810'spl} V.Abndt SH: V.gated; mrn-rd, & gn-gy, & gy-bk; (sm LS:AA).

3820'spl} Abndt LS: cm-bf-gy, mx-fnX; sm Wkst-Pkst-sm granlr w/ PrVP-NVP; NS.

3830'spl} incrs SH: mrn-rd, "gummy" soft SH; & argil LS w/ Vpr-NVP; NS.

3840'spl} Abndt LS: cm-gy, & wh-sm chlky; sm Sndy: Vfn Gr'd, & Silty; sm argil; Rr chlky; PrVP-NVP; NS.

3850'spl} Abndt LS: gy, argil- silty & Vfnly Sndy; & Mdst; PrVP-NVP; NS.

3860'spl} LS: gy & gn-gy, Rr pink, Mdst, & silty-argil LS, w/ Poor Visible Porosity {PrVP) to No Visible Porosity {NVP) w/ NS.

3870'spl} Pred SH: mrn-rd, & gn-gy; Trc orng Chert; NS.

3880'spl} incrs LS: gy-bf-cm, sm Silty-argil; sm dn Mdst; & mx w/ PrVP-NVP; NS.

3890'spl} Abndt SH: (sharp incrs) mrn-rd & gy, sm V.gummy.

3900'spl} sm LS: gy-tn, dn Mdst w/ NVP; NS;
& SH: AA; incrs gy & rd gummy SH.

3910'spl} incrs LS: gy-cm, dn- cryptox-mx; & dn Mdst; & sm CHERT: orng & bf-tn, sharp; Vpr-NVP; NS.

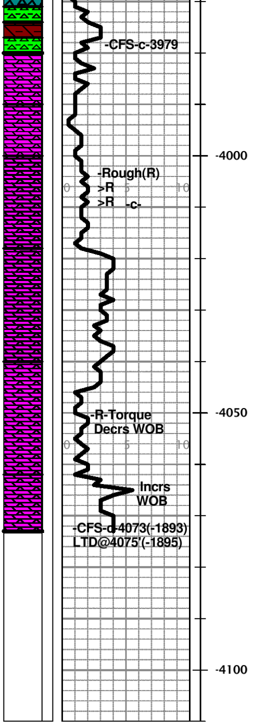
3920'&30'spls} V.Abndt SH: V.gated, gummy, mrn-rd, violet, yel-gn; & LS: AA; argil-shly & dn; Trc Chert: AA; NS.

3940'&3948'drlg.spls} Pred SILTS-SH: mrn-rd, & sm gn-gy; sm Sndy: Vfn Gr'd; & CHERT: (~10%) gy-wh, transl & opaq, sharp, & Wthr'd & Sub-Tripolitic, sm pr-Fr Poro w/ NS; NC.
3948'circ.spls} Vrr DOLO: gy-bn, gy-tn, pred fnXln, argil-shly; Trc ool & oomldc w/ Visbl Poro w/ NS & NC; incrs CHERT: (~25%Chert) V.gated AA; abndt shly Chert; sm Wthr'd & subTripol w/ pr-Fr Poro w/ NS & NC;
& V.gated SH: AA (&LS:AA).

3960'&70'spls} incrs CHERT:AA; NS (abundt SH:AA; sm LS:AA).

3979'drlg&Circ.spls} V.Abndt CHERT (>90%Chert) pred wh, prt amber-tn & orng, pred shrp, prt Wthr'd w/ sm vug Poro: Rr Gd vug & pp Poro w/ NS&NC, ~10% Tripolitic & subTripol w/ NSO & NC; Vrr ool & oomldc Chert & silic Dolo & DLS w/ NSO & NC.

Mud-Co report
5/22/17@9:05am
Drlg@3942'
Wt:9.3 Vis:54
pH:11.0 WL:6.8
Alkal.filtr:1.1/1/3
Cl: 2,600 ppm
Ca:Trc LCM:2#
ECD:9.96 #/gal



Some Shly CHERT & Vrr argil-shly Dolo-DLS w/ NSO & NC.
3990'spl} AA; NS.

3980' (-1800)
ARBUCKLE

4000'spl} ARB} Rare(Rr) DOLO: bf-tn-gy, VfnXln to Rr MdXln, sucro & rhombic w/ Fr-Gd Poro: vug & IXP, Trc dead Stn w/ No Show of Free Oil (NSFO); Vpr Resid.Cut; Cherty (Abndt Chert: AA).

4010'&4020'spls} Pred DOLO: bf-tn, Vfn-fnXln, sm prt MdXln- sm 2nd ReX, sucro & dn; abndt pr-Fr Visbl Poro; Rr Gd Visbl Poro; NSO; NC.

4030'spl} V.Abndt ARB. DOLO: cm-bf-tn, pred mx-fnXln, subsucro to dn, Cherty:AA; sm Vpr-pr Visbl Poro w/ NSO; sm sucro w/ Fr IXP & pp-vug Poro w/ NSO; Trc dead (dd) Stn w/ NF; Trc Vpr Resid.Cut; NSFO; ~10% fn-MdXln- sm 2nd ReX, w/ Fr-Gd vug Poro, & Fr IXP; Trc dd.Stn; Trc Vpr Resid.Cut; NSFO; No Odor.

4040'&4050'spls} Dolo: cm-bf-tn, mx-fnXln, Rr prt MdXln, sm dn hd; Cherty; pred Vpr Poro to NVP w/ NS; sm pr-Fr Poro: sm pr-Fr pp-vug & IXP w/ NSO; <5% w/ Fr-Gd visbl Poro; NSO.

4060'&4070'drlg.spls} DOLO: sm dn to Vpr Poro AA;

& DOLO: cm-tn-gy, sm mot; Vfn-MdXln, w/ Vrr CrsX's- sm 2nd ReX, pred fnXln, semi-sucro & granlr; Cherty; w/ sm Fr-Gd vug Poro & IXP, Vrr VGd vug Poro & IXP w/ NSFO; Trc dead (dd) Stn w/ NF & Vpr Resid.Cut, No Odor; becoming V.Cherty: cm-bf-gy, & blu-gy, opaq to transl, sharp.

4073'circ.spls} DOLO: cm-tn-gy, pred dn- mx-fnXln, Rr prtly MdXln, pred Vpr-pr visbl Poro w/ NS; V.Cherty:AA; (Rr DOLO: AA w/ Fr-Gd Poro w/ NSFO)

RTD: 4073' (-1893)
LTD: 4075' (-1895)

HESS OIL CO.
UMC #1-35
1520' FNL &
2309' FWL
Sec:35-8S-23W
Graham Cnty. KS
KB:2180' GL:2175'
API:15-065-24135-0000 P&A

TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Hess Oil
PO Box 1009 Mcpherson KS 67460
ATTN: Bryan Hess, Rodger M

35 8s 23w Graham
UMC #1-35
Job Ticket: 63953 **DST#: 1**
Test Start: 2017.05.20 @ 17:35:22

GENERAL INFORMATION:

Formation: **LKC**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:42:47
Time Test Ended: 00:30:31

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schwager
Unit No: 77

Interval: 3523.00 ft (KB) To 3598.00 ft (KB) (TVD)
Total Depth: 3598.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

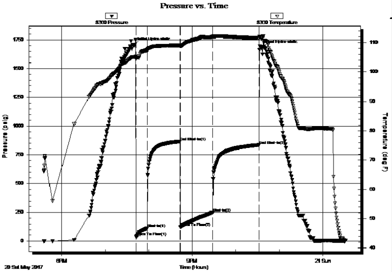
Reference Elevations: 2176.00 ft (KB)
2171.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: 247.47 psig @ 3529.00 ft (KB)
Start Date: 2017.05.20 End Date: 2017.05.21
Start Time: 17:35:22 End Time: 00:30:31

Capacity: 8000.00 psig
Last Calib.: 2017.05.20
Time On Btm: 2017.05.20 @ 19:40:02
Time Off Btm: 2017.05.20 @ 22:35:31

TEST COMMENT: 15-IFP-BOB 10 min
45-ISIP- No Blow
45-FFP-Weak to BOBin 25min
60-FSIP-No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1701.75	105.16	Initial Hydro-static
3	37.32	104.43	Open To Flow (1)
18	111.99	107.43	Shut-In(1)
63	865.70	109.09	End Shut-In(1)
64	122.04	108.88	Open To Flow (2)
108	247.47	111.95	Shut-In(2)
172	835.26	111.62	End Shut-In(2)
176	1678.06	111.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
375.00	Water	
90.00	MW 25%M75%W w/show of oil	

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Hess Oil

PO Box 1009 Mcpherson KS 67460

ATTN: Bryan Hess, Rodger M

35 8s 23w Graham

UMC #1-35

Job Ticket: 63953 **DST#: 1**

Test Start: 2017.05.20 @ 17:35:22

GENERAL INFORMATION:

Formation: **LKC**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:42:47
Time Test Ended: 00:30:31

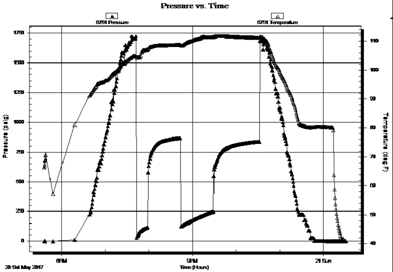
Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schwager
Unit No: 77

Interval: 3523.00 ft (KB) To 3598.00 ft (KB) (TVD)
Total Depth: 3598.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2176.00 ft (KB)
2171.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6751	**Outside**						
Press@RunDepth:	psig @	3529.00 ft (KB)				Capacity:	8000.00 psig
Start Date:	2017.05.20	End Date:	2017.05.21			Last Calib.:	2017.05.20
Start Time:	17:35:42	End Time:	00:30:51			Time On Btm:	
						Time Off Btm:	

TEST COMMENT: 15-IFP-BOB 10 min
45-ISIP- No Blow
45-FFP-Weak to BOBin 25min
60-FSIP-No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
375.00	Water	
90.00	MW 25%M75%W w/show of oil	

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil

PO Box 1009 Mcpherson KS 67460

ATTN: Bryan Hess, Rodger M

35 8s 23w Graham

UMC #1-35

Job Ticket: 63953 **DST#: 1**

Test Start: 2017.05.20 @ 17:35:22

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	68000 ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	5.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

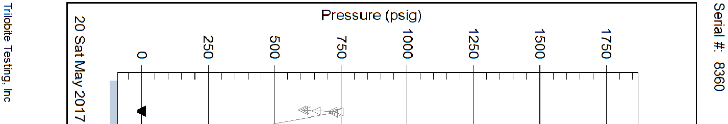
Length ft	Description	Volume bbl
375.00	Water	
90.00	MW 25%M75%W w/show of oil	

Total Length: 465.00 ft Total Volume: bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

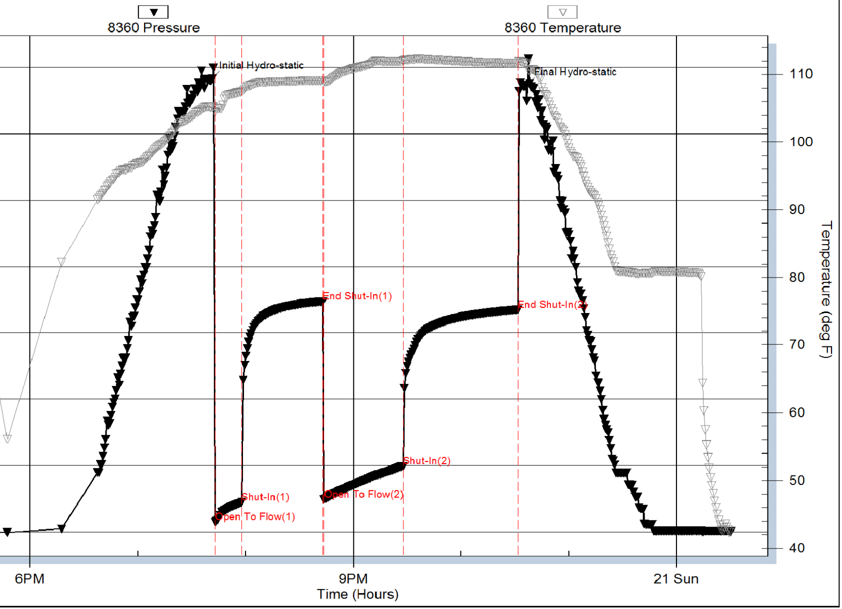
Laboratory Name: Laboratory Location:

Recovery Comments: RW .14 @ 55F



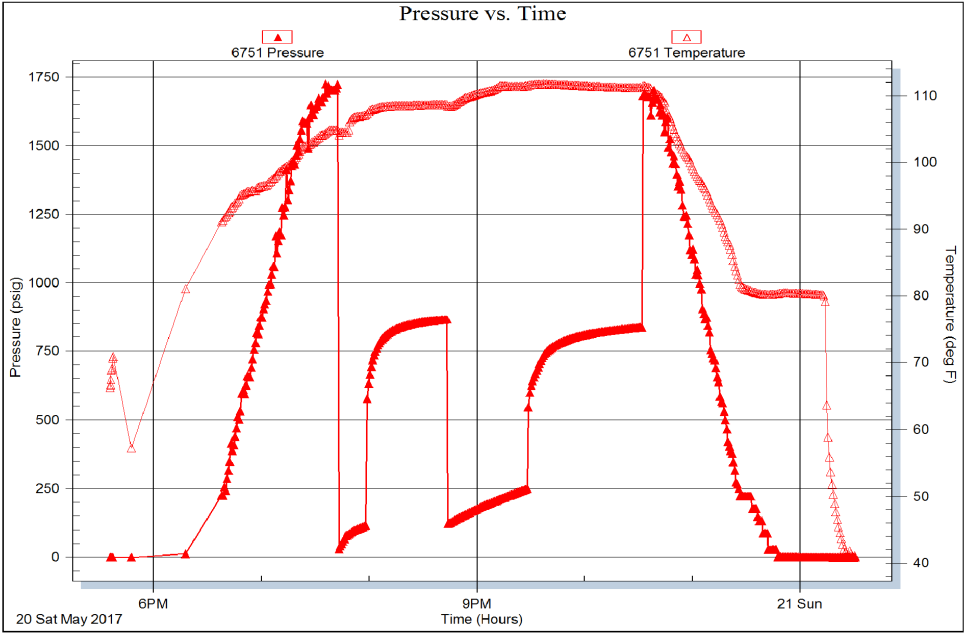
Inside Hess Oil UMC #1-35 DST Test Number: 1

Pressure vs. Time



Ref. No: 63953 Printed: 2017.05.21 @ 00:55:36

Serial #: 6751 **Outside** Hess Oil UMC #1-35 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 63953 Printed: 2017.05.21 @ 00:55:36

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Hess Oil

PO Box 1009
McPherson KS 67460

ATTN: Bryan Hess, Rodger M

35 8s 23w Graham

UMC #1-35

Job Ticket: 63954 **DST#: 2**

Test Start: 2017.05.21 @ 15:55:51

GENERAL INFORMATION:

Formation: **LKC H-L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:53:01
Time Test Ended: 21:57:15

Interval: 3622.00 ft (KB) To 3744.00 ft (KB) (TVD)
Total Depth: 3598.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

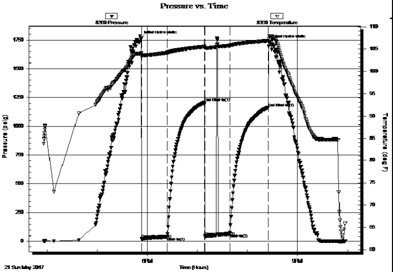
Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 77

Reference Elevations: 2180.00 ft (KB)
2175.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8360 **Inside**

Press@RunDepth:	65.11 psig @	3624.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2017.05.21	End Date:	2017.05.21	Last Calib.:	2017.05.21
Start Time:	15:55:51	End Time:	21:57:15	Time On Btm:	2017.05.21 @ 17:52:16
				Time Off Btm:	2017.05.21 @ 20:26:45

TEST COMMENT: 30-IFP-Weak Blow 1/2"to 3/4"bl
45-ISIP-None
30-FFP-No Blow , flushed tool got surge
45-FSIP-None



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1763.58	104.05	Initial Hydro-static
1	21.25	103.23	Open To Flow (1)
32	38.25	104.16	Shut-In(1)
76	1206.21	105.49	End Shut-In(1)
77	44.63	105.17	Open To Flow (2)
107	65.11	105.74	Shut-In(2)
153	1162.76	106.87	End Shut-In(2)
155	1726.56	107.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud	

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Hess Oil

PO Box 1009
McPherson KS 67460

ATTN: Bryan Hess, Rodger M

35 8s 23w Graham

UMC #1-35

Job Ticket: 63954 **DST#: 2**

Test Start: 2017.05.21 @ 15:55:51

GENERAL INFORMATION:

Formation: **LKC H-L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:53:01
Time Test Ended: 21:57:15

Interval: 3622.00 ft (KB) To 3744.00 ft (KB) (TVD)
Total Depth: 3598.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 77

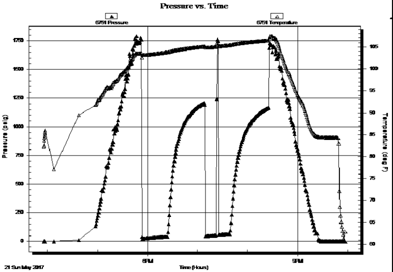
Reference Elevations: 2180.00 ft (KB)
2175.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6751 **Outside**

Press@RunDepth: psig @ 3624.00 ft (KB)
Start Date: 2017.05.21 End Date: 2017.05.21
Start Time: 15:55:18 End Time: 21:57:12

Capacity: 8000.00 psig
Last Calib.: 2017.05.21
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-Weak Blow 1/2"to 3/4"bl
45-ISIP-None
30-FFP-No Blow , flushed tool got surge
45-FSIP-None



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud	

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil

PO Box 1009
McPherson KS 67460

ATTN: Bryan Hess, Rodger M

35 8s 23w Graham

UMC #1-35

Job Ticket: 63954 **DST#: 2**

Test Start: 2017.05.21 @ 15:55:51

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 6.00 in³
Resistivity: ohm.m
Salinity: 2800.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

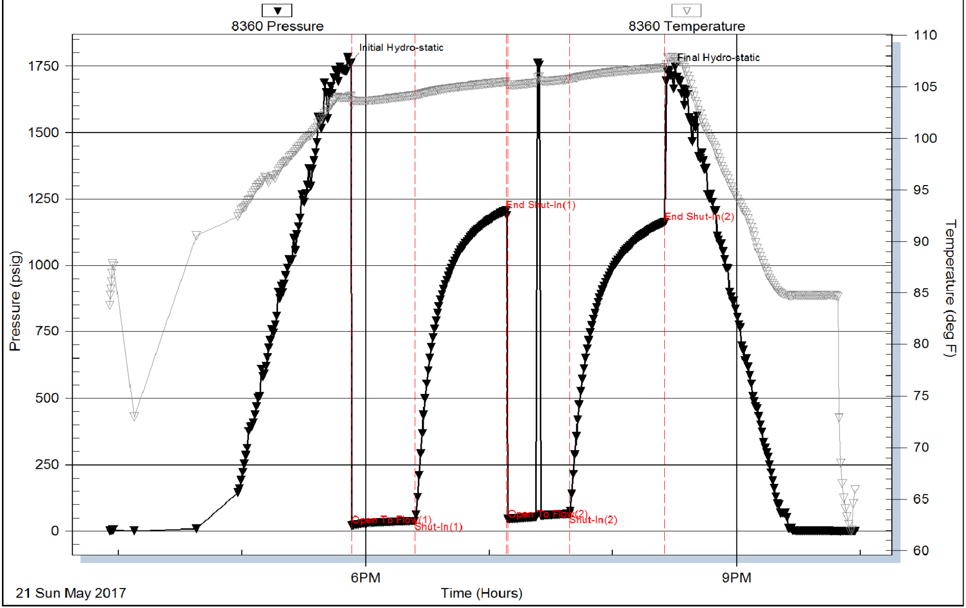
Length ft	Description	Volume bbl
65.00	Mud	

Total Length: 65.00 ft
Total Volume: bbl

Num Fluid Samples: 0
Num Gas Bombs: 0
Serial #:
Laboratory Name:
Laboratory Location:
Recovery Comments:

Serial #: 8360 **Inside** Hess Oil UMC #1-35 DST Test Number: 2

Pressure vs. Time



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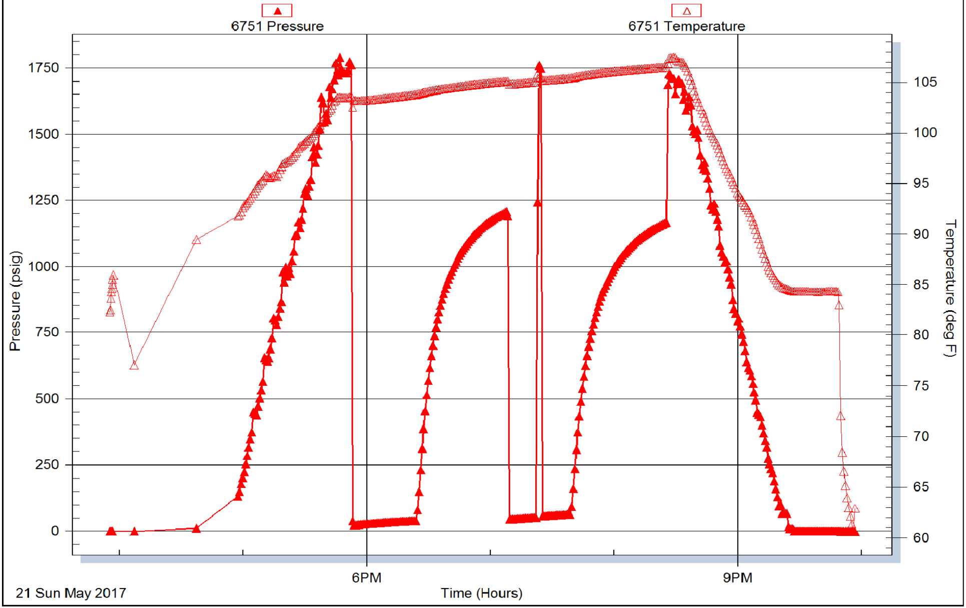
Serial #: 6751 **Outside** Hess Oil UMC #1-35 DST Test Number: 2

Pressure vs. Time



Trilobite Testing, Inc Ref. No: 63954 Printed: 2017.05.21 @ 22:21:41