ROGER L. MARTIN

INDEPENDENT PETROLEUM GEOLOGIST 316-250-6970

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY VESS OIL CORPORATION
LEASE BARNHILL 'A' #33
FIELD EL DORADO
LOCATION 1750' FSL & 2720' FEL
SECTION 6 TOWNSHIP 26S RANGE 05E
COUNTY BUTLER STATE KANSAS

ELEVATIONS
KB 1399 GL 1393
Measurements Are All From KB: 1399'
API 15-015-24043-00-00

CONTRACTOR C&G DRILLING, Rig #1
SPUD 10/29/2014 COMP 11/04/2014
RTD 2479' (-1080) LTD n/a

ELECTRICAL SURVEYS
No Open Hole Electric Logs

CASING
SURFACE 6 jts 8-5/8" csg set @ 261' KB w/165 sx Class A, 3% cc.
PRODUCTION 59 jts 5-1/2" csg set @ 2450' w/125 sx Thickset, 5#/sk Kolseal

FORMATION TOPS	LOG	SAMPLES
OREAD	1390' (+9)	
HEEBNER	1427' (-28)	
DOUGLAS SH	1440' (-41)	
LANSING	1717' (-318)	1717' (-318)
BASE LANSING	1846' (-447)	
KANSAS CITY	1995' (-596)	1996' (-597)
STARK	2096' (-697)	2098' (-699)
BASE KANSAS CITY	2149' (-750)	2153' (-754)
CHECKERBOARD	2226' (-827)	2228' (-829)
ALTMONT	2268' (-827)	
PAWNEE	2308' (-909)	
CHEROKEE	2351' (-952)	2352' (-953)
ARDMORE	2414' (-1015)	2415' (-1016)
EROSIONAL CHERT		2438' (-1039)
ARBUCKLE	2444' (-1045)	2445' (-1046)
LTD/RTD	2478' (-1079)	2479' (-1080)

CHRONOLOGY

10/28/2014- MIRU. 8-5/8" delivered, Frac & water tank filled. Drill rathole. Drill Kelly down.

10/29/2014- SPUD @ 7:35 AM. Set 8-5/8" casing @ 261' KN w/165 sx Class C, 3% cc. Plug down @ 9:15 PM 10/29. Cement did circ. Drill under surface @ 5:15 AM.

10/30/2014- Drlg @ 405'. Circ @ 2019'. Bit trip @ 2391'. MW 9.1, VIS 40. Ground up nut hulls n mud. Got stuck @ 1800'. Able to put poor boy driver on and pound down drill pipe. 2 hours got it down 11'. Get 40 BO from tank #3224 east tank and spot. SI 12 hr. After 30 min, pipe freed up. Pull 3 jts, stuck again. Oil already circ past 1680' where bit is at. Get 40 BO & spot @ 2:45 PM.

11/01/2014- RTD 2391'. Bit stil stuck @ 1680'. Move oil 100' @ 2:45 PM.

11/02/2014- RTD 2391'. Working and pulling a few joints at a time. 1:30 PM, out of hole. Big clay ball above bit- mud pump not cleaning hole well. TIH w/button bit. MW 8.7, VIS 49, WL 5.6, LCM 3#, Cl 2100. 5 PM, start drilling again.

11/03/2014- RTD 2479'. Short trip before DST #1: 2418'-2479'. MW 9.0, VIS 56, WL 5,4, LCM 3#. Test tool open @ 1 PM.

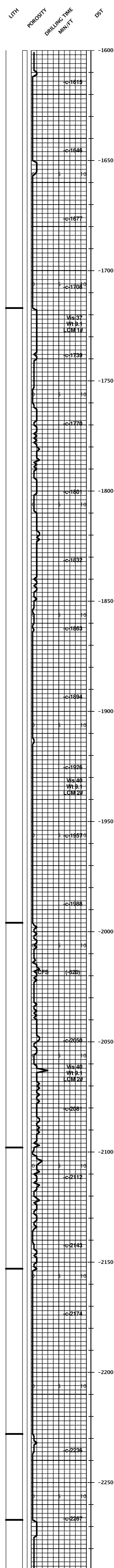
11/04/2014- Run 5-1/2" production casing

REMARKS:
CASING JOB (C.COATS, ENGINEER,VOC): Set 59 jts 5-1/2" 15.5#/ft J-55 casing- 2463.66'. Packer shoe- 2.50'. Total- 2466.16'. Tag bottom @ 2479'. Pick up 29'. Set packer shoe @ 2450' KB. Circulate 20 in. 6 centralizers. 1 basket. drop ball to set packer shoe. Rig up cement head. Packer shoe set @ 750#. Circ 15 min more. Consolidated Services: 500 gal mud flush, plug rathole: 25 sx. Downhole 125 sx Thickset, 5#/sk Lolseal- Good circ. Displace plug-5-6 BPM. Caught pressure. Land plug @ 950# @ 2:35 AM 11/04/2014. Release, hold.

*Cased Hole E-log tops by P. Ramondetta, Geologist, VOC

Respectfully submitted,
Roger L. Martin, Geologist (Wellsite)

LITH | POROSITY | DRILLING TIME MIN/FT | DST | SAMPLE DESCRIPTION | REMARKS



SAMPLE DESCRIPTION	REMARKS
1615' spl} Abndt (~60%) LS: wh-tn, mx- Mdx, prt chlky, Pr- VPr Por, NS. ~40% SH: dk gy & blk, sm carb.	*DRILLING W/PDC BIT* *KELLY DOWN SAMPLES*
1646' spl} Incrs SH: gy-blk, AA. & LS: AA, Pred VPr- NVP, NS.	
1677' spl} Pred SH & SILTST: dk-lt gy, sm micac. ~30% LS: wh-tn, mx- fnxln, Rr prt Mdxln & mot Pkst w/VPr- Pr Por, NS.	
1708' spl} Incrs ~60% LS: sm AA & wh-tn-gy- mot, mx- Mdxln, sm 2nd ReX, sm ool Pkst, PRr prt oomldc w/Fr- Gd Por: IX Por, Iool Por, mldc Por, pp- vug Por, NS. ~40% SH: AA & Vgt'd.	
1739' spl} ~30% SH: dk-lt gy, sm micac SILTST.	
1739' spl cont'd} >70% {LANSING} LS: wh-tn, prt chlky, & mot Pkst, & mx- fnxln, VRr prt Mdx- 2nd ReX, VPr Por- Pr PorL IGr & IX Por, Trc FLR, Trc SFO- Cut, Pred barren.	1717' (-318) LANSING {Trc SFO)
1770' spl} ~90% LS: wh-tn-gy, mx- fnxln, Rr prt Mdx- 2nd ReX, sm ool & fos Pkst, Pred Pr- Fr Por: IX Por, IGr Por, pp Por, <5% w/FLR- Trc SFO & STN & Cut. VRr Gd Por, Pred Barren.	{Trc SFO)
1801' spl} Pred LS: wh-tn-gy, mx- fnxln, Prr prt Mdxln- 2nd ReX, Pred Pr- Fr Por: pp Por, IGr Por, IX Por, VRr Gd Por, >99% barren. Trc spt'd FLR, Trc SFO- Cut. sm dn & chlky LS.	{Trc SFO)
1832' spl} >80% LS: wh-gy-tn, sm mot, prt chlky mx- fnxln, Pr- Fr Por: IGr Por, IX Por, Trc FLR- SFO- STN- Cut, >99% barren. Abndt dn & argil LS w/VPr- NVP.	{Trc SFO)
1863' spl} >80% LS: gy-wh & tn, Pred dn, sm Mdst- Wkst w/NVP, sm Pkst w/VPr- Pr Por, NS. sm prt chlky w/NS.	
1894' spl} >80% LS: gy-tn & wh, sm mot Pkst & Wkst, Pred vPr- Pr Por, AA, Trc FLR & SFO, AA. >99% barren, sm 2nd ReX- fn- Mdxln, sm argil & shly LS. sm SH: Pred gy- blk.	
1926' spl} >60% SH & SILTST: gy, sm calc & micac. <40% LS: AA.	
1957' spl} ~70% SH & SILTST: AA & ~30% LS: AA.	
1988' spl} ~70% SH & SILTS: AA, sm LS: AA, NS.	
2019' drlg spl} Pred (>70%) SH: dk gy, sm micac.	
2019 drlg spl cont'd} <30% {KANSAS CITY} LS: wh-gy-tn, sm mot Pkst & mx- fnxln, VRr prt MdX- CrsX- 2nd ReX, Pr- Fr Por: IX Por, IGr Por, pp Por, spt'd- sat FLR, Sl SFO & Cut, Fr Odor. (20 min spl AA)	1996' (-597) KANSAS CITY {Sl SFO)
2019' 40 min spl} ~30% LS: wh-tn-gy, prt chlky & mx- Mdxln- 2nd ReX, ~20% w/Pr- Fr Por: IX Por, IGr Por, subsat- sat FLR & Tn STN, Sl SFo & VRr Fr SFO, Frly strng Odor, pp- vug Por w/STN- FLR- SFO & Cut. Sl Cherty.	{Sl- Fr SFO)
2050' spl} ~50% LS: wh-gy-tn, sm mot Pkst, sm ool & fos & sm mx- Mdxln, Pr- Fr Por: IX Por, IGr Por, Iool Por, ~10% w/FLR- STN, Sl SFO & Cut, Fr Odor. (~50% SH: AA)	{Sl SFO)
2081' spl} ~30% LS: wh-gy-tn, sm mot- Pkst- fn ool & fos, sm prt chlky & sm mx- Mdx w/Rr Por: IX Por, IGr Por, vug Por. >10% <20% w/spt'd- sat FLR & STN & Sl SFO- Trc Fr SFO & Cut. Fr Odor. (& SH: AA)	{Sl SFO)
2112' spl} LS: AA, sm Pkst AA, Pred dn to chlky & barren. (<10% w/SFO)	2098' (-699) STARK SH
2143' spl} ~20% {STARK} SH: sm blk carb & Vcarb. & Abndt LS: tn-gy-wh, sm Pkst & mx- fnxln w/Pr- Fr Por: IX Por, IGr Por, Iool Por, w/spt'd- sat FLR & STN, Sl SFO & Cut, Sl Odor. Sl Cherty.	{Sl SFO)
2174' spl} ~70% LS: wh-tn-gy, sm mot Pkst: fm ool & fos & mx- Mdxln- 2nd ReX, <10% w/Pr- Fr Por: IGr Por, IX Por, spt'd FLR & STN, Trc sat STN- FLR, Sl SFO, Sl- Fr Cut, Sl Odor, Pred chlky to dn, sm argil LS.	{VSl SFO)
2205' spl} {BASE KANSAS CITY} LS: AA & sm argil- shly,SH: AA, sm blk carb & sm gy pyrtc.	2153' (-754) BASE KANSAS CITY
2236' spl} (sm LS: AA, VRr STN- FLR- Cut- SFO- AA). Frly Abndt SILTST: lt- md gy, calc, sm sndy: Vfn Gr'd. & SH: gn-gy & blk, sm carb.	
2267' spl} Pred SH: gn-gy, sm blk carb, sm SILTST: AA.	
2267' spl cont'd} {CHECKERBOARD} LS: cm-gy-tn, Pred dn, mx- fnx, sm argil, VPr- NVP, NS.	2228' (-829) CHECKERBOARD
2298' spl} ~40% LS: Pred dn- Mdst, sm chlky. Pred SH: gn-gy & blk carb. Rr SILTST: AA, sndy, Vfn Gr'd, NS.	
2329' spl} {ALTAMONT} LS: tn-wh, Pred dn- mx- fnxln, VRr prt Mdx, Pred Pr- NVP. (VRr Por, AA- Trc STN-FLR-SFO & Cut) SH: gn-gy & blk carb. & SILTST: AA, & micac.	
2360' spl} SH: lt- dk gn-gy, Rr blk carb. & LS: cm-tn, dn- mx & Mdst, sm Wkst- Pkst w/Pr- NVP, NS. sm wh-chlky, NS.	
2391' spl} Abndt SH: sm blk carb & gn-gy. & LS: tn-gy-wh, prt chlky, Pred dn- mx, VPr- NVP, NS.	
2391' 20 min spl} {CHEROKEE} SH: sm blk carb & dk gy- lt gy, micac. & LS: AA, Pred dn- chlky & barren.	2352' (-953) CHEROKEE
2391' 40 min spl} Pred SH: Vgt'd & Rr sndy SILTST. (sm LS, AA)	
2400' spl} SH: AA & LS: AA	MUD CHECKS by FUD MUD: WT 9.3, VIS 48 PV 28, YP 18 WL 7.4, pH 9.0 Cl 1700, LCM 3#
SH- SILTS: dk- lt gy, micac.	*BIT TRIP* STUCK IN HOLE
SH: gy-blk.	DST #1 ARBUCKLE 2418'-2479' 30-45-45-60 1st Op: Blt to 3" in 15 min, 5.25" in 30 min, No BB 2nd Op: Blt to 4.75" in 45 min, No BB Rec: 105' TF: 65' CO grav 34.5 40' OCM (15%O,85%M) TOOL SPL: 20%O,80%M
~40% SH: Vgt'd.	
{ARDMORE} LS: gy-tn-bn, dn Mdst & cryptox- nx- dn, mIX & mFrc Por, sm FLR, VSl SFO on brk. (Abndt in 2430' spl)	2415' (-1016) ARDMORE {VSl SFO) WT 9.3,VIS 48 PV 32,YP 24 WL 5.8,pH 9.0 Cl 1900,LCM 2#
SH: sm blk carb, Pred dk gy-blk & gn-gy.	
LS: lmy & calc, gy argil Mdst. sm sndy SH & SILTST. {EROSIONAL CHERT} (20 min circ spl} cm-tn-gy, shrp, sm dolomc & qtzc & opq, wthr'd w/FLR- SFO- Odor, Trc Fr Por in Chert w/STN. Trc DOLO. {ARBUCKLE} DOLO: gy-tn-cm, mx- fnxln, Pred dn- Pr Por, Sl SFO, spt'd STN & FLR, Sl Cut.	2438' (-1039) EROS. CHERT {Trc SFO) 2445' (-1046) ARBUCKLE {Sl SFO)
DOLO: gy-tnSTN, Rr fnxln- sucro w/Fr- Gd IX Por, vug Por, spt'd- sat STN, Sl- Fr SFO & Cut, Frly Strng Odir, Cherty.	{Sl- Fr SFO) IHP: 1151 IFP: 7-25 ISIP: 883 FFP: 29-46 FSIP: 881 FHP: 1145 BHT: 101 F
DOLO: ~10 fn- Mdxln w/Fr- Gd Por, Fr SFO & grnlr & sucro w/Fr- Gd Por: IX Por, vug Por, spt'd- sat STN- FLR, Fr- Gd SFO- Cut.	{Fr- Gd SFO)
DOLO: (2475' spls} gy-tn-cm, mx- fnxln, VRr prt Mdxln, >10% <20% w/Fr Por: IX Por, vug Por, spt'd- sat FLR & STN, Sl- Fr SFO & Cut, Strng Odor. CHERTY: cm- blu- gy, sm shrp- opq.	{Sl- Fr SFO)
DOLO: (2479' spls} gy-tn, mx- fnxln, Pred dn- Pr Por, Rr (~10% <20%) w/Fr- Gd Por: IX Por, pp- vug Por, spt'd- sat STN & FLR, Sl- Fr SFO & Cut & Strng Odor. Sl Cherty: AA, Pred opq, Trc qtzc- w/Por/ FLR- STN- SFO.	2479' (-1080)/RTD

DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: BARNHILLA33DST1

TIME ON: 10:53
TIME OFF: 18:33

Company Vess Oil Corporation — Lease & Well No. Barnhill A #33
Contractor C&G Drilling, Rig #1 — Charge to Vess Oil Corporation
Elevation 1399' KB — Formation Arbuckle — Effective Pay ___ Ft. — Ticket No. F344
Date 11-3-14 — Sec. 6 — Twp. 26s S — Range 5e W — County Butler — State KANSAS
Test Approved By Roger & Pinky Martin — Diamond Representative Jake Fahrenbruch

Formation Test No. 1 — Interval Tested from 2418 ft. to 2479 ft. — Total Depth 2479 ft.
Packer Depth 2413 ft. Size 6 3/4 in. — Packer depth ----- ft. Size 6 3/4 in.
Packer Depth 2418 ft. Size 6 3/4 in. — Packer depth ----- ft. Size 6 3/4 in.
Depth of Selective Zone Set -----

Top Recorder Depth (Inside) 2398 ft. — Recorder Number 5951 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 2453 ft. — Recorder Number 5584 Cap. 5000 P.S.I.
Below Straddle Recorder Depth ___ ft. — Recorder Number ___ Cap. ___ P.S.I.

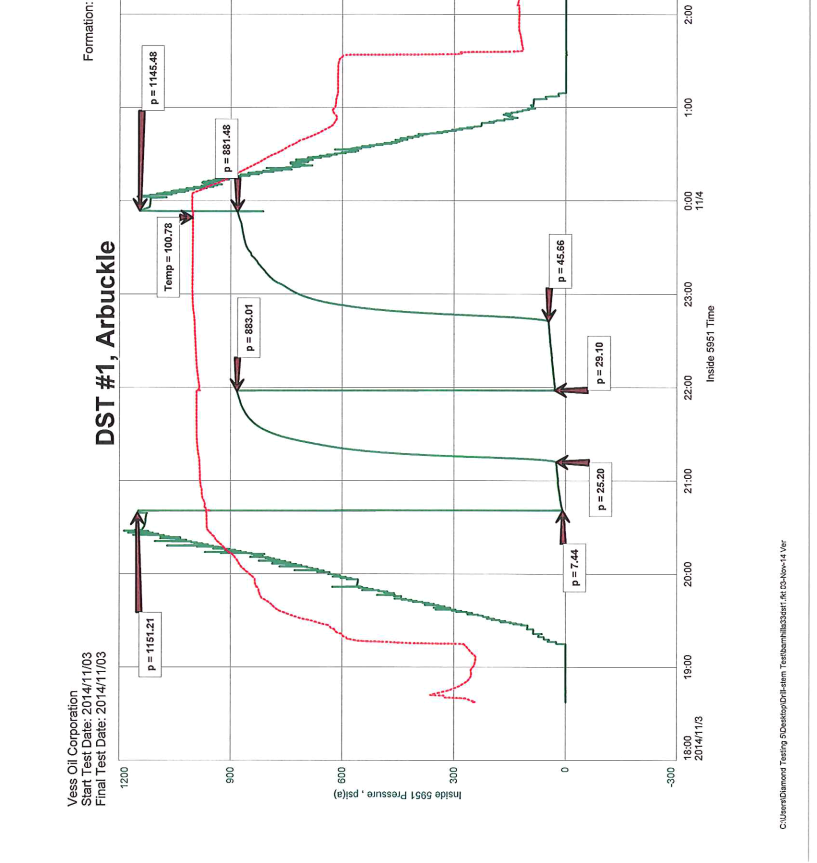
Mud Type Chemical — Viscosity 56 (3# LCM) — Drill Collar Length 0 ft. I.D. 2 1/4 in.
Weight 9.0 — Water Loss 5.4 cc. — Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 1,800 P.P.M. — Drill Pipe Length 2,207 ft. I.D. 3 1/2 in.
Jars: Make STERLING — Serial Number #5 J&J — Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO — Reversed Out NO — Anchor Length 61 ft. (28' PERF IN ANCHOR) Size 4 1/2-FH in.
Main Hole Size 7 7/8 — Tool Joint Size 4 1/2 4"F in. — Surface Choke Size 1 in. — Bottom Choke Size 5/8 in.

Blow: 1st Open: Surface blow, increased to 5.25".
2nd Open: Surface blow, increased to 4.75".

Recovered 65 ft. of Clean Oil 100% oil
Recovered 40 ft. of OCM 15% oil, 85% mud
Recovered ___ ft. of Tool Sample: OCM 20% oil, 80% mud
Recovered ___ ft. of Gravity: 34.5 @ 60F
Recovered ___ ft. of Total recovered fluid: 105'
Recovered ___ ft. of
Remarks:

Price Job / Other Charges / Insurance / Total

Time Set Packer(s) 12:59 PM — Time Started Off Bottom 3:59 PM — Maximum Temperature 101 F

Initial Hydrostatic Pressure		(A) 1151 P.S.I.	
Initial Flow Period	Minutes 30	(B) 7 P.S.I. to (C)	25 P.S.I.
Initial Closed In Period	Minutes 45	(D) 883 P.S.I.	
Final Flow Period	Minutes 45	(E) 29 P.S.I. to (F)	46 P.S.I.
Final Closed In Period	Minutes 60	(G) 881 P.S.I.	
Final Hydrostatic Pressure		(H) 1145 P.S.I.	

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.