

DARRAH OIL

Scale 1:240 Imperial

Well Name: #5 Ray B
Surface Location: 990' FNL 990' FWL SE/NW/NW
Bottom Location:
API: 15-147-20734
License Number: 5088
Spud Date: 3/15/2014 Time: 2:50 PM
Region: Phillips County Sec 32 T5S R20W
Drilling Completed: 3/19/2014 Time: 4:00 PM
Surface Coordinates:
Bottom Hole Coordinates:
Ground Elevation: 2194.00ft
K.B. Elevation: 2199.00ft
Logged Interval: 3100.00ft To: 3588.00ft
Total Depth: 3588.00ft
Formation: Reagan sand
Drilling Fluid Type: Chemical mud

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.6052286 Latitude: 39.5791880
N/S Co-ord:
E/W Co-ord:

OPERATOR

Company: Darrah Oil Company
Address: 225 N. Market Suite #300
Wichita, KS 67202
Contact Geologist: Seth L. Evenson
Contact Phone Nbr: (316) 219-3390
Well Name: #5 Ray B
Location: 990' FNL 990' FWL SE/NW/NW API: 15-147-20734
Pool: Field: Ray
State: Kansas Country: United States

CONTRACTOR

Contractor: Mallard J.V.
Rig #:
Rig Type: Standard double
Spud Date: 3/15/2014 Time: 2:50 PM
TD Date: 3/19/2014 Time: 4:00 PM
Rig Release: 3/20/2014 Time: 3:15 AM

LOGGED BY

Company: Darrah Oil Co.
Address: 225 N. Market Suite #300
Wichita, KS 67202
Phone Nbr: (316) 219-3390
Logged By: Geologist Name: Seth L. Evenson

CASING SUMMARY

Surface Intermediate Main

Bit Size
Hole Size

	Size	Set At	Type	# of Joints	Drilled Out At
Surf Casing	8 5/8 in	218 ft	20#	5	3/16/2014 4:45 AM
Int Casing					
Prod Casing	5.5 in	3585 ft	14#	86	

CASING SEQUENCE

Type	Hole Size	Casing Size	At
	0.00 in	0.00	0.00 ft

NOTES

No open-hole logs or DST's ran

ROCK TYPES

	Anhyprim		Lmst fw<7		Ss		Shcol
	Coal		Lmst fw>7		Shgy		Dol Lime
	Dolprim		Mrlstcalc		Shblk		Ool grnst

ACCESSORIES

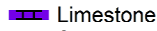
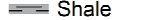
MINERAL

- P Pyrite
- Sandy
- △ Chert White

FOSSIL

- Crinoids
- ⊗ Gastropods
- Oolites

STRINGER

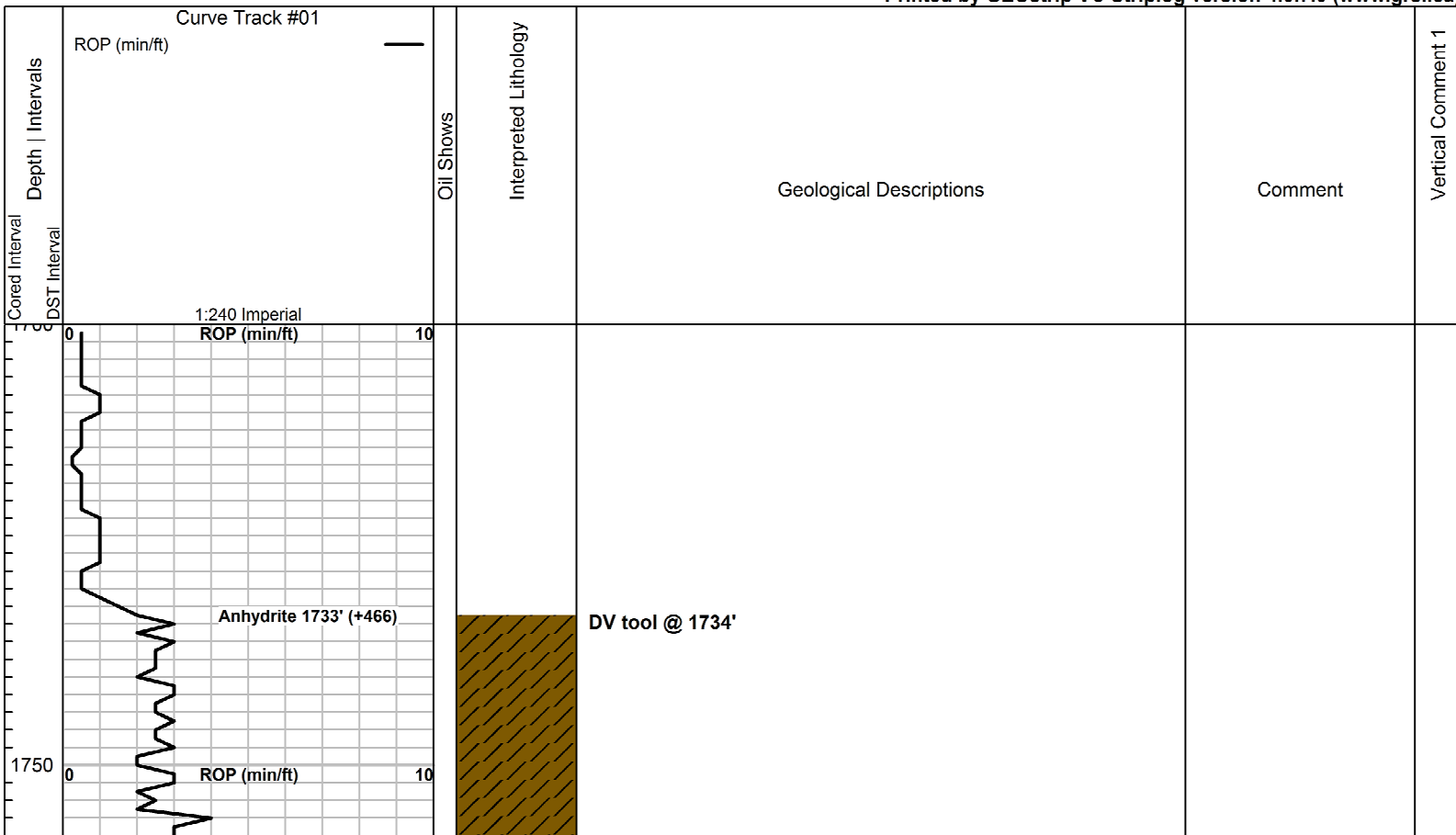
-  Limestone
-  Shale

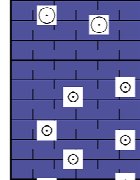
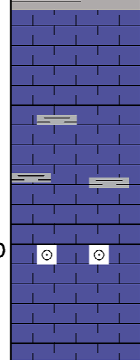
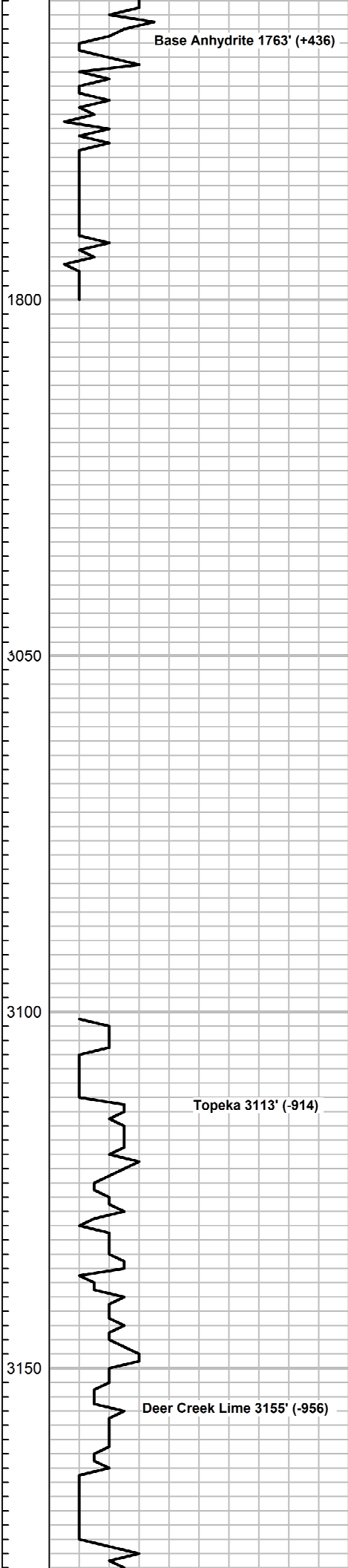
OTHER SYMBOLS

OIL SHOWS

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

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)





3100'-10': Lms, gry, micro xtln, hrd res, no vis pr, sli shaly. Much shale, gry-vry drk gry. Trc SS, brwn, shaly, pr-no vis pr. Some sndy lms.

3110'-20': Lms, gry-crm-tan, micro-vfn xtln, med-hrd res, vry sli foss & occ ool. pr-no vis por. Much shale, gry-drk gry & red brwn.

3120'-30': Lms, gry-crm, micro-vfn xtln, mst hrd res, some silty, all pr-no vis por. Some tan/yell & grn shale sli sndy.

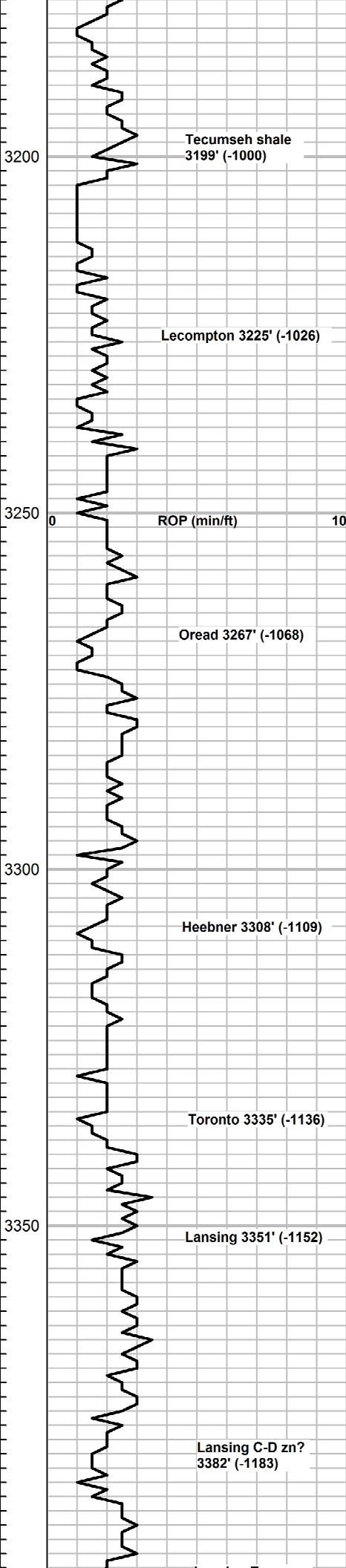
3130'-40': Lms, gry-drk gry-brwn, vfn xtln, some sli shaly, med-hrd res, no vis pr. Few vis allochems.

3140'-50': Lms, crm-lt gry, vfn xtln, sft-med res, pr vis por. Sli sndy-occ ool. Scat dead blk stn on a few pcs.

3150'-60': Lms, gry sli shaly-tan cln, micro-vfn xtln, med res, pr-no vis por. Trc crinoids, poss trc fusulinids.

3160'-70': Lms, tan-gry, fn xtln, sli ratty looking, foss, many pcs w/abndt blk foss grains, some abntdly ool, pr-no vis pr. Some drk gry lmy shale.

3170'-80': Lms, off wht-tan, chlky, sft-med res, pr vis por. A few pcs chrt. off wht-lt arv. shrp & frsh. Trc brtl. blk carb shale.



3180'-90': Lms, crm-tan, fn xtl, brtl-med res, rough/grty text, foss, pr-no vis pr, some sli chlky. Abndt chrt, lt gry, shrp & frsh.

3190'-3200': Lms, lt gry-crm, micro-vfn xtl, med-hrd res, pr-no vis por. some pcs, abndtly foss & ool. some chrt as abv.

3200'-10': Lms, lt gry-tan, micro-vfn xtl, mstly smooth text, med-hrd res, no vis por. Much chrt shrp & frsh, as abv.

3210'-20': Lms, crm-gry, micro-vfn xtl, hrd res, no vis por. Some chrt as abv. Trc brtl, blk carb shale.

3220'-30': Lms, crm-tan-gry, micro-fn xtl, hrd res, few allochems, pr-no vis por. some shale, gry, red, grn & trc blk carb.

3230'-40': Mix lms & shale. Lms tan-gry, much gry shaley lms-lmy shale. Shale, gry, maroon, blk, etc. Scat crinoid foss. pr-no vis por

3240'-50': Lms, gry, sli shaly-shaly, micro-vfn xtl, med-hrd res, no vis por.

3250'-60': Shale drk gry-blk & red/maroon. Mstly lms, gry as abv, and tan vfn xtl. All no vis por. Some chrt, tan, shrp & frsh.

3260'-70': Lms, lt gry-crm, fn xtl, med res, some w/gast foss. Pr-no vis por. Some shale, gry & red.

3270'-80': Lms, crm-tan, vfn-fn xtl, hrd res, fr-gd scat drk brwn-blk lv stn in pnprt & small scat vugs, gd shw rainbow oil on brk, SSFO, a few drops brwn FO on brk, gd fst strming cut & gd blm, sli odr. 90% pcs NS. Fr vugular por & pr matrix por. Some pcs abndtly foss w/NS.

3280'-90': Lms, a few pcs w/fr shw rainbow oil on brk as abv. Some w/gd scat lv stn in lrg vugs. Mst pcs, lms, crm, micro xtl, smooth text, non-allochemical (vry occ gast fossils), med-hrd res, no vis por & NS. Trc chrt, lt gry, shrp & frsh.

3290'-3300': Lms, lt gry-tan, vfn-fn xtl, hrd res, pr-no vis por. A few scat pcs, abndtly foss, as abv.

3300'-10': Lms, lt gry, micro-vfn xtl, med-hrd res, vry few allochems, no vis por.

3310'-20': Mstly lms, tan-lt gry, pr-no vis por. A few pcs w/gd lv stn & rainbow oil in small vugs, may be from uphole. Some shale, blk carbonaceous.

3320'-30': Blk carb shale, blk, firm. Mstly, lms, lt gry, vfn xtl, hrd res, no vis por.

3330'-40': Lms, lt gry-tan, vfn-fn xtl, med-hrd res, pr-no vis por. Blk carb shale as abv. A couple pcs, lms, w/fr-gd lv stn in intr ool vugs, sli rainbow oil, fr-gd strming cut & vry sli odr in sample.

3340'-50': Lms, tan-lt gry, vfn-fn xtl, brtl-med res, abndt small intr-xtln vugs, fr-gd even lv stn in intr-xtln vugs, sli rainbow oil on brk, gd even dull yell fluor, gd fst strming cut, vry gd cut on brk, gd even sat many pcs, fnt odr. New zone, sli ool, w/fr-gd intr-xtln por.

3350'-60': Lms, tan, micro-vfn xtl, foss, med-hrd res, fr-gd lv stn in abndt intr-xtln vugs, sli-fr rainbow oil on brk, trc gas bbls on brk. Matrix is micro xtl, hrd & tite, much less matrix por than abv.

3360'-70': Lms, crm-lt gry, micro xtl, hrd res, mst no vis por, sli foss. A few pcs highly ool, w/fr lv stn in scat intr oolitic vugs, NSFO, hrd, matrix vry tite fr-gd vugular por & pr matrix por. Mst pcs, no shw, non-allochemical & no vis por.

3370'-80': Lms, crm, micro xtl, cln, med-hrd res, non-allochemical, no vis por.

3380'-90' Lms, mst pcs crm-tan, no vis por as abv. Some pcs gry shaly lms, hrd, tite. Some gry & gry/grn shale.

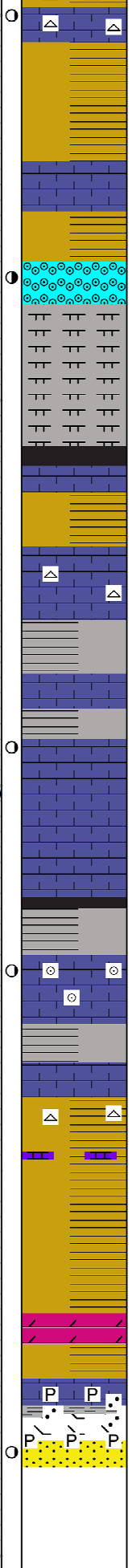
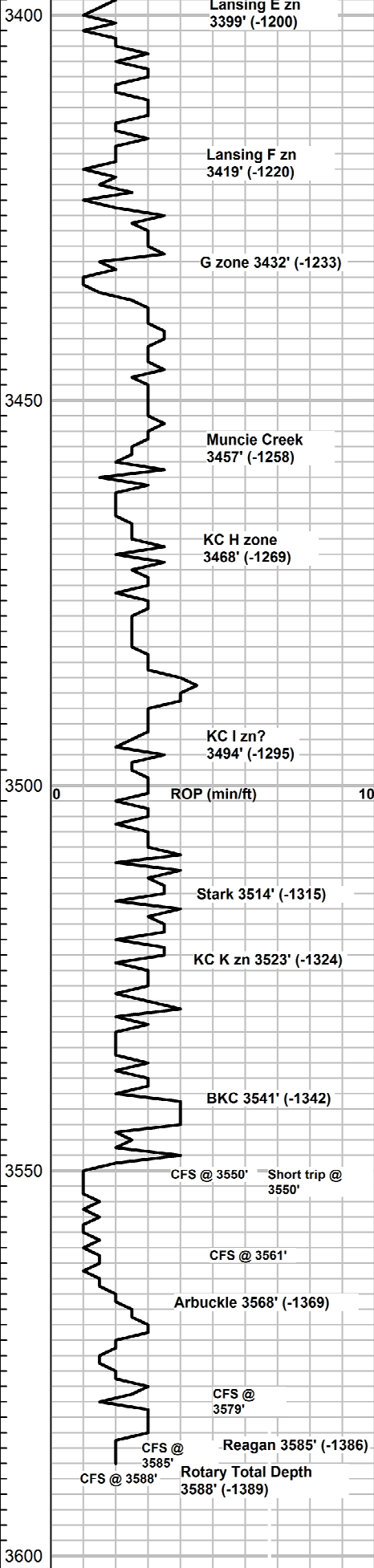
3390'-3400': Lms, foss, many pcs w/scat lt lv brwn stn in sprs intr xtl & intr fossil vugs. Sli rainbow oil on brk. med-hrd res pr overall por. Weaker show than abv. Much lt gry-clr, semi-tranclnt chrt, shrp & frsh. Also some gry &

3270'-90': Show of live oil!
Porosity varies btw hrd pcs w/lrg vugs & pr-no matrix por. To pcs w/even stn & abndt pnprt & intr xtl vugs, med res. the later may have fr matrix por, & emit significant rainbow oil upon brk.

3350'-60': Many pcs lms, gry-prpl shaly, tite, NS. Shale, red & grn. Also some chrt, tan-tan/orng, shrp & frsh. Conglomeritic zone.

3380'-90': Several small pcs lms, crm-tan vfn-fn xtl, brtl w/fr-gd intr xtl por & FSFO, brwn FO on brk. Fr brwn stn in abndt intr-xtln vugs. Rock may differ from abv.

3390'-3400': 1 pc hvly sat lms, vgd even blk stn in abndt intr-xtln vugs. SSEO, sli odr on brk, ad



3400'-10': Lms & chrt, lms, lt gry-tan, micro-vfn xtn, mstly med-hrd res, some w/vry lt sat & stn, sli oily luster. Much chrt, lt gry, tan, & red org, all shrp & frsh. Also much shale, gry, drk gry, maroon, grn & red.

3410'-20': Mstly, tite lms, chrt & shale as abv. Many pcs lms w/fr-gd scat, uneven lt sat & stn. 2 pcs w/sli shw gsy FO. Gd scat uneven, yell fluor in about 30% of pcs. Mst pcs pr overall por.

3420'-30': Lms & shale mix. Lms, crm-lt gry, some sli shaly, micro-vfn xtn, hrd res, non-allochemical, no vis por. Shale, gry, maroon, lt prpl lmy shale, brwn etc. Some chrt as abv.

3430'-40': Vari-colored shale, gry, grn, maroon, etc. Much lms, crm-tan, some crsly ool, w/scat lrg intr-ool vugs. Fr lt scat stn, fr grsy lstr & rainbow oil, trc gas bbls upon brk, scat uneven brt yell fluor in about 30% pcs. Fr-gd strming cut & gd blm. Fr odr. Fr-gd intr xtn & vugular por.

3440'-50': Lms, tan, micro-vfn xtn, non-allochemical, med-hrd res no vis por. Much chrt, off-wht-gry, shrp & frsh. Many pcs ool lms, med-hrd res, w/fr-gd sat & stn in abndt pnpt & intr-ool vugs, grsy lstr & fr-gd rainbow oil on brk. Fr-gd odr. Many pcs hrd res, some chrt. Fr-gd vugular por.

3450'-60': Shaly lms to lmy shale, lt gry/grn, vfn-fn xtn, med res, no vis por. Some sli vuggy lmy chrt w/shw as abv. vry hrd res.

3460'-70': Lms, tan, micro-vfn xtn, hrd res, pr-no vis por & shaley lt grn lms as abv. Several pcs, crsly ool, sli chrt lms w/fr-gd stn & sat in scat intr-ool vugs, Trc FO. Fr ranbow oil, fr odr. Fr-gd vugular por. Mst pcs NS.

3470'-80': Mix shale & lms. Lms, tan-gry, vfn xtn, hrd res, mst no vis por. A few pcs ool lms w/scat stn in vugs from abv. Shale, gry, grn, maroon, blk. Some shrp & frsh chrt.

3480'-90': Lms, crm-lt gry-lt gry/grn, micro-vfn xtn, med-hrd res, no vis por.

3490'-3500': Lms, crm-tan, lt gry & lt gry/gry sli shaly as abv. Micro-vfn xtn, med-hrd res, non-allochemical, all no vis por.

3500'-10': Lms, tan, micro-vfn xtn, med res, most w/fr-gd uneven lt sat & brwn stn in pnpt surface vugs. Sli grsy lstr, vry sli rainbow oil, frt odr. Gd uneven dull yellow fluor in 50% pcs. sli shw gas bbls on brk. VSSFO.

3510'-20': Lms, crm-lt gry/grn shaley, micro-vfn xtn, pr intr xtn por. Many pcs w/scat uneven brwn stn in pnpt intr xtn surface vugs, pr-fr sat. Some grsy/rainbow lstr. trc gas bbls on brk. Some flky stn, NSFO. Weaker shw than abv.

3520'-30': Lms, crm-lt gry, micro-vfn xtn, hrd res, some foss, fr scat uneven lv brwn surf stn, pr intr xtn por. NSFO. sli odr. Stn in about 10% pcs. Much shale, gry, lt grn & maroon.

3530'-40': Lms, crm-lt gry, micro-vfn xtn, med-hrd res. About 10% pcs, lms crm-lt gry, ool, brt-hrd res/w/fr scat stn in pnpt intr xtn por, SSFO on brk, sli odr. Non-oocastic, better por, than abv.

3540'-50': Lms, crm-lt gry, micro-vfn xtn, hrd res, mst pr-no vis por. Several pcs ool lms w/scat lv stn, trc FO & gas upon brk. Med-hrd res. Losing show. Some shale, gry, maroon & prpl.

3550'-60': Shale, gry, red, grn, maroon, blk, prpl, some mottled. Much lms, crm-tan, lt gry as abv, also some prpl-yell/grn sli shaly, all micro-vfn xtn, few-no allochems, hrd res, no vis por. A few pcs chrt, tan-lt gry, trc yell/org. Some sli spicular-foss, shrp & frsh.

3560'-70': Shale, gry, grn, maroon, trc prpl. Some lms, crm-tan, gry, micro-vfn xtn, hrd res, occ sli foss, no vis por. 1 pc dolomite, brwn fn rhomb xtn, w/some maroon shale attached to edge, slw building effervescence, med res, NS.

3570'-79': Vari-colored shale, & crm-tan lms as abv. A couple pcs dolomite, brwn, vfn xtn, hrd res, 1 w/fn sub ang qtz grains included. NS.

3579'-85': Shale, mstly gry, blu/grn, grn & gry/grn, platy. Rest vari-colored shale & tight, crm-tan micro xtn lms, no vis por.

CFS @ 3588' 15 min: Vari-colored shale, increase in lt blu/gry & maroon shales. 1 pc vry highly pyritized rock. 2ndry mineral, couldve been sandstone??

CFS @ 3588' 30 min: Increase in loose qtz sand grains, mstly small-crs sub md- sub ang, clr qtz. Trc highly pyritized SS clstrs. brt-med res, pr-no vis por, due to pyrite in matrix. Med qtz grains, mod strtd. 1 clst qtz SS, pr-mod strtd, sub md grains, pr vis intr gran por, poss clay matrix, vry pr, spty stn in intr gran por. Trc cut, wk-fr dying cut on brk. No odr.

3400'-10': A few more small pcs, vry brt sucrosic lms w/vry hvy sat & stn. Vry brt & porous.

3440'-50': Fr scat yell fluor in 10-15% pcs.

3450'-60': Much chrt, also fr odr in sample.

3500'-10': Fr-gd intr xtn por in mst stained pcs.

3510'-20': Pr matrix por. Rock w/stn looks to be a poor reservoir.

CFS @ 3550' 15 min: Lms, crm-lt gry, micro-vfn xtn, hrd res, pr-no vis por, non-allochemical. some pcs w/scat lv stn surface stn, pr vis por. Some shale, gry, grn, red,

CFS @ 3550' 30 min: Lms & shale as abv. Increase in shales. Some chrt, lt gry-off wht, shrp & frsh. Trc lt prpl shaley lms. Some lt gry, sndy/silty, shaly lms. All pr vis por.

CFS @ 3561' 15 min: Shale, vari-colored as abv. Also lms, crm, lt gry, tan, lt yell, vry lt grn, mstly micro xtn, no vis por. some sli foss. A few pcs w/lv stn & sli grsy lstr, possibly from uphole. Pr intr xtn por. Trc pcs silty/shaley lms, tan-lt gry, vfn xtn, fr building effervescence in HCl. Pr vis por. NS in silty pcs.

CFS @ 3561' 30 min: Silty lmy clay, mshy, off-wht to lt gry, vfn xtn. Mush spread throughout tray. Some pcs hrd res silty/shaley lms, lt gry, pr-no vis por, no allochems. A few pcs tan-crm lms w/pr-fr scat lv stn. 1 pc highly foss, w/lv stn in intr-fossiliferous vug. Also shale as abv.

CFS @ 3561' 45 min: Shale vari-colored. Much silty/chlky, or shaly lms. No vis por & NS, as abv.

CFS @ 3579' 15min: Chlky lms, off-wht, micro xtn, sft-med res, abndt spkld pyrite grains included, some grn glauc shale included, trc snd grains included. No vis por. Trc fn xtn, shaly dolomite.

CFS @ 3579' 30 min: Lms, as abv. Also vari colored shale

3650

CFS @ 3588' 45 min: Many loose med rnd-sub rnd qtz sand grains. A few clst highly pyritized qtz SS, med, sub ang-ang grains, tight, no vis por. 1 minute clst, SS, trc lt stn, gd strming cut. No odr.

CFS @ 3588' 60 min: Mstly vari-colored shale & lms from uphole. 1 pc sft, lt gry/grn shale w/abndt med sub and, qtz sand grains included. Trc pyritized SS as abv. Decrease in loose qtz grains, some w/grn gluc stn on edges.

abv. All vari-colored shale, some blk carb shale. Some loose pyrite xtls, and trc of fn qtz sand grains loose in tray. 1 pc brwn vfn xtl dolomite.

CFS @ 3579' 45min: Lms, off-wht to crm, pyritic as abv. Med-hrd res, no vis por. Some pcs w/trc qtz snd and other grains included. Much lt gry mush in tray. Much vari-colored shale as abv.

CFS @ 3579' 60 min: Mix of vari-colored shale & lms, as abv.

CFS @ 3585' 15 min: Shale, gry, red-brwn, gry/grn, maroon, trc prpl. Platy.

CFS @ 3585' 30 min: Shale as abv. and lms, crm-tan tight. Increase in loose qtz grains. F-med, mstly rnd-sub rnd; a few angular grains. NS. Trc off-wht chrt, shrp & frsh.

CFS @ 3585' 45 min: Lms, lt gry, vfn xtl, brtl-hrd res, grty-silty text, effervesses readily, occ, trc snd grains included, pr-no vis por. 1 pc dolomitic lms brwn, no vis por. Mstly shale as abv.

CFS @ 3585' 60 min: Mix vari-colored shale & lms from abv. Trc loose qtz grains in tray & trc vry crs pyrite xtls. 1 pc brwn dolo vfn xtl.

