

GEOLOGICAL REPORT

DRILLING TIME

S.D. ANGLE - COPYRIGHT 2011

SAMPLE LOG

COMPANY Russell Oil, Inc.
LEASE James "D"
WELL NO. 1-5
LOCATION 1600' FSL + 1500' FEH
SEC 5 TWN 11S RNG 34 W
COUNTY LOGAN STATE KANSAS
POOL WILDCAT
API NO. 15-109-21032-00-00

ELEVATIONS

KB 3260
DF —
GL 3249

MEASUREMENT FROM
Top Kelly Bushing
PIPE STRAP 4339'
.60 hang to
Board

CONTRACTOR H2 Drilling Rig #2
COMMENCED September 22, 2011
COMPLETED October 3, 2011
RTD October 2, 2011
MUD MUD-CO, INC. Chemical
SAMPLES FROM 3800' TO 4900'
DRILLING TIME FROM 3800' TO 4900'
SUPERVISION FROM 3800' TO 4900'
GEOLOGIST STEVEN D. ANGLE

CASING RECORD

SURFACE _____

PRODUCTION NONE
Plugged &
Abandoned

REMARKS _____

All formation tops, zones of interest, porosity, shows and sample time lag are based from the top of Kelly Bushing measurements. Any corrections in measurements during the drilling of this well have been incorporated into this report.

ORIGINAL
COPY

Sincerely,

Steven D. Angle
W. G. C.

Copyrighted material. No reprints without written permission.

S.D. Angle - Copyright 2011

FORMATION TOPS

DATUM ELEVATION 3259 KB

| FORMATION | SAMPLE | E LOG | DATUM | WELL A | WELL B |
|--------------------|--------|-------|--------|--------|--------|
| Anhydrite | | | | | |
| Base-Anhydrite | | 2772' | + 487 | | |
| Topchka | | 3911' | - 652 | | |
| Hebner | | 4131' | - 872 | | |
| Toronto | | 4154' | - 895 | | |
| Kausins-Ke | | 4170' | - 911 | | |
| STARK shale | | 4398' | - 1139 | | |
| Base-Kansas City | | 4479' | - 1220 | | |
| MANHATTAN | | 4523' | - 1244 | | |
| PLUMETE | | 4588' | - 1329 | | |
| MYRIC STATION | | 4623' | - 1364 | | |
| FT. SCOTT | | 4645' | - 1386 | | |
| Cherokee shale | | 4676' | - 1417 | | |
| Atoka lime | | 4752' | - 1493 | | |
| Base Perm SD | | 4778' | - 1519 | | |
| MISSISSIPPI | | 4858' | - 1599 | | |
| Rotary Total Depth | | 4920' | - 1641 | | |
| 406 Total Depth | | 4905' | - 1646 | | |

CORRELATION WELLS

| | |
|----|--|
| A. | |
| B. | |

DAILY PENETRATION

| DEPTH | @ | TIME | ON | DATE |
|---------------|---|------------|----|---------|
| UNDER SURFACE | | | | |
| 1350' | | 3:30 P.M. | | 9-23-11 |
| 2570' | | 7:00 A.M. | | 9-25-11 |
| 3335' | | 7:00 A.M. | | 9-26-11 |
| 3985' | | 7:00 A.M. | | 9-27-11 |
| 4339' | | 7:00 A.M. | | 9-28-11 |
| 4396' | | 7:00 A.M. | | 9-29-11 |
| 4430' | | 7:00 A.M. | | 9-30-11 |
| 4667' | | 7:00 A.M. | | 10-1-11 |
| 4748' | | 7:00 A.M. | | 10-2-11 |
| 4900' | | 10:33 P.M. | | 10-2-11 |

MUD RECORD

| DEPTH | TYPE & AMOUNTS |
|-------|---|
| 2185' | 255x Gel, 165x hulls. |
| 3136' | 855x Gel, 185x hulls |
| 4859' | 355x Gel, 45x Soda Ash, 25x caustic Soda, |
| | 1125x lignite, 15x Duxime, 105x hulls |
| 3730' | 355x Gel, 25x Soda Ash, 15x caustic Soda, |
| | 15x lianite. |
| 4396' | 305x Gel, 25x caustic Soda, 45x Soda Ash, |
| | 1185x lianite, 15x Duxime, 105x hulls |
| 4590' | 355x Gel, 85x Soda Ash, 35x caustic Soda, |
| | 1125x lianite, 205x hulls. |

D R I L L I N G I N F O R M A T I O N

DRILLING CONTR: Wd Drilling, Inc, Rig # 2

RIG PHONE: 680-890-6399

TOOL PUSHER: Steve Craig

PHONE: 680-770-2814

DRILLERS - DAYLIGHT TOUR: Daniel Moore

EVENING TOUR: Michael Moore

MORNING TOUR: Terry Christensen

SPUD DATE: _____ DATE OF RTD: October 2, 2011

SITE DIRECTIONS: 1 mi W of monument, 2 1/2 N to 1st line

W. 3 mi to 300 Rd S 1/2 mile, West into location.

SURFACE PIPE: _____

WELL STATUS: Placed & Abandoned

PRODUCTION CASING: None

DRILLING MUD CONTR: MWD-Co, Engineers: Tyler Adams

Ph. 785-731-5763

DRILL STEM TESTING: Triolobite Testrigs - 4 DST's,

Tester: Bradley (WALT) WATER-785-223-1407

CEMENTING: _____

ELECTRIC LOGGING: NOG-TECH, RAN Microservices,

Dual Compensated Density, Dual Inductance,

Benchek Compensated Sonic Log.

Engineer: D. Kerr.

B I T R E C O R D

| NO. PURPOSE | SIZE | MAKE | TYPE | IN | OUT | JETS | PUMP |
|-------------|---------|--------|-------|---------|------|-------|------|
| 1 | Surface | 12 1/4 | Value | ERISONS | 0 | 264' | 400 |
| 1 | Bore | 7 7/8 | Value | HE 21 | 264' | 4900' | 850 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

DST NO. 1 INTERVAL 4310' TO 4339' TYPE Anchor 29' TIMES 60-30-60-30
 Blow: Bottom of bucket in 34 minutes. SI. No returns. 2nd. Increased to 9" blow. SI No return.
 Rec: 480' mud cut water (10% mud) w/oil spots in Tool. Chlorides 32,000 PPM.
 IF/FF 24 - 177 SIF/SFF 181 - 261 ISI/FSI 1152-1092 IH/FH 2164-2122 Temp: 127°F

DST NO. 2 INTERVAL 4345' TO 4396' TYPE Anchor 51' TIMES 15-30-15-30
 Blow: Surface blow, died in 9 minutes. SI, No returns. No blow - Flushed Tool - No help. SI - No returns.
 Rec: 20' MUD.
 IF/FF 23 - 23 SIF/SFF 25 - 29 ISI/FSI 1268-1249 IH/FH 2166-2131 Temp: 117°F

DST NO. 3 INTERVAL 4396' TO 4430' TYPE Anchor 34' TIMES 60-30-60-30
 Blow: Bottom of bucket at 26 minutes. SI - No return. 2nd. B.O.B at 50 minutes. SI - No return.
 Rec: 640' mud cut water (10% mud). Chlorides 50,000 PPM.
 IF/FF 25 - 214 SIF/SFF 220 - 320 ISI/FSI 1289-1287 IH/FH 2222-1287 Temp: 128°F

DST NO. 4 INTERVAL 4611 TO 7178 TYPE Anchor 11 TIMES 60-30-60-30

Blow : Bottom of bucket in 9 minutes SI - NO return. 2nd - Bottom of bucket in 13 minutes, SI - No return.

Rec: 5' Free Oil, 445' oily MUD CUT WATER (1% oil - 5% mud - 95% water), 740' MUD CUT WATER (5% mud - 95% water), Chlorides 54,000 ppm

IF/FF 39-366 SIF/SFF 370-533 ISI/FSI 1020-973 IH/FH 2341-2311 Temp: 128°f

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____

Blow : _____

Rec: _____

IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____

Blow : _____

Rec: _____

IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____

Blow : _____

Rec: _____

IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____

Blow : _____

Rec: _____

IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____

Blow : _____

Rec: _____










IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____
 Blow : _____
 Rec: _____
 IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

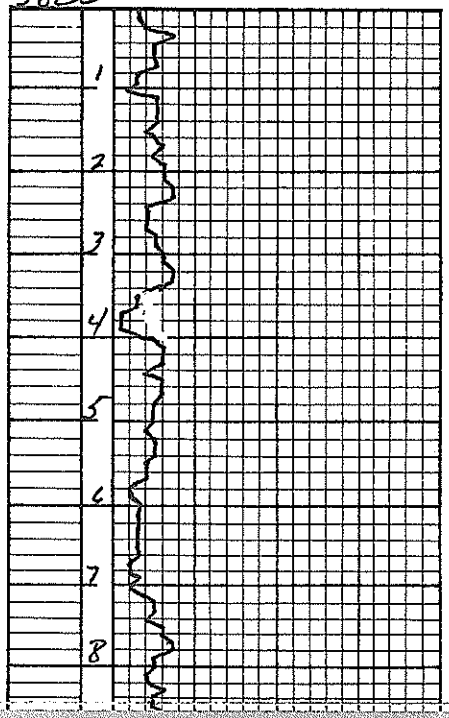
DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____
 Blow : _____
 Rec: _____
 IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

DST NO. _____ INTERVAL _____ TO _____ TYPE _____ TIMES _____
 Blow : _____
 Rec: _____
 IF/FF _____ SIF/SFF _____ ISI/FSI _____ IH/FH _____ Temp: _____

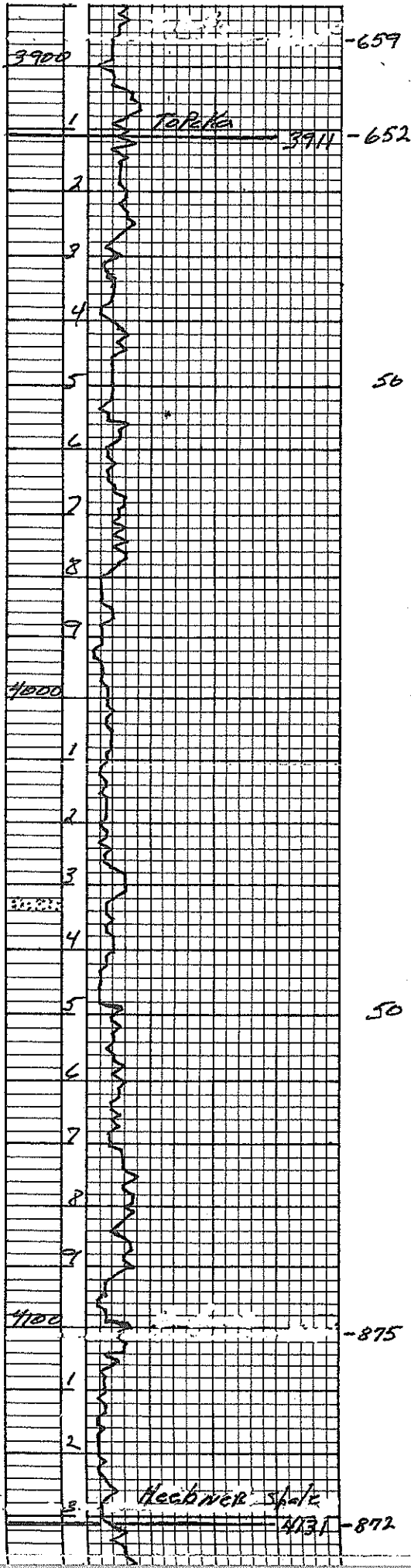
LEGEND

- Anhydrite

- Salt

- Sandstone

- Shale

- Carb Sh

- Limestone

- Ool. Lime

- Chert

- Dolomite


X = SHOW OR ODR
 LOG TOPS MARKED
 3800



Varied Group - Tan xgn ls SCAT Foss ls
 Varied Grp xgn ls - Tan Buff Foss xgn ls
 Tan Carb Mkt Sh - Couple Turquoise sh
 Tan Fw sdy sh
 White - off wht to tan Fw xgn ls - SCAT Foss ls
 Fw weathered off white to tan
 xgn ls + Foss ls.
 SCAT Ft tan weathered Fw xgn
 Micro Foss ls
 white to tan xgn ls + SCAT wht + tan
 Fw xgn ls - some sdy + Foss ls
 white to tan Fw xgn ls. Some
 weathered Fw xgn ls - some sdy ls.
 SCAT white Chky clay - white off
 white Fw xgn Success ls
 Some weathered and Foss ls.
 SCAT white sh - off white Fw - med
 xgn ls w/ some weathered print
 white - off tan weathered



-659
 LT Tan to Lt Gray weathered
 Xgn ls to fm + dense ls

1
 Topoka 3911 -652
 Lt Tan Xgn fissile hd ls + scat
 weathered friable loose ls.
 Varied wht + Varied Tan Xgn + dense Pass ls.
 Varied Tan fm Xgn + Xgn ls. +
 Xgn Pass ls.
 Varied wht Varied Tan + V fm
 St. weathered ls.
 Lt. Tan weathered ls + scat St.
 vuggy ls.

50
 Lt. Tan scat weathered soft ls
 SCAT St. vugginess

Lt. Tan Pass - St. weathered
 SCAT V St. vuggy ls.

Lt Tan Firm tan hd microp sh Pass + Pass
 St. weathered ls.

8
 SCAT white soft chlk - Lt Tan fm Xgn
 + fm Xgn Pass ls.
 wht soft chlk + few blk shs

7
 white soft chlk - Lt Tan fm Xgn St.
 weathered ls. Some wht sd clusters
 some fm loose chlk sd grains

4000
 1
 SCAT soft to Firm wht chlk
 Lt Tan fm Xgn St. soft - St
 weathered ls

2
 SCAT blk shs + Varied
 Tan Xgn ls + Xgn Pass ls.

3
 Numerous pieces conk blk sh - Lt Tan
 Xgn - dense ls w/ blk dead air

4
 SCAT dk redol grn sd clusters fairly loose

5
 Varied Tan Pass + Xgn ls few scat
 pieces Lt Gray sd - fairly tight.

50
 Varied Tan - Varied Xgn ls.
 SCAT Buff Congl Pass soft ls.

2
 Buff - Tan dense ls SCAT St.
 weathered ls

8
 Varied wht Xgn dense ls. Few soft ls
 Few Gray Firm sd clusters.

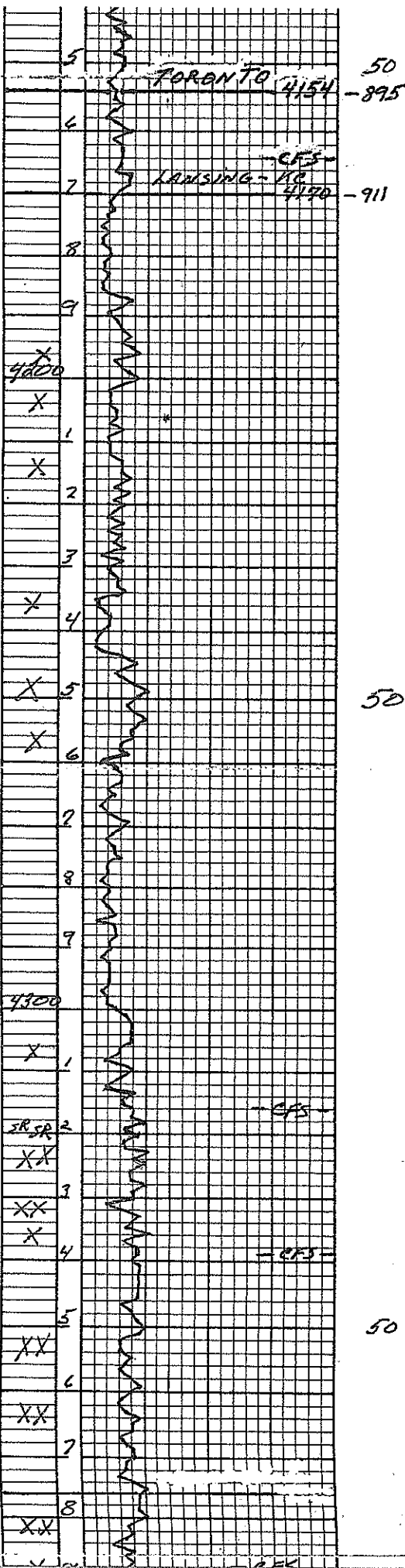
7
 Lt Gray soft white Xgn ls. Few
 off wht Pass ls.

Same as above with few wht Pass ls

Varied Lt. Tan Xgn ls - Few Pass ls.

4100
 -875
 Buff - Lt Tan St. weathered Xgn
 dense - some Pass ls. Few Gray
 fm sd clusters
 Fair number conk blk shs
 Varied Tan's Xgn Pass ls.
 Several pieces conk blk shs
 Vari Tan Xgn dense + some
 Tan Pass ls.

872
 Heckwer shale 4131 -872
 Several pieces conk blk shs

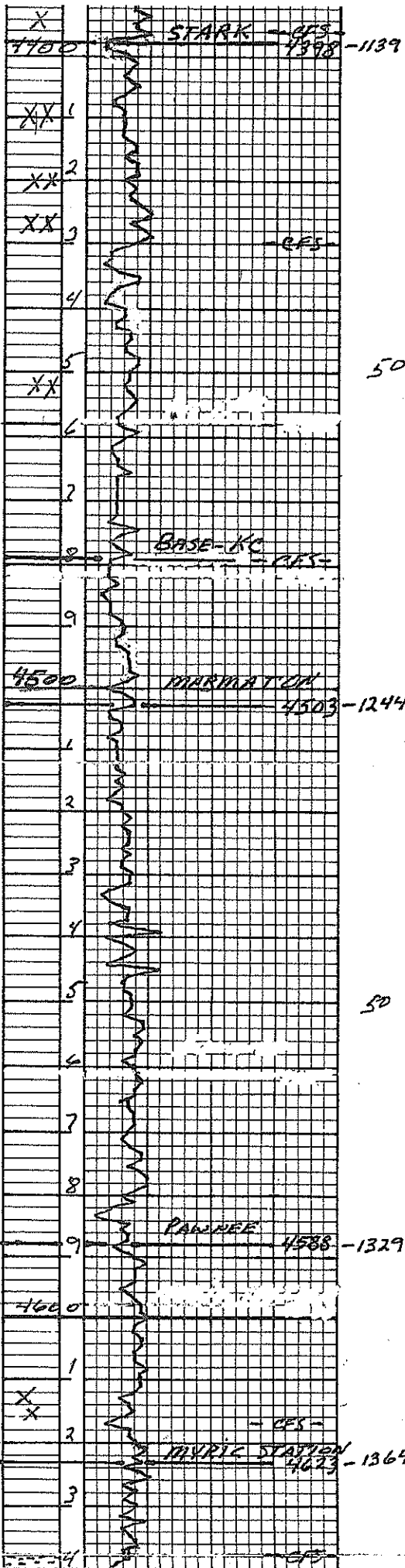


+ Tan xgn + Pass xgn ls
 + Pass xgn ls.
 50
 5 SCAT Varied wlt. xgn friable ls
 + Tan clays = xgn ls
 Varied sl. silty ch. friable ls
 + BK Tan ch. ls.
 6
 7 Wlt + lt Tan weathered Pass xgn ls.
 White xgn ls + lt. SCAT Tan
 Hd Pass chly ls.
 8
 9 SAME as above
 3 pieces wlt xgn sl. weath sl. Frac
 + sl. vuggy ls. F5 BK hv oil + drops
 NO OGOR
 4000
 X
 1 2 Pieces same as above w/ sl. silty
 NO OGOR
 X
 2 2 pieces wlt xgn sl. weath - sl
 vuggy sl. Fract F5 BK hv oil - few Drops
 SCAT white ch. - white xgn ls - some
 weathered sl. silty sl. SCAT + print of
 N50 NO OGOR
 3
 X 4 Couple wlt xgn ls w/ some
 vuggy of F5 BK hv oil - some
 Gilsonite NO OGOR
 50
 X 5 2 pieces wlt xgn ls. Good vuggy of
 F5 BK hv oil. 3 pieces vuggy w/ BK
 X 6 2 pieces sl. vuggy - Frac dead oil.
 sl. silty w/ BK hv tan oil.
 2 SCAT white ch. - var wlt xgn + SCAT
 sl. silty - SCAT weath sl. vuggy of
 7 SAME as above.
 8
 9 same as above w/ couple
 pieces Turquoise SCAT 565
 4300
 Varied wlt. ls - xgn - dense - sl. weathered
 sl. silty sl. vuggy also - no OGOR
 same w/ 2 pieces wlt xgn ls sl
 weath SCAT vuggy of F5 BK hv oil.
 X 1
 2 1 small piece - wlt xgn weath sl. vuggy
 Fract km w/ F5 tan hv oil
 1 piece wlt xgn weath hv F5 tan hv oil
 Varied wlt dense - sl. xgn w/ SCAT
 vugginess - SCAT F5 BK hv oil - few
 Drops when 1500 ft
 Fair amount of xgn + sl. silty cap
 white ch. F5 BK hv oil - some
 Fair amount wlt xgn w/ some vugginess
 + sl. silty of ad. OGOR
 3
 XX
 X 4
 - CFS -
 50
 XX 5
 6 1 piece xgn ls w/ F5 - some
 rainbows w/ faint OGOR
 SCAT pieces wlt xgn weathered
 Fractured - some Pass ls SCAT 565
 some wet oil STD - Rainbows
 7
 XX 8
 SCAT wlt xgn ch. - some Pass
 STD - 565 F5 Rainbows wlt STD
 F5 BK - 565 BK hv oil
 Varied white dense
 vugginess

DST 1 4154 - 4190

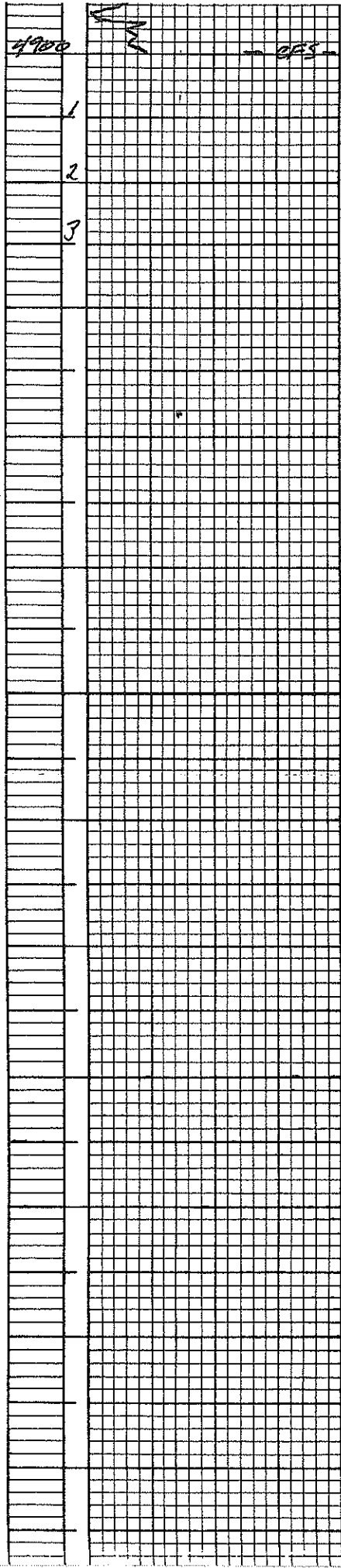
DST 2

4154 - 4190



0573 4396 - 4430

1 small piece km-55 BIK and
 Few off wht - Grey very weather
 base pass ls sl silty seat sep
 Some Brun wht STAY FS weathered
 strong sour odor
 1 small piece wht 792 km
 w/ show of oil + good sour odor
 BUFF ls - odor when broken but also
 Few pieces wht XTIZ Comp AMFB SEP
 Few clay foss ls SEP. Cit sour odor
 SEAT COAL MIX SHS - Multi Col SHS. Vari
 dense xgn ls
 Varied wht + Tan dense to chly
 To sl chly sl chly - xgn ls 150 - 200
 wht - Tan xgn ls / tiny piece wht
 sh. vuggy xgn ls w/ so no odor
 wht to tan varied xgn ls
 Few tan foss hd chly dense ls
 Var. wht. tan xgn ls
 IT grey fr sil clust - some reddish yellow
 Tan dense xgn ls coarse soil zone
 Few seat grey - wht + tan sil clusters
 Varied wht - Tan dense - xgn ls.
 wht - tan dense - xgn - seat foss ls.
 Few grey soft clays
 wht - tan ls.
 Brun shales - tan + grey xgn ls
 wht. grey Brun xgn seat foss ls
 BIK - Brun - Grey shs
 + wht to tan dense - xgn ls.
 wht - tan - grey ls.
 Few pieces orange chly
 wht - tan ls - few orange chly
 wht tan xgn ls
 some wht weathered xgn ls.
 SEAT grey chly - Varied tan dense
 xgn ls Few chly foss ls.
 SEAT tan - Brun xgn sl. weather ls
 Few grey fr chly - Varied tan ls
 Varied wht - tan - Brun ls
 Brun - grey xgn chly ls - some foss
 grey ls
 1 piece tan very foss xgn col. km
 w/ oil saturation USSEP chly xgn
 wht - buff - tan ls
 dk Brun chly ls
 wht - buff - tan xgn ls.
 Brun - grey xgn chly ls.
 SEAT COAL MIX SHS - Buff - tan xgn ls
 Few grey fg chly



4900

0.5

Top clay ls. - white xgr ls.
few milky clts - few white limy sd clusters
RTD 4900' @ 10:33 P.M. on 10-2-11