## OPERATOR

| | | | |
|---|---|---|---|
| Company: | Falcon Exploration, Inc. | | |
| Address: | 125 N. Market<br>Suite 1252<br>Wichita, KS 67202 | | |
| Contact Geologist: | Brian Fisher | | |
| Contact Phone Nbr: | 316-262-1378 | | |
| Well Name: | RCJ #1-34 (NW) | | |
| Location: | Sec. 34 - T28S - R30W | API: | 15-069-20389-0000 |
| Pool: | | Field: | Wildcat |
| State: | Kansas | Country: | USA |

Scale 1:240 Imperial

| | | | |
|---|---|---|---|
| Well Name: | RCJ #1-34 (NW) | | |
| Surface Location: | Sec. 34 - T28S - R30W | | |
| Bottom Location: | | | |
| API: | 15-069-20389-0000 | | |
| License Number: | 5316 | | |
| Spud Date: | 8/22/2012 | Time: | 00:00 |
| Region: | Gray County | | |
| Drilling Completed: | 9/1/2011 | Time: | 18:48 |
| Surface Coordinates: | 250' FNL & 940' FWL | | |
| Bottom Hole Coordinates: | | | |
| Ground Elevation: | 13.00ft | | |
| K.B. Elevation: | 2740.00ft | | |
| Logged Interval: | 0.00ft | To: | 0.00ft |
| Total Depth: | 5425.00ft | | |
| Formation: | Mississippian | | |
| Drilling Fluid Type: | Chemical/Fresh Water Gel | | |

## SURFACE CO-ORDINATES

| | | | |
|---|---|---|---|
| Well Type: | Vertical | | |
| Longitude: | | Latitude: | |
| N/S Co-ord: | 250' FNL | | |
| E/W Co-ord: | 940' FWL | | |

## LOGGED BY

Keith Reavis
Consulting Geologist

| | | | |
|---|---|---|---|
| Company: | Keith Reavis, Inc. | | |
| Address: | 3420 22nd Street<br>Great Bend, KS 67530 | | |
| Phone Nbr: | 620-617-4091 | | |
| Logged By: | KLG #136 | Name: | Keith Reavis |

## CONTRACTOR

| | | | |
|---|---|---|---|
| Contractor: | Sterling Drilling Company | | |
| Rig #: | 5 | | |
| Rig Type: | mud rotary | | |
| Spud Date: | 8/22/2012 | Time: | 00:00 |
| TD Date: | 9/1/2011 | Time: | 18:48 |
| Rig Release: | | Time: | |

## ELEVATIONS

| | | | |
|---|---|---|---|
| K.B. Elevation: | 2740.00ft | Ground Elevation: | 13.00ft |
| K.B. to Ground: | 2727.00ft | | |

## NOTES

Due to the negative results of the three drill stem tests, lack of hydrocarbon shows and confirmation by electrical log evaluation, it was determined that the RCJ #1-34 be plugged and abandoned as a dry hole.

A Tooke Daq gas detector operated by Sterling Drilling was employed on this well. ROP and gas curves were imported into this log. The gamma ray and caliper curves were imported from the electrical log data. Electrical log tops were consistently 2-5 ft lower that picked sample tops on this well. The ROP and gamma ray curves were not shifted to provide an exact match, but rather left as recorded in the field.

The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
Keith Reavis

# Falcon Exploration, Inc

## daily drilling report

| DATE | 7:00 AM DEPTH | REMARKS |
|---|---|---|
| 08/25/2012 | | Geologist Keith Reavis on location @ 2200 hrs, 2521 ft., drilling ahead Permian and Chase Group |
| 08/26/2012 | 2961 | drilling ahead, Fort Riley, Neva, Foraker |
| 08/27/2012 | 3560 | gas kick in Stotler warrants DST, short trip, ctch, could not get a tester, drill Tarkio, gas kick warrants test, TOH and strap for DST #1, complete DST #1, successful test, run in tools to straddle Stotler on DST #2 |
| 08/28/2012 | 3560 | complete DST #2, successful test, resume drilling, Bern, Topeka |
| 08/29/2012 | 4149 | drilling ahead, Lecompton, Heebner, Douglas, Lansing, Lansing A zone not worthy of test, TOH with bit, back in with PDC bit, hit bridge and stuck pipe 5 stands, off bottom, wait on oil, load hole with oil |
| 08/30/2012 | 4298 | let oil soak, worked pipe, broke free at 0100 hrs, kelley up, break down stands and ream to bottom, ctch, drilling @ 0409 hrs, gas kicks in both I and J zones warrant test, re-condition gassy mud, short trip, out w/bit, in w/tools, conducting DST #3 |
| 08/31/2012 | 4521 | complete DST #3, successful test, back in hole with bit, resume drilling Stark, BKC, Marmaton, Cherokee |
| 09/01/2012 | 5174 | drilling ahead, Cherokee, Mississippian, TD @ 4325 ft @ 1848 hrs, short trip, TOH w/bit, conduct logging operations |
| 09/02/2012 | 5425 | complete logging operations, geologist off loc. @ 0930 hrs |

# Falcon Exploration, Inc.

## well comparison sheet

| | DRILLING WELL RCJ #1-34 250' FNL & 940' FWL Sec 34-T28S-R30W 2740 KB | | | | COMPARISON WELL Ladd Pet. Reed #1 330' FNL & 2310' FWL Sec 3-T29S-R30W 2772 KB | | Structural Relationship | |
|---|---|---|---|---|---|---|---|---|
| Formation | Sample | Sub-Sea | Log | Sub-Sea | Log | Sub-Sea | Sample | Log |
| Chase | 2604 | 136 | 2604 | 136 | 2640 | 132 | 4 | 4 |
| Winfield | 2676 | 64 | 2677 | 63 | 2701 | 71 | -7 | -8 |
| Towanda | 2721 | 19 | 2729 | 11 | 2754 | 18 | 1 | -7 |
| Ft. Riley | 2773 | -33 | 2777 | -37 | 2806 | -34 | 1 | -3 |
| Neva | 3097 | -357 | 3096 | -356 | 3128 | -356 | -1 | 0 |
| Foraker | 3205 | -465 | 3212 | -472 | 3250 | -478 | 13 | 6 |
| Stotler | 3451 | -711 | 3454 | -714 | 3478 | -706 | -5 | -8 |
| Tarkio | 3520 | -780 | 3523 | -783 | 3551 | -779 | -1 | -4 |
| Topeka | 3726 | -986 | 3732 | -992 | 3760 | -988 | 2 | -4 |
| Heebner | 4069 | -1329 | 4071 | -1331 | 4090 | -1318 | -11 | -13 |
| Lansing | 4174 | -1434 | 4176 | -1436 | 4190 | -1418 | -16 | -18 |
| Stark Sh. | 4539 | -1799 | 4544 | -1804 | 4564 | -1792 | -7 | -12 |
| Marmaton | 4677 | -1937 | 4682 | -1942 | 4711 | -1939 | 2 | -3 |
| Pawnee | 4777 | -2037 | 4781 | -2041 | 4812 | -2040 | 3 | -1 |
| Cherokee | 4818 | -2078 | 4822 | -2082 | 4852 | -2080 | 2 | -2 |
| St. Gen | 5129 | -2389 | 5133 | -2393 | 5174 | -2402 | 13 | 9 |
| Total Depth | 5425 | -2685 | 5430 | -2690 | 7344 | -4572 | 1887 | 1882 |

SUPERIOR ENTERPRISES LLC TESTERS

# DRILL STEM TEST REPORT

Falcon Exploration Incorperated

125 North Market
Suite 1252
Wichita, Kansas 67202+1719
ATTN: Keith Reavis

**34/28S/30W/Gray**

**RCJ #1-34**

Job Ticket: 17673 **DST#: 1**

Test Start: 2012.08.27 @ 10:16:00

## GENERAL INFORMATION:

Formation: **Tarkio**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:39:00
Time Test Ended: 19:39:30

Test Type: Conventional Straddle (Initial)
Tester: Ken Swinney
Unit No: 3325 Great Bend/240

**Interval: 3515.00 ft (KB) To 3532.00 ft (KB) (TVD)**
Total Depth: 3560.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

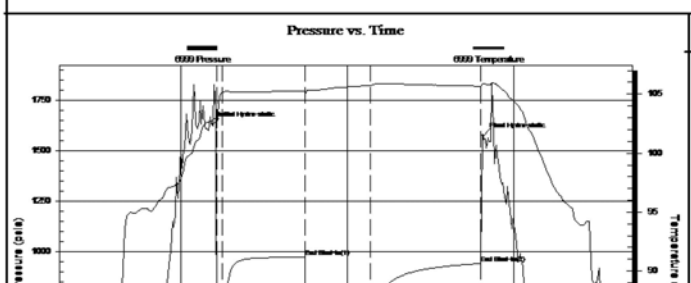
Reference Elevations: 2740.00 ft (KB)
2727.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6999**

Press@RunDepth: 243.16 psia @ 3526.65 ft (KB)
Start Date: 2012.08.27 End Date: 2012.08.27
Start Time: 10:16:00 End Time: 19:39:30

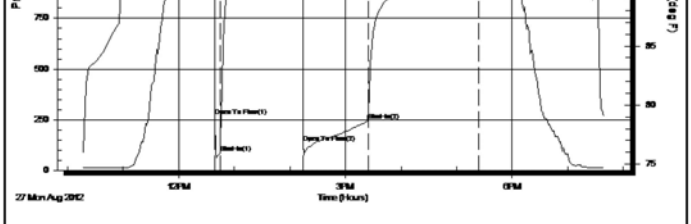
Capacity: 5000.00 psia
Last Calib.: 2012.08.27
Time On Btm: 2012.08.27 @ 12:34:00
Time Off Btm: 2012.08.27 @ 17:26:30

TEST COMMENT: 1ST Open 5 Minutes/Strong blow /Blow to bottom of bucket in 45 seconds
1ST Shut In 90 Minutes/No blow back
2ND Open 70 Minutes/Strong blow /Blow to bottom of bucket in 15 seconds/Gas to surface in 8 minutes
2ND Shut In 120 Minutes/No blow back




PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1630.43 | 102.78 | Initial Hydro-static |
| 5 | 265.37 | 102.11 | Open To Flow (1) |
| 11 | 87.12 | 105.15 | Shut-In(1) |
| 100 | 975.88 | 105.28 | End Shut-In(1) |
| 101 | 136.83 | 105.05 | Open To Flow (2) |
| 171 | 243.16 | 105.72 | Shut-In(2) |



| | | | |
|---|---|---|---|
| 290 | 943.01 | 105.67 | End Shut-In(2) |
| 293 | 1576.18 | 105.90 | Final Hydro-static |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 90.00 | Watery Mud/ w ater 15% mud 85% | 0.44 |
| 420.00 | Muddy Water/ Mud 10% Water 90% | 3.71 |
| 0.00 | Recovery Chlorides 108,000 ppm | 0.00 |
| 0.00 | Recov. Resis. .08 ohms @ 79 deg. | 0.00 |
| | | |
| | | |

### Gas Rates

| | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|---|---|---|---|
| First Gas Rate | 0.38 | 4.23 | 15.51 |
| Last Gas Rate | 0.38 | 5.98 | 21.91 |
| Max. Gas Rate | 0.38 | 6.58 | 24.10 |

# DRILL STEM TEST REPORT

Falcon Exploration Incorperated

125 North Market
Suite 1252
Wichita, Kansas 67202+1719
ATTN: Keith Reavis

**34/28S/30W/Gray**

**RCJ #1-34**

Job Ticket: 17674 **DST#: 2**

Test Start: 2012.08.27 @ 20:20:00

## GENERAL INFORMATION:

Formation: **Stotler**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:29:30
Time Test Ended: 04:25:30

Test Type: Conventional Straddle (Initial)
Tester: Ken Sw inney
Unit No: 3325 Great Bend/240

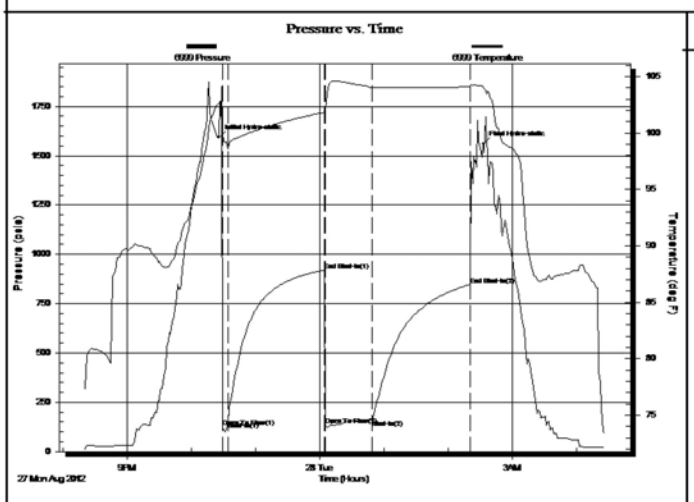
**Interval: 3420.00 ft (KB) To 3515.00 ft (KB) (TVD)**
Total Depth: 3560.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2740.00 ft (KB)
2727.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6999**
Press@RunDepth: 163.29 psia @ 3508.31 ft (KB)
Start Date: 2012.08.27 End Date: 2012.08.28
Start Time: 20:20:00 End Time: 04:25:30

Capacity: 5000.00 psia
Last Calib.: 2012.08.28
Time On Btm: 2012.08.27 @ 22:25:30
Time Off Btm: 2012.08.28 @ 02:32:30

TEST COMMENT: 1ST Open 5 Minutes/Strong blow /Blow built to bottom of bucket in 1 1/2 minutes
1ST Shut In 90 Minutes/No blow back
2ND Open 45 Minutes/Strong blow /Blow to bottom of bucket in 40 seconds/After pressure bleed blow slow ed
2ND Shut In 90 Minutes/Blow back built to 1 inch




### PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1591.87 | 102.64 | Initial Hydro-static |
| 4 | 126.06 | 99.97 | Open To Flow (1) |
| 9 | 150.70 | 98.58 | Shut-In(1) |
| 99 | 920.09 | 101.84 | End Shut-In(1) |
| 100 | 133.77 | 102.16 | Open To Flow (2) |
| 144 | 163.29 | 104.04 | Shut-In(2) |
| 235 | 843.33 | 104.09 | End Shut-In(2) |
| 248 | 1558.98 | 104.10 | Final Hydro-static |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 240.00 | Mud 100% | 1.18 |
| | | |
| | | |
| | | |
| | | |
| | | |

### Gas Rates

| | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|---|---|---|---|

# DRILL STEM TEST REPORT

Falcon Exploration Incorperated

125 North Market
Suite 1252
Wichita, Kansas 67202+1719
ATTN: Keith Reavis

**34/28S/30W/Gray**

**RCJ #1-34**

Job Ticket: 17675 **DST#: 3**

Test Start: 2012.08.30 @ 22:08:00

## GENERAL INFORMATION:

Formation: **Lansing/Kansas City**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:20:30
Time Test Ended: 05:32:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Sw inney
Unit No: 3325 Great Bend/240

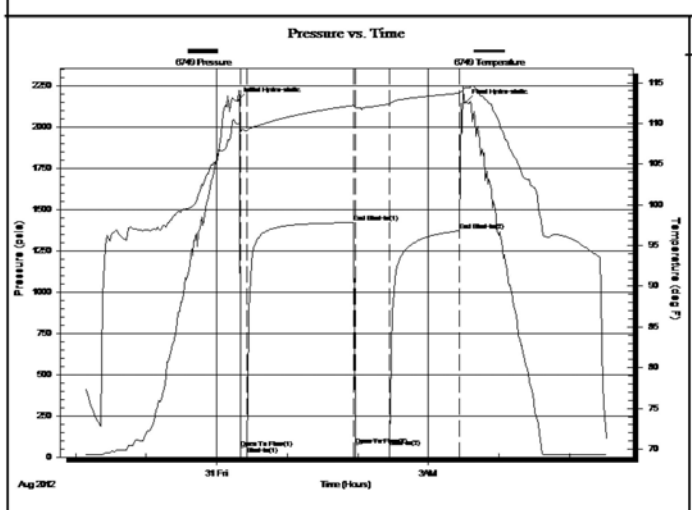
**Interval: 4469.00 ft (KB) To 4521.00 ft (KB) (TVD)**
Total Depth: 4521.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2740.00 ft (KB)
2727.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6749** **Inside**
Press@RunDepth: 110.52 psia @ 4517.35 ft (KB)
Start Date: 2012.08.30 End Date: 2012.08.31
Start Time: 22:08:00 End Time: 05:32:00

Capacity: 5000.00 psia
Last Calib.: 2012.08.31
Time On Btm: 2012.08.31 @ 00:18:00
Time Off Btm: 2012.08.31 @ 03:31:30

TEST COMMENT: 1ST Open 5 Minutes/Weak blow /Blow built to 1 inch in bucket of w ater
1ST Shut In 90 Minutes/No blow back
2ND Open 30 Minutes/No blow /Flush tool/Weak blow built to 1 inch in bucket of w ater
2ND Shut In 60 Minutes/No blow back




### PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2157.74 | 109.87 | Initial Hydro-static |
| 3 | 55.58 | 108.92 | Open To Flow (1) |
| 8 | 65.80 | 109.09 | Shut-In(1) |
| 99 | 1419.94 | 112.22 | End Shut-In(1) |
| 100 | 71.96 | 111.92 | Open To Flow (2) |
| 129 | 110.52 | 112.36 | Shut-In(2) |
| 189 | 1370.18 | 113.70 | End Shut-In(2) |
| 194 | 2146.77 | 114.34 | Final Hydro-static |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 120.00 | Mud 100% | 0.59 |
| | | |
| | | |
| | | |
| | | |
| | | |

### Gas Rates

| | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|---|---|---|---|

## ROCK TYPES

Cht, Dolprim, sdy lmst, Lmst fw<7, Lmst fw7>, shale, grn, shale, gry, Carbon Sh, shale, red

## ACCESSORIES

**MINERAL**: Chert, dark; Dolomitic; Silty; Chert White

**FOSSIL**: Bioclastic or Fragmental; Fossils < 20%; Oolite; Pellets; Oomoldic

**STRINGER**: Dolomite; Limestone; Sandstone; Shale; green shale; carb shale

**TEXTURE**: Chalky; Lithogr

## OTHER SYMBOLS

**MISC**: Daily Report; Digital Photo; Document; Folder; Link; Vertical Log File; Horizontal Log File; Core Log File; Drill Cuttings Rpt

**DST**: DST Int; DST alt; Core; tail pipe

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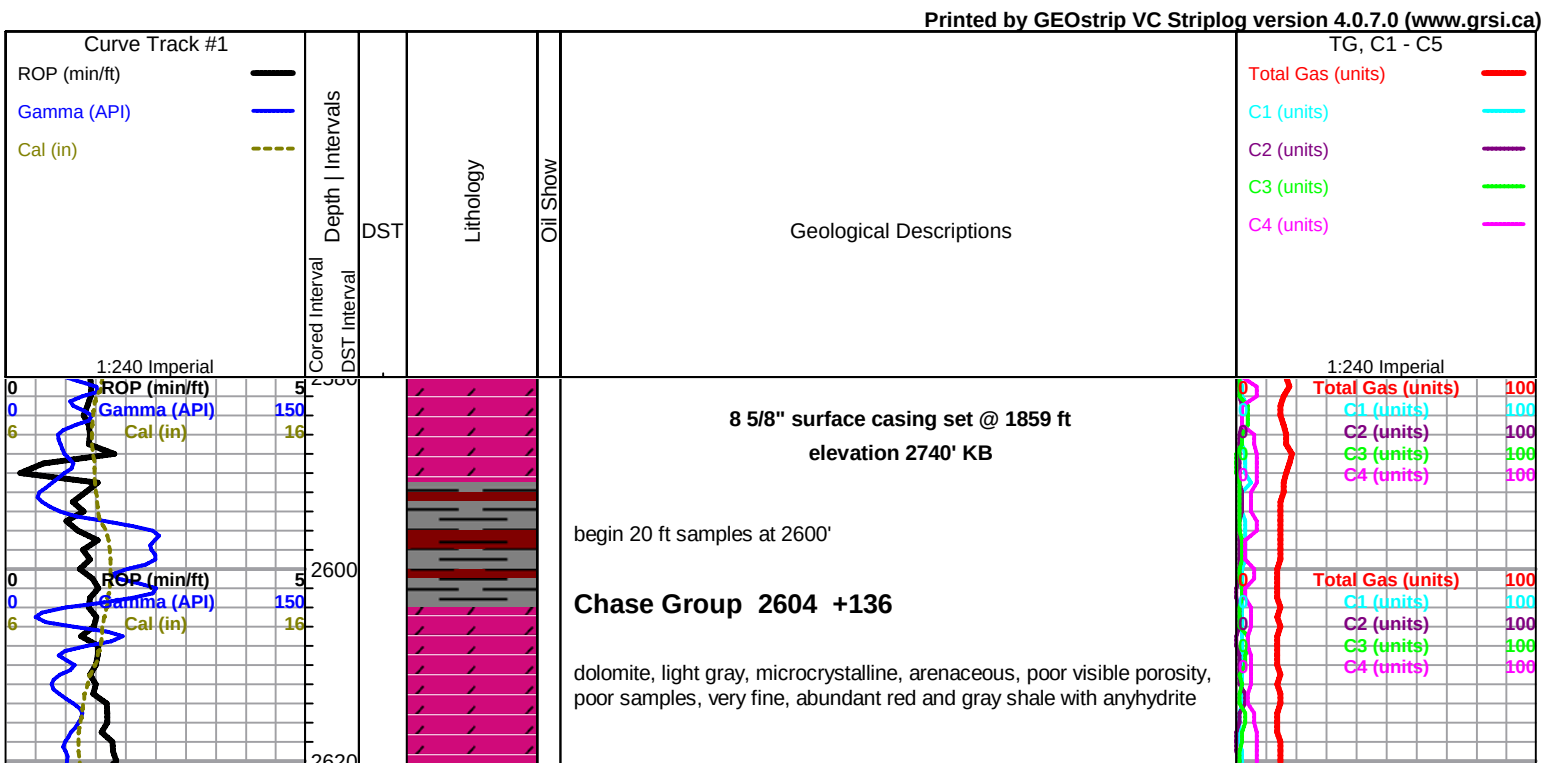


as above, some white microcrystalline dolomite

**Winfield 2676 +64**

dolomite, light gray, mottled, fossiliferous, very fine poor samples, with abundant shale and anhydrite as above

**Towanda 2721 +19**

dolomite, very fine samples, mixed, white to gray and mottled, microcrystalline, abundant shale and anhydrite

**Fort Riley 2773 -33**

poor sample, light gray to white dolomite, very fine poor samples, abundant shale and anhydrite

as above

poor samples, mostly shale and anhydrite, some white to light gray very fine limestones, trace very fine gray fossiliferous chert

as above, poor samples

poor samples, mostly red and gray shales, some anhydrite, trace scattered very fine small mixed limestones

poor sample, mostly shales as above

**Cottonwood**

shales and anhydrite, with some scattered cream to tan limestone, thin slivers, fossiliferous, no visible shows or porosity

**Neva 3097 -357**

poor samples

samples clean up in 3160 sample - limestone, cream to gray/green, microcrystalline, slightly fossiliferous, dense, grainy, some chalk, no shows

limestones as above, with some limestone, cream to tan, cryptocrystalline, fossiliferous and dolomite, light gray, very soft, grainy, chalky, no shows

**Foraker 3205 -465**

limestone, cream to gray, micro-cryptocrystalline, fossiliferous, some bioclastic, dense to chalky, flood of chalk in samples

displace mud system @ 3103'

0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16

0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100

0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16

DST #2

DST #1

cfs @ 3494 ft 0050 hrs 8/27/12

run short trip, could not get tester, drill ahead

cfs @ 3560 ft 0615 hrs 8/27/12

3220

3240

3260

3280

3300

3320

3340

3360

3380

3400

3420

3440

3460

3480

3500

3520

3540

3560

3580

3600

3620

3640

3660

3680

3700

3720

3740

3760

3780

3800

as above, influx chert, gray, fossilifeorus, sharp, fresh

limestone, gray to cream, mottled fossiliferous, chalky in part, with limestone, gray, dense grainy, arenacous, abundant chalk, no shows

as above

limestone, as above, some large clasts, with some cream bioclastic and oolitic, abundant chalk, no shows

limestone, gray and cream, oolitic, cream bioclastic, poor visible porosity, abunant chalk in samples, no visible shows

limestone, cream, fine oolitic to oomoldic, some fair porosity, no shows or fluoresence

limestone, gray to gray/green and cream, cryptocrystalline, fossiliferoius, dense

limestone, cream to gray, micro-cryptocrystalline, fossiliferous, some grainy, trace oolitic, poor visible porosity, abundant chalk, no shows

limestone, gray to gray/green and cream, mostly cryptocrystalline, fossiliferous, dense, some chalk, no shows

as above

**DST #1** **3515-3532, 5-90-70-120, rec 90' watery mud & 420' muddy water, GTS 8" into 2nd flow, max 6580 cfd, final rate 5980 cfd, FP's 265-87# & 136-243#, SIP's 975-943#, HSH 1630 & 1576#, BHT 105 deg F, bottom packers failed, Chl. 108,000 ppm, res . 08 ohm @ 79 deg.**

**DST #2** **3420-3513, 5-90-45-90, rec 240 ft mud, FP's 126-150# & 133-163#, SIP's 920 & 843#, HSH 1591-1558#, BHT 104 F**

**Stotler 3451 -711**

limestone, cream, oolitic to oomoldic, some fair porosity, some fair green fluoresence, no shows, no odor or cut

limestone, dense gray to cream crypto-microcrystalline, lithograhic to fossiliferous and white to cream chalky grainy bioclastic, poor visible porosity, no shows, fair white to green fluoresence, no cut or odor

RCJ #1-34 DST #2.pdf

limestone, light gray, cryptocrystalline, fossilifeorus, dense to chalky, abundant chalk, some scattered gray cherts, no shows

limestone, light gray to cream and pale green, cryptocrystalline, lithographic to fossiliferous, abundant very chalky gray mottled fossiliferous to pelletal, some mixed shales and cherts, no shows

**Tarkio 3520 -780**

limestone, cream to white, some light gray, mostly cryptocrystalline, fossiliferous, dense, no visible porosity, no shows, fairly even bright green fluoresence, few pieces bright white, abundant chalk

**on DST #1 straddle, mis-run on bottom packers**

RCJ #1-34 DST #1.pdf

as above, scattered bioclastic, trace chert, increase chalk

**pipe strap 1.68 short to board - deviation survey 3/4 deg**

limestone, gray to tan, mottled pelletal and fossiliferous, chalky in part, with limestone, cream to light gray, cryptocrystalline, lithographic

grading to: limestone, cream to gray and pale green, mostly cryptocrystalline, fossiliferous, some lithographic to arenaceous, dense no shows

as above

limestone, gray/brown, mottled, bioclastic, some oolitic, chalky, trace oolitic, no visible porosity, some chalk, no shows or fluoresence

**Bern**

bioclastic limestone as above

limestone, light gray to cream and white, microcrystalline, fossiliferous, some chalky, with some chert, light smokey gray, fossiliferous

as above

as above, influx chalk

limestone, cream to gray, microcrystalline, some secondary calcite seams, fossiliferous, with scattered limestone, tan, spongy bioclastic, some vuggy porosity, no shows

as above increasing chalk

**Topeka 3726 -986**

limestone, cream to tan and light gray, chalky fossiliferous, to bioclastic, grainy, some scattered porosity, no shows or fluoresence, abundant chalk with heavy chalky wash

as above, some white and light gray fossiliferous chert

0 Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100

gas kick

gas kick

gas kick

probable re-cycle

Mud-Co Mud Ck
@ 3560'
1400 hrs 8/27/12
vis 46 wt 9.1
pv 16 yp 12
wl 8.0 cake 1/32
pH 8.0
chl 3000
cal 160
sol 5.5
lcm 2#
dmc $696.55
cmc $11984.85

Mud-Co Mud Ck
@ 3601'
0900 hrs 8/28/12
vis 59 wt 8.9
pv 22 yp 24
wl 8.0 cake 1/32
pH 8.5
chl 3400
cal 20
sol 4.2
lcm 3#
dmc $1477.10
cmc $13461.95

clean fluid trap in extractor, jet and run pre-mix

limestone, light gray to cream, microcrystalline, fossiliferous to bioclastic, chalky, poor overall visible porosity, some scattered white to light gray fossiliferous chert, abundant chalk

as above, increase in chalk, near 30-40%

limestone, light gray to cream, micro-cryptocrystalline, fossiliferous, chalky to dense, with increase in chert, white to light gray and dark gray, fossiliferous, abundant chalk, no shows

limestone, gray, arenaceous to shale with gray silty/limey shale, soft to dense, flood dark gray chert

**Lecompton**

limestone, light gray, microcrystalline, non-descript chalky fossiliferous, poor visible porosity, no shows

limestone as above, with limestone, gray, fossilifeorus, some large clasts, dense, no shows

**Queen Hill**

shale, black carbonaceous

limestone, mixed cream to white and light gray, microcrystalline, fossiliferous, some weathered, poor visible porosity, abundant chalk, trace chert, no shows

as above

limestone, gray to dark gray, cryptocrystalline, dense, fossilifeorus, no shows, light gray fossilifeorus chert

## Heebner 4069 -1329

shale, black carbonaceous

light gray to green silty shale, light green dense limey shale

**Toronto**

limestone, cream, microcrystalline, fossiliferous to bioclastic, chalky to cherty, abundant chert, gray fossilifeous, abundant chalk, some green arenaceous cherty limestone, no shows, faint mineral fluoresence

## Douglas 4106 -1366

shale, gray to green, silty, flood of gray/tan mottled pelletal/fossiliferous limestone in 4140 sample

limestone, cream, microcrystalline, grainy, some vuggy, with limestone, pale green, cryptocrystalline, dense, lithographic, no shows, faint fluoresence

as above, some argillaceous gray to tan limestones, stringers green silty shales, scattered white chert

shale as above, still carrying abundant limestone

## Lansing 4174 -1434

limestone, cream to light gray, chalky bioclastic, poor visible porosity, with appx 50% chert, light gray, spiculitic in part, sharp, fresh, abundant chalk, light green fluoresence, no shows

as above, decrease in chert

limestone, mixed bioclastic to fossiliferous, some white chert, some sub-tripolitic, abundant chalk, poor samples - abundant shales -trip trash, no shows

samples clean up from above - limestone, cream to light gray, crypto-micrcrystalline, fossiliferous, some grainy, poor visible porosity, cherts as above, increase in chalk (over 20%), no shows

as above, some very fine oomoldic, still abundant chalk

limestone, gray to light gray, fossiliferous, dense, some brown dense bioclastic, dark gray to brown chert, no shows

limestone, non-descript fossiliferous, some light gray oolitic, chalky, mature, poor visible porosity, abundant chalk, no shows

as above

gritty green to gray argillaceous shales

limestone, gray to tan, oolitic to oomoldic, large oolites and molds, some fair oomold porosity, barren, flood chalk in samples

limestone, mixed non-descript fossiliferous and oolitic/oomoldic limestone as above, still abundant chalk

mixed non-descript limestone as above, ooliitic and oomoldic falling out, abundant chalk, some scattered cherts, no shows

**Muncie Creek**

shale gas

begin 10 ft samples @ 4150'

bit trip @ 4206', out with tri-cone, in with PDC - stuck in hole on trip in

Mud-Co Mud Ck @ 4206'
1050 hrs 8/29/12
vis 50 wt 9.2
pv 14 yp 15
wl 10.0 cake 1/32
pH 9.0
chl 3200
cal 20
sol 6.3
lcm 2#
dmc $1419.35
cmc $14881.30

cfs @ 4190 ft
0845 hrs
8/29/12

cfs @ 4206 ft
1020 hrs 8/29/12

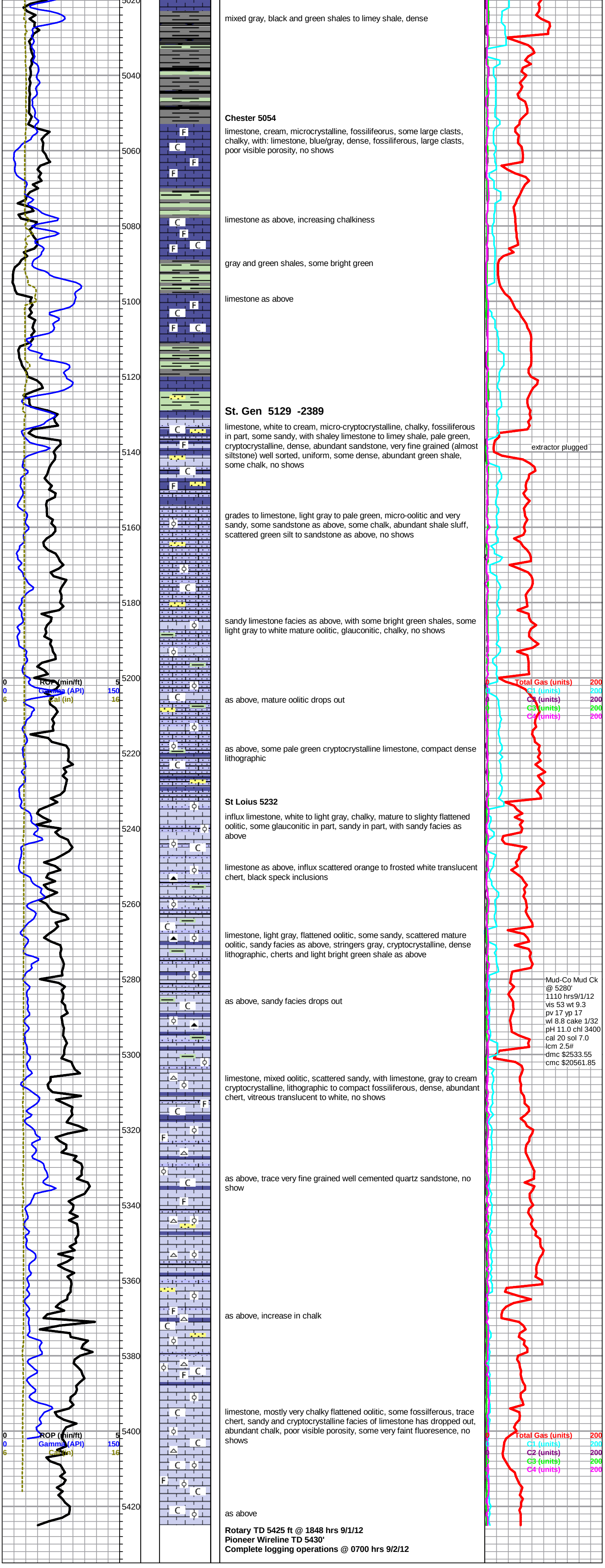
Low G

0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16

0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100

0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200

H
I
J
D
S
T
#
3
cfs @ 4521 ft
1445 hrs 8/30/12
4420
4440
4460
4480
4500
4520
4540
4560
4580
4600
4620
4640
4660
4680
4700
4720
4740
4760
4780
4800
4820
4840
4860
4880
4900
4920
4940
4960
4980
5000
0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16
limestone, tan to light brown, oolitic to oomoldic, good oomold porosity, barren, light green even mineral fluoresence
limestones, mixed non-descript light gray to cream, fossiliferous abundant chalk, no shows
as above, some scattered bioclastic, some scattered cherts, still carrying abundant chalk
DST #3 4469-4521, 5-90-30-60, rec 120 ft mud, FP's 55-65# & 71-110#, SIP's 1419-1370#, HSH 2157-2146#, BHT 114 deg F
limestone, tan to brown, oomoldic, large oomolds, good porosity, with light gray flattened oolitic to fossiliferous, some vuggy inter-oolite porosity, dense, good mineral fluoresence, no shows, no cut
RCJ #1-34 DST #3.pdf
limestone, tan, bioclastic, spongy, some good pinpoint porosity, poor fluoresence, no show, abundant chalk in samples, heavy white chalky wash
limestone, light gray to gray, dense, lithographic to fossiliferous
as above, some brown cryptocrystalline limestone, dense, fossiliferous, some scattered gray fossiliferous cherts
Stark Shale 4539 -1799
shale, black carbonaceous
gray siltly shales
limestone, cream fossiliferous, with: limestone, gray, microcrystalline, arenacoues, slightly dolomitic, dense
limestone, gray, cryptocrystalline, lithographic, dense, to light gray, microcrystalline, slightly fossiliferous to arenaceous, dense, no shows
limestone, cream to light gray, oolitic to bioclastic, some vuggy, trace oomoldic, flood chalk (40-50%), no shows
limestone, dark gray, microcrystalline, dense, cherty to shaley, salt and pepper mottled fossilifeorus limestone, black and gray shale, some dense and limey, mixed gray to dark gray cherts
gray and black silty shales, trace gray siltstone
Marmaton 4677 -1937
limestone, cream to white, micro-cryptocrystalline, fossiliferous to oolitic, some smooth lithographic, poor visible porosity, abundant chalk, no shows
grading to limestone, gray to cream, fossiliferous to oolitic, mottled, grainy chalky, poor visible porosity, some dense light tan oolitic, some chalk, no shows
as above
limestone, white to cream and light gray, mostly cryptocrystalline, fossilifeorus, some oolitic, some lithographic, mostly dense, no shows
shale, black carbonaceous
Pawnee 4777 -2037
limestone, white to cream, microcrystalline, fossiliferous to bioclastic, grainy to chalky, flood of chalk, no fluoresence or shows
limestone, gray, fossiliferous, dense to chalky, no shows, some gray chert
Cherokee 4818 -2078
shale, black carbonaceous
limestone, gray to tan, microcrystalline, fossiliferous, some oolitic, some large clasts, dense, with: limestone, cream to white chalky fossiliferous, abundant shales, gray to black, dense, limey-calcareous - no shows
limestone, gray to light gray, micro-cryptocrystalline, fossiliferous to lithographic, abundant shale, black carbonaceous, gray and green silty, abundant dark gray agrillaceous limey shale, dense
as above
shale, black carbonaceous
limestone, mixed cream to gray, mostly cryptocrystalline, slightly fossiliferous to lithographic, abundant mixed gray arenaceous limestone, abundant shales as above
as above, some light gray, microcrystalline mottled fossiliferous, no shows
limestone, mixed gray to tan, microcrystalline, arenaceous and fossilifeorus, mostly dense, some chalk, abundant shales, no shows
as above
Morrow (?)
mixed gray to tan fossiliferous limestone, some brown cherty dense fossiliferous limestone, no shows, abundant shale
SC
0 Total Gas (units) 300
0 C1 (units) 300
0 C2 (units) 300
0 C3 (units) 300
0 C4 (units) 300
Mud-Co Mud Ck
@ 4510'
1300 hrs 8/30/12
vis 47 wt 9.0
pv 14 yp 15
wl 9.2 cake 1/32
pH 9.5 chl 3600
cal 20 sol 4.8
lcm 2#
dmc $1394.05
cmc $16275.35
shale kick
shale kick
Mud-Co Mud Ck
@ 4630'
1345 hrs 8/31/12
vis 45 wt 8.9
pv 14 yp 15
wl 11.2 cake 1/32
pH 9.5 chl 3800
cal 20 sol 4.8
lcm 2#
dmc $1752.95
cmc $18028.30
shale kick
shale kick
SC
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200




mixed gray, black and green shales to limey shale, dense

**Chester 5054**

limestone, cream, microcrystalline, fossilifeorus, some large clasts, chalky, with: limestone, blue/gray, dense, fossiliferous, large clasts, poor visible porosity, no shows

limestone as above, increasing chalkiness

gray and green shales, some bright green

limestone as above

**St. Gen 5129 -2389**

limestone, white to cream, micro-cryptocrystalline, chalky, fossiliferous in part, some sandy, with shaley limestone to limey shale, pale green, cryptocrystalline, dense, abundant sandstone, very fine grained (almost siltstone) well sorted, uniform, some dense, abundant green shale, some chalk, no shows

extractor plugged

grades to limestone, light gray to pale green, micro-oolitic and very sandy, some sandstone as above, some chalk, abundant shale sluff, scattered green silt to sandstone as above, no shows

sandy limestone facies as above, with some bright green shales, some light gray to white mature oolitic, glauconitic, chalky, no shows

as above, mature oolitic drops out

as above, some pale green cryptocrystalline limestone, compact dense lithographic

**St Loius 5232**

influx limestone, white to light gray, chalky, mature to slighty flattened oolitic, some glauconitic in part, sandy in part, with sandy facies as above

limestone as above, influx scattered orange to frosted white translucent chert, black speck inclusions

limestone, light gray, flattened oolitic, some sandy, scattered mature oolitic, sandy facies as above, stringers gray, cryptocrystalline, dense lithographic, cherts and light bright green shale as above

as above, sandy facies drops out

limestone, mixed oolitic, scattered sandy, with limestone, gray to cream cryptocrystalline, lithographic to compact fossiliferous, dense, abundant chert, vitreous translucent to white, no shows

as above, trace very fine grained well cemented quartz sandstone, no show

as above, increase in chalk

limestone, mostly very chalky flattened oolitic, some fossilferous, trace chert, sandy and cryptocrystalline facies of limestone has dropped out, abundant chalk, poor visible porosity, some very faint fluoresence, no shows

as above

**Rotary TD 5425 ft @ 1848 hrs 9/1/12**
**Pioneer Wireline TD 5430'**
**Complete logging operations @ 0700 hrs 9/2/12**

Mud-Co Mud Ck
@ 5280'
1110 hrs9/1/12
vis 53 wt 9.3
pv 17 yp 17
wl 8.8 cake 1/32
pH 11.0 chl 3400
cal 20 sol 7.0
lcm 2.5#
dmc $2533.55
cmc $20561.85