



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1177070  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

|                                   |                 |                                         |
|-----------------------------------|-----------------|-----------------------------------------|
| Spud Date or<br>Recompletion Date | Date Reached TD | Completion Date or<br>Recompletion Date |
|-----------------------------------|-----------------|-----------------------------------------|

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1177070

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

|                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No<br><i>(Attach Additional Sheets)</i><br><br>Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>List All E. Logs Run: _____ | <input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample<br><br>Name Top Datum |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|

| CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used  |                   |                           |                   |               |                |              |                            |
|---------------------------------------------------------------------------|-------------------|---------------------------|-------------------|---------------|----------------|--------------|----------------------------|
| Report all strings set-conductor, surface, intermediate, production, etc. |                   |                           |                   |               |                |              |                            |
| Purpose of String                                                         | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|                                                                           |                   |                           |                   |               |                |              |                            |
|                                                                           |                   |                           |                   |               |                |              |                            |
|                                                                           |                   |                           |                   |               |                |              |                            |

| ADDITIONAL CEMENTING / SQUEEZE RECORD                                                                                                                            |                  |                |              |                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|--------------|----------------------------|
| Purpose:                                                                                                                                                         | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
| <input type="checkbox"/> Perforate<br><input type="checkbox"/> Protect Casing<br><input type="checkbox"/> Plug Back TD<br><input type="checkbox"/> Plug Off Zone |                  |                |              |                            |
|                                                                                                                                                                  |                  |                |              |                            |

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

| Shots Per Foot | PERFORATION RECORD - Bridge Plugs Set/Type<br>Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record<br><i>(Amount and Kind of Material Used)</i> | Depth |
|----------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------|
|                |                                                                                           |                                                                                          |       |
|                |                                                                                           |                                                                                          |       |
|                |                                                                                           |                                                                                          |       |
|                |                                                                                           |                                                                                          |       |
|                |                                                                                           |                                                                                          |       |

|                |       |         |            |                                                                     |
|----------------|-------|---------|------------|---------------------------------------------------------------------|
| TUBING RECORD: | Size: | Set At: | Packer At: | Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No |
|----------------|-------|---------|------------|---------------------------------------------------------------------|

|                                                 |                                                                                                                                                                                |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date of First, Resumed Production, SWD or ENHR. | Producing Method:<br><input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____ |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
|                                   |           |         |             |               |         |

|                                                                                                                                                                          |                                                                                                                                                                                                                                                            |                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>DISPOSITION OF GAS:</b><br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | <b>METHOD OF COMPLETION:</b><br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ | <b>PRODUCTION INTERVAL:</b><br>_____<br>_____ |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|

|           |                        |
|-----------|------------------------|
| Form      | ACO1 - Well Completion |
| Operator  | H & D Exploration LLC  |
| Well Name | Nichols 'A' 1          |
| Doc ID    | 1177070                |

Tops

| Name          | Top  | Datum |
|---------------|------|-------|
| Heebner       | 3388 | -1519 |
| Toronto       | 3404 | -1535 |
| Douglas       | 3424 | -1555 |
| Brown Lime    | 3550 | -1681 |
| Lansing       | 3576 | -1707 |
| BKC           | 3868 | -1999 |
| Mississippi   | 4000 | -2131 |
| Viola         | 4049 | -2180 |
| Simpson Shale | 4130 | -2261 |
| Simpson Sand  | 4151 | -2282 |
| Arbuckle      | 4216 | -2347 |
| TD            | 4275 | -2406 |









# Musgrove

**PETROLEUM  
CORPORATION**  
Clifflin, Kansas

COMPANY: H&D Exploration LLC

LEASE: Nichols "A" #1

FIELD: wildcat

LOCATION: W2-NE-NW-NE (330' FNL & 1903' FEL)

SEC: 22 TWSP: 25s RGE: 12w

COUNTY: Stafford STATE: Kansas

KB: 1869 GL: 1861

API # 15-185-23834-00-00

CONTRACTOR: Southwind Drilling Company (Rig #6)

Spud: 10-4-2013 Comp: 10-12-2013

RTD: 4275 LTD: 4274

Mud Up: 2800' Type Mud: Chemical was displaced

Samples Saved From: 2800'to RTD

Drilling Time Kept From: 2500' to RTD

Samples Examined From: 2800'to RTD

Geological Supervision From: 2800'to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 662

Production Casing: 5 1/2" @

Electronic Surveys: By Pioneer Energy Services

#### NOTES

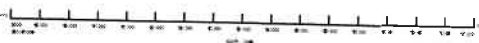
On the basis of DST 3 and after reviewing the electric logs it was recommended by all parties involved in the Nichols "A" 1, to run 5 1/2" production casing to further test the Mississippi zone.

Formation      Log Tops      Sub-Sea

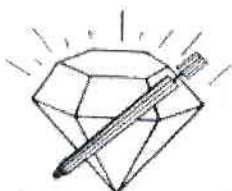




Tool Sample: 7% O 93% M



|                              |          |              |                         |         |               |                     |        |
|------------------------------|----------|--------------|-------------------------|---------|---------------|---------------------|--------|
| Time Set Packer(s)           | 12:15 PM | A.M.<br>P.M. | Time Started Off Bottom | 3:15 PM | A.M.<br>P.M.  | Maximum Temperature | 108    |
| Initial Hydrostatic Pressure |          |              | (A)                     | 1734    | P.S.I.        |                     |        |
| Initial Flow Period          | Minutes  | 30           | (B)                     | 7       | P.S.I. to (C) | 12                  | P.S.I. |
| Initial Closed In Period     | Minutes  | 45           | (D)                     | 482     | P.S.I.        |                     |        |
| Final Flow Period            | Minutes  | 45           | (E)                     | 14      | P.S.I. to (F) | 18                  | P.S.I. |
| Final Closed In Period       | Minutes  | 60           | (G)                     | 398     | P.S.I.        |                     |        |
| Final Hydrostatic Pressure   |          |              | (H)                     | 1714    | P.S.I.        |                     |        |



**DIAMOND TESTING**  
P.O. Box 157  
HOISINGTON, KANSAS 67544  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: nicholsa1dst2

TIME ON: 08:33

TIME OFF: 16:24

Company **H & D Exploration LLC** Lease & Well No. Nichols "A" #1  
Contractor **Southwind Drilling Rig #6** Charge to H & D Exploration LLC  
Elevation 1869 KB Formation Lan. H-J Effective Pay -- Ft. Ticket No. S0390  
Date 10-9-13 Sec. 22 Twp. 25 S Range 12 W County Stafford State KANSAS  
Test Approved By Josh Austin Diamond Representative Jacob McCallie

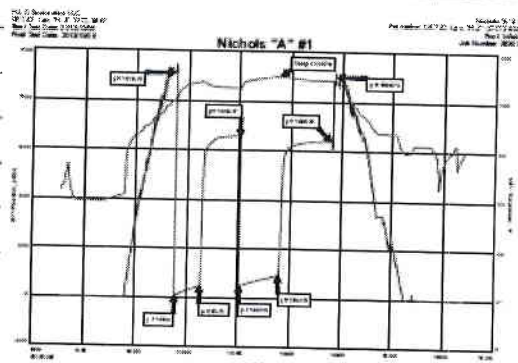
Formation Test No. 2 Interval Tested from 3717 ft. to 3810 ft. Total Depth 3810 ft.  
Packer Depth 3712 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
Packer Depth 3717 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3705 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 3783 ft. Recorder Number 5515 Cap. 5,000 P.S.I.  
Below Straddle Recorder Depth      ft. Recorder Number      Cap.      P.S.I.  
Mud Type CHEMICAL Viscosity 56 Drill Collar Length -- ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 9.2 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
Chlorides 7,700 P.P.M. Drill Pipe Length 3691 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number N/A Test Tool Length 26 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 93 (30.5p) ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: **3/4" Blow- Built to BB in 16 min** **NOBB**  
2nd Open: **3/4" Blow- Built to BB in 25 1/2 min** **NOBB**

Recovered 113 ft. of HMCW 57% W 43% M  
Recovered 252 ft. of SLMCW 83% W 17% M  
Recovered 365 ft. of TOTAL FLUID  
Recovered      ft. of       
Recovered      ft. of PH: 7  
Recovered      ft. of RW: .1 @ 82 degrees F  
Remarks: CHLORIDES: 46,000 ppm

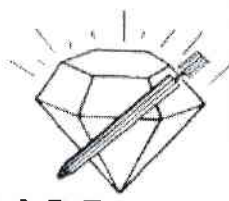


Tool Sample: 65% W 35% M



Time Set Packer(s) 10:47 AM P.M. Time Started Off Bottom 1:47 PM P.M. Maximum Temperature 116

Initial Hydrostatic Pressure..... (A) 1819 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 13 P.S.I. to (C) 96 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 1318 P.S.I.  
 Final Flow Period..... Minutes 45 (E) 102 P.S.I. to (F) 184 P.S.I.  
 Final Closed In Period..... Minutes 60 (G) 1287 P.S.I.  
 Final Hydrostatic Pressure..... (H) 1801 P.S.I.



**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: nicholsa1dst3

TIME ON: 13:35  
 TIME OFF: 20:49

Company H & D Exploration LLC Lease & Well No. Nichols "A" #1  
 Contractor Southwind Drilling Rig #6 Charge to H & D Exploration LLC  
 Elevation 1869 KB Formation \_\_\_\_\_ Miss Effective Pay \_\_\_\_\_ Ft. Ticket No. S0391  
 Date 10-10-13 Sec. 22 Twp. \_\_\_\_\_ 25 S Range \_\_\_\_\_ 12 W County \_\_\_\_\_ Stafford State KANSAS  
 Test Approved By Josh Austin Diamond Representative Jacob McCallie

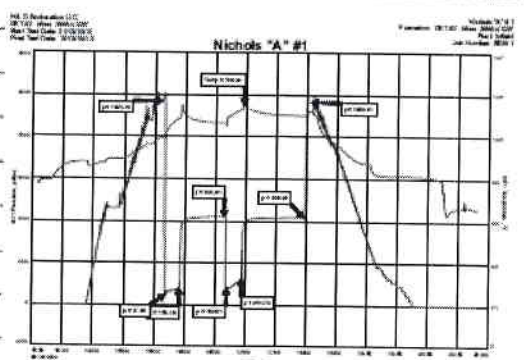
Formation Test No. 3 Interval Tested from 3990 ft. to 4025 ft. Total Depth 4025 ft.  
 Packer Depth 3985 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3990 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_  
 Top Recorder Depth (inside) 3978 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
 Bottom Recorder Depth (Outside) 3993 ft. Recorder Number 5515 Cap. 5,000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 44 Drill Collar Length \_\_\_\_\_ ft. I.D. 2 1/4 in.  
 Weight 9.35 Water Loss 10.8 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
 Chlorides 6,900 P.P.M. Drill Pipe Length 3964 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number N/A Test Tool Length 26 ft. Tool Size 3 1/2-FH in.  
 Did Well Flow? NO Reversed Out NO Anchor Length 35 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: BB Immediate Gas to surface in 4 min 4 1/4" BB  
 2nd Open: BB Immediate BBBB

Recovered 68 ft. of M 100% M  
 Recovered 189 ft. of SLG&OCMCW 9% G 9% O 63% W 19% M  
 Recovered 252 ft. of SLMCSLOCW 9% O 86% W 5% M  
 Recovered 509 ft. of TOTAL FLUID  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of PH: 7 RW: .18 @ 72 degrees F  
 Remarks: CHLORIDES: 40,000 ppm



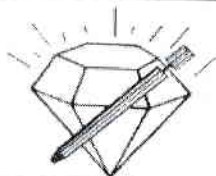
Tool Sample: Blew out  
 Time Set Packer(s) 3:41 PM A.M. P.M. Time Started Off Bottom 5:56 PM A.M. P.M. Maximum Temperature 121

Initial Hydrostatic Pressure..... (A) 1936 P.S.I.

Initial Flow Period..... Minutes 15 (B) 98 P.S.I. to (C) 158 P.S.I.  
 Initial Closed In Period..... Minutes 45 (D) 842 P.S.I.  
 Final Flow Period..... Minutes 15 (E) 163 P.S.I. to (F) 252 P.S.I.  
 Final Closed In Period..... Minutes 60 (G) 836 P.S.I.  
 Final Hydrostatic Pressure..... (H) 1931 P.S.I.

**FINAL FLOW**

| Time O'Clock | Orifice Size | Gaugt      | CF/D     |
|--------------|--------------|------------|----------|
| 5            | .25 in.      | 7 psi in.  | 25 MCF   |
| 10           | " in.        | 14 psi in. | 37.6 MCF |
| 15           | " in.        | 15 psi in. | 39.2 MCF |



**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: nicholsa1dst4

TIME ON: 13:25  
 TIME OFF: 21:06

Company H & D Exploration LLC Lease & Well No. Nichols "A" #1  
 Contractor Southwind Drilling Rig #6 Charge to H & D Exploration LLC  
 Elevation 1869 KB Formation Simp Sd. Effective Pay -- Ft. Ticket No. S0392  
 Date 10-11-13 Sec. 22 Twp. 25 S Range 12 W County Stafford State KANSAS  
 Test Approved By Josh Austin Diamond Representative Jacob McCallie

Formation Test No. 4 Interval Tested from 4090 ft. to 4180 ft. Total Depth 4180 ft.  
 Packer Depth 4085 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
 Packer Depth 4090 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

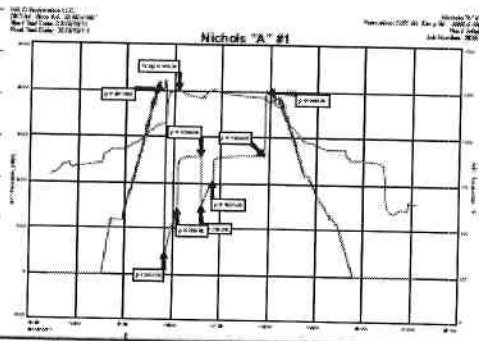
Depth of Selective Zone Set

Top Recorder Depth (Inside) 4078 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
 Bottom Recorder Depth (Outside) 4155 ft. Recorder Number 5515 Cap. 5,000 P.S.I.  
 Below Straddle Recorder Depth      ft. Recorder Number      Cap.      P.S.I.

Mud Type CHEMICAL Viscosity 48 Drill Collar Length -- ft. I.D. 2 1/4 in.  
 Weight 9.4 Water Loss 9.6 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
 Chlorides 6,300 P.P.M. Drill Pipe Length 4064 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number N/A Test Tool Length 26 ft. Tool Size 3 1/2-HF in.  
 Did Well Flow? NO Reversed Out NO Anchor Length 90 (27.5p) ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: 5" Blow- Built to BB in 1 min 1/2" BB  
 2nd Open: 6" Blow- Built to BB in 1 min WSBB

Recovered 63 ft. of GIP  
 Recovered 108 ft. of SLWCM 13% W 87% M  
 Recovered 252 ft. of HWCM 45% W 55% M  
 Recovered 1890 ft. of SLMCW 93% W 7% M  
 Recovered 2250 ft. of TOTAL FLUID  
 Recovered      ft. of     



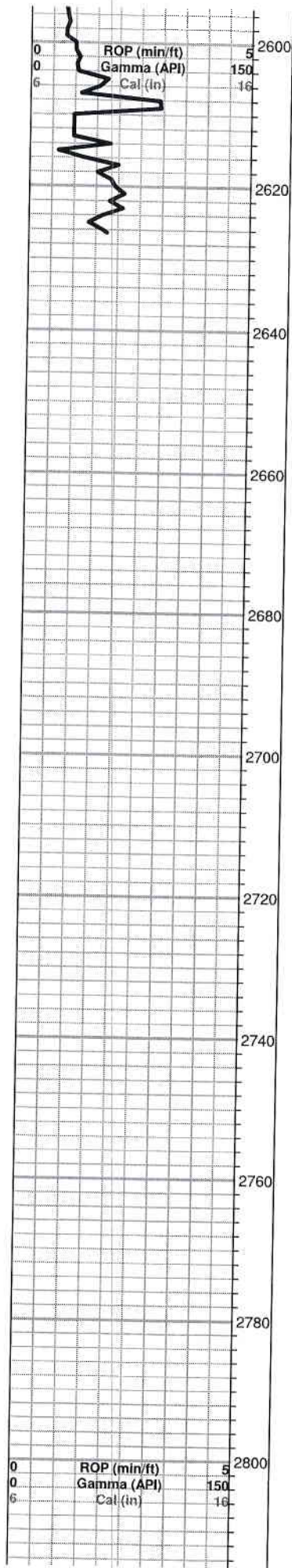
Remarks: PH: 7 RW: .25 @ 68 degrees F Chlorides: 25,000 ppm

Tool Sample: 100% W

Time Set Back (s) 3:51 PM A.M. P.M. Time Started Off Bottom 5:51 PM A.M. P.M. Maximum Temperature 126







**WABAUNSEE 2603**

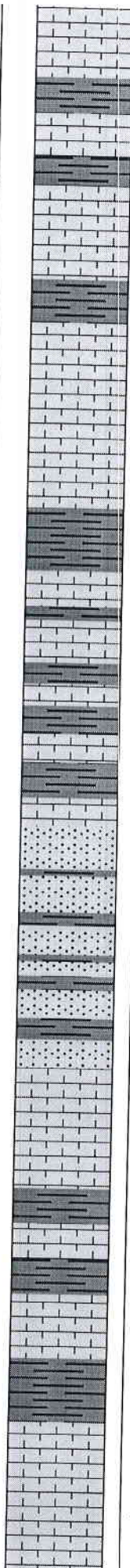
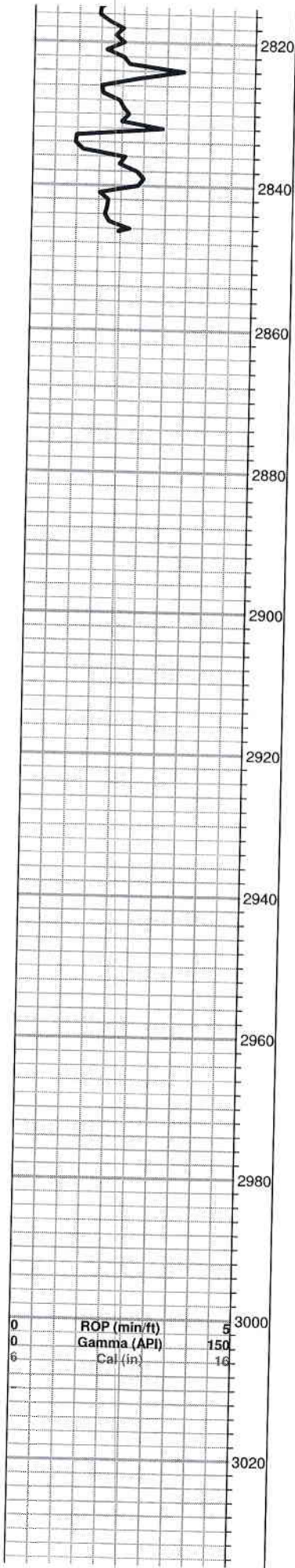
**STOTLER 2741**

**ELMONT**



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





Limestone; grey-cream, chalky, fossiliferous in part

Limestone as above plus grey-green shale

variety color of shales

**BERN 2864**

Limestone; cream, fine xln, chalky, slightly fossiliferous, trace fossil cast porosity, no shows

shale; grey-maroon-green

Limestone; cream-grey, fine xln, chalky, fossiliferous, poor porosity, no shows

Limestone as above plus grey shale

**SEVERY SHALE**

Sand; greyish green, micaceous in part, shaley, no shows

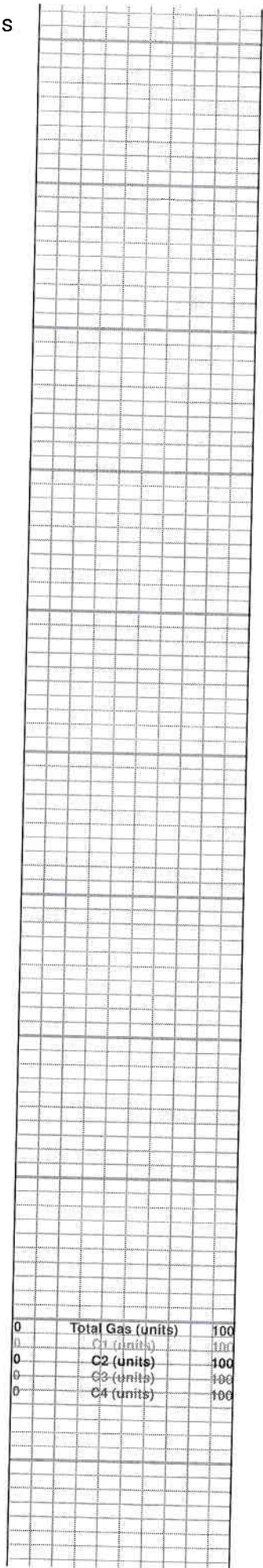
**HOWARD**

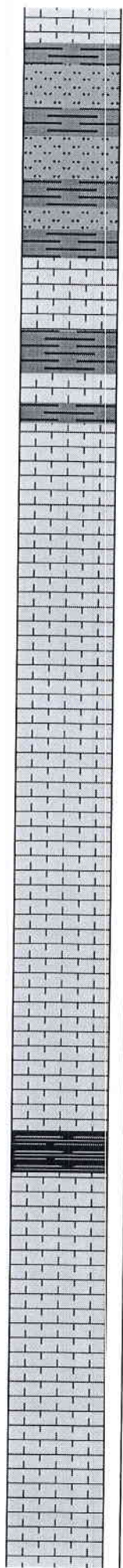
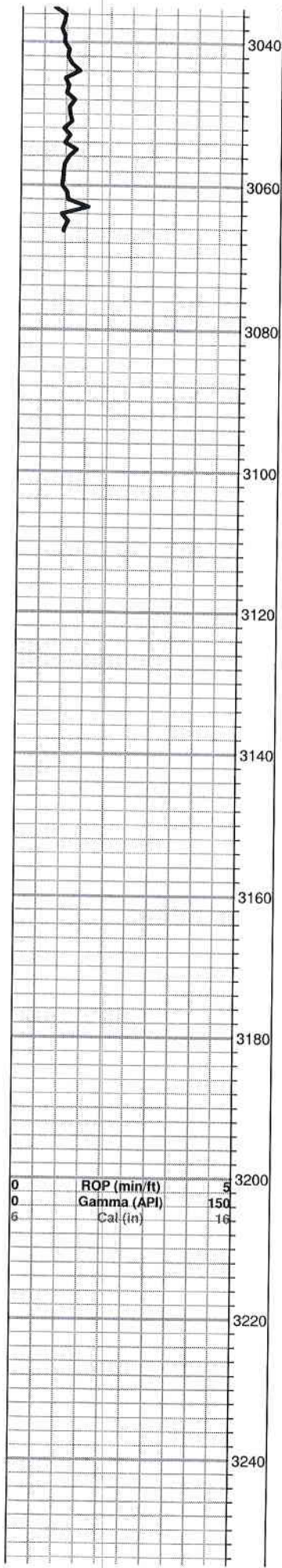
Limestone; cream, fossiliferous-oolitic, chalky, few scattered porosity

Limestone; cream-lt. grey, fine xln, chalky, fossiliferous, poor visible porosity

grey shale

Limestone; cream-lt. grey, fine xln, chalky, fossiliferous, poor visible porosity





Shale; grey-greyish green, silty in part

Shale as above plus Sand; greyish green, shaley, no shows

**TOPEKA 3070 (-1201)**

Limestone; cream-white-lt. grey, fine xln, chalky, poor visible porosity, no shows

grey-dark grey shale, micaceous in part

Limestone; cream-white, highly oolitic, dense, poor porosity, no shows

Limestone as above

Limestone; cream-tan, fine-medium xln, fossiliferous, granular in part, fair inter xln-fossil cast type porosity

Limestone; cream-buff, fine xln, chalky, fossiliferous in part, few granular pieces, no shows

black-dark grey shale

Limestone; cream-grey, highly oolitic-fossiliferous, chalky in part, good vuggy type porosity, no shows

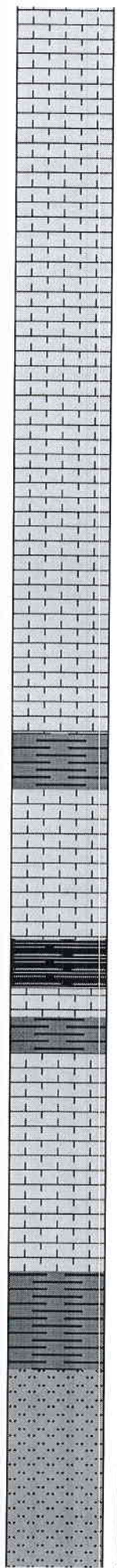
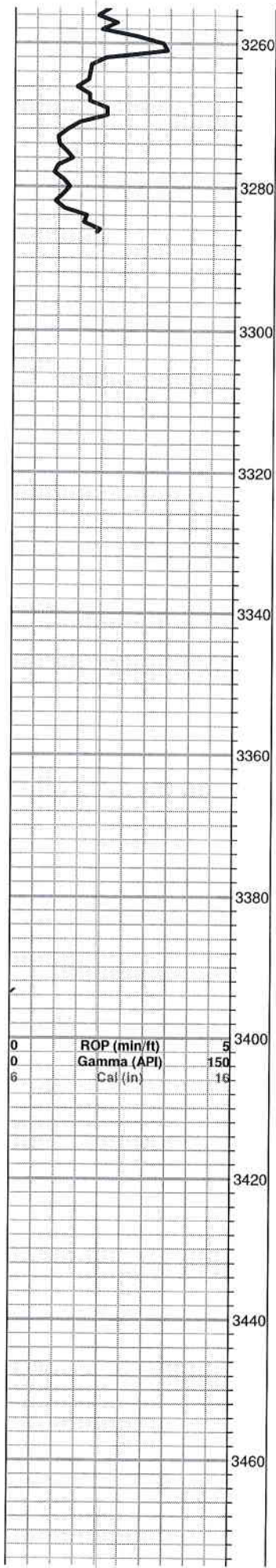
Limestone; lt. grey, chalky in part, fine xln, dense, slightly fossiliferous, poor visible porosity, cherty, no shows

Limestone; cream-grey, fine-medium xln, fossiliferous, dense, few granular pieces, no shows

**KB 1869**

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





**SHOWS**

Limestone; cream-buff, fine-medium xln, highly fossiliferous, chalky, few scattered fossil cast porosity, granular in part

Limestone; as above

Limestone; cream-lt. grey, fine-medium xln, chalky, granular, fossiliferous-oolitic, no shows

Limestone; as above, trace white-lt. grey boney chert

black-grey shale

Limestone; cream-white, fine xln, chalky, dense, plus white chalk

**HEEBNER 3386 (-1517)**  
Black Carboniferous Shale

**TORONTO 3405 (-1536)**

Limestone; cream-lt. grey, chalky, few scattered porosity, plus white chalk

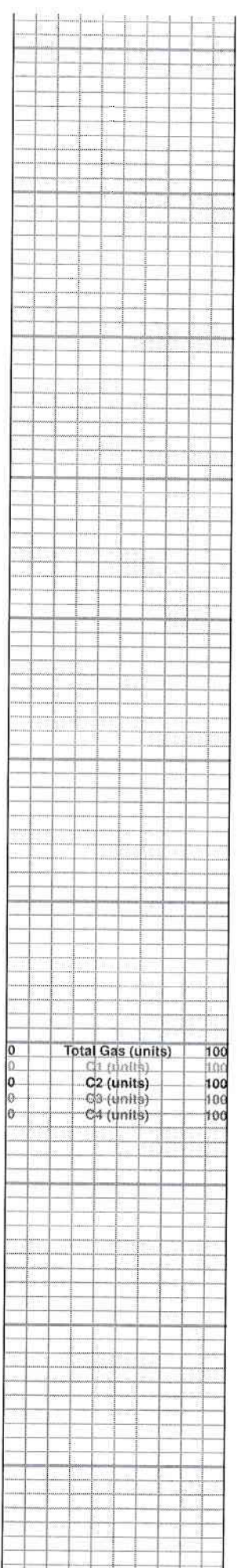
Limestone; grey, chalky, mottled, shaley in part

**DOUGLAS 3435 (-1566)**

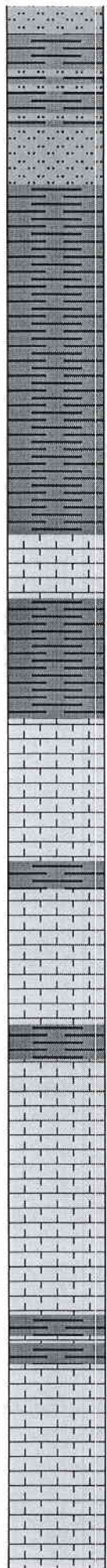
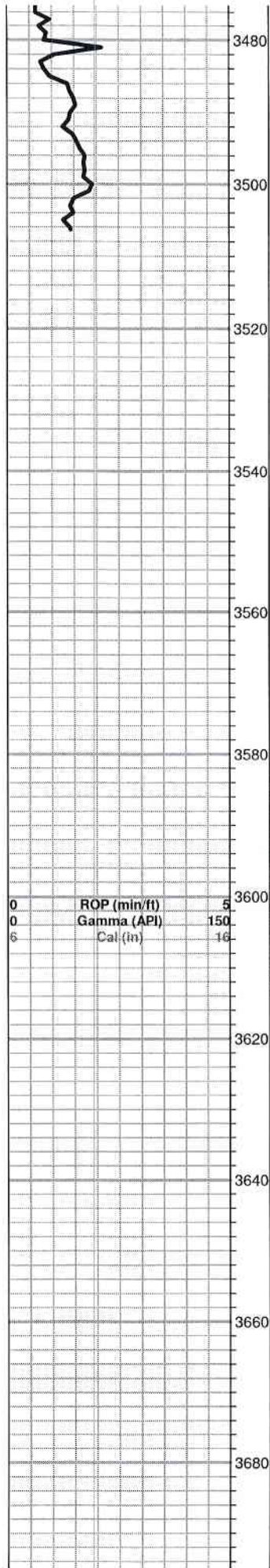
Shale; grey-green-maroon, soft, silty in part, few micaceous pieces

Siltstone; greyish-green, micaceous

Siltstone as above; grey-greyish green, micaceous. trace Sand; very fine grained.



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



silty, friable, no shows

Siltstone and Shale; as above

Shale; grey-green, silty, micaceous

Shale; as above

**BROWN LIME 3550 (-1681)**

Limestone; tan-brown, fine xln, dense, cherty in part, fossiliferous

Shale; grey-green

**LANSING 3577 (-1708)**

Limestone; grey-cream, fine xln, dense, slightly fossiliferous, poor porosity, cherty

Limestone; cream, fine-medium xln, few sparry calcite crystals, inter xln porosity, lt. brown stain, SFO, fair-good odor, trace gas bubbles

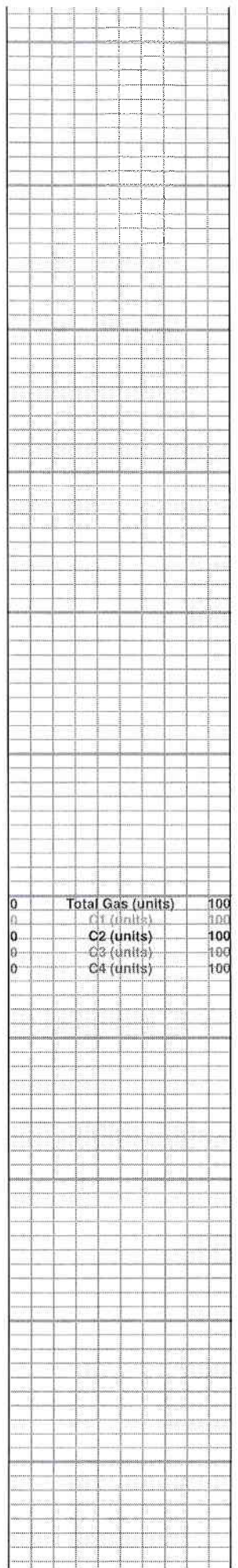
Limestone; tan-buff-cream, fine xln, slightly oolitic-fossiliferous, chalky, dense, trace brown stain, NSFO, no odor

Limestone; cream-buff, fine xln, dense, cherty in part, no visible porosity, plus grey-tan, Chert

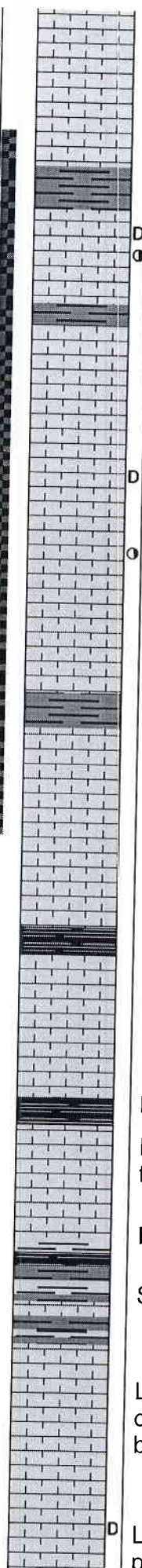
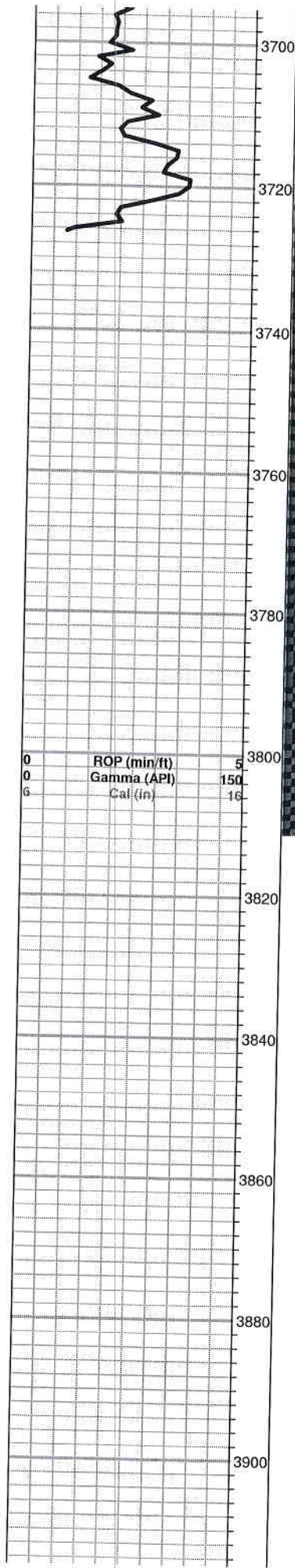
Limestone; as above

trace Limestone; highly oolitic, brown stain, slight SFO, no odor, plus Limestone; tan, fine xln, dense, cherty, no shows

Limestone; cream, fine xln, dense, cherty in







Limestone, cream, fine xln, dense, cherty in part, poorly developed porosity, few chalky pieces, plus grey, boney, fossiliferous Chert

grey shale

Limestone; lt. grey-buff, oolitic, chalky in part, fair-good oomoldic type porosity, black dead oil stain, SFO, faint-fair odor

Limestone; cream-tan-buff, fine-medium xln, highly oolitic, trace lt brown stain, questionable trace free oil, very faint odor

Limestone; grey-tan, inter xln porosity, black stain, trace free oil, few oomoldic pieces with no shows

Limestone; cream-lt. grey, fine xln, chalky, dense, poor visible porosity, no show

Limestone; cream-buff-white, oolitic, chalky, dense, poor porosity, plus white boney Chert

Limestone; tan-grey, fine xln, dense, fossiliferous in part, poor porosity, no shows

black carboniferous shale

Limestone; cream-lt. grey, fine xln, dense, slightly fossiliferous, cherty, plus Chert; cream-grey, opaque, boney

black carboniferous shale

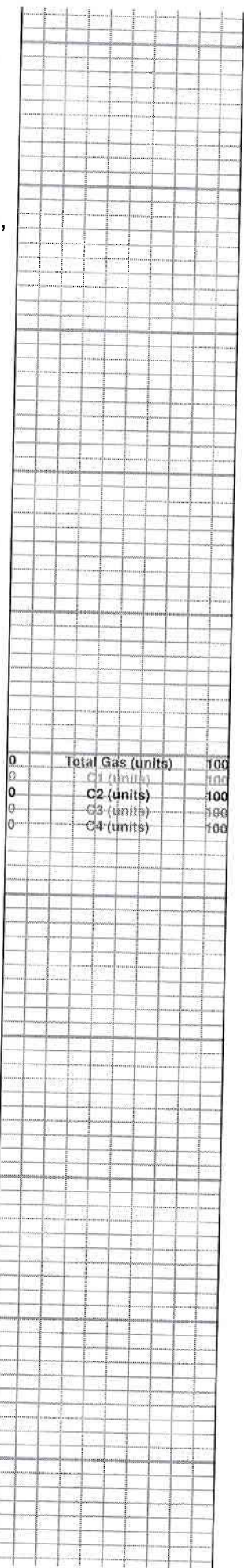
Limestone; cream-lt. grey-buff, chalky in part, fine xln, dense, cherty in part

**BASE KANSAS CITY 3868 (-1999)**

Shale; grey-green-black

Limestone; cream-lt. grey, fine xln, dense, cherty, plus Chert; translucent, cream, peach, boney

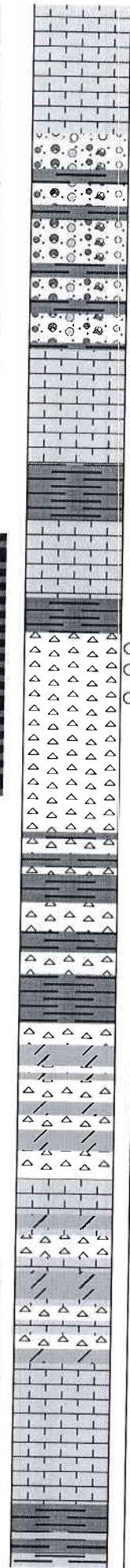
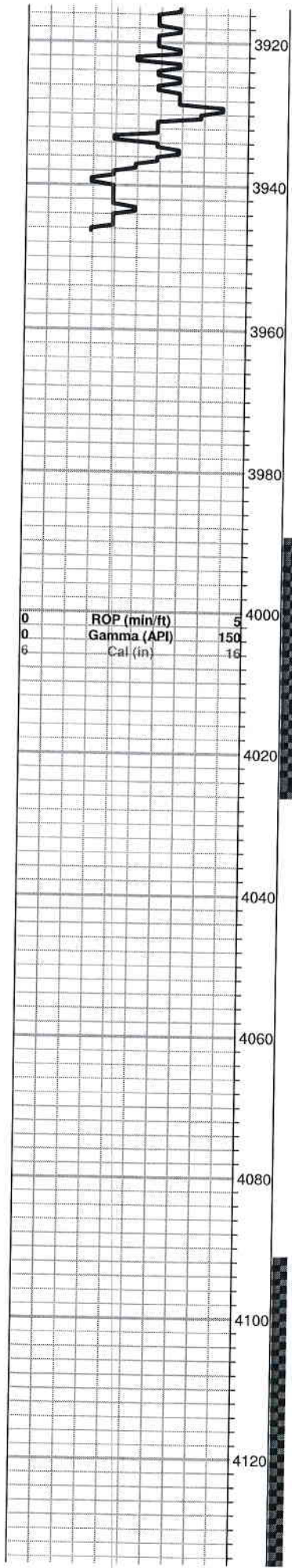
Limestone; lt. grey-lt. green, chalky, shaley in part, few scattered black stain. NSFO. no



|   |              |     |
|---|--------------|-----|
| 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 |





odor

Limestone; cream, fine xln, chalky, dense, plus Chert; orange, amber, translucent

Shale; brick red, green, maroon, grey, soft/gummy, plus Chert, yellow-orange

Limestone; buff-tan-cream, fine xln, chalky in part, dense, cherty, plus cream-smokey grey Chert

Shale, Limestone, and Chert as above plus white chalk

Shale; maroon-greyish green

**MISSISSIPPI 4000 (-2131)**

Chert; white-dull grey, boney/fresh, semi tripolitic in part, few weathered pieces, trace spotty free oil in weathered Chert, trace spotty free oil, no odor

Shale; maroon-green, grey, mustard, soft / clay

Shale; as above plus Chert; white-translucent, plus white chalk

**VIOLA 4054 -2185**

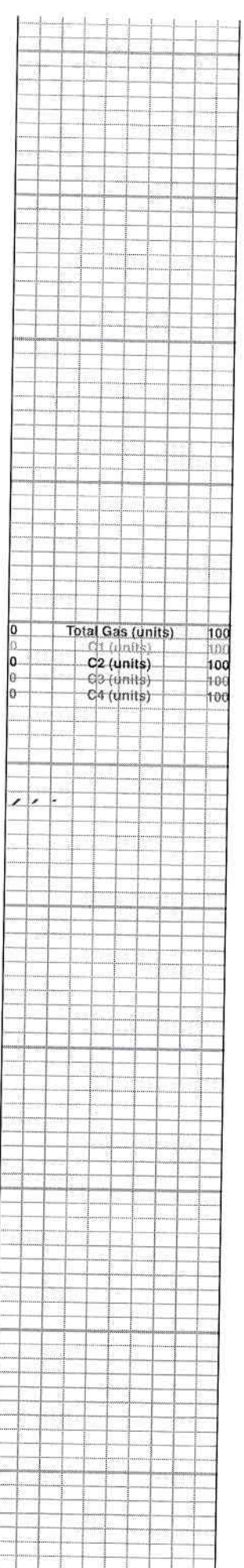
Chert; white, boney, semi tripolitic, plus Dolomite, grey, medium xln, dense, few scattered inter xln porosity, no shows

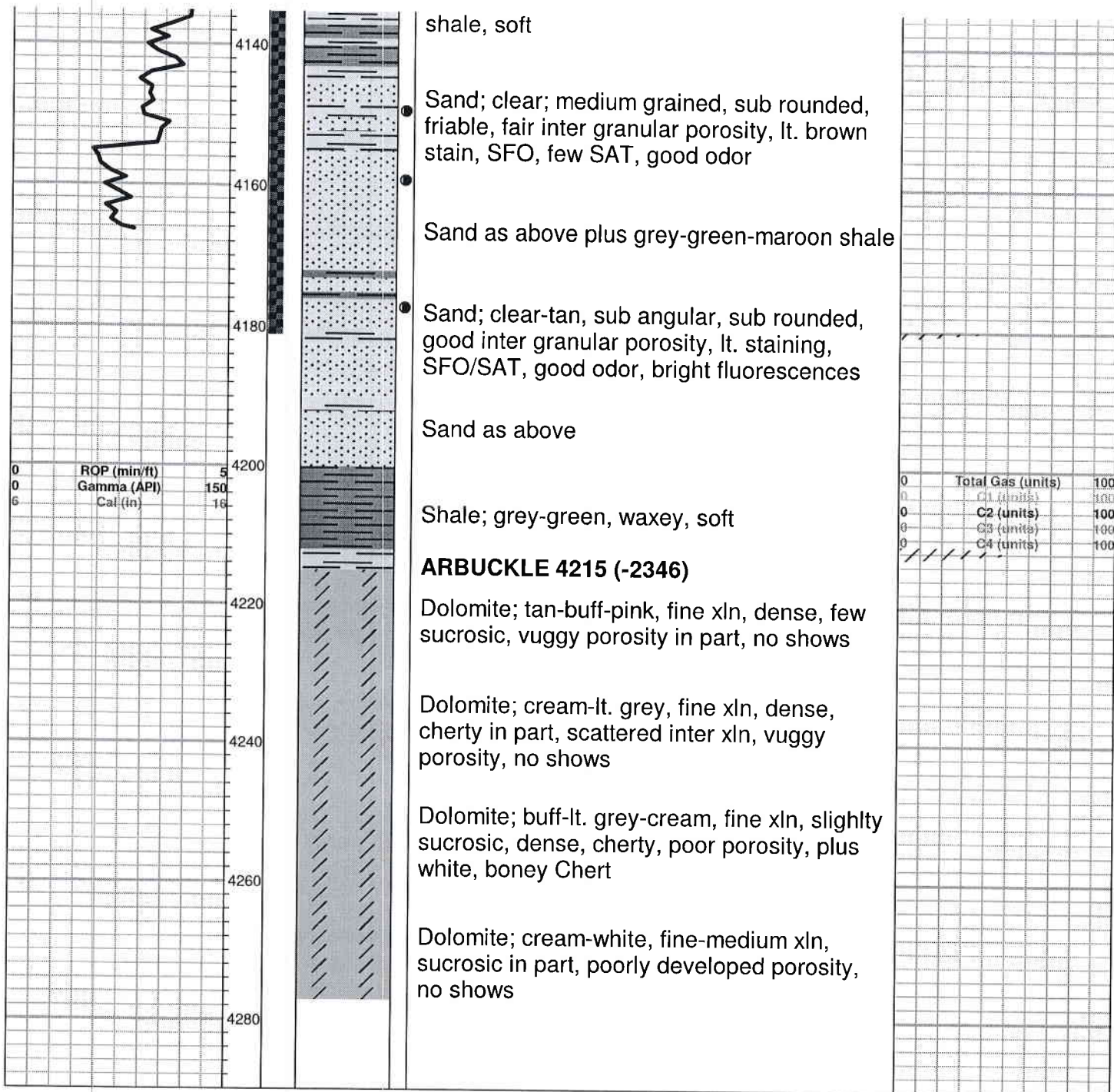
Limestone; cream-white, fine xln, chalky in part, cherty, dense, few fossiliferous pieces, plus trace Dolomitic Limestone; buff-grey, medium xln, no shows

Limestone; as above, plus white boney Chert

**SIMPSON SHALE 4127 (-2258)**

Shale; grey-green, waxey, plus maroon silty













BASIC energy services, L.P.

**TREATMENT REPORT**

|                                      |                      |                                   |
|--------------------------------------|----------------------|-----------------------------------|
| Customer <b>H+D EXPLORATIONS INC</b> | Lease No.            | Date <b>10-13-13</b>              |
| Lease <b>Nichols</b>                 | Well # <b>A-1</b>    |                                   |
| Field Order # <b>4216</b>            | Station <b>Pratt</b> | Casing <b>5 1/2</b>               |
|                                      |                      | Depth <b>4260</b>                 |
| Type Job <b>CNW LS</b>               | Formation            | Legal Description <b>22-25-12</b> |
|                                      |                      | County <b>STAFFORD</b>            |
|                                      |                      | State <b>KS</b>                   |

| PIPE DATA                 |              | PERFORATING DATA |    | FLUID USED                |                     | TREATMENT RESUME  |                       |
|---------------------------|--------------|------------------|----|---------------------------|---------------------|-------------------|-----------------------|
| Casing Size <b>5 1/2</b>  | Tubing Size  | Shots/Ft         |    | Acid <b>200 60/40 POZ</b> | RATE <b>.25 GPM</b> | PRESS <b>2500</b> | ISIP                  |
| Depth <b>4260</b>         | Depth        | From             | To | Pre Pad <b>18% SAH</b>    | Max <b>.75 CPM</b>  | <b>5 1/2 SAH</b>  | <b>5 Min. Gilbert</b> |
| Volume <b>101.3</b>       | Volume       | From             | To | Pad                       | Min                 |                   | 10 Min.               |
| Max Press <b>1500</b>     | Max Press    | From             | To | Frac                      | Avg                 |                   | 15 Min.               |
| Well Connection <b>PE</b> | Annulus Vol. | From             | To |                           | HHP Used            |                   | Annulus Pressure      |
| Plug Depth                | Packer Depth | From             | To | Flush                     | Gas Volume          |                   | Total Load            |

|                                       |                                      |                            |
|---------------------------------------|--------------------------------------|----------------------------|
| Customer Representative <b>Gerald</b> | Station Manager <b>Kevin Goldroy</b> | Treater <b>Mike Marras</b> |
| Service Units <b>37586</b>            | <b>27463</b>                         | <b>19903 73768</b>         |
| Driver Names <b>MARRAS</b>            | <b>Young</b>                         | <b>PERSON</b>              |

| Time    | Casing Pressure | Tubing Pressure | Bbls. Pumped | Rate | Service Log                        |
|---------|-----------------|-----------------|--------------|------|------------------------------------|
| 3:00 AM |                 |                 |              |      | ON location / safety meeting       |
| 3:40    |                 |                 |              |      | Run CSng 5 1/2                     |
|         |                 |                 |              |      | Turnus on #1, 2, 5, 6, 7, 8, 9, 10 |
|         |                 |                 |              |      | BASKET on # 2, 8 A in              |
| 5:30    |                 |                 |              |      | CSng on BOTTOM                     |
| 5:40    |                 |                 |              |      | Hook up to CSng / Break Circ w Rig |
|         |                 |                 |              |      | Circulate for 1 hour               |
| 6:48    | 200             |                 | 20           | 6    | PUMP 20 BBLS KCL H2O               |
| 6:49    | 200             |                 | 12           | 6    | PUMP 12 BBLS MUD FLUSH             |
| 6:51    | 200             |                 | 3            | 6    | PUMP 3 BBL H2O                     |
| 6:52    | 300             |                 | 43           | 6    | MIX 200 SK, 60/40 POZ @ 18.3       |
| 7:03    |                 |                 |              |      | WASH PUMP + LINE, DROP PLUG        |
| 7:08    | 200             |                 |              | 6    | START DISPLACEMENT                 |
| 7:23    | 500             |                 | 90           | 4    | SLOW RATE                          |
| 7:26    | 800             |                 | 100          |      | PLUG DOWN                          |
|         | 1500            |                 |              |      | PSG TO 1500, RELEASED, HOLD        |
| 7:30    |                 |                 | 7            |      | PLUG RAT HOLE                      |
|         |                 |                 |              |      | <del>200</del> Circ. THRU JOB      |
|         |                 |                 |              |      | JOB complete                       |
|         |                 |                 |              |      | THANK YOU                          |
|         |                 |                 |              |      | MIKE MARRAS                        |