



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1159644  
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: \_\_\_\_\_



1159644

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](mailto: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:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

| 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> _____<br><i>(Submit ACO-4)</i> | <b>PRODUCTION INTERVAL:</b><br>_____<br>_____ |
|--|---|---|

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

September 24, 2013

CHRISTOPHER MITCHELL  
Samuel Gary Jr. & Associates, Inc.  
1515 WYNKOOP, STE 700  
DENVER, CO 80202

Re: ACO1  
API 15-195-22868-01-00  
12-22-9 H2  
SW/4 Sec.09-12S-22W  
Trego County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
CHRISTOPHER MITCHELL

PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

|               |          |
|---------------|----------|
| Account       | 8200-138 |
| Well/Prospect |          |
| Deck          |          |
| AFE           |          |
| Approval      |          |
| Description   |          |

Invoice Number: 136813  
Invoice Date: Jun 15, 2013  
Page: 1

**Bill To:**

Samuel Gary, Jr. & Assoc.  
ATTN: Kurt  
1815 11th St  
Great Bend, KS 67530

Now Includes:



7/11

V1307-AR-62

| Customer ID  | Field Ticket # | Payment Terms |          |
|--------------|----------------|---------------|----------|
| Gary         | 60535          | Net 30 Days   |          |
| Job Location | Camp Location  | Service Date  | Due Date |
| KS2-01       | Great Bend     | Jun 15, 2013  | 7/15/13  |

| Quantity | Item        | Description                     | Unit Price | Amount   |
|----------|-------------|---------------------------------|------------|----------|
|          |             | 12-22-9 #H-2                    |            |          |
| 225.00   | MAT         | Class A Common                  | 17.90      | 4,027.50 |
| 8.00     | MAT         | Chloride                        | 64.00      | 512.00   |
| 56.00    | MAT         | Flo Seal                        | 2.97       | 166.32   |
| 238.35   | SER         | Cubic Feet                      | 2.48       | 591.11   |
| 546.00   | SER         | Ton Mileage                     | 2.60       | 1,419.60 |
| 1.00     | SER         | Surface                         | 1,512.25   | 1,512.25 |
| 1.00     | SER         | Manifold Rental                 | 275.00     | 275.00   |
| 50.00    | SER         | Pump Truck Mileage              | 7.70       | 385.00   |
| 100.00   | SER         | Light Vehicle Mileage           | 4.40       | 440.00   |
| 19.00    | SER         | Waiting on Location             | 400.00     | 7,600.00 |
| 11.00    | SER         | Waiting on Location - No Charge |            |          |
| 1.00     | SER         | High Connect Charge             | 600.00     | 600.00   |
| 1.00     | EQP         | 9.5/8 Saw Tooth Guide Shoe      | 603.72     | 603.72   |
| 1.00     | EQP         | 9.5/8 AFU Insert                | 534.69     | 534.69   |
| 1.00     | EQP         | 9.5/8 Top Plug                  | 184.86     | 184.86   |
| 5.00     | EQP         | 9.5/8 Centralizer               | 87.75      | 438.75   |
| 1.00     | CEMENTER    | Patrick Helgerson               |            |          |
| 1.00     | EQUIP OPER  | Kevin Eddy                      |            |          |
| 1.00     | OPER ASSIST | Ben Newell                      |            |          |

**RECEIVED**

JUN 28 2013

SAMUEL GARY JR.  
& ASSOCIATES, INC.

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 6,135.07

ONLY IF PAID ON OR BEFORE

Jul 10, 2013

|                        |                  |
|------------------------|------------------|
| Subtotal               | 19,290.80        |
| Sales Tax              | 439.81           |
| Total Invoice Amount   | 19,730.61        |
| Payment/Credit Applied |                  |
| <b>TOTAL</b>           | <b>19,730.61</b> |

# ALLIED OIL & GAS SERVICES, LLC 060535

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Great Bend

|                                    |                  |  |                        |                        |                             |                               |                           |
|------------------------------------|------------------|--|------------------------|------------------------|-----------------------------|-------------------------------|---------------------------|
| DATE <u>6-15-13</u>                | SEC. <u>9</u>    | TWP. <u>12S</u>                          | RANGE <u>22W</u>       | CALLED OUT <u>7 AM</u> | ON LOCATION <u>10:30 AM</u> | JOB START <u>7:15 PM 6/15</u> | JOB FINISH <u>9:00 AM</u> |
| LEASE <u>12-22-9</u>               | WELL # <u>H2</u> | LOCATION <u>Ogallah cont 135 N to RR</u> |                        |                        | COUNTY <u>Trego</u>         | STATE <u>KS</u>               |                           |
| OLD OR NEW (Circle one) <u>NEW</u> |                  |  | 2W to 310 Rd 1N E into |                        |                             |                               |                           |

|                                      |                         |
|--------------------------------------|-------------------------|
| CONTRACTOR <u>HWN</u>                | OWNER <u>Sam Gray</u>   |
| TYPE OF JOB <u>Surface</u>           | CEMENT                  |
| HOLE SIZE <u>13 1/2</u>              | T.D. <u>330</u>         |
| CASING SIZE <u>9 5/8</u>             | DEPTH <u>302.02</u>     |
| TUBING SIZE                          | DEPTH                   |
| DRILL PIPE                           | DEPTH                   |
| TOOL                                 | DEPTH                   |
| PRES. MAX <u>1500</u>                | MINIMUM                 |
| MEAS. LINE                           | SHOE JOINT <u>42.04</u> |
| CEMENT LEFT IN CSG. <u>3.25 bbls</u> |                         |
| PERFS. <u>21.64</u>                  |                         |
| DISPLACEMENT <u>6 bbls</u>           |                         |

| EQUIPMENT               |                                  |
|-------------------------|----------------------------------|
| PUMP TRUCK # <u>597</u> | CEMENTER <u>Patrick Helgesen</u> |
| BULK TRUCK # <u>599</u> | HELPER <u>Kevin Eddy</u>         |
| BULK TRUCK #            | DRIVER <u>Ben Newell</u>         |
| BULK TRUCK #            | DRIVER                           |

|                              |                |                      |
|------------------------------|----------------|----------------------|
| COMMON <u>225</u>            | @ <u>17.90</u> | <u>4027.50</u>       |
| POZMIX                       | @              |                      |
| GEL                          | @              |                      |
| CHLORIDE <u>8</u>            | @ <u>64</u>    | <u>512</u>           |
| ASC                          | @              |                      |
| <u>Floccate 56#</u>          | @ <u>297</u>   | <u>166.32</u>        |
|                              | @              |                      |
|                              | @              |                      |
|                              | @              |                      |
|                              | @              |                      |
|                              | @              |                      |
| <u>10.92 x 50 mi. x 2.60</u> | @              | <u>1419.60</u>       |
| HANDLING <u>238.35</u>       | @ <u>248</u>   | <u>591.11</u>        |
| MILEAGE                      |                |                      |
|                              |                | TOTAL <u>6716.53</u> |

**REMARKS:**

Loaded 1000 2bbls, Pressure test pumps and hoses to 1500 PSI. Pumped spacer - water 8bbls, Pumped 54 bbls cement @ 15.2 PPG, Loaded top plug, Pumped displacement - water, bumped plug, check floats 1/8 bbl each.

Circulated 21 bbls cement to surface

| SERVICE                               |                   |                        |
|---------------------------------------|-------------------|------------------------|
| <u>Wait time 19 hrs</u>               | <u>400 per hr</u> | <u>7600</u>            |
| DEPTH OF JOB <u>11 hrs</u>            | <u>NC</u>         |                        |
| PUMP TRUCK CHARGE                     |                   | <u>1512.25</u>         |
| EXTRA FOOTAGE <u>High circulation</u> | @ <u>600</u>      | <u>600</u>             |
| MILEAGE                               | @                 |                        |
| MANIFOLD <u>1</u>                     | @ <u>275</u>      | <u>275</u>             |
| <u>HVM 50 mi.</u>                     | @ <u>7.70</u>     | <u>385</u>             |
| <u>LVM 100 mi</u>                     | @ <u>4.40</u>     | <u>440</u>             |
|                                       |                   | TOTAL <u>10,812.25</u> |

CHARGE TO: Sam Gray

STREET 1515 Wyncoop Ste 700

CITY Denver STATE CO ZIP 80202

**PLUG & FLOAT EQUIPMENT**

|                                   |                 |               |
|-----------------------------------|-----------------|---------------|
| <u>9 5/8 Saw tooth guide shoe</u> | @ <u>603.72</u> | <u>603.72</u> |
| <u>9 5/8 AFU insert</u>           | @ <u>534.69</u> | <u>534.69</u> |
| <u>9 5/8 Top plug</u>             | @ <u>184.86</u> | <u>184.86</u> |
| <u>9 5/8 Centralizers - 5</u>     | @ <u>87.25</u>  | <u>438.75</u> |
|                                   | @               |               |

TOTAL 1762.02

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 19,290.80 - 6135.07

DISCOUNT 13,155.73 IF PAID IN 30 DAYS

PRINTED NAME Kyle Reed

SIGNATURE Kyle Reed



DRUG  COMP  W/O  LOE  GG

# INVOICE

PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

|               |            |
|---------------|------------|
| Account       | 8200-138   |
| Well/Prospect |            |
| Deck          |            |
| AFE           |            |
| Approval      | <i>h/f</i> |
| Description   |            |

Invoice Number: 137067  
Invoice Date: Jun 26, 2013  
Page: 1

**Bill To:**  
Samuel Gary, Jr. & Assoc.  
ATTN: Kurt  
1815 11th St  
Great Bend, KS 67530

Now Includes:



*7/25*

*12-22-9 H2*  
*9-27-12 # H2*

*V1307AP-193*

| Customer ID  | Field Ticket # | Payment Terms |          |
|--------------|----------------|---------------|----------|
| Gary         | 60459          | Net 30 Days   |          |
| Job Location | Camp Location  | Service Date  | Due Date |
| KS2-02       | Great Bend     | Jun 26, 2013  | 7/26/13  |

| Quantity | Item       | Description                | Unit Price | Amount   |
|----------|------------|----------------------------|------------|----------|
| 300.00   | MAT        | 12-22-9 H-2                | 25.90      | 7,770.00 |
| 85.00    | MAT        | AMD                        | 18.90      | 1,606.50 |
| 42.00    | MAT        | FL-160                     | 9.80       | 411.60   |
| 900.00   | MAT        | Defoamer                   | 0.98       | 882.00   |
| 487.00   | SER        | Gilsonite                  | 2.48       | 1,207.76 |
| 808.00   | SER        | Cubic Feet                 | 2.60       | 2,100.80 |
| 1.00     | SER        | Ton Mileage                | 2,765.75   | 2,765.75 |
| 34.00    | SER        | Production -- Bottom Stage | 7.70       | 261.80   |
| 1.00     | SER        | Pump Truck Mileage         | 275.00     | 275.00   |
| 34.00    | SER        | Manifold Head Rental       | 4.40       | 149.60   |
| 3.00     | SER        | Light Vehicle Mileage      | 400.00     | 1,200.00 |
| 1.00     | EQP        | Waiting on Location        | 886.86     | 886.86   |
| 1.00     | EQP        | 7" Sure Seal Float Collar  | 6,502.50   | 6,502.50 |
| 2.00     | EQP        | 7" D V Tool                | 462.15     | 924.30   |
| 7.00     | EQP        | 7" Basket                  | 65.52      | 458.64   |
| 1.00     | EQP        | 7" Centralizer             | 30.00      | 30.00    |
| 2.00     | EQP        | 7" Stop Ring               | 83.07      | 166.14   |
| 1.00     | EQUIP OPER | Thread Lock                |            |          |
| 1.00     | EQUIP OPER | Kevin Eddy                 |            |          |
| 1.00     | EQUIP OPER | Daniel Casper              |            |          |
| 1.00     | EQUIP OPER | Charles Kinyon             |            |          |

**RECEIVED**  
**JUL 12 2013**  
**SAMUEL GARY JR. & ASSOCIATES, INC.**

|                        |                  |
|------------------------|------------------|
| Subtotal               | 27,599.25        |
| Sales Tax              | 1,335.42         |
| Total Invoice Amount   | 28,934.67        |
| Payment/Credit Applied |                  |
| <b>TOTAL</b>           | <b>28,934.67</b> |

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ 9,659.73

ONLY IF PAID ON OR BEFORE

Jul 21, 2013

*< 9,659.73*  
*19,274.94*

# ALLIED OIL & GAS SERVICES, LLC 060459

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
East Bend

|                                |                 |  |                   |                  |                     |                          |                           |
|--------------------------------|-----------------|--|-------------------|------------------|---------------------|--------------------------|---------------------------|
| DATE <u>6-26-13</u>            | SEC <u>9</u>    | TWP. <u>22w</u>                          | RANGE <u>12.5</u> | CALLED OUT       | ON LOCATION         | JOB START <u>3:30 PM</u> | JOB FINISH <u>5:00 PM</u> |
| LEASE <u>12-22-9</u>           | WELL# <u>HZ</u> | LOCATION <u>Agallah 2 west 3/4 North</u> |                   |                  | COUNTY <u>Texas</u> | STATE <u>US</u>          |                           |
| OLD OR <u>NEW</u> (Circle one) |                 |  |                   | <u>East into</u> |                     |                          |                           |

CONTRACTOR HWD  
 TYPE OF JOB Production  
 HOLE SIZE 8 1/4 T.D. 4745  
 CASING SIZE 7 26" DEPTH 4720  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL Float collar DEPTH 4673  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT 46.24  
 CEMENT LEFT IN CSG. 46.24  
 PERFS. DU Tool 2305  
 DISPLACEMENT 183.72

OWNER Samuel Gavy JR. Associates

CEMENT  
 AMOUNT ORDERED 300SK AMD + 2% Salt + 2% Gye + 2% Sodium + 4% Gcl + 3/19 + 1% F1-160 + .14 OF 1/2" Gilsanite

EQUIPMENT

PUMP TRUCK CEMENTER Wayne Davis  
 # 597 HELPER Kevin Eddy  
 BULK TRUCK  
 # 599 DRIVER Dan Casper  
 BULK TRUCK  
 # 544/198 DRIVER Charles Kinyon

|                  |                  |   |              |                 |
|------------------|------------------|---|--------------|-----------------|
| COMMON           |                  | @ |              |                 |
| POZMIX           |                  | @ |              |                 |
| GEL              |                  | @ |              |                 |
| CHLORIDE         |                  | @ |              |                 |
| ASC              |                  | @ |              |                 |
| <u>AMD</u>       | <u>300</u>       | @ | <u>25.90</u> | <u>7,770.00</u> |
| <u>F1-160</u>    | <u>85</u>        | @ | <u>18.90</u> | <u>1,606.50</u> |
| <u>DF</u>        | <u>42</u>        | @ | <u>9.80</u>  | <u>411.60</u>   |
| <u>Gilsanite</u> | <u>900</u>       | @ | <u>.98</u>   | <u>882.00</u>   |
|                  |                  | @ |              |                 |
|                  |                  | @ |              |                 |
|                  |                  | @ |              |                 |
|                  |                  | @ |              |                 |
| HANDLING         | <u>487</u>       | @ | <u>2.48</u>  | <u>1207.76</u>  |
| MILEAGE          | <u>808 x 260</u> |   |              | <u>2100.80</u>  |

TOTAL 13,978.66

**REMARKS:**

Pipe on Bottom start circulating  
Had Tail Gate Saltery meeting went over  
Job Pump 10 BB30 water Ahead  
Mix 300SK AMD Shut Down wash Pump  
and hole Release Plug start dis 90.72 80  
freshwater Displace 93.28 BB30 mud  
Load Plug at 10:05. Released  
and held. Dred Dart Pump Dart Thru  
Hook up to Rig start circulating with  
Rig

CHARGE TO: Samuel Gavy JR Associates  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

|                   |                         |   |                |                |
|-------------------|-------------------------|---|----------------|----------------|
| DEPTH OF JOB      | <u>4720</u>             |   |                |                |
| PUMP TRUCK CHARGE |                         |   | <u>2765.15</u> |                |
| EXTRA FOOTAGE     |                         | @ |                |                |
| MILEAGE           | <u>NUM 34</u>           | @ | <u>7.70</u>    | <u>261.80</u>  |
| MANIFOLD          | <u>Head Rent</u>        | @ | <u>275.00</u>  | <u>275.00</u>  |
|                   | <u>hvy 34</u>           | @ | <u>4.40</u>    | <u>149.60</u>  |
|                   | <u>3 1/2" wait time</u> | @ | <u>400.00</u>  | <u>1200.00</u> |

TOTAL 3,452.15  
1,200.00  
4,652.15

PLUG & FLOAT EQUIPMENT

|                               |          |   |                 |                 |
|-------------------------------|----------|---|-----------------|-----------------|
| <u>Seal Seal float collar</u> | <u>2</u> | @ | <u>886.75</u>   | <u>1,773.50</u> |
| <u>DV-Tool</u>                | <u>1</u> | @ | <u>6,582.50</u> | <u>6,582.50</u> |
| <u>Basket</u>                 | <u>2</u> | @ | <u>462.15</u>   | <u>924.30</u>   |
| <u>centrifuge</u>             | <u>1</u> | @ | <u>65.52</u>    | <u>65.52</u>    |
| <u>Stop Ring</u>              | <u>1</u> | @ | <u>30.00</u>    | <u>30.00</u>    |
| <u>Thread lock</u>            | <u>2</u> | @ | <u>83.07</u>    | <u>166.14</u>   |

TOTAL 9,668.44

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Randy L. Patterson  
 SIGNATURE R. Patterson 6/26/13

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 27,599.25  
9,659.73  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS  
17,939.52

**RECEIVED**

JUL 12 2013

**SAMUEL GARY JR. & ASSOCIATES, INC.**

# INVOICE

Invoice Number: 137068

Invoice Date: Jun 26, 2013

Page: 1

PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

**Bill To:**  
Samuel Gary, Jr. & Assoc.  
ATTN: Kurt  
1815 11th St  
Great Bend, KS 67530

Now Includes:



*V1307-AP-494*  
*12-22-9-H2*  
*9-22-12-H2*

*7/25*

| Customer ID  | Field Ticket # | Payment Terms |          |
|--------------|----------------|---------------|----------|
| Gary         | 60460          | Net 30 Days   |          |
| Job Location | Camp Location  | Service Date  | Due Date |
| KS2-02       | Great Bend     | Jun 26, 2013  | 7/26/13  |

| Quantity | Item       | Description             | Unit Price | Amount   |
|----------|------------|-------------------------|------------|----------|
| 8.00     | MAT        | 12-22-9 H2 Chloride     | 64.00      | 512.00   |
| 350.00   | MAT        | Lightweight             | 16.50      | 5,775.00 |
| 87.00    | MAT        | Flo Seal                | 2.97       | 258.39   |
| 1.00     | SER        | Production -- Top Stage | 2,406.25   | 2,406.25 |
| 1.00     | EQUIP OPER | Kevin Eddy              |            |          |
| 1.00     | EQUIP OPER | Charles Kinyon          |            |          |
| 1.00     | CEMENTER   | Dustin Chambers         |            |          |

DRLG  COMP  W/O  LOE  GG

|               |                 |
|---------------|-----------------|
| Account       | <i>8200-138</i> |
| Well/Prospect |                 |
| Deck          |                 |
| AFE           |                 |
| Approval      | <i>KB</i>       |
| Description   |                 |

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ **3,133.07**

ONLY IF PAID ON OR BEFORE  
**Jul 21, 2013**

|                        |                 |
|------------------------|-----------------|
| Subtotal               | 8,951.64        |
| Sales Tax              | 445.09          |
| Total Invoice Amount   | 9,396.73        |
| Payment/Credit Applied |                 |
| <b>TOTAL</b>           | <b>9,396.73</b> |

*- 3133.07*  
*6263.66*



# ALLIED OIL & GAS SERVICES, LLC 060460

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Great Bend

|                                |              |                  |                  |                                      |             |                         |                           |
|--------------------------------|--------------|------------------|------------------|--------------------------------------|-------------|-------------------------|---------------------------|
| DATE <u>6-26-13</u>            | SEC <u>9</u> | TWP. <u>22w</u>  | RANGE <u>12s</u> | CALLED OUT                           | ON LOCATION | JOB START <u>9:00pm</u> | JOB FINISH <u>10:15pm</u> |
| LEASE <u>12-22-9</u>           |              | WELL# <u>172</u> |                  | LOCATION <u>Ogallah 2 west 3/4 N</u> |             | COUNTY <u>Trego</u>     | STATE <u>KS</u>           |
| OLD OR <u>NEW</u> (Circle one) |              |                  |                  | <u>East 1-10</u>                     |             |                         |                           |

CONTRACTOR HWD 3  
 TYPE OF JOB 2nd stage  
 HOLE SIZE 7 7/8 T.D.  
 CASING SIZE 7 26" DEPTH 2305  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL DV Tool DEPTH 2305  
 PRES. MAX 1100 MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT 91 BBbs fresh

OWNER Samuel Gary JR  
 CEMENT  
 AMOUNT ORDERED 350 SX 65/35 + 6%  
+ 2% gel + 1/4 floccul

EQUIPMENT

PUMP TRUCK CEMENTER Wayne Davis  
 # 597 HELPER Kevin Eddy  
 BULK TRUCK  
 # 544-198 DRIVER Charles Kinyon  
 BULK TRUCK  
 # 599 DRIVER Dan Chamber

|                    |   |              |                 |
|--------------------|---|--------------|-----------------|
| COMMON             | @ |              |                 |
| POZMIX             | @ |              |                 |
| GEL                | @ |              |                 |
| CHLORIDE <u>8</u>  | @ | <u>64.00</u> | <u>512.00</u>   |
| ASC                | @ |              |                 |
| <u>lite wt 350</u> | @ | <u>16.50</u> | <u>5.775.00</u> |
| <u>flocul 87</u>   | @ | <u>2.97</u>  | <u>258.39</u>   |
|                    | @ |              |                 |
|                    | @ |              |                 |
|                    | @ |              |                 |
|                    | @ |              |                 |
|                    | @ |              |                 |
| HANDLING           | @ |              |                 |
| MILEAGE            |   |              |                 |

REMARKS:

Pipe on Bottom circulating  
shut down Hook up Pump  
Turns Rev 3 BBbs water ahead  
Start mix cement 350 SX 65/35  
+ 6% gel + 2% gel + 1/4 floccul  
wash pump line Release  
Plug Displace 91 BBbs fresh  
water hand plug at 1100 psi  
Release and Hold

TOTAL 6,545.39

SERVICE

|                                  |   |  |
|----------------------------------|---|--|
| DEPTH OF JOB <u>2305</u>         |   |  |
| PUMP TRUCK CHARGE <u>2406.25</u> |   |  |
| EXTRA FOOTAGE                    | @ |  |
| MILEAGE                          | @ |  |
| MANIFOLD                         | @ |  |
|                                  | @ |  |
|                                  | @ |  |

TOTAL 2406.25

PLUG & FLOAT EQUIPMENT

|  |   |  |
|--|---|--|
|  | @ |  |
|  | @ |  |
|  | @ |  |
|  | @ |  |
|  | @ |  |

TOTAL \_\_\_\_\_

CHARGE TO: Samuel Gary JR  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 8,951.64  
3,133.02  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS  
5,818.52

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Kyle Reed  
 SIGNATURE [Signature]



Well 12-22-9-H2  
 Sam Gary and Associates  
 HWD 3  
 Trego Co, Kansas  
 Minimum Curvature Calculation

MWD George Hunt / Sean Sivannarath  
 DIRECTIONAL DRILLERS: Chris Moon / Mike Foster  
 Magnetic Declination: 6.72  
 Job #: DR1306079  
 Vertical Section Azimuth 1.39

| No.        | Survey<br>Depth | INC         | AZM         | TVD         | N-S         | E-W         | Vertical<br>Section | DLS/<br>100 | BUR      | WR     |
|------------|-----------------|-------------|-------------|-------------|-------------|-------------|---------------------|-------------|----------|--------|
| <b>Tie</b> | <b>0</b>        | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>         | <b>0.00</b> | <b>0</b> |        |
| 1          | 348             | 1.01        | 215.39      | 347.98      | -2.50       | -1.78       | -2.54               | 0.29        | 0.29     | 41.55  |
| 2          | 438             | 0.88        | 211.96      | 437.97      | -3.73       | -2.60       | -3.80               | 0.16        | -0.14    | -3.81  |
| 3          | 528             | 0.48        | 181.77      | 527.96      | -4.70       | -2.98       | -4.77               | 0.58        | -0.44    | -33.54 |
| 4          | 618             | 0.40        | 170.96      | 617.96      | -5.38       | -2.94       | -5.45               | 0.13        | -0.09    | -12.01 |
| 5          | 708             | 0.60        | 176.53      | 707.96      | -6.16       | -2.86       | -6.23               | 0.23        | 0.22     | 6.19   |
| 6          | 798             | 0.48        | 181.59      | 797.95      | -7.01       | -2.85       | -7.08               | 0.14        | -0.13    | 5.62   |
| 7          | 888             | 0.48        | 181.59      | 887.95      | -7.77       | -2.87       | -7.83               | 0.00        | 0.00     | 0.00   |
| 8          | 978             | 0.62        | 202.86      | 977.95      | -8.59       | -3.07       | -8.66               | 0.27        | 0.16     | 23.63  |
| 9          | 1068            | 0.46        | 212.60      | 1067.94     | -9.34       | -3.45       | -9.42               | 0.20        | -0.18    | 10.82  |
| 10         | 1158            | 0.50        | 203.02      | 1157.94     | -10.01      | -3.80       | -10.10              | 0.10        | 0.04     | -10.64 |
| 11         | 1248            | 0.48        | 193.28      | 1247.94     | -10.74      | -4.04       | -10.83              | 0.10        | -0.02    | -10.82 |
| 12         | 1338            | 0.40        | 186.47      | 1337.93     | -11.42      | -4.16       | -11.51              | 0.11        | -0.09    | -7.57  |
| 13         | 1428            | 0.22        | 242.68      | 1427.93     | -11.81      | -4.35       | -11.91              | 0.37        | -0.20    | 62.46  |
| 14         | 1518            | 0.22        | 251.16      | 1517.93     | -11.94      | -4.67       | -12.05              | 0.04        | 0.00     | 9.42   |
| 15         | 1608            | 0.40        | 310.97      | 1607.93     | -11.79      | -5.07       | -11.91              | 0.38        | 0.20     | 66.46  |
| 16         | 1698            | 0.40        | 305.72      | 1697.93     | -11.40      | -5.56       | -11.54              | 0.04        | 0.00     | -5.83  |
| 17         | 1788            | 0.40        | 299.06      | 1787.93     | -11.07      | -6.09       | -11.21              | 0.05        | 0.00     | -7.40  |
| 18         | 1878            | 0.40        | 291.06      | 1877.92     | -10.80      | -6.66       | -10.96              | 0.06        | 0.00     | -8.89  |
| 19         | 1968            | 0.48        | 265.26      | 1967.92     | -10.72      | -7.33       | -10.90              | 0.23        | 0.09     | -28.67 |
| 20         | 2058            | 1.32        | 249.88      | 2057.91     | -11.11      | -8.67       | -11.32              | 0.96        | 0.93     | -17.09 |
| 21         | 2148            | 1.58        | 247.60      | 2147.88     | -11.94      | -10.79      | -12.20              | 0.30        | 0.29     | -2.53  |
| 22         | 2238            | 2.50        | 242.59      | 2237.82     | -13.31      | -13.68      | -13.64              | 1.04        | 1.02     | -5.57  |
| 23         | 2328            | 2.81        | 244.70      | 2327.73     | -15.16      | -17.42      | -15.58              | 0.36        | 0.34     | 2.34   |
| 24         | 2418            | 3.52        | 241.27      | 2417.59     | -17.43      | -21.84      | -17.96              | 0.82        | 0.79     | -3.81  |
| 25         | 2508            | 4.48        | 241.80      | 2507.37     | -20.42      | -27.36      | -21.08              | 1.07        | 1.07     | 0.59   |
| 26         | 2598            | 5.10        | 240.57      | 2597.05     | -24.05      | -33.94      | -24.86              | 0.70        | 0.69     | -1.37  |
| 27         | 2688            | 6.11        | 240.08      | 2686.62     | -28.40      | -41.58      | -29.40              | 1.12        | 1.12     | -0.54  |
| 28         | 2778            | 7.69        | 239.07      | 2775.97     | -33.89      | -50.89      | -35.11              | 1.76        | 1.76     | -1.12  |
| 29         | 2868            | 9.10        | 238.59      | 2865.00     | -40.69      | -62.13      | -42.19              | 1.57        | 1.57     | -0.53  |
| 30         | 2958            | 10.50       | 239.38      | 2953.68     | -48.58      | -75.27      | -50.39              | 1.56        | 1.56     | 0.88   |
| 31         | 3048            | 11.91       | 238.19      | 3041.97     | -57.65      | -90.22      | -59.82              | 1.59        | 1.57     | -1.32  |
| 32         | 3079            | 12.30       | 238.60      | 3072.28     | -61.06      | -95.75      | -63.36              | 1.29        | 1.26     | 1.32   |
| 33         | 3123            | 10.70       | 247.80      | 3115.40     | -65.04      | -103.54     | -67.53              | 5.52        | -3.64    | 20.91  |
| 34         | 3168            | 9.40        | 254.10      | 3159.71     | -67.63      | -110.94     | -70.30              | 3.78        | -2.89    | 14.00  |
| 35         | 3213            | 9.60        | 267.70      | 3204.09     | -68.79      | -118.22     | -71.63              | 5.00        | 0.44     | 30.22  |
| 36         | 3258            | 10.20       | 279.80      | 3248.43     | -68.26      | -125.90     | -71.29              | 4.80        | 1.33     | 26.89  |
| 37         | 3303            | 10.80       | 291.90      | 3292.68     | -66.01      | -133.74     | -69.23              | 5.07        | 1.33     | 26.89  |
| 38         | 3348            | 13.10       | 307.20      | 3336.71     | -61.35      | -141.72     | -64.77              | 8.66        | 5.11     | 34.00  |
| 39         | 3393            | 16.50       | 318.80      | 3380.22     | -53.45      | -149.99     | -57.08              | 9.99        | 7.56     | 25.78  |
| 40         | 3435            | 17.40       | 321.10      | 3420.40     | -44.08      | -157.86     | -47.89              | 2.67        | 2.14     | 5.48   |



Well 12-22-9-H2  
Sam Gary and Associates  
HWD 3  
Trego Co, Kansas  
Minimum Curvature Calculation

MWD George Hunt / Sean Sivannarath  
DIRECTIONAL DRILLERS: Chris Moon / Mike Foster  
Magnetic Declination: 6.72  
Job #: DR1306079  
Vertical Section Azimuth 1.39

| No. | Survey<br>Depth | INC   | AZM    | TVD     | N-S    | E-W     | Vertical<br>Section | DLS/<br>100 | BUR   | WR    |
|-----|-----------------|-------|--------|---------|--------|---------|---------------------|-------------|-------|-------|
| 41  | 3480            | 19.90 | 324.60 | 3463.03 | -32.60 | -166.53 | -36.63              | 6.08        | 5.56  | 7.78  |
| 42  | 3522            | 22.80 | 331.10 | 3502.15 | -19.64 | -174.60 | -23.87              | 8.90        | 6.90  | 15.48 |
| 43  | 3567            | 24.50 | 335.10 | 3543.38 | -3.54  | -182.75 | -7.97               | 5.19        | 3.78  | 8.89  |
| 44  | 3612            | 27.30 | 338.80 | 3583.85 | 14.55  | -190.41 | 9.92                | 7.18        | 6.22  | 8.22  |
| 45  | 3657            | 33.10 | 344.60 | 3622.74 | 36.04  | -197.41 | 31.24               | 14.41       | 12.89 | 12.89 |

# Sam Gary & Associates

Location Kansas Installation Trego County  
Field Sec 9 - 12S - 22W Well 12-22-9-H2

## Installation Data

| Name         | Latitude    | Longitude    | Northing  | Easting    |
|--------------|-------------|--------------|-----------|------------|
| Trego County | N39 0 55.42 | W99 46 42.86 | 253370.00 | 1494664.00 |

Coordinate System Kansas State Planes, Northern Zone

## Slot Data

| Name       | North [ft] | East [ft] | Latitude    | Longitude    | Northing  | Easting    |
|------------|------------|-----------|-------------|--------------|-----------|------------|
| 12-22-9-H2 | 176.01 N   | 1355.05 E | N39 0 57.43 | W99 46 25.74 | 253546.00 | 1496019.00 |

## Elevation Data

| Slot - Mean Sea Level [ft] | Mean Sea Level - Mudline/Ground level [ft] | Slot - Mudline/Ground level [ft] |
|----------------------------|--|----------------------------------|
| 0.00                       | 0.00                                       | 0.00                             |

## WELL PROFILE DATA

| Point                   | MD      | Inc   | Azi    | TVD     | North   | East    | deg/100ft | V. Sect |
|-------------------------|---------|-------|--------|---------|---------|---------|-----------|---------|
| Tie on                  | 3048.00 | 11.91 | 238.19 | 3041.97 | -57.65  | -90.22  | 0.00      | -59.82  |
| KOP                     | 3317.00 | 12.00 | 330.00 | 3307.11 | -47.99  | -128.07 | 6.36      | -51.08  |
| Target 12-22-9-H2 60°   | 3945.44 | 60.00 | 3.89   | 3803.92 | 302.93  | -143.26 | 8.01      | 299.37  |
| Target 12-22-9-H2 End   | 4145.45 | 60.00 | 3.89   | 3903.92 | 475.74  | -131.51 | 0.00      | 472.42  |
| Target 12-22-9-H2 LP    | 4540.49 | 90.00 | 3.89   | 4005.00 | 852.11  | -105.92 | 7.59      | 849.30  |
| Target 12-22-9-H2 End   | 4740.49 | 90.00 | 3.89   | 4005.00 | 1051.65 | -92.35  | 0.00      | 1049.11 |
| End of Build/Turn       | 4856.97 | 91.04 | 3.36   | 4003.94 | 1167.89 | -84.99  | 1.00      | 1165.49 |
| End of Hold             | 5684.35 | 91.04 | 3.36   | 3988.96 | 1993.71 | -36.52  | 0.00      | 1992.25 |
| Target 12-22-9-H2 TVD   | 5790.81 | 90.00 | 3.12   | 3988.00 | 2100.00 | -30.50  | 1.00      | 2098.65 |
| T.D. & Target 12-22-9-H | 8484.97 | 90.00 | 3.11   | 3988.00 | 4790.18 | 116.00  | 0.00      | 4791.58 |

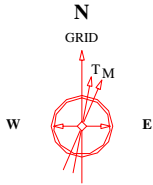
## TARGET DATA

| MD      | Inc   | Azi  | TVD     | North   | East    | Name                       | Position                          |
|---------|-------|------|---------|---------|---------|----------------------------|-----------------------------------|
| 3945.44 | 60.00 | 3.89 | 3803.92 | 302.93  | -143.26 | 12-22-9-H2 60°             | 1495875.75 East : 253848.92 North |
| 4145.45 | 60.00 | 3.89 | 3903.92 | 475.74  | -131.51 | 12-22-9-H2 End 60°         | 1495887.49 East : 254021.72 North |
| 5790.81 | 90.00 | 3.12 | 3988.00 | 2100.00 | -30.50  | 12-22-9-H2 TVD 3988        | 1495988.50 East : 255645.92 North |
| 8484.97 | 90.00 | 3.11 | 3988.00 | 4790.18 | 116.00  | 12-22-9-H2 BHL             | 1496135.00 East : 258336.00 North |
| 4540.49 | 90.00 | 3.89 | 4005.00 | 852.11  | -105.92 | 12-22-9-H2 LP              | 1495913.08 East : 254398.08 North |
| 4740.49 | 90.00 | 3.89 | 4005.00 | 1051.65 | -92.35  | 12-22-9-H2 End 90° Tangent | 1495926.65 East : 254597.61 North |
| -       | -     | -    | 4500.00 | 2064.08 | 364.01  | Offset Vertical Well       | 1496383.00 East : 255610.00 North |

Plan Revised: 6-21-13  
TVD 4005 @ LP



9630 Pole Rd.  
Oklahoma City, OK 73160  
Tel: (405) 604-2969



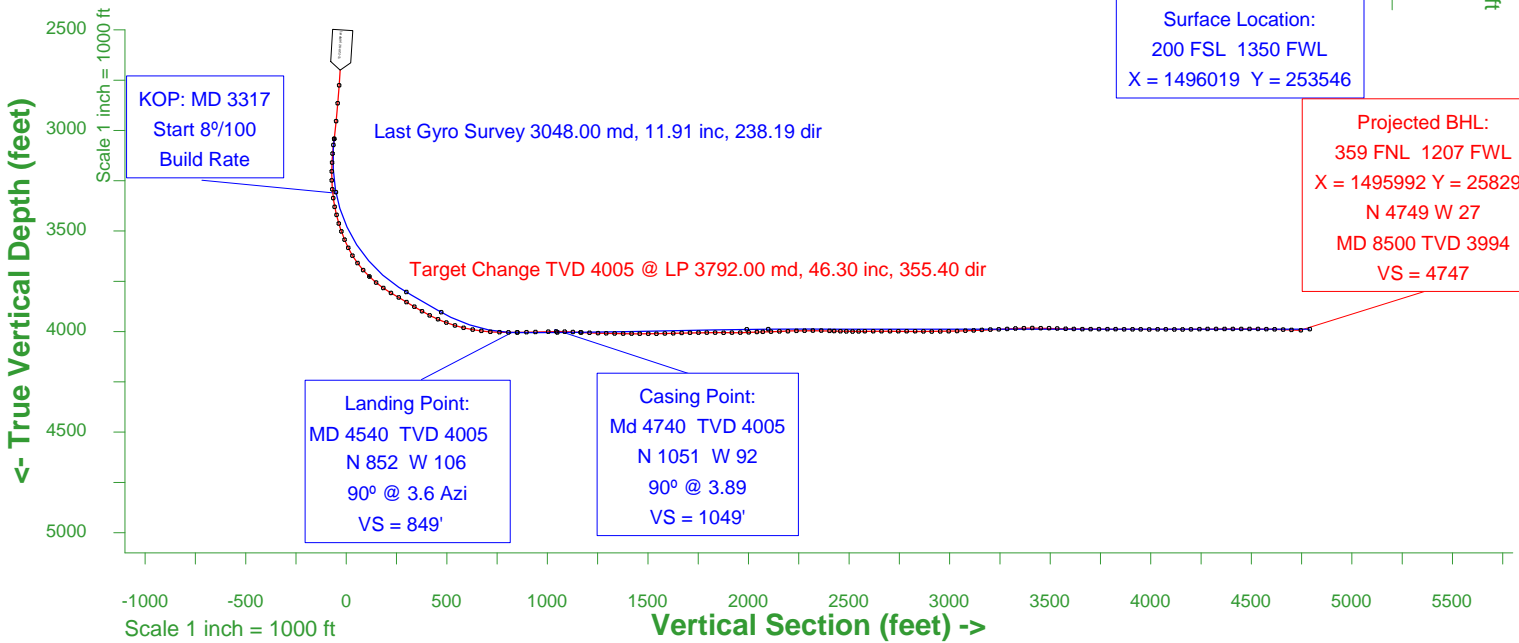
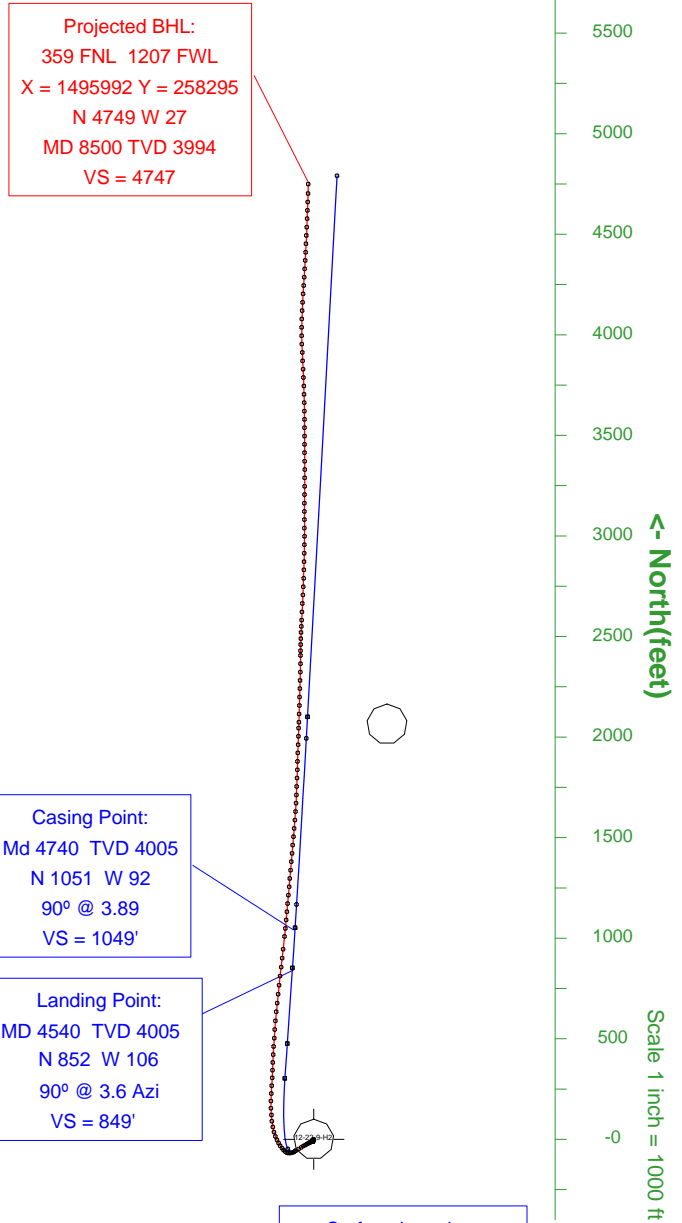
11-Jun-2013

IGRF Model [1900.0-2015.0] Dip: 66.58 deg Field: 52677.7 nT  
Magnetic North is 5.60 deg East of True North  
GRID North is 1.13 deg West of True North  
To correct azimuth from True to GRID add 1.13 deg  
To correct azimuth from Magnetic to GRID add 6.72 deg

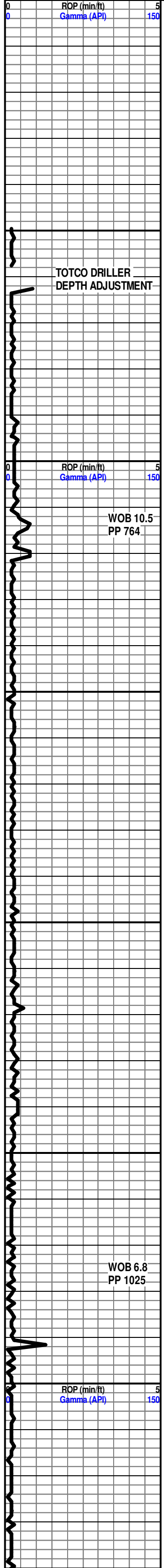
Created by admin  
Date plotted 8-Jul-2013  
Plot reference is 12-22-9-H2 (Plan TVD 4005 6-21).  
Ref wellpath is 12-22-9-H2 (PWP#1).  
Coordinates are in feet reference 12-22-9-H2.  
True Vertical Depths are reference 12-22-9-H2.  
Measured Depths are reference Slot.  
Plot North is aligned to GRID North.

East (feet) ->

-1000 -500 0 500 1000  
Scale 1 inch = 1000 ft



Azimuth 1.39 with reference 0.00 N, 0.00 E from 12-22-9-H2



Rigged up and on location June 15, 2013  
START DRILLING OFUS @ 12:46 PM 6/16/13

SH- LT GRY TO MD GRY, V/SFT GMMY, BLKY

SH- GRY MOTTED LT GRY IP TO MD GRY, V/SFT TO V/GMMY, BLKY

SH- LT TO MD GRY, V/ SFT GMMY TO V/ SFT GRNY, V/ SLTY TXT, BLKY

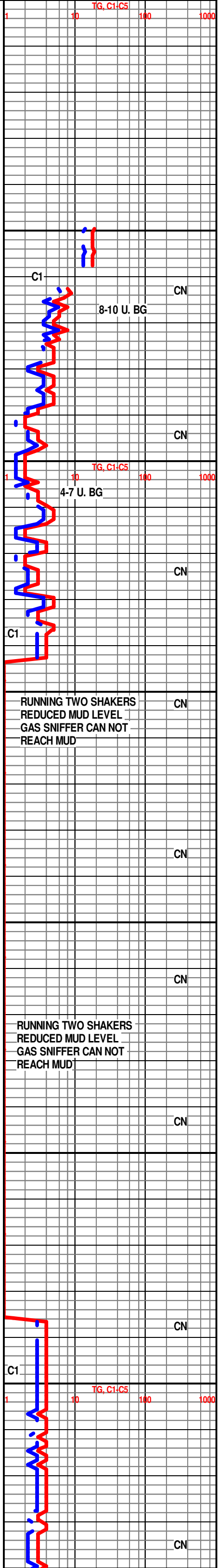
SH- LT TO MD GRY, V/SFT GMMY TO V/ SFT GRNY IP , V/ SLTY TXT, BLKY

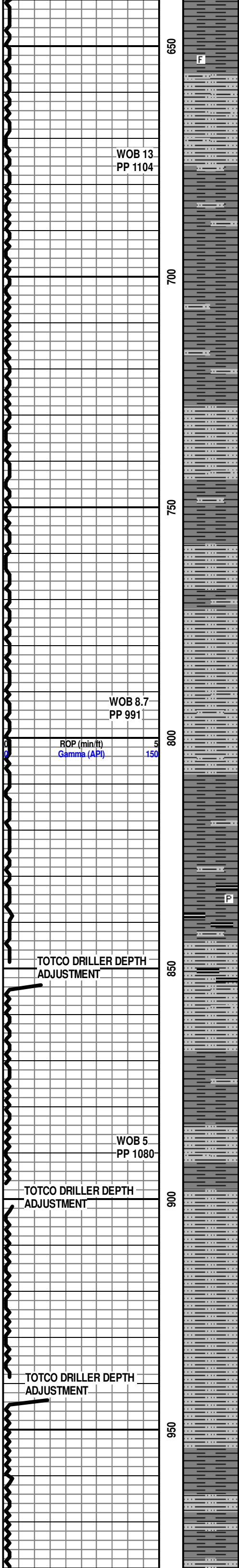
SH- LT TO MD GRY, V/ SFT GMMY TO V/GMMY, V/ SLTY TO TRS FN QURTZ GRNS IP, BLKY

SH- GRY MD GRY, V/ SFT GMMY TO V/ SFT GRNY IP, V/ SLTY TXT, BLKY

LS- CRM LT GRY, HD BRITT MOTT, MD-XLN TO SUCRO MTRX IP, RE-XLN IP, IMBD DISS SH THRU, SCAT IMBD FOSS FRGS THRU IP, LT YEL MIN FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- LT TO MD GRY TO SLI LT BRWN IP, FRM BLKY IP TO V/ SFT V/ GMMY, V/ CALC IP , TRS IMBD FOSS FRGS IP, TRS SLTY IP





SLTST- LT GRY TO LT TN , V/ SFT ABDT IMBD DISS LT GRY GRY SH, ABDT IMBD V/FN RND GRN QURTZ

SLTST- LT GRY TO LT TN , V/ SFT ABDT IMBD DISS AND LMND SH, ABDT IMBD V/V/FN RND GRN QURTZ

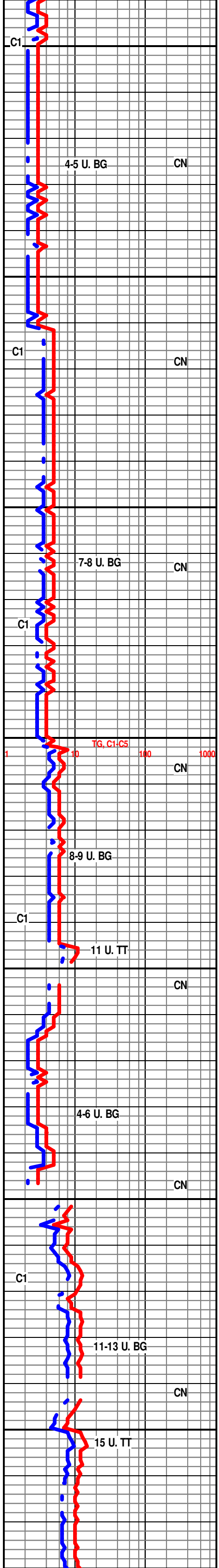
SLTST- LT GRY TO LT TN , V/ SFT ABDT IMBD DISS AND LMND MD GRY TO GRY SH, ABDT IMBD V/V/FN RND GRN QURTZ

SLTST- CRM TO LT TN, V/ SFT ABDT IMBD DISS AND LMND GRY SH, ABDT IMBD V/FN RND TO SUB- ANG GRN QURTZ, HVY TRS BLK CARB SH W/ IMBD PYR IP

SLTST- SLI CRM TO LT GRY, ABDT UNCONSOLIDATED GRNS IN TRAY, V/V/ SFT ABDT IMBD DISS LT GRY SH, ABDT IMBD V/FN GRN QURTZ

SLTST- CRM TO LT GRY, PRED SMLL CLSTRS, ABDT UNCONSOLIDATED GRNS, V/ SFT ABDT IMBD DISS AND LMND GRY LT GRY SH, ABDT IMBD V/V/ FN-GRN QURTZ

SLTST- LT GRY TO SLI MD GRY, V/ SFT V/V/BRITT TO SLI GMMY, ABDT V/FN-GRN QURTZ, ABDT IMBD DISS GRY SH



SURVEY @988 .48  
AZM 214060

ROP (min/ft)  
Gamma (API) 150

TOTCO DRILLER DEPTH  
ADJUSTMENT

WOB 5.7  
PP 1006

WOB 6.7  
PP 1068

ROP (min/ft)  
Gamma (API) 150

WOB 8.1  
PP 1047

SS- CRM LT GRY TO LT TN IP, V/ FRI IP, PRED FN-GRN  
QUARTZ THRU, V/ CALC TO SLI LMY IP, ABDT IMBD DISS  
AND LMND GRY SH THRU, V/F-GRN QURTZ, SUB-ANG TO  
SUB-RND, PR SRT, TRS IMBD PYR IP, NO VIS FLO, NO  
VIS POR, NO VIS SHOW OR CUT

SLTST- LT GRY TO GRY, V/ SFT TO TRS GMMY, ABDT V/  
FN-GRN QURTZ, ABDT IMBD DISS SH AND LMND GRY LT  
GRY SH THRU, TRS IMBD PYR IP

SS- FRSTY WHT TO OFF WHT CLR, HD TO V/V/ FRI,  
PRED UNCONSOLIDATED GRNS, ABDT FREE GRNS,  
FN-MD QURTZ GRNS, ABDT SUB-ANG TO SUB-RND TO  
RND, PR SRT TO SLI WLL SRT, IMBD DISS GRY LT GRY  
SH THRU IP, NO VIS FLO, NO VIS POR, NO VIS SHOW  
OR CUT

SH- GRY LT GRY- SFT TO V/ SFT, ABDT IMBD V/V/FN-GRN  
QURTZ, SLTY TXT THRU

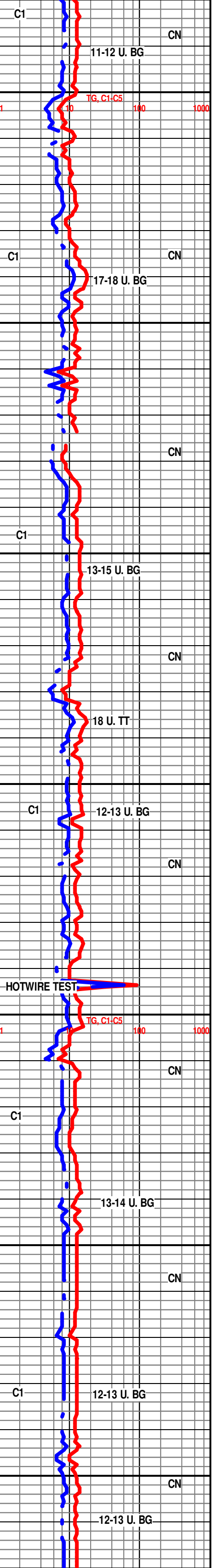
SH- GRY, SLI FRM TO SFT BRITT IP, SLI SLTY TXT,  
SPLNTY

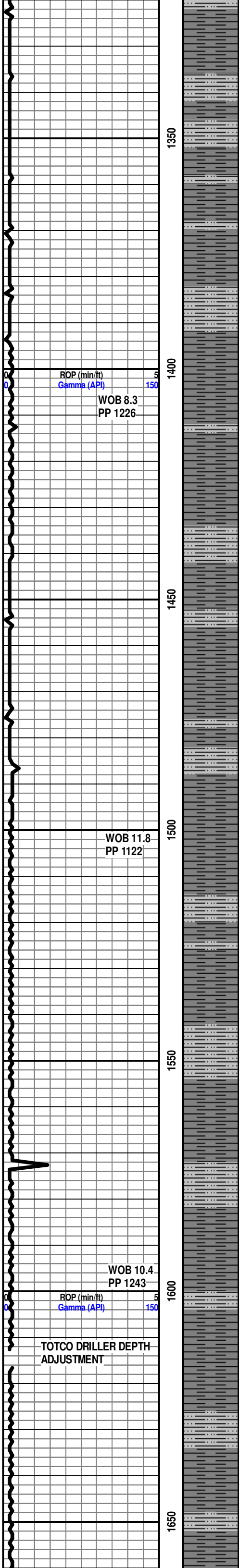
SH & SLST- GRY TO DK GRY SLI RED IP, FRM TO V/ SFT,  
SPLNTY, SCAT IMBD V/VFN- QRTZ GRNS IN TRAY

SH & SLST- GY TO DK GY RD, FRM TO V SFT, SPLNTY,  
SCAT IMB V/VF- GRN QRTZ

SURVEY@ 1302' INC 0.48 AZM 193.28

SH-GY TO DK GY RD TO DK RD, FRM IP TO V SFT GMMY  
THRU, SMTH TXT





SH- GY TO DK GY RD IP, FRM TO V SFT, SPLNTY

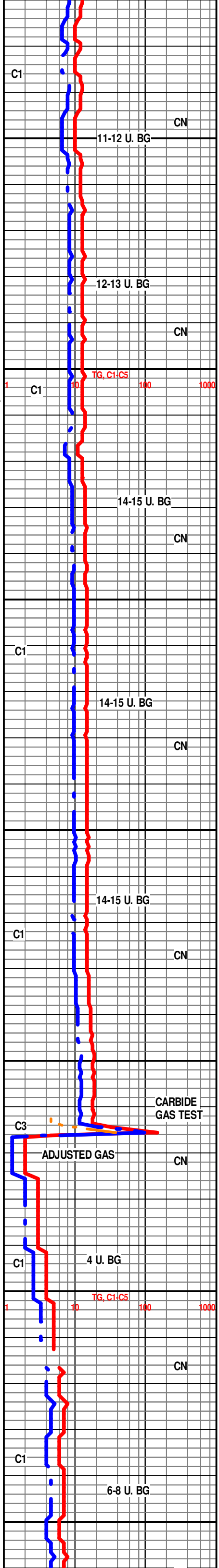
SH-OFF WHT, LT GY TO GY, FRM TO SFT, BLCK SLTY TXT

SH- V LT GY TO GR, TR FRM IP TO V SFT THRU, V SLTY TXT THRU, SPLNTY

SH SLTST- LT GY TO GY, V SFT TO GMMY THRU, V SLTY, ABDT IMB V/V/VF-GRNS THRU

SH & SLTST- LT GY TO GY, SFT, UNCONSOLIDATED V/V/VF-GRNS THRU, V SLTY TXT

SH- LT RD TO RD, SFT TO V/V GMMY THRU, V SLTY TXT



C1

11-12 U. BG

CN

12-13 U. BG

CN

C1

14-15 U. BG

CN

C1

14-15 U. BG

CN

ROP (min/ft)  
Gamma (API)  
WOB 8.3  
PP 1226

WOB 11.8  
PP 1122

WOB 10.4  
PP 1243

TOTCO DRILLER DEPTH  
ADJUSTMENT

CARBIDE  
GAS TEST

C3

C1

C1

C1

C1

C1

ADJUSTED GAS

4 U. BG

TG, C1-C5

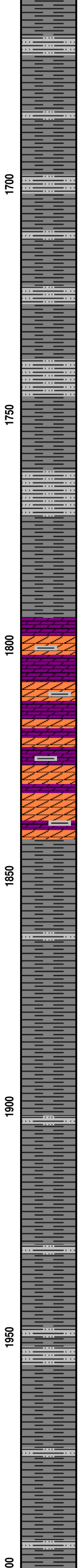
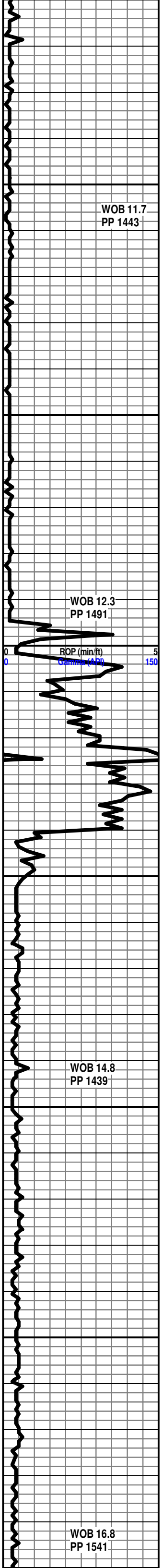
6-8 U. BG

CN

CN

CN





SH- RD, SFT TO GMMY THRU, HVY TR SLTY THRU, W/ LT GY TO GY SH, FRM TO V SFT, SPLNTY

SH- LT RD TO RD, SFT TO V GMMY THRU, V SLTY TXT, BLCKY

SH- LT GY TO GY RD IP, FRM IP TO V SFT, TR SLTY IP

**STONE CORRAL 1795' 556'**  
1795' 12:01 AM JUNE 17, 2013

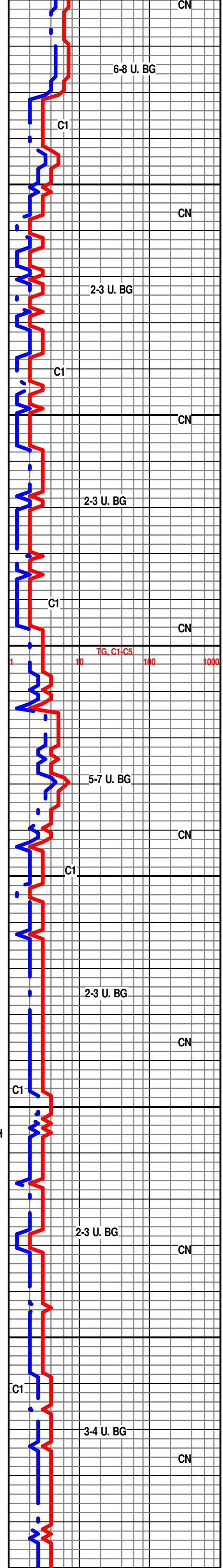
DOLO- WHT TO OFF WHT OCC CRM LT GY TO GY, HD DNS, V TT SUCRO MTRX, IMB ANHY, W/ LMNTD SFT RD SH'S,

SH- V LT GY TO GY, FRM TO V SFT, BLKY, SMTH TXT, SLTY IP

SH- RD TO LT GY GY MOTT, FRM TO V/V SFT, BLKY SMTH TXT

SH- LT RD RD TO DK RD IP TR LT GY, V SFT TO GMMY THRU, BLCKY, SLTY TXT

SH- LT GY TO GY RD, TR FRM TO V SFT, BLCKY, SMTH TXT, SLTY IP



6-8 U. BG

C1

CN

2-3 U. BG

C1

CN

2-3 U. BG

C1

CN

5-7 U. BG

C1

CN

2-3 U. BG

C1

CN

2-3 U. BG

C1

CN

2-3 U. BG

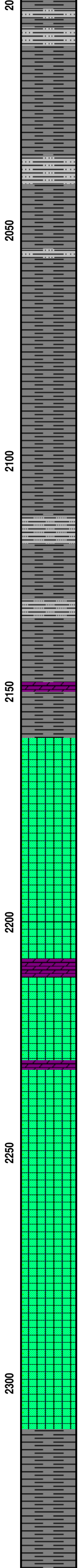
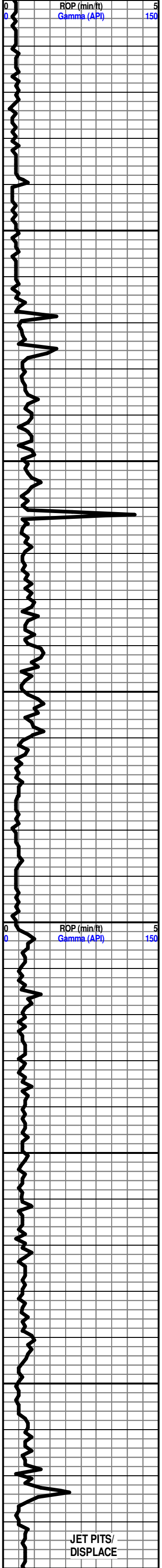
C1

CN

3-4 U. BG

C1

CN



SH- LT GY TO GY DK GY IP, FRM TO V SFT GMMY IP, BLCKY SMTH TXT

SH- LT GY TO GY RD IP, FRM TO V SFT GMMY IP, SMTH TXT

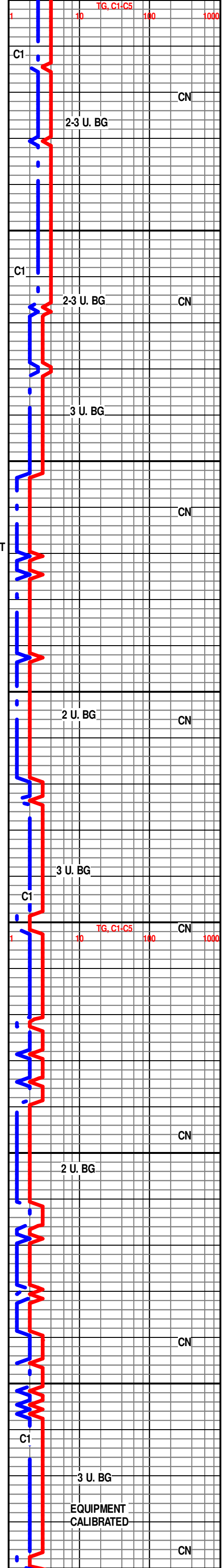
SH- LT GY TO GY DK GY, FRM TO SFT, BLCKY V SLTY TXT

**HUTCHINSON SALT 2160' 191'**

**BASE HUTCHINSON 2310' 41'**

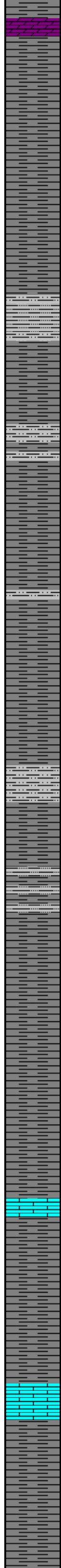
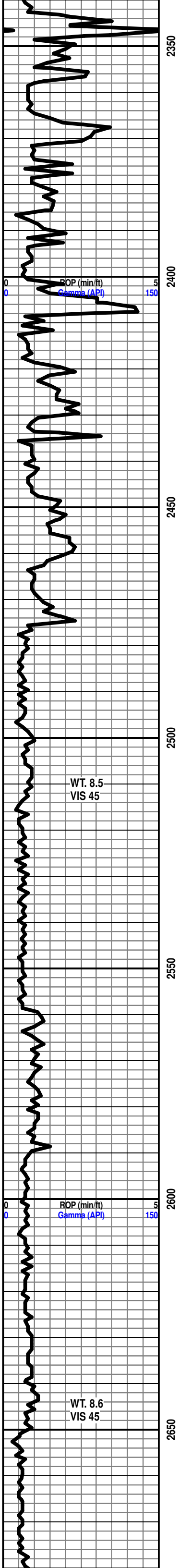
SH- GY TO DK GY, V FRM TO SFT, BLCK SMTH TXT

**JET PITS/ DISPLACE**



EQUIPMENT CALIBRATED

CN



DOLO- OFF WHT TO CRM LT TN IP, HD DNS TO TR BRTT IP, F-XLN SUCRO MTRX, RE-XLN, ABDT IMB SM S-RND DOLO GRNS THRU, SCAT IMB V SM S-RND CLR QRTZ GRNS, SLI TR SFT WHT CHLK IN TRAY, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY, FRM TO SFT, V SLTY IP

SH- LT RD TO RD GY LT TN MOTT, FRM TO SFT, V SLTY TXT THRU

**CHASE 2447'-96'**

SH- LT TN TO GY RD MOTT, FRM SFT TO V GMMY, SMTH TX V SLTY IP

SH- LT RD TO TN, SFT TO V GMMY THRU, SLTY TXT IP

WT. 8.5  
VIS 45

SH- RD TO DK RD LT TN MOTT, SFT TO V GMMY THRU, V SLTY TXT

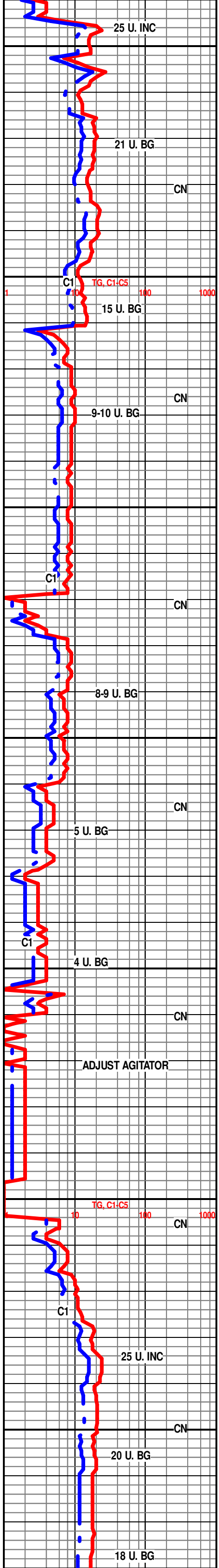
SH- RD TO DK RD, V GMMY THRU

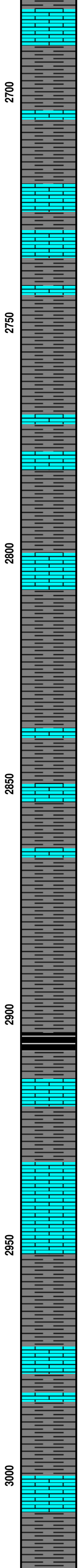
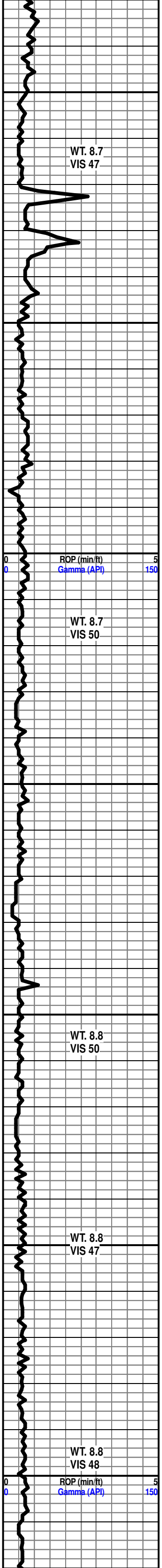
SH- RD TO DK RD LT GY IP, SFT TO V GMMY THRU

SH- LT GY TO GY, FRM TO V SFT GMMY IP, BLCKY SMTH TXT

WT. 8.6  
VIS 45

LS- CRM TO LT GY, HD DNS TO BRTT IP, F/VF-XLN MTRX, RE-XLN IP, V SLI TR IMB CALC-XLS IP, V SLI TR V DUL YEL FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW





LS-OFF WHT CRM TO LT GY, HD DNS TO BRTT IP, F/VF-XLN MTRX, RE-XLN IP, SLI TR IMB CALC-XLS IP, V SLI TR V DUL YEL FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

LS-WHT TO OFF WHT CRM LT GY, HD DNS TO BRITT IP, VF-XLN MTRX, SLI TR IMB CALC-XLS IP, SLI TRS V DUL YEL FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY, FRM TO V SFT GMMY IP, BLCKY SMTH TXT

LS-OFF WHT CRM TO LT GY, HD DNS TO BRTT IP, F/VF-XLN MTRX, RE-XLN IP, SLI TR IMB CALC-XLS IP, V SLI TR V DUL YEL FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY OCC DRK GY, FRM TO SFT GMMY IP, BLCKY SMTH TXT, SLI LMY IP

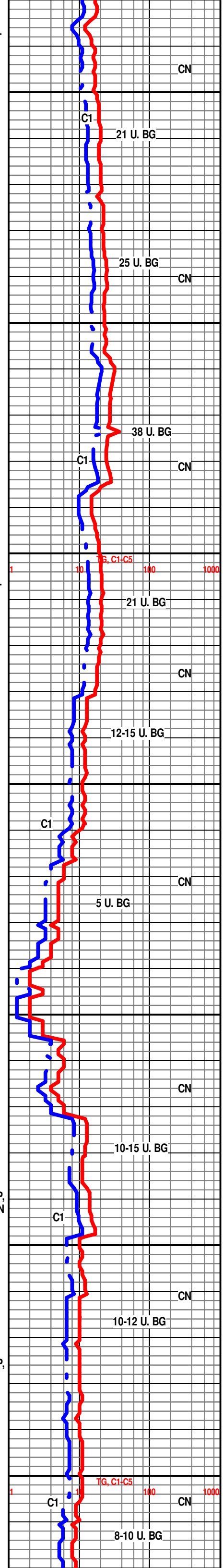
**NEVA 2893'-542'**

SH- BLCK SFT CARB

LS- WHT TO OFF WHT CRM LT GY, HD DNS TO BRTT, MD-XLN, TR RE-XLN IP, S-SCURO, SCAT IMB CALC-XLS IP, LT TR FREE CALC-XLS IN TRAY, SLI TR V DUL YEL FLO IN 20%, NO VIS POR, NO VIS SHOW

LS-WHT TO OFF WHT CRM TO LT TN, HD DNS TO BRTT IP, MD/F-XLN, SUCRO MTRX, SCAT IMB CALC-XLS IP, V DUL YEL FLO 20% , NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY, V SFT TO V GMMY THRU, BLCKY



CN

21 U. BG

CN

25 U. BG

CN

38 U. BG

CN

21 U. BG

CN

12-15 U. BG

CN

5 U. BG

CN

10-15 U. BG

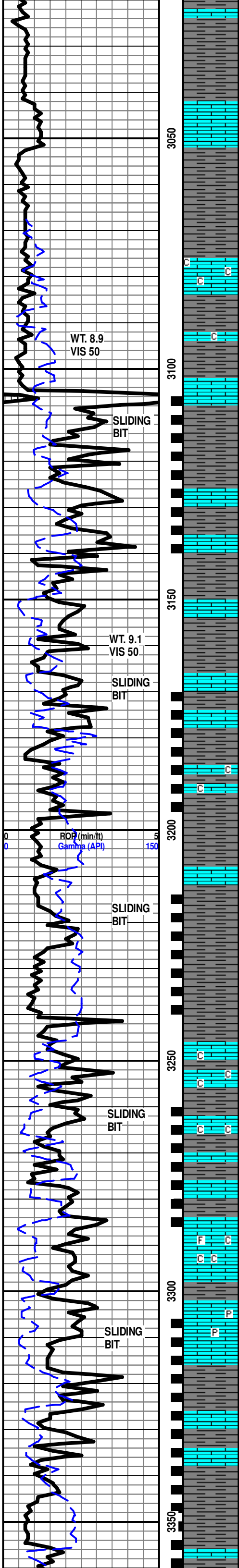
CN

10-12 U. BG

CN

8-10 U. BG

CN



LS- WHT CRM TO LT TN, HD DNS TO BRTT IP, MD/F-XLN, SUCRO MTRX, SCAT IMB CALC-XLS IP, V DUL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT CRM TO LT TN, HD DNS TO BRTT IP, MD/F-XLN, SUCRO MTRX, SCAT IMB CALC-XLS IP, TR IMB SFT WHT CHLK THU, V DUL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW

**CFS @ 3105'/ T.O.H. @ 5:00 A.M.**

**BEGIN SLIDING AFTER 3105'**  
BACK TO DRILLING @ 10:00 PM ON JUNE 18, 2013

LS-WHT TO OFF WHT OCC CRM, HD TO BRITT, MD XLN TO SUCRO IP TRC IMBD SH IP, DLL YEL FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO DRK GY, FRM BLKY, TRS IMBD LS IP

LS-OFF WHT TO WHT OCC CRM, HD DNS TO BRITT, MD XLN TO SUCRO SFT CHLKY, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

SH-LT GY TO GY FRM BLKY IP SMTH TXT TO SFT GMMY IP

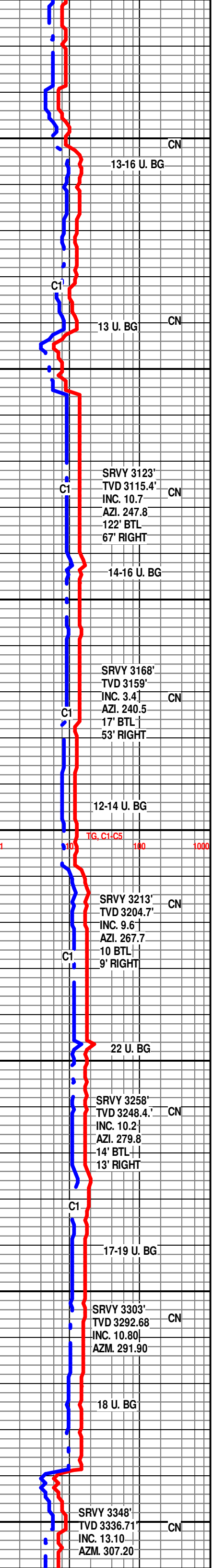
**ELMONT 3246' TVD 3236'**

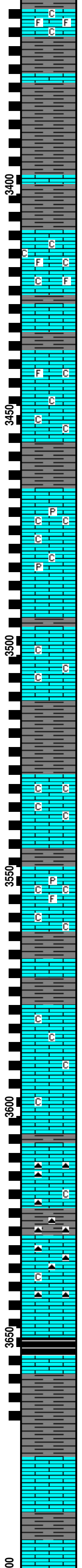
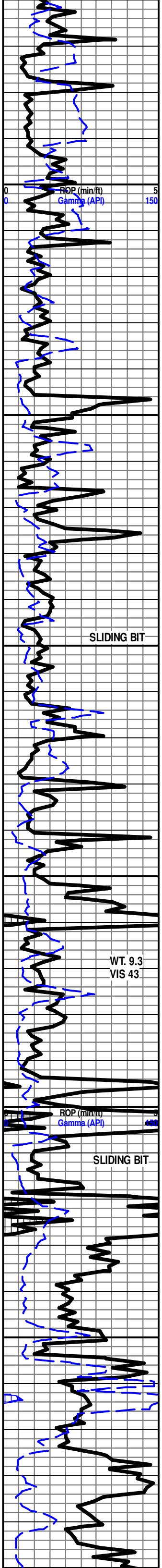
LS-OFF WHT TO WHT OCC CRM, HD DNS TO BRITT, SUCRO TO S-CHLKY MTRX WTH ABDT SFT WHT CHLK, DLL YEL MIN FLO IP, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM LT TN, HD DNS TOB BRTT, MD/F-XLN, SUCRO, S-CHLKY, SCAT SFT WHT CHLK, IMB SM FOSS FRAGS IP, V DUL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY DK GY, FRM TO SFT, SPNLTY SMTH TXT

SH- GY TO DK GY, FRM TO SFT, BLKCY V SLI TR SLTY IP





LS- CRM TO LT TN TN, HD DNS TO BR TT, MD/XLN, SUCRO, SLI TR S-CHLKY IP, ABDT IMB SM TO MD FOSS FRGS THRU, V SLI TR IMB SFT WHT CHLK IP, DUL YEL MIN FLO IN 40%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY, FRM TO V SFT, BLCKY SMTH TXT

**TOPEKA MD 3411'-1060'**  
TVD 3397'-1046'

LS- CRM TO LT TN TN IP, HD DNS TO BR TT, MD/F-XLN MTRX, S-CHLKY IP, SCAT SFT WHT CHLK IN TRAY, LT TR IMB SM FOSS FRGS IP, V DUL YEL FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO CRM TO LT TN, HD DNS TO BR TT, F-XLN MTRX, V S-CHLKY, SCAT IMB SFT WHT CHLK THRU, V SLI TR IMB V SM FOSS FRGS IP, V DUL YEL FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM BFF TO LT TN, HD DNS TO V BR TT, MD-XLN CHLKY MTRX, ABDT IMB SFT WHT CHLK THRU, V SLI TR PYR IN TRAY, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- OFF WHT TO CRM BFF LT TN IP, HD DNS TO BR TT, MD/F-XLN, V S-CHLKY, ABDT SFT WHT CHLK THRU TRAY, LT TR IMB SM CALC-XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

**LECOMPTON MD 3530'-1179'**  
TVD 3509'-1158'

LS- OFF WHT TO CRM, HD DNS TO BR TT, MD-XLN, CHLKY MTRX, ABDT SFT WHT CHLK THRU, V SLI TR IMB GY SH, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- OFF WHT TO CRM LT TN IP, HD DNS TO BR TT, MD/F-XLN MTRX, V S-CHLKY THRU, ABDT SFT WHT CHLK THRU TRAY, LT TR PYR, V SLI TR IMB SM FOSS FRGS IP, DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

WT. 9.3  
VIS 43

LS- WHT TO OFF WHT, DNS TO V BR TT, MD-XLN, V CHLKY MTRX, ABDT SFT WHT CHLK THRU, V SLI TR IMB SM CALC-XLS, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- OFF WHT TO CRM IP, HD DNS TO BR TT IP, MD/F-XLN MTRX, SLI TR RE-XLN IP, ABDT SCAT ORNG CHRT THRU, V SLI TR IMB CALC-XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

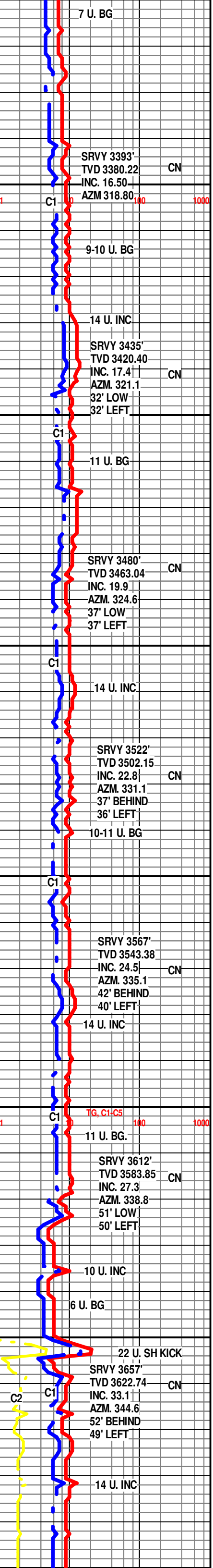
LS- CRM BFF TO LT TN, HD DNS TO TR BR TT IP, F/VF-XLN MTRX, S-SUCRO IP, ABDT ORNG CHRT THRU TRAY, IMB SM CALC-XLS IP, V SLI TR SFT WHT CHLK IN TRAY, DUL YEL FLO IN 30%, YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW

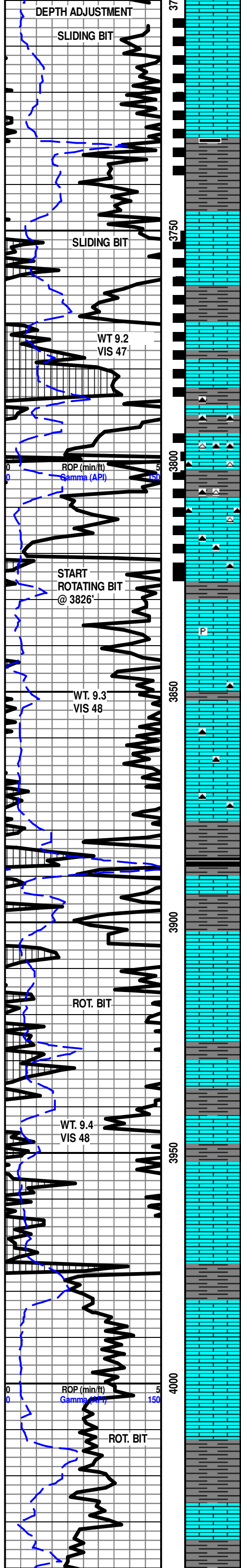
**HEEBNER MD 3651'-1300'**  
TVD 3617'-1266'

SH- BLCK SFT CARB, W/ GY TO DK GY, SLI TR FRM TO SFT, BLCKY SMTH TXT

LS-CRM BFF LT GY OCC LT TN, HRD DNS TO TR BR TT IP, F/VF-XLN MTRX, S-SUCRO IP, LT TRS CHRT CLR TO WHT IN TRAY, DUL YEL FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

**LANSING MD 3694'-1343'**  
TVD 3652'-1301'





LS- WHT TO OFF WHT CRM, HD DNS TO TR BRIT, VF-XLN, S-CHLKY, ABDT SFT WHT CHLK THRU TRAY, V SLI TR IMBD CALC XLS, DUL YEL MIN FLO 50%, LT TR YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO DRK GY, FRM TO SFT, BLKY SMTH, LT TR BLK SFT CARB

**LANSING "C" MD 3749'-1398'**  
TVD 3695'-1344'

LS- CRM TO LT TN TN (W/TN TO DK TN OIL STN 20-30%) V-HD DNS TO SLI TR BRIT, F/VF-XLN, SUCRO MTRX, IMBD SM CALC-XLS, (ON ONE FACES OF ROCK), DUL YEL GLD FLO IN 40%, PR TO FR INTER-XLN POR 2%, V LT TR VIS MICRO-VUG POR IP, POS FRACT POR, GD FLSH CUT IN 40%, GD SLW STRM IN 40%, LT TN TO TN LCH ON DISH, V LT TR OIL ODOR

**LANSING "F" MD 3785'-1434'**  
TVD 3721'-1370'

LS- OFF WHT TO CRM IP, V HD DNS, F/VF-XLN MTRX, S-SUCRO IP, ABDT CLR TO WHT & ORNG CHRT THRU, LT TR IMB SM CALC-XLS IP, V DUL YEL FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

3816'-3820' LS- OFF WHT TO CRM (W/ TN TO DK TN OIL STN IN 40%) (LIVE OIL STN IN 10%), HD DNS TO BRIT, MD/F-XLN MTRX, RE-XLN, S-CHLKY, SCAT ORNG CHRT THRU TRAY, V SLI TR IMB SFT WHT CHLK IP, DUL YEL GLD FLO IN 40%, YEL GLD FLO IP, V PR VIS MICRO-VUG POR IN 2%, FR TO GD FLSH CUT IN 60%, GD TO EXCEL FLSH CUT IN 70%, TN LCH ON DSH, PR TO FR OIL ODOR

LS- CRM TO LT TN, V HD DNS TO V SLI TR BRIT IP, F/VF-XLN MTRX, CRYPTO-XLN IP, V SLI TR PYR IN TRAY, DUL YEL MIN FLO IN 70%, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO OFF WHT CRM, V HD DNS, VVFN/CRYPTO-XLN MTRX, V SLI TR S-CHLKY IP, SCAT ORNG CHRT IN TRAY, V DUL YEL MIN FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

**LANSING "H-SHALE" MD 3879'-1528'**  
TVD 3782'-1431'

SH-V/ LT GY TO GY, V/ SFT TXT TO FRM IP

LS- WHT TO OFF WHT CRM (W/ LT TN OIL STN IN 10-20%, V HD DNS, VVFN/CRYPTO-XLN MTRX, SLI TR S-CHLKY IP, SCAT ORNG CHRT IN TRAY, V DUL YEL GLD FLO IN 10%, NO VIS POR, V PR FLSH CUT V PR STRM CUT, NO LCH ON DSH, NO OIL ODOR

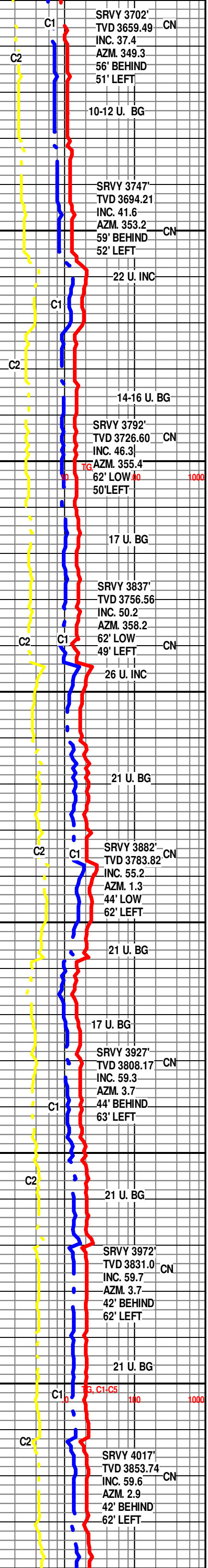
SH- LT GY TO LT GRN, FRM BLKY SMTH TXT

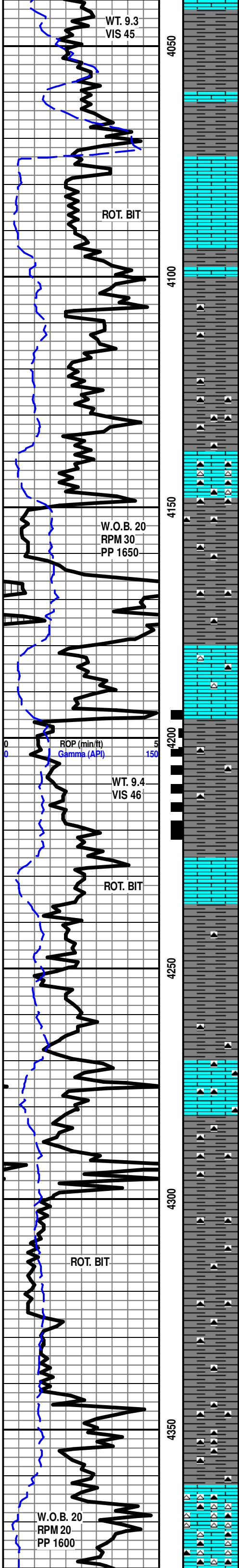
LS-OFF WHT TO WHT CRM OCC LT TN, V HR DNS, V/FN-XLN MTRX, SLI TR S-CHLKY IP, SLI TR SCAT ORNG CHRT IN TRAY, V DUL YEL GLD FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY, FRM BLKY, SMTH TXT, CALC IP

LS-OFF WHT CRM LT TN, LT TN STN SCAT IN 20%, HD DNS BRIT IP, FN TO V/ F- XLN S-SUCRO IP, SM CALC XLS IP, TR LT BRT YEL GLD FLO IN 50%, NO VIS POR, PR FLSH CUT, PR TO FR STRM CUT, NO STAIN ON DISH

SH- LT GY TO GY, FRM BLKY, SMTH TXT, SLI LMY IP





SH-LT GY TO GY OCC DRK GY, FRM TO BLKY, SMTH TXT

**BASAL SHALE-LANSING**  
4074' MD/ TVD 3880' -1529'

LS-OFF WHT TO WHT CRM OCC LT TN, V HR DNS, V/FN-XLN MTRX, SLI TR S-CHLKY IP, SLI TR SCAT ORNG CHRT IN TRAY, V DUL YEL GLD FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY, FRM BLKY, SMTH TXT, SLI LMY IP

STARTED TRIPPING FOR BHA AN BIT AT 4:30 AM  
6/22/2013 MD 4110' TVD 3901'-1550'

STARTED BACK IN HOLE AT 1:30 AM 6/23/2013  
BIT# 3 SER#16834  
8 3/4 7-12'S JETS

SH- GY TO DK GY, FRM TO SFT BLCKY, SMTH TXT, ABDT ORNG CHRT THRU

LS- OFF WHT TO CRM, V HD DNS TO SLI TR BRTT, V/FN-XLN MTRX, HV TR ORNG & WHT CHRT THRU, SLI IMB GY SH, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- RD TO DK RD LT GY IP, SFT TO V GMMY THRU, SCAT ORNG CHRT THRU

START SLIDING BIT @ 4194'-4222'

SH- RD TO DK RD GRN IP, V GMMY THRU, LT TR SCAT ORNG CHRT

LS- WHT TO OFF WHT, HD DNS TO BRTT, MD/F-XLN MTRX, S-SUCRO, V SLI TR IMB SM S-RND CLR QRTZ GRNS, V SLI TR ORNG CHRT IP, V DUL YEL FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

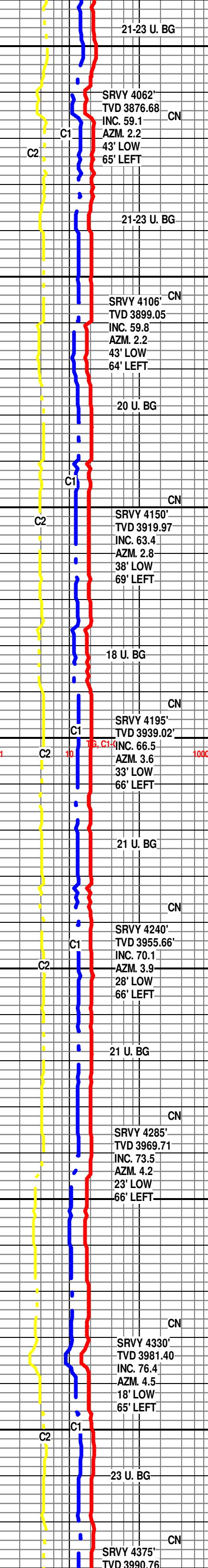
SH- RD TO DK RD PRP, V SFT TO VV GMMY THRU, ABDT ORNG CHRT THRU

SH- RD TO DK RD, SFT TO V GMMY THRU, SCAT ORNG CHRT THRU

SH- RD TO DK RD PRP GRN, SFT TO V GMMY TRHU, HV TR ORNG CHRT THRU

**MARMATON MD 4362'**  
TVD 3987'-1636'

LS- WHT TO OFF WHT, HD DNS TO SLI TR BRTT IP, MD/F-XLN, SUCRO MTRX, ABDT INTER-BED CLR TO WHT WTHRD & ORNG CHRT THRU, V DUL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW



21-23 U. BG

SRVY 4062'  
TVD 3876.68  
INC. 59.1  
AZM. 2.2  
43' LOW  
65' LEFT

21-23 U. BG

SRVY 4106'  
TVD 3899.05  
INC. 59.8  
AZM. 2.2  
43' LOW  
64' LEFT

20 U. BG

SRVY 4150'  
TVD 3919.97  
INC. 63.4  
AZM. 2.8  
38' LOW  
69' LEFT

18 U. BG

SRVY 4195'  
TVD 3939.02'  
INC. 66.5  
AZM. 3.6  
33' LOW  
66' LEFT

21 U. BG

SRVY 4240'  
TVD 3955.66'  
INC. 70.1  
AZM. 3.9  
28' LOW  
66' LEFT

21 U. BG

SRVY 4285'  
TVD 3969.71  
INC. 73.5  
AZM. 4.2  
23' LOW  
66' LEFT

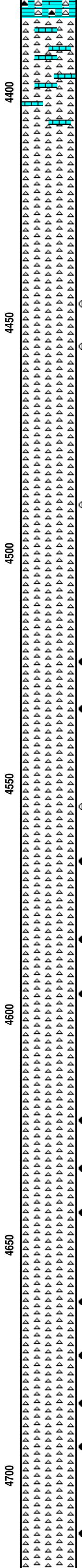
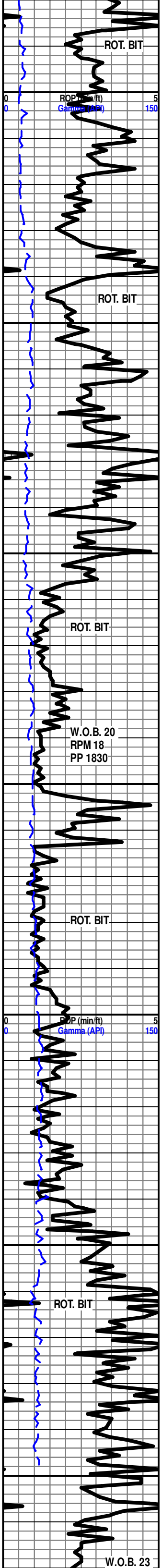
CN

SRVY 4330'  
TVD 3981.40  
INC. 76.4  
AZM. 4.5  
18' LOW  
65' LEFT

23 U. BG

SRVY 4375'  
TVD 3990.76





CHRT- WHT CRM ORNG MOTT, HD DNS, WTHRD CHRT, V CALC-IP, INTER-BED LS, YEL GLD FLO IN 30%, SLI TR V PR MICRO-PP POR IP, NO VIS CUT OR SHOW

4417'-4428' CHRT- WHT TO CRM ORNG IP, HD DNS, SLI TR S-SUCRO, WTHRD CHRT, V CALC-IP, DUL YEL GLD FLO IN 30-40%, TR V PR VIS MICRO-PP POR IP, WK FLSH CUT IN 20-30%, V WK SLW STRM IN 20%, NO VIS LCH ON DSH, NO OIL ODOR

4440'-4460' CHRT- OFF WHT CRM TO ORNG IP (W/ SLI TR LT TN OIL STN IN 20%), HD DNS, WTHRD, SLI TR S-SUCRO, SLI CALC IP, DUL YEL GLD FLO IN 30%, SLI TR V PR VIS MICRO-PP POR IP, WK FLSH CUT IN 10-20%, V WK SLW STRM IN 10% NO VIS LCH ON DSH, NO OIL ODOR

4480'-4500' CHRT- OFF WHT CRM ORNG TO LT TN, HD DNS TO TR BRIT, SLI TR WTHRD IP, SLI CALC IP, DUL YEL GLD FLO IN 30%, V/SLI TR V PR VIS MICRO-PP POR IP, WK FLSH CUT IN 10%, FR SLW STRM CUT IN 10%

4520'-4540' CHRT- OFF WHT CRM TO LT TN OCC ORNG, (W/ SLI TR LT TN OIL STN ON ROCK 30%), HD DNS TO BRIT, TR WTHRD IP, CALC IP, SLI TR FR VIS MICRO-PP POR IP, DUL YEL GLD FLO IN 40%, GD FLSH CUT IN 60%, GD STRM CUT IN 40% TR LT TN LCH ON DISH, FR TO GD OIL ODOR

12:01 AM JUNE 24, 2013

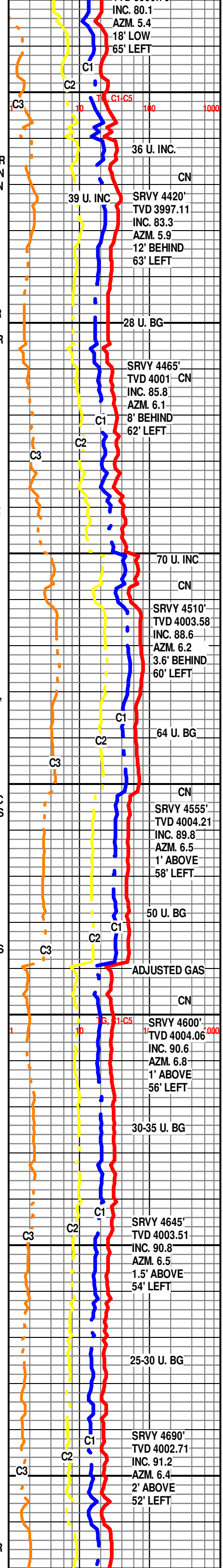
4550'-4570' CHRT- WHT TO OFF WHT CRM TO LT TN OCC ORNG, (W/ SLI TR LT TN OIL STN ON ROCK 20%), HD DNS OCC BRIT, TR WTHRD IP, SLI CALC IP, SLI TR PR VIS MICRO-PP POR IP, DUL YEL GLD FLO IN 50%, GD FLSH CUT IN 50%, GD STRM CUT IN 30% TR LT TN LCH ON DISH, PR TO FR OIL ODOR

4580'-4600' CHRT- OFF WHT CRM TO LT TN TO TN OCC ORNG, (W/ SLI TR LT TN OIL STN ON ROCK 30%), HD DNS TO BRIT, TR WTHRD IP, SLI CALC IP, SLI TR PR TO FR VIS MICRO-PP POR IP, DUL YEL GLD FLO IN 40-50%, GD TO EXL FLSH CUT, GD STRM CUT IN 40%, FR TO GD LT TN LCH ON DISH, FR TO GD OIL ODOR

4620'-4650' CHRT LT TN TO TN DRK TN OCC CRM, (W/ TR LT TN OIL STN ON ROCK 40%), HD DNS TO BRIT, TR WTHRD IP, SLI CALC IP, FR VIS MICRO-PP POR IP, DUL YEL GLD FLO IN 40-50% GD FLSH CUT, GD STRM CUT 50%, GD LT TN LCH ON DISH, FR TO GD OIL ODOR

4660'-4700' CHRT LT TN TO TN DRK TN OCC CRM, (W/ TR LT TN OIL STN ON ROCK 40-50%), HD DNS TO BRIT, TR WTHRD IP, SLI CALC IP, FR VIS MICRO-PP POR IP, DUL YEL GLD FLO IN 40-50% GD FLSH CUT, GD STRM CUT 50-60%, GD LT TN LCH ON DISH, FR TO GD OIL ODOR

4710'-4740' CHRT CRM LT TN TO TN OCC DRK TN, (W/ TR LT TN OIL STN ON ROCK 40-50%), HD DNS TO BRIT, TR



INC. 80.1  
AZM. 5.4  
18' LOW  
65' LEFT

36 U. INC.  
CN

39 U. INC  
SRVY 4420'  
TVD 3997.11  
INC. 83.3  
AZM. 5.9  
12' BEHIND  
63' LEFT

28 U. BG

SRVY 4465'  
TVD 4001 - CN  
INC. 85.8  
AZM. 6.1  
8' BEHIND  
62' LEFT

70 U. INC  
CN

SRVY 4510'  
TVD 4003.58  
INC. 88.6  
AZM. 6.2  
3.6' BEHIND  
60' LEFT

64 U. BG

SRVY 4555'  
TVD 4004.21  
INC. 89.8  
AZM. 6.5  
1' ABOVE  
58' LEFT

50 U. BG

ADJUSTED GAS

CN

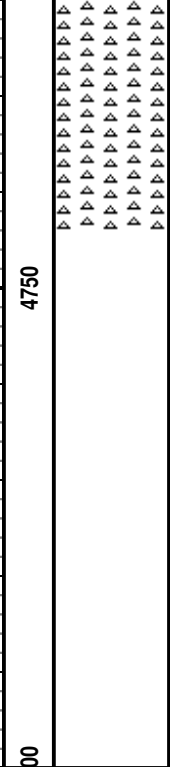
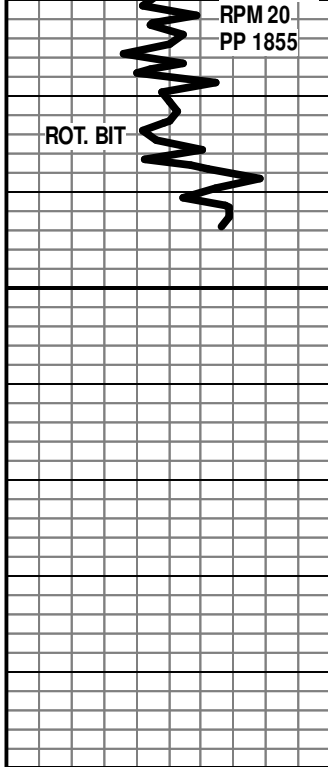
SRVY 4600'  
TVD 4004.06  
INC. 90.6  
AZM. 6.8  
1' ABOVE  
56' LEFT

30-35 U. BG

SRVY 4645'  
TVD 4003.51  
INC. 90.8  
AZM. 6.5  
1.5' ABOVE  
54' LEFT

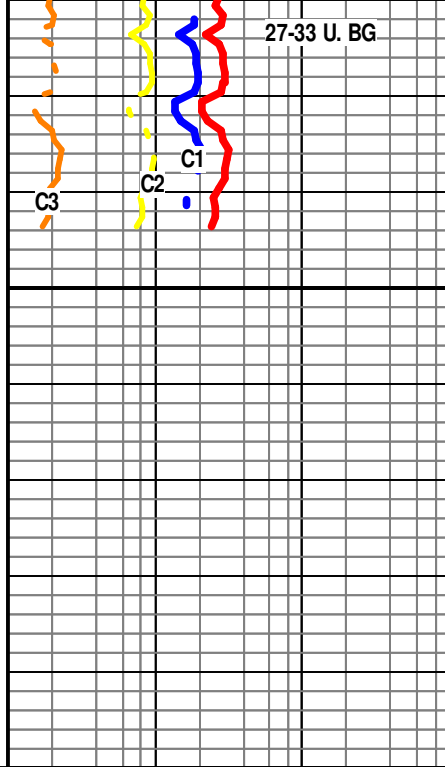
25-30 U. BG

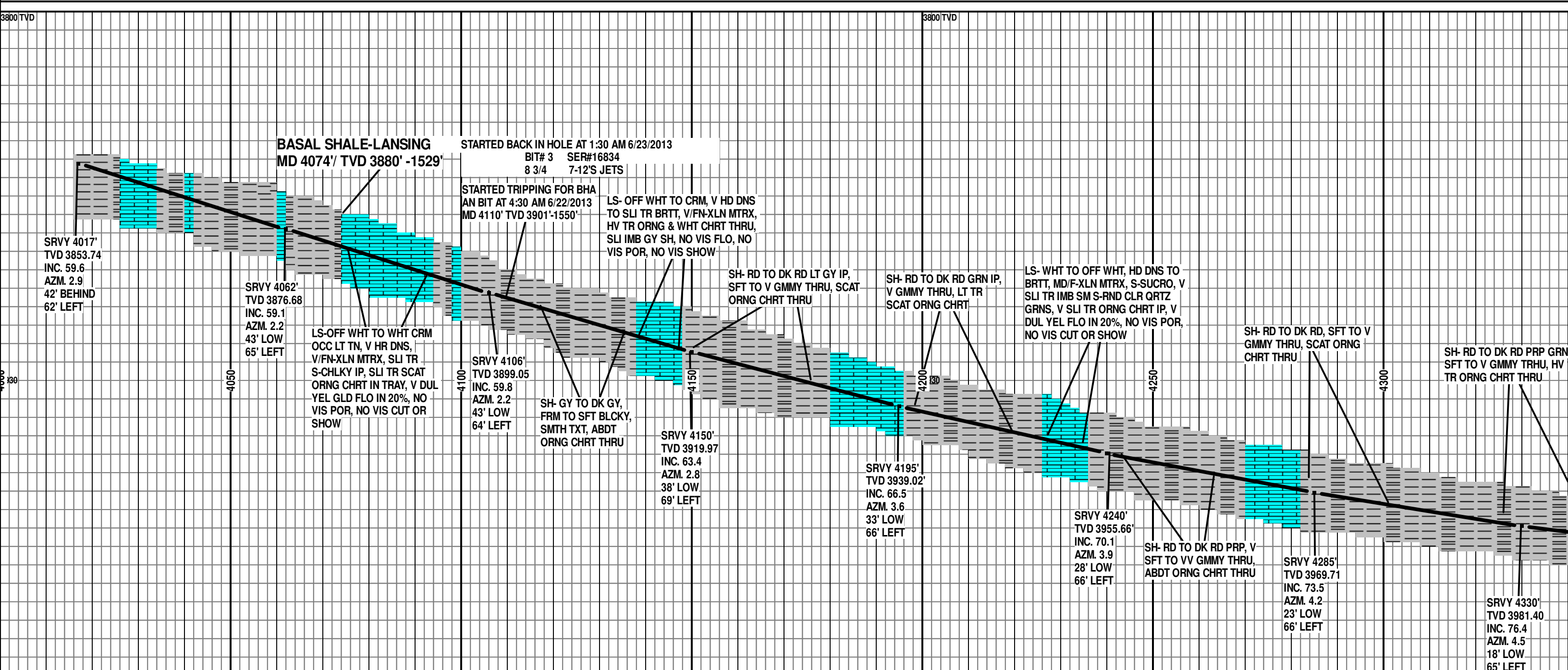
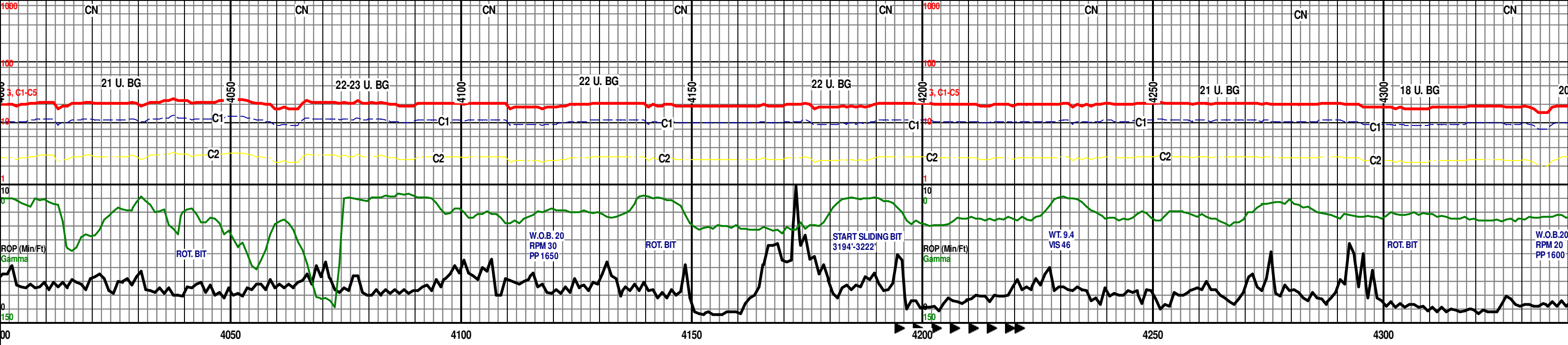
SRVY 4690'  
TVD 4002.71  
INC. 91.2  
AZM. 6.4  
2' ABOVE  
52' LEFT

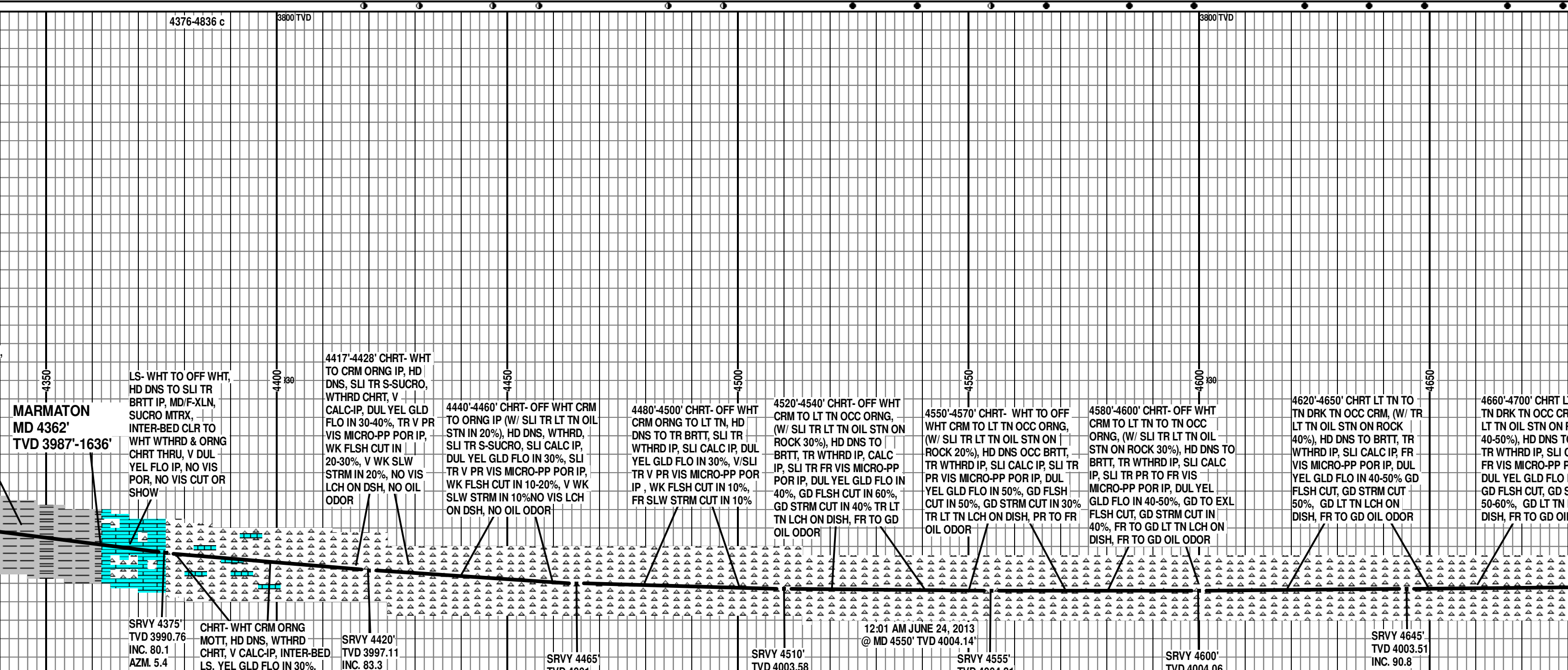
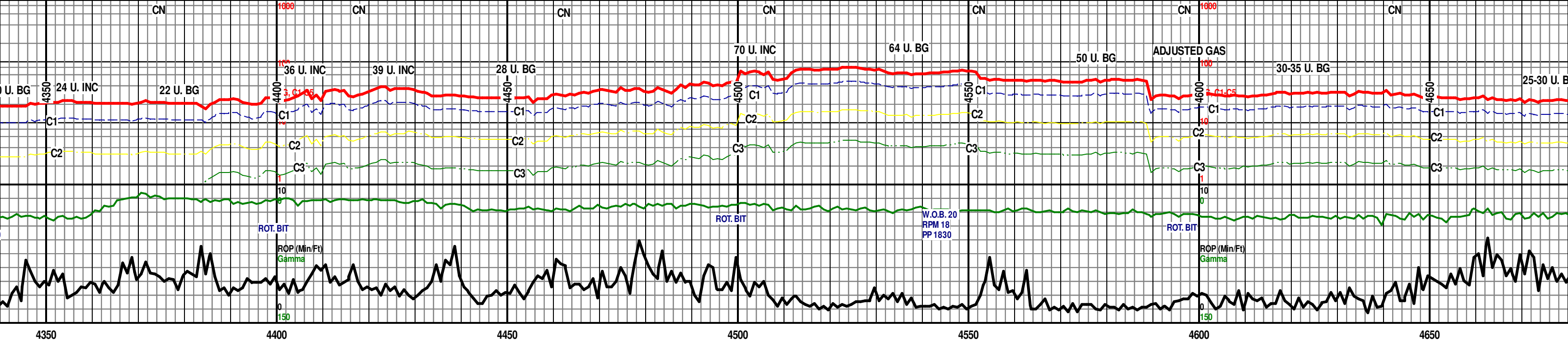


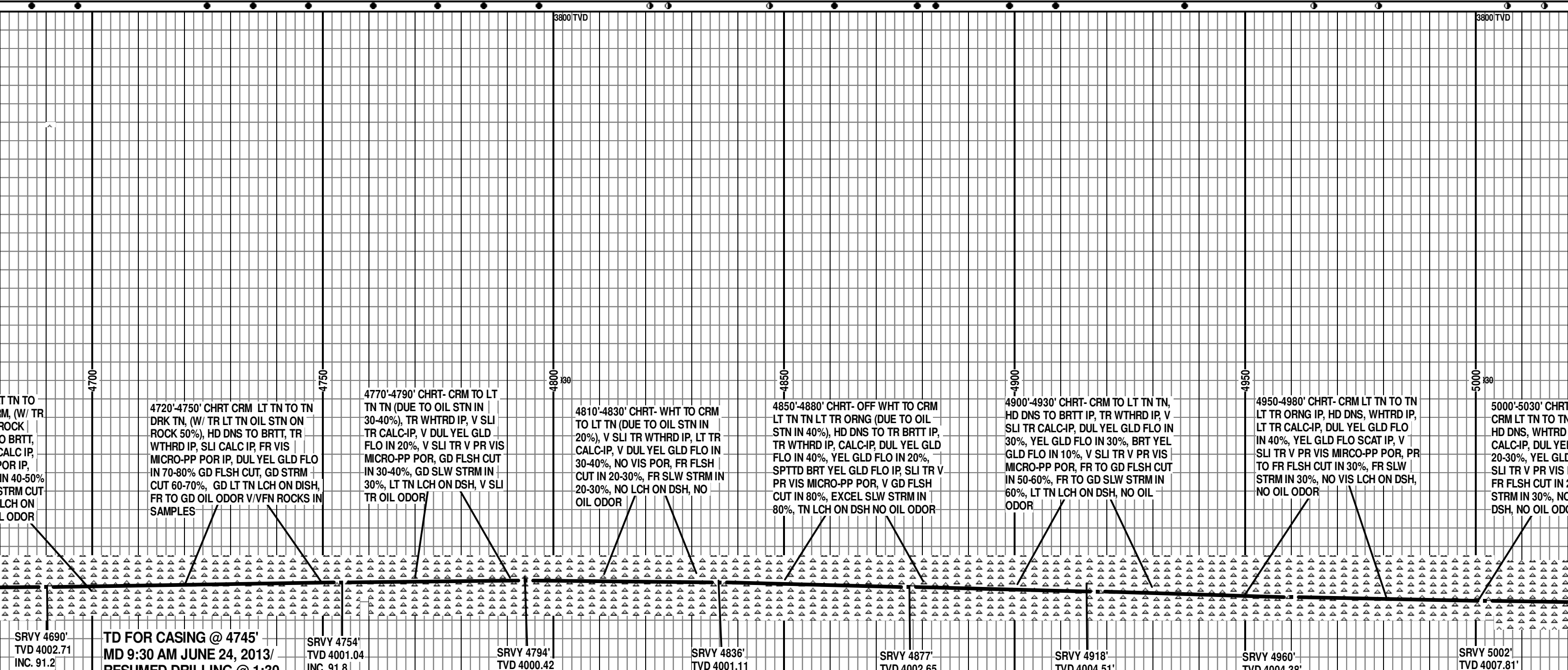
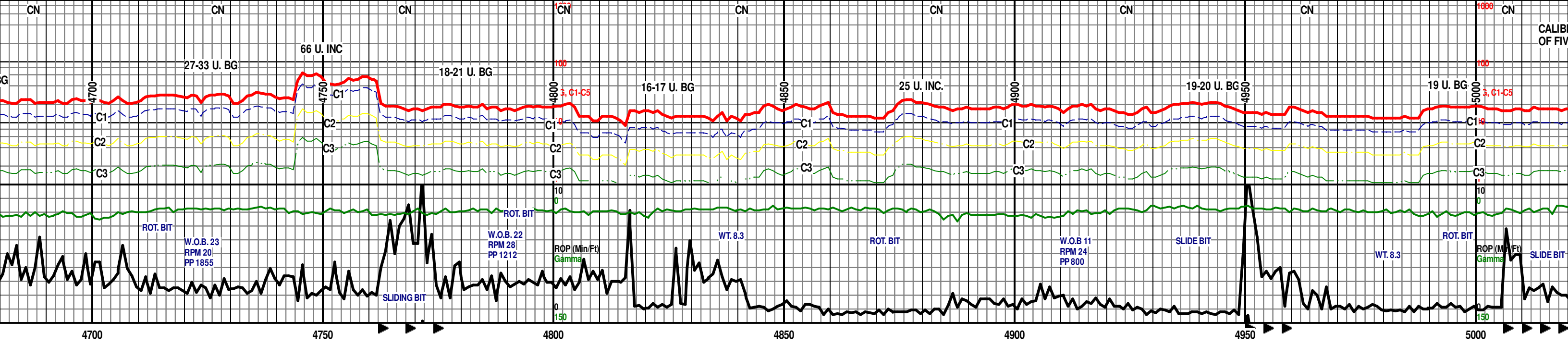
WTHRD IP, SLI CALC IP, FR VIS MICRO-PP POR IP, DUL  
YEL GLD FLO IN 40-50% GD FLSH CUT, GD STRM CUT  
50-60%, GD LT TN LCH ON DISH, FR TO GD OIL ODOR

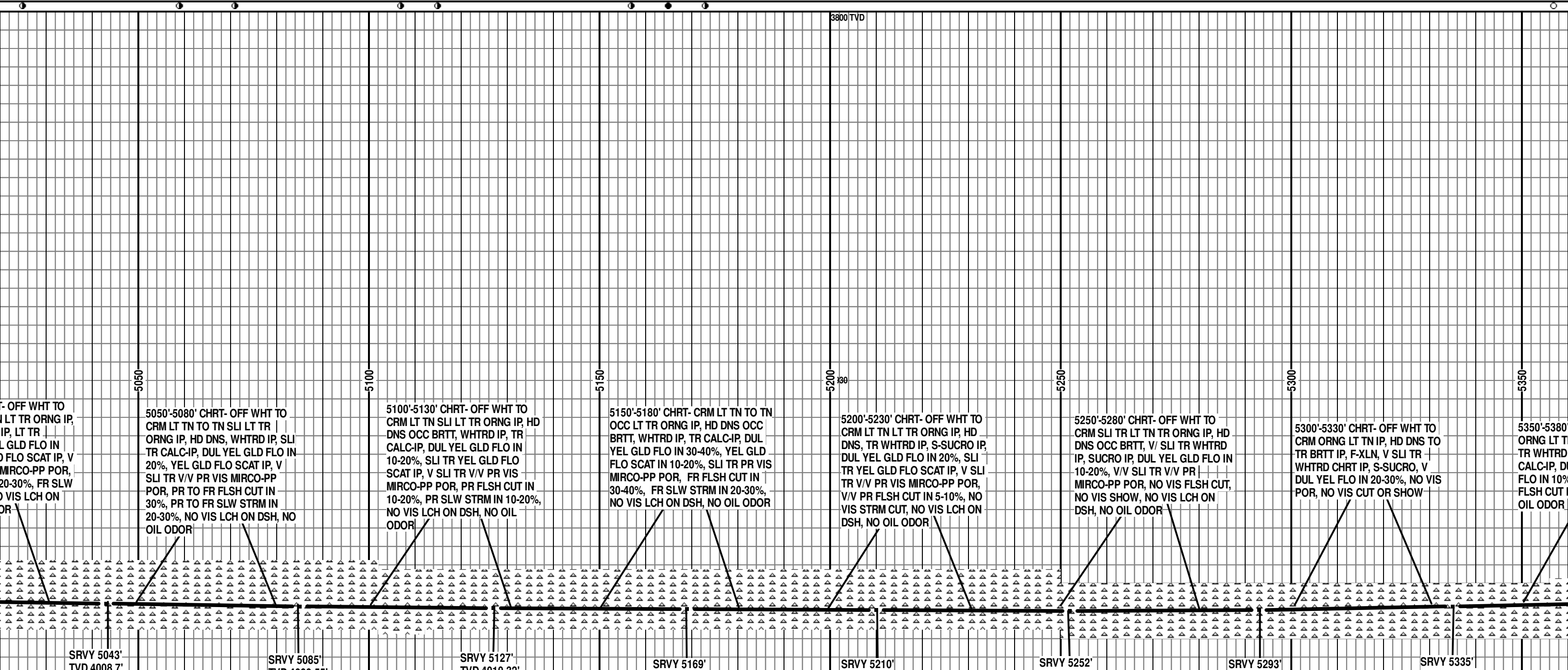
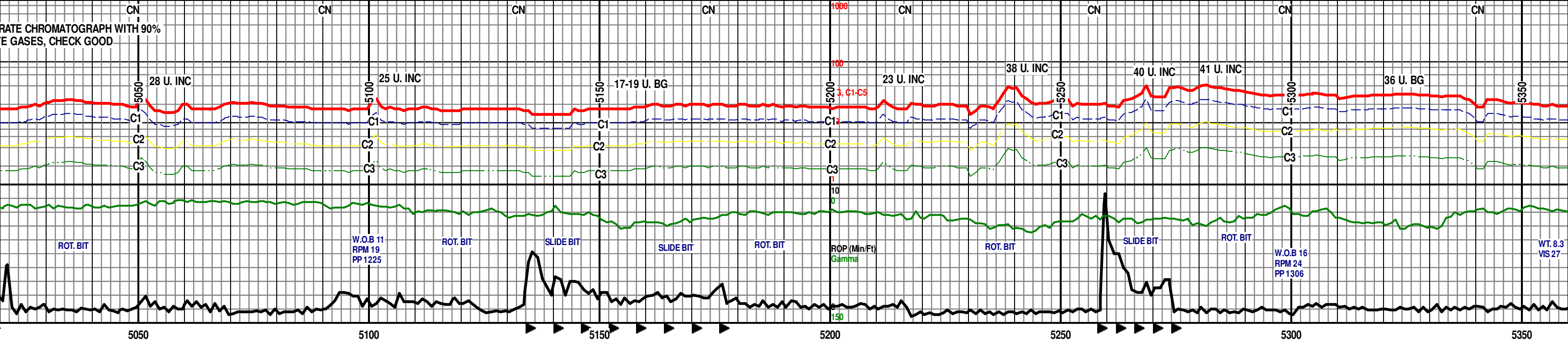
TD FOR CASING @ 4745' MD 9:30 AM

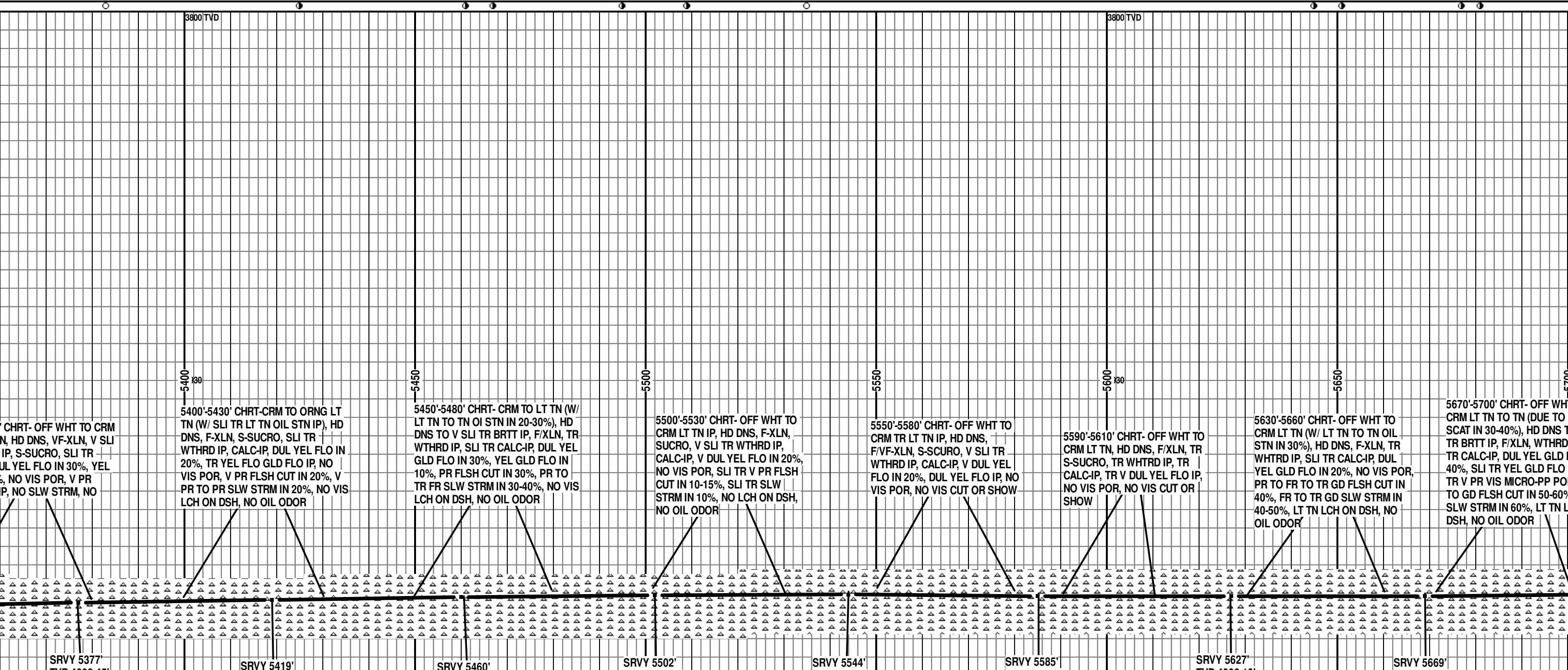
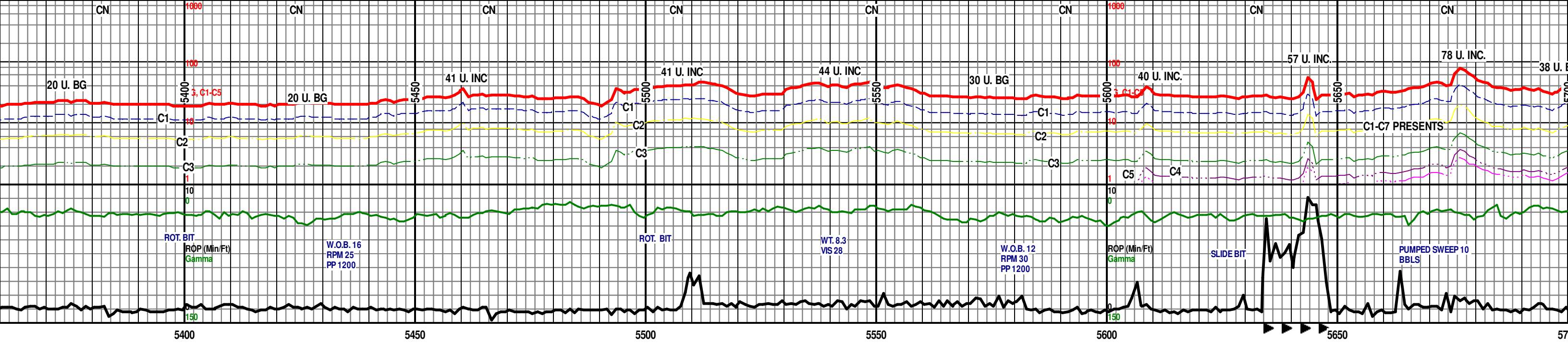


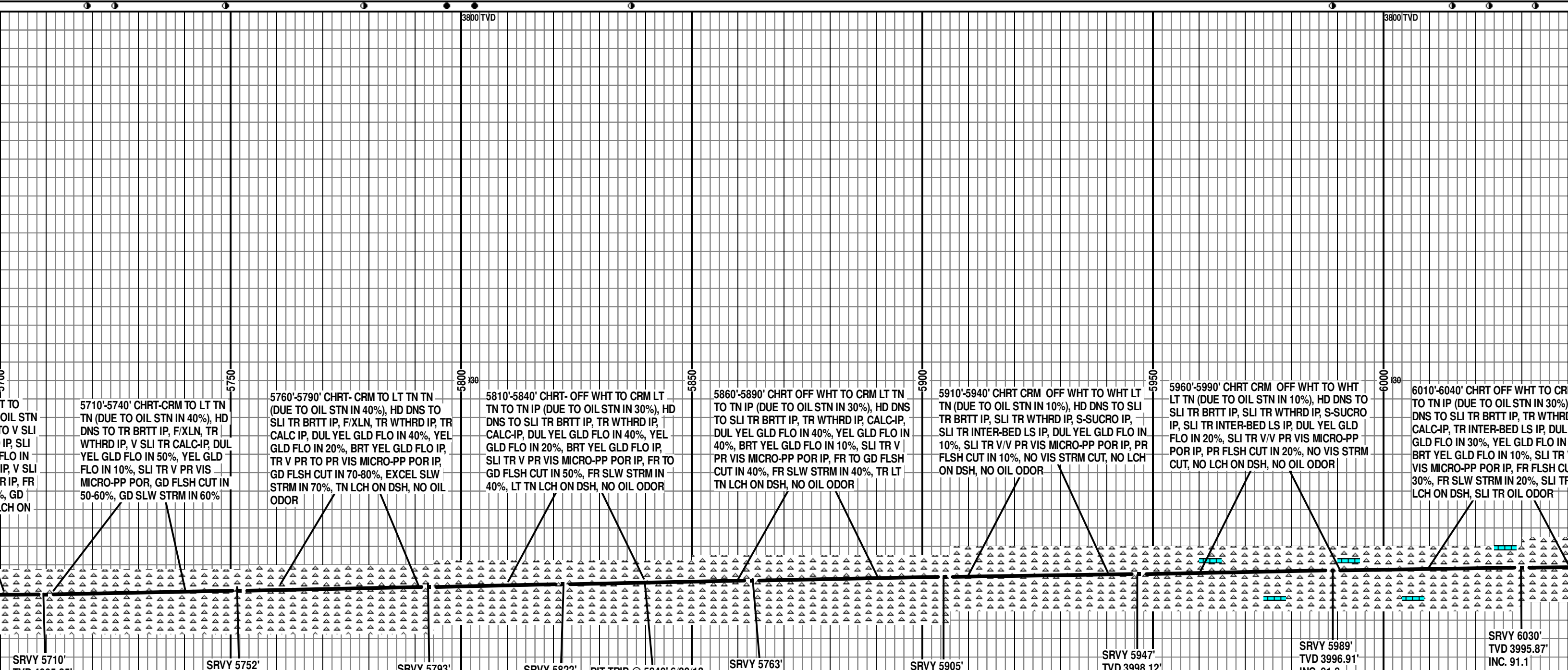
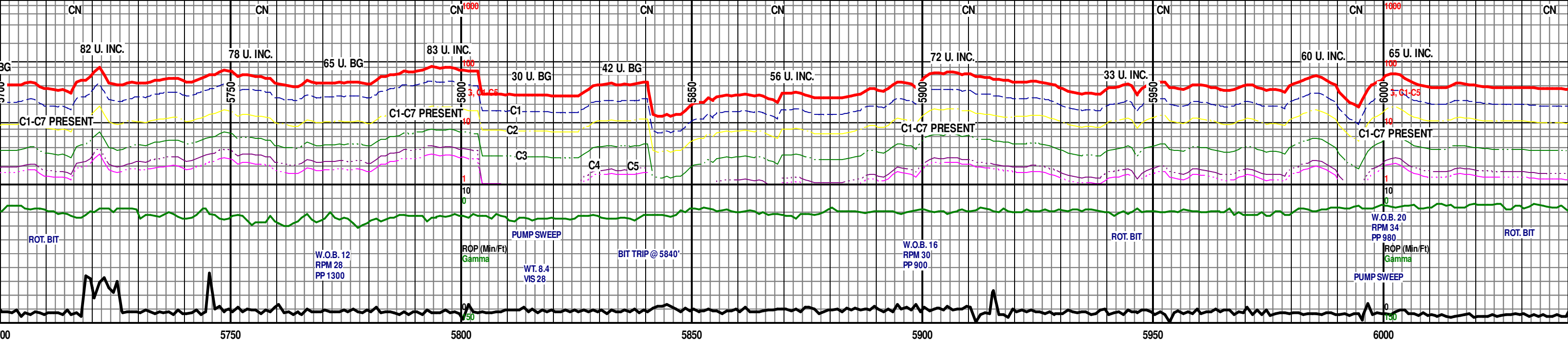




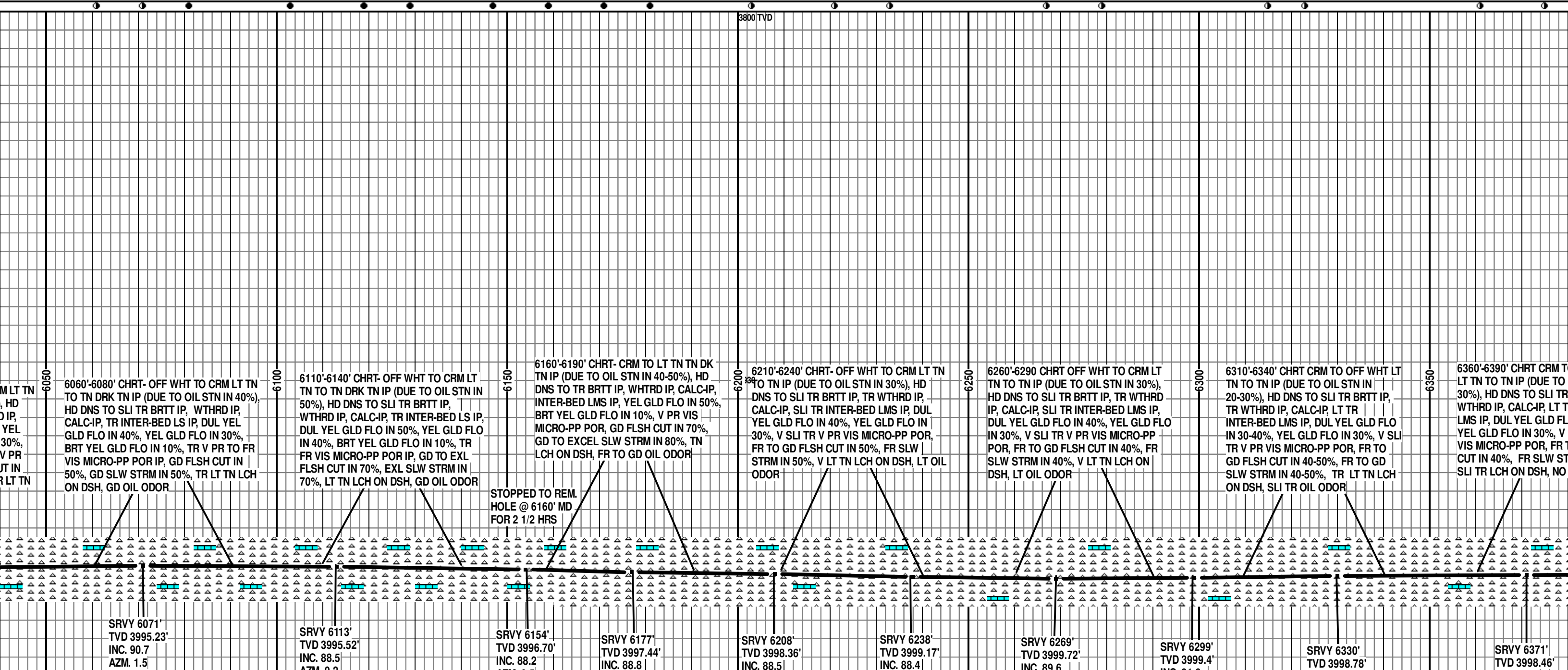
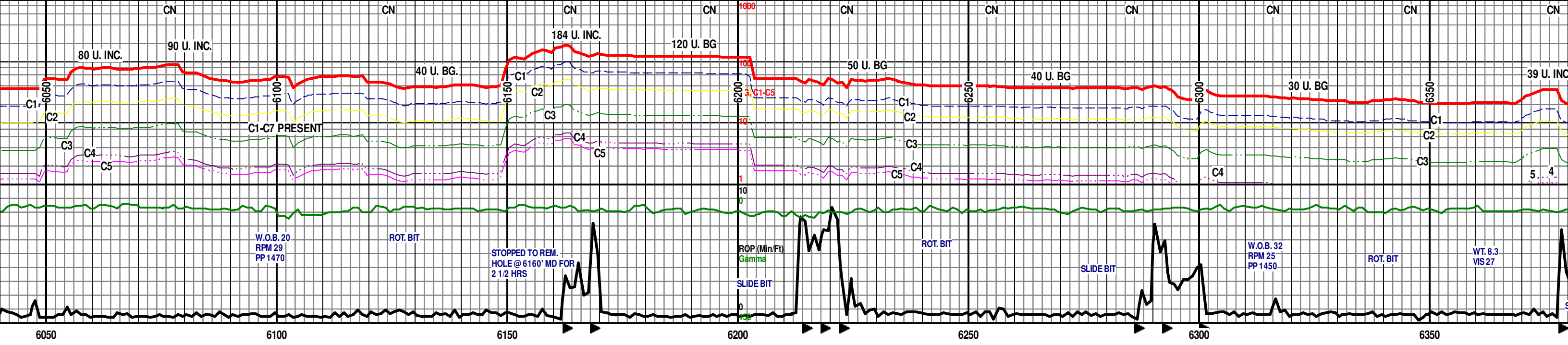


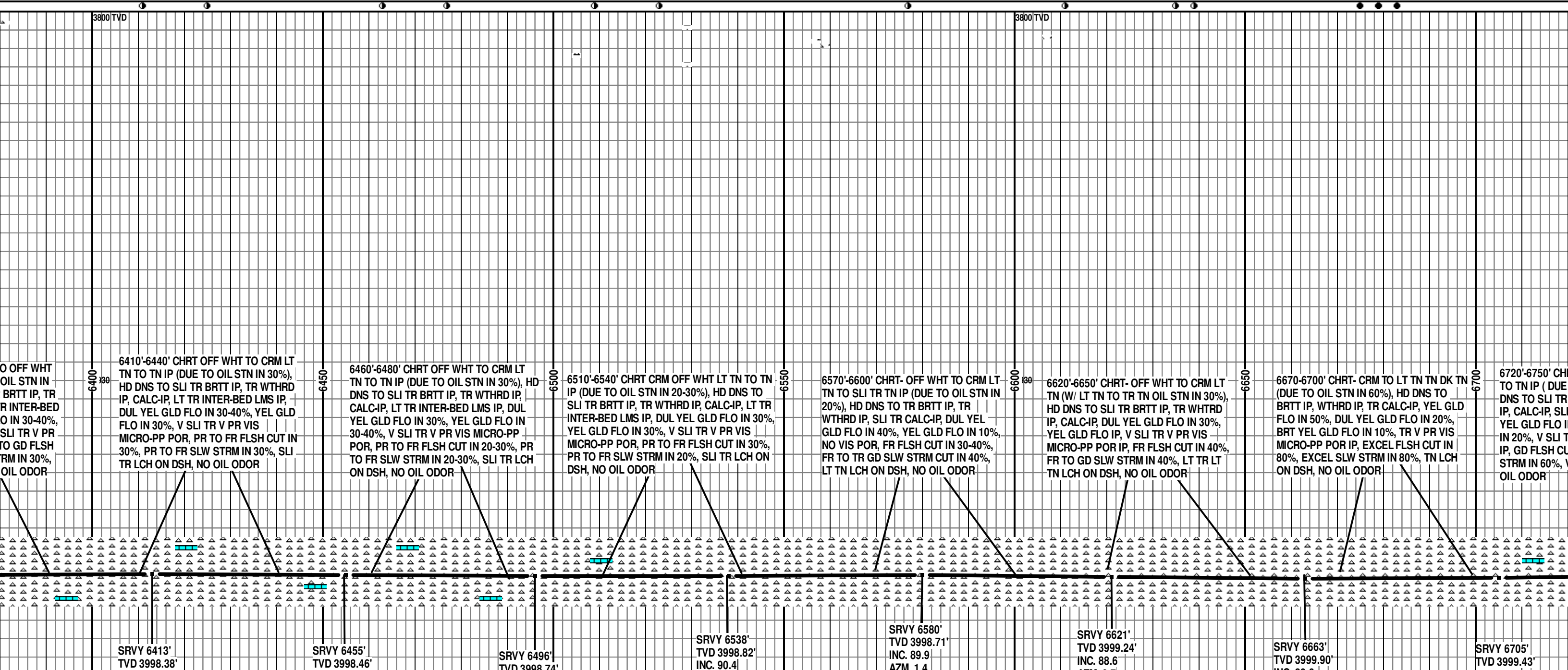
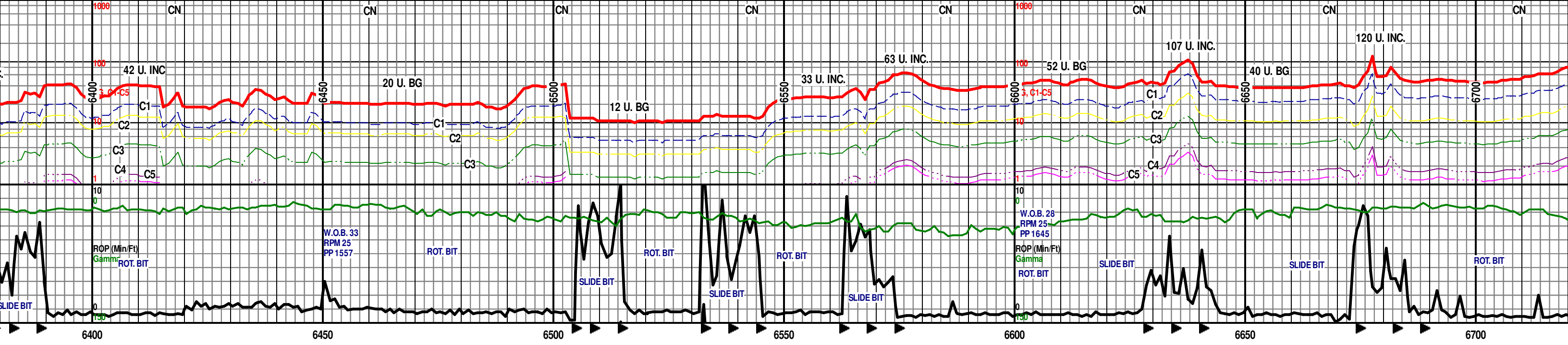


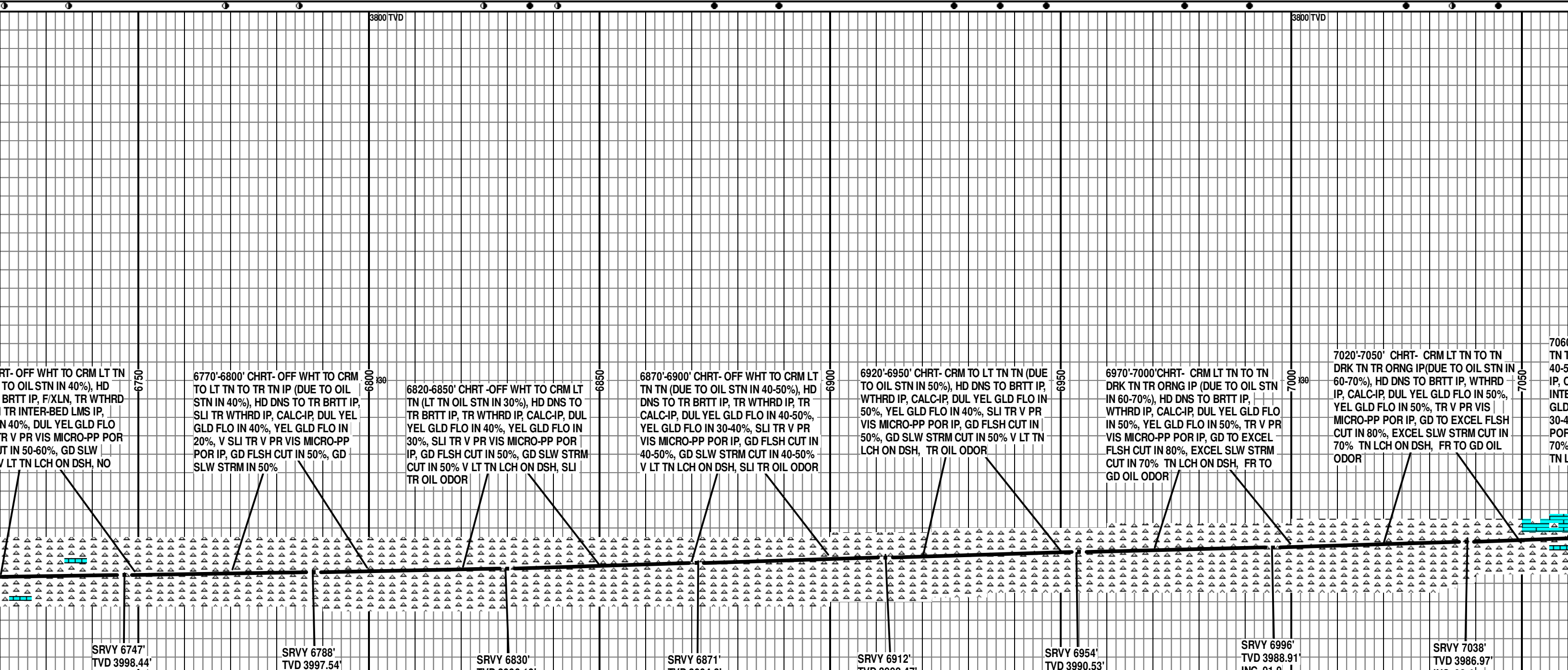
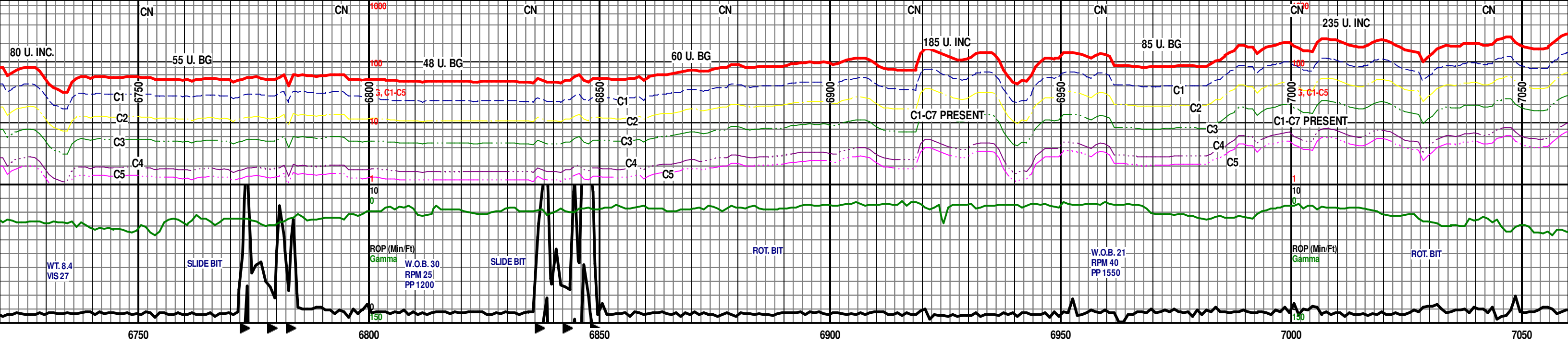


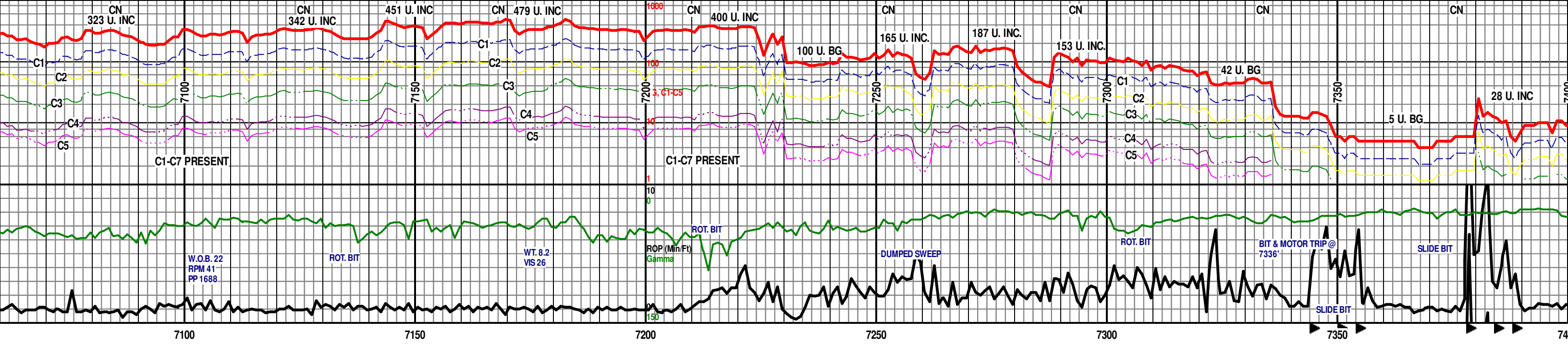




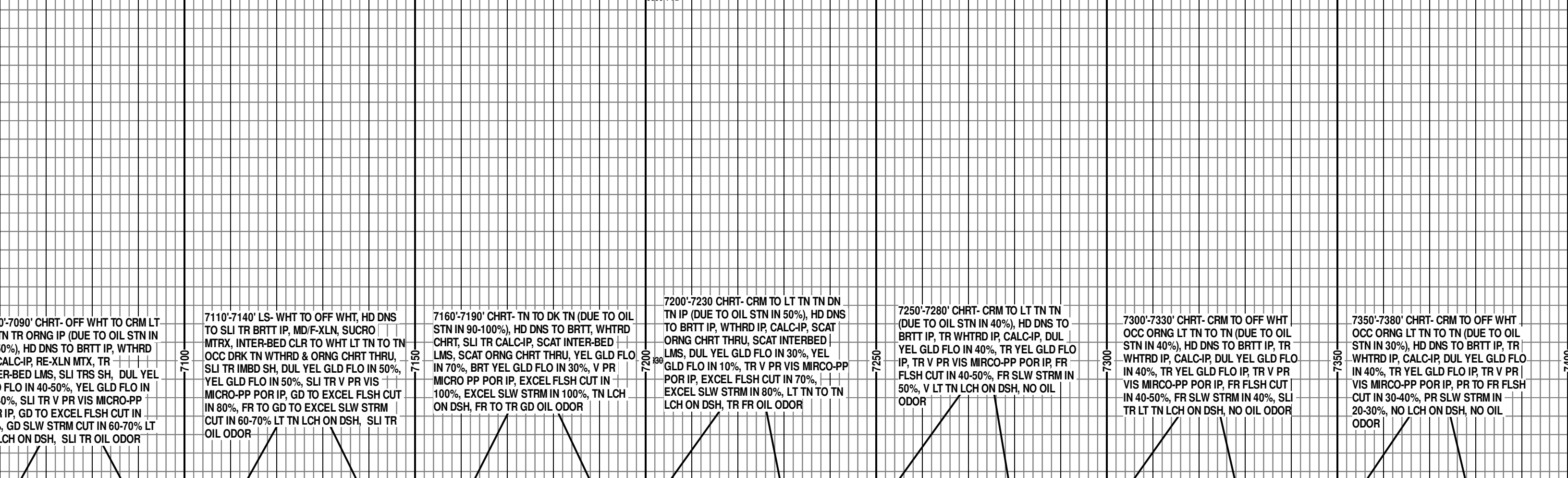








7100 7150 7200 7250 7300 7350 7400



7000-7090' CHRT- OFF WHT TO CRM LT TN TR ORNG IP (DUE TO OIL STN IN 40%), HD DNS TO BRTT IP, WTHRD IP, CALC-IP, RE-XLN MTX, TR INTER-BED LMS, SLI TRS SH, DUL YEL GLD FLO IN 40-50%, YEL GLD FLO IN 40-50%, SLI TR V PR VIS MICRO-PP POR IP, GD TO EXCEL FLSH CUT IN 60-70% LT TN LCH ON DSH, SLI TR OIL ODOR

7110-7140' LS- WHT TO OFF WHT, HD DNS TO SLI TR BRTT IP, MD/F-XLN, SUCRO MTRX, INTER-BED CLR TO WHT LT TN TO TN OCC DRK TN WTHRD & ORNG CHRT THRU, SLI TR IMBD SH, DUL YEL GLD FLO IN 50%, YEL GLD FLO IN 50%, SLI TR V PR VIS MICRO-PP POR IP, GD TO EXCEL FLSH CUT IN 80%, FR TO GD TO EXCEL SLW STRM CUT IN 60-70% LT TN LCH ON DSH, SLI TR OIL ODOR

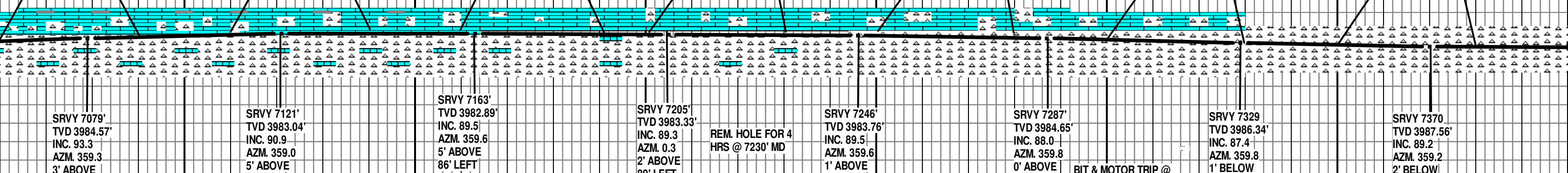
7160-7190' CHRT- TN TO DK TN (DUE TO OIL STN IN 90-100%), HD DNS TO BRTT, WTHRD CHRT, SLI TR CALC-IP, SCAT INTER-BED LMS, SCAT ORNG CHRT THRU, YEL GLD FLO IN 70%, BRT YEL GLD FLO IN 30%, V PR MICRO PP POR IP, EXCEL FLSH CUT IN 100%, EXCEL SLW STRM IN 100%, TN LCH ON DSH, FR TO TR GD OIL ODOR

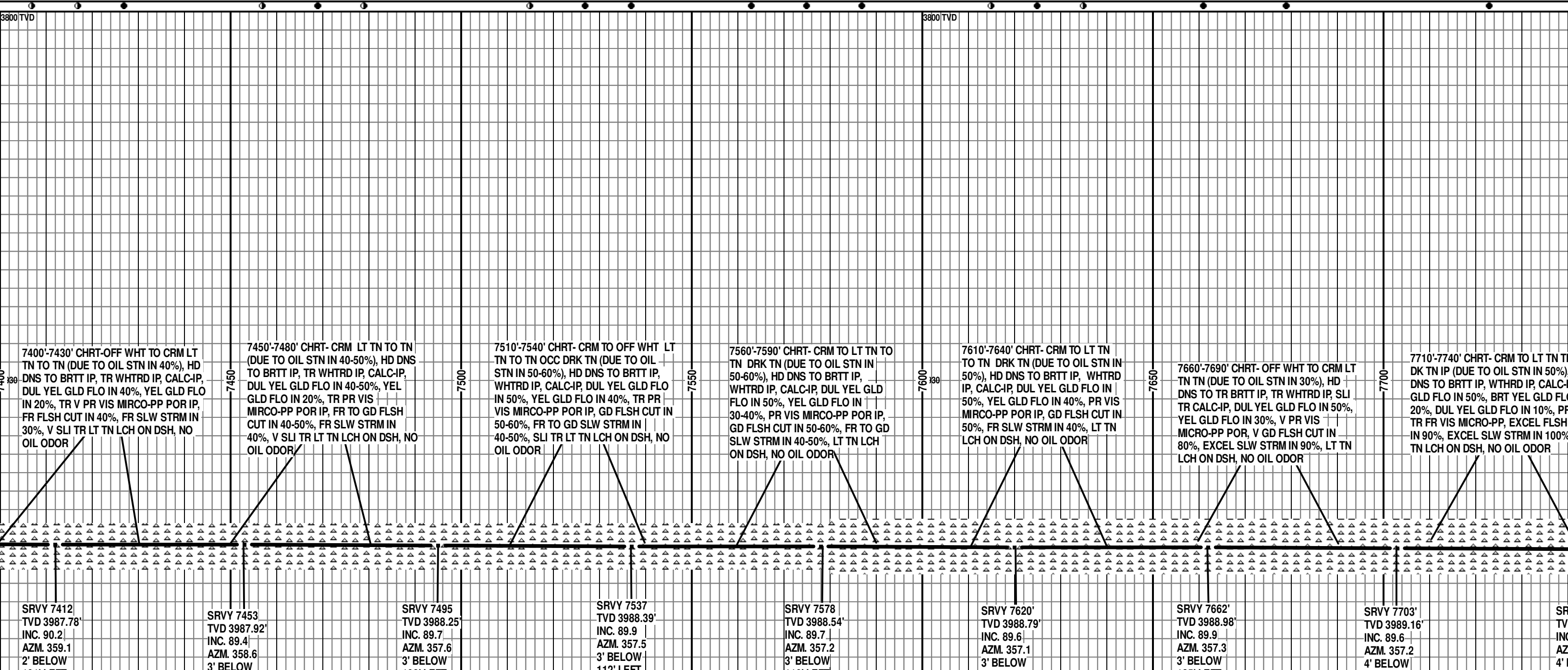
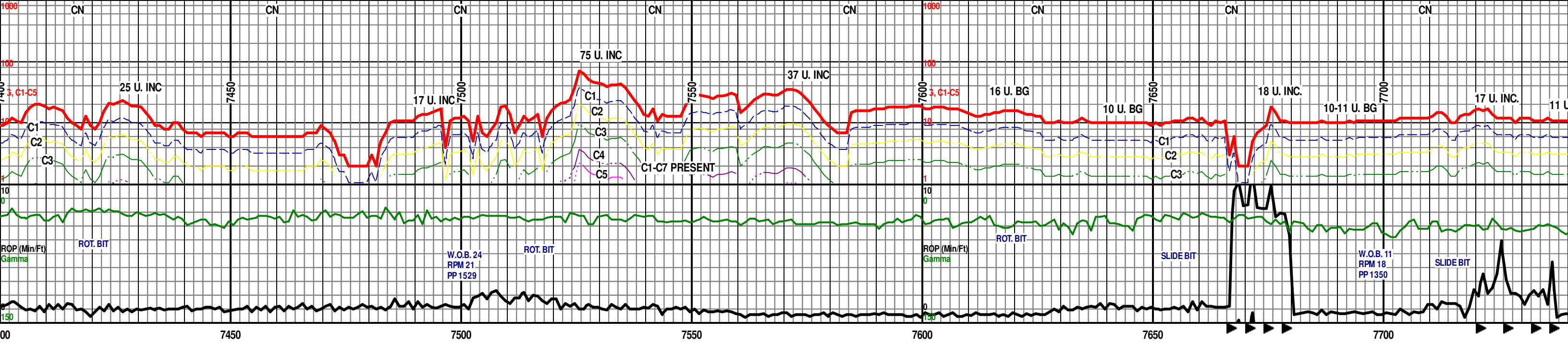
7200-7230 CHRT- CRM TO LT TN TN DN TN IP (DUE TO OIL STN IN 50%), HD DNS TO BRTT IP, WTHRD IP, CALC-IP, SCAT ORNG CHRT THRU, SCAT INTERBED LMS, DUL YEL GLD FLO IN 30%, YEL GLD FLO IN 10%, TR V PR VIS MIRCO-PP POR IP, EXCEL FLSH CUT IN 70%, EXCEL SLW STRM IN 80%, LT TN TO TN LCH ON DSH, TR FR OIL ODOR

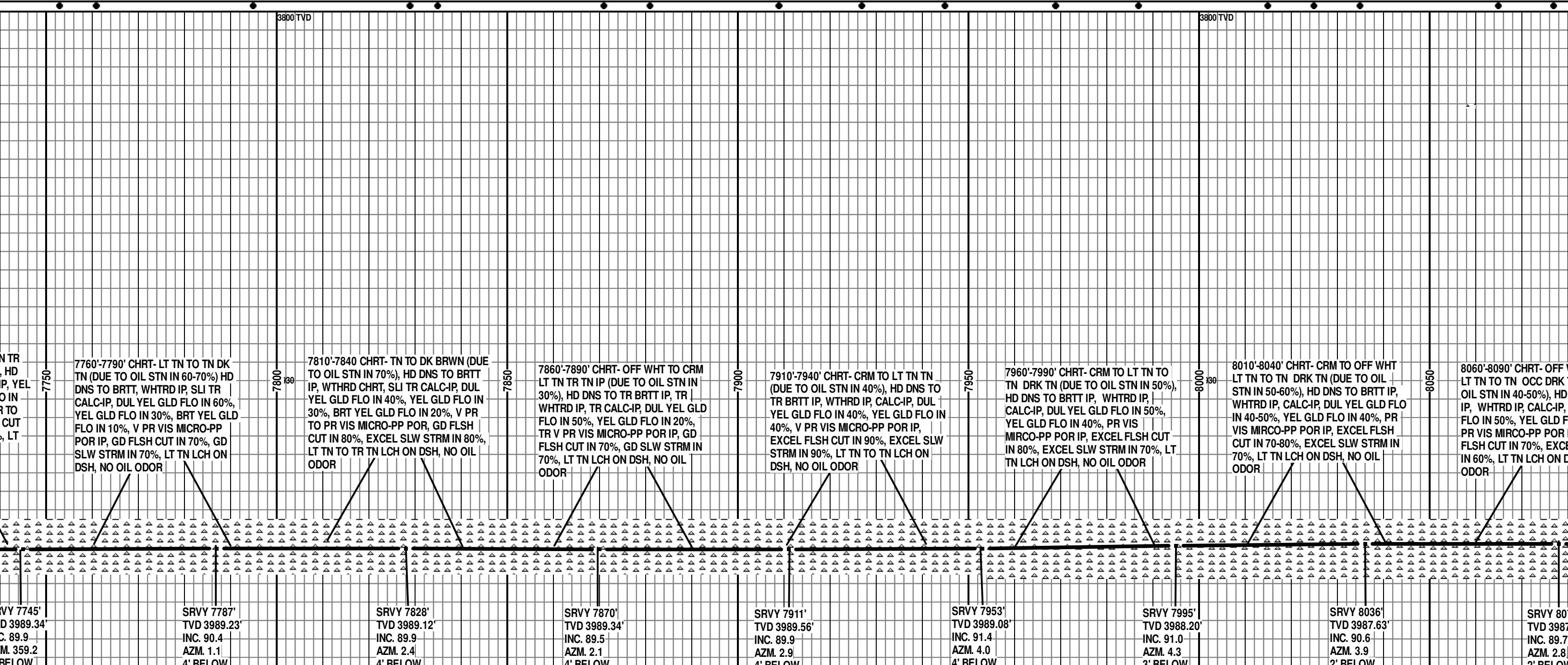
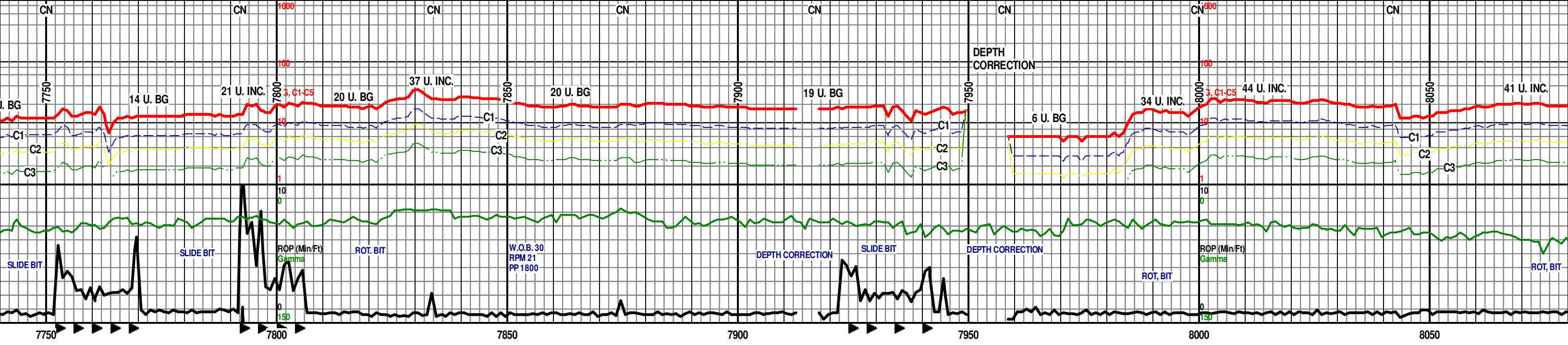
7250-7280' CHRT- CRM TO LT TN TN (DUE TO OIL STN IN 40%), HD DNS TO BRTT IP, TR WTHRD IP, CALC-IP, DUL YEL GLD FLO IN 40%, TR YEL GLD FLO IP, TR V PR VIS MIRCO-PP POR IP, FR FLSH CUT IN 40-50%, FR SLW STRM IN 50%, V LT TN LCH ON DSH, NO OIL ODOR

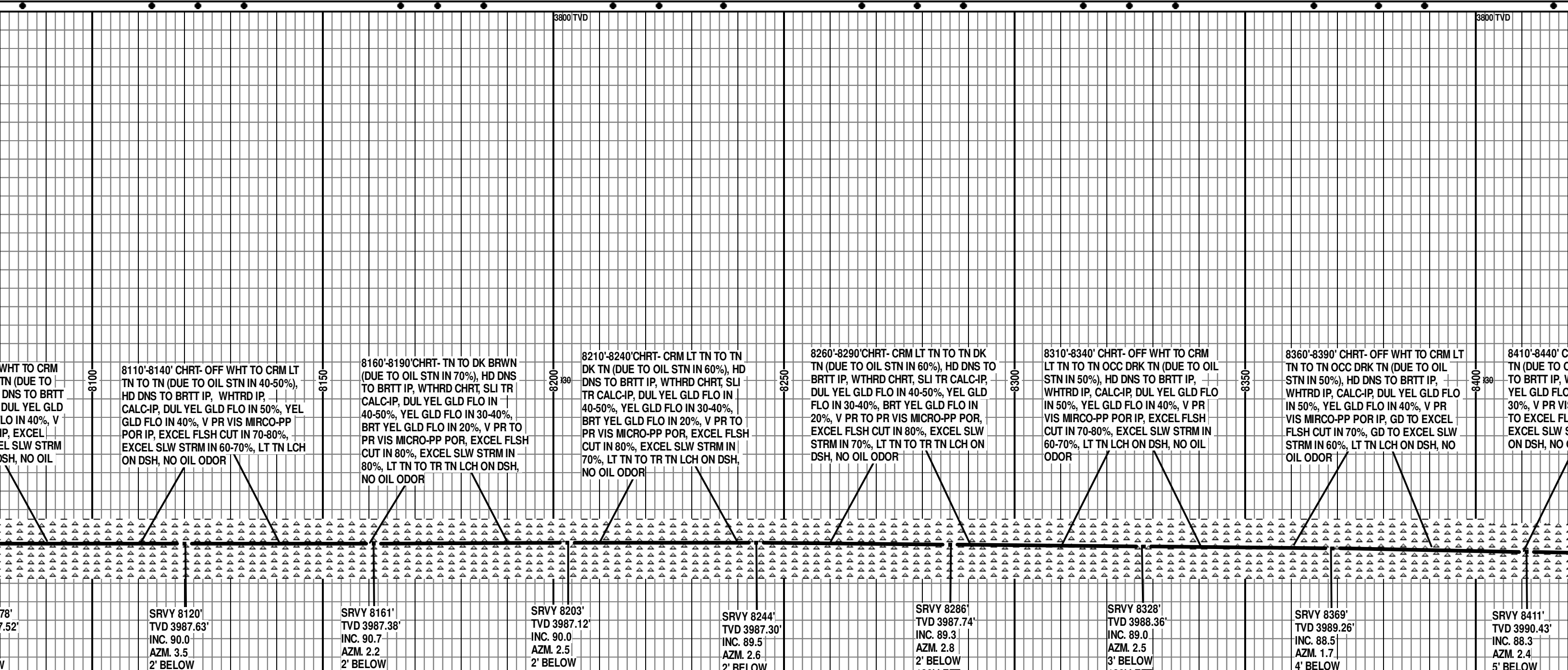
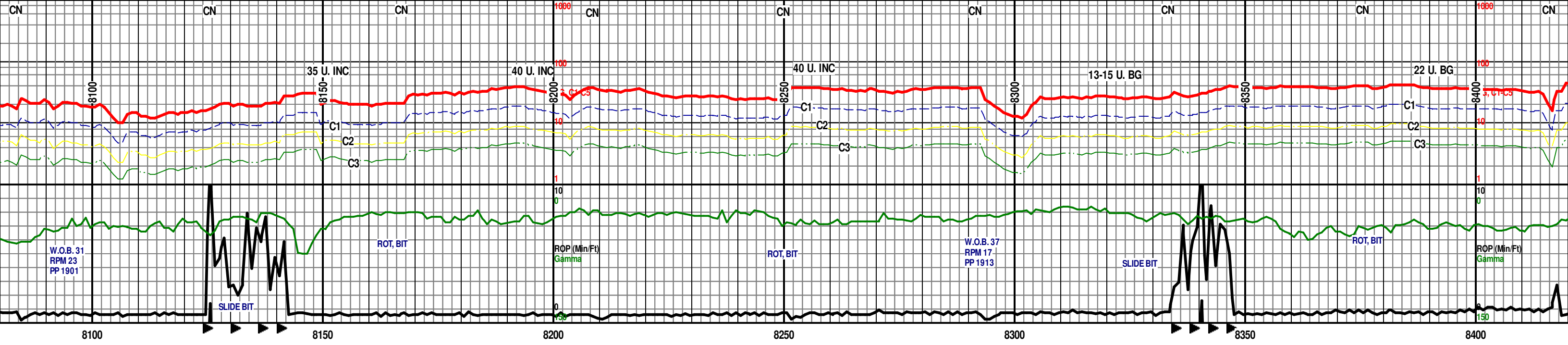
7300-7330' CHRT- CRM TO OFF WHT OCC ORNG LT TN TO TN (DUE TO OIL STN IN 40%), HD DNS TO BRTT IP, TR WTHRD IP, CALC-IP, DUL YEL GLD FLO IN 40%, TR YEL GLD FLO IP, TR V PR VIS MIRCO-PP POR IP, FR FLSH CUT IN 40-50%, FR SLW STRM IN 40%, SLI TR LT TN LCH ON DSH, NO OIL ODOR

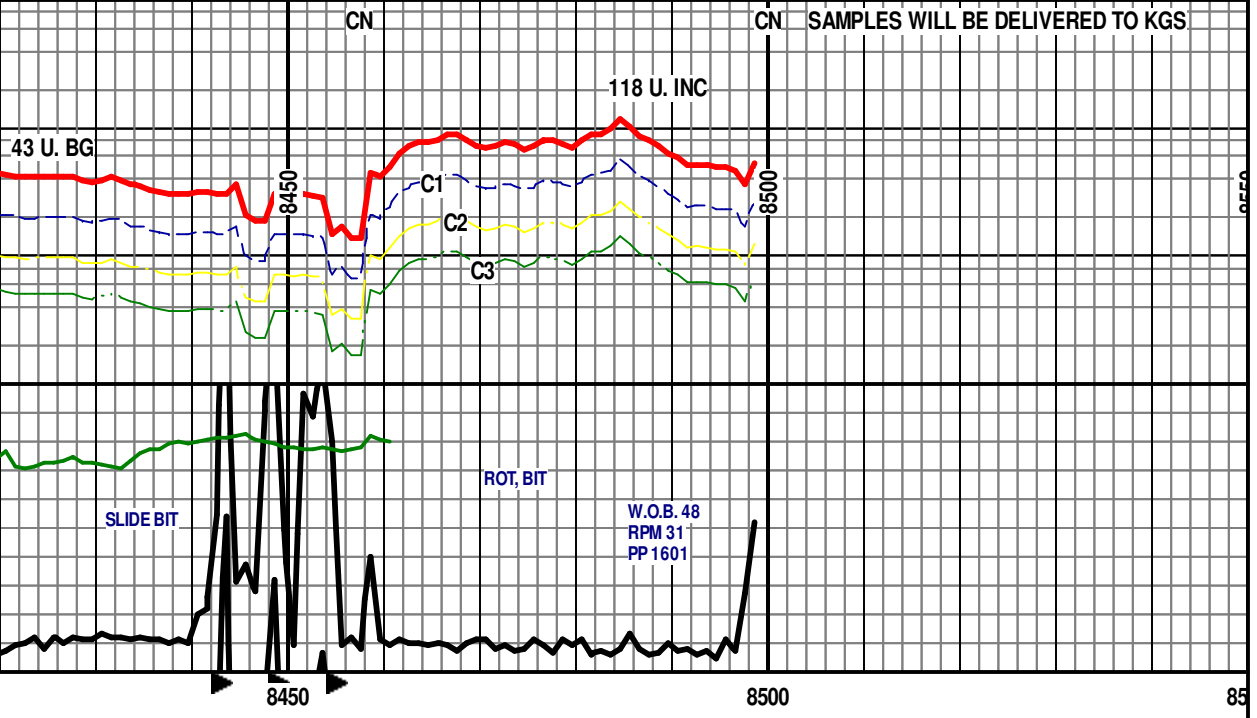
7350-7380' CHRT- CRM TO OFF WHT OCC ORNG LT TN TO TN (DUE TO OIL STN IN 30%), HD DNS TO BRTT IP, TR WTHRD IP, CALC-IP, DUL YEL GLD FLO IN 40%, TR YEL GLD FLO IP, TR V PR VIS MIRCO-PP POR IP, PR TO FR FLSH CUT IN 30-40%, PR SLW STRM IN 20-30%, NO LCH ON DSH, NO OIL ODOR







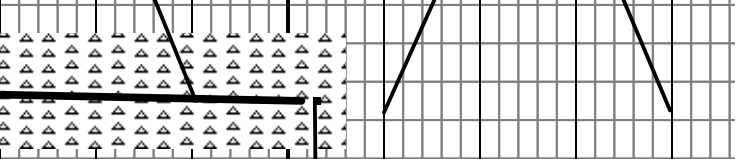




R.T.D 8500'  
T.V.D 3992.21'  
REACHED  
MEASURED DEPTH  
TD AT 9:00 A.M.  
JULY 7, 2013  
THANK YOU FOR  
CHOOSING  
EARTH TECH  
MUDLOGGING  
WELL COMPLETED BY:  
SCHUYLER HEDRICK  
TOM FLOWERS

CHRT CRM LT TN TO TN DRK  
DIL STN IN 50%, HD DNS  
WHTRD IP, CALC-IP, DUL  
IN 60%, YEL GLD FLO IN  
S MIRCO-PP POR IP, GD  
SH CUT IN 70%, GD TO  
STRM IN 60%, LT TN LCH  
OIL ODOR

8460'-8490' CHRT CRM TO OFF WHT LT  
TN TO TN DRK TN (DUE TO OIL STN IN  
50%), HD DNS TO BRTR IP, WHTRD IP,  
CALC-IP, DUL YEL GLD FLO IN 50%, YEL  
GLD FLO IN 40%, V PR VIS MIRCO-PP  
POR IP, GD FLSH CUT IN 60%, GD SLW  
STRM IN 40-50%, LT TN LCH ON DSH, NO  
OIL ODOR



SRVY 8453'  
TVD 3991.86'  
INC. 87.8  
AZM. 1.4