



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1215433  
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: \_\_\_\_\_

1215433

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  | SandRidge Exploration and Production LLC |
| Well Name | Lanie 3408 4-32H                         |
| Doc ID    | 1215433                                  |

#### Perforations

| Shots Per Foot | Perforation Record | Material Record                      | Depth     |
|----------------|--------------------|--------------------------------------|-----------|
| 5              | 4979-4981          | Fresh Slickwater & NEFE HCl 15% Frac | 4979-9052 |
| 5              | 5114-5116          |                                      |           |
| 5              | 5215-5217          |                                      |           |
| 5              | 5410-5412          |                                      |           |
| 5              | 5484-5486          |                                      |           |
| 5              | 5576-5578          |                                      |           |
| 5              | 5667-5669          |                                      |           |
| 5              | 5742-5744          |                                      |           |
| 5              | 5813-5815          |                                      |           |
| 5              | 5862-5864          |                                      |           |
| 5              | 5950-5952          |                                      |           |
| 5              | 6016-6018          |                                      |           |
| 5              | 6092-6094          |                                      |           |
| 5              | 6176-9178          |                                      |           |
| 5              | 6266-6268          |                                      |           |
| 5              | 6344-6346          |                                      |           |
| 5              | 6432-6434          |                                      |           |
| 5              | 6524-6526          |                                      |           |
| 5              | 6594-6596          |                                      |           |
| 5              | 6674-6676          |                                      |           |
| 5              | 6756-6758          |                                      |           |
| 5              | 6823-6825          |                                      |           |
| 5              | 6872-6874          |                                      |           |

|           |  |
|-----------|--|
| Form      | ACO1 - Well Completion                   |
| Operator  | SandRidge Exploration and Production LLC |
| Well Name | Lanie 3408 4-32H                         |
| Doc ID    | 1215433                                  |

Perforations

| Shots Per Foot | Perforation Record | Material Record | Depth |
|----------------|--------------------|-----------------|-------|
| 5              | 6948-6950          |                 |       |
| 5              | 7000-7002          |                 |       |
| 5              | 7110-7112          |                 |       |
| 5              | 7182-7184          |                 |       |
| 5              | 7240-7242          |                 |       |
| 5              | 7286-7288          |                 |       |
| 5              | 7359-7361          |                 |       |
| 5              | 7434-7436          |                 |       |
| 5              | 7553-7555          |                 |       |
| 5              | 7618-7620          |                 |       |
| 5              | 7702-7704          |                 |       |
| 5              | 7753-7755          |                 |       |
| 5              | 7831-7833          |                 |       |
| 5              | 7928-7930          |                 |       |
| 5              | 7992-7994          |                 |       |
| 5              | 8088-8090          |                 |       |
| 5              | 8153-8155          |                 |       |
| 5              | 8202-8204          |                 |       |
| 5              | 8291-8293          |                 |       |
| 5              | 8397-8399          |                 |       |
| 5              | 8472-8474          |                 |       |
| 5              | 8535-8537          |                 |       |
| 5              | 8620-8622          |                 |       |
| 5              | 8673-8675          |                 |       |

|           |  |
|-----------|--|
| Form      | ACO1 - Well Completion                   |
| Operator  | SandRidge Exploration and Production LLC |
| Well Name | Lanie 3408 4-32H                         |
| Doc ID    | 1215433                                  |

Perforations

| Shots Per Foot | Perforation Record | Material Record | Depth |
|----------------|--------------------|-----------------|-------|
| 5              | 8726-8728          |                 |       |
| 5              | 8804-8806          |                 |       |
| 5              | 8855-8857          |                 |       |
| 5              | 8924-8926          |                 |       |
| 5              | 8986-8988          |                 |       |
| 5              | 9050-9052          |                 |       |



# Hydraulic Fracturing Fluid Product Component Information Disclosure

|                                |                    |
|--------------------------------|--------------------|
| Job Start Date:                | 5/10/2014          |
| Job End Date:                  | 5/11/2014          |
| State:                         | Kansas             |
| County:                        | Harper             |
| API Number:                    | 15-077-22033-01-00 |
| Operator Name:                 | SandRidge Energy   |
| Well Name and Number:          | Lanie 3408 4-32H   |
| Longitude:                     | -98.21635917       |
| Latitude:                      | 37.03652349        |
| Datum:                         | NAD27              |
| Federal/Tribal Well:           | NO                 |
| True Vertical Depth:           | 4,753              |
| Total Base Water Volume (gal): | 1,851,066          |
| Total Base Non Water Volume:   | 0                  |



## Hydraulic Fracturing Fluid Composition:

| Trade Name   | Supplier | Purpose                        | Ingredients                       | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Concentration in HF Fluid (% by mass)** | Comments |
|--|----------|--------------------------------|-----------------------------------|--|--|--|----------|
| Water  | Archer   | Carrier/Base Fluid             |                                   |  |  |  |          |
|  |          |                                | Water                             | 7732-18-5                                | 100.00000  | 94.42391   | None     |
| Sand (Proppant)  | Archer   | Proppant                       |                                   |  |  |  |          |
|  |          |                                | Silica Substrate                  | NA                                       | 100.00000  | 4.57976  | None     |
| Hydrochloric Acid (15%)  | Archer   | Acidizing                      |                                   |  |  |  |          |
|  |          |                                | Hydrochloric Acid                 | 7647-01-0                                | 15.00000   | 0.12888  | None     |
|  |          |                                | NONYL PHENOL, 4 MOL               | 104-40-5                                 | 10.00000   | 0.00460  | None     |
|  |          |                                | Methyl Alcohol                    | 67-56-1                                  | 80.00000   | 0.00112  | None     |
|  |          |                                | thiourea-formaldehyde copolymer   | 68527-49-1                               | 15.00000   | 0.00021  | None     |
| Chemflush  | Archer   | Enviro-Friendly Chemical Flush |                                   |  |  |  |          |
|  |          |                                | Hydrotreated Petroleum Distillate | 64742-47-8                               | 99.00000   | 0.00424  | None     |
|  |          |                                | Alcohol Ethoxylate Surfactants    | NA                                       | 10.00000   | 0.00043  | None     |
| AIC  | Archer   | Liquid Acid Iron Control       |                                   |  |  |  |          |
|  |          |                                | Acetic Acid                       | 64-19-7                                  | 50.00000   | 0.00250  | None     |
|  |          |                                | Citric Acid                       | 77-92-9                                  | 30.00000   | 0.00150  | None     |
| Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS. |          |                                |                                   |  |  |  |          |
|  |          | Other Chemicals                |                                   |  |  |  |          |

|  |  |   |            |  |         |
|--|--|---|------------|--|---------|
|  |  | Water                                   | 7732-18-5  |  | 0.04211 |
|  |  | WATER                                   | 7732-18-5  |  | 0.02759 |
|  |  | Aliphatic Hydrocarbon                   | 64742-47-8 |  | 0.02106 |
|  |  | Anionic Polymer                         | N/A        |  | 0.02106 |
|  |  | TRADE SECRET                            | N/A        |  | 0.01840 |
|  |  | Water                                   | 7732-18-5  |  | 0.00922 |
|  |  | ISOPROPANOL                             | 67-63-0    |  | 0.00460 |
|  |  | METHANOL                                | 67-56-1    |  | 0.00460 |
|  |  | Oxyalkylated Alcohol                    | 68002-97-1 |  | 0.00351 |
|  |  | Polyol Ester                            | N/A        |  | 0.00351 |
|  |  | Water                                   | 7732-18-5  |  | 0.00175 |
|  |  | Sodium Salt of Phosphate Ester          | 68131-72-6 |  | 0.00154 |
|  |  | Acrylic Polymer                         | 28205-96-1 |  | 0.00154 |
|  |  | Polyglycol Ester                        | N/A        |  | 0.00070 |
|  |  | Alcohol Ethoxylate Surfactants          | N/A        |  | 0.00021 |
|  |  | n-olefins                               | N/A        |  | 0.00011 |
|  |  | Propargyl Alcohol                       | 107-19-7   |  | 0.00008 |
|  |  | Tetrasodium Ethylenediaminetetraacetate | 64-02-8    |  | 0.00007 |
|  |  | Cinnamic Aldehyde                       | 104-55-2   |  |         |
|  |  | Water                                   | 7732-18-5  |  |         |
|  |  | Surfactant                              | N/A        |  |         |
|  |  | Buffer                                  | N/A        |  |         |
|  |  | Acetic Acid                             | 64-19-7    |  |         |

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)



|                                 |                          |  |                                       |                                |
|---------------------------------|--------------------------|--|---------------------------------------|--------------------------------|
| <b>JOB SUMMARY</b>              |                          |  | PROJECT NUMBER<br><b>SOK 3606</b>     | TICKET DATE<br><b>04/09/14</b> |
| COUNTY<br><b>Harper</b>         | State<br><b>Kansas</b>   | COMPANY<br><b>Sandridge Exploration &amp; Production</b> | CUSTOMER REP<br><b>Ron Hagood</b>     |                                |
| LEASE NAME<br><b>Lanie 3408</b> | Well No.<br><b>4-32H</b> | JOB TYPE<br><b>Intermediate</b>                          | EMPLOYEE NAME<br><b>ROBERT BURRIS</b> |                                |

|                                  |                   |  |  |  |  |
|----------------------------------|-------------------|--|--|--|--|
| EMP NAME<br><b>Robert Burris</b> | <b>NATE COTTA</b> |  |  |  |  |
| <b>0.00</b>                      |                   |  |  |  |  |
| <b>Cheryl Newton</b>             |                   |  |  |  |  |
| <b>RJ STONEHOCKER</b>            |                   |  |  |  |  |

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_

Packer Type \_\_\_\_\_ Set At **0**

Bottom Hole Temp. **155** Pressure \_\_\_\_\_

Retainer Depth \_\_\_\_\_ Total Depth **5330**

|      |                               |                                |                                |                                  |
|------|-------------------------------|--------------------------------|--------------------------------|----------------------------------|
| Date | Called Out<br><b>3/8/2014</b> | On Location<br><b>3/9/2014</b> | Job Started<br><b>3/9/2014</b> | Job Completed<br><b>3/9/2014</b> |
| Time | <b>22:30</b>                  | <b>01:00</b>                   | <b>03:05</b>                   | <b>05:20</b>                     |

Tools and Accessories

| Type and Size            | Qty | Make |
|--------------------------|-----|------|
| Auto Fill Tube           | 0   | IR   |
| Insert Float Va          | 0   | IR   |
| Centralizers             | 0   | IR   |
| Top Plug                 | 0   | IR   |
| HEAD                     | 0   | IR   |
| Limit clamp              | 0   | IR   |
| Weid-A                   | 0   | IR   |
| Texas Pattern Guide Shoe | 0   | IR   |
| Cement Basket            | 0   | IR   |

Well Data

| New/Used     | Weight | Size   | Grade | From    | To    | Max. Allow |
|--------------|--------|--------|-------|---------|-------|------------|
| Casing       | 26#    | 7"     |       | Surface | 5,330 | 5,000      |
| Liner        |        |        |       |         |       |            |
| Liner        |        |        |       |         |       |            |
| Tubing       |        | 0      |       |         |       |            |
| Drill Pipe   |        |        |       |         |       |            |
| Open Hole    |        | 8 1/4" |       | Surface | 5,335 | Shots/Ft.  |
| Perforations |        |        |       |         |       |            |
| Perforations |        |        |       |         |       |            |
| Perforations |        |        |       |         |       |            |

Materials

| Mud Type      | WBM         | Density | 9    | Lb/Gal |
|---------------|-------------|---------|------|--------|
| Disp. Fluid   | Fresh Water | Density | 8.33 | Lb/Gal |
| Spacer type   | GEL         | BBL.    | 30   | 8.60   |
| Spacer type   |             | BBL.    |      |        |
| Acid Type     |             | Gal.    |      | %      |
| Acid Type     |             | Gal.    |      | %      |
| Surfactant    |             | Gal.    |      | ln     |
| NE Agent      |             | Gal.    |      | ln     |
| Fluid Loss    |             | Gal/Lb  |      | ln     |
| Gelling Agent |             | Gal/Lb  |      | ln     |
| Fric. Red.    |             | Gal/Lb  |      | ln     |
| MISC.         |             | Gal/Lb  |      | ln     |

Perfpac Balls \_\_\_\_\_ Qty. \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

| Hours On Location |       | Operating Hours |       | Description of Job |
|-------------------|-------|-----------------|-------|--------------------|
| Date              | Hours | Date            | Hours |                    |
| 3/9               |       | 3/9             |       | Intermediate       |
|                   |       |                 |       |                    |
|                   |       |                 |       |                    |
|                   |       |                 |       |                    |
|                   |       |                 |       |                    |
|                   |       |                 |       |                    |
|                   |       |                 |       |                    |
|                   |       |                 |       |                    |
| Total             | 0.0   | Total           | 0.0   |                    |

Pressures

|                      |           |        |            |
|----------------------|-----------|--------|------------|
| MAX                  | 5,000 PSI | AVG    | 725 PSI    |
| Average Rates in BPM |           |        |            |
| MAX                  | 8 BPM     | AVG    | 5 BPM      |
| Cement Left in Pipe  |           |        |            |
| Feet                 | 45 FT     | Reason | SHOE JOINT |

Cement Data

| Stage | Sacks | Cement            | Additives  | W/Rq. | Yield | Lbs/Gal |
|-------|-------|-------------------|--|-------|-------|---------|
| 1     | 220   | 50/50 POZ PREMIUM | 4% Gel - 0.2% FL-17 - 0.1% C-51 - 0.2% C-20 - 0.1% C-37 - 0.4% C-41P | 6.93  | 1.43  | 13.60   |
| 2     | 100   | Premium           | 0.2% FL-17 - 0.1% C-51 - 0.1% C-20 - 0.4% C-41P                      | 5.19  | 1.19  | 15.60   |
| 3     | 0     | 0                 |  | 0     | 0.00  | 0.00    |

Summary

|                    |             |                         |                              |                        |                            |   |                           |                                  |                              |                        |                            |                              |                               |                  |                        |                         |                           |                |
|--------------------|-------------|-------------------------|------------------------------|------------------------|----------------------------|---|---------------------------|----------------------------------|------------------------------|------------------------|----------------------------|------------------------------|-------------------------------|------------------|------------------------|-------------------------|---------------------------|----------------|
| Preflush Breakdown | Type: _____ | MAXIMUM _____ 5,000 PSI | Lost Returns-# _____ NO/FULL | Actual TOC _____ 3.093 | Bump Plug PSI: _____ 1,400 | ISIP _____ 5 Min. _____ 10 Min _____ 15 Min _____ | Preflush: BBI _____ 30.00 | Load & Bkdn: Gal - BBI _____ N/A | Excess /Return BBI _____ N/A | Calc. TOC: _____ 3.093 | Final Circ. PSI: _____ 900 | Cement Slurry BBI _____ 77.0 | Total Volume BBI _____ 308.00 | Type: Gel Spacer | Pad:Bbl -Gal _____ N/A | Calc.Disp Bbl _____ 202 | Actual Disp. _____ 201.00 | Disp:Bbl _____ |
|--------------------|-------------|-------------------------|------------------------------|------------------------|----------------------------|---|---------------------------|----------------------------------|------------------------------|------------------------|----------------------------|------------------------------|-------------------------------|------------------|------------------------|-------------------------|---------------------------|----------------|

CUSTOMER REPRESENTATIVE \_\_\_\_\_ SIGNATURE *Don Wright*

|                                 |                          |   |                                       |                                |
|---------------------------------|--------------------------|---|---------------------------------------|--------------------------------|
| <b>JOB SUMMARY</b>              |                          |   | PROJECT NUMBER<br><b>SOK 3580</b>     | TICKET DATE<br><b>04/02/14</b> |
| COUNTY<br><b>Harper</b>         | State<br><b>Kansas</b>   | COMPANY<br><b>Bridge Exploration &amp; Produc</b> | CUSTOMER REP<br><b>Ronnie Hagood</b>  |                                |
| LEASE NAME<br><b>Lanie 3408</b> | Well No.<br><b>4-32H</b> | JOB TYPE<br><b>Surface</b>                        | EMPLOYEE NAME<br><b>Bryan Douglas</b> |                                |

|                                  |                     |  |  |  |  |
|----------------------------------|---------------------|--|--|--|--|
| EMP NAME<br><b>Bryan Douglas</b> | <b>Michael Bajo</b> |  |  |  |  |
| <b>Rocky Anthis</b>              |                     |  |  |  |  |
| <b>Flo Helkena</b>               |                     |  |  |  |  |
| <b>Paul Thomas</b>               |                     |  |  |  |  |

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_

Packer Type \_\_\_\_\_ Set At **0**

Bottom Hole Temp. **80** Pressure \_\_\_\_\_

Retainer Depth \_\_\_\_\_ Total Depth **800'**

| Date | Called Out      | On Location     | Job Started     | Job Completed   |
|------|-----------------|-----------------|-----------------|-----------------|
|      | <b>4/2/2014</b> | <b>4/2/2014</b> | <b>4/2/2014</b> | <b>4/2/2014</b> |
| Time | <b>0600</b>     | <b>1000</b>     | <b>1400</b>     | <b>1600</b>     |

| Type and Size            | Qty | Make |
|--------------------------|-----|------|
| Auto Fill Tube           | 0   | IR   |
| Insert Float Val         | 0   | IR   |
| Centralizers             | 0   | IR   |
| Top Plug                 | 0   | IR   |
| HEAD                     | 0   | IR   |
| Limit clamp              | 0   | IR   |
| Weld-A                   | 0   | IR   |
| Texas Pattern Guide Shoe | 0   | IR   |
| Cement Basket            | 0   | IR   |

|              | New/Used | Weight     | Size           | Grade | From    | To   | Max. Allow |
|--------------|----------|------------|----------------|-------|---------|------|------------|
| Casing       |          | <b>36#</b> | <b>9 5/8"</b>  |       | Surface | 800' | 1,500      |
| Liner        |          |            |                |       |         |      |            |
| Liner        |          |            |                |       |         |      |            |
| Tubing       |          |            | <b>0</b>       |       |         |      |            |
| Drill Pipe   |          |            |                |       |         |      |            |
| Open Hole    |          |            | <b>12 1/2"</b> |       | Surface | 800' | Shots/Ft.  |
| Perforations |          |            |                |       |         |      |            |
| Perforations |          |            |                |       |         |      |            |
| Perforations |          |            |                |       |         |      |            |

| Materials     |                  |             |             |
|---------------|------------------|-------------|-------------|
| Mud Type      | WBM              | Density     | Lb/Gal      |
| Disp. Fluid   | Fresh Water      | <b>8.33</b> |             |
| Spacer type   | Fresh Water BBL. | <b>10</b>   | <b>8.33</b> |
| Spacer type   | BBL.             |             |             |
| Acid Type     | Gal.             |             | %           |
| Acid Type     | Gal.             |             | %           |
| Surfactant    | Gal.             |             | ln          |
| NE Agent      | Gal.             |             | ln          |
| Fluid Loss    | Gal/Lb           |             | ln          |
| Gelling Agent | Gal/Lb           |             | ln          |
| Fric. Red.    | Gal/Lb           |             | ln          |
| MISC.         | Gal/Lb           |             | ln          |

| Hours On Location |            | Operating Hours |            | Description of Job |
|-------------------|------------|-----------------|------------|--------------------|
| Date              | Hours      | Date            | Hours      |                    |
| <b>4/2</b>        | <b>6.0</b> | <b>4/2</b>      | <b>2.0</b> | Surface            |
|                   |            |                 |            | 1/2 BBL BACK       |
|                   |            |                 |            |                    |
|                   |            |                 |            |                    |
|                   |            |                 |            |                    |
|                   |            |                 |            |                    |
|                   |            |                 |            |                    |
|                   |            |                 |            |                    |
| <b>Total</b>      | <b>6.0</b> | <b>Total</b>    | <b>2.0</b> |                    |

Perfpac Balls \_\_\_\_\_ Qty. \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

Other \_\_\_\_\_

| Pressures            |           |                   |
|----------------------|-----------|-------------------|
| MAX                  | 1,500 PSI | AVG. 200          |
| Average Rates in BPM |           |                   |
| MAX                  | 6 BPM     | AVG 4             |
| Cement Left in Pipe  |           |                   |
| Feet                 | 46        | Reason SHOE JOINT |

| Cement Data |       |                          | W/Rq.   | Yield | Lbs/Gal |       |
|-------------|-------|--------------------------|---|-------|---------|-------|
| Stage       | Sacks | Cement                   | Additives   |       |         |       |
| 1           | 230   | TEX Lite Premium Plus 65 | (6% Gel) 2% Calcium Chloride - 1/4pps Cello-Flake - .5% C-41P | 11.11 | 2.01    | 12.40 |
| 2           | 160   | Premium Plus (Class C)   | 2% Calcium Chloride - 1/4pps Cello-Flake                      | 6.32  | 1.32    | 14.80 |
| 3           | *100  | Premium Plus (Class C)   | *2% Calcium Chloride on side to use if necessary              | *6.32 | *1.32   | *14.8 |

| Summary            |           |                   |                        |                |                           |
|--------------------|-----------|-------------------|------------------------|----------------|---------------------------|
| Preflush Breakdown | <b>10</b> | Type: Fresh Water | Preflush: BBI          | <b>10.00</b>   | Type: Fresh Water         |
|                    |           | MAXIMUM           | Load & Bkdn: Gal - BBI | <b>N/A</b>     | Pad:Bbl -Gal <b>N/A</b>   |
|                    |           | Lost Returns-NO   | Excess /Return BBI     | <b>80</b>      | Calc. Disp Bbl <b>56</b>  |
|                    |           | Actual TOC        | Calc. TOC:             | <b>SURFACE</b> | Actual Disp. <b>55.68</b> |
| Average            |           | Bump Plug PSI:    | Final Circ. PSI:       | <b>400</b>     | Disp:Bbl <b>55.68</b>     |
| ISIP               | 5 Min.    | 10 Min.           | Cement Slurrv: BBI     | <b>120.0</b>   |                           |
|                    |           | 15 Min.           | Total Volume BBI       | <b>185.63</b>  |                           |

CUSTOMER REPRESENTATIVE *Ronnie Hagood* SIGNATURE



**INVOICE**

|           |           |
|-----------|-----------|
| DATE      | INVOICE # |
| 3/31/2014 | 4671      |

|  |
|--|
| <b>BILL TO</b>   |
| SANDRIDGE ENERGY, INC.<br>ATTN: PURCHASING MANAGER<br>123 ROBERT S. KERR AVENUE<br>OKLAHOMA CITY, OK 73102 |

|   |
|---|
| <b>REMIT TO</b>   |
| EDGE SERVICES, INC.<br>PO BOX 609<br>WOODWARD, OK 73802 |

| COUNTY     | STARTING D... | WORK ORDER | RIG NUMBER | LEASE NAME       | Terms         |
|------------|---------------|------------|------------|------------------|---------------|
| HARPER, KS | 3/28/2014     | 3530       | UNIT 9     | LANIE 3408 4-32H | Due on rec... |

| Description  |          |                          |          |
|--|----------|--------------------------|----------|
| DRILLED 60' OF 30" CONDUCTOR HOLE<br>DRILLED 6' OF 76" HOLE<br>FURNISHED AND SET 6' X 6' TINHORN CELLAR<br>FURNISHED 60' OF 20" CONDUCTOR PIPE<br>FURNISHED MUD, WATER, AND TRUCKING<br>FURNISHED WELDER AND MATERIALS<br>FURNISHED 6 YARDS OF 10 SACK GROUT FOR CONDUCTOR HOLE<br>FURNISHED 4 YARDS OF 10 SACK GROUT FOR MOUSE HOLE<br>FURNISHED 80' OF 16" CONDUCTOR PIPE<br><br>TOTAL BID \$17,000.00 |          |                          |          |
| <table border="1"> <tr> <td><b>Sales Tax (6.15%)</b></td> <td>\$140.34</td> </tr> </table>   |          | <b>Sales Tax (6.15%)</b> | \$140.34 |
| <b>Sales Tax (6.15%)</b>   | \$140.34 |                          |          |

|              |             |
|--------------|-------------|
| <b>TOTAL</b> | \$17,140.34 |
|--------------|-------------|



# Sandridge

Location Kansas Installation Sec 32 - 34S - 08W  
Field Sec 32 - 34S - 08W Well Lanie 3408 4-32H

## Installation Data

| Name  | Latitude   | Longitude   | Northing  | Easting    |
|---|------------|-------------|-----------|------------|
| Sec 32 - 34S - 08W                                      | N37 2 9.47 | W98 13 7.00 | 134593.00 | 2082142.00 |
| Coordinate System<br>Kansas State Planes, Southern Zone |            |             |           |            |

## Slot Data

| Name             | North [ft] | East [ft] | Longitude    | Northing  | Easting    |
|------------------|------------|-----------|--------------|-----------|------------|
| Lanie 3408 4-32H | 205.99 N   | 655.97 E  | W98 12 58.81 | 134799.00 | 2082798.00 |

## Elevation Data

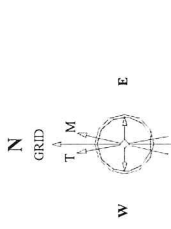
| Slot - Mean Sea Level [ft] | Mean Sea Level - Mudline/Ground level [ft] | Slot - Mudline/Ground level [ft] |
|----------------------------|--|----------------------------------|
| 1247.00                    | -1247.00                                   | 0.00                             |

## WELL PROFILE DATA

| Point                   | MD      | Inc   | Azi    | TVD     | North   | East   | deg/100ft | V. Sect |
|-------------------------|---------|-------|--------|---------|---------|--------|-----------|---------|
| KOP                     | 7676.00 | 90.10 | 0.20   | 4715.31 | 3233.74 | -64.13 | 0.00      | 3234.37 |
| Target Hold Section     | 7760.50 | 88.80 | 359.12 | 4716.12 | 3318.23 | -64.63 | 2.00      | 3318.86 |
| Target Build w/ 2" BRN  | 7860.00 | 88.80 | 359.12 | 4718.20 | 3417.69 | -66.16 | 0.00      | 3418.33 |
| Target Hold Section     | 7970.00 | 91.00 | 359.12 | 4718.39 | 3527.67 | -67.84 | 2.00      | 3528.32 |
| T.D. & Target PBHL Lani | 9223.42 | 91.00 | 359.13 | 4696.54 | 4780.76 | -87.00 | 0.00      | 4781.55 |

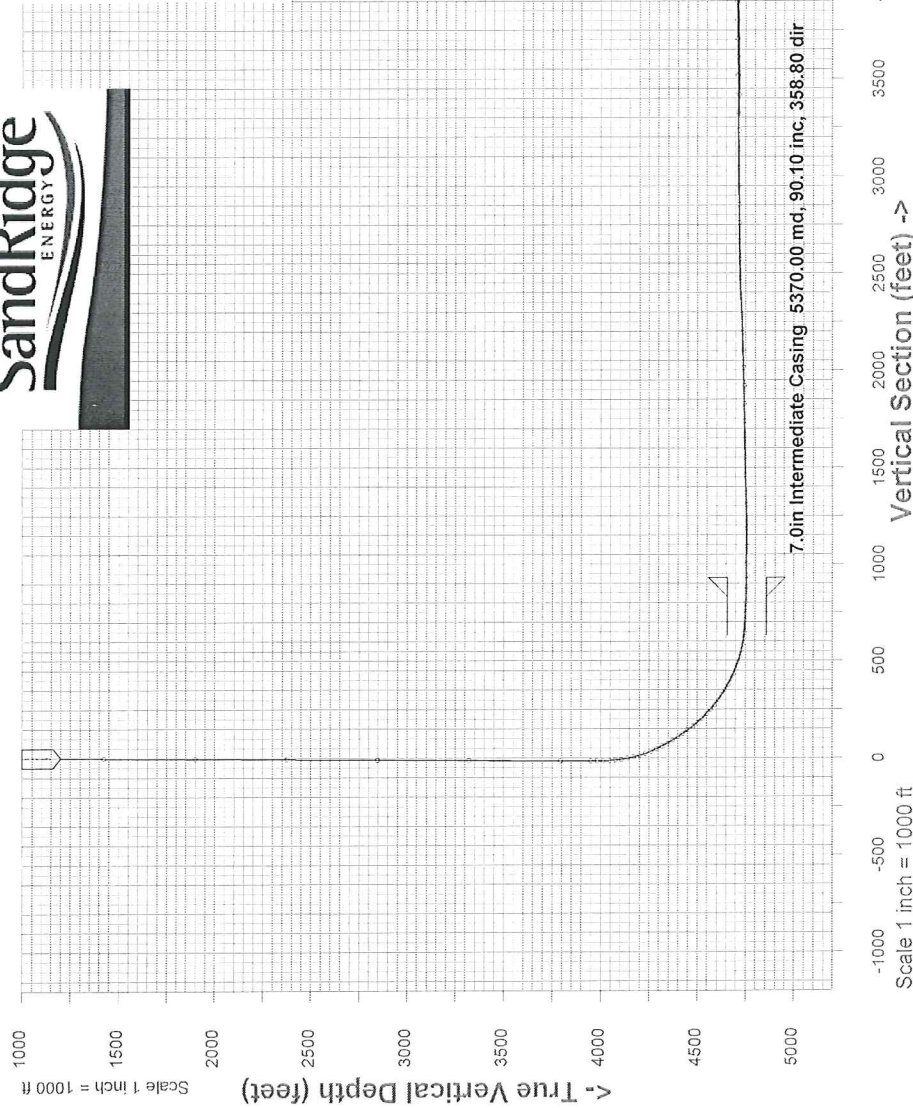
## TARGET DATA

| MD      | Inc   | Azi    | TVD     | North   | East   | Name                  | Position                          |
|---------|-------|--------|---------|---------|--------|-----------------------|-----------------------------------|
| 9223.42 | 91.00 | 359.13 | 4696.54 | 4780.76 | -87.00 | PBHL Lanie 3408 4-32H | 2082711.00 East : 139580.00 North |
| -       | -     | -      | 4715.31 | 3233.74 | -64.13 | KOP w/ 2" BRN         | 2082733.87 East : 138032.90 North |
| 7760.50 | 88.80 | 359.12 | 4716.12 | 3318.23 | -64.63 | Hold Section          | 2082733.37 East : 138117.40 North |
| 7860.00 | 88.80 | 359.12 | 4718.20 | 3417.69 | -66.16 | Build w/ 2" BRN       | 2082731.84 East : 138216.87 North |
| 7970.00 | 91.00 | 359.12 | 4718.39 | 3527.67 | -67.84 | Hold Section          | 2082730.15 East : 138326.85 North |



27-Apr-2014  
IGRF Model [1900.0-2015.0] Dip: 65.09 deg Field: 51616.7 nT  
Magnetic North is 4.48 deg East of True North  
GRID North is 0.17 deg East of True North  
To correct azimuth from True to GRID subtract 0.17 deg  
To correct azimuth from Magnetic to GRID add 4.31 deg  
Created by admin

Date plotted 29-Apr-2014  
Plot reference is Lanie 3408 4-32H (PW92).  
Ref wellpath is Lanie 3408 4-32H (PW92).  
Coordinates are in feet reference Lanie 3408 4-32H.  
True Vertical Depths are reference Lanie 3408 4-32H.  
Measured Depths are reference Slot.  
Plot North is aligned to GRID North.



Scale 1 inch = 1000 ft  
East (feet) ->

Scale 1 inch = 1000 ft

Projected BHL  
354 FNL 666 FWL  
X= 2082717 Y= 139556  
N 4757 W 81  
MD 9200 TVD 4710  
VS 4757

Surface Location  
200' FSL & 660' FWL  
Sec 32-T34S-R08W

Projected BHL  
354 FNL 666 FWL  
X= 2082717 Y= 139556  
N 4757 W 81  
MD 9200 TVD 4710  
VS 4757

7.0 in Intermediate Casing 5370.00 md, 90.10 inc, 358.80 dir  
Vertical Section (feet) ->  
Azimuth 358.96 with reference 0.00 N, 0.00 E from Lanie 3408 4-32H



**Company:** Sandridge  
**Well Name:** Lanie 3408 4-32H  
**Legals:** Sec: 32 Township: 34S  
 Range: 08W  
**County/State:** Harper KS  
**Rig Name:** Unit 9

| Customer Rep  | Position    | Directional Driller         | MWD Operator  |
|---------------|-------------|-----------------------------|---------------|
| Ronnie Hagood | Company Man | John Sartori<br>Bill Wright | Jerry Wilkins |

## Lanie 3408 4-32H Surveys

| Type       | M Depth | Incl. | Azimuth | TVD     | North  | East   | V Section | Dogleg | B Rate | T Rate | Clos Azi | Clos Dist |
|------------|---------|-------|---------|---------|--------|--------|-----------|--------|--------|--------|----------|-----------|
| TieInPoint | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00   | 0         | 0      | 0      | 0      | 0        | 0         |
| Survey     | 812.00  | 0.10  | 163.90  | 812.00  | -0.68  | 0.20   | -0.68     | 0.01   | 0.01   | 20.18  | 163.61   | 0.71      |
| Survey     | 1057.00 | 0.60  | 29.60   | 1057.00 | 0.23   | 0.89   | 0.21      | 0.27   | 0.20   | 54.82  | 75.51    | 0.92      |
| Survey     | 1424.00 | 0.90  | 239.70  | 1423.98 | 0.45   | -0.65  | 0.46      | 0.40   | 0.08   | 40.84  | 304.70   | 0.79      |
| Survey     | 1899.00 | 0.70  | 240.60  | 1898.93 | -2.86  | -6.40  | -2.74     | 0.04   | 0.04   | 0.19   | 245.92   | 7.01      |
| Survey     | 2374.00 | 0.30  | 188.90  | 2373.91 | -5.51  | -9.12  | -5.34     | 0.12   | 0.08   | 10.88  | 238.86   | 10.66     |
| Survey     | 2847.00 | 0.50  | 187.60  | 2846.90 | -8.78  | -9.58  | -8.60     | 0.04   | 0.04   | 0.27   | 227.49   | 12.99     |
| Survey     | 3320.00 | 0.30  | 227.30  | 3319.89 | -11.67 | -10.76 | -11.47    | 0.07   | 0.04   | 8.39   | 222.68   | 15.87     |
| Survey     | 3793.00 | 0.70  | 116.40  | 3792.88 | -13.79 | -9.08  | -13.62    | 0.18   | 0.08   | 23.45  | 213.36   | 16.51     |
| Survey     | 3951.00 | 0.90  | 110.60  | 3950.86 | -14.66 | -7.05  | -14.53    | 0.14   | 0.13   | 3.67   | 205.68   | 16.27     |
| Survey     | 3983.00 | 0.80  | 92.20   | 3982.86 | -14.75 | -6.60  | -14.63    | 0.90   | 0.31   | 57.50  | 204.11   | 16.16     |
| Survey     | 4014.00 | 1.50  | 22.10   | 4013.86 | -14.39 | -6.23  | -14.27    | 4.64   | 2.26   | 226.13 | 203.41   | 15.68     |
| Survey     | 4046.00 | 3.50  | 1.80    | 4045.82 | -13.02 | -6.04  | -12.91    | 6.74   | 6.25   | 63.44  | 204.89   | 14.35     |
| Survey     | 4077.00 | 6.10  | 0.10    | 4076.71 | -10.43 | -6.01  | -10.32    | 8.40   | 8.39   | 5.48   | 209.95   | 12.04     |
| Survey     | 4109.00 | 8.80  | 359.00  | 4108.44 | -6.28  | -6.05  | -6.17     | 8.45   | 8.44   | 3.44   | 223.93   | 8.72      |
| Survey     | 4140.00 | 11.30 | 1.80    | 4138.96 | -0.87  | -5.99  | -0.76     | 8.21   | 8.06   | 9.03   | 261.74   | 6.05      |
| Survey     | 4172.00 | 13.70 | 2.80    | 4170.20 | 6.05   | -5.71  | 6.15      | 7.53   | 7.50   | 3.13   | 316.66   | 8.32      |
| Survey     | 4204.00 | 16.30 | 1.80    | 4201.11 | 14.32  | -5.38  | 14.42     | 8.16   | 8.13   | 3.13   | 339.41   | 15.30     |
| Survey     | 4235.00 | 19.00 | 0.10    | 4230.65 | 23.72  | -5.24  | 23.81     | 8.87   | 8.71   | 5.48   | 347.54   | 24.29     |
| Survey     | 4267.00 | 22.00 | 359.70  | 4260.62 | 34.92  | -5.26  | 35.01     | 9.39   | 9.38   | 1.25   | 351.43   | 35.31     |
| Survey     | 4298.00 | 24.60 | 358.60  | 4289.09 | 47.18  | -5.45  | 47.27     | 8.50   | 8.39   | 3.55   | 353.41   | 47.49     |
| Survey     | 4330.00 | 26.70 | 357.60  | 4317.93 | 61.02  | -5.91  | 61.12     | 6.70   | 6.56   | 3.12   | 354.47   | 61.31     |
| Survey     | 4362.00 | 28.90 | 356.90  | 4346.24 | 75.93  | -6.63  | 76.04     | 6.95   | 6.88   | 2.19   | 355.01   | 76.22     |
| Survey     | 4393.00 | 30.90 | 356.80  | 4373.11 | 91.36  | -7.48  | 91.48     | 6.45   | 6.45   | 0.32   | 355.32   | 91.67     |
| Survey     | 4425.00 | 33.10 | 357.10  | 4400.25 | 108.29 | -8.38  | 108.42    | 6.89   | 6.88   | 0.94   | 355.57   | 108.61    |
| Survey     | 4456.00 | 34.90 | 357.50  | 4425.95 | 125.60 | -9.20  | 125.75    | 5.85   | 5.81   | 1.29   | 355.81   | 125.94    |
| Survey     | 4488.00 | 36.50 | 358.80  | 4451.93 | 144.27 | -9.80  | 144.42    | 5.53   | 5.00   | 4.06   | 356.11   | 144.60    |
| Survey     | 4519.00 | 38.30 | 359.40  | 4476.56 | 163.09 | -10.09 | 163.25    | 5.92   | 5.81   | 1.94   | 356.46   | 163.40    |
| Survey     | 4551.00 | 40.70 | 359.40  | 4501.25 | 183.44 | -10.30 | 183.60    | 7.50   | 7.50   | 0.00   | 356.79   | 183.73    |
| Survey     | 4582.00 | 43.30 | 0.00    | 4524.28 | 204.18 | -10.41 | 204.34    | 8.49   | 8.39   | 1.94   | 357.08   | 204.45    |
| Survey     | 4615.00 | 45.80 | 0.10    | 4547.80 | 227.33 | -10.39 | 227.48    | 7.58   | 7.58   | 0.30   | 357.38   | 227.57    |
| Survey     | 4646.00 | 48.00 | 0.20    | 4568.98 | 249.97 | -10.33 | 250.12    | 7.10   | 7.10   | 0.32   | 357.63   | 250.18    |
| Survey     | 4678.00 | 50.60 | 359.70  | 4589.85 | 274.22 | -10.35 | 274.36    | 8.21   | 8.13   | 1.56   | 357.84   | 274.42    |
| Survey     | 4709.00 | 53.10 | 359.70  | 4608.99 | 298.60 | -10.48 | 298.74    | 8.06   | 8.06   | 0.00   | 357.99   | 298.78    |
| Survey     | 4741.00 | 55.30 | 0.10    | 4627.71 | 324.55 | -10.52 | 324.69    | 6.95   | 6.88   | 1.25   | 358.14   | 324.72    |
| Survey     | 4772.00 | 57.90 | 0.10    | 4644.77 | 350.43 | -10.48 | 350.56    | 8.39   | 8.39   | 0.00   | 358.29   | 350.59    |
| Survey     | 4804.00 | 60.80 | 359.90  | 4661.09 | 377.96 | -10.48 | 378.09    | 9.08   | 9.06   | 0.62   | 358.41   | 378.11    |
| Survey     | 4835.00 | 63.50 | 359.70  | 4675.57 | 405.36 | -10.57 | 405.49    | 8.73   | 8.71   | 0.65   | 358.51   | 405.50    |
| Survey     | 4867.00 | 66.00 | 359.10  | 4689.22 | 434.30 | -10.87 | 434.43    | 7.99   | 7.81   | 1.87   | 358.57   | 434.44    |
| Survey     | 4898.00 | 68.40 | 359.10  | 4701.23 | 462.87 | -11.32 | 463.00    | 7.74   | 7.74   | 0.00   | 358.60   | 463.01    |
| Survey     | 4929.00 | 71.60 | 359.30  | 4711.83 | 491.99 | -11.73 | 492.12    | 10.34  | 10.32  | 0.65   | 358.63   | 492.13    |



## Lanie 3408 4-32H Surveys

| Type   | M Depth | Incl. | Azimuth | TVD     | North   | East   | V Section | Dogleg | B Rate | T Rate | Clos Azi | Clos Dist |
|--------|---------|-------|---------|---------|---------|--------|-----------|--------|--------|--------|----------|-----------|
| Survey | 4961.00 | 74.40 | 359.10  | 4721.19 | 522.59  | -12.16 | 522.72    | 8.77   | 8.75   | 0.62   | 358.67   | 522.73    |
| Survey | 4992.00 | 76.80 | 358.80  | 4728.90 | 552.61  | -12.71 | 552.75    | 7.80   | 7.74   | 0.97   | 358.68   | 552.76    |
| Survey | 5024.00 | 79.50 | 358.80  | 4735.47 | 583.92  | -13.36 | 584.07    | 8.44   | 8.44   | 0.00   | 358.69   | 584.07    |
| Survey | 5055.00 | 82.30 | 358.40  | 4740.37 | 614.51  | -14.11 | 614.66    | 9.12   | 9.03   | 1.29   | 358.68   | 614.67    |
| Survey | 5087.00 | 84.70 | 358.50  | 4743.99 | 646.30  | -14.97 | 646.47    | 7.51   | 7.50   | 0.31   | 358.67   | 646.47    |
| Survey | 5118.00 | 87.00 | 359.20  | 4746.23 | 677.21  | -15.59 | 677.38    | 7.75   | 7.42   | 2.26   | 358.68   | 677.39    |
| Survey | 5150.00 | 87.60 | 359.30  | 4747.74 | 709.17  | -16.01 | 709.34    | 1.90   | 1.87   | 0.31   | 358.71   | 709.35    |
| Survey | 5181.00 | 87.50 | 359.30  | 4749.07 | 740.14  | -16.39 | 740.32    | 0.32   | 0.32   | 0.00   | 358.73   | 740.32    |
| Survey | 5213.00 | 87.50 | 359.00  | 4750.47 | 772.11  | -16.86 | 772.29    | 0.94   | 0.00   | 0.94   | 358.75   | 772.29    |
| Survey | 5244.00 | 87.50 | 358.80  | 4751.82 | 803.07  | -17.46 | 803.25    | 0.64   | 0.00   | 0.65   | 358.75   | 803.26    |
| Survey | 5275.00 | 87.50 | 358.60  | 4753.17 | 834.03  | -18.16 | 834.22    | 0.64   | 0.00   | 0.65   | 358.75   | 834.23    |
| Survey | 5308.00 | 87.40 | 358.50  | 4754.64 | 866.99  | -18.99 | 867.19    | 0.43   | 0.31   | 0.30   | 358.75   | 867.20    |
| Survey | 5322.00 | 87.90 | 358.80  | 4755.21 | 880.97  | -19.32 | 881.18    | 4.16   | 3.57   | 2.14   | 358.74   | 881.18    |
| Survey | 5381.00 | 90.60 | 358.80  | 4755.98 | 939.95  | -20.56 | 940.17    | 4.58   | 4.58   | 0.00   | 358.75   | 940.17    |
| Survey | 5442.00 | 89.90 | 359.30  | 4755.72 | 1000.94 | -21.57 | 1001.17   | 1.41   | 1.15   | 0.82   | 358.77   | 1001.17   |
| Survey | 5533.00 | 89.30 | 359.10  | 4756.35 | 1091.93 | -22.84 | 1092.16   | 0.70   | 0.66   | 0.22   | 358.80   | 1092.17   |
| Survey | 5625.00 | 90.50 | 359.60  | 4756.51 | 1183.92 | -23.88 | 1184.16   | 1.41   | 1.30   | 0.54   | 358.84   | 1184.16   |
| Survey | 5656.00 | 90.80 | 359.50  | 4756.16 | 1214.92 | -24.12 | 1215.16   | 1.02   | 0.97   | 0.32   | 358.86   | 1215.16   |
| Survey | 5749.00 | 91.70 | 358.10  | 4754.13 | 1307.87 | -26.07 | 1308.13   | 1.79   | 0.97   | 1.51   | 358.86   | 1308.13   |
| Survey | 5811.00 | 91.80 | 356.60  | 4752.24 | 1369.77 | -28.94 | 1370.07   | 2.42   | 0.16   | 2.42   | 358.79   | 1370.08   |
| Survey | 5903.00 | 91.60 | 356.20  | 4749.51 | 1461.55 | -34.71 | 1461.94   | 0.49   | 0.22   | 0.43   | 358.64   | 1461.96   |
| Survey | 5995.00 | 90.90 | 358.70  | 4747.50 | 1553.43 | -38.81 | 1553.88   | 2.82   | 0.76   | 2.72   | 358.57   | 1553.91   |
| Survey | 6087.00 | 90.50 | 358.20  | 4746.38 | 1645.39 | -41.29 | 1645.87   | 0.70   | 0.43   | 0.54   | 358.56   | 1645.91   |
| Survey | 6179.00 | 90.90 | 359.80  | 4745.26 | 1737.37 | -42.90 | 1737.86   | 1.79   | 0.43   | 1.74   | 358.59   | 1737.90   |
| Survey | 6270.00 | 90.50 | 359.60  | 4744.14 | 1828.36 | -43.37 | 1828.85   | 0.49   | 0.44   | 0.22   | 358.64   | 1828.87   |
| Survey | 6362.00 | 91.30 | 359.50  | 4742.69 | 1920.35 | -44.09 | 1920.83   | 0.88   | 0.87   | 0.11   | 358.68   | 1920.86   |
| Survey | 6454.00 | 92.00 | 359.50  | 4740.04 | 2012.31 | -44.89 | 2012.79   | 0.76   | 0.76   | 0.00   | 358.72   | 2012.81   |
| Survey | 6547.00 | 91.90 | 359.20  | 4736.88 | 2105.25 | -45.94 | 2105.74   | 0.34   | 0.11   | 0.32   | 358.75   | 2105.75   |
| Survey | 6637.00 | 91.40 | 358.30  | 4734.28 | 2195.19 | -47.91 | 2195.70   | 1.14   | 0.56   | 1.00   | 358.75   | 2195.71   |
| Survey | 6729.00 | 92.80 | 358.80  | 4730.91 | 2287.10 | -50.24 | 2287.64   | 1.62   | 1.52   | 0.54   | 358.74   | 2287.65   |
| Survey | 6823.00 | 92.60 | 359.00  | 4726.48 | 2380.98 | -52.04 | 2381.53   | 0.30   | 0.21   | 0.21   | 358.75   | 2381.55   |
| Survey | 6918.00 | 91.60 | 359.00  | 4723.00 | 2475.90 | -53.70 | 2476.47   | 1.05   | 1.05   | 0.00   | 358.76   | 2476.48   |
| Survey | 7013.00 | 91.10 | 359.00  | 4720.76 | 2570.86 | -55.36 | 2571.44   | 0.53   | 0.53   | 0.00   | 358.77   | 2571.46   |
| Survey | 7108.00 | 90.40 | 358.60  | 4719.52 | 2665.83 | -57.35 | 2666.43   | 0.85   | 0.74   | 0.42   | 358.77   | 2666.45   |
| Survey | 7202.00 | 90.40 | 358.60  | 4718.86 | 2759.80 | -59.64 | 2760.43   | 0.00   | 0.00   | 0.00   | 358.76   | 2760.44   |
| Survey | 7297.00 | 91.00 | 359.30  | 4717.70 | 2854.78 | -61.38 | 2855.42   | 0.97   | 0.63   | 0.74   | 358.77   | 2855.44   |
| Survey | 7392.00 | 90.60 | 359.70  | 4716.37 | 2949.76 | -62.21 | 2950.40   | 0.60   | 0.42   | 0.42   | 358.79   | 2950.42   |
| Survey | 7486.00 | 89.60 | 359.20  | 4716.21 | 3043.75 | -63.11 | 3044.39   | 1.19   | 1.06   | 0.53   | 358.81   | 3044.40   |
| Survey | 7581.00 | 90.70 | 359.70  | 4715.96 | 3138.75 | -64.02 | 3139.39   | 1.27   | 1.16   | 0.53   | 358.83   | 3139.40   |
| Survey | 7676.00 | 90.10 | 0.20    | 4715.30 | 3233.75 | -64.10 | 3234.38   | 0.82   | 0.63   | 0.53   | 358.86   | 3234.39   |
| Survey | 7771.00 | 90.50 | 359.70  | 4714.80 | 3328.75 | -64.18 | 3329.37   | 0.67   | 0.42   | 0.53   | 358.90   | 3329.37   |
| Survey | 7865.00 | 90.80 | 0.90    | 4713.74 | 3422.74 | -63.69 | 3423.33   | 1.32   | 0.32   | 1.28   | 358.93   | 3423.33   |
| Survey | 7960.00 | 91.10 | 0.00    | 4712.16 | 3517.72 | -62.94 | 3518.28   | 1.00   | 0.32   | 0.95   | 358.97   | 3518.28   |
| Survey | 8055.00 | 90.20 | 359.40  | 4711.08 | 3612.71 | -63.44 | 3613.27   | 1.14   | 0.95   | 0.63   | 358.99   | 3613.27   |
| Survey | 8149.00 | 91.50 | 0.20    | 4709.69 | 3706.70 | -63.77 | 3707.25   | 1.62   | 1.38   | 0.85   | 359.01   | 3707.25   |
| Survey | 8244.00 | 90.50 | 0.60    | 4708.03 | 3801.68 | -63.11 | 3802.20   | 1.13   | 1.05   | 0.42   | 359.05   | 3802.20   |
| Survey | 8339.00 | 89.50 | 359.90  | 4708.03 | 3896.68 | -62.70 | 3897.18   | 1.28   | 1.05   | 0.74   | 359.08   | 3897.18   |
| Survey | 8434.00 | 91.00 | 359.30  | 4707.62 | 3991.67 | -63.36 | 3992.16   | 1.70   | 1.58   | 0.63   | 359.09   | 3992.17   |

## Lanie 3408 4-32H Surveys

| Type       | M Depth | Incl. | Azimuth | TVD     | North   | East   | V Section | Dogleg | B Rate | T Rate | Clos Azi | Clos Dist |
|------------|---------|-------|---------|---------|---------|--------|-----------|--------|--------|--------|----------|-----------|
| Survey     | 8529.00 | 91.30 | 359.00  | 4705.71 | 4086.64 | -64.77 | 4087.14   | 0.45   | 0.32   | 0.32   | 359.09   | 4087.15   |
| Survey     | 8623.00 | 92.40 | 359.10  | 4702.68 | 4180.58 | -66.33 | 4181.10   | 1.18   | 1.17   | 0.11   | 359.09   | 4181.11   |
| Survey     | 8719.00 | 90.60 | 359.20  | 4700.16 | 4276.53 | -67.75 | 4277.06   | 1.88   | 1.88   | 0.10   | 359.09   | 4277.07   |
| Survey     | 8813.00 | 89.80 | 358.90  | 4699.83 | 4370.52 | -69.31 | 4371.06   | 0.91   | 0.85   | 0.32   | 359.09   | 4371.07   |
| Survey     | 8908.00 | 89.00 | 358.20  | 4700.83 | 4465.48 | -71.71 | 4466.05   | 1.12   | 0.84   | 0.74   | 359.08   | 4466.06   |
| Survey     | 9002.00 | 89.00 | 358.00  | 4702.47 | 4559.41 | -74.83 | 4560.02   | 0.21   | 0.00   | 0.21   | 359.06   | 4560.02   |
| Survey     | 9097.00 | 87.60 | 358.20  | 4705.29 | 4654.31 | -77.98 | 4654.96   | 1.49   | 1.47   | 0.21   | 359.04   | 4654.96   |
| Survey     | 9151.00 | 86.90 | 358.70  | 4707.88 | 4708.23 | -79.44 | 4708.90   | 1.59   | 1.30   | 0.93   | 359.03   | 4708.90   |
| PrjCalcPnt | 9200    | 86.9  | 358.7   | 4710.53 | 4757.15 | -80.55 | 4757.82   | 0      | 0      | 0      | 359.03   | 4757.83   |