

Johnson County, KS
Well: White I-4
Lease Owner: DE

Town Oilfield Service, Inc.
(913) 837-8400

Commenced Spudding:
2/17/2014

WELL LOG

| Thickness of Strata | Formation | Total Depth |
|---------------------|-------------|-------------|
| 26 | Soil/Clay | 26 |
| 9 | Shale | 35 |
| 24 | Lime | 59 |
| 8 | Shale | 67 |
| 8 | Lime | 75 |
| 5 | Shale | 80 |
| 18 | Lime | 98 |
| 12 | Shale | 110 |
| 10 | Sand | 120 |
| 8 | Sandy Shale | 128 |
| 22 | Lime | 150 |
| 44 | Shale | 194 |
| 10 | Lime | 204 |
| 17 | Shale | 221 |
| 5 | Lime | 226 |
| 5 | Shale | 231 |
| 12 | Lime | 243 |
| 20 | Shale | 263 |
| 7 | Lime | 270 |
| 7 | Shale | 277 |
| 3 | Lime | 280 |
| 34 | Shale | 314 |
| 1 | Lime | 315 |
| 11 | Shale | 326 |
| 22 | Lime | 348 |
| 8 | Shale | 356 |
| 23 | Lime | 379 |
| 4 | Shale | 383 |
| 5 | Lime | 388 |
| 3 | Shale | 391 |
| 5 | Lime | 396 |
| 6 | Shale | 402 |
| 19 | Sandy Shale | 421 |
| 19 | Sand | 440 |
| 4 | Sandy Shale | 444 |
| 124 | Shale | 568 |
| 3 | Lime | 571 |
| 5 | Shale | 576 |
| 2 | Lime | 578 |
| 12 | Shale | 590 |

Short Cuts

TANK CAPACITY

BBLs. (42 gal.) equals $D^2 \times 14 \times h$

D equals diameter in feet.

h equals height in feet.

BARRELS PER DAY

Multiply gals. per minute x 34.2

HP equals $BPH \times PSI \times .0004$

BPH - barrels per hour

PSI - pounds square inch

TO FIGURE PUMP DRIVES

* D - Diameter of Pump Sheave

* d - Diameter of Engine Sheave

SPM - Strokes per minute

RPM - Engine Speed

R - Gear Box Ratio

*C - Shaft Center Distance

D - $RPM \times d$ over $SPM \times R$

d - $SPM \times R \times D$ over RPM

SPM - $RPM \times D$ over $R \times d$

R - $RPM \times D$ over $SPM \times d$

BELT LENGTH - $2C + 1.57(D + d) + \frac{(D-d)^2}{4C}$

* Need these to figure belt length

TO FIGURE AMPS: $\frac{WATTS}{VOLTS} = AMPS$

746 WATTS equal 1 HP

Log Book

Well No. ^{*} 1-14

Farm White

KS Johnson
(State) (County)

1 15 21
(Section) (Township) (Range)

For D.E. Exploration
(Well Owner)

Town Oilfield Services, Inc.

1207 N. 1st East
Louisburg, KS 66053
913-710-5400

White Farm: Johnson County

KS State; Well No. 1-4

Elevation 1011

Commenced Spuding 2-17, 20 14

Finished Drilling 2-18, 20 15

Driller's Name Chad Weaver

Driller's Name _____

Driller's Name _____

Tool Dresser's Name Cole Holcom

Tool Dresser's Name _____

Tool Dresser's Name _____

Contractor's Name TOS

3 15 21

(Section) (Township) (Range)

Distance from 5 line, 405 ft.

Distance from E line, 3610 ft.

3-sacks
**CASING AND TUBING
RECORD**

10" Set _____ 10" Pulled _____

7" Set 21.9' 8" Pulled _____

6 1/4" Set _____ 6 1/4" Pulled _____

4" Set _____ 4" Pulled _____

2 7/8" Set 9.15 2" Pulled _____

882 ⁵⁰ Buckle

940 TD

C.

Feet

In.

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| Thickness of Strata | Formation | Total Depth | Remarks |
|---------------------|-------------|-------------|-----------|
| 26 | red clay | 26 | |
| 9 | shale | 35 | |
| 24 | lime | 59 | |
| 8 | shale | 67 | |
| 8 | lime | 75 | |
| 5 | shale | 80 | |
| 18 | lime | 98 | |
| 12 | shale | 110 | (red bed) |
| 10 | sand | 120 | no oil |
| 8 | sandy shale | 128 | |
| 22 | lime | 150 | |
| 44 | shale | 194 | |
| 10 | lime | 204 | |
| 17 | shale | 221 | |
| 5 | lime | 226 | |
| 5 | shale | 231 | |
| 12 | lime | 243 | |
| 20 | shale | 263 | |
| 7 | lime | 270 | |
| 7 | shale | 277 | |
| 3 | lime | 280 | |
| 34 | shale | 314 | |
| 1 | lime | 315 | |
| 11 | shale | 326 | |
| 22 | lime | 348 | |
| 8 | shale | 356 | |
| 23 | lime | 379 | |

| 379 | | | |
|---------------------|--------------|-------------|---------------------------------|
| Thickness of Strata | Formation | Total Depth | Remarks |
| 4 | shale | 383 | |
| 5 | Lime | 388 | |
| 3 | shale | 391 | |
| 5 | Lime | 396 | Harder |
| 6 | shale | 402 | |
| 19 | sandy shale | 421 | with some shale seams |
| 19 | sand | 440 | with some sandy shale, no oil |
| 4 | sandy shale | 444 | |
| 124 | shale | 568 | |
| 3 | Lime | 571 | |
| 5 | shale | 576 | |
| 2 | Lime | 578 | |
| 12 | shale | 590 | |
| 7 | Lime | 597 | |
| 15 | shale | 612 | |
| 3 | Lime | 615 | |
| 11 | shale | 626 | |
| 4 | Lime | 630 | |
| 21 | shale | 651 | |
| 6 | Lime + shale | 657 | |
| 67 | shale | 724 | |
| 11 | sand | 735 | Brown sand, no oil |
| 7 | sandy shale | 742 | |
| 114 | shale | 856 | |
| 2 | sandy lime | 858 | red, 60% - 70% oil, sand bleeds |
| 2 | sand | 860 | 50% oil |
| 2 | sand | 862 | 80% - solid oil |

862

| Thickness of Strata | Formation | Total Depth | Remarks |
|---------------------|-------------|-------------|---------------|
| 2 | sand | 864 | 50% - 40% oil |
| 1 | Bucken sand | 865 | 10% - 20% oil |
| 2 | Bucken sand | 867 | no oil |
| 8 | sand | 875 | 50% inc oil |
| 65 | shale | 940 | TD |
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REMIT TO
 Consolidated Oil Well Services, LLC
 Dept. 970
 P.O. Box 4346
 Houston, TX 77210-4346

MAIN OFFICE
 P.O. Box 884
 Chanute, KS 66720
 620/431-9210 • 1-800/467-8676
 Fax 620/431-0012

INVOICE Invoice # 266041
 =====
 Invoice Date: 02/20/2014 Terms: 0/0/30,n/30 Page 1

D.E. EXPLORATION
 DOUG EVANS
 P.O. BOX 128
 WELLSVILLE KS 66092
 (785) 883-4057

WHITE I-4
 42643
 SW 1-15-21
 02-18-2014
 KS

| Part Number | Description | Qty | Unit Price | Total |
|-------------|--------------------------|--------|------------|---------|
| 1124 | 50/50 POZ CEMENT MIX | 128.00 | 11.5000 | 1472.00 |
| 1118B | PREMIUM GEL / BENTONITE | 415.00 | .2200 | 91.30 |
| 1111 | SODIUM CHLORIDE (GRANULA | 269.00 | .3900 | 104.91 |
| 1110A | KOL SEAL (50# BAG) | 640.00 | .4600 | 294.40 |
| 1401 | HE 100 POLYMER | .50 | 47.2500 | 23.63 |
| 4402 | 2 1/2" RUBBER PLUG | 1.00 | 29.5000 | 29.50 |

| Description | Hours | Unit Price | Total |
|----------------------------------|--------|------------|---------|
| 369 80 BBL VACUUM TRUCK (CEMENT) | 2.50 | 90.00 | 225.00 |
| 558 MIN. BULK DELIVERY | 1.00 | 368.00 | 368.00 |
| 666 CEMENT PUMP | 1.00 | 1085.00 | 1085.00 |
| 666 EQUIPMENT MILEAGE (ONE WAY) | 30.00 | 4.20 | 126.00 |
| 666 CASING FOOTAGE | 914.00 | .00 | .00 |

=====
 Parts: 2015.74 Freight: .00 Tax: 148.66 AR 3968.40
 Labor: .00 Misc: .00 Total: 3968.40
 Sublt: .00 Supplies: .00 Change: .00
 =====

Signed _____ Date _____

BARTLESVILLE, OK 918/338-0808 EL DORADO, KS 316/322-7022 EUREKA, KS 620/583-7664 PONCA CITY, OK 580/762-2303 OAKLEY, KS 785/672-8822 OTTAWA, KS 785/242-4044 THAYER, KS 620/839-5269 GILLETTE, WY 307/686-4914 CUSHING, OK 918/225-2650



CONSOLIDATED
Oil Well Services, LLC

266041

TICKET NUMBER 42643

LOCATION Ottawa, KS

FOREMAN Cary Kennedy

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

| DATE | CUSTOMER # | WELL NAME & NUMBER | SECTION | TOWNSHIP | RANGE | COUNTY |
|-------------------------------|------------|--------------------|---------|----------|---------|--------|
| 2/18/14 | 2355 | White # I-4 | SW 1 | 15 | 21 | JO |
| CUSTOMER DE Exploration | | | TRUCK # | | | |
| MAILING ADDRESS PO Box 128 | | | DRIVER | | TRUCK # | |
| CITY Wellsville | | | DRIVER | | TRUCK # | |
| STATE KS | | | DRIVER | | TRUCK # | |
| ZIP CODE 66092 | | | DRIVER | | TRUCK # | |
| | | | DRIVER | | TRUCK # | |

JOB TYPE long string HOLE SIZE 5 5/8" HOLE DEPTH 940' CASING SIZE & WEIGHT 2 7/8" EUE
 CASING DEPTH 914' DRILL PIPE _____ TUBING baffle - 882' OTHER _____
 SLURRY WEIGHT _____ SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT in CASING 32'
 DISPLACEMENT 5.1 bbls DISPLACEMENT PSI _____ MIX PSI _____ RATE 5 bpm

REMARKS: held safety meeting, established circulation, mixed & pumped 1/2 gal Polymer, circulated well for 1 hr to condition hole, mixed & pumped 200 # Premium Gel followed by 10 bbls fresh water, mixed & pumped 128 sks 50/50 Pozmix cement w/ 2% gel, 5% salt, & 5 # Kalseal per sk, cement to surface, flushed pump clean, pumped 2 1/2" rubber plug to baffle w/ 5.1 bbls fresh water, pressured to 800 PSI, released pressure, shut in casing.

[Signature]

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE | TOTAL |
|--------------|-------------------|------------------------------------|------------|-----------------|
| 5401 | 1 | PUMP CHARGE | | 1085.00 ✓ |
| 5406 | 30 mi | MILEAGE | | 126.00 ✓ |
| 5402 | 914' | casing footage | | ✓ |
| 5407 | minimum | fuel mileage | | 368.00 ✓ |
| 5502C | 2.5 hrs | 80 Vac | | 225.00 ✓ |
| 1124 | 128 sks | 50/50 Pozmix cement | | 1472.00 ✓ |
| 1118B | 415 # | Premium Gel | | 91.30 ✓ |
| 1111 | 269 # | Salt | | 104.91 ✓ |
| 1110A | 640 # | Kalseal | | 294.40 ✓ |
| 1401 | 1/2 gal | Polymer | | 23.63 ✓ |
| 4402 | 1 | 2 1/2" rubber plug | | 29.50 ✓ |
| | | | 7.375% | SALES TAX |
| | | | | 148.66 ✓ |
| | | | | ESTIMATED TOTAL |
| | | | | 3968.40 ✓ |

Ravin 3737

AUTHORIZATION Bryan Miller

TITLE **completed**

DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form