

Miami County, KS
 Well: Chase #1
 Lease Owner:Chase Energy

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

Commenced Spudding:
 07/31/2014

WELL LOG

| Thickness of Strata | Formation | Total Depth |
|---------------------|-----------------------|-------------|
| 25 | soil/clay | 25 |
| 10 | river rock | 35 |
| 12 | sandy lime and lime | 47 |
| 6 | sandy lime and lime | 53 |
| 20 | sandy shale and shale | 73 |
| 5 | sandy shale and lime | 78 |
| 40 | shale | 118 |
| 12 | lime | 130 |
| 2 | shale | 132 |
| 3 | lime | 135 |
| 10 | shale | 145 |
| 27 | lime | 172 |
| 3 | shale | 175 |
| 2 | slate | 177 |
| 3 | shale | 180 |
| 24 | sandy lime and lime | 204 |
| 5 | shale | 209 |
| 12 | lime | 221 |
| 25 | shale | 246 |
| 3 | sand | 249 |
| 2 | sandy shale | 251 |
| 93 | shale | 344 |
| 2 | sandy shale | 346 |
| 11 | broken sand | 357 |
| 3 | broken sand | 360 |
| 2 | broken sand | 362 |
| 5 | broken sand | 367 |
| 1 | broken sand | 368 |
| 13 | lime | 381 |
| 7 | sand | 388 |
| 7 | sandy shale | 395 |
| 29 | shale | 424 |
| 6 | lime | 430 |
| 3 | sandy lime and lime | 433 |
| 10 | shale | 443 |
| 2 | lime | 445 |
| 2 | slate | 447 |
| 10 | shale | 457 |
| 6 | lime | 463 |
| 17 | shale | 480 |

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 x PSI x .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. Chase - # 1

Farm Chase

KS Miami
 (State) (County)

20 17 21
 (Section) (Township) (Range)

For Chase Energy
 (Well Owner)

Town Oilfield Services, Inc.

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

Chase Farm: Miami County

KS State; Well No. 1

Elevation 892

Commenced Spuding 7-31 20 11

Finished Drilling 8-9 20 11

Driller's Name David Weaver

Driller's Name

Driller's Name

Tool Dresser's Name Ryan Wood

Tool Dresser's Name

Tool Dresser's Name

Contractor's Name TOS

26 17 21

(Section) (Township) (Range)

Distance from S line, 165 ft.

Distance from E line, 2405 ft.

Cemented by TOS
CASING AND TUBING
RECORD

10" Set _____ 10" Pulled _____

7/8" Set 535 _____ 8" Pulled _____

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

4" Set _____ 4" Pulled _____

2 1/2" Set 567 4 _____ 2" Pulled _____

536" Baffle

540 TD

Chase Pipe

My track

1 30-8 - Baffle 536"

2 32-1

~~3 32-5~~

4 31-9

5 32-4 159.7

6 32-1

7 32-3

~~8 32-4~~

9 31-4

10 31-3 159.5

11 31-1

12 31-2

13 28-8

14 31-8

15 32-1 155

16 31-5

17 32-3

18 31-8

19 31-3

20 31-2 158

567 4 672

| Thickness of Strata | Formation | Total Depth | Remarks |
|---------------------|--------------------|-------------|-------------------------|
| 25 | soil / clay | 25 | |
| 10 | lower rock | 35 | |
| 12 | sandy limestone | 47 | |
| 6 | sand | 53 | |
| 20 | sandy shaled shale | 73 | |
| 5 | sandy shale lime | 78 | |
| 40 | shale | 118 | |
| 12 | lime | 130 | |
| 2 | shale | 132 | |
| 3 | lime | 135 | |
| 10 | shale | 145 | |
| 27 | lime | 172 | |
| 3 | shale | 175 | |
| 2 | shale | 177 | |
| 3 | shale | 180 | |
| 24 | sandy limestone | 204 | |
| 5 | shale | 209 | |
| 12 | lime | 221 | Harder |
| 25 | shale | 246 | |
| 3 | sand | 249 | |
| 2 | sandy shale | 251 | gray, no oil |
| 93 | shale | 344 | |
| 2 | sandy shale | 346 | |
| 11 | Broken sand | 357 | no oil |
| 3 | Broken sand | 360 | 5% - 10% oil |
| 2 | Broken sand | 362 | 20% - 30%, slight bleed |
| 5 | Broken sand | 367 | 15% - 25% oil |

| Thickness of Strata | Formation | Total Depth | Remarks |
|---------------------|--------------|-------------|-------------------------|
| | | 367 | |
| 1 | Brocken sand | 368 | 50% oil with lime |
| 13 | lime | 381 | |
| 7 | sand | 388 | |
| 7 | sandy shale | 395 | very fine oil |
| 29 | shale | 424 | |
| 6 | lime | 430 | |
| 3 | sandy lime | 433 | |
| 10 | shale | 443 | |
| 2 | lime | 445 | |
| 2 | shale | 447 | |
| 10 | shale | 457 | |
| 6 | lime | 463 | |
| 17 | shale | 480 | |
| 1 | lime | 481 | |
| 2 | shale | 483 | |
| 3 | sand | 486 | odor, little oil |
| 1 | Brocken sand | 487 | |
| 2 | lime | 489 | |
| 5 | shale | 494 | |
| 6 | Brocken sand | 500 | |
| 1 | Brocken sand | 501 | odor, 2% oil |
| 3 | Brocken sand | 504 | 10% - 20% oil |
| 6 | Brocken sand | 510 | 25% - 30%, slight bleed |
| 7 | Brocken sand | 517 | 40% - 50% oil |
| 13 | sandy shale | 530 | |
| 39 | shale | 569 | |
| 3 | Brocken sand | 572 | odor, little oil |

Town Oilfield Service

P.O Box 339 Louisburg, Ks 66053
913-837-8400

Ticket Number _____
Location _____
Foreman _____

Field Ticket & Treatment Report Cement

| Date | Customer# | Well Name & Number | Section | Township | Range | County |
|----------|--------------|--------------------|---------|----------|-------|--------|
| 8/4/14 | Chase Energy | Chase #1 | 26 | 17 | 21E | Miami |
| Customer | | Mailing Address | | | | |
| | | 40770 W. 327th St. | | | | |
| | | City | State | Zip Code | | |
| | | Oswatomie | KS. | 66464 | | |

Job Type log string Hole Size 5 5/8 Hole Depth 580 Casing Size & Weight 2 7/8
 Casing Depth 567.4 Drill Pipe _____ Tubing _____ Other _____
 Displacement 4.6 Displacement PSI 800 Mix PSI 200 Rate 4 BPM

Remarks _____

| Account Code | Quantity or Units | Description of Services or Product | Unit Price | Total |
|--------------|-------------------|------------------------------------|-----------------|---------|
| | | Pump Charge | | 800 |
| | | Cement Truck | | 250 |
| | | Water Truck | | 150 |
| | 126 | Cement Class A | 10.50 | 1323 |
| | | Gel | | 0 |
| | | Plug | | 25 |
| | | | Sales Tax | 0 |
| | | | Estimated Total | 2548.00 |

Authorization  Title Owner Date 8-4-14

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.