

Johnson County, KS
Well: Cattle Track # 3
Lease Owner: DZ Exploration

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

Commenced Spudding:
11-24-2014

WELL LOG

Thickness of Strata	Formation	Total Depth
0 - 14	Soil & Clay	14
10	Shale	24
6	Lime	30
6	Shale	36
15	Lime	51
9	Shale	60
8	Lime	68
9	Shale	77
25	Lime	102
18	Shale	120
19	Lime	139
11	Shale	150
18	Lime	168
26	Shale	194
19	Lime	213
12	Shale	225
8	Lime	233
21	Shale	254
9	Lime	263
4	Shale	267
6	Lime	273
34	Shale	307
1	Lime	308
13	Shale	321
24	Lime	345
11	Shale	356
21	Lime	377
3	Shale	380
3	Lime	383
4	Shale	387
8	Lime	395
178	Shale	573
3	Lime	576
4	Shale	580
6	Lime	586
27	Shale	613
3	Lime	616
124	Shale	740
5	Brown Sand	745
10	Sandy Shale	755

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. 3

Farm Cattle track

KS Johnson
 (State) (County)

33 14 22
 (Section) (Township) (Range)

For D+Z Exploration
 (Well Owner)

Town Oilfield Services, Inc.

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

Farm: _____ County _____

State; Well No. _____

Elevation _____

Commenced Spuding 11-24 20 14

Finished Drilling 11-25 20 14

Driller's Name _____

Driller's Name _____

Driller's Name Kenny Gunn

Tool Dresser's Name Cole Holcom

Tool Dresser's Name _____

Tool Dresser's Name _____

Contractor's Name _____

(Section) (Township) (Range)
Distance from _____ line, _____ ft.

Distance from _____ line, _____ ft.

CASING AND TUBING RECORD

10" Set _____	10" Pulled _____
7" Set <u>20'</u>	8" Pulled _____
6 1/4" Set _____	6 1/4" Pulled _____
4" Set _____	4" Pulled _____
2 7/8" Set <u>923,15</u>	2" Pulled _____

CASING AND TUBING MEASUREMENTS

Feet	In.	Feet	In.	Feet	In.

Thickness of Strata	Formation	Total Depth	Remarks
14	soil & clay	14	
10	shale	24	
6	lime	30	
6	shale	36	
15	lime	51	
9	shale	60	
8	lime	68	
9	shale	77	
25	lime	102	
18	shale	120	
19	lime	139	
11	shale	150	
18	lime	168	
26	shale	194	
19	lime	213	
12	shale	225	
8	lime	233	
21	shale	254	
9	lime	263	
4	shale	267	
6	lime	273	
34	shale	307	
1	lime	308	
13	shale	321	
24	lime	345	
11	shale	356	
21	lime	377	

Thickness of Strata	Formation	Total Depth	Remarks
3	shale	380	
3	lime	383	
4	shale	387	
8	lime	395	Hertha
178	shale	573	
3	lime	576	
4	shale	580	
6	lime	586	
27	shale	613	
3	lime	616	
124	shale	740	
5	brown sand	745	squirrel
10	sandy shale	755	
109	shale	864	
2	broken sand	866	lite bleed
5	white sand	871	very lite oil
5	oil sand	876	good bleed, good saturation
2	broken sand	878	lite bleed, poor saturation
82	shale	960	JD

NOTES:

960' TD
 5 5/8" hole
 923.15' 2 7/8"
 20' 7" surface
 3 sacks cement
 Bonus Well

Rules of Thumb

CEMENTING ANNULUS

2" ID - 6 1/4"	- 1 Sack	5.8'
2" ID - 8"	- 1 Sack	3.1'
3" ID - 8"	- 1 Sack	3.5'
4" ID - 8"	- 1 Sack	4.0'

CAPACITY

2"	- 1 BBL.	equals.....	256'
2 1/2"	- 1 BBL.	equals.....	164'
3"	- 1 BBL.	equals.....	115'
4"	- 1 BBL.	equals.....	64'
4 7/8"	- 1 BBL.	equals.....	43'
6 1/4"	- 1 BBL.	equals.....	26'
8"	- 1 BBL.	equals.....	16'

WATER - CEMENT RATIO

5.5 gals. to 1 sack - 2 1/2 hours
 to thicken slurry
 7.7 gals. to 1 sack - 2 hours
 to thicken slurry