

Johnson County, KS
 Well:Haleem # 2
 Lease Owner:HB Energy

Town Oilfield Service, Inc.
 (913) 294-2125

Commenced Spudding:
 4/12/17

WELL LOG

Thickness of Strata	Formation	Total Depth
0-37	Soil-Clay	37
21	Shale	58
6	Lime	64
2	Shale	66
15	Lime	81
7	Shale	88
9	Lime	97
4	Shale	101
21	Lime	122
17	Shale	139
5	Limey Sand	144
5	Shale	149
24	Lime	173
32	Shale	205
12	Lime	217
18	Shale	235
8	Lime	243
8	Shale	251
12	Lime	263
17	Shale	280
8	Lime	288
10	Shale	298
4	Lime	302
33	Shale	335
1	Lime	336
9	Shale	345
24	Lime	369
7	Shale	376
23	Lime	399
4	Shale	403
5	Lime	408
3	Shale	411
5	Lime	416
29	Shale	445
10	Sand	455
5	Sandy Shale	460
128	Shale	588
5	Lime	593
4	Shale	597
3	Lime	600

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. 2

Farm Haleem

KS Johnson
(State) (County)

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

For HB Energy inc
(Well Owner)

15-091-24444

Town Oilfield Services, Inc.

1207 N. 1st East

Louisburg, KS 66053

913-710-5400

Haleem Farm: Johnson County

KS State: Well No. 2

Elevation 1020

Commenced Spuding 4-12 2017

Finished Drilling 4-13 2017

Driller's Name Wesley Dollard

Driller's Name _____

Driller's Name _____

Tool Dresser's Name Ryan Ward

Tool Dresser's Name Steven Scott

Tool Dresser's Name _____

Contractor's Name TOS

1 15 21

(Section) (Township) (Range)

Distance from S line, 368 ft.

Distance from E line, 4180 ft.

4 sacks 2 7/8 casing

1 core

11 hrs

5 5/8 borehole

**CASING AND TUBING
RECORD**

10" Set _____ 10" Pulled _____

8" Set _____ 8" Pulled _____

70" Set 20 _____ 6 1/4" Pulled _____

4" Set _____ 4" Pulled _____

2" Set _____ 2" Pulled _____

CASING AND TUBING MEASUREMENTS

Feet	In.	Feet	In.	Feet	In.
925	Float				
940	TD	2	7/8		

Thickness of Strata	Formation	Total Depth	Remarks
0-37	soil-clay	37	
21	Shale	58	
6	Lime	64	
2	Shale	66	
15	Lime	81	
7	Shale	88	
9	Lime	97	
4	Shale	101	
21	Lime	122	
17	Shale	139	redbed
5	limy sand	144	
5	Shale	149	
24	Lime	173	
32	Shale	205	
12	Lime	217	
18	Shale	235	
8	Lime	243	
8	Shale	251	
12	Lime	263	
17	Shale	280	
8	Lime	288	
10	Shale	298	redbed
4	Lime	302	
33	Shale	335	
1	Lime	336	
9	Shale	345	
24	Lime	369	

369

Thickness of Strata	Formation	Total Depth	Remarks
7	Shale	376	
23	Lime	399	
4	Shale	403	
5	Lime	408	
3	Shale	411	
5	Lime	416	Hertha
29	Shale	445	
10	sand	455	no oil - grey
5	sandy shale	460	
128	Shale	588	
5	Lime	593	
4	Shale	597	
3	Lime	600	
8	Shale	608	
6	Lime	614	
16	Shale	630	
4	Lime	634	
8	Shale	642	
6	Lime	648	
20	Shale	668	redbed
1	Lime	669	
2	Shale	671	
2	Lime	673	
51	Shale	724	
1	Lime	725	
21	Shale	746	
10	sand	756	broken - gas odor

756

Thickness of Strata	Formation	Total Depth	Remarks
4	sandy shale	760	
16	shale	776	
1	lime	777	
97	shale	874	
1	sand	875	solid-heavy oil - perf
20	core	895	page 8
45	shale	940	TD



CONSOLIDATED
Oil Well Services, L.P.

TICKET NUMBER 50442
LOCATION Ottawa KS
FOREMAN Fred Maden

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
4-13-17	7414	Halcom #2	P1W1	15	21	JD
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Mailing Address			712	Fred Mad		
CITY			495	Har Bec		
STATE			675	Ki Det		
ZIP CODE			503	Mik Non		

JOB TYPE Longstring HOLE SIZE 5 7/8 HOLE DEPTH 940' CASING SIZE & WEIGHT 2 7/8 EUE
CASING DEPTH 924' DRILL PIPE _____ TUBING _____ OTHER _____
SLURRY WEIGHT _____ SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT in CASING _____
DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Hold Safety meeting. Establish pump rate. Mix + Pump 100th
Gal Flush. Mix + Pump 125 sks Per Blend 1A Cement 270 Gal
4" Flo Seal /sk. Cement to surface. Flush pump + lines clean
Displace 2 1/2" Rubber plug to casing TD. Pressure to 800th PSI.
Release pressure to set float valve. Shut in casing.

Town Oil Well Services. Fred Maden

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0450	1	PUMP CHARGE	495	1500 ⁰⁰
CE0002	25 mi	MILEAGE	495	12375 ⁰⁰
CE0711	Minimum	Ten Miles Delivery	503	660 ⁰⁰
WE0653	2 hrs	80 BBL Vac Truck	675	200 ⁰⁰
		Sub Total		25387 ⁵⁰
		Less 55%		1142.44
CC5840	125 sks	Por Blend 1A Cement		16875 ⁰⁰
CC5965	310 th	Bentonite Gel		93 ⁰⁰
CL6075	31 th	Cello Flake		62 ⁰⁰
CP8176	1	2 1/2" Rubber Plug		45 ⁰⁰
		Sub Total		18975 ⁰⁰
		Less 55%		8493 ⁷⁵
		7.975%	SALES TAX	825 ⁰⁰
			ESTIMATED	2074 ⁶³
			TOTAL	4610 ²⁸

Revin 3737 AUTHORIZATION [Signature] TITLE _____ DATE 4/10/17

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.

TERMS

In consideration of the prices to be charged for Consolidated Oil Well Services, LLC (COWS) services, equipment and products and for the performance of services and supplying of materials, Customer agrees to the following terms and conditions.

Terms. Cash in advance unless satisfactory credit is established. On credit sales, invoices are payable within 30 days of the invoice date. On all invoices not paid within 30 days, Customer agrees to pay COWS interest at the rate of 18% per annum or the maximum rate allowed by law, whichever is higher. In the event COWS retains an attorney to pursue collection of any account, Customer agrees to pay all collection costs and attorney fees incurred by COWS.

Any applicable federal, state or local sales, use occupation, consumer's or emergency taxes shall be added to the quoted price. All process license fees required to be paid to others will be added to the scheduled prices.

All COWS' prices are subject to change without notice.

SERVICE CONDITIONS

Customer warrants that the well is in proper condition to receive the services, equipment, products and materials to be supplied by COWS. The Customer shall at all time have complete care, custody, and control of the well, the drilling and production equipment at the well, and the premises about the well. A responsible representative of the Customer shall be present to specify depths, pressures or materials used for any service which is to be performed.

(a) COWS shall not be responsible for any claim, cause of action or demand (hereinafter referred to as a "claim") for damage to property, or injury to or death of employees and representatives, of Customer or the well owner (if different from Customer), unless such damage, injury or death is caused by the willful misconduct or gross negligence of COWS, including but not limited to sub-surface damage and surface damage arising from sub-surface damage.

(b) Unless a claim is the result of the sole willful misconduct or gross negligence of COWS, Customer shall be responsible for and indemnify and hold COWS harmless from any claim for: (1) reservoir loss or damage, or property damage resulting from sub-surface pressure, losing control of the well and/or a well blowout; (2) damages as a result of a subsurface trespass, or an action in the nature thereof, arising from a service operation performed by COWS; (3) injury to or death of persons, other than employees of COWS, or damage to property (including, but not limited to, injury to the well), or any damages whatsoever, irrespective of cause, growing out of or in any way connected with the use of radioactive material in the well hole; and (4) well damage or reservoir damage caused by (i) loss of circulation, cement invasion, cement misplacement, pumping cement or cement plugs on wells with loss of circulation, including the failure to displace plug to proper depth, (ii) sub-surface pressure and resulting failure to complete pumping of cement or cement plug, including dehydration of cement slurry or flashing, plugged float shoe, annulus bridging or plugging, or (iii) down hole tools being lost or left in the well, or becoming stuck in the well for any reason and by any cause. COWS may furnish down hole tools and may supply supervision for the running and placement of such tools but will not be liable for any damage, loss or result caused by the use of such tools.

Furthermore, Customer will be responsible for the cost to replace such tools if they are lost or left in the well.

(c) COWS makes no guarantee of the effectiveness of any COWS' products, supplies or materials, or the results of any COWS' treatment or services.

(d) Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, COWS is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by COWS. COWS' personnel will use their best efforts in gathering such information and their best judgement in interpreting it, but Customer agrees that COWS shall not be responsible for any damage arising from the use of such information except where due to COWS' gross negligence or willful misconduct in the preparation or furnishing of it.

(e) COWS may buy and re-sell to Customer down hole equipment, including but not limited to float equipment, DV tools, port collars, type A & B packers, and Customer agrees that COWS is not an agent or dealer for the companies who manufacture such items, and further agrees that Customer shall be solely responsible for and indemnify COWS against any claim with regard to the effectiveness, malfunction of, or functionality of such items.

WARRANTIES - LIMITATION OF LIABILITY

COWS warrants title to the products, supplies and materials, and that the same are free from defects in workmanship and materials. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, NOR ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. COWS's liability and Customer's exclusive remedy in any claim (whether in contract, tort, breach of warranty or otherwise) arising out of the sale or use of any COWS' products, supplies, materials or services is expressly limited to the replacement of such products, supplies, materials or services or their return to COWS or, at COWS' option, an allowance to Customer of credit for the cost of such items.

Customer waives and releases all claims against COWS for any special, incidental, indirect, consequential or punitive damages.