



Fueling American Prosperity™

Oil and Gas Well Drilling

3137 Virginia Rd, Wellsville KS 66092

Owners: Clay Hughes

Isaac Burbank

Phone: (785) 979-9493

(913) 963-9127

Fax: (785) 883-2305

Well Log

DE & TZ LLC

Knabe Well #: I-20

Sec. 31 Twp. 14 Rng. 22

FSL: 4900 FEL: 580

API: 15-091-24407

Start: 03/30/15

End: 04/01/15

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>	
14	Soil & Clay	14	
9	Sandstone	23	Making some water
43	Shale	66	
21	Lime	87	
8	Shale	95	
8	Lime	103	
8	Shale	111	
19	Lime	130	
1	Shale	131	
6	Lime	137	
14	Shale	151	
28	Lime	179	
11	Shale	190	
12	Lime	202	
9	Shale	211	
30	Lime	241	
14	Shale	255	
9	Lime	264	
19	Shale	283	
10	Lime	303	
31	Shale	334	
1	Lime	335	
12	Shale	347	
8	Lime	355	
1	Shale	356	
16	Lime	372	
7	Shale	379	
23	Lime	402	
3	Shale	405	
2	Lime	407	
7	Shale	414	
6	Lime	420	Base of Kansas City / Hertha
27	Shale	447	

6	Sand	453	Grey, light oil show, very faint gas odor
4	Broken Sand	457	Light oil show, very faint gas odor
3	Silty Shale	460	
74	Shale	534	
3	Silty Shale	537	
57	Shale	594	
6	Lime	600	
2	Shale	602	
4	Lime	606	
4	Shale	610	
7	Lime	617	
3	Broken Sand	620	80% brown sand, 20% shale, ok bleed, very little gas
13	Shale	633	
5	Lime	638	
14	Shale	652	
3	Lime	655	
22	Shale	677	Red bed
1	Lime	678	
5	Shale	683	
2	Lime	685	
6	Shale	691	
4	Silty Shale	695	
37	Shale	732	
1	Lime & Shells	733	
11	Shale	744	
1	Lime & Shells	745	
8	Shale	753	
3	Broken Sand	756	Grey sand with brown sand seems, light oil show
5	Broken Sand	761	Ok oil show, fair gas
1	Broken Sand	762	Light brown sand & shale, no odor
2	Silty Shale	764	
15	Shale	779	
1	Coal	780	
29	Shale	809	
1	Coal	810	
3	Shale	813	
5	Broken Sand	818	Grey & brown, light oil show
3	Silty Shale	821	
54	Shale	875	Core point
1.5	Limey Sand	876.5	Brown, hard, light bleed
1.5	Lime	878	No bleed
1.5	Shale	879.5	
.5	Coal	880	
3	Silty Shale	883	
1	Limey Sand	884	White & brown minimal show

4	Limey Sand	888	Limey sand, hard, good bleed
3	Oil Sand	891	Dark brown sand, good bleed, some gas show
.5	Limey Sand	891.5	Hard white, minimal show
5.5	Oil Sand	897	Soft black sand, good bleed
7	Black Sand	904	No bleed
5	Silty Shale	909	
72	Shale	981	TD

Drilled an 11" hole to 45.5'
 Drilled a 5 5/8" hole to 981'

03/30/15 set ' of 7" surface casing, cemented with 12 sacks of cement.

04/01/15 cored Bartlesville zone.

04/01/15 set 966' of 2 7/8" 8 round upset tubing including 3 centralizers, 1 clamp,
 1 float-shoe, and baffle.
 Baffle set at 934'.

Core Times

	<u>Minutes</u>	<u>Seconds</u>
875-876	6	22
876	6	00
877	3	07
878	1	10
879		49
880		59
881	1	35
882	2	05
883	2	06
884	2	35
885	1	27
886	2	03
887	1	43
888	1	12
889		46
890	1	03
891		57
892		42
893		39
894-895		42



REMIT TO
 Consolidated Oil Well Services, LLC
 Dept:970
 P.O.Box 4346
 Houston, TX 77210-4346

MAIN OFFICE

P.O.Box884
 Chanute,KS 66720
 620/431-9210,1-800/467-8676
 Fax 620/431-0012

Invoice # 803911

Invoice Date: 04/07/15 Terms: C.O.D. Page 1

D.E. EXPLORATION

P.O. BOX 128
 WELLSVILLE KS 66092
 USA
 7858834057

KNABE I-20

Part No	Description	Quantity	Unit Price	Discount(%)	Total
5401	Cement Pumper	1.000	1,085.0000	10.000	976.50
5406	Mileage Charge	30.000	4.2000	10.000	113.40
5402	Casing Footage	966.000	0.0000	0.000	0.00
5407	Min. Bulk Delivery Charge	1.000	368.0000	10.000	331.20
5502C	80 Vacuum Truck Cement	2.000	100.0000	10.000	180.00
1124	Poz Cement Mix	130.000	11.5000	30.000	1,046.50
1118B	Premium Gel / Bentonite	319.000	0.2200	30.000	49.13
1111	Sodium Chloride (Granulated Salt)	262.000	0.3900	30.000	71.53
1110A	Kol Seal (50# BAG)	650.000	0.4600	30.000	209.30
4402	2 1/2 Rubber Plug	1.000	29.5000	0.000	29.50
1401	HE 100 Polymer	0.500	47.2500	0.000	23.63

Subtotal 3,798.49
 Discounted Amount 767.81
 SubTotal After Discount 3,030.68

Amount Due 3,947.42 If paid after 04/07/15

Tax: 105.43
 Total: 3,136.12



CONSOLIDATED
Oil Well Services, LLC

Invoice # **803911**

2573
2501

TICKET NUMBER 50907
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
4-1-15	2355	Knabe # I-20	NE 31	14	22	JO
CUSTOMER DE+TZ LLC % DE Exploration			TRUCK # DRIVER TRUCK # DRIVER			
MAILING ADDRESS P.O. Box 128			712 / Fred Maden			
CITY STATE ZIP CODE Wellsville KS 66092			495 / Harv Bac			
			675 / Kei Det			
			804 / Gar Moo			

JOB TYPE Logging HOLE SIZE 5 7/8 HOLE DEPTH 981 CASING SIZE & WEIGHT 2 7/8 EUE
CASING DEPTH 960 DRILL PIPE Baffle TUBING @ 940 OTHER _____
SLURRY WEIGHT _____ SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT IN CASING _____
DISPLACEMENT 5.46 DISPLACEMENT PSI _____ MIX PSI _____ RATE 5 BPM

REMARKS: Hold Safety meeting Establish pump rate. Pump 1/2 Gal HE100 Polymer. Circulate well to condition hole. Mix Pump # 642 Flush. Mix + Pump 130 sks 50/50 Poz Mix Cement 270 Gal 5% Salt 5# Kol Seal / sk. Cement to Surface. Flush Pump Lines clean. Displace 2 1/2" Rubber plug to Casing Baffle. Pressure to 500# PSI. Release Pressure to Set float Valve. Shut in Casing.

HB Energy

Fred Maden

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401	1	PUMP CHARGE	495	1085.00
5406	30 mi	MILEAGE	495	126.00
5402	766	Casing Footage	N/C	
5407	Minimum	Ten Miles	804	368.00
5502	2 hrs	80 Bbl Vac Truck	675	200.00
		Sub Total		1779.00
		Less 10%		-177.90
				1601.10
1124	130 sks	50/50 Poz Mix Cement	1495.00	
118B	319#	Premium Gel	70.18	
111	262#	Granulated Salt	102.18	
110A	650#	Kol Seal	299.00	
		Material	1966.36	
		Less 30%	-589.91	
		Total		1376.45
4402	1	2 1/2" Rubber Plug		29.50
1401	1/2 Gal	HE-100 Polymer		23.53
			7.375%	105.43
		SALES TAX		105.43
		ESTIMATED TOTAL		3136.42

Revin 3737 AUTHORIZATION: [Signature] TITLE: _____ DATE: 3/9/17

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.