

Douglas County, KS  
Well:Early AI-8  
Lease Owner:Altavista

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

Commenced Spudding:  
04/23/2014

WELL LOG

Thickness of Strata	Formation	Total Depth
0-3	soil/clay	3
69	sand	72
132	shale	204
5	lime	209
8	shale	217
14	lime	231
8	shale	239
7	lime	246
6	shale	252
18	lime	270
12	shale	282
4	sand and sandy shale	286
15	shale	301
19	lime	320
13	sand	333
61	shale	394
22	lime	416
13	shale	429
2	shale and lime	431
9	lime	440
14	shale	454
6	sand	460
2	shale	462
19	lime	481
5	shale	486
1	lime	487
13	shale	500
6	lime	506
1	lime crystal	507
17	lime	524
7	shale	531
23	lime	554
5	shale	559
3	lime	562
4	shale	566
5	lime	571
6	shale	577
11	sand	588
27	shale	615
17	sandy and sandy shale	632

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04/23/2014

58	shale	690
11	sand	701
27	shale	728
3	lime	731
12	shale	743
7	lime	750
7	shale	757
4	lime	761
8	shale	769
3	lime	772
8	shale and lime	780
11	shale	791
3	lime	794
4	shale	798
2	coal	800
1	sand	801
5	shale	806
1	lime	807
4	shale	811
4	lime	815
2	shale	817
5	shale and lime	822
7	shale	829
1	lime	930
10	shale	840
2	lime	842
2	shale	844
1	lime	845
5	shale	850
1	lime	851
5	shale	856
8	sand	864
4	sand	868
10	sand	878
4	sand	882
7	sand	889
57	shale	946
6	lime	952
4	sand	956
3	sand	959
2	sand	961
2	sand	9*63
6	sand and shale	969
15	shale	984
9	sand	993
67	shale	1060-TD

# 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. AI-8

Farm Early

KS Douglas  
(State) (County)

11 15 20  
(Section) (Township) (Range)

For Altavista  
(Well Owner)

## Town Oilfield Services, Inc.

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

NOTES:

2 hours Surface  
9 hours Long String

## Rules of Thumb

### CEMENTING ANNULUS

2" ID - 6¼"	- 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'
2½"	- 1 BBL.	equals.....	164'
3"	- 1 BBL.	equals.....	115'
4"	- 1 BBL.	equals.....	64'
4 7/8"	- 1 BBL.	equals.....	43'
6¼"	- 1 BBL.	equals.....	26'
8"	- 1 BBL.	equals.....	16'

### WATER - CEMENT RATIO

5.5 gals. to 1 sack - 2½ hours  
to thicken slurry

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



Thickness of Strata	Formation	Total Depth	Remarks
0-3	Soil-Clay	3	
69	Sand	72	
132	Shale	204	
5	Lime	209	
8	Shale	217	
14	Lime	231	
8	Shale	239	
7	Lime	246	
6	Shale	252	
18	Lime	270	Shells
12	Shale	282	
4	Sand & Sandy Shale	286	No Oil
15	Shale	301	
19	Lime	320	
13	Sand	333	No Oil
61	Shale	394	
22	Lime	416	
13	Shale	429	
2	Shale & Lime	431	
9	Lime	440	
14	Shale	454	
6	Sand	460	Odor
2	Shale	462	
19	Lime	481	
5	Shale	486	
1	Lime	487	
13	Shale	500	

500

Thickness of Strata	Formation	Total Depth	Remarks
6	Lime	506	
1	Lime Crystal	507	No Oil
17	Lime	524	
7	Shale	531	
23	Lime	554	
5	Shale	559	
3	Lime	562	
4	Shale	566	
5	Lime	571	Mertha
6	Shale	577	
11	Sand	588	No Oil
27	Shale	615	
17	Sand & Sandy Shale	632	No Oil
58	Shale	690	
11	Sand	701	No Oil
27	Shale	728	
3	Lime	731	
12	Shale	743	
7	Lime	750	
7	Shale	757	
4	Lime	761	
8	Shale	769	
3	Lime	772	
8	Shale & Lime	780	
11	Shale	791	
3	Lime	794	
4	Shale	798	

798

Thickness of Strata	Formation	Total Depth	Remarks
2	Coal	800	
1	Sand	801	Odor
5	Shale	806	
1	Lime	807	
4	Shale	811	
4	Lime	819	
2	Shale	817	
5	Shale & Lime	822	
7	Shale	829	
1	Lime	830	
10	Shale	840	
2	Lime	842	
2	Shale	844	
1	Lime	845	
5	Shale	850	
1	Lime	851	
5	Shale	856	
8	Sand	864	Broken - Poor Saturation
4	Sand	868	Broken - Good Saturation
10	Sand	878	Solid - Good Saturation
4	Sand	882	Broken - Good Saturation
7	Sand	889	Solid - Good Saturation
57	Shale	946	
6	Lime	952	
4	Sand	958	No Oil
3	Sand	959	Broken
2	Sand	961	Solid







**CONSOLIDATED**  
Oil Well Services, LLC

**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 # 267668

Invoice Date: 04/28/2014 Terms: 0/30/10,n/30

Page 1

ALTAVISTA ENERGY INC  
4595 K-33 HIGHWAY  
P.O. BOX 128  
WELLSVILLE KS 66092  
(785) 883-4057

EARLY AI-8  
47120  
NE 11-15-20  
04-23-2014  
KS

Part Number	Description	Qty	Unit Price	Total
1124	50/50 POZ CEMENT MIX	35.00	11.5000	402.50
1118B	PREMIUM GEL / BENTONITE	59.00	.2200	12.98
1111	SODIUM CHLORIDE (GRANULA	68.00	.3900	26.52
1110A	KOL SEAL (50# BAG)	175.00	.4600	80.50

Sublet Performed	Description	Total
9996-120	CEMENT MATERIAL DISCOUNT	-156.75

Description	Hours	Unit Price	Total
495 CEMENT PUMP (SURFACE)	1.00	870.00	870.00
495 EQUIPMENT MILEAGE (ONE WAY)	.00	4.20	.00
495 CASING FOOTAGE	98.00	.00	.00
548 MIN. BULK DELIVERY	1.00	122.67	122.67
675 80 BBL VACUUM TRUCK (CEMENT)	1.50	100.00	150.00

Amount Due 1702.54 if paid after 05/08/2014

Parts:	522.50	Freight:	.00	Tax:	26.16	AR	1534.58
Labor:	.00	Misc:	.00	Total:	1534.58		
Sublt:	-156.75	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_ Date \_\_\_\_\_



**CONSOLIDATED**  
Oil Well Services, LLC

267668

TICKET NUMBER 47120

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
4-23-14	3244	Early AJ-8	NE 11	15	20	MDG
CUSTOMER			TRUCK #			
A Havista Energy			DRIVER			
MAILING ADDRESS			TRUCK #			
P.O. Box 128			DRIVER			
CITY			TRUCK #			
Wellsville			DRIVER			
STATE			TRUCK #			
KS			DRIVER			
ZIP CODE			TRUCK #			
66092			DRIVER			

JOB TYPE Surface HOLE SIZE 9 7/8 HOLE DEPTH 100' CASING SIZE & WEIGHT 7"  
 CASING DEPTH 98.5 SKS DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT \_\_\_\_\_ SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 10' +  
 DISPLACEMENT 4 BBL DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 4 BPM

REMARKS: Hold crew safety meeting. Establish circulation thru 7" casing  
Mix + Pump 350 SKS 50/50 Poz Mix Cement 2% Col 5% Salt  
5# Kol Seal/sk. Cement to surface. Displace 7" casing clean  
w/ 4.0 BBL water. Shut in casing.

TOS Drilling - Greg

Fred Maden

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE Surface Cement	495	870 <sup>00</sup>
5406	—	MILEAGE		N/C
5402	98	Casing footage		N/C
5407	1/3 Minimum	Ton Miles	548	122 <sup>67</sup>
5502	1 1/2 hr	50 BBL Vac Truck	675	150 <sup>00</sup>
1124	35 SKS	50/50 Poz Mix Cement	402 <sup>50</sup>	
1115B	59 #	Premium Cel	129 <sup>5</sup>	
1111	68 #	Granulated Salt	26 <sup>52</sup>	
110A	175 #	Kol Seal	80 <sup>50</sup>	
		Material	522 <sup>50</sup>	
		Less 30%	-156 <sup>75</sup>	
		Total Material	365 <sup>75</sup>	
			1702.54	
		7.152	SALES TAX	26 <sup>16</sup>
			ESTIMATED TOTAL	1534 <sup>58</sup>

**completed**

Ravin 3737

AUTHORIZATION Bryan Hill

TITLE \_\_\_\_\_

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.



**CONSOLIDATED**  
Oil Well Services, LLC

**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 # 267755

Invoice Date: 04/30/2014 Terms: 0/30/10,n/30

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ALTAVISTA ENERGY INC  
4595 K-33 HIGHWAY  
P.O. BOX 128  
WELLSVILLE KS 66092  
(785) 883-4057

EARLY AI-8  
47125  
NE 11-15-20  
04-25-2014  
KS

Part Number	Description	Qty	Unit Price	Total
1124	50/50 POZ CEMENT MIX	140.00	11.5000	1610.00
1118B	PREMIUM GEL / BENTONITE	336.00	.2200	73.92
1111	SODIUM CHLORIDE (GRANULA	271.00	.3900	105.69
1110A	KOL SEAL (50# BAG)	700.00	.4600	322.00
4402	2 1/2" RUBBER PLUG	1.00	29.5000	29.50
1401	HE 100 POLYMER	.50	47.2500	23.63

Sublet Performed	Description	Total
9996-120	CEMENT MATERIAL DISCOUNT	-633.48

Description	Hours	Unit Price	Total
369 80 BBL VACUUM TRUCK (CEMENT)	2.50	100.00	250.00
495 CEMENT PUMP	1.00	1085.00	1085.00
495 EQUIPMENT MILEAGE (ONE WAY)	25.00	4.20	105.00
495 CASING FOOTAGE	1050.00	.00	.00
503 MIN. BULK DELIVERY	1.00	368.00	368.00

Amount Due 4127.53 if paid after 05/10/2014

Parts:	2164.74	Freight:	.00	Tax:	109.50	AR	3448.76
Labor:	.00	Misc:	.00	Total:	3448.76		
Sublt:	-633.48	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_ Date \_\_\_\_\_



**CONSOLIDATED**  
Oil Well Services, LLC

267755

TICKET NUMBER 47125  
LOCATION Ottawa KS  
FOREMAN Fred Mader

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
4-25-14	3244	Early # AI-8	NE 11	15	20	DG.
CUSTOMER Altavista Energy			TRUCK # DRIVER TRUCK # DRIVER			
MAILING ADDRESS P.O. Box 128			712 FreMad			
CITY STATE ZIP CODE Wellsville KS 66092			495 HarBec			
			369 DerMas			
			503 KaiCar			

JOB TYPE Long string HOLE SIZE 5 7/8 HOLE DEPTH 1060 CASING SIZE & WEIGHT 2 7/8 EUE  
CASING DEPTH 1015 DRILL PIPE Baffle m TUBING @ 1018.70 OTHER \_\_\_\_\_  
SLURRY WEIGHT 1050 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 31' + Plug  
DISPLACEMENT 5.92 B DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 5 BPM

REMARKS: Hold crew safety meeting. Establish pump rate. Mix & Pump 1/2 Gal HE-100 Polymer Flush. Circulate well to condition hole. Mix & Pump 140 SKS 50/50 Perm Mix Cement 270 Gal 5% Salt 5# Kal Seal/sk. Cement to surface. Flush pump & lines clean. Displace 2 1/2" Rubber plug to Baffle m casing. Pressure to 800# PSI. Release pressure to set float valve. Shut in casing.

Safety Dept. Rep: Brent Mann  
TOS Drilling: Greg. Fred Mader

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401	1	PUMP CHARGE	495	1085.00
5406	25mi	MILEAGE	495	105.00
5402	1050	Casing footage		N/C
5407	Minimum	Ten Miles	503	368.00
5502	2 1/2 hrs	80 BBL Vac Truck	369	250.00
1124	140 SKS	50/50 Perm Mix Cement	1610.00	
1118B	336#	Premium Gel	737.00	
1111	271#	Granulated Salt	185.49	
1110A	200#	Kal Seal	322.00	
		Material	2111.61	
		less 30%	-633.48	
		Total Material		1478.13
4402	1	2 1/2" Rubber Plug		29.50
1401	1/2 Gal	HE-100 Polymer		23.63
			4127.53	
			SALES TAX	109.50
			ESTIMATED TOTAL	3448.70

**completed** 4/25/14

RAVIN 3737 AUTHORIZATION Byron Wilko TITLE \_\_\_\_\_ 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 for