Sargent Drilling

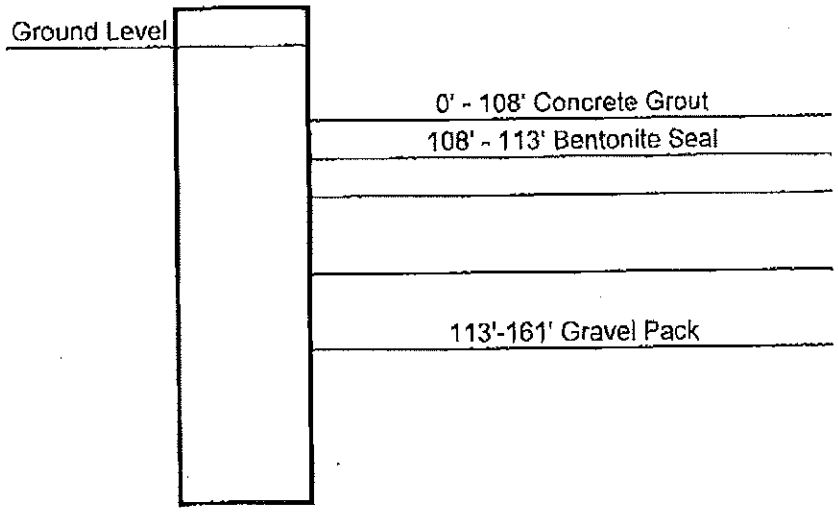
INDUSTRIAL ENGINEERING
COMPLETE MUNICIPAL AND INDUSTRIAL
WELL AND PUMP SERVICE

PO Box 367
846 South 13th St.
Geneva, NE 68361-0367

Phone: (402) 759-3902
Toll Free: (888) 496-3902
Fax: (402) 759-4960

Driller's Log

Customer:	City of Lytton, Iowa	**Legal:**	
Date Construction Started:	01/11/2005	**GPS Reading:**	N42° 25' 04.2" W94° 49' 35.8"
Well Depth:	161'	**Bore Hole:**	30"
Type of Plain Casing:	Steel .375" Wall	**Casing Dia.:**	12"
From:	0' **To** 121'		
Type of Perf. Casing:	Stainless	**Casing Dia.:**	12"
Slot size:	.030" **From:** 121'	**To**	161'
Sump From:		**Type of Bottom:**	Stainless
Gravel From:		**Grade Size:**	Northern "0"
Yards of Gravel:	3	**Bags of Chunks:**	1
Bags of Powder:		**Yards of Concrete:**	15
Stabilizers:	4	**Well Development Time:**	6hrs, Rawhide
Test Pump Results:		**SWL:**	28'
650	GPM from 49'		
	GPM from		
	GPM from		
	GPM from		



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TEST HOLE LOG

CUSTOMER: City of Lytton, Iowa	
WELL ID: TH 2004-1 LOCATION:	
LATITUDE: N 42° 25' 22.4" LONGITUDE: W 94° 49' 36.1" FOOTAGES:	
DATE: 12-1-2004	DRILLED BY: Derek Schweitzer

SWL: 25'
PWL:

from feet	to feet	
0	16	Top soil and sandy clay with cobbles
16	20	Blue clay
20	36	Blue clay with cobbles
36	37	Hard
37	39	Medium to coarse sand
39	40	Blue clay
40	60	Blue clay with cobbles
60	80	Blue clay and sandy blue clay with cobbles
80	82	Blue clay and sand blue clay
82	83	Hard
83	100	Blue clay and sandy blue clay with cobbles
100	116	Blue clay and sandy blue clay
116	120	Medium to coarse sand
120	146	Fine to medium sand
146	161	Fine, medium and coarse gravel and coarse sand
161	180	Clay

Carrie

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SIEVE ANALYSIS

Date 01/03/2005
Customer Lytton, IA
Location
SWL

	% Retained			
Sieve #	120' - 130'	130' - 140'	140' 150'	150' - 160'
8	11.9	1.3	17.3	19.6
12	18.2	1.7	24.9	29.1
16	24.3	2.3	30.7	39.3
20	29.8	3	34.5	38.8
30	44.5	4.2	39	43.8
50	86.1	21.8	73	74.2
100	95.8	79.4	93.7	94.2

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PUMP AND WELL INSTALLATION

Customer:	City of Lytton			**Address:**	Lytton, IA		
Date:	03/01/2005						
WELL:	2005-1 (South)						
Location:	2 Miles East of Lytton			GPS Reading:			
Dia.:	12"	Depth:	160'	Static Level:	30'		
Casing Material:	Steel						
MOTOR OR GEAR DRIVE:							
Mfg.:	US	HP:	15				
Serial No.:	H015S2BLE		Frame:	254 TP			
Volts:	240	Phase:	3	RPM:	1770		
Clutch Bore:	1 1/4"	NRR:	yes				
Bearings #'s:	Upper:	62K0-2Z		Lower:	7310 BEP		
Sub. Dia.	N/A		Length:	N/A	Wire Size:	N/A	
				Discharge			
PUMP:	Mfg.:	Goulds		Dia.:	6"		
		Column					
Depth of Setting:	60'	Dia.:	6"	Shaft:	1 1/4"		
	Stainless	Bowl Serial					
Shaft material:	Steel	No.:	GV05A017		Dia.:		9
		No. of					
Type:	WAHC	Stages:	4	Length:	4'		
			Suction				
Impeller:			Dia.:	6"	Length:	1'	
Strainer	Yes	Lubrication:	Water				
		Airline					
MISCELLANEOUS:		Length	60'	Material:	Plastic		
		Water					
Does it work:	Yes	meter size:	4"	Mfg.:	Sparling		
			Does it				
Material:	Flanged / Tube		work:	yes	Blow off Dia.:		
Dresser Sleeve Dia.:	None						

TEST DATA

Oriface 6 X 4	Flow Rate	Airline Reading	Water Level	Draw Down	Discharge Pressure	Specific Capacity
Inches Read	312	23"	33.25 33'3"	3.25 3'3"	50	96
	265	16 1/2"	32.5 32' 6"	2.9 2'6"	60	106
	221	11 1/2"	31.5 31'6"	1.5 1'6"	70	147
Static Level:	30'					
Shut Off:	80.7 @ 31'					
Pump Runs:	Smooth!					

Put in monthly

266

32.42 2.42

30 - 2.42 = 27.58

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8-HOUR CONSTANT RATE TEST LOG

CUSTOMER: Lytton, IA.		
WELL ID: 2005-1	WELL TYPE:	
TEST START DATE: 01-20-05	TEST END DATE: 01-20-05	
READINGS TAKEN BY: Keith Broman		
STATIC WATER LEVELS: PRODUCTION WELL: 28'	TEST WELL: N/A	OBSERVATION WELL: N/A
ACTUAL START TIME (am/pm):		
REFERENCE POINT:	DISTANCE FROM REFERENCE POINT TO GROUND:	

Time After Start	Actual Time (am/pm)	Production Well		Test Well Water Level (ft. in.)	Observation Well Water Level (ft. in.)
		Pumping Water Level (ft. in.)	Pump Rate (gpm)		
1 hr 45 min	7:49	48' 8"	659'		
2 hr	8:04	48' 11"	659'		
2 hr 30 min	8:34	48' 9"	659'		
	9:04	48' 11"	659'		
3 hr 30 min	9:34	49' 3"	659'		
4 hr	10:04	49' 4"	659'		
5 hr	11:04	49' 10"	659'		
6 hr	12:04	49' 11"	659'		
7 hr	1:04	49' 10"	659'		
8 hr	2:04	50'	659'		

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ACTUAL START TIME (am/pm):		
REFERENCE POINT:	DISTANCE FROM REFERENCE POINT TO GROUND:	

Time After Start	Actual Time (am/pm)	Production Well		Test Well Water Level (ft. in.)	Observation Well Water Level (ft. in.)
		Pumping Water Level (ft. in.)	Pump Rate (gpm)		
0 min	6:04	35'	659'		
1 min	6:05	44' 6"	659'		
2 min	6:06	46'	659'		
3 min	6:07	45' 9"	659'		
4 min	6:08	45' 9"	659'		
5 min	6:09	46'-3"	659'		
6 min	6:10	46' 3"	659'		
7 min.	6:11	46'	659'		
8 min	6:12	46'	659'		
9 min	6:13	46' 5"	659'		
10 min	6:14	46' 10"	659'		
15 min	6:19	47'	659'		
20 min	6:24	47'	659'		
25 min	6:39	47' 9"	659'		
30 min	6:34	47' 6"	659'		
35 min	6:39	47' 5"	659'		
40 min	6:44	47' 10"	659'		
45 min	6:49	47' 9"	659'		
50 min	6:54	47' 9"	659'		
55 min	6:59	47' 11"	659'		
1 hr	7:04	48' 2"	659'		
1 hr 15 min	7:19	47' 9"	659'		
1 hr 30 min	7:34	48' 9"	659'		

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READINGS TAKEN BY: Keith Broman	
STATIC WATER LEVELS: PRODUCTION WELL: 28'	TEST WELL: N/A OBSERVATION WELL: N/A
ACTUAL START TIME (am/pm):	
REFERENCE POINT:	DISTANCE FROM REFERENCE POINT TO GROUND:

Time After Start	Actual Time (am/pm)	Production Well: Pumping Water Level (ft. in.)	Production Well: Pump Rate (gpm)	Test Well Water Level (ft. in.)	Observation Well Water Level (ft. in.)
RECOVERY LOG					
0	1:29	48'	0		
n	1:30	32' 9"	0		
2 min	1:31	32' 4"	0		
3 min	1:32	32'	0		
4 min	1:33	31' 10"	0		
5 min	1:34	31' 5"	0		
6 min	1:35	31' 5"	0		
7 min	1:36	31' 5"	0		
8 min	1:37	31' 5"	0		
9 min	1:38	31' 5"	0		
10 min	1:39	31' 4"	0		
15 min	1:44	31'	0		
20 min	1:49	30' 11"	0		
25 min	1:54	30' 6"	0		
30 min	1:59	30' 6"	0		
35 min	2:04	30' 6"	0		
40 min	2:09	30' 6"	0		
45 min	2:14	30' 5"	0		
	2:19	30' 3"	0		
3 min	2:24	30'	0		
1 hr	2:29	29' 11"	0		