

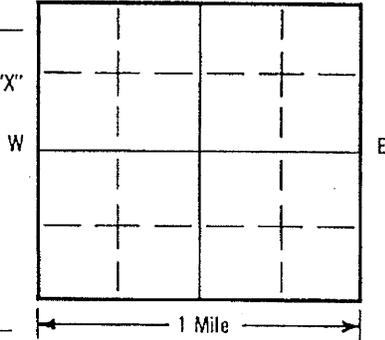
MW-59

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location SW 1/4 Sec 36 Twp 5N Rg 2E
County Lawrence

Please mark well location with an "X"



Well Completion Date

2-24-10

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? 2100 ft. from anything (identify source).

PROPOSED USE:

- Domestic/Stock Municipal Business Test Holes
- Irrigation Industrial Institutional Monitoring well

METHOD OF DRILLING:

Air Rotary

CASING DATA: Steel Plastic Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>24 LB/FT</u>	<u>8 3/8 IN</u>	<u>0 FT</u>	<u>14 FT</u>	<u>12 1/4 IN</u>
<u>SDR 17 LB/FT</u>	<u>4 1/2 IN</u>	<u>0 FT</u>	<u>250 FT</u>	<u>7 7/8 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Cement</u>	<u>8</u>	<u>15 lb./gal</u>	<u>0 ft.</u>	<u>14 ft.</u>
<u>Cement</u>	<u>29</u>	<u>12.5 lb./gal</u>	<u>0 ft.</u>	<u>154 ft.</u>

Describe grouting procedure pressure grouted through Tremie line

SCREEN: Perforated pipe Manufactured

Diameter 4 1/2 IN Length 80 FEET

Material PVC SDR 17

Slot Size .035 Set From 170 Feet to 250 Feet

Other information _____

WAS A PACKER OR SEAL USED? YES NO

If so, what material? bentonite

Describe packer(s) and location? 154 - 160

DISINFECTION: Was well disinfected upon completion?

YES, How: _____

Laboratory sent to for water quality analysis

NO, Why Not? Dry hole

Well Owner: Wharf Resources

Business Name: _____

Address: HC 37 Box 811

Lead SD 57754

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>silt, clay, cobbles</u>	<u>0</u>	<u>3</u>
<u>light brown</u>		
<u>schist black to</u>	<u>3</u>	<u>250</u>
<u>gray</u>		

STATIC WATER LEVEL _____ Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by Valve Reducers Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

Pumped Describe: no water

Bailed encountered

Other _____

Pumping Level Below Land Surface

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

This well was drilled under license # 331

And this report is true and accurate.

Drilling firm Taylor Drilling Co.

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: _____

MW-59

Fixed width point coordinate listing

Project : 2010 NEW

User name	troy.andreson	Date & Time	11:13:04 AM 1/27/2011
Coordinate System	Wharf(at ground)	Zone	Wharf
Project Datum	(WGS 84)		
Vertical Datum		Geoid Model	GEOID03 (Conus)(2)
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

Point listing

Name	Northing	Easting	Elevation	Feature Code
452	50044.739	58960.711	6155.146	mw

[Back to top](#)

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

MW-60

Location SE 1/4 SW 1/4 Sec 26 Twp 5N Rg 2E

Well Owner: Wharf Resources

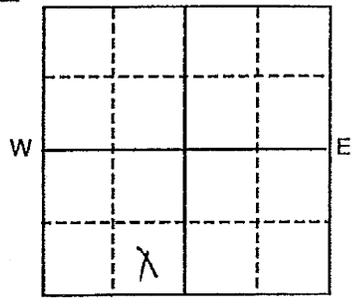
County Lawrence North

Business Name: _____

Address: 10928 Wharf Road

City, State, Zip: Lead SD 57754

Please mark well location with an "X"



Well Completion Date
January 6, 2011

FORMATION	DEPTH	
	FROM	TO
Drift	0	10
Deadwood	10	180
Fracture 5 gpm	180	185
Deadwood	185	260
Precambrian	260	360
Fracture 10 gpm	360	365
Precambrian	365	400

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
ft. from 1/2 mile (Identify source)

PROPOSED USE:

Domestic/Stock Irrigation
 Municipal Industrial
 Business Institutional
 Test holes Monitoring well

METHOD OF DRILLING:
Rotary Downhole Hammer

STATIC WATER LEVEL 110.0 FEET

If flowing: closed in pressure _____ PSI
GPM flow 10.0 through _____ Inch pipe

Controlled by Valve Reducers Other _____

Reduced flow rate _____ GPM

Can well be completely shut in? _____

CASING DATA: Steel Plastic Other
If other describe 4 1/2 160 psi

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
		<u>0.0</u>	<u>400.0</u>	<u>7.00</u>
		FT	FT	IN
		FT	FT	IN

WELL TEST DATA:

Pumped Describe: w/air

Bailed

Other

Pumping Level Below Land Surface
_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	Ft	Ft
<u>Bentonite</u>	<u>60</u>		<u>295.0</u>	<u>25.0</u>
<u>Portland</u>	<u>6</u>		<u>25.0</u>	<u>0.0</u>

Describe grouting procedure
gravel packed 400' to 295'

REMARKS

SCREEN: Perforated pipe Manufactured

Diameter 4.50 Inches Length 100.0 Feet

Material 160psi

Slot Size _____ Set From 400.0 Feet to 300.0 Feet

Other information _____

This well was drilled under license # 324 and this report is true and accurate.

Drilling firm: Alexander Drilling Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder: _____

WAS A PACKER OR SEAL USED? Yes No

If so, what material? _____
Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

Yes, How? _____

Lab to which water No, Why Not? _____ monitor well
quality sample sent for analysis _____

Date: 1/18/2011

M.W. #60

1 locking Lid
19' 8" steel Protector
Pipe

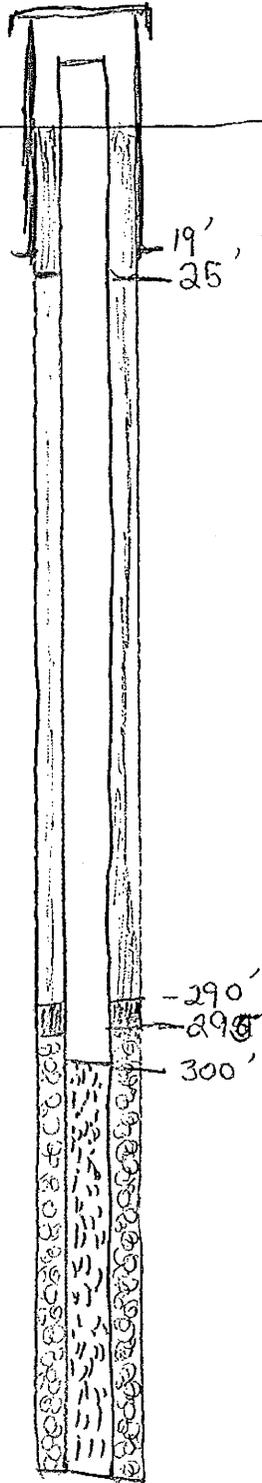
Cement Grout from
0' to 25'

Solid 4 1/2 well Casing
from 0' - 295'

Bentonite Grout
from 25' to 290'

290' to 295'
Bentonite Hole Plug
Gravel pack from
295' to 400'

Perf Casing from
300' to 400'



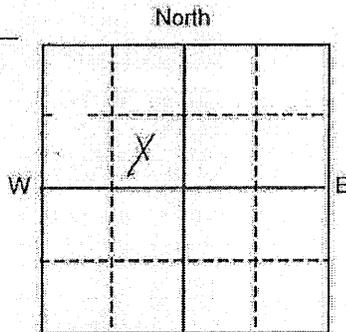
MW-61
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location S E 1/4 NW 1/4 Sec 35 Twp 5N Rg 2E

County Lawrence

Please mark well location with an "X"



Well Completion Date

January 27, 2011

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
ft. from 1/2 mile from septic (Identify source)

PROPOSED USE:

- Domestic/Stock Municipal Business Test holes
 Irrigation Industrial Institutional Monitoring well

METHOD OF DRILLING:

Rotary Downhole Hammer

CASING DATA:

Steel Plastic Other
If other describe 4 1/2 160 psi well casing

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	0.0 FT	23.0 FT	10.00 IN
		23.0 FT	520.0 FT	7.00 IN
		FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	415.0 Ft	30.0 Ft
Bentonite	85			
Portland II	0	Lb/gal	30.0 Ft	0.0 Ft

Describe grouting procedure through 1" trim pipe

SCREEN:

Perforated pipe Manufactured
Diameter 4.50 Inches Length 100.0 Feet

Material 160psi

Slot Size _____ Set From 520.0 Feet to 420.0 Feet

Other information

WAS A PACKER OR SEAL USED? Yes No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

Yes, How?

Lab to which water No, Why Not? monitor well
quality sample sent for analysis

Well Owner: Wharf Resources

Business Name:

Address: 10928 Wharf Road

City, State, Zip: Lead SD 57754

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Drift	0	10
Deadwood	10	220
Deadwood fracture 2 gpm	220	225
Deadwood	225	400
Precambrian	400	440
Fracture 10 gpm	440	442
Precambrian	442	520

STATIC WATER LEVEL 240.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow: 10.0 through _____ Inch pipe

Controlled by Valve Reducers Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

Pumped Describe: w/air

Bailed

Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS:

This well was drilled under license # 324 and this report is true and accurate.

Drilling firm: Alexander Drilling Inc.

Signature of License Representative:

Alexander Sewell

Signature of Well Owner or Equitable Property Holder:

R. M. Water

Date: 2/7/11

M.W. #61

1 Locking Lid
25' 8" Steel Protector

Cement Grout from
0 - 30'

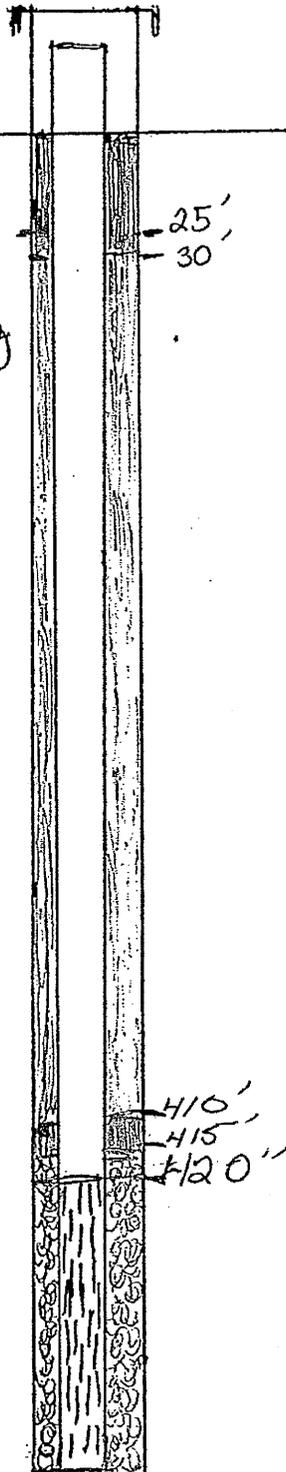
Solid 4 1/2" well casing
from 0' - 420'

Bentonite Grout
from 30' - 410'

Bentonite Hole Plug
from 410' to 415'

Gravel Pack from
415' to 520'

perf casing
from 420' to 520'



NW-62

SOUTH DAKOTA WATER WELL COMPLETION REPORT

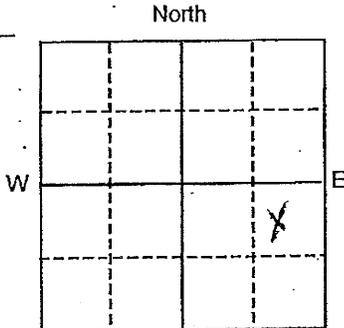
SD FORM - 1621LD V1

11-02

Location NE 1/4 SE 1/4 Sec 35 Twp 5N Rg 2E

County Lawrence

Please mark well location with an "X"



Well Completion Date

2/17/11

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
ft. from 1/4 mile (identify source)

PROPOSED USE:

Domestic/Stock Irrigation
 Municipal Industrial
 Business Institutional
 Test holes
 Monitoring well

METHOD OF DRILLING:

Rotary downhole hammer

CASING DATA:

If other describe 4 1/2 160 psi well casing

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	0.0 FT	20.0 FT	10.00 IN
LB/FT	IN	20.0 FT	200.0 FT	7.00 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	25	Lb/gal	75.0 Ft	30.0 Ft
Portland II w/ <u>2% bentonite</u>		Lb/gal	30.0 Ft	0.0 Ft

Describe grouting procedure

SCREEN:

Perforated pipe Manufactured
 Diameter 4.50 Inches Length 120.0 Feet
 Material 160 psi-plastic
 Slot Size _____ Set From 200.0 Feet to 80.0 Feet
 Other information _____

WAS A PACKER OR SEAL USED?

Yes No
 If so, what material? _____
 Describe packer(s) and location _____

DISINFECTION:

Was well disinfected upon completion?
 Yes, How? _____
 No, Why Not? Monitor Well
 Lab to which water quality sample sent for analysis _____

Well Owner: Wharf Resources

Business Name: _____

Address: 10928 Wharf Road

City, State, Zip: Lead SD 57754

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Overburden	0	15
Deadwood	15	60
Precambrian	60	90
Fracture 5 gpm	90	92
Precambrian	92	140
Fracture 10 gpm	140	141
Precambrian	141	200

STATIC WATER LEVEL

_____ 65.0 FEET
 If flowing: closed in pressure _____ PSI
 GPM flow 10.0 through _____ Inch pipe
 Controlled by Valve Reducers Other _____
 Reduced flow rate _____ GPM
 Can well be completely shut in? _____

WELL TEST DATA:

Pumped Describe: w/air
 Bailed
 Other
 Pumping Level Below Land Surface
 _____ Ft. After _____ Hrs. pumped _____ GPM
 _____ Ft. After _____ Hrs. pumped _____ GPM
 If pump installed, pump rate: _____ GPM

REMARKS

Gravel packed from 200' to 75'

This well was drilled under license # 324 and this report is true and accurate.

Drilling firm: Alexander Drilling Inc.

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: 3/7/11

MW #62

1 Locking Lid
23' 8" steel protector

Cement Grout from
0 - 30'

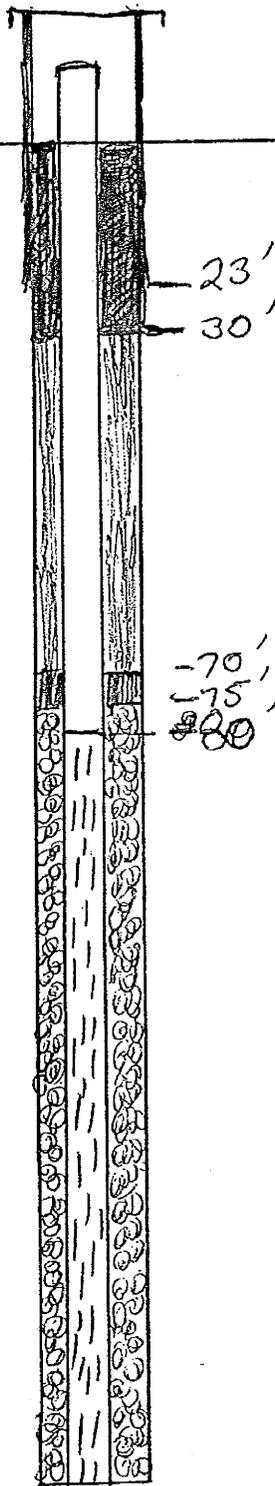
Solid 4 1/2" well casing
from 0' - 80'

Bentonite Grout
from 30' to 70'

Bentonite Hole Plug
from 70' to 75'

Gravel Pack from
75' to 200'

perf casing
from 80' to 200'



MW-63
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NE 1/4 Sec 35 Twp 5N Rg 2E

Well Owner: Wharf Resources

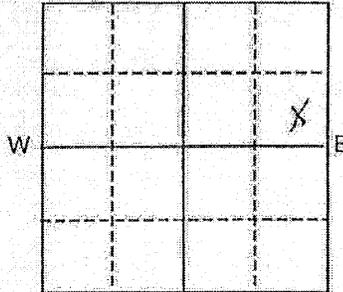
County Lawrence

Business Name:

Address: 10928 Wharf Road

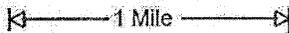
City, State, Zip: Lead SD 57754

Please mark well location with an "X"



Well Completion Date

February 23, 2011



Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
ft. from 1/2 mile (identify source)

PROPOSED USE:

- Domestic/Stock Municipal Business Test holes
 Irrigation Industrial Institutional Monitoring well

METHOD OF DRILLING:

Rotary Downhole Hammer

CASING DATA:

- Steel Plastic Other

If other describe 4.5" 160 PSI well casing

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	0.0 FT	7.0 FT	10.00 IN
LB/FT	IN	7.0 FT	300.0 FT	7.00 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	55	Lb/gal	195.0 Ft	30.0 Ft
Portland II	8	Lb/gal	30.0 Ft	0.0 Ft

Describe grouting procedure Use Bentonite

SCREEN:

- Perforated pipe Manufactured

Diameter 4.50 Inches Length 100.0 Feet

Material 160 PSI

Slot Size _____ Set From 300.0 Feet to 200.0 Feet

Other information

WAS A PACKER OR SEAL USED? Yes No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

- Yes, How?

Lab to which water No, Why Not? monitor well
quality sample sent for analysis

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Overburden	0	5
Deadwood	5	50
Precambrian	50	240
Fracture 3-gpm	240	241
Precambrian	241	300

STATIC WATER LEVEL 200.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow 0.0 through _____ Inch pipe

Controlled by Valve Reducers Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

Pumped Describe: w/air

Bailed

Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

Gravel packed from 300 to 195

This well was drilled under license # 324 and this report is true and accurate.

Drilling firm: Alexander Drilling Inc.

Signature of License Representative:

Leann Sewell

Signature of Well Owner or Equitable Property Holder:

Robert N. Water

Date: 3/14/11

MW #3

1 locking lid
10' 8" steel Protector

Cement Grout from
0' - 30'

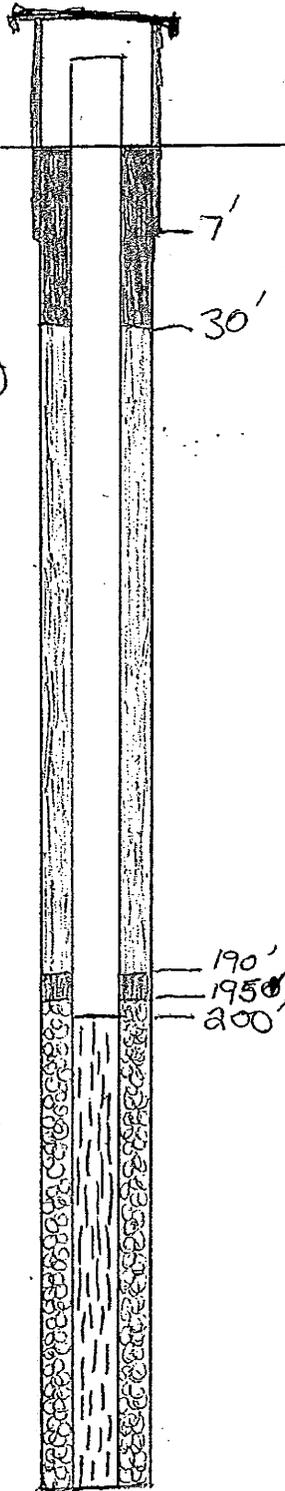
Solid 4 1/2 well casing
0 - 200

Bentonite Grout
from 30' to 190'

Bentonite Hole Plug
from 190' to 195'

Gravel Pack from
195' to 300'

perforated casing
from 200' to 300'



MW-64

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW 1/4 NW 1/4 Sec 36 Twp 5N Rg 2E

Well Owner: Wharf Resources

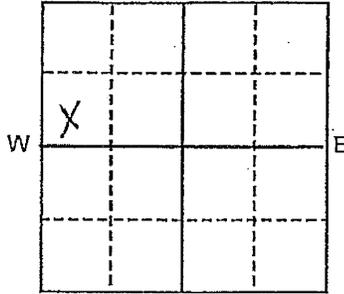
County Lawrence

North

Business Name:

Address: 10928 Wharf Road

Please mark well location with an "X"



City, State, Zip: Lead SD 57754

Well Completion Date

5/5/11



Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
250.0 ft. from Septic (identify source)

PROPOSED USE:

- Domestic/Stock
- Irrigation
- Municipal Industrial
- Business Institutional
- Test holes
- Monitoring well

METHOD OF DRILLING:

Rotary Downhole Hammer

CASING DATA:

- Steel
- Plastic
- Other

If other describe 400' of 4.5" 160 psi casing

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	0.0 FT	400.0 FT	7.00 IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite grout</u>	<u>150</u>	<u>Lb/gal</u>	<u>295.0 Ft</u>	<u>25.0 Ft</u>
<u>Portland II w/2% 6</u>	<u>6</u>	<u>Lb/gal</u>	<u>25.0 Ft</u>	<u>0.0 Ft</u>

Describe grouting procedure
Gravel Pack 400-295

SCREEN:

- Perforated pipe
- Manufactured

Diameter 4.50 Inches Length 100.0 Feet

Material

Slot Size _____ Set From 300.0 Feet to 400.0 Feet

Other information

WAS A PACKER OR SEAL USED?

- Yes
- No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

- Yes, How?
- No, Why Not? Industrial Well

Lab to which water

quality sample sent for analysis

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Drift	0	10
Deadwood	10	210
Schist	210	350
Schist fracture 5 gpm	350	353
Schist	353	400

STATIC WATER LEVEL 280.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow 5.0 through _____ Inch pipe

Controlled by Valve Reducers Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

Pumped Describe: w/air

Bailed

Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 324 and this report is true and accurate.

Drilling firm: Alexander Drilling Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 6/7/2011

M.W. #64

1 locking Lid.
18' 8" steel Protector
Pipe

Cement Grout from
0' to 25'

Solid 4 1/2 well casing
from 0' - 300'

Bentonite Grout
from 25' to 290'

290' to 295'
Bentonite hole Plug
Gravel pack from
295' to 400'

Perf casing from
300' to 400'

