

# **APPENDIX D:**

Well Completion Report

**SOUTH DAKOTA WATER WELL COMPLETION REPORT**

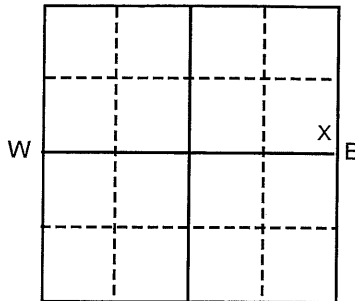
11-02

Location SE ¼ SE ¼ Sec 22 Twp 113N Rg 48W

County Deuel

North

Please mark well location with an "X"



Well Completion Date

June 23, 2017



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

**PROPOSED USE:**

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

**METHOD OF DRILLING:**

Rotary

**CASING DATA:**

- Steel     Plastic     Other  
 If other describe \_\_\_\_\_

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>SDR 17.0</u> LB/FT	<u>5.00</u> IN	<u>0.0</u> FT	<u>580.0</u> FT	<u>8.75</u> IN
<u>SDR 80.0</u> LB/FT	<u>5.00</u> IN	<u>580.0</u> FT	<u>612.0</u> FT	<u>8.75</u> IN

**GROUTING DATA:**

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite</u>	<u>57</u>	<u>    </u> Lb/gal	<u>0.0</u> Ft	<u>610.0</u> Ft
		<u>    </u> Lb/gal	<u>    </u> Ft	<u>    </u> Ft

Describe grouting procedure  
tremie piped

**SCREEN:**

Perforated pipe     Manufactured  
 Diameter 5.00 Inches    Length 60.0 Feet  
 Material PVC  
 Slot Size .016    Set From 0.0 Feet to 60.0 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? Chlorinated

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

Well Owner: Otter Tail Power Company

Business Name: \_\_\_\_\_

Address: 215 S. Cascade St.

City, State, Zip: Fergus Falls    MN    56537

**WELL LOG:**

FORMATION	DEPTH	
	FROM	TO
Top Soil	0	3
Clay Brown	3	15
Clay Blue	15	51
Sand	51	52
Clay Blue w/ clay layers	52	58
Sand	58	61
Clay	61	64
Gravel Coarse Med	64	67

Continued on next page.

**STATIC WATER LEVEL** 270.0 FEET

If flowing: closed in pressure \_\_\_\_\_ PSI

GPM flow \_\_\_\_\_ through \_\_\_\_\_ Inch pipe

Controlled by  Valve     Reducers     Other \_\_\_\_\_

Reduced flow rate \_\_\_\_\_ GPM

Can well be completely shut in?

**WELL TEST DATA:**

Pumped Describe: \_\_\_\_\_

Bailed

Other

Pumping Level Below Land Surface

284.0 Ft. After 8.0 Hrs. pumped 65.0 GPM

\_\_\_\_\_ Ft. After \_\_\_\_\_ Hrs. pumped \_\_\_\_\_ GPM

If pump installed, pump rate: \_\_\_\_\_ GPM

**REMARKS**

GPS: N44 34 48.2  
 W96 33 42.6

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: Thein Well Company

Signature of License Representative: \_\_\_\_\_

Signature of Well Owner or Equitable Property Holder:

*Mark Shoma*

Date: 9/11/17

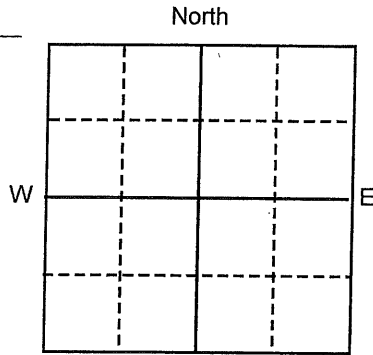
# SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location      ¼      ¼ Sec      Twp      Rg     

County                     

Please mark well location with an "X"



Well Completion Date                     



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

### PROPOSED USE:

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

### METHOD OF DRILLING:

### CASING DATA:

- Steel                   Plastic               Other

If other describe                     

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

### GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	Ft	Ft
		Lb/gal	Ft	Ft

Describe grouting procedure                     

### SCREEN:

- Perforated pipe               Manufactured

Diameter      Inches     Length      Feet

Material                     

Slot Size      Set From      Feet to      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?

Lab to which water quality sample sent for analysis                     

Well Owner:      Otter Tail Power Company

Business Name:                     

Address:      215 S. Cascade St.

City, State, Zip:      Fergus Falls      MN      56537

### WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Clay Brown	67	82
Clay Blue	82	103
Gravel	103	106
Sandy Blue Clay	106	177
Clay Brown	177	186
Clay Brown w/ sand layers	186	192
Sand Med.	192	196
Clay Brown	196	211

Continued on next page

### STATIC WATER LEVEL

FEET             

If flowing: closed in pressure              PSI

GPM flow              through              Inch pipe

Controlled by  Valve     Reducers     Other             

Reduced flow rate              GPM

Can well be completely shut in?             

### WELL TEST DATA:

- Pumped Describe:
- 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 #      475      and this report is true and accurate.

Drilling firm:      Thein Well Company

Signature of License Representative:                     

Signature of Well Owner or Equitable Property Holder:                     

Date:      9/11/17

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

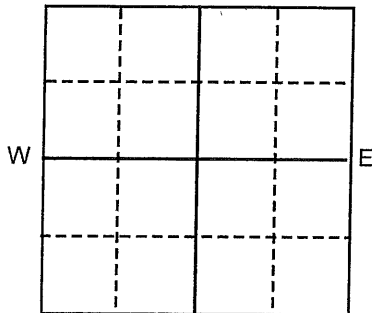
Location 1/4 1/4 Sec Twp Rg

Well Owner: Otter Tail Power Company
Business Name:
Address: 215 S. Cascade St.
City, State, Zip: Fergus Falls MN 56537

County

North

Please mark well location with an "X"



Well Completion Date



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

PROPOSED USE:

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

METHOD OF DRILLING:

CASING DATA: Steel Plastic Other

If other describe

Table with columns: PIPEWEIGHT, DIAMETER, FROM, TO, HOLE DIAMETER. Rows for LB/FT, IN, FT, FT, IN.

GROUTING DATA:

Table with columns: Grout Type, No. of Sacks, Grout Weight, From, To. Rows for Lb/gal, Ft, Ft.

Describe grouting procedure

SCREEN: Perforated pipe Manufactured

Diameter Inches Length Feet

Material

Slot Size Set From Feet to 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?

Lab to which water quality sample sent for analysis

WELL LOG table with columns: FORMATION, DEPTH (FROM, TO). Rows: Clay Blue few thin sand layers, Sand Med., Clay Blue Sandy, Sand, Clay Blue, Rocks & Sand, Sandy Brown Clay, Gravel.

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

WELL TEST DATA:
Pumped Describe:
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 # 475 and this report is true and accurate.
Drilling firm: Their Well Company
Signature of License Representative:

Signature of Well Owner or Equitable Property Holder: Mark Shome
Date: 9/11/17

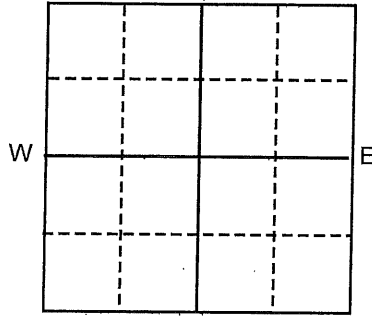
# SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location      ¼      ¼ Sec      Twp      Rg     

County      North

Please mark well location with an "X"



Well Completion Date      ← 1 Mile →

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

**PROPOSED USE:**  
 Domestic/Stock     Municipal     Business     Test holes  
 Irrigation         Industrial     Institutional     Monitoring well

**METHOD OF DRILLING:**  
    

**CASING DATA:**     Steel     Plastic     Other  
 If other describe     

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN

**GROUTING DATA:**  
 Grout Type      No. of Sacks      Grout Weight      Lb/gal    From      Ft    To      Ft  
     Lb/gal    Ft    Ft  
     Lb/gal    Ft    Ft  
 Describe grouting procedure     

**SCREEN:**     Perforated pipe     Manufactured  
 Diameter      Inches    Length      Feet  
 Material       
 Slot Size         Set From      Feet to      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?       
 Lab to which water quality sample sent for analysis     

Well Owner: Otter Tail Power Company  
 Business Name:       
 Address: 215 S. Cascade St.  
 City, State, Zip: Fergus Falls MN 56537

**WELL LOG:**

FORMATION	DEPTH	
	FROM	TO
Clay Blue w/ sand & gravel layers	390	392
Clay & Sand Layers	392	416
Gravel Fine	416	418
Clay	418	436
Sand w/ clay layers	436	441
Clay Brown thin sand layers	441	451
Sand a few brown clay layers	451	461
Clay Brown soft	461	465
Continued on next page.		

**STATIC WATER LEVEL**      FEET  
 If flowing: closed in pressure      PSI  
 GPM flow      through      Inch pipe  
 Controlled by  Valve     Reducers     Other       
 Reduced flow rate      GPM  
 Can well be completely shut in?     

**WELL TEST DATA:**  
 Pumped Describe:       
 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 # 475 and this report is true and accurate.  
 Drilling firm: Thein Well Company  
 Signature of License Representative:       
 Signature of Well Owner or Equitable Property Holder: Mark Strama  
 Date: 9/11/17

# SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location         $\frac{1}{4}$          $\frac{1}{4}$  Sec        Twp        Rg       

County               North

Please mark well location with an "X"

W				E

Well Completion Date \_\_\_\_\_

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

Well Owner: Otter Tail Power Company

Business Name: \_\_\_\_\_

Address: 215 S. Cascade St.

City, State, Zip: Fergus Falls MN 56537

**WELL LOG:**

FORMATION	DEPTH	
	FROM	TO
Sand	465	467
Clay Brown	467	471
Sand w/ thin clay layers	471	473
Clay Blue	473	506
Clay w/ some sand layers	506	526
Shale	526	556
Clay Blue	556	561
Shale	561	572

**PROPOSED USE:**

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

Continued on next page

**STATIC WATER LEVEL** \_\_\_\_\_ FEET

If flowing: closed in pressure \_\_\_\_\_ PSI

GPM flow \_\_\_\_\_ through \_\_\_\_\_ Inch pipe

Controlled by  Valve  Reducers  Other \_\_\_\_\_

Reduced flow rate \_\_\_\_\_ GPM

Can well be completely shut in? \_\_\_\_\_

**METHOD OF DRILLING:**

**CASING DATA:**  Steel  Plastic  Other

If other describe \_\_\_\_\_

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT _____	IN _____	FT _____	FT _____	IN _____
LB/FT _____	IN _____	FT _____	FT _____	IN _____
LB/FT _____	IN _____	FT _____	FT _____	IN _____

**WELL TEST DATA:**

Pumped Describe: \_\_\_\_\_

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 _____
		Lb/gal _____	Ft _____	Ft _____

Describe grouting procedure \_\_\_\_\_

**SCREEN:**  Perforated pipe  Manufactured

Diameter \_\_\_\_\_ Inches Length \_\_\_\_\_ Feet

Material \_\_\_\_\_

Slot Size \_\_\_\_\_ Set From \_\_\_\_\_ Feet to \_\_\_\_\_ Feet

Other information \_\_\_\_\_

**REMARKS**

**WAS A PACKER OR SEAL USED?**  Yes  No

If so, what material? \_\_\_\_\_

Describe packer(s) and location \_\_\_\_\_

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

Drilling firm: \_\_\_\_\_

Signature of License Representative: \_\_\_\_\_

**DISINFECTION:** Was well disinfected upon completion?

Yes, How? \_\_\_\_\_

No, Why Not? \_\_\_\_\_

Lab to which water quality sample sent for analysis \_\_\_\_\_

Signature of Well Owner or Equitable Property Holder: \_\_\_\_\_

Date: 9/11/17

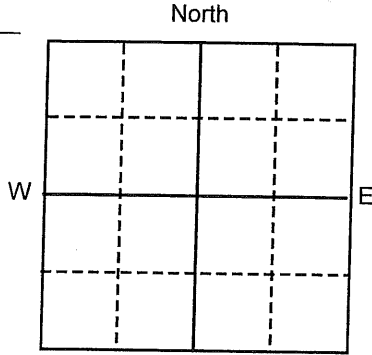
# SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location       $\frac{1}{4}$        $\frac{1}{4}$  Sec      Twp      Rg     

County                     

Please mark well location with an "X"



Well Completion Date                     



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

**PROPOSED USE:**

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

**METHOD OF DRILLING:**

**CASING DATA:**

If other describe  Steel  Plastic  Other

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

**GROUTING DATA:**

Grout Type	No. of Sacks	Grout Weight	From	To
<u>    </u>	<u>    </u>	<u>    </u> Lb/gal	<u>    </u> Ft	<u>    </u> Ft
<u>    </u>	<u>    </u>	<u>    </u> Lb/gal	<u>    </u> Ft	<u>    </u> Ft

Describe grouting procedure                                     

**SCREEN:**

Perforated pipe  Manufactured

Diameter      Inches Length      Feet

Material                                     

Slot Size      Set From      Feet to      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?                                     

Lab to which water quality sample sent for analysis                                     

Well Owner:     Otter Tail Power Company    

Business Name:                                     

Address:     215 S. Cascade St.    

City, State, Zip:     Fergus Falls         MN         56573    

**WELL LOG:**

FORMATION	DEPTH	
	FROM	TO
Shale	561	572
Clay Blue Pebbly	572	615
Sand	615	617
Clay	617	618
Sand	618	619
Clay	619	621
Sand	621	623
Clay	623	625

Continued on next page

**STATIC WATER LEVEL**

FEET

If flowing: closed in pressure                     

PSI

GPM flow      through     

Inch pipe

Controlled by  Valve  Reducers  Other                     

Reduced flow rate                     

GPM

Can well be completely shut in?                     

**WELL TEST DATA:**

Pumped Describe:                                     

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 #     475     and this report is true and accurate.

Drilling firm:     Thein Well Company    

Signature of License Representative

Signature of Well Owner or Equitable Property Holder:

Date:     9/11/17

# SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location        ¼        ¼ Sec        Twp        Rg        Well Owner: Otter Tail Power Company

County        North

Please mark well location with an "X"

W			E

←———— 1 Mile —————→

Well Completion Date       

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

**PROPOSED USE:**

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

**METHOD OF DRILLING:**

**CASING DATA:**     Steel     Plastic     Other

If other describe       

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

**GROUTING DATA:**

Grout Type	No. of Sacks	Grout Weight	From	To
<u>      </u>	<u>      </u>	<u>      </u> Lb/gal	<u>      </u> Ft	<u>      </u> Ft
<u>      </u>	<u>      </u>	<u>      </u> Lb/gal	<u>      </u> Ft	<u>      </u> Ft

Describe grouting procedure       

**SCREEN:**     Perforated pipe     Manufactured

Diameter        Inches    Length        Feet

Material       

Slot Size        Set From        Feet to        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?       

Lab to which water quality sample sent for analysis       

Business Name:       

Address: 215 S. Cascade St.

City, State, Zip: Fergus Falls MN 56573

**WELL LOG:**

FORMATION	DEPTH	
	FROM	TO
Clay	623	625
Sandstone w/ sand layers	625	646
Sand med fine	646	672
Clay	672	678

**STATIC WATER LEVEL**        FEET

If flowing: closed in pressure        PSI

GPM flow        through        Inch pipe

Controlled by  Valve     Reducers     Other       

Reduced flow rate        GPM

Can well be completely shut in?       

**WELL TEST DATA:**

Pumped Describe:       

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 # 475 and this report is true and accurate.

Drilling firm: Thein Well Company

Signature of License Representative: *[Signature]*

Signature of Well Owner or Equitable Property Holder: *[Signature]*

Date: 9/11/17