

**WATER PERMIT NO. 2622-2**

Name of Applicant: **Owanka Rural Water System Assoc. Inc.**

Address: **17401 232<sup>nd</sup> St, Owanka SD 57767** Phone: **605 798-5522**

Amount of Water Claimed: **0.667 cfs** Total Acres: **NA**

Source of Water Supply: **groundwater (one well)**

Water to be used for: **rural water system use** County: **Pennington**

Type of Waste Disposal System:

Location: **about 5 miles northwest of Owanka**

**PRIORITY** Date Received: **10-9-07**

Application/License Fee: **\$375**

Corrected Application Received: **11-19-07**

Period of Annual Use: **January 1 – December 31**

Remarks:

Diversion Point: **NW ¼ NE ¼ Sec 35-T2N-R12E**

Land to be Irrigated: **NA**

Depth of Well: **3500 feet deep**

Well Driller:

Remarks:

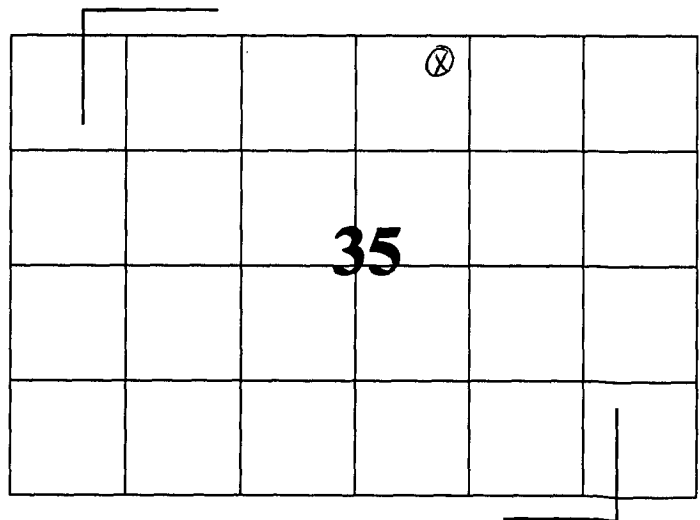
Type of Map: **topo**

Prepared by: **Laura J Leenderts, PE**

Reviewed and the Number Assigned on: **11-19-07**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: \_\_\_\_\_



FORM 2: Application for uses other than irrigation  
(type or print)

|                                                                                                                    |                                                                                            |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Mail to:<br>Water Rights Program<br>Joe Foss Building<br>523 E. Capitol<br>Pierre, SD 57501-3181<br>(605) 773-3352 | No. <u>2622-2</u> (office use only)<br>Hydrologic Unit <u>10120111</u>                     |
|                                                                                                                    | Basin <u>Upper Cheyenne</u>                                                                |
|                                                                                                                    | Newspaper <u>Rapid City Journal PO Box 450</u><br><u>605 - 394 - 8300 Rapid City 57709</u> |
|                                                                                                                    |                                                                                            |

RECEIVED  
OCT - 9 2007  
WATER RIGHTS  
PROGRAM

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

|                                                            |                                           |                                          |                                          |
|------------------------------------------------------------|-------------------------------------------|------------------------------------------|------------------------------------------|
| <input type="checkbox"/> Municipal                         | <input type="checkbox"/> Suburban Housing | <input type="checkbox"/> Recreational    | <input type="checkbox"/> Institutional   |
| <input checked="" type="checkbox"/> Rural Water System     | <input type="checkbox"/> Commercial       | <input type="checkbox"/> Fish & Wildlife | <input type="checkbox"/> Geothermal Heat |
| <input checked="" type="checkbox"/> Domestic (over 18 gpm) | <input type="checkbox"/> Industrial       | <input type="checkbox"/> Other           |                                          |

Type of Application: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation  
(check one)  
Place to Beneficial Use Water Reserved by Future Use Permit No. \_\_\_\_\_  
Amendment/Correction to Permit No. \_\_\_\_\_

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) \_\_\_\_\_

- Name of Applicant Owanka Rural Water Assoc. Inc. Phone 605-798-5522  
(check one) ☒ Owner ☐ Tenant/lessee  
Mailing Address 17401 233rd St. Owanka State SD 57767  
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 0.667 \*CFS or          \*\*GPM          \*\*\*AF  
(\*Cubic Feet per Second) (\*\*Gallons per Minute) (\*\*\*)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply \_\_\_\_\_
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)  
NE 1/4 Section 35 of 2 North 12 East  
County Pennington
- County or counties where water will be used Pennington
- Annual period during which water is to be used January 1 - December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

STATE OF SOUTH DAKOTA)

County of Pennington) SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

Owanka Rural Water Assoc. Inc.  
by Mauri Williams Pres., the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Owanka Rural Water Assoc. Inc.  
by Mauri Williams Pres.

Subscribed and sworn to before me this 24th day of August 20 07



[Signature]

Notary Public signature

My Commission Expires 11-08-07

**SOUTH DAKOTA  
WATER PERMIT NO. 2622-2**

---

Date of first receipt of application October 9, 2007.

Date of return to applicant for corrections, amendments or changes October 10, 2007.

Date of receipt of corrected application November 19, 2007.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2622-2 to Owanka Rural Water Association, Inc., c/o Marvin Williams, Pres., 17401 232<sup>nd</sup> St, Owanka SD 57767 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2622-2 appropriates 0.667 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 3500 feet deep) located in NW ¼ NE ¼ Section 35-T2N-R12E.
2. The water appropriated shall be used for the purpose of rural water system use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 2622-2 is February 4, 2008.
5. The date from which applicant may claim right is October 9, 2007.
6. One-fifth of the construction is to be completed on or before August 4, 2010.
7. All construction is to be completed on or before February 4, 2013.
8. Water is to be put to beneficial use on or before February 4, 2017.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

**QUALIFICATIONS**

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 2622-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Owanka Rural Water Association shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara Aquifer.

**WATER MANAGEMENT BOARD**

By: Garland Erbele

Garland Erbele, Chief Engineer  
Water Rights Program  
Department of Environment and Natural Resources

FEB 27 2008

date



## Supplemental Information

(type or print in ink)

### 1. Well Information - Proposed Construction

- a) Drill Hole Diameter 20"; 14 3/4", 9 1/2" Depth 3500'
- b) Casing Type Black Steel Diameter 16"(40'); 10"(1800') 7"(1200') Thickness 0.375"; 0.365"; 0.328"
- c) Screen Type 18-8 SS Diameter 7" Thickness 0.328"
- d) Gravel Pack None Length of Gravel Pack N/A
- e) Depth to Top of Water Bearing Material 3200' est
- f) Depth to Water (ground surface to water level) 500' est
- g) Distance to nearest existing domestic well:

On applicants property None

On property owned by others Approx 1/2 mile

### 2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) \_\_\_\_\_
- b) System Capacity (gallons) \_\_\_\_\_ Year Constructed \_\_\_\_\_
- c) Connected to the City of \_\_\_\_\_ Sanitary System \_\_\_\_\_

### 3. Dugout Information

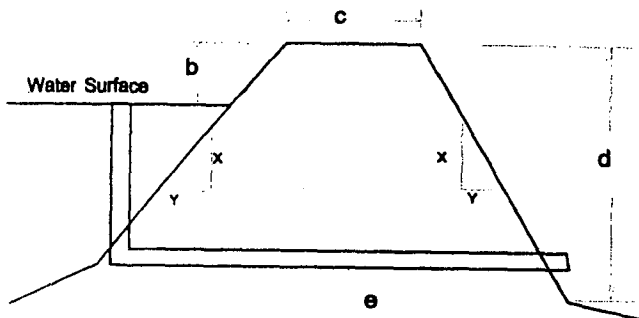
- a) Surface Dimensions \_\_\_\_\_ Depth \_\_\_\_\_
- b) Depth to water (ground surface to water level) \_\_\_\_\_

### 4. Water Storage Dams

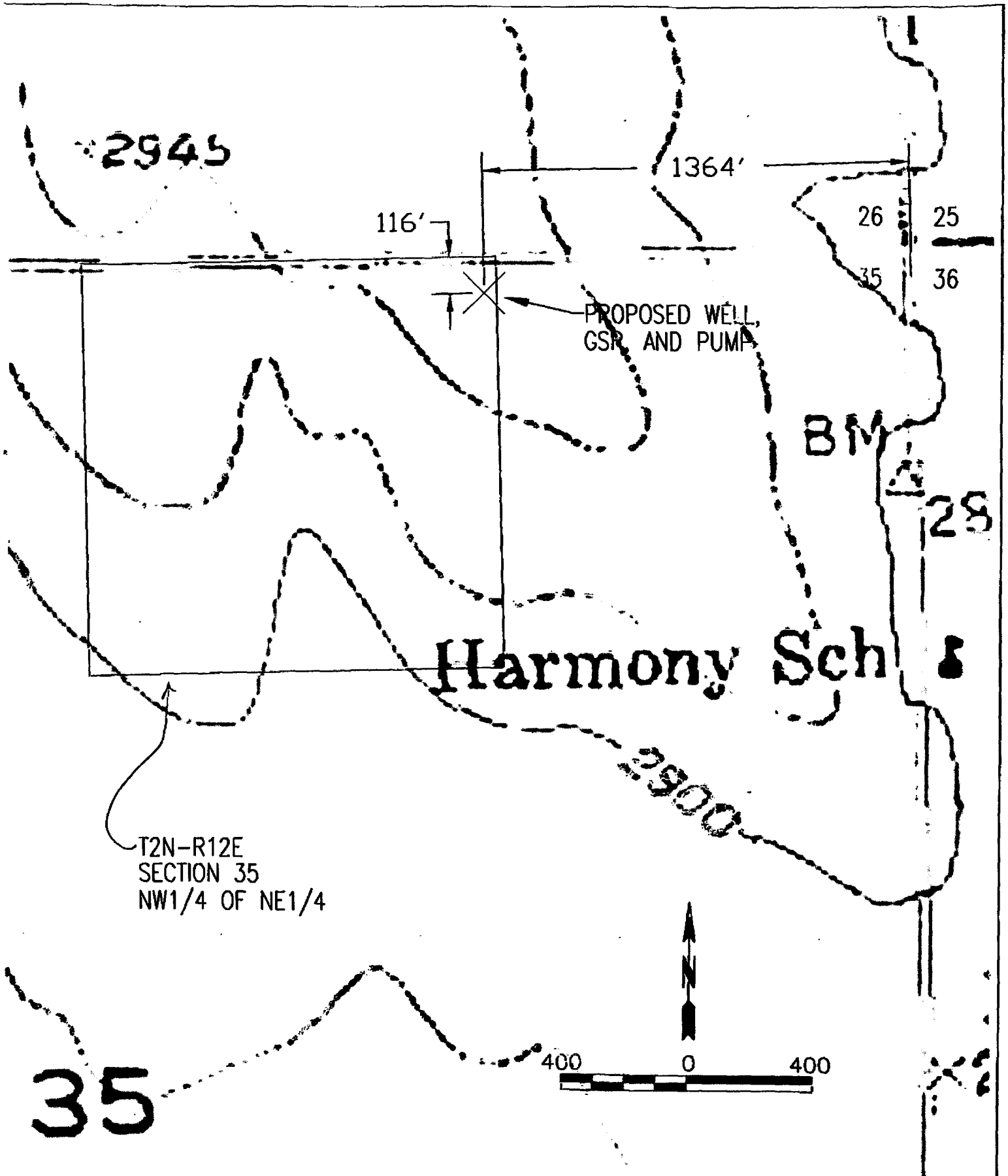
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

\_\_\_\_\_  
\_\_\_\_\_



- b) Freeboard \_\_\_\_\_
- c) Crest Width \_\_\_\_\_  
Crest Length \_\_\_\_\_
- d) Height \_\_\_\_\_
- e) Primary Outlet Capacity \_\_\_\_\_  
If pipe, diameter \_\_\_\_\_
- f) Secondary Spillway Capacity \_\_\_\_\_  
Spillway Width \_\_\_\_\_
- g) X & Y Slope \_\_\_\_\_  
Upstream \_\_\_\_\_  
Downstream \_\_\_\_\_
- h) Surface Area of Impoundment \_\_\_\_\_
- i) Storage \_\_\_\_\_ Acre Feet
- j) Drainage Area Above Dam \_\_\_\_\_ Acres



P:\08\038\00\MAPPING\OWANKA RWS\PROPOSEDWELL.DWG



David Grant Reckert  
and Associates Company  
Consulting Engineers  
Rock, Florida, Iowa

I hereby certify that this plan, specification, or report,  
was prepared by me or under my direct personal  
supervision, and that I am a duly Registered  
Professional Engineer under the laws of the  
State of South Dakota Registration No. 8260

Date SEPT 2007  
Drawn By JMG  
Approved LJJ

PROPOSED WELL  
OWANKA RURAL WATER ASS.

# RECEIPT

## WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 11/19, 20 07

RECEIVED OF Owanka Rural Water Assoc 22900 173rd Ave Owanka SD 57791

The following amount in fees for services rendered as provided for by law:

|                                                                                                                        |       |        |
|------------------------------------------------------------------------------------------------------------------------|-------|--------|
| Fee for Application for Permit No. <u>2622-2</u> to Appropriate Water, to construct and to put water to beneficial use | 325   | 00     |
| Fee for Application for Permit No. _____ to Appropriate Water for Future use                                           |       |        |
| Fee to retain Future Use Permit No. _____ after period of seven years.                                                 |       |        |
| Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>2622-2</u>            | 50    | 00     |
| Fee for Filing Transfer Form _____                                                                                     |       |        |
| Fee for _____                                                                                                          |       |        |
| Fee for Issuing New Well Driller's License No. _____ for C.Y. _____                                                    |       |        |
| Fee for Renewal of Well Driller's License No _____ for C.Y. _____                                                      |       |        |
| Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____                                                 |       |        |
| Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____                                              |       |        |
| (Any Other Work Provided by Law)                                                                                       | TOTAL | 375 00 |

No.

3210

By Garland Eubank  
Chief Engineer



Midwest  
Assistance  
Program

## MEMORANDUM

RECEIVED

OCT - 9 2007

WATER RIGHTS  
PROGRAM

TO: Mr. Eric Gronlund  
Water Rights Program, DENR  
Joe Foss Building  
523 East Capitol  
Pierre, SD 57501-3181

FROM: Jay A. Larson

DATE: 10/05/07

MESSAGE: Marvin Williams, Chairman of the Owanka Rural Water Association, Inc wanted me to send you this application for a water right for the well that they are proposing to construct to supply water for the proposed rural water system that is being developed in the area. If you need any additional information, please contact Mr. Williams or me. When fees are needed, let us know.

Give me a call if you have any questions.

Field Office  
PO Box 1201  
Mitchell, SD 57301  
Phone: 605.995.1194  
Fax: 605.995.1197  
jal4map@sunrisenet.com  
www.map-inc.org

Central Office  
PO Box 81  
New Prague, MN 56071  
Tel: 952.758.4334  
Fax: 952.758.4336  
map@bevcomm.net  
www.map-inc.org





DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

Marvin Williams, Pres.  
Owanka Rural Water Assoc Inc.  
17401 232<sup>nd</sup> St  
Owanka SD 57767

Dear Mr. Williams:

Thank you for submitting the *Application for a Permit to Appropriate Water* for rural water system use. In order to complete the application the following is required.

- Please complete Item No. 2 of the application, Amount of water claimed. The filing fee will be based upon this amount.
- Enclosed is the aerial photo map submitted with the application. The map needs to reference the location of a government section corner or quarter corner. The map states the well is located in the NE ¼ NW ¼ Section 35-T2N-R12E. The application states the well is located in the NE ¼ Section 35-T2N-R12E. Please make the necessary corrections.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak  
Water Rights Program  
605 773-3352  
[karen.schlaak@state.sd.us](mailto:karen.schlaak@state.sd.us)

c: Jay A Larson, Midwest Assistance Program

enclosure



November 15, 2007

RECEIVED

NOV 19 2007

WATER RIGHTS  
PROGRAM

DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

Marvin Williams, Pres.  
Owanka Rural Water Assoc Inc.  
17401 232<sup>nd</sup> St  
Owanka SD 57767

Dear Mr. Williams:

We have received the revised map and *Application for a Permit to Appropriate Water* for rural water system use.

- Based on the 300 gallons per minute claimed on the application, the application/license fee will be \$375.00.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak  
Water Rights Program  
605 773-3352  
[karen.schlaak@state.sd.us](mailto:karen.schlaak@state.sd.us)



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT  
APPLICATION NO. 2622-2, Owanka Rural Water Association, Inc.**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2622-2, Owanka Rural Water Association, Inc., c/o Marvin Williams, President, 17401 232<sup>nd</sup> Street, Owanka, SD 57767.

The Chief Engineer is recommending APPROVAL of Application No. 2622-2 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualification:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 2622-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Owanka Rural Water Association shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara Aquifer.

See report on application for additional information.

Garland Erbele, Chief Engineer  
January 10, 2008

WATER PERMIT APPLICATION NO. 2622-2  
OWANKA RURAL WATER ASSOC., INC.  
DECEMBER 20, 2007

Water Permit Application No. 2622-2 proposes to appropriate 0.667 cubic feet of water per second from one well to be completed into the Inyan Kara aquifer (approximately 3,500 feet deep) located in the NW¼ NE¼ Sec. 35, T2N-R12E, Pennington County. The water will be used to supply a rural water system.

**AQUIFER:** Inyan Kara (INKR)

**GENERAL:**

The Inyan Kara Group consists of the Fall River Formation and the underlying Lakota Formation. The Fuson Shale sometimes separates these two formations, but it is often difficult to differentiate the bottom of the Fall River from the top of the Lakota. For all practical purposes, the Fall River Formation and the Lakota Formation can be considered a single hydrologic unit in this area. In general, the Inyan Kara aquifer consists of interbedded sandstone (thin bedded to massive), siltstone, and shale.

The Inyan Kara aquifer is areally extensive, underling over 36,000 square miles of western South Dakota (Allen and others, 1985). The aquifer underlies 1,245,440 acres and contains an estimated 23,352,000 acre-feet of recoverable water in storage in Pennington County alone (Allen and others 1985). The top of the Inyan Kara is projected to be approximately 2,800 feet below grade at this proposed well site, and the aquifer is estimated to be 250 feet thick at this site (Allen and others, 1985). The thickness of the Inyan Kara Aquifer does however vary considerably within short distances. The Inyan Kara is under confined conditions in this area and the static water level of an Inyan Kara well at this site is expected to be around 500 feet below grade (Water Rights, 2007b).

Yields from wells completed into the Inyan Kara aquifer are unpredictable. A single Inyan Kara well may not be capable of producing the 300 gallons per minute requested by this application.

The water quality of the Inyan Kara aquifer is generally good. However, radionuclides have been detected in a number of public water systems supplied from the Inyan Kara aquifer (e.g. Kadoka, New Underwood, Hermosa, Rainbow Water Company). Radionuclides are not a persistent problem with wells completed into the Inyan Kara aquifer; in fact levels were below detection limits in wells supplying the City of Wall and West River/ Lyman Jones Rural Water System (Rob Kittay, SD DENR Drinking Water Program, Pers. comm., Feb. 20, 2007).

The transmissivity of the Inyan Kara ranges from 0.86-6,000 ft<sup>2</sup>/d (Driscoll and others, 2002). Recent work done for West River/Lyman Jones RWS near Quinn, SD and near Creighton, SD indicate transmissivity values of 561 ft<sup>2</sup>/d and 588 ft<sup>2</sup>/d respectively (Water Rights, 2005). The transmissivity at the City of Wall is reported to be 578 ft<sup>2</sup>/d (Gries and others, 1976).

The specific capacity of wells completed into the Inyan Kara aquifer is reported to range from 1.7-7.9 gallons per minute per foot of drawdown (gpm/ft), (Rahn, 1979). Specific capacities reported for wells completed into the Inyan Kara in this area are shown in Table one.

| WELL                       | Wall #1 | Wall #2 | Wall #3 | Wall #4 | WR/LJ Quinn | WR/LJ Creighton | New Underwood |      |      |      |      |
|----------------------------|---------|---------|---------|---------|-------------|-----------------|---------------|------|------|------|------|
|                            |         |         |         |         |             |                 | 1961          | 1977 | 1981 | 1982 | 1984 |
| Specific Capacity (gpm/ft) | 1.68    | .87     | .74     | .83     | 2           | .41             | 5.4           | 2.2  | 5.5  | 1.7  | 1.6  |

\*City of Wall well information from (Rahn and others, 1986)

\*\* West River/ Lyman Jones (WR/LJ) well information from Water Rights, 2005

\*\*\* New Underwood well information from J.P. Gries in Water Right No. 1947-2, (Water Rights, 1985)

Table 1. Specific Capacities of some area Inyan Kara wells

### **WATER AVAILABILITY:**

The availability of water for this proposed appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

“No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.”

It must be noted that the exception identified by this statute applies to this permit application since the Inyan Kara aquifer is stratigraphically lower than the Greenhorn Formation and the proposed use is to supply a water distribution system. However, a comparison of recharge with withdrawals is useful to characterize the resource.

Recharge to the Inyan Kara aquifer occurs through infiltration of precipitation and streamflow losses at the outcrop; and possibly through upward leakage from underlying aquifers (Bredehoeft and others, 1983). The total recharge to the aquifer just from infiltration at the outcrop, consequently a minimum value, is estimated to be 11,600 acre-feet per year (Driscoll and others, 2002).

There are 169 water rights/permits appropriating water from the Inyan Kara aquifer in South Dakota representing diversion authority of 39.56 cfs for non-irrigation use, and irrigation rights for 957.65 acres (Water Rights, 2007). If the worst case assumptions are made that (1) permits/rights with an annual withdrawal limitation (ac-ft/yr) will use the maximum allowable; and (2) permits/rights that are limited by a diversion rate only, will use 60% of the maximum allowable (considered reasonable for water distribution systems); the total water use from the Inyan Kara aquifer would be around 15,000 acre-feet per year. The actual amount of water used from the

Inyan Kara is considerably less than this estimate. For example, in the study area of the “Black Hills Hydrology Study”, the aforementioned “worst case” methodology estimates a maximum annual water use by appropriative rights of about 10,000 acre-feet per year (106 Water Rights/Permits, 18.378 cfs, 765.65 acres irrigated). Withdrawals from wells completed into the Inyan Kara aquifer were estimated to be 1,400 acre-feet annually from 1950-1998 in the Black Hills area (Driscoll and others, 2002).

Comparison of the estimated annual recharge to the Inyan Kara with the water use estimated from the aquifer suggests that withdrawals from the aquifer have not exceeded recharge. A water budget is not intended to suggest that all of the water that is in storage in the Inyan Kara or that all of the recharge is available for this appropriation, merely to demonstrate that in general the Inyan Kara aquifer is an immense resource that is relatively untapped.

The Water Rights Program does not monitor any observation wells completed into the Inyan Kara aquifer in this area and water level information is limited. Water level declines of five feet per year between 1961 and 1984 were reported at New Underwood (Water Rights, 1985). Data suggests that water levels in the City of Wall declined about 150 feet between 1961 and 1987 (Winter, 1994). The decline of water levels, actually localized drawdown, is probably the result of increased development and usage rather than an indication of over appropriation. Large temporal fluctuations of the water level of the Inyan Kara are not expected in this area due to the distance to the recharge area.

#### **EXISTING WATER RIGHTS:**

There are 14 Water Rights/Permits supplied from the Inyan Kara aquifer within approximately 15 miles of the well site proposed by this application. These existing water rights/permits are shown in table 2. In addition to the appropriations listed in table 2, the Town of New Underwood holds Future Use Permit No. 1780-2 which reserves 142 acre-feet of water (Water Rights, 2007).

| <b>PERMIT NO</b> | <b>NAME</b>                  | <b>USE</b> | <b>CFS</b> |
|------------------|------------------------------|------------|------------|
| 1278-2           | LAKESIDE WATER USERS DIST    | RWS        | 0.50       |
| 1780-2           | TOWN OF NEW UNDERWOOD        | MUN        | FU         |
| 1947-2           | TOWN OF NEW UNDERWOOD        | MUN        | 0.41       |
| 2165-2           | TIGHTLINE LAKE PTRSHP        | COM        | 0.07       |
| 660-2            | TOWN OF NEW UNDERWOOD        | MUN        | 0.45       |
| 1874-1           | VIEWFIELD RURAL WATER ASSOC. | RWS        | 0.29       |
| 2538-2           | JKRK PROPERTIES LLC          | SHD        | 0.24       |

Table 2. Water Rights/Permits supplied from the Inyan Kara aquifer within 15 miles of 1874-1

Water Right No. 1278-2, Lakeside Water Users District, is the nearest Inyan Kara appropriation to the well site proposed by this application. The well supplying Water Right No. 1278-2 is located approximately two and three fourths miles north of the well proposed by Application No. 2622-2. Well interference is not expected to be adverse given the distance between wells.

Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide protection for existing wells only to the degree necessary to maintain an adequate depth of water in wells that have the ability to produce water independent of artesian pressure. Simply put, the pump placement in a prior appropriator's well is not necessarily protected. In fact, in past action, the Water Management Board has concluded that if increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources be put to beneficial use to the fullest extent of which they are capable. In this area, the Inyan Kara aquifer has over 2,000 feet of artesian head pressure. Therefore well interference is not likely to adversely impact existing uses, including domestic.

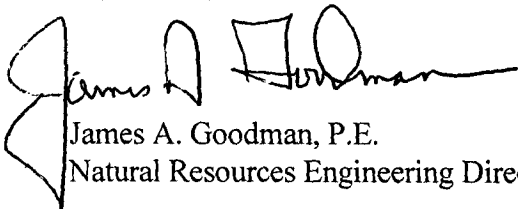
### **CONCLUSIONS:**

1. The Inyan Kara Aquifer is a viable aquifer in this area, and water is available for this appropriation.
2. Well interference should not be a problem at this proposed well site.



Ken Buhler  
Natural Resources Engineering Specialist

approved by



James A. Goodman, P.E.  
Natural Resources Engineering Director

## REFERENCES:

- Allen, J.C., Iles, D.L., and Petres, A.K., 1985, Analysis of Groundwater and Streamflow Data, Western Dakotas Region of South Dakota, Tasks 3A.B.C. AND 4A.B: Groundwater Resources Inventory: US Army Corps of Engineers Contract DAWC 45-82-C-0151, SD DENR- Geological Survey, Vermillion SD
- Bredehoeft, J.D., Neuzil, C.E. and Milly, P.C.D., 1983, Regional Flow in the Dakota Aquifer: A Study of the Role of Confining Layers: U.S. Geological Survey Water-Supply Paper 2237, 45 p.
- Driscoll, D.G., Carter, J.M., Williamson, J.E., and Putnam, L.D., 2002, Hydrology of the Black Hills Area, South Dakota: USGS Water-Resources Investigations Report 02-4094, 150 p.
- Gries, J.P., Rahn, P.H., and Baker, R.K., 1976, A Pump Test in the Dakota Sandstone at Wall, South Dakota: South Dakota Geological Survey Circular 43, 9 p.
- Rahn, P.H., 1979, Ground Water Resources of Western South Dakota: U.S. Army Corps of Engineers, SDSM&T Project #2533
- Rahn, P.H., Gries, J.P, and Barari, A., 1986, Report on Pump Test Conducted in the Fall River/Lakota Aquifer for the City of Wall, South Dakota in November, 1985 (On file in Water Right No. 2465-2)
- Water Rights Program, 1985, "Water Permit File 1947-2, City of New Underwood," DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 1988, "Water Permit File 1982-2, City of Wall," DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2005, "Well Completion Report for West River/Lyman Jones "Quinn #1 Well," Well Completion Report Files DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2007, "Water Right/Permit Files" DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2007b, "Water Well Completion Report File" DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Winter, D.R., 1994, Water Levels through 1989 in Bedrock Aquifers in South Dakota, U.S. Geological Survey Open-File Report 94-320,

RECEIVED

JAN 25 2008

WATER RIGHTS  
PROGRAM

Form 8

## PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA )  
 ) SS  
County of Pennington )

I, Patricia K. Van Patten

certify that the attached printed Notice was  
taken

from the Rapid City Journal

printed and published in Rapid City

County of Pennington and

state of South Dakota. The notice was  
published

in the newspaper on the following two dates:

January 17, 2008

January 24, 2008

Cost of Printing Ninety - three dollars

and ninety - six cents (\$93.96)

Patricia K. Van Patten  
(Signature)

Legal Advertising Rep.  
(Title)

01/24/08  
(Date Signed)

Jan. 17, 24 L2801743

### NOTICE OF APPLICATION NO. 2622-2 TO APPROPRIATE WATER

Notice is given that Owanka Rural Water Association Inc., 17401 232nd St., Owanka, SD 57767, has filed an application for a water permit to appropriate 0.667 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 3500 feet deep) located in the NW¼NE¼ Section 35, T2N-R12E for rural water system use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2622-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E. Capitol, Pierre, SD 57501 (605-773-3352)," and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by February 4, 2008.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

Steven M. Pirner, Secretary  
Department of Environment  
and Natural Resources



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

January 10, 2008

Rapid City Journal  
PO Box 450  
Rapid City SD 57709

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2622-2 to Appropriate Water to be published twice. Please publish the first notice on January 17, 2008 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Owanka Rural Water Association Inc., 17401 232<sup>nd</sup> St., Owanka SD 57767 (Ph # 605-798-5522).

**Please send the Water Rights Program the first publication immediately.** The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund  
Natural Resources Engineer  
605 773-3352

enclosures

-----CUT HERE-----

No. 2622-2

TO: Eric Gronlund  
Water Rights Program  
Joe Foss Building  
Pierre SD 57501-3181

Date \_\_\_\_\_

We are in receipt of your letter of January 10, 2008 enclosing Notice to Appropriate Water by Application No. 2622-2 which was first published in our issue of \_\_\_\_\_. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Newspaper



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

NOTE: TO BE SURE OF PUBLICATION ON  
THE CORRECT DATES, CONTACT  
THE NEWSPAPER RIGHT AWAY.

January 10, 2008

Owanka Rural Water Association Inc  
17401 232<sup>nd</sup> St  
Owanka SD 57767

Dear Sir:

Water Permit Application No. 2622-2 for rural water use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Rapid City Journal printed at Rapid City SD (Ph # 605-394-8300). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notices and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the applications.

Sincerely,

Eric Gronlund  
Natural Resources Engineer  
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish first Notice on January 17, 2008 with the second publication 7 days later. The applicant is responsible for payment.

---

NOTICE OF APPLICATION NO. 2622-2 to Appropriate Water

Notice is given that Owanka Rural Water Assoc. Inc., 17401 232<sup>nd</sup> St, Owanka SD 57767 has filed an application for a water permit to appropriate 0.667 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 3500 feet deep) located in NW ¼ NE ¼ Section 35-T2N-R12E for rural water system use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2622-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by February 4, 2008.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

FEB 27 2008

Owanka Rural Water Assn Inc  
Marvin Williams  
17401 232<sup>nd</sup> St  
Owanka SD 57767

Dear Mr. Williams:

Enclosed is Water Permit No. 2622-2 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet ? *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Garland Erbele, Chief Engineer  
Water Rights Program  
(605) 773-3352

enclosures

**Buhler, Ken**

**From:** Feeney, Jim  
**Sent:** Tuesday, September 08, 2009 1:49 PM  
**To:** Buhler, Ken; Templeton, Dave; Perkovich, Mike; McIntire, Mark  
**Subject:** FW: Owanka

-----Original Message-----

**From:** Adrian, David - Rapid City, SD [mailto:david.adrian@sd.usda.gov]  
**Sent:** Tuesday, September 08, 2009 12:37 PM  
**To:** Roehl, Doug - Huron, SD; Hemen, Pat - Huron, SD; Schmidt, Jon - Huron, SD  
**Cc:** Feeney, Jim; Jay Larson  
**Subject:** FW: Owanka

See message from Owanka's Engineer

David Adrian  
 1530 Samco Road, Suite 2  
 Rapid City, SD 57702  
 (605)342-0301  
 (605)341-0583 fax

**From:** Laura Leenderts [mailto:lleenderts@dgrnet.com]  
**Sent:** Tuesday, September 08, 2009 10:34 AM  
**To:** Quissell, Steven - Rapid City, SD  
**Cc:** Bruce Jennings; Marvin Williams - Owanka RW  
**Subject:** RE: Owanka

Steve -

The well was pumped at 160 gpm for the 24-hour test. We are satisfied that the well will provide an adequate supply of water for Owanka. The water quality analysis was sent to our office yesterday and looked OK. There was a little more iron than we'd like to see but that can possibly be reduced. We did not see information on the Ammonia content and that was one of the items we would like to see. The ammonia content could effect the chlorination system design.

We are finishing up design on the pipeline, reservoir and pump station. We had a field technician meet with Marvin and other board members last week to drive routes, take measurements, and go over some of the design. We will send out draft plans and specs this week.

**Laura J. Leenderts, PE**  
 DeWild Grant Reckert  
 and Associates Co.

712-472-2531  
 lleenderts@dgrnet.com

**From:** Quissell, Steven - Rapid City, SD [mailto:steven.quissell@sd.usda.gov]

09/08/2009

**Sent:** Tuesday, September 08, 2009 11:24 AM  
**To:** Laura Leenderts  
**Cc:** Bruce Jennings  
**Subject:** Owanka

Laura

Can you give us an update on the status of the Owanka project concerning the final test results of the well for well yield and water quality. Also, what is the time frame for completion of the preliminary construction plans for the project and when these plans may be submitted to NRCS for review.  
Thanks

**Steven Quissell, PE**  
Area Engineer  
USDA NRCS  
1530 Samco Rd, Suite 4  
Rapid City, SD 57702  
Phone 605.343.1643 Ext 132  
Fax 605.343.6310



**LITHOLOGIC LOG FOR OWANKA WATER DISTRICT  
(OWANKA #1)  
PENNINGTON COUNTY, SOUTH DAKOTA  
NE NE SEC 35, T2N, R12E**

| DEPTH                            | GENERAL LITHOLOGY                  | SAMPLE DESCRIPTION                                                                                                                                                                                          | COMMENTS |
|----------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 0-2                              | Top Soil                           | Dark Brown to Black                                                                                                                                                                                         |          |
| 2-35                             | Clay, siltstone<br>Sandy siltstone | multicolored clay and siltstone, mixed with gravel to cobble sized rocks, brown sandy siltstone and sand                                                                                                    |          |
| <b>PIERRE FORMATION</b>          |                                    |                                                                                                                                                                                                             |          |
| 35-1760                          | Silty clay                         | multicolored silty calcareous clay - chips of pale and grayish yellow green silty clay with sand streaks. Yellowish gray to dusky yellow sandy clay with minor chips of v.f. grained dusky yellow sandstone |          |
| 1760-1820                        | Shale                              | Hard, platy olive black shale interbedded with siltstone. Minor chalky white calcareous clay-sized material                                                                                                 |          |
| 1820-2000                        | Siltstone                          | olive black siltstone containing abundant sand and clayey (Marl) interlayers.                                                                                                                               |          |
| 2000-2180                        | Sandy Siltstone                    | siltstone containing v.f. sand, interbedded with marl. Abundant dusky yellow sand streaks: scarce dusky yellow siltstone.                                                                                   |          |
| 2180-2274                        | Shale                              | Olive black shale, occasionally iron stained with interbedded olive black marl, yellowish gray non-calcareous shale and light gray to yellowish gray calcareous siltstone                                   |          |
| <b>TOP OF NIOBRARA FORMATION</b> |                                    |                                                                                                                                                                                                             |          |
| 2274-2335                        | Chalk and shale                    | Calcareous light gray shale. Abundant chalk                                                                                                                                                                 |          |
| <b>TOP OF CARLILE FORMATION</b>  |                                    |                                                                                                                                                                                                             |          |
| 2335-2375                        | Shale                              | Dusky blue, fissile, non calcareous shale with biotite flakes, pale-dark yellowish brown noncalcareous shale, streaks of v.f. sand; fine angular calcareous sand                                            |          |
| 2375-2394                        | Limestone/Sandstone                | Blocky limestone interbedded with iron stained calcareous sand, soft, silty blueish white v.f. non-calcareous sandstone and olive black shale.                                                              |          |
| 2450-2518                        | Shale                              | Grayish black non-calcareous shale with minor v.f. sand on bedding planes, small shell fragments and brownish black shale interbedded with pale brownish yellow limestone                                   |          |

#### TOP OF GREENHORN LIMESTONE

|           |           |                                                                                                                    |
|-----------|-----------|--------------------------------------------------------------------------------------------------------------------|
| 2518-2560 | Limestone | Dark gray with rounded white calcareous grains. light gray sandy limestone with fine yellowish gray lime mudstone. |
|-----------|-----------|--------------------------------------------------------------------------------------------------------------------|

#### TOP OF BELLE FOURCHE SHALE

|           |       |                                                                                                       |
|-----------|-------|-------------------------------------------------------------------------------------------------------|
| 2560-2662 | Shale | Brownish black, slightly fissile shale; abundant bentonite and minor yellowish brown calcareous shale |
|-----------|-------|-------------------------------------------------------------------------------------------------------|

#### TOP OF MOWRY SHALE

|           |       |                                                                                                                                                                                 |
|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2662-2820 | Shale | Brownish black, fossiliferous shale, pyrite and oxidized iron stains; interbedded with white arkosic/calcareous sandstone, calcite veining and yellowish brown micaceous shale. |
|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### TOP OF MUDDY FORMATION

|           |                                 |                                                                                                                                                                                              |
|-----------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2820-2936 | Interbedded shale and sandstone | Brownish black shale containing dolomite concretions, pyrite, calcite veining. Finely laminated brownish black and light olive gray shale with bentonite and calcite cemented v.f. sandstone |
|-----------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|           |           |                                                                                                                               |
|-----------|-----------|-------------------------------------------------------------------------------------------------------------------------------|
| 2936-2958 | Sandstone | Fine grained, light olive gray v.f. to med. grained sub-angular to subrounded quartz sandstone. silica cemented sand friable. |
|-----------|-----------|-------------------------------------------------------------------------------------------------------------------------------|

#### TOP OF SKULL CREEK SHALE

|           |       |                                                                                                                                                                                              |
|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2958-3125 | Shale | Brownish black shale containing dolomite concretions, pyrite, calcite veining. Finely laminated brownish black and light olive gray shale with bentonite and calcite cemented v.f. sandstone |
|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### TOP OF DAKOTA SANDSTONE

|             |           |                                                                                                                               |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------|
| 3125 - 3180 | Sandstone | Fine grained, light olive gray v.f. to med. grained sub-angular to subrounded quartz sandstone. silica cemented sand friable. |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------|

|             |                                 |                                                                                                                                                                                                                           |
|-------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3180 - 3212 | Interbedded sandstone and shale | Fine grained, calcite cemented, light olive gray sandstone, with non-calcareous dark gray shale and olive black shale with iron staining in lower shales. Calcite cemented med sand size grains intermingled with pyrite. |
|-------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### TOP OF FUSON SHALE

|             |                   |                                                                                                                                                                                                 |
|-------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3212 - 3250 | Shale interbedded | Dark gray calcareous-non-calcareous shale, with minor amounts of yellowish brown siltstone pyrite sand and light gray fine grained sandstone, intermingled with reddish and yellowish sandstone |
|-------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### TOP OF LAKOTA SANDSTONE

|             |           |                                                                                                                                                                                                                                                                |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3250 - 3308 | Sandstone | Light olive gray v.f. to med. grained sub-angular to subrounded quartz sandstone. silica cemented sand friable. Interbedded with dark gray calcareous-non-calcareous shale, light gray fine grained sandstone, intermingled with white clay with black streaks |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|             |           |                                                                                                                                                                |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3308 - 3374 | Sandstone | Light olive gray v.f. to med. grained sub-angular to subrounded quartz sandstone. silica cemented sand friable.intermingled with white clay with black streaks |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|

|             |                   |                                                                                                                               |
|-------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 3374 - 3400 | Shale interbedded | Dark gray calcareous-non-calcareous shale, light gray fine grained sandstone, intermingled with white clay with black streaks |
|-------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|

#### TOP OF MORRISON FORMATION

3400 - 3448      Shale

Olive gray to light greenish waxy shale, white bentonite clay

**TOP OF SUNDANCE FORMATION**

3448 - 3515      Sandstone

Light gray to white fine grained sandstone, minor amounts of dark gray calcareous shale, intermingled with white to pink clay



# LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-001  
Client Sample ID: Owanka WSW 1

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: DRINKING WATER

| Analyses                            | Result | Units      | Qual | RL    | MCL/ |  | DF | Method     | Analysis Date / By     |
|-------------------------------------|--------|------------|------|-------|------|--|----|------------|------------------------|
|                                     |        |            |      |       | QCL  |  |    |            |                        |
| PHYSICAL PARAMETERS                 |        |            |      |       |      |  |    |            |                        |
| Alkalinity, Total as CaCO3          | 230    | mg/L       |      | 5     |      |  | 1  | A2320 B    | 08/11/09 10:48/mb      |
| Bicarbonate as HCO3                 | 290    | mg/L       |      | 5     |      |  | 1  | A2320 B    | 08/11/09 10:48/mb      |
| Carbonate as CO3                    | ND     | mg/L       |      | 5     |      |  | 1  | A2320 B    | 08/11/09 10:48/mb      |
| Color                               | ND     | c.u.       | H    | 5     |      |  | 1  | A2120 B    | 08/10/09 08:44/eli-b1: |
| Conductivity @ 25 C                 | 890    | umhos/cm   |      | 5.0   |      |  | 1  | A2510 B    | 08/07/09 09:43/tb      |
| pH                                  | 8.00   | s.u.       |      | 0.01  |      |  | 1  | A4500-H B  | 08/07/09 08:44/tb      |
| Solids, Total Dissolved TDS @ 180 C | 560    | mg/L       |      | 5     |      |  | 1  | A2540 C    | 08/07/09 10:15/mb      |
| Turbidity                           | 1.8    | NTU        |      | 0.10  |      |  | 1  | A2130 B    | 08/13/09 17:00/jmh     |
| Odor                                | ND     |            |      |       |      |  | 1  | A2150 B    | 08/13/09 08:40/eli-b1: |
| INORGANIC PARAMETERS                |        |            |      |       |      |  |    |            |                        |
| Hardness as CaCO3                   | 48     | mg/L       |      | 1     |      |  | 1  | A2340 B    | 08/12/09 15:52/ADM     |
| Calcium                             | 15     | mg/L       |      | 1     |      |  | 1  | E200.7     | 08/10/09 10:43/eli-b6  |
| Chloride                            | 6.1    | mg/L       |      | 0.5   |      |  | 1  | E300.0     | 08/07/09 20:39/jmh     |
| Fluoride                            | 1.4    | mg/L       |      | 0.1   |      |  | 1  | E300.0     | 08/07/09 20:39/jmh     |
| Magnesium                           | 3      | mg/L       |      | 1     |      |  | 1  | E200.7     | 08/10/09 10:43/eli-b6  |
| Potassium                           | 3      | mg/L       |      | 1     |      |  | 1  | E200.7     | 08/10/09 10:43/eli-b6  |
| Sodium                              | 183    | mg/L       |      | 1     |      |  | 1  | E200.7     | 08/10/09 10:43/eli-b6  |
| Sulfate                             | 205    | mg/L       |      | 1     |      |  | 5  | E300.0     | 08/13/09 12:09/jmh     |
| Cyanide, Total                      | ND     | mg/L       |      | 0.005 | 0.2  |  | 1  | Kelada mod | 08/10/09 16:27/eli-b   |
| Hardness as CaCO3 - Grains          | 2.8    | grains/gal |      | 0.06  |      |  | 1  | A2340 B    | 08/12/09 15:52/ADM     |
| NUTRIENT PARAMETERS                 |        |            |      |       |      |  |    |            |                        |
| Nitrogen, Nitrate as N              | ND     | mg/L       |      | 0.1   |      |  | 1  | E300.0     | 08/07/09 20:39/jmh     |
| Nitrogen, Nitrite as N              | ND     | mg/L       |      | 0.1   |      |  | 1  | E300.0     | 08/07/09 20:39/jmh     |
| RADIONUCLIDES - TOTAL               |        |            |      |       |      |  |    |            |                        |
| Gross Alpha                         | 16.2   | pCi/L      | *    |       | 15   |  | 1  | E900.0     | 09/08/09 02:43/eli-ca: |
| Gross Alpha precision (±)           | 2.9    | pCi/L      |      |       |      |  | 1  | E900.0     | 09/08/09 02:43/eli-ca: |
| Gross Alpha MDC                     | 2.0    | pCi/L      |      |       |      |  | 1  | E900.0     | 09/08/09 02:43/eli-ca: |
| Radium 226                          | 2.5    | pCi/L      |      |       | 5    |  | 1  | E903.0     | 08/24/09 23:43/eli-ca: |
| Radium 226 precision (±)            | 0.3    | pCi/L      |      |       |      |  | 1  | E903.0     | 08/24/09 23:43/eli-ca: |
| Radium 226 MDC                      | 0.1    | pCi/L      |      |       |      |  | 1  | E903.0     | 08/24/09 23:43/eli-ca: |
| Radium 228                          | 0.3    | pCi/L      | U    |       | 5    |  | 1  | RA-05      | 08/18/09 11:00/eli-c   |
| Radium 228 precision (±)            | 0.7    | pCi/L      |      |       |      |  | 1  | RA-05      | 08/18/09 11:00/eli-c   |
| Radium 228 MDC                      | 0.8    | pCi/L      |      |       |      |  | 1  | RA-05      | 08/18/09 11:00/eli-c   |
| Uranium                             | ND     | ug/L       |      | 1.0   | 30   |  | 1  | E200.8     | 08/13/09 20:41/eli-c   |
| Uranium, Activity                   | ND     | pCi/L      |      | 0.67  | 20   |  | 1  | E200.8     | 08/13/09 20:41/eli-c   |

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
\* - The result exceeds the MCL.  
U - Not detected at minimum detectable concentration



### LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-001  
Client Sample ID: Owanka WSW 1

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: DRINKING  
WATER

| Analyses                        | Result | Units | Qual | RL     | MCL/  |    | Method | Analysis Date / By    |
|---------------------------------|--------|-------|------|--------|-------|----|--------|-----------------------|
|                                 |        |       |      |        | QCL   | DF |        |                       |
| DRINKING WATER METALS ANALYSES  |        |       |      |        |       |    |        |                       |
| Antimony                        | ND     | mg/L  |      | 0.003  | 0.006 | 1  | E200.8 | 08/11/09 00:37/eli-b  |
| Arsenic                         | ND     | mg/L  |      | 0.005  | 0.01  | 1  | E200.8 | 08/11/09 00:37/eli-b  |
| Barium                          | ND     | mg/L  |      | 0.05   | 2     | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Beryllium                       | ND     | mg/L  |      | 0.002  | 0.004 | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Cadmium                         | ND     | mg/L  |      | 0.001  | 0.005 | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Chromium                        | ND     | mg/L  |      | 0.01   | 0.1   | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Copper                          | ND     | mg/L  |      | 0.01   |       | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Iron                            | 0.59   | mg/L  |      | 0.03   |       | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Lead                            | ND     | mg/L  |      | 0.001  | 0.015 | 1  | E200.8 | 08/11/09 00:37/eli-b  |
| Manganese                       | 0.03   | mg/L  |      | 0.01   |       | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Mercury                         | ND     | mg/L  |      | 0.0002 | 0.002 | 1  | E245.1 | 08/11/09 14:09/eli-b  |
| Nickel                          | ND     | mg/L  |      | 0.01   | 0.1   | 1  | E200.7 | 08/11/09 01:29/eli-b6 |
| Selenium                        | ND     | mg/L  |      | 0.005  | 0.05  | 1  | E200.8 | 08/11/09 00:37/eli-b  |
| Thallium                        | ND     | mg/L  |      | 0.001  | 0.002 | 1  | E200.8 | 08/11/09 00:37/eli-b  |
| Zinc                            | ND     | mg/L  |      | 0.01   |       | 1  | E200.8 | 08/11/09 00:37/eli-b  |
| SEMI-VOLATILE ORGANIC COMPOUNDS |        |       |      |        |       |    |        |                       |
| Alachlor                        | ND     | ug/L  |      | 0.10   | 2     | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aldrin                          | ND     | ug/L  |      | 0.10   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1016                    | ND     | ug/L  |      | 0.080  |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1221                    | ND     | ug/L  |      | 2.0    |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1232                    | ND     | ug/L  |      | 0.50   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1242                    | ND     | ug/L  |      | 0.30   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1248                    | ND     | ug/L  |      | 0.10   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1254                    | ND     | ug/L  |      | 0.10   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Aroclor 1260                    | ND     | ug/L  |      | 0.20   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Atrazine                        | ND     | ug/L  |      | 0.10   | 3     | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Benzo(a)pyrene                  | ND     | ug/L  |      | 0.10   | 0.2   | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| bis(2-ethylhexyl)Adipate        | ND     | ug/L  |      | 0.50   | 400   | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| bis(2-ethylhexyl)Phthalate      | ND     | ug/L  |      | 2.0    | 6     | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Butachlor                       | ND     | ug/L  |      | 0.10   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Chlordane                       | ND     | ug/L  |      | 1.0    | 2     | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Dieldrin                        | ND     | ug/L  |      | 0.10   |       | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Endrin                          | ND     | ug/L  |      | 0.10   | 2     | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| gamma-BHC (Lindane)             | ND     | ug/L  |      | 0.10   | 0.2   | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Heptachlor                      | ND     | ug/L  |      | 0.10   | 0.4   | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Heptachlor epoxide              | ND     | ug/L  |      | 0.10   | 0.2   | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Hexachlorobenzene               | ND     | ug/L  |      | 0.10   | 1     | 1  | E525.2 | 08/12/09 09:10/eli-b  |
| Hexachlorocyclopentadiene       | ND     | ug/L  |      | 0.10   | 50    | 1  | E525.2 | 08/12/09 09:10/eli-b  |

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-001  
Client Sample ID: Owanka WSW 1

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: DRINKING WATER

| Analyses                          | Result | Units | Qual | MCL/ |        |    | Method | Analysis Date / By   |
|-----------------------------------|--------|-------|------|------|--------|----|--------|----------------------|
|                                   |        |       |      | RL   | QCL    | DF |        |                      |
| SEMI-VOLATILE ORGANIC COMPOUNDS   |        |       |      |      |        |    |        |                      |
| Methoxychlor                      | ND     | ug/L  |      | 0.10 | 40     | 1  | E525.2 | 08/12/09 09:10/eli-b |
| Metolachlor                       | ND     | ug/L  |      | 0.10 |        | 1  | E525.2 | 08/12/09 09:10/eli-b |
| Metribuzin                        | ND     | ug/L  |      | 0.10 |        | 1  | E525.2 | 08/12/09 09:10/eli-b |
| Propachlor                        | ND     | ug/L  |      | 0.10 |        | 1  | E525.2 | 08/12/09 09:10/eli-b |
| Simazine                          | ND     | ug/L  |      | 0.10 | 4      | 1  | E525.2 | 08/12/09 09:10/eli-b |
| Toxaphene                         | ND     | ug/L  |      | 2.0  | 3      | 1  | E525.2 | 08/12/09 09:10/eli-b |
| Surr: 1,3-Dimethyl-2-nitrobenzene | 95.0   | %REC  |      |      | 70-130 |    | E525.2 | 08/12/09 09:10/eli-b |
| Surr: Perylene-d12                | 91.0   | %REC  |      |      | 70-130 |    | E525.2 | 08/12/09 09:10/eli-b |
| Surr: Pyrene-d10                  | 100    | %REC  |      |      | 70-130 |    | E525.2 | 08/12/09 09:10/eli-b |
| Surr: Triphenylphosphate          | 121    | %REC  |      |      | 70-130 |    | E525.2 | 08/12/09 09:10/eli-b |

- Note: The federal MCL for total PCB's is 0.5 ug/L as Decachlorobiphenyl (DCB). PCB screening at the reporting limits given for the individual Aroclors meets or exceeds federal and state requirements for "Total PCB" monitoring if Aroclors are not detected.

### SEMI-VOLATILE ORGANIC COMPOUNDS

|                                     |      |      |  |     |        |   |        |                      |
|-------------------------------------|------|------|--|-----|--------|---|--------|----------------------|
| Endothall                           | ND   | ug/L |  | 8.0 | 100    | 1 | E548.1 | 08/11/09 19:44/eli-b |
| Surr: 2,4-Dichlorophenylacetic acid | 98.0 | %REC |  |     | 70-130 |   | E548.1 | 08/11/09 19:44/eli-b |

### HERBICIDES

|                   |      |      |   |       |        |   |        |                      |
|-------------------|------|------|---|-------|--------|---|--------|----------------------|
| 2,4-D             | ND   | ug/L |   | 1.0   | 70     | 1 | E515.1 | 08/12/09 16:57/eli-b |
| 2,4-DB            | ND   | ug/L |   | 2.5   |        | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Dalapon           | ND   | ug/L |   | 2.5   | 200    | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Dicamba           | ND   | ug/L |   | 0.25  |        | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Dichlorprop       | ND   | ug/L |   | 1.0   |        | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Dinoseb           | ND   | ug/L | 2 | 1.0   | 7      | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Pentachlorophenol | ND   | ug/L |   | 0.040 | 1      | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Picloram          | ND   | ug/L |   | 0.50  | 500    | 1 | E515.1 | 08/12/09 16:57/eli-b |
| 2,4,5-TP (Silvex) | ND   | ug/L |   | 0.20  | 50     | 1 | E515.1 | 08/12/09 16:57/eli-b |
| Surr: DCAA        | 82.0 | %REC |   |       | 70-130 |   | E515.1 | 08/12/09 16:57/eli-b |

-2 = The compound had a low recovery in the matrix spikes of this sample which indicates a low method bias. Since reporting limits are well below MCLs, the low method bias indicated by the recovery is not considered significant for compliance monitoring.

### DRINKING WATER VOLATILE ORGANIC COMPOUNDS

|                      |    |      |  |      |   |   |        |                        |
|----------------------|----|------|--|------|---|---|--------|------------------------|
| Benzene              | ND | ug/L |  | 0.50 | 5 | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| Bromobenzene         | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| Bromochloromethane   | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| Bromodichloromethane | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| Bromoform            | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| Bromomethane         | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| n-Butylbenzene       | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| sec-Butylbenzene     | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |
| tert-Butylbenzene    | ND | ug/L |  | 0.50 |   | 1 | E524.2 | 08/11/09 12:20/eli-b2: |

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-001  
Client Sample ID: Owanka WSW 1

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: DRINKING  
WATER

| Analyses                                  | Result | Units | Qual | RL   | MCL/ |    | Method | Analysis Date / By     |
|-------------------------------------------|--------|-------|------|------|------|----|--------|------------------------|
|                                           |        |       |      |      | QCL  | DF |        |                        |
| DRINKING WATER VOLATILE ORGANIC COMPOUNDS |        |       |      |      |      |    |        |                        |
| Carbon tetrachloride                      | ND     | ug/L  |      | 0.50 | 5    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,2-Dichloroethane                        | ND     | ug/L  |      | 0.50 | 5    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Chlorobenzene                             | ND     | ug/L  |      | 0.50 | 100  | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Chlorodibromomethane                      | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Chloroethane                              | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Chloroform                                | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Chloromethane                             | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 2-Chlorotoluene                           | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 4-Chlorotoluene                           | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,2-Dibromo-3-chloropropane               | ND     | ug/L  |      | 1.0  | 0.2  | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Dibromomethane                            | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,2-Dichlorobenzene                       | ND     | ug/L  |      | 0.50 | 600  | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,3-Dichlorobenzene                       | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,4-Dichlorobenzene                       | ND     | ug/L  |      | 0.50 | 75   | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Dichlorodifluoromethane                   | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,1-Dichloroethane                        | ND     | ug/L  |      | 0.50 | 5    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,2-Dibromoethane                         | ND     | ug/L  |      | 0.50 | 0.05 | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,1-Dichloroethene                        | ND     | ug/L  |      | 0.50 | 7    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| cis-1,2-Dichloroethene                    | ND     | ug/L  |      | 0.50 | 70   | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| trans-1,2-Dichloroethene                  | ND     | ug/L  |      | 0.50 | 100  | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,2-Dichloropropane                       | ND     | ug/L  |      | 0.50 | 5    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,3-Dichloropropane                       | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 2,2-Dichloropropane                       | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,1-Dichloropropene                       | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| cis-1,3-Dichloropropene                   | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| trans-1,3-Dichloropropene                 | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Ethylbenzene                              | ND     | ug/L  |      | 0.50 | 700  | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Hexachlorobutadiene                       | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Isopropylbenzene                          | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| p-Isopropyltoluene                        | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Methylene chloride                        | ND     | ug/L  |      | 0.50 | 5    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Naphthalene                               | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| n-Propylbenzene                           | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Styrene                                   | ND     | ug/L  |      | 0.50 | 100  | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,1,1,2-Tetrachloroethane                 | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,1,2,2-Tetrachloroethane                 | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Tetrachloroethene                         | ND     | ug/L  |      | 0.50 | 5    | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| Toluene                                   | ND     | ug/L  |      | 0.50 | 1000 | 1  | E524.2 | 08/11/09 12:20/eli-b2: |
| 1,2,3-Trichlorobenzene                    | ND     | ug/L  |      | 0.50 |      | 1  | E524.2 | 08/11/09 12:20/eli-b2: |

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-001  
Client Sample ID: Owanka WSW 1

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: DRINKING  
WATER

| Analyses                                              | Result | Units | Qual | RL   | MCL/<br>QCL | DF | Method | Analysis Date / By    |
|-------------------------------------------------------|--------|-------|------|------|-------------|----|--------|-----------------------|
| DRINKING WATER VOLATILE ORGANIC COMPOUNDS             |        |       |      |      |             |    |        |                       |
| 1,2,4-Trichlorobenzene                                | ND     | ug/L  |      | 0.50 | 70          | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| 1,1,1-Trichloroethane                                 | ND     | ug/L  |      | 0.50 | 200         | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| 1,1,2-Trichloroethane                                 | ND     | ug/L  |      | 0.50 | 5           | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| Trichloroethene                                       | ND     | ug/L  |      | 0.50 | 5           | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| Trichlorofluoromethane                                | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| 1,2,3-Trichloropropane                                | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| 1,2,4-Trimethylbenzene                                | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| 1,3,5-Trimethylbenzene                                | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| Vinyl chloride                                        | ND     | ug/L  |      | 0.50 | 2           | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| m+p-Xylenes                                           | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| o-Xylene                                              | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| Trihalomethanes, Total                                | ND     | ug/L  |      | 0.50 | 80          | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| Xylenes, Total                                        | ND     | ug/L  |      | 0.50 | 10000       | 1  | E524.2 | 08/11/09 12:20/eli-b2 |
| Surr: p-Bromofluorobenzene                            | 108    | %REC  |      |      | 80-120      |    | E524.2 | 08/11/09 12:20/eli-b2 |
| Surr: 1,2-Dichloroethane-d4                           | 102    | %REC  |      |      | 74-127      |    | E524.2 | 08/11/09 12:20/eli-b2 |
| Surr: Toluene-d8                                      | 120    | %REC  |      |      | 80-120      |    | E524.2 | 08/11/09 12:20/eli-b2 |
| DRINKING WATER GLYPHOSATE ANALYSIS                    |        |       |      |      |             |    |        |                       |
| Glyphosate                                            | ND     | ug/L  |      | 5    | 700         | 10 | E547   | 08/10/09 12:40/eli-c  |
| - RL increased due to non-target matrix interference. |        |       |      |      |             |    |        |                       |
| DRINKING WATER EDB AND DBCP PARAMETERS                |        |       |      |      |             |    |        |                       |
| 1,2,3-Trichloropropane                                | ND     | ug/L  |      | 0.05 |             | 1  | E504.1 | 08/10/09 22:34/eli-c  |
| 1,2-Dibromo-3-chloropropane                           | ND     | ug/L  |      | 0.02 | 0.2         | 1  | E504.1 | 08/10/09 22:34/eli-c  |
| 1,2-Dibromoethane                                     | ND     | ug/L  |      | 0.01 | 0.05        | 1  | E504.1 | 08/10/09 22:34/eli-c  |
| Surr: 1,1,1,2-Tetrachloroethane                       | 99.0   | %REC  |      |      | 70-130      |    | E504.1 | 08/10/09 22:34/eli-c  |
| DRINKING WATER CARBAMATE PARAMETERS                   |        |       |      |      |             |    |        |                       |
| Aldicarb                                              | ND     | ug/L  |      | 0.40 | 3           | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Aldicarb sulfone                                      | ND     | ug/L  |      | 0.40 | 2           | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Aldicarb sulfoxide                                    | ND     | ug/L  |      | 0.41 | 4           | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Carbaryl                                              | ND     | ug/L  |      | 0.40 |             | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Carbofuran                                            | ND     | ug/L  |      | 0.40 | 40          | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| 3-Hydroxycarbofuran                                   | ND     | ug/L  |      | 0.40 |             | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Methiocarb                                            | ND     | ug/L  |      | 0.50 |             | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Methomyl                                              | ND     | ug/L  |      | 0.40 |             | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Oxamyl                                                | ND     | ug/L  |      | 0.40 | 200         | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Baygon                                                | ND     | ug/L  |      | 0.40 |             | 1  | E531.1 | 08/12/09 05:44/eli-c  |
| Surr: BDMC                                            | 103    | %REC  |      |      | 70-130      |    | E531.1 | 08/12/09 05:44/eli-c  |

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. \* 2821 Plant St \* Rapid City, SD 57702  
Toll Free 888.672.1225 \* 605.342.1225 \* FAX 605.342.1397 \* [rapid\\_city@energylab.com](mailto:rapid_city@energylab.com)

### LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-001  
Client Sample ID: Owanka WSW I

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: DRINKING  
WATER

| Analyses                                 | Result | Units | Qual | RL   | MCL/ | DF | Method | Analysis Date / By   |
|------------------------------------------|--------|-------|------|------|------|----|--------|----------------------|
|                                          |        |       |      |      | QCL  |    |        |                      |
| SYNTHETIC ORGANIC COMPOUNDS - PESTICIDES |        |       |      |      |      |    |        |                      |
| Diquat                                   | ND     | ug/L  |      | 0.40 | 20   | 1  | E549.2 | 08/11/09 09:56/eli-c |
| Diquat Dibromide Monohydrate             | ND     | ug/L  |      | 0.79 |      | 1  | E549.2 | 08/11/09 09:56/eli-c |

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

Page 6 of 8



# LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-002  
Client Sample ID: Trip Blank

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: TRIP BLANK

| Analyses                                  | Result | Units | Qual | RL   | MCL/ |  | DF | Method | Analysis Date / By    |
|-------------------------------------------|--------|-------|------|------|------|--|----|--------|-----------------------|
|                                           |        |       |      |      | QCL  |  |    |        |                       |
| DRINKING WATER VOLATILE ORGANIC COMPOUNDS |        |       |      |      |      |  |    |        |                       |
| Benzene                                   | ND     | ug/L  |      | 0.50 | 5    |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Bromobenzene                              | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Bromochloromethane                        | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Bromodichloromethane                      | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Bromoform                                 | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Bromomethane                              | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| n-Butylbenzene                            | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| sec-Butylbenzene                          | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| tert-Butylbenzene                         | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Carbon tetrachloride                      | ND     | ug/L  |      | 0.50 | 5    |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,2-Dichloroethane                        | ND     | ug/L  |      | 0.50 | 5    |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Chlorobenzene                             | ND     | ug/L  |      | 0.50 | 100  |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Chlorodibromomethane                      | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Chloroethane                              | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Chloroform                                | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Chloromethane                             | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 2-Chlorotoluene                           | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 4-Chlorotoluene                           | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,2-Dibromo-3-chloropropane               | ND     | ug/L  |      | 1.0  | 0.2  |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Dibromomethane                            | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,2-Dichlorobenzene                       | ND     | ug/L  |      | 0.50 | 600  |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,3-Dichlorobenzene                       | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,4-Dichlorobenzene                       | ND     | ug/L  |      | 0.50 | 75   |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Dichlorodifluoromethane                   | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,1-Dichloroethane                        | ND     | ug/L  |      | 0.50 | 5    |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,2-Dibromoethane                         | ND     | ug/L  |      | 0.50 | 0.05 |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,1-Dichloroethene                        | ND     | ug/L  |      | 0.50 | 7    |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| cis-1,2-Dichloroethene                    | ND     | ug/L  |      | 0.50 | 70   |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| trans-1,2-Dichloroethene                  | ND     | ug/L  |      | 0.50 | 100  |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,2-Dichloropropane                       | ND     | ug/L  |      | 0.50 | 5    |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,3-Dichloropropane                       | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 2,2-Dichloropropane                       | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| 1,1-Dichloropropene                       | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| cis-1,3-Dichloropropene                   | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| trans-1,3-Dichloropropene                 | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Ethylbenzene                              | ND     | ug/L  |      | 0.50 | 700  |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Hexachlorobutadiene                       | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| Isopropylbenzene                          | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |
| p-Isopropyltoluene                        | ND     | ug/L  |      | 0.50 |      |  | 1  | E524.2 | 08/11/09 12:51/eli-b2 |

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Weston Engineering-Upton  
Project: Owanka  
Lab ID: R09080105-002  
Client Sample ID: Trip Blank

Report Date: 09/10/09  
Collection Date: 08/06/09 11:45  
Date Received: 08/06/09  
Matrix: TRIP BLANK

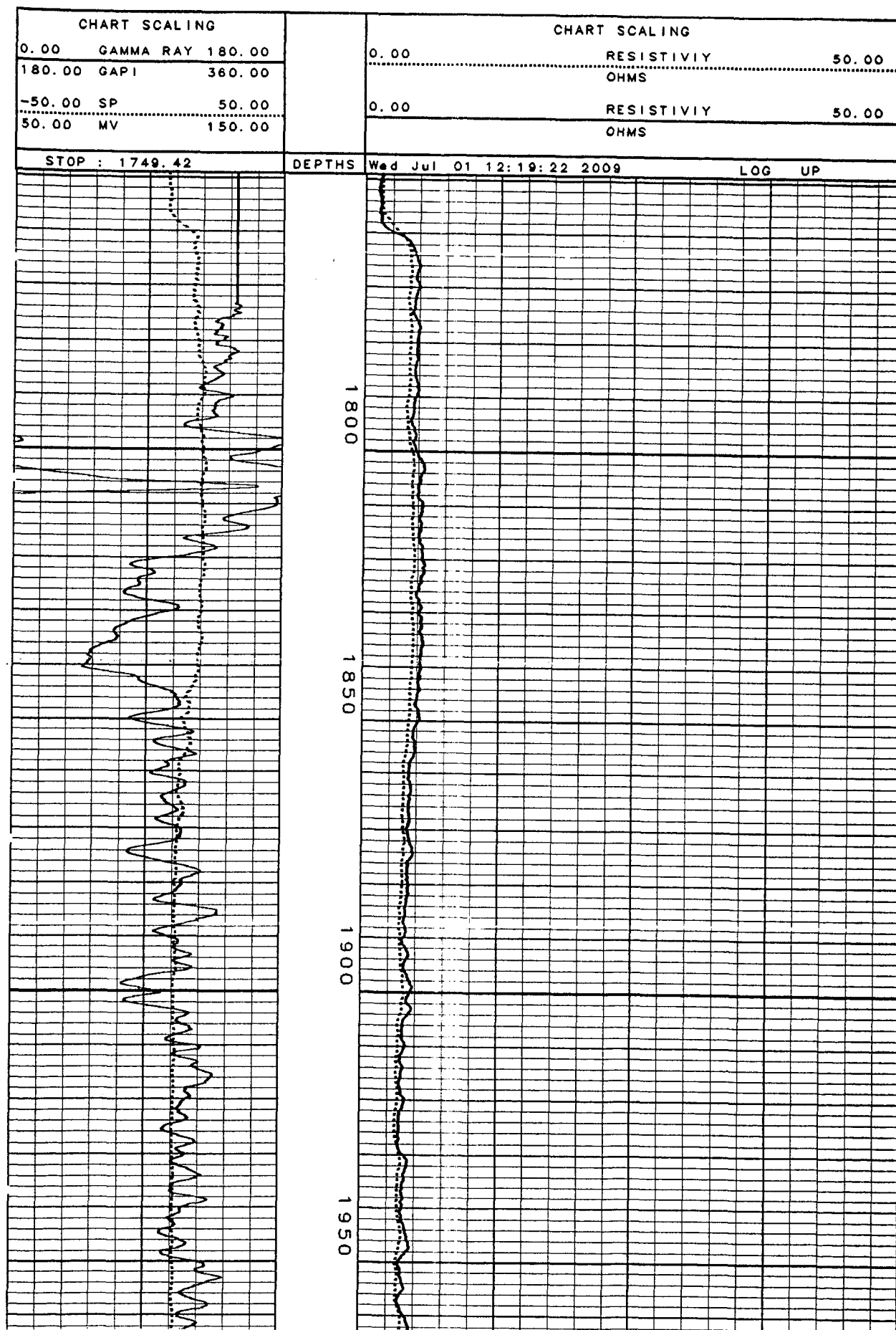
| Analyses                                         | Result | Units | Qual | RL   | MCL/<br>QCL | DF | Method | Analysis Date / By     |
|--------------------------------------------------|--------|-------|------|------|-------------|----|--------|------------------------|
| <b>DRINKING WATER VOLATILE ORGANIC COMPOUNDS</b> |        |       |      |      |             |    |        |                        |
| Methylene chloride                               | ND     | ug/L  |      | 0.50 | 5           | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Naphthalene                                      | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| n-Propylbenzene                                  | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Styrene                                          | ND     | ug/L  |      | 0.50 | 100         | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,1,1,2-Tetrachloroethane                        | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,1,2,2-Tetrachloroethane                        | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Tetrachloroethene                                | ND     | ug/L  |      | 0.50 | 5           | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Toluene                                          | ND     | ug/L  |      | 0.50 | 1000        | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,2,3-Trichlorobenzene                           | ND     | ug/L  | —    | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,2,4-Trichlorobenzene                           | ND     | ug/L  |      | 0.50 | 70          | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,1,1-Trichloroethane                            | ND     | ug/L  |      | 0.50 | 200         | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,1,2-Trichloroethane                            | ND     | ug/L  |      | 0.50 | 5           | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Trichloroethene                                  | ND     | ug/L  |      | 0.50 | 5           | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Trichlorofluoromethane                           | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,2,3-Trichloropropane                           | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,2,4-Trimethylbenzene                           | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| 1,3,5-Trimethylbenzene                           | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Vinyl chloride                                   | ND     | ug/L  |      | 0.50 | 2           | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| m+p-Xylenes                                      | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| o-Xylene                                         | ND     | ug/L  |      | 0.50 |             | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Trihalomethanes, Total                           | ND     | ug/L  |      | 0.50 | 80          | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Xylenes, Total                                   | ND     | ug/L  |      | 0.50 | 10000       | 1  | E524.2 | 08/11/09 12:51/eli-b2: |
| Surr: p-Bromofluorobenzene                       | 107    | %REC  |      |      | 80-120      |    | E524.2 | 08/11/09 12:51/eli-b2: |
| Surr: 1,2-Dichloroethane-d4                      | 106    | %REC  |      |      | 74-127      |    | E524.2 | 08/11/09 12:51/eli-b2: |
| Surr: Toluene-d8                                 | 118    | %REC  |      |      | 80-120      |    | E524.2 | 08/11/09 12:51/eli-b2: |

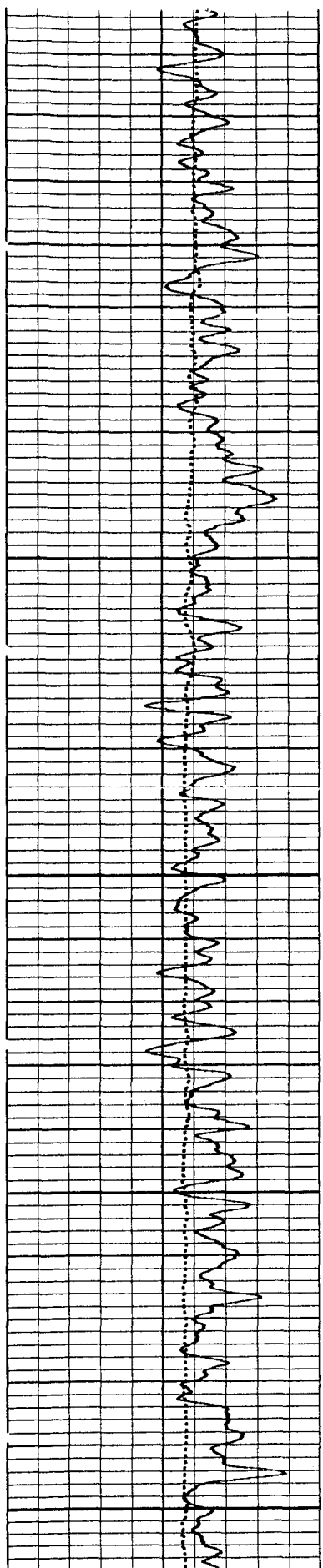
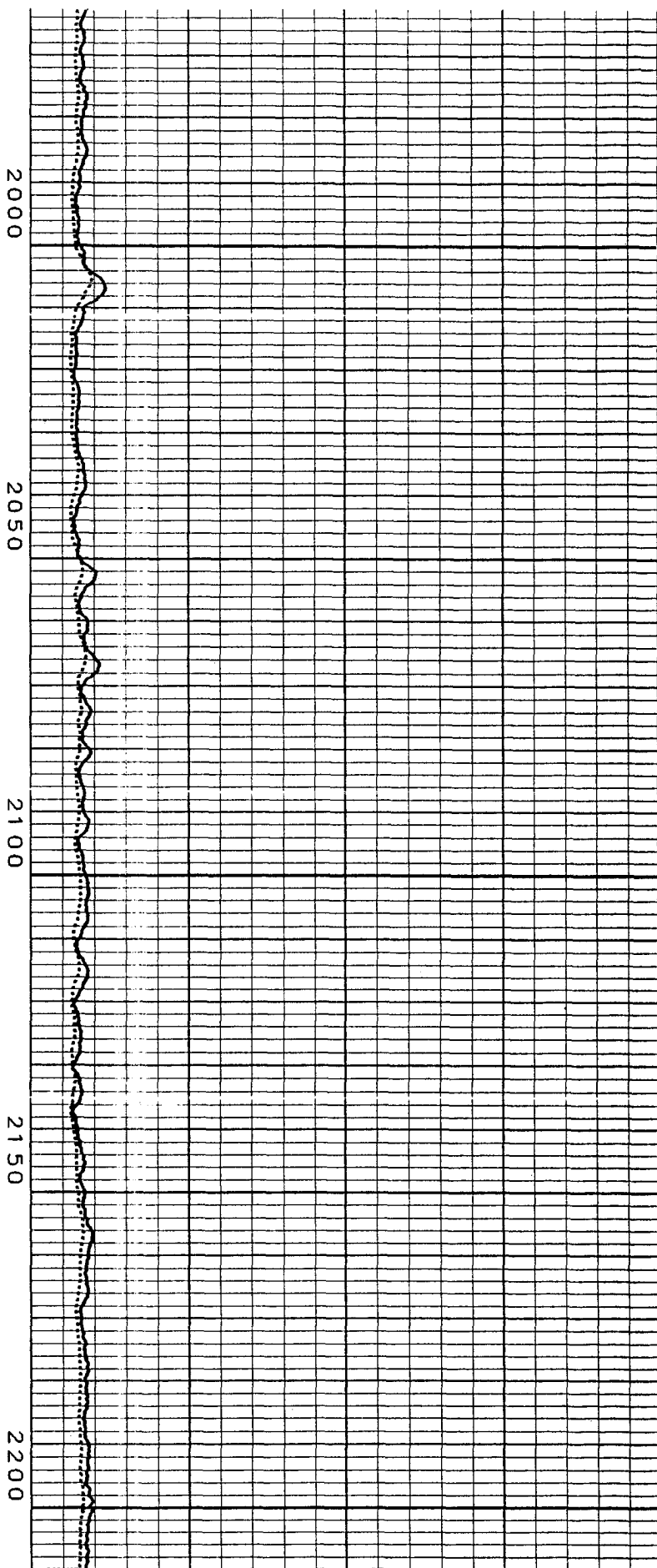
FEB 16 2010

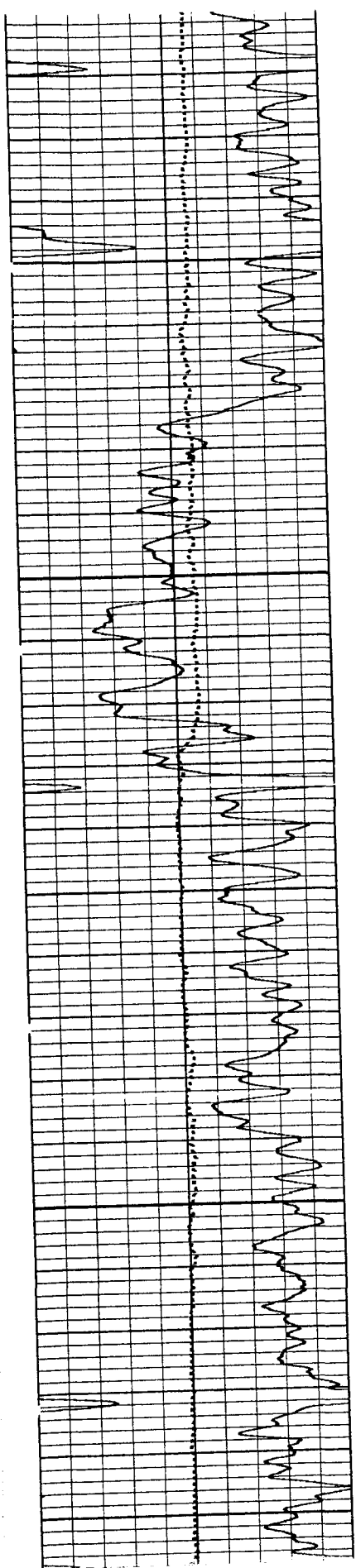
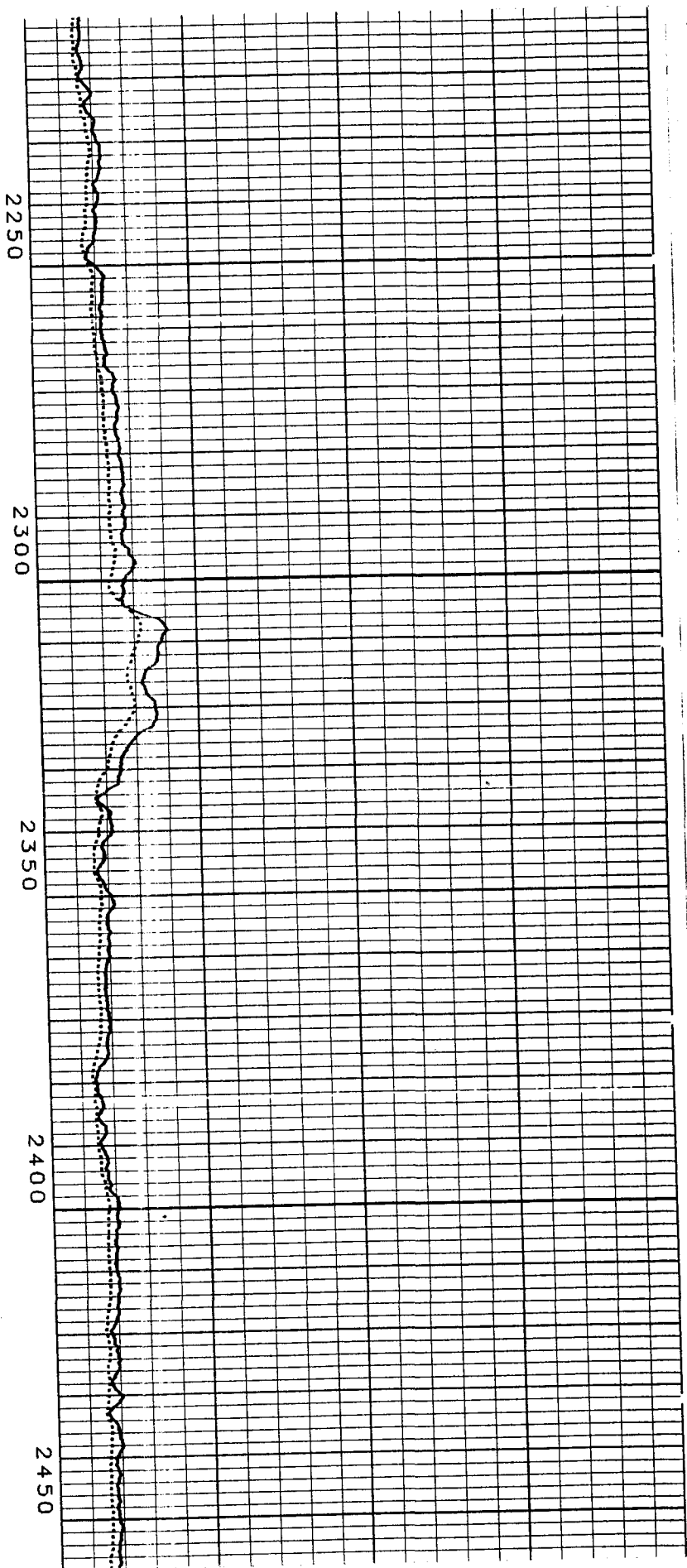
**Goodwell**  
**Incorporated**

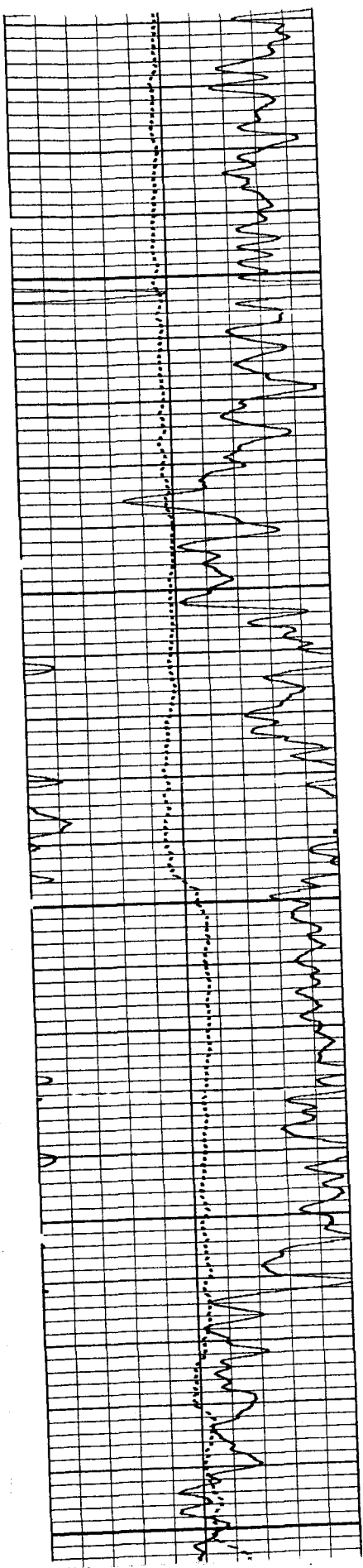
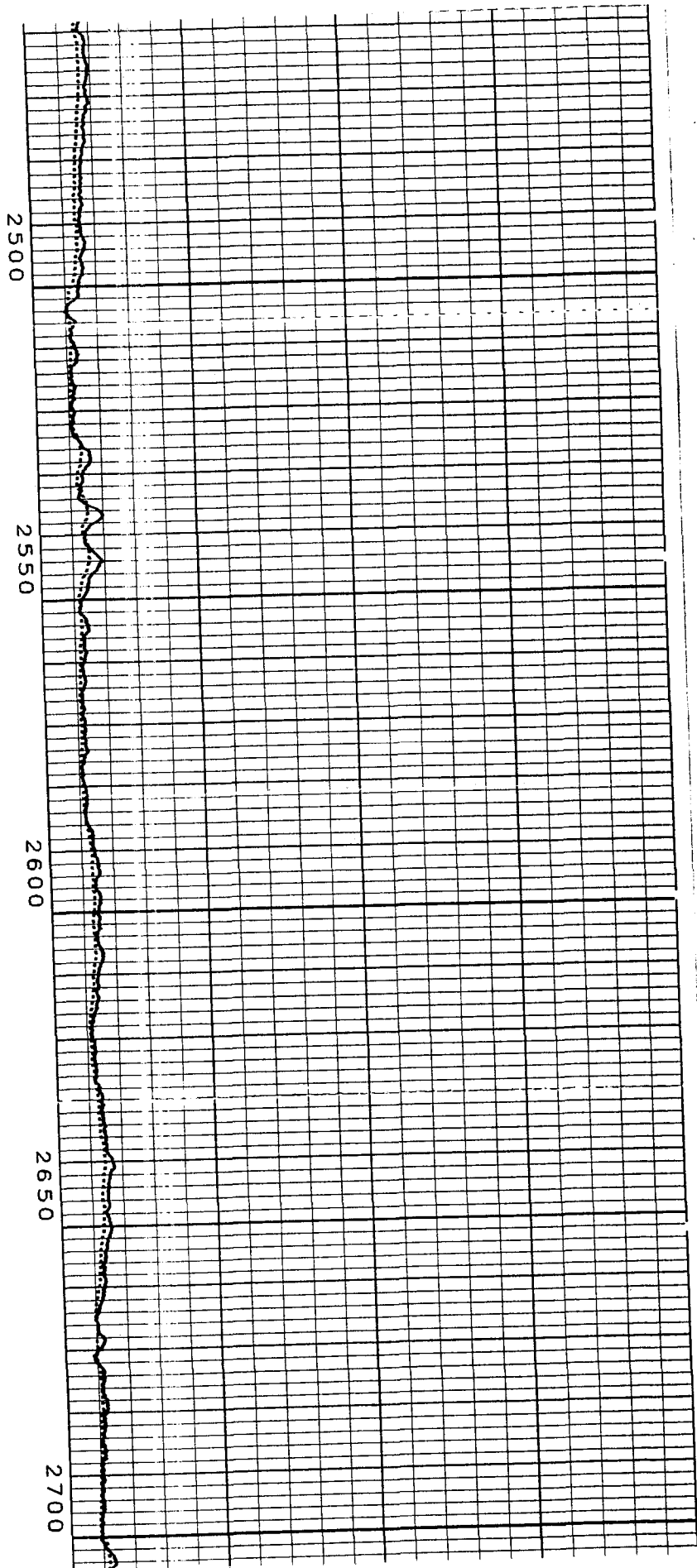
WATER RIGHTS  
PROGRAM ELECTRIC LOG

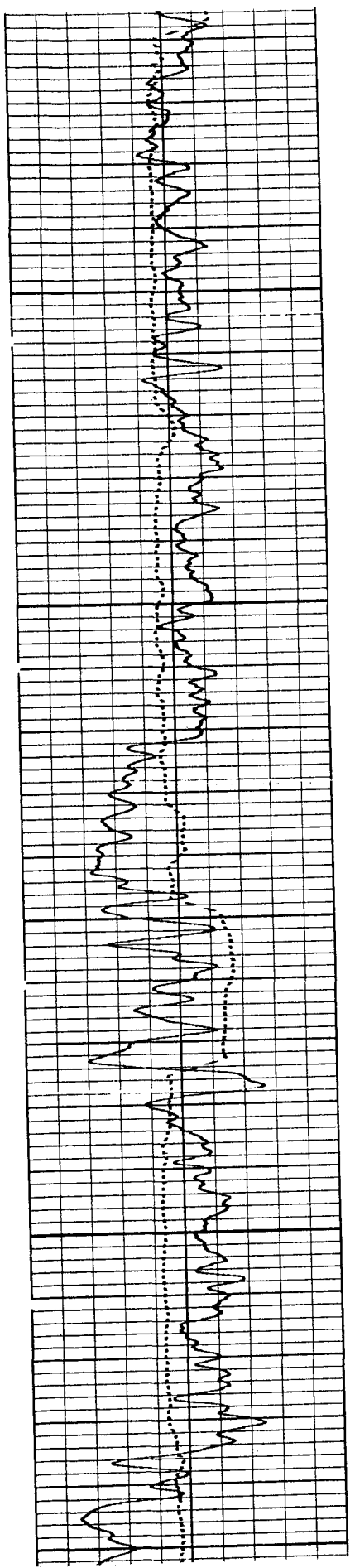
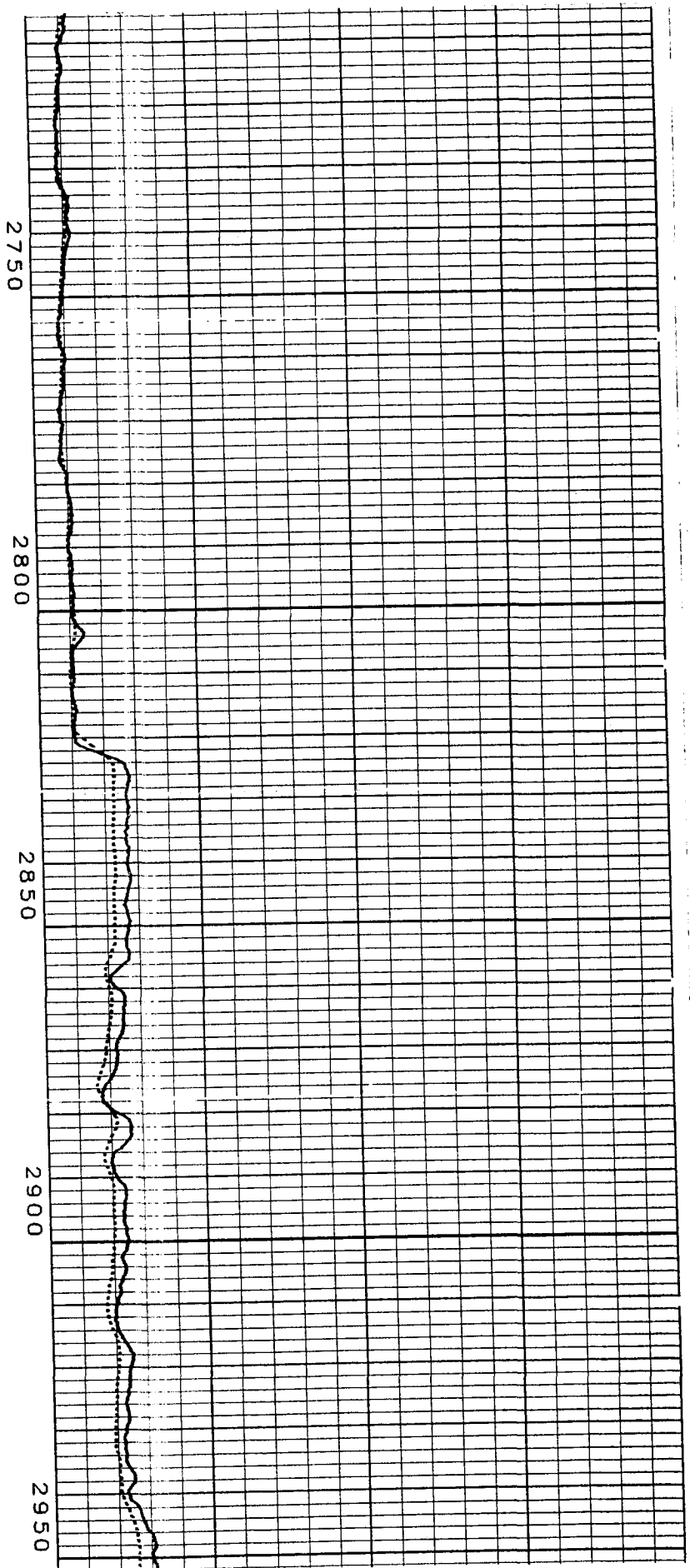
[illegible][illegible]

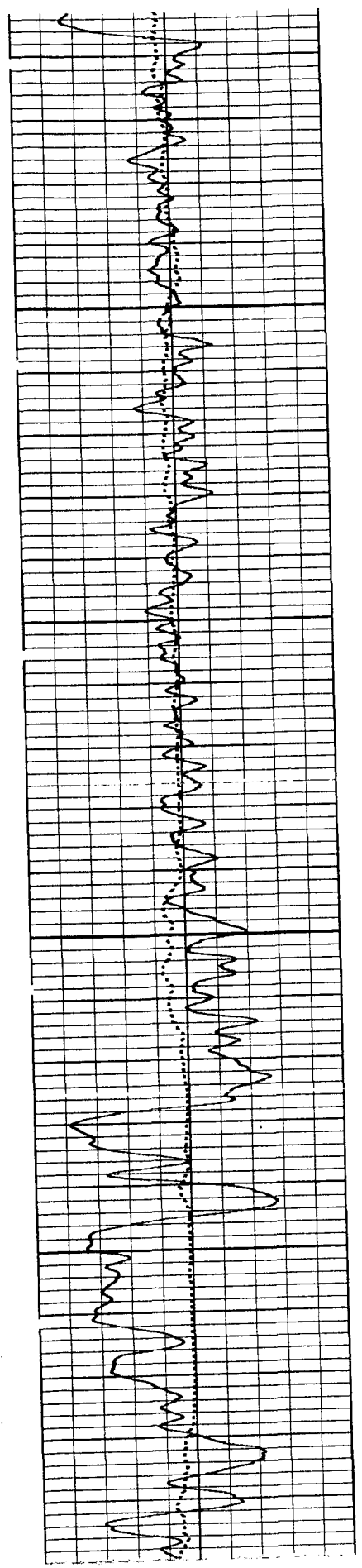
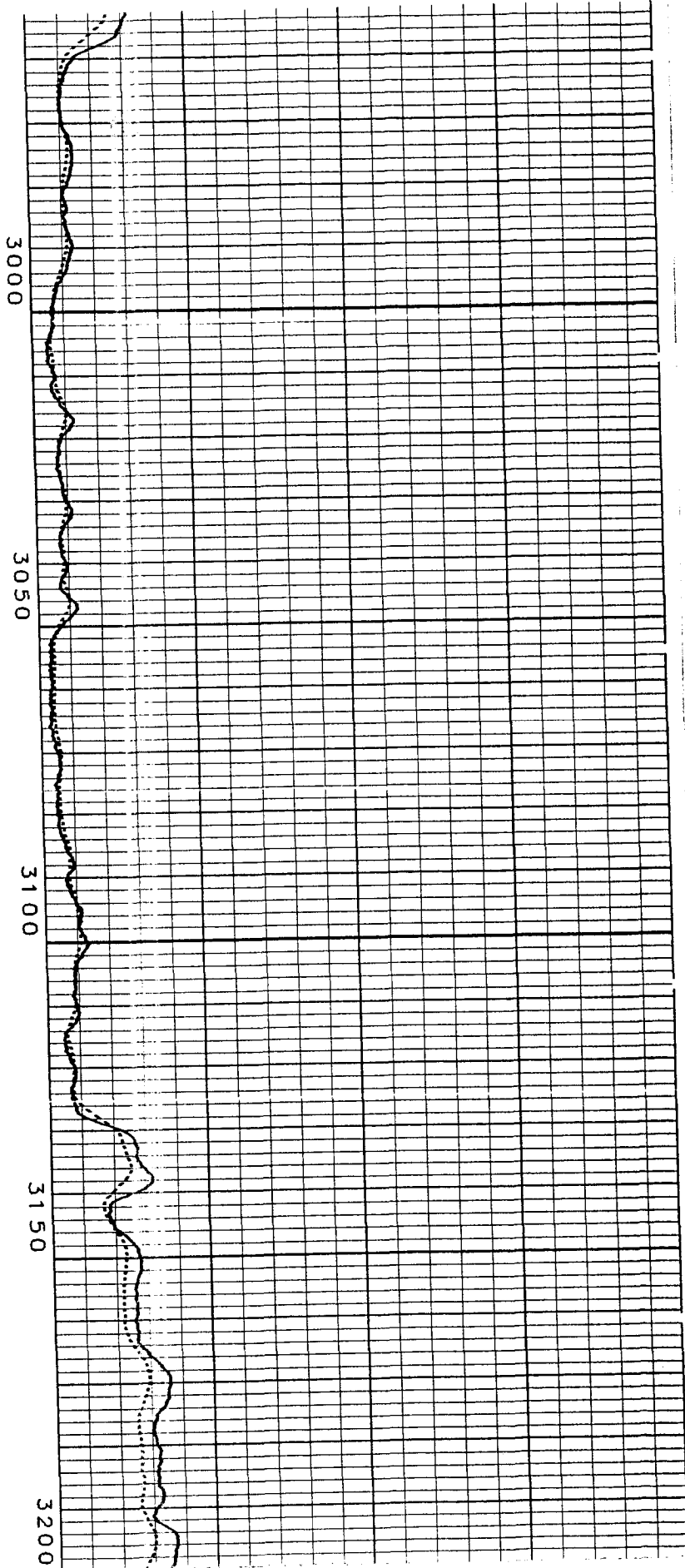


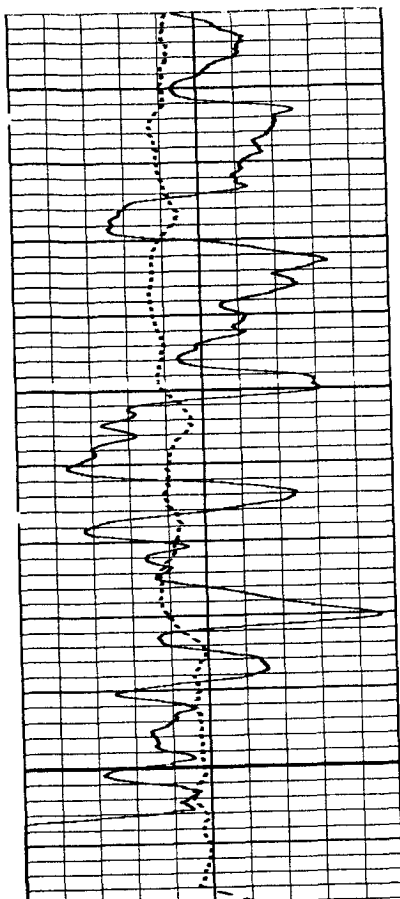










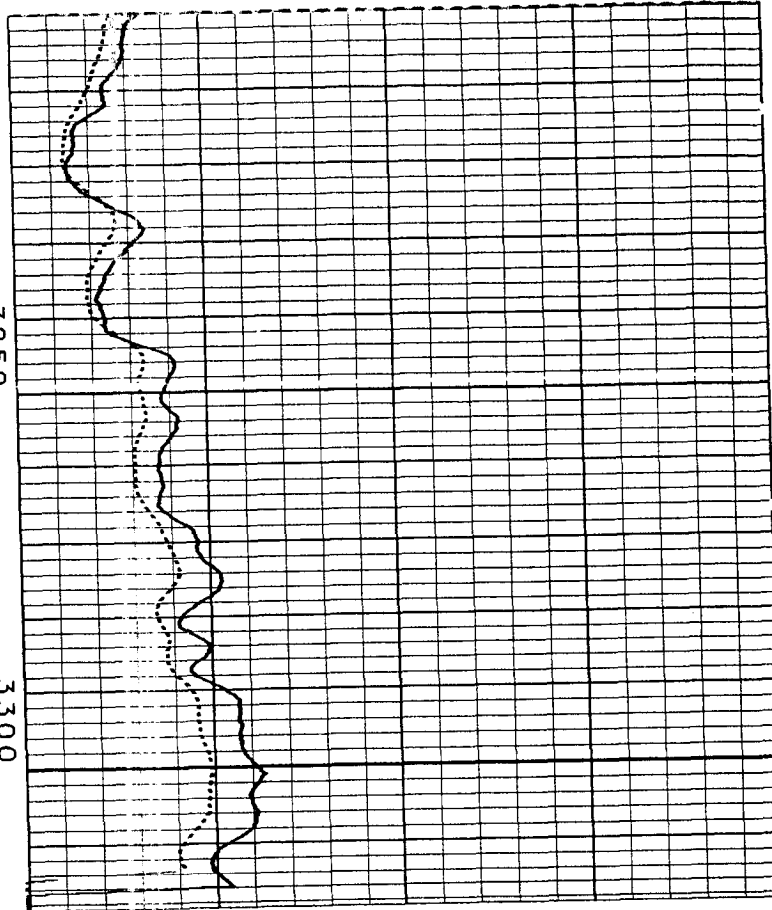


| CHART SCALING |           |        |  |
|---------------|-----------|--------|--|
| 0.00          | GAMMA RAY | 180.00 |  |
| 180.00        | GAPI      | 360.00 |  |
| -50.00        | SP        | 50.00  |  |
| 50.00         | MV        | 150.00 |  |

START DEPTH: 3318.52

3250

3300



| CHART SCALING |             |       |  |
|---------------|-------------|-------|--|
| 0.00          | RESISTIVITY | 50.00 |  |
|               | OHMS        |       |  |
| 0.00          | RESISTIVITY | 50.00 |  |
|               | OHMS        |       |  |

DEPTHS Wed Jul 1 11:50:50 2009 LOG UP



RECEIVED

MAR 21 2011

WATER RIGHTS  
PROGRAM

## MEMORANDUM

**TO:** Mr. Garland Erbele, Chief Engineer  
Water Rights Program  
SD DENR  
523 East Capitol  
Pierre, SD 57501

**FROM:** Jay A. Larson

**DATE:** 03/17/11

**MESSAGE:** The Ownaka Rural Water Association, Inc. asked that I submit this information to your office. They have substantially completed construction of the rural water distribution system and are beginning to use the pasture taps to water livestock.

I am currently working on the business plan for the project and expect it to be completed in the near future. When it is approved, they will begin to connect the households to the system.

Please feel free to contact me if you have any questions.

RECEIVED

MAR 21 2011

WATER RIGHTS  
PROGRAMNOTICE OF COMPLETION OF WORKS AND  
APPLICATION OF WATER TO BENEFICIAL USEDate 03-15-11TO: Water Rights Program, DENR  
523 E. Capitol  
Pierre, SD 57501-3181FROM: Owanka Rural Water Association, Inc  
(name)17401 232nd Street  
(address)Owanka, SD 57767  
(city, state, zip)605.798.5522  
(phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 2622-2 states that the water use system is to be constructed by02-04-13  
(date), and water is to be put to beneficial use by 02-04-17  
(date)

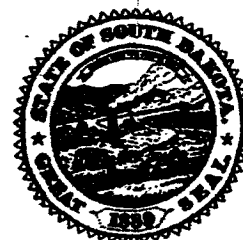
The water use system was completed on

February 1, 2011  
(date)

Applying the water to beneficial use was completed on

MARCH 15, 2011  
(date)

You may schedule an investigation so that the water license may be issued.

Mauri Williams  
(signature)



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

JOE FOSS BUILDING  
PMB 2020  
523 EAST CAPITOL  
PIERRE SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

March 21, 2011

2622-2

Marvin Williams  
Owanka Rural Water Association Inc  
17401 232<sup>nd</sup> St  
Owanka SD 57767

Dear Mr. Williams:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with the water use system authorized under Permit No. 2622-2.

The system is now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of your project and the staff inspection has no bearing on your water permit.

Someone from our office will contact you prior to the inspection to set up a time that is convenient for you. If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink that reads "Genny McMath".

Genny McMath  
Environmental Scientist  
Water Rights Program  
(605) 773-3352  
email: [genny.mcmath@state.sd.us](mailto:genny.mcmath@state.sd.us)

## Report of Examination of Works and/or Application of Water to Beneficial Use For Permit Nos. 2622-2

I have this day, June 30, 2017 made a thorough examination of the water use system constructed by **Owanka Rural Water Association Inc., 17401 232<sup>nd</sup> St., Owanka, SD 57767** of Permit No. **2622-2**, bearing the priority of **10/9/2007** authorizing the diversion of **0.667** cu. ft. per second of the water from one well for rural water system use in Pennington County.

Inspection contact & relationship to permit holder, if applicable:

**Marvin Williams, President**  
**17401 232<sup>nd</sup> St., Owanka, SD 57767**  
**605-798-5522**

### A. Works used to divert the water:

#### Well Information:

- 1) Well Drilling Firm: Weston Engineering Inc. (2009)
- 2) No. of Wells 1
- 3) Depth(s) 3,515 feet
- 4) Well log is available Yes

#### Casing:

- 1) Diameter 16" 0 to 40' surface casing  
10 3/4" 0 to 1,761'  
7" 1,713' to 3,487'
- 2) Length 3,487 feet
- 3) Type steel

#### Screen:

- 1) Type Stainless Steel 0.015
- 2) Length 123 feet (3,242' to 3,477' not continuous)
- 3) Static water level 481 feet

#### Pump:

- 1) Make Grundfos
- 2) Model 150S400
- 3) Size 6"
- 4) Capacity 175 GPM (metered rate) This is a 150 gpm - 40 hp rated pump delivering 175 gpm as installed with a 50 hp motor.
- 5) Horsepower rating 50 hp

**B. Works used to transport water to place of use:**

- 1) Type PVC
- 2) Size Varies from 6" to 2"
- 3) Length approximately 25 miles

**C. Works used to apply water to beneficial use:**

The well pumps to a 90,000 gallon steel storage tank located at the well site. The storage gravity feeds to a portion of the system and utilizes a booster pump for the balance of the system to supply 25 metered connections. The connections supply both residential use and livestock water.

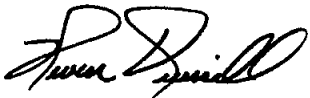
**D. Compliance with Permit Requirements:**

- 1) Permit qualifications being abided by: Yes
- 2) Exceptions to compliance are: none

**E. Condition and Location:**

1. The system is in good condition with the point of diversion located as follows:  
**175' S and 1,473' W of the NE corner Section 35 T2N R12E (44.095666, -102.63407)**
2. The works are capable of diverting and conveying to the place of use 0.39 cu. ft. per second (**175gpm**) of water which is to be used for **rural water system** use and the license should be issued for 0.39 cfs
3. All structures, wells and lands on map: **No, well and storage location only.**

**F. Comments or other permit(s) associated with the project: none**



Steven Quissell  
Water Rights Inspector  
DENR Water Rights Program

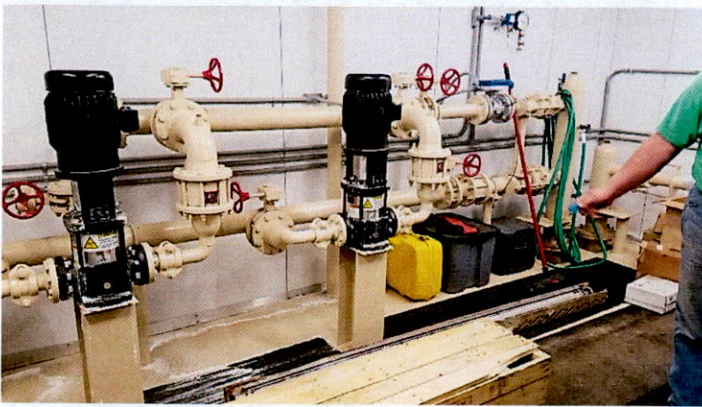
Date Report Completed: 6/30/2017



Storage and pump house

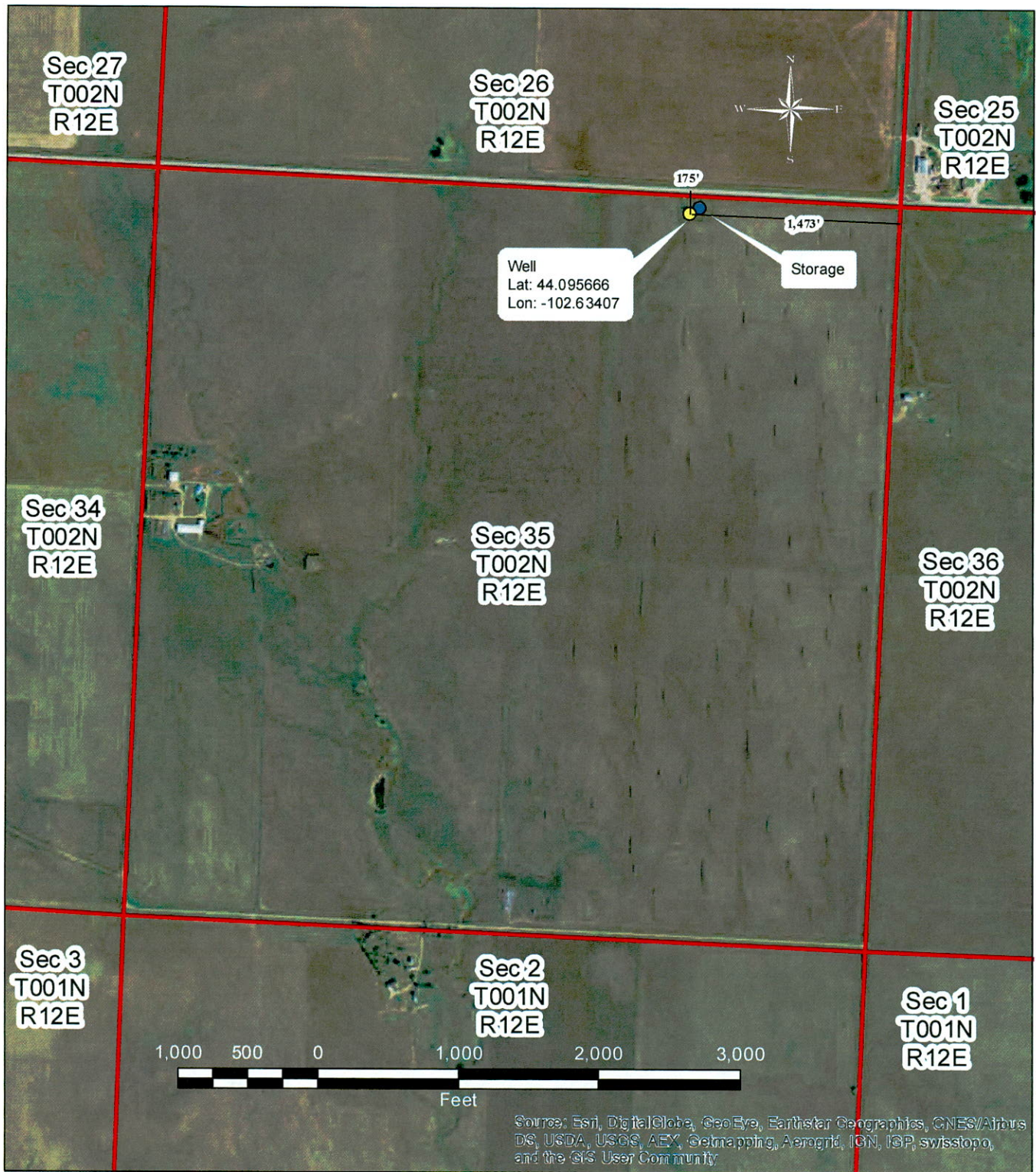


Well and pump house



Booster pumps and appurtenances

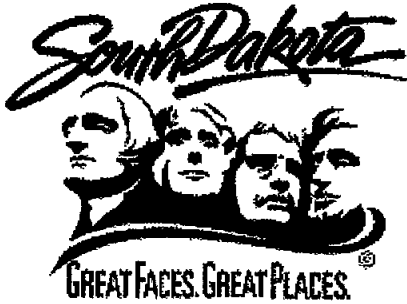
Water Right # 2622-2  
Owanka Rural Water  
6/30/2017



*Steven Quissell*

Steven Quissell  
Water Rights Inspector  
DENR Water Rights Program





DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE SOUTH DAKOTA 57501-3182  
<http://denr.sd.gov>

AUG 03 2017

2622-2

Marvin Williams, President  
Owanka Rural Water Association Inc  
17401 232<sup>nd</sup> St  
Owanka SD 57767

Dear Mr. Williams:

Enclosed is Water License No. 2622-2. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, the owner of an existing well, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

Jeanne Goodman, Chief Engineer  
Water Rights Program  
(605) 773-3352

enclosures

**STATE OF SOUTH DAKOTA  
WATER LICENSE NO. 2622-2**

---

(1) Owanka Rural Water Association Inc., 17401 232<sup>nd</sup> St, Owanka SD 57767 made Application No. 2622-2, October 9, 2007 for a water permit to divert 0.667 cubic feet of water per second from ground water, one well (Inyan Kara Aquifer), Pennington County, South Dakota for rural water system purposes. Permit No. 2622-2, with a priority date of October 9, 2007 was approved February 4, 2008 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before February 4, 2013 and for the application to beneficial use of said water on or before February 4, 2017.

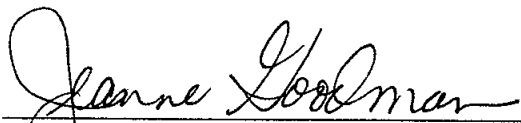
(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.39 cubic feet of water per second for beneficial use. The location of the diversion point is 175'S and 1,473'W of the NE corner of Section 35, T2N, R12E (NW ¼ NE ¼).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use. The well pumps to a storage tank located at the well site. The system supplies 25 metered connections for both residential use and livestock water.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Owanka Rural Water Association Inc., 17401 232<sup>nd</sup> St, Owanka SD 57767 the holder and/or owner of Water Right No. 2622-2 is issued a license to appropriate water, the right to use 0.39 cubic feet of water per second from ground water, one well (Inyan Kara Aquifer) with a priority date of October 9, 2007 from the location specified in (2) of this license for rural water system purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2622-2 and subject to the following qualifications:

- The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The well authorized by Permit No. 2622-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. ***The well was drilled by Weston Engineering Inc. in 2009. A copy of the well completion report is on file with the Water Rights Program.***
- Owanka Rural Water Association shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara Aquifer.



Jeanne Goodman, Chief Engineer  
Water Rights Program  
Department of Environment and Natural Resources

**AUG 03 2017**

date

