

STATEMENT OF BASIS

Applicant: U.S Geological Survey Yankton Field Research Station
Permit Number: SD0026310
Contact Person: Kevin Buhl, Station Leader
31247 436th Avenue
Yankton, SD 57078
Phone: (605) 665-9217
Permit Type: Minor Federal Facility - Renewal

DESCRIPTION

The United States Geological Survey (USGS) Yankton Field Research Station is located about three miles west of Yankton, in the Southwest ¼ of Section 16 and the Southeast ¼ of Section 17 of Township 93 North, Range 56 West, in Yankton County, South Dakota (Latitude 42.870200°, Longitude -97.476900°, Navigational Quality GPS).

This facility is a research station of the USGS Columbia Environmental Research Center in Columbia, Missouri, and is conducting toxicity research on the effects of fire suppression and agricultural chemicals on fish. This research involves exposing fish to toxic concentrations of chemicals in short-term (acute) and long-term (chronic) toxicity studies. The facility conducts about two 90-day and three 120-day chronic toxicity studies and forty 96-hour acute toxicity studies yearly. The frequency and types of studies run change from year to year. Toxicity studies using metals have not occurred for many years. The facility maintains detailed records of all chemicals that are used for the toxicity studies. The annual fish production at the facility is about 3 pounds per year and the maximum monthly feeding rate is about 0.5 pounds of food per month. The production and feeding rates are lower than the thresholds found in the Administrative Rules of South Dakota (ARSD) Section 74:52:02:35 and therefore the facility is not considered a concentrated aquatic animal production facility.

Effluent from the acute toxicity studies and the four sinks in the chemistry area (used for cleaning glassware) flows to a building with a sump pump. The sump pump transfers the water to a two-cell, total retention, stabilization pond system (1.38 total acres). The ponds are lined with a 0.02-inch thick impermeable PVC liner. No discharge is allowed out of the stabilization pond system (Outfall 001). See Attachment 1 for a facility map.

Effluent from the fish culture section, which includes two sinks used to clean fish food, glassware, buckets, etc., discharges into Lake Yankton (Outfall 002). The fish culture section operates year round, continuously discharging about 20,000 gallons of wastewater per day, depending on the number of tanks being operated. The facility treats its source water with a reverse osmosis (RO) unit and a water softener. The reject water from the RO and waste stream from the water softener regeneration also discharge to Outfall 002. According to data provided by the facility, the RO and water softener waste streams contribute on average about 17,000 gallons/month, which is about 2.5% of the overall flow from Outfall 002.

Domestic wastewater from this facility is transferred to a stabilization pond operated by the South Dakota Department of Game Fish and Parks (SD GF&P) at the Chief White Crane Recreation Area. Outfall 003 is included in the current permit to address any discharge of sanitary effluent prior to being collected by the SD GF&P sanitary waste collection system. The Chief White Crane Recreation Area is covered under a separate surface water discharge permit (SDG826549). Therefore, Outfall 003 will be removed from the proposed permit. Any release of domestic wastewater from the collection system operated by the USGS field station shall be sampled and reported in accordance with Sections 3.2, 4.3, and 4.7, respectively, of the proposed permit.

RECEIVING WATERS

Any discharge from this facility will enter Lake Yankton. Lake Yankton is hydraulically connected to the Missouri River. Lake Yankton is classified by the South Dakota Surface Water Quality Standards (SDSWQS), ARSD Sections 74:51:02:01, 74:51:02:02, and 74:51:02:68 for the following beneficial uses:

- (4) Warmwater permanent fish life propagation waters;
- (7) Immersion recreation waters;
- (8) Limited-contact recreation waters; and
- (9) Fish and wildlife propagation, recreation, and stock watering waters.

The Missouri River, at the point Lake Yankton drains into the river, is classified by the SDSWQS, ARSD Sections 74:51:03:01 and 74:51:03:05 for the following beneficial uses:

- (1) Domestic water supply waters;
- (4) Warmwater permanent fish life propagation waters;
- (7) Immersion recreation waters;
- (8) Limited-contact recreation waters;
- (9) Fish and wildlife propagation, recreation, and stock watering waters;
- (10) Irrigation waters; and
- (11) Commerce and industry waters.

Based on the volume of water in the discharge and in Lake Yankton and the Missouri River, the department does not anticipate this discharge will impact either Lake Yankton or the Missouri River.

ANTIDegradation

The South Dakota Department of Environment and Natural Resources (SDDENR) has fulfilled the antidegradation review requirements for this permit. In accordance with South Dakota's Antidegradation Implementation Procedure and the SDSWQS, no further review is required. The results of SDDENR's review are included in Attachment 2.

MONITORING DATA

The USGS Yankton Field Research Station has been submitting Discharge Monitoring Reports (DMRs) as required under the current permit. As shown in Attachment 3, this facility has had 13 violations of conductivity and 16 violations of total dissolved solids since the current permit became effective in July 2006. In 2009, the facility installed a new water softener. Since the water softener was installed and properly calibrated, no violations have occurred. No future violations are expected. No discharge was reported for the months not included in the table.

INSPECTIONS

Personnel from SDDENR conducted a Compliance Inspection of the USGS Yankton Field Research Station wastewater treatment facility on May 19, 2010. The following comments and corrective actions were made at the time of the inspection:

The following comments and corrective actions are *required* in order to come into compliance with the station’s Surface Water Discharge permit.

COMMENTS	REQUIRED CORRECTIVE ACTIONS
<p>The facility has experienced numerous effluent violations of conductivity, and TDS in the last three years. Conductivity was violated in the April 2008, February 2009, March 2009, and June 2009 discharge. TDS was violated in the April 2008, August 2008, November 2008, February 2009, March 2009, June 2009 and October 2009 discharge.</p>	<p>The facility must look into modifications of its operation to allow for adequate treatment of the wastewater.</p> <p>These violations are subject to a fine of up to \$10,000 per day per violation.</p>
<p>The number of exceedences (No. EX) column is not being filled out on the DMR.</p>	<p>If any of the calculated values exceed the permit limits, it must be marked as an exceedence on the DMR. The DMRs</p> <p>If you have questions about filling out DMRs, please contact this office for assistance.</p>

The following comments and corrective actions are *recommended* and are items that will improve the operation of your facility.

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
<p>Cattails and reeds are growing in cell #2.</p>	<p>In order for your treatment ponds to operate properly, the rush and cattail growth in the ponds should be eliminated by spraying and/or cutting to prevent erosion/seepage damage to the dikes and attracting rodents.</p>

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
Less than two feet of water is present in cells #1 and #2.	Cells #1 and #2 are being operated at too low of a water level; the minimum operating depth for either cell is 2 feet. This water level needs to be maintained in order to allow the appropriate biological action to take place in order to treat the wastewater, as well as protect the integrity of the cell liner.
The stabilization pond area should be free of any burrowing rodents (muskrats, gophers, etc.).	Burrowing rodents can do extensive damage in just a short period of time resulting in both operation and maintenance problems, and a major expense to the city for repairs. Contact your local Game, Fish, and Parks conservation officer for information on how to remove rodents from the stabilization pond area.

EFFLUENT LIMITS

Outfall 001

The USGS Yankton Field Research Station shall have **no discharge** from Outfall 001 except in accordance with the bypass or emergency release provisions of the permit. The no discharge requirement is based on past facility performance and Best Professional Judgment (BPJ).

Outfall 001 – Any discharge from the two-cell stabilization pond system at the USGS Yankton Field Research Station (Latitude 42.869483°, Longitude -97.476133°, Navigational Quality GPS).

Outfall 002

Effective immediately and lasting through the life of the permit, the permittee shall comply with the effluent limits specified below. These limits are based on the SDSWQS and BPJ.

Outfall 002 – Any discharge from the fish culture tanks, reverse osmosis membrane reject water, and water softener regeneration water at the USGS Yankton Field Research Station to Lake Yankton (Latitude 42.869016°, Longitude -97.478600°, Navigational Quality GPS).

1. The pH shall not be less than 6.5 standard units or greater than 9.0 standard units in any single analysis and/or measurement. These limits are based on the warmwater permanent fish life propagation classification of Lake Yankton and the SDSWQS (ARSD Section 74:51:01:47).

Note: SDDENR specifies that pH analyses are to be conducted within 15 minutes of sample collection with a pH meter. Therefore, the permittee must have the ability

to conduct onsite pH analyses. The pH meter used must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units.

2. The effluent total dissolved solids concentration shall not exceed 2,500 mg/L (30-day average) or 4,375 mg/L (daily maximum). These limits are based on the fish and wildlife propagation, recreation, and stock watering waters classification of Lake Yankton, the SDSWQS (ARSD Section 74:51:01:52), and BPJ.
3. The effluent conductivity shall not exceed 4,000 micromhos/cm (30-day average) or 7,000 micromhos/cm (daily maximum). These limits are based on the fish and wildlife propagation, recreation, and stock watering waters classification of Lake Yankton, the SDSWQS (ARSD Section 74:51:01:52), and BPJ.
4. The effluent alkalinity (as CaCO₃) shall not exceed 750 mg/L (30-day average) or 1,313 mg/L (daily maximum). These limits are based on the fish and wildlife propagation, recreation, and stock watering waters classification of Lake Yankton, and the SDSWQS (ARSD 74:51:01:52).
5. No floating solids or visible foam from the laboratory or toxicity studies shall be introduced into this discharge. This limit is based on BPJ.

Effluent water temperature (°C), total ammonia (as N, mg/L), Five-Day Biochemical Oxygen Demand (BOD₅, mg/L), Total Suspended Solids (TSS, mg/L), flow rate (gallons per day), and total flow (gallons) shall be monitored, but will not have a limit.

Outfall 003

This outfall is being removed from the proposed permit.

SELF MONITORING REQUIREMENTS

Inspection Requirements

Monitoring shall consist of **weekly** inspections of the facility, the Outfall 001, the stabilization ponds, and the lift station (sump pump) to verify that proper operation and maintenance procedures are being practiced and whether or not there is a discharge occurring from this facility. Outfall 002 shall be inspected on a **monthly** basis. Documentation of each of these inspections shall be kept in a notebook to be reviewed by SDDENR or EPA personnel when an inspection occurs.

Outfall 001 Monitoring

If a discharge is discovered from Outfall 001, the discharge shall be monitored for the parameters listed in **Section 4.1** of the proposed permit. The proper authorities shall be notified in accordance with the Emergency Reporting requirements stated in the Surface Water Discharge permit. The permittee shall report the sample results on the form in Appendix A.

Outfall 002 Monitoring

As a minimum, upon the effective date of this permit, the following parameters shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge.

Effluent Characteristic	Frequency	Reporting Values¹	Sample Type¹
Total Flow, gallons	Monthly ²	Monthly Total	Calculated
Flow Rate, gallons per day	Monthly ²	Daily Maximum; 30-Day Average	Instantaneous
pH, standard units	Monthly ²	Daily Minimum; Daily Maximum	Instantaneous ^{3, 4}
Water Temperature, °C	Monthly ²	Daily Maximum; 30-Day Average	Instantaneous ^{4, 5}
Total Dissolved Solids (TDS), mg/L	Monthly ²	Daily Maximum; 30-Day Average	Grab
Total Alkalinity (as CaCO ₃), mg/L	Monthly ²	Daily Maximum; 30-Day Average	Grab
Conductivity, µmhos/cm	Monthly ²	Daily Maximum; 30-Day Average	Grab
Five-Day Biochemical Oxygen Demand (BOD ₅), mg/L	Quarterly ²	Daily Maximum	Grab
Total Suspended Solids (TSS), mg/L	Quarterly ²	Daily Maximum	Grab
Ammonia-Nitrogen (as N), mg/L	Quarterly ²	Daily Maximum	Grab ⁴
Floating Solids or Visible Foam	Weekly	Presence or absence ⁶	Visual

¹ See Definitions.

² The permittee always has the option of collecting additional samples if appropriate. All of the samples collected during the calendar month are to be used in determining the averages. The facility is required to sample the effluent when all waste streams are being discharged.

³ pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units.

- ⁴ The pH and temperature of the effluent shall be determined when ammonia samples are collected.
- ⁵ The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.
- ⁶ The permittee shall certify presence or absence by recording “0” for no discharge of floating solids or visible foam (indicating a discharge of sanitary or chemical wastes) or recording “1” if a discharge of floating solids or visible foam occurred. If a discharge of floating solids or visible waste occurs, the permittee shall notify SDDENR within 24 hours. The permittee shall sample for the parameters listed in **Section 4.7 – Emergency Discharge Reporting Requirements** of the proposed permit.

Effluent monitoring results shall be summarized for each month and recorded on separate DMRs to be submitted to SDDENR on a **quarterly** basis. If no discharge occurs during a month, it shall be stated as such on the DMR.

SLUDGE

If sludge disposal is necessary, the USGS Yankton Field Research Station is required to contact the SDDENR Waste Management Program **prior** to the removal and disposal of sludge.

ENDANGERED SPECIES

This is a renewal of an existing permit. No listed endangered species are expected to be impacted by activities related to this permit. However, the table below shows the endangered species that may be present in the USGS Yankton Field Research Station’s geographic area.

COUNTY	GROUP	SPECIES	CERTAINTY OF OCCURANCE
YANKTON	BIRD	CURLEW, ESKIMO	EXTREMELY RARE
		TERN, LEAST	KNOWN
	FISH	STURGEON, PALLID	POSSIBLE
		SHINER, TOPEKA ¹	POSSIBLE
	MUSSEL	MUSSEL, SCALESHELL ²	HISTORIC
		MUSSEL, HIGGINS EYE ^{2,3}	POSSIBLE

¹ Although Topeka Shiners have not been formally documented within Clark, Douglas, Grant, Jerauld, Kingsbury, Lake, Spink, or Yankton Counties, the species may still occur in these areas because they contain portions of known occupied Topeka Shiner streams and/or potentially occupied streams that exist within one or more of the three known inhabited watersheds in South Dakota: the James, Vermillion, and Big Sioux.

² Shells of these species have been found, but no populations have been located.

³ A fresh dead shell of a Higgins Eye Mussel was found in the Missouri River below Gavins Point Dam on October 27, 2004.

This information was accessible at the following US Fish and Wildlife Service website as of October 13, 2011: <http://www.fws.gov/southdakotafieldoffice/SpeciesByCounty.pdf>.

PERMIT EXPIRATION

A five-year permit is recommended.

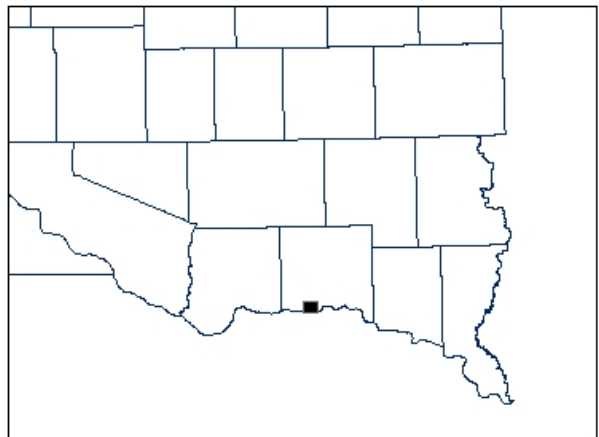
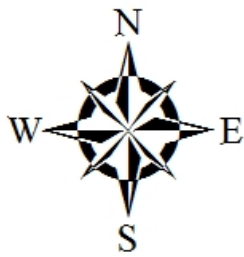
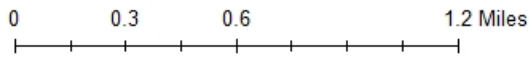
PERMIT CONTACT

Any questions pertaining to this statement of basis can be directed to Tina Piroutek, Natural Resources Project Engineer for the Surface Water Quality Program, at (605) 773-3351.

October 13, 2011

ATTACHMENT 1

Facility Map



ATTACHMENT 2

Antidegradation Review

Minor Federal

Permit Type: Facility - Renewal Applicant: USGS Yankton Field Research Station

Date Received: 12/03/2010 Permit #: SD0026310

County: Yankton Legal Description: SW ¼ Sec 16 and SE ¼ Sec 17, all in T93N, R56W

Receiving Stream: Lake Yankton Classification: 4, 7, 8, 9

If the discharge affects a downstream waterbody with a higher use classification, list its name and uses:

APPLICABILITY

1. Is the permit or the stream segment exempt from the antidegradation review process under ARSD 74:51:01? Yes No If no, go to question #2. If yes, check those reasons why the review is not required:

- Existing facility covered under a surface water discharge permit is operating at or below design flows and pollutant loadings;
- *Existing effluent quality from a surface water discharge permitted facility is in compliance with all discharge permit limits;
- *Existing surface water discharge permittee was discharging to the current stream segment prior to March 27, 1973, and the quality and quantity of the discharge has not degraded the water quality of that segment as it existed on March 27, 1973;
- *The existing surface water discharge permittee, with DENR approval, has upgraded or built new wastewater treatment facilities between March 27, 1973, and July 1, 1988;
- The existing surface water discharge permittee discharges to a receiving water assigned only the beneficial uses of (9) and (10); the discharge is not expected to contain toxic pollutants in concentrations that may cause an impact to the receiving stream; and DENR has documented that the stream cannot attain a higher use classification. This exemption does not apply to discharges that may cause impacts to downstream segments that are of higher quality;
- Receiving water meets Tier 1 waters criteria. Any permitted discharge must meet water quality standards;
- The permitted discharge will be authorized by a Section 404 Corps of Engineers Permit, will undergo a similar review process in the issuance of that permit, and will be issued a 401 certification by the department, indicating compliance with the state's antidegradation provisions; or
- Other: This permit does not authorize an increase in effluent limits.

*An antidegradation review is not required where the proposal is to maintain or improve the existing effluent levels and conditions. Proposals for increased effluent levels, in these categories of activities are subject to review.

No further review required.

ANTIDegradation REVIEW SUMMARY

2. The outcome of the review is:
- A formal antidegradation review was not required for reasons stated in this worksheet. Any permitted discharge must ensure water quality standards will not be violated.
 - The review has determined that degradation of water quality should not be allowed. Any permitted discharge would have to meet effluent limits or conditions that would not result in any degradation estimated through appropriate modeling techniques based on ambient water quality in the receiving stream, or pursue an alternative to discharging to the waterbody.
 - The review has determined that the discharge will cause an insignificant change in water quality in the receiving stream. The appropriate agency may proceed with permit issuance with the appropriate conditions to ensure water quality standards are met.
 - The review has determined, with public input, that the permitted discharge is allowed to discharge effluent at concentrations determined through a total maximum daily load (TMDL). The TMDL will determine the appropriate effluent limits based on the upstream ambient water quality and the water quality standard(s) of the receiving stream.
 - The review has determined that the discharge is allowed. However, the full assimilative capacity of the receiving stream cannot be used in developing the permit effluent limits or conditions. In this case, a TMDL must be completed based on the upstream ambient water quality and the assimilative capacity allowed by the antidegradation review.
 - Other: _____

3. Describe any other requirements to implement antidegradation or any special conditions That are required as a result of this antidegradation review: _____

Tina Piroutek
Reviewer

October 13, 2011
Date

Kelli D. Buscher, P.E.
Team Leader

October 13, 2011
Date

ATTACHMENT 3

Monitoring Data-Outfall 002

	Total Alkalinity (as CaCO ₃)		BOD ₅	Conductivity		Total Flow	Ammonia (as N)	pH		Total Dissolved Solids (TDS)		Total Suspended Solids (TSS)	Temperature	
	30 Day Avg	Daily Max	Daily Max	30 Day Avg	Daily Max	Monthly Total	Daily Max	Daily Min	Daily Max	30 Day Avg	Daily Max	Daily Max	30 Day Avg	Daily Max
Limit	750 mg/L	1313 mg/L	N/A mg/L	4000 umho/cm	7000 umho/cm	N/A gal	N/A mg/L	6.5 SU	9 SU	2500 mg/L	4375 mg/L	N/A mg/L	N/A	N/A
07/31/2006	308	308	2.7	2,040	2,040	39,228	0.06	7.58	7.58	1,504	1,504	4.4	16.5	16.5
08/31/2006	274	274	NR	3,250	3,250	33,123	NR	7.51	7.51	2,325	2,325	NR	16	16
09/30/2006	350	350	NR	2,540	2,540	30,686	NR	7.6	7.6	2,007	2,007	NR	15.1	15.1
10/31/2006	342	342	2.3	8,050	8,050	633,905	0.5	7.34	7.34	5,463	5,463	0.9	14.2	14.2
11/30/2006	292	292	NR	7,620	7,620	610,666	NR	7.28	7.28	5,337	5,337	NR	14.2	14.2
12/31/2006	295	295	NR	2,560	2,560	631,806	NR	NS	7.49	1,897	1,897	NR	14	14
01/31/2007	232	232	2.9	1,311	1,311	631,176	0.12	7.62	7.62	883	883	1.5	14	14
02/28/2007	211	211	NR	9,380	9,380	575,809	NR	7.85	7.85	5,843	5,843	NR	14.6	14.6
03/31/2007	227	227	NR	1,758	1,758	639,035	NR	7.87	7.87	1,091	1,091	NR	14.8	14.8
04/30/2007	225	225	2.8	3,730	3,730	612,958	0.12	NS	7.8	2,134	2,134	1	15.6	15.6
05/31/2007	225	225	NR	1,970	1,970	636,448	NR	NS	7.52	1,243	1,243	NR	16.2	16.2
06/30/2007	235	235	NR	1,360	1,360	623,556	NR	NS	7.83	979	979	NR	16.5	16.5
07/31/2007	216	216	2.8	5,230	5,230	670,710	0.08	7.74	7.74	2,900	2,900	0.5	17.8	17.8
08/31/2007	271	271	NR	2,050	2,050	646,663	NR	7.65	7.65	1,430	1,430	NR	17	17
09/30/2007	242	242	NR	3,310	3,310	626,643	NR	7.76	7.76	2,105	2,105	NR	17.5	17.5
10/31/2007	281	281	NR	3,380	3,380	664,170	NR	7.23	7.22	2,380	2,380	NR	15.5	15.5
11/30/2007	294	294	2.6	3,710	3,710	624,582	0.11	7.83	7.83	2,405	2,405	1	14.4	14.4
12/31/2007	267	267	NR	2,380	2,380	635,477	NR	7.9	7.9	1,491	1,491	NR	14.9	14.9
01/31/2008	276	276	2.6	8,790	8,798	632,395	0.04	7.92	7.92	5,580	5,580	1	14.6	14.6
02/29/2008	292	292	NR	2,560	2,560	593,404	NR	7.69	7.69	1,806	1,806	NR	13.6	13.6
03/31/2008	286	286	NR	2,650	2,650	635,632	NR	7.67	7.67	1,828	1,828	NR	12.7	12.7
04/30/2008	210	210	2.6	6,300	6,300	617,500	0.26	7.7	7.7	3,621	3,621	1.1	14.8	14.8
05/31/2008	288	288	NR	1,995	1,995	633,965	NR	7.61	7.61	1,619	1,619	NR	14	14

	Total Alkalinity (as CaCO ₃)		BOD ₅	Conductivity		Total Flow	Ammonia (as N)	pH		Total Dissolved Solids (TDS)		Total Suspended Solids (TSS)	Temperature	
	30 Day Avg	Daily Max	Daily Max	30 Day Avg	Daily Max	Monthly Total	Daily Max	Daily Min	Daily Max	30 Day Avg	Daily Max	Daily Max	30 Day Avg	Daily Max
Limit	750 mg/L	1313 mg/L	N/A mg/L	4000 umho/cm	7000 umho/cm	N/A gal	N/A mg/L	6.5 SU	9 SU	2500 mg/L	4375 mg/L	N/A mg/L	N/A	N/A
06/30/2008	295	295	NR	2,460	2,460	627,169	NR	7.63	7.63	1,934	1,934	NR	14.4	14.4
07/31/2008	306	306	2.6	2,980	2,980	649,473	0.26	7.53	7.53	2,444	2,444	26.8	14.2	14.2
08/31/2008	319	319	NR	2,790	2,790	649,656	NR	7.56	7.56	2,687	2,687	NR	14.2	14.2
09/30/2008	311	311	NR	2,030	2,030	630,400	NR	7.95	7.95	1,720	1,720	NR	13.8	13.8
10/31/2008	344	344	2.8	2,230	2,230	657,790	0.13	7.83	7.83	1,864	1,864	14.8	13.4	13.4
11/30/2008	324	324	NR	3,810	3,810	631,850	NR	7.78	7.78	2,624	2,624	NR	13.4	13.4
12/31/2008	318	318	NR	2,520	2,520	646,068	NR	7.74	7.74	1,910	1,910	NR	12.4	12.4
01/31/2009	306	306	BD	2,250	2,250	654,078	0.05	7.53	7.53	1,823	1,823	4.3	12.8	12.8
02/28/2009	304	304	NR	4,500	4,500	587,795	NR	7.76	7.76	3,017	3,017	NR	13.2	13.2
03/31/2009	320	320	NR	4,910	4,910	652,636	NR	7.7	7.7	3,278	3,278	NR	13	13
04/30/2009	312	312	BD	2,330	2,330	636,332	0.04	7.71	7.71	1,702	1,702	3	14.2	14.2
05/31/2009	304	304	NR	2,100	2,100	656,188	NR	7.54	7.54	1,722	1,722	NR	13.8	13.8
06/30/2009	299	299	NR	4,850	4,850	637,961	NR	7.33	7.33	3,324	3,324	NR	14.1	14.1
07/31/2009	317	317	BD	2,510	2,510	657,030	0.08	7.66	7.66	2,033	2,033	3.4	13.8	13.8
08/31/2009	298	298	NR	2,680	2,680	660,246	NR	7.41	7.41	2,138	2,138	NR	14.3	14.3
09/30/2009	295	295	NR	3,240	3,240	634,898	NR	7.17	7.17	2,493	2,493	NR	14.3	14.3
10/31/2009	304	304	BD	3,320	3,320	665,642	BD	7.36	7.36	2,559	2,559	1.1	14.2	14.2
11/30/2009	310	310	NR	2,055	2,055	631,731	NR	7.41	7.41	1,704	1,704	NR	14.3	14.3
12/31/2009	283	283	NR	1,807	1,807	638,024	NR	7.37	7.37	1,400	1,400	NR	15	15
01/31/2010	294	294	BD	2,045	2,045	1,082,96	0.02	7.41	7.41	1,569	1,569	11.3	13.4	13.4
02/28/2010	287	287	NR	1,891	1,891	955,243	NR	7.67	7.67	1,601	1,601	NR	14.7	14.7
03/31/2010	301	301	NR	3,180	3,180	1,084,71	NR	7.32	7.32	1,926	1,926	NR	14.2	14.2
04/30/2010	294	294	BD	1,377	1,377	221,714	0.01	7.26	7.26	968	968	11.4	14.5	14.5
05/31/2010	311	311	NR	1,370	1,370	226,492	NR	7.06	7.06	954	954	NR	14.8	14.8

	Total Alkalinity (as CaCO ₃)		BOD ₅	Conductivity		Total Flow	Ammonia (as N)	pH		Total Dissolved Solids (TDS)		Total Suspended Solids (TSS)	Temperature	
	30 Day Avg	Daily Max	Daily Max	30 Day Avg	Daily Max	Monthly Total	Daily Max	Daily Min	Daily Max	30 Day Avg	Daily Max	Daily Max	30 Day Avg	Daily Max
Limit	750 mg/L	1313 mg/L	N/A mg/L	4000 umho/cm	7000 umho/cm	N/A gal	N/A mg/L	6.5 SU	9 SU	2500 mg/L	4375 mg/L	N/A mg/L	N/A	N/A
06/30/2010	303	303	NR	1,962	1,962	907,593	NR	7.33	7.33	1,494	1,494	NR	15.2	15.2
07/31/2010	258	258	BD	1,410	1,410	784,685	0.03	7.58	7.58	990	990	0.4	17.3	17.3
08/31/2010	281	281	NR	1,468	1,468	724,213	NR	7.47	7.47	1,052	1,052	NR	16.4	16.4
09/30/2010	254	254	NR	1,482	1,482	890,165	NR	7.53	7.53	1,082	1,082	NR	16.7	16.7
10/31/2010	271	271	2	1,899	1,899	760,283	0.02	7.33	7.33	1,449	1,449	1.1	15	15
11/30/2010	286	286	NR	2,150	2,150	693,672	NR	7.34	7.34	1,629	1,629	NR	14.7	14.7
12/31/2010	332	332	NR	2,230	2,230	816,365	NR	7.25	7.25	1,694	1,694	NR	15	15
01/31/2011	297	297	BD	1,823	1,823	1,033,13	0.02	7.62	7.62	1,443	1,443	2	16	16
02/28/2011	301	301	NR	1,944	1,944	950,590	NR	7.5	7.5	1,568	1,568	NR	14.6	14.6
03/31/2011	303	303	NR	2,160	2,160	1,002,88	NR	7.53	7.53	1,639	1,639	NR	15	15
04/30/2011	321	321	BD	2,270	2,270	988,317	0.02	7.54	7.54	1,764	1,764	1	15.6	15.6
05/31/2011	306	306	NR	1,237	1,237	862,995	NR	7.65	7.65	1,839	1,839	NR	16	16
06/30/2011	378	378	NR	2,900	2,900	749,486	NR	7.58	7.58	2,226	2,226	NR	16.3	16.3

Notes:

BD is Below Detection. Pollutant concentrations were too small to be measured.

NR is Not Required. No sample was required for this parameter during the monitoring period.

NS is No Sample. No sample is available for these parameters.

Violations are bolded, shaded, and larger font.