4.0 SPECIFIC CONDUCTANCE

During the 2002 SWQB intensive water quality survey, exceedences of the NM water quality criteria for specific conductance (SC) were documented in the following assessment units (20.6.4.309 NMAC):

- Caliente Canyon (Vermejo River to headwaters)
- Vermejo River (Rail Canyon to York Canyon)
- York Canyon (Vermejo River to headwaters)
- Coyote Creek (Mora River to Black Lake)
- Mora River (Hwy 434 to headwaters)

According to the NM WQS (Paragraph (1) of Subsection (B) of 20.6.4.309 NMAC), the standard for SC reads:

> *In any single sample: specific conductance 500 µmhos/cm or less. . .*

The following subsections present the SC TMDLs for these five assessment units.

4.1 Target Loading Capacity

Target values for these SC TMDLs will be determined based on 1) the presence of numeric criteria, 2) the degree of experience in applying the indicator, and 3) the ability to easily monitor and produce quantifiable and reproducible results. For this TMDL document, target values for SC are based on the reduction in total dissolved solids (TDS) necessary to achieve numeric SC criteria.

The NM Water Quality Control Commission (WQCC) has adopted a numeric water quality criterion for SC to protect the designated use of High Quality Coldwater Aquatic Life (HQCWAL). The HQCWAL use designation requires that a stream have water quality, streambed characteristics, and other attributes of habitat sufficient to protect and maintain HQCWAL. As mentioned in Section 4.0, the numeric criteria for SC applicable to the five assessment units is 500 µmhos/cm.

4.2 Flow

SC in a stream can vary as a function of flow. As flow decreases, the concentration of TDS can increase, thereby increasing the SC. Similarly, as flows decline, temperatures have a tendency to increase, thus affecting SC values. These TMDLs are calculated for each reach at a specific flow.

The flow values used to calculate the TMDL for SC on these assessment units were obtained using a 4-day, 3-year low-flow frequency (4Q3) regression model. The 4Q3 is the annual lowest 4 consecutive day period discharge that will not fall below that discharge at least every 3 years

(Waltemeyer 2002). Low flow was chosen as the critical flow because of the negative effect decreasing, or low, flows have on SC.

The 4Q3 for Vermejo River (Rail Canyon to York Canyon) and Coyote Creek (Mora River to Black Lake) is based on USGS gage data. Vermejo River near Dawson, NM (USGS Gage 07203000) was used for the Vermejo River and Coyote Creek near Golondrinas, NM (USGS Gage 07218000) was used for Coyote Creek. The 4Q3 was estimated using the USGS A193 calculation for Log Pearson Type III distribution through DFLOW software, Version 3.1 (USEPA 2006). DFLOW 3.1 is a Windows-based tool developed to estimate user selected design stream flows for low flow analysis. The calculated 4Q3s are as follows:

- Vermejo River (Rail Canyon to York Canyon) = 0.99 cfs
- Coyote Creek (Mora River to Black Lake) = 0.48 cfs

It is often necessary to calculate a critical flow for a portion of a watershed where there is no active flow gage as in Caliente Canyon, York Canyon, and the upper Mora River. 4Q3 derivations for ungaged streams were based on analysis methods described by Waltemeyer (2002). In this analysis, two regression equations for estimating 4Q3 were developed based on physiographic regions of NM (i.e., statewide and mountainous regions above 7,500 feet in elevation). The following statewide regression equation is based on data from 50 gaging stations with non-zero discharge (Waltemeyer 2002):

$$4Q3 \quad = \quad 1.2856 \times 10^{-4} \; DA^{0.42} \; P_w^{\;3.16} \qquad \text{(Eq. 1)}$$

where,

4Q3 = Four-day, three-year low-flow frequency (cfs)
DA = Drainage area (mi^2)
P_w = Average basin mean winter precipitation (inches)

The average standard error of estimate (SEE) and coefficient of determination are 126 and 48 percent, respectively, for this regression equation (Waltemeyer 2002). The following regression equation for mountainous regions above 7,500 feet in elevation is based on data from 40 gaging stations with non-zero discharge (Waltemeyer 2002):

$$4Q3 \quad = \quad 7.3287 \times 10^{-5} \; DA^{0.70} \; P_w^{\;3.58} \; S^{1.35} \qquad \text{(Eq. 2)}$$

where,

S = Average basin slope (percent).

The average SEE and coefficient of determination are 94 and 66 percent, respectively, for this regression equation (Waltemeyer 2002). The 4Q3s for Caliente Canyon, York Canyon, and the upper Mora River were estimated using the regression equation for mountainous regions because the mean elevations for these assessment units were above 7,500 feet in elevation (Table 4.1).

Table 4.1 Calculation of 4Q3 Low-Flow Frequencies

Assessment Unit	Average Elevation (ft.)	Drainage Area (mi^2)	mean winter precipitation (in.)	Average basin slope (percent)	4Q3 (cfs)
Caliente Canyon (Vermejo River to headwaters)	7628	73.38	6.20	19.7	0.114
York Canyon (Vermejo River to headwaters)	8156	29.86	6.90	22.6	0.107
Mora River (Hwy 434 to headwaters)	8927	144.49	11.3	26.0	2.276

The 4Q3 values were converted from cubic feet per second (cfs) to units of million gallons per day (MGD) as follows:

$$_____ \frac{\text{ft}^3}{\text{sec}} \times 1{,}728 \frac{\text{in}^3}{\text{ft}^3} \times 0.004329 \frac{\text{gal}}{\text{in}^3} \times 86{,}400 \frac{\text{sec}}{\text{day}} \times 10^{-6} = _____ \text{MGD}$$

It is important to remember that the TMDL itself is a value calculated at a defined critical condition, and is calculated as part of planning process designed to achieve water quality standards. Since flows vary throughout the year in these systems, the actual load at any given time will vary based on the changing flow. Management of the load to improve stream water quality should be a goal to be attained.

4.3 Calculations

SC may be used to estimate the total ion concentration of a surface water sample, and is often used as an alternative measure of dissolved solids. In order to calculate a load in pounds per day (lb/day), TDS is used as a surrogate for SC. The TDS to SC ratio ranges from 0.5 to 0.9 milligrams per liter (mg/L)/microhos per centimeter (μmhos/cm) (American Public Health Association [APHA] 1998). Specific correlation should be derived by site, if TDS values are available.

TDS values were obtained for these assessment units during the 2002 SWQB/NMED sampling season. These values as well as the SC values are located in Table 4.7 at the end of this section. The TDS to SC ratio values were calculated, and averaged, resulting in TDS:SC ratios of:

- Caliente Canyon (Vermejo River to headwaters): TDS:SC = 0.74
- Vermejo River (Rail Canyon to York Canyon): TDS:SC = 0.65
- York Canyon (Vermejo River to headwaters): TDS:SC = 0.68
- Coyote Creek (Mora River to Black Lake): TDS:SC = 0.70
- Mora River (Hwy 434 to headwaters): TDS:SC = 0.72

The NM WQS to protect the designated HQCWAL use states that SC 500 μmhos/cm or less. The TDS concentration required to achieve the applicable WQS is defined by **Equation 3**.

$$\text{TDS (mg/L)} \cong \text{SC } (\mu\text{mhos/cm}) \times \text{(ratio)} \qquad \text{(Eq. 3)}$$

Using the above mentioned reference ratios and an SC value of 500 μmhos/cm, the TDS concentrations required to achieve NM WQS are:

- Caliente Canyon (Vermejo River to headwaters)

  500 μmhos/cm x (0.74) ≅ 370 mg/L of TDS

- Vermejo River (Rail Canyon to York Canyon)

  500 μmhos/cm x (0.65) ≅ 325 mg/L of TDS

- York Canyon (Vermejo River to headwaters)

  500 μmhos/cm x (0.68) ≅ 340 mg/L of TDS

- Coyote Creek (Mora River to Black Lake)

  500 μmhos/cm x (0.70) ≅ 350 mg/L of TDS

- Mora River (Hwy 434 to headwaters)

  500 μmhos/cm x (0.72) ≅ 360 mg/L of TDS

For the purpose of TMDL development, these TDS criteria were used. The TMDLs were developed based on simple dilution calculations using 4Q3 flow and the TDS criteria above (from **Equation 3**). The TMDL calculation includes wasteload allocations (WLAs), load allocations (LAs), and a margin of safety (MOS).

Target loads for TDS are calculated based on the 4Q3 flow, the calculated target TDS concentration based on the current WQS for SC, and a conversion factor of 8.34, that is used to convert mg/L units to pounds per day (lbs/day) (see **Appendix A** for conversion factor derivation).

Critical Flow (MGD) x Target TDS Concentration (mg/L) x 8.34 = Target Loading Capacity (Eq. 4)

The target loads (TMDLs) predicted to attain standards were calculated using **Equation 4** and are shown in Table 4.2.

Table 4.2 Calculation of Target Loads for TDS (SC surrogate)

Assessment Unit	Flow[(a)] (MGD)	Target TDS[(b)] Concentration (mg/L)	Conversion Factor[(c)]	Target Load Capacity (lbs/day)
Caliente Canyon (Vermejo River to headwaters)	0.074	370	8.34	228
Vermejo River (Rail Canyon to York Canyon)	0.640	325	8.34	1734
York Canyon (Vermejo River to headwaters)	0.069	340	8.34	196
Coyote Creek (Mora River to Black Lake)	0.310	350	8.34	905
Mora River (Hwy 434 to headwaters)	1.471	360	8.34	4417

Notes:
[(a)] Flow is the 4Q3 value calculated on the previous pages converted from cubic feet per second to million gallons per day.
[(b)] TDS is used as a surrogate measure for SC in order to calculate a load in lbs/day.
[(c)] Conversion factor used to convert mg/L to lbs/day (See **Appendix A**).
MGD = Million gallons per day
mg/L = Milligrams per liter
lbs/day = Pounds per day

Background loads were not possible to calculate in this watershed. A reference reach, having similar stream channel morphology and flow, was not found. It is assumed that all or a portion of the LA is made up of natural background loads. In future water quality surveys, finding a suitable reference reach will be a priority.

The measured loads were also calculated using **Equation 4**. In order to achieve comparability between the target and measured loads, the flow rate used was the same for both calculations. The same conversion factor of 8.34 was used. Results are presented in Table 4.3.

Table 4.3 Calculation of Measured Loads for TDS (SC surrogate)

Assessment Unit	Flow[(a)] (MGD)	Field[(b)] TDS (mg/L)	Conversion Factor[(c)]	Measured Load (lbs/day)
Caliente Canyon (Vermejo River to headwaters)	0.074	482	8.34	297
Vermejo River (Rail Canyon to York Canyon)	0.640	384	8.34	2049
York Canyon (Vermejo River to headwaters)	0.069	809	8.34	466
Coyote Creek (Mora River to Black Lake)	0.310	320	8.34	827
Mora River (Hwy 434 to headwaters)	1.471	405	8.34	4969

Notes:
[(a)] Flow is the 4Q3 value calculated on the previous pages converted from cubic feet per second to million gallons per day.
[(b)] The field measurement is the arithmetic mean of the SC exceedences, converted to TDS (see Table 4.7).
[(c)] Conversion factor used to convert mg/L to lbs/day (See **Appendix A**).
MGD = Million gallons per day
mg/L = Milligrams per liter
lbs/day = Pounds per day

4.4 Waste Load Allocations and Load Allocations

4.4.1 Waste Load Allocation

There are no individually permitted point source facilities or MS4 storm water permits in these assessment units. TDS may be a component of some (primarily construction) storm water discharges so these discharges should be addressed.

In contrast to discharges from other industrial storm water and individual process wastewater permitted facilities, storm water discharges from construction activities are transient because they occur mainly during the construction itself, and then only during storm events. Coverage under the NPDES construction general storm water permit (CGP) requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) that includes identification and control of all pollutants associated with the construction activities to minimize impacts to water quality. In addition, the current CGP also includes state specific requirements to implement best management practices that are designed to prevent to the maximum extent practicable, an increase in sediment, or a parameter that addresses sediment (e.g., total suspended solids, turbidity, siltation, stream bottom deposits, etc.) and flow velocity during and after construction compared to pre-construction conditions. In this case, compliance with a SWPPP that meets the requirements of the CGP is generally assumed to be consistent with this TMDL.

Other industrial storm water facilities are generally covered under the current NPDES Multi-Sector General Storm Water Permit (MSGP). This permit also requires preparation of an SWPPP that includes identification and control of all pollutants associated with the industrial activities to minimize impacts to water quality. In addition, the current MSGP also includes state specific requirements to further limit (or eliminate) pollutant loading to water quality impaired/water quality limited waters from facilities where there is a reasonable potential to contain pollutants for which the receiving water is impaired. In this case, compliance with a SWPPP that meets the requirements of the MSGP is generally assumed to be consistent with this TMDL.

Therefore, this TMDL does not include a specific WLA for storm water discharges for these five assessment units, nor does it exclude these discharges.

4.4.2 Load Allocation

In order to calculate the LA, the WLA and MOS were subtracted from the target capacity (TMDL), as shown below in **Equation 5**.

$$WLA + LA + MOS = TMDL \qquad \text{(Eq. 5)}$$

Results using a MOS of 15% (as explained in Section 4.7), are presented in Table 4.4.

Table 4.4 Calculation of TMDL for TDS (SC Surrogate)

Assessment Unit	WLA (lbs/day)	LA (lbs/day)	MOS (15%) (lbs/day)	TMDL (lbs/day)
Caliente Canyon (Vermejo River to headwaters)	0	194	34	228
Vermejo River (Rail Canyon to York Canyon)	0	1474	260	1734
York Canyon (Vermejo River to headwaters)	0	167	29	196
Coyote Creek (Mora River to Black Lake)	0	769	136	905
Mora River (Hwy 434 to headwaters)	0	3754	663	4417

Notes:
WLA = Waste load allocation
MOS = Margin of safety
lbs/day = Pounds per day
LA = Load allocation
TMDL = Total maximum daily load

The load reduction that would be necessary to meet the target load was calculated to be the difference between the LA (Table 4.4) and the measured load (Table 4.3), and is shown in Table 4.5.

Table 4.5 Calculation of Load Reduction for TDS (SC Surrogate)

Assessment Unit	Target Load (lbs/day)	Measured Load (lbs/day)	Percent Reduction
Caliente Canyon (Vermejo River to headwaters)	194	297	35%
Vermejo River (Rail Canyon to York Canyon)	1474	2049	28%
York Canyon (Vermejo River to headwaters)	167	466	64%
Coyote Creek (Mora River to Black Lake)	769	827	7%
Mora River (Hwy 434 to headwaters)	3754	4969	24%

Notes:
lbs/day = Pounds per day
Target Load = WLA + LA
Percent reduction is the percent the existing measured load must be reduced to achieve the target load, and is calculated as follows: (Measured Load – Target Load) / Measured Load x 100.

4.5 Identification and Description of Pollutant Source(s)

Pollutant sources that could contribute to these waterbodies are listed in Table 4.6.

Table 4.6 Pollutant Source Summary

Pollutant	Magnitude[(a)] (lbs/day)	Location	Probable Sources* (% from each)
Point Source			
None	0	---	0
Nonpoint Source			
TDS	297	Caliente Canyon (Vermejo River to headwaters)	100% Natural Sources; Source Unknown
TDS	2049	Vermejo River (Rail Canyon to York Canyon)	100% Habitat Modification; Rangeland Grazing; Source Unknown
TDS	466	York Canyon (Vermejo River to headwaters)	100% Impacts from Abandoned Mine Lands (Inactive)
TDS	827	Coyote Creek (Mora River to Black Lake)	100% Natural Sources; Rangeland Grazing
TDS	4969	Mora River (Hwy 434 to headwaters)	100% Natural Sources; Rangeland Grazing; Silviculture Harvesting

Notes:

+ The magnitude is equal to the measured load (see Table 4.3 for details).

* From the 2006-2008 Integrated CWA §303(d)/§305(b) List. This list of probable sources is based on staff observation and known land use activities in the watershed. These sources are not confirmed or quantified at this time.

TDS = Total dissolved solids

lbs/day = Pounds per day

4.6 Link Between Water Quality and Pollutant Sources

TDS refers to the total amount of all inorganic and organic substances – including minerals, salts, metals, anions, and cations – that are dispersed within a volume of water. Higher concentrations of TDS may occur during and after precipitation events. In the United States, elevated TDS has been due to natural environmental features such as mineral springs, carbonate deposits, salt deposits, and silt, the decomposition of leaves and plankton, and the weathering erosion of rocks. Other sources may include stormwater and agricultural runoff, mining operations, industrial wastewater, and sewage.

The electrical conductivity of water is directly related to the concentration of dissolved solids in the water because TDS concentrations are equal to the sum of positively charged ions (cations) and negatively charged ions (anions) in the water. These electrically charged dissolved particles make ordinary natural water a good conductor of electricity. Conversely, pure water has a high electrical resistance, and resistance is frequently used as a measure of its purity.

Conductivity is measured in micromhos per centimeter (µmhos/cm) or microsiemens per centimeter (µs/cm). The conductivity of rivers in the United States generally ranges from 50 to 1500 µmhos/cm. Studies of inland fresh waters indicate that streams supporting good mixed fisheries have a range between 150 and 500 µhos/cm. Conductivity outside this range could indicate that the water is not suitable for certain species of fish or macroinvertebrates.

Conductivity in streams and rivers is affected primarily by the geology of the area through which the water flows. Streams that run through areas with granite bedrock tend to have lower conductivity because granite is composed of more inert materials that do not dissolve into ionic components when washed into the water. On the other hand, streams that run through areas with clay soils tend to have higher conductivity because of the presence of materials that ionize when washed into the water. Ground water inflows can have the same effects depending on the bedrock they flow through. In addition, discharges to streams can change the conductivity depending on their make-up. For example, a failing sewage system would raise the conductivity because of the presence of chloride, phosphate, and nitrate.

The components of a watershed continually change through natural ecological processes such as vegetation succession, erosion, and evolution of stream channels. Intrusive human activity often affects watershed function in ways that are inconsistent with the natural balance. These changes, often rapid and sometimes irreversible, occur when people:

- cut forests
- clear and cultivate land
- remove stream-side vegetation
- alter the drainage of the land
- channelize watercourses
- withdraw water for irrigation
- build towns and cities
- discharge pollutants into waterways.

Factors affecting TDS in a waterway include:

1. Increases or decreases in flow rates
    - heavy rains can pick up sand, silt, clay, and organic particles (such as leaves and soil) from the land and carry it to surface water destroying the aquatic habitat and harming and/or killing the aquatic life, but the actual concentration of TDS may decrease because of dilution by all that rainwater.
    - during low flow, there is not enough water in the stream for dilution to occur and TDS concentrations tend to increase. Therefore, sudden inputs

of concentrated pollutant, especially during low flow periods, can cause significant negative impacts to aquatic organisms.

2. Soil erosion caused by disturbance of a land surface
   - increases TDS in the water
   - reduces transmission of sunlight needed for photosynthesis
   - interferes with animal behaviors dependent on sight (foraging, mating, and escape from predators)
   - impedes respiration (e.g., by gill abrasion in fish) and digestion
   - reduces oxygen in the water
3. Clearing of trees and shrubs from shorelines
   - destabilizes banks and promote erosion
   - increases sedimentation and turbidity
   - reduces shade and increase water temperature which could disrupt fish metabolism
   - causes channels to widen and become more shallow, increasing temperatures

Where data gaps exist or the level of uncertainty in the characterization of sources is large, the recommended approach to TMDL assignments requires the development of allocations based on estimates utilizing the best available information.

SWQB fieldwork includes an assessment of the probable sources of impairment (NMED/SWQB 1999). The completed *Pollutant Source(s) Summary Table* in **Appendix B** provides documentation of a visual analysis of probable sources along an impaired reach. Although this procedure is subjective, SWQB feels that it provides the best available information for the identification of probable sources of impairment in this watershed. Staff completing these forms identify and quantify probable sources of NPS impairments along each reach as determined by field reconnaissance and assessment. It is important to consider not only the land directly adjacent to the stream, which is predominantly privately held, but also to consider upland and upstream areas in a more holistic watershed approach to implementing this TMDL.

The main sources of impairment along these assessment units appear to be natural or unknown sources, habitat modification, rangeland grazing, impacts from inactive mines, and silviculture harvesting.

4.7 Margin of Safety

TMDLs should reflect a MOS based on the uncertainty or variability in the data, the point and nonpoint source load estimates, and the modeling analysis. The MOS for SC is estimated to be 15 percent of the TMDL. This MOS incorporates several factors:

- Errors in calculating nonpoint source loads

  A level of uncertainty exists in sampling nonpoint sources of pollution. Accordingly, a conservative MOS equals 10 percent of the TMDL.

- Errors in calculating flow

  Flow estimates were based on the estimation of the 4Q3 for gaged and ungaged streams and compared to actual flows and cross-sectional information taken in the field. Techniques used for measuring flow in water have a ±5 percent precision. Accordingly, a conservative MOS equals 5 percent of the TMDL.

4.8 Consideration of Seasonal Variation

Data used in the calculation of this TMDL were collected during high and low flow seasons in order to ensure coverage of any potential seasonal variation in the system. As shown in Table 4.7, exceedences were observed from May through October, which are months that capture the spring runoff, summer monsoonal rains, and baseflow conditions. The critical condition used for calculating the TMDL was low flow.

4.9 Future Growth

Estimates of future growth are not anticipated to lead to a significant increase in SC that cannot be controlled with best management practice (BMP) implementation in this watershed.

Table 4.7 SC and TDS Measurements from 2002 Sampling Survey

Location	Sample Date	SC (µmhos/cm)	TDS (mg/L)	Site-Specific TDS to SC Ratio
Caliente Canyon above Vermejo River	05-07-2002	***633****	382	0.60
	08-01-2002	***671****	591	0.88
			Average	**0.74**
Arithmetic Mean of Exceedences Converted to TDS = 652 x 0.74 = 484 mg/L				
Vermejo River above Caliente Canyon	04-09-2002	481	287	0.60
	05-07-2002	***552****	324	0.59
	06-05-2002	***625****	375	0.60
	07-03-2002	***656****	424	0.65
	08-01-2002	***570****	416	0.73
	08-28-2002	***636****	432	0.68
	10-17-2002	***616****	430	0.70
			Average	**0.65**
Arithmetic Mean of Exceedences Converted to TDS = 591 x 0.65 = 383 mg/L				
York Canyon Creek above Vermejo River	04-09-2002	***1237****	768	0.62
	05-07-2002	***1205****	784	0.65
	06-05-2002	***1225****	720	0.59
	07-03-2002	***1331****	790	0.59
	08-01-2002	***1268****	920	0.73
	08-28-2002	***1359****	922	0.68
	09-18-2002	***1030****	606	0.59
	10-17-2002	***867****	856	0.99
			Average	**0.68**
Arithmetic Mean of Exceedences Converted to TDS = 1190 x 0.68 = 808 mg/L				
Coyote Creek 1 mile abv Mora R. at Thal Ranch	04-02-2002	***637****	464	0.73
	05-01-2002	***621****	410	0.66
	06-05-2002	***781****	522	0.67
	07-02-2002	***813****	488	0.60
	07-31-2002	***799****	538	0.67
	08-27-2002	***749****	496	0.66
	09-17-2002	***665****	468	0.70
	10-16-2002	***715****	450	0.63
	11-10-2004	***596****	394	0.66
Coyote Creek at Coyote State Park above USGS gage	04-02-2002	235	180	0.77
	05-02-2002	259	136	0.53
	06-04-2002	290	220	0.76
	07-02-2002	281	194	0.69
	07-30-2002	269	190	0.71
	08-27-2002	282	192	0.68
	09-17-2002	240	220	0.92
	10-16-2002	246	178	0.72
Coyote Creek below Black Lake at HWY 434	05-02-2002	216	108	0.50
	07-31-2002	247	190	0.77
	10-16-2002	207	206	0.995
			Average	**0.70**
Arithmetic Mean of Exceedences Converted to TDS = 469 x 0.70 = 327 mg/L				

Location	Sample Date	SC (µmhos/cm)	TDS (mg/L)	Site-Specific TDS to SC Ratio
Mora River at Chacon 0.6 miles above gage	04-01-2002	***577****	432	0.75
	05-01-2002	***581****	352	0.61
	06-03-2002	***567****	374	0.66
	07-01-2002	***571****	416	0.73
	07-30-2002	***541****	378	0.70
	08-27-2002	***570****	414	0.73
	09-17-2002	389	506	1.30
	10-15-2002	***656****	480	0.73
	05-16-2006	***509****	-	-
	08-03-2006	***574****	-	-
	09-27-2006	498	336	0.67
Mora River at Cleveland by bridge on Church Road	04-01-2002	***584****	410	0.70
	05-01-2002	***558****	343	0.61
	06-03-2002	***598****	420	0.70
	07-01-2002	***589****	382	0.65
	07-30-2002	***581****	364	0.63
	08-27-2002	***586****	372	0.63
	09-17-2002	***588****	424	0.72
	10-15-2002	***586****	408	0.70
	05-16-2006	***599****	-	-
	08-03-2006	***525****	-	-
	09-27-2006	***528****	356	0.67
			Average	**0.72**
Arithmetic Mean of Exceedences Converted to TDS = 564 x 0.72 = 404 mg/L				

Notes:
SC = Specific conductance
µmhos/cm = microhos per centimeter
* = Exceeds water quality criterion for SC
TDS = Total dissolved solids
mg/L = Milligrams per liter