# ATTACHMENT 7

# EFFLUENT/SLUDGE/GROUND WATER LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/STREAM MODELING/ ANTIDEGRADATION/ANTIBACKSLIDING

**THE EFFLUENT LIMITATIONS AND MONITORING RATIONALE ARE BASED ON THE FOLLOWING:**

**Outfall 001**

**FLOW –** The current design flow of the facility is 0.024 million gallons per day (MGD). Flow monitoring is continuous and is estimated in MGD. This monitoring frequency and sample type are in accordance with guidance for this size facility and should be appropriate for assessment of treatment plant capacity.

**pH –** The limits of 6.0 S.U. (minimum) to 9.0 S.U. (maximum) are set to protect water quality. This facility discharges to an intermittent stream (zero 7Q10 and 1Q10) so these limits will insure compliance with water quality standards.

The monitoring frequency is set at once per day and the sample type is grab (required for pH). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.

**$cBOD_5$ –** The limit of 14 mg/l (monthly average) was based on a water quality model and is carried over from the previous permit. The mass limit of 1.27 kg/d (monthly average) was calculated based on the design flow of 0.024 MGD. The weekly average limit of 21 mg/l, which was set at 1.5 times the noted monthly average value, is based on what EPA uses in their guidelines for secondary treatment. The mass limit of 1.9 kg/d (weekly average) was calculated based on the design flow of 0.024 MGD.

The monitoring frequency is once per month and the sample type is grab (based on the design flow). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards.

**TSS –** The limits of 30 mg/l (monthly average) and 45 mg/l (weekly average) are based on technology [secondary treatment limits as per Federal effluent guidelines (40 CFR 133)], are carried over from the previous permit and, are protective of water quality. The mass limits of 2.7 kg/d (monthly average) and 4.08 kg/d (weekly average) were calculated based on the design flow of 0.024 MGD.

The monitoring frequency is once per month and the sample type is grab (based on the design flow). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards.

**TKN-** The limits of 7.0 mg/l (monthly average) and 10.5 mg/l (weekly average) are based on a water quality model, are carried over from the previous permit and, are protective of the ammonia criteria. The mass limits of 0.63 kg/d (monthly average) and 0.95 kg/d (weekly average) were calculated based on the design flow of 0.024 MGD.

The monitoring frequency is once per month and the sample type is grab (based on the design flow). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards.

**DO -** The dissolved oxygen limit of 6.0 mg/l (minimum) is set to protect water quality standards. This level of dissolved oxygen is necessary in order to allow the permitted $cBOD_5$ and TKN limits.

The monitoring frequency is once per day and the sample type is grab (required for dissolved oxygen). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards.

*E. Coli* - The facility utilizes ultraviolet disinfection. The limit of 126 N/MCL (geometric mean) insures both proper disinfection and protection of water quality. The monitoring frequency is three days per week (based on the design flow) and the sample type is grab (required for *E. coli*). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards.

## Evaluation for Reduced Monitoring Due to Exemplary Facility Operations

In accordance with the Guidance Memorandum No. 98-2005 and the VPDES permit manual, facility's having exemplary operations that consistently meet permit requirements are eligible for reduced permit monitoring. With this reissuance, an evaluation was completed to determine if the facility was eligible.

Two factors are evaluated for eligibility. The first is "Did the facility receive any form of compliance notice of violation?" and the second is based on effluent quality. During the last permit term, the facility received several Notice of Violation letters for BOD and TSS, therefore, they do not meet the initial entrance criteria. Attachment 7 presents applicable data reported on DMRs for the period of record from March 2006 through August 2008. Based on these records, the facility did not qualify for any reduced monitoring.

**VA0062031 - 2009 Reissuance**
**Temp Data from Monthly Operation Logs**
**Annual Average**

| Monitoring Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| August-08 | 25.1 | 25.0 | 24.4 | 24.1 | 24.3 | 24.8 | 25.1 | 24.6 | 23.6 | 23.2 | 23.2 | 22.6 | 22.8 | 22.7 | 22.9 | 22.6 | 23.3 | 24.4 | 23.4 | 23.8 | 21.9 | 28.6 | 22.7 | 23.5 | 23.6 | 23.7 | 22.7 | 21.6 | 22.9 | 24.1 | 24.4 |
| July-08 | 22.5 | 23.9 | 22.9 | 23.2 | 23.1 | 24.2 | 23.9 | 23.4 | 23.3 | 23.6 | 24.8 | 24.4 | 23.9 | 23.9 | 23.8 | 23.8 | 26.6 | 23.7 | 24.6 | 25.5 | 25.1 | 25.3 | 24.1 | 24.7 | 23.4 | 23.8 | 24.2 | 24.5 | 24.2 | 24.4 | 25.2 |
| June-08 | 20.3 | 20.4 | 20.4 | 20.9 | 21.0 | 21.2 | 22.2 | 23.4 | 23.8 | 25.3 | 23.7 | 23.7 | 23.5 | 23.4 | 23.4 | 23.2 | 23.0 | 22.6 | 20.9 | 21.9 | 21.8 | 23.7 | 22.4 | 22.3 | 22.7 | 23.3 | 23.0 | 24.1 | 23.6 | 23.4 | |
| May-08 | 17.1 | 17.1 | 18.7 | 19.6 | 18.4 | 18.3 | 18.6 | 18.6 | 18.5 | 19.0 | 16.9 | 16.8 | 17.4 | 17.3 | 17.1 | 17.6 | 16.6 | 17.4 | 17.9 | 17.8 | 17.7 | 17.8 | 17.9 | 17.2 | 16.8 | 17.4 | 19.9 | 18.6 | 19.3 | 19.8 | 20.3 |
| April-08 | 13.8 | 14.0 | 13.0 | 13.1 | 13.6 | 13.5 | 13.1 | 12.7 | 13.6 | 17.7 | 17.2 | 16.9 | 13.9 | 13.2 | 13.4 | 12.4 | 13.1 | 14.4 | 15.9 | 16.0 | 15.8 | 15.9 | 16.1 | 16.5 | 18.1 | 18.2 | 17.1 | 16.7 | 16.6 | 14.9 | |
| March-08 | 9.8 | 10.3 | 10.9 | 10.9 | 10.7 | 10.8 | 11.0 | 10.6 | 9.7 | 9.8 | 10.8 | 12.3 | 11.1 | 12.1 | 13.5 | 13.2 | 12.7 | 11.6 | 12.5 | 13.6 | 12.6 | 11.9 | 11.8 | 11.6 | 11.3 | 11.4 | 13.6 | 13.8 | 13.7 | 12.0 | 13.0 |
| February-08 | 8.4 | 9.6 | 10.3 | 10.6 | 12.8 | 13.1 | 11.8 | 12.3 | 12.9 | 11.2 | 9.3 | 8.8 | 9.8 | 10.1 | 11.4 | 12.1 | 10.4 | 11.4 | 11.1 | 11.1 | 9.4 | 9.6 | 9.8 | 10.2 | 10.4 | 10.7 | 10.2 | 9.8 | 9.6 | | |
| January-08 | 9.9 | 9.3 | 9.1 | 9.6 | 9.7 | 11.3 | 11.8 | 12.7 | 12.9 | 11.8 | 11.1 | 11.5 | 11.2 | 10.9 | 11.0 | 10.9 | 9.9 | 10.4 | 9.3 | 9.2 | 8.9 | 8.9 | 9.7 | 9.9 | 10.2 | 8.8 | 9.5 | 9.8 | 10.6 | 10.3 | 10.5 |
| December-07 | 13.2 | 13.7 | 13.6 | 12.9 | 11.2 | 10.9 | 10.4 | 10.3 | 12.5 | 13.5 | 13.3 | 15.4 | 13.0 | 13.1 | 12.7 | 11.3 | 10.9 | 10.9 | 10.7 | 11.3 | 11.4 | 11.9 | 12.1 | 11.3 | 11.4 | 11.5 | 11.3 | 11.2 | 11.3 | 10.8 | 10.5 |
| November-07 | 15.6 | 15.3 | 15.7 | 15.6 | 15.4 | 15.4 | 14.0 | 13.8 | 13.8 | 13.9 | 13.8 | 14.1 | 13.7 | 13.5 | 13.9 | 14.3 | 13.6 | 15.2 | 15.3 | 15.8 | 15.1 | 16.2 | 14.8 | 15.2 | 15.0 | 15.3 | 15.1 | 15.0 | 14.9 | 12.6 | |
| October-07 | 21.4 | 21.5 | 22.8 | 23.2 | 22.8 | 22.8 | 21.7 | 23.7 | 23.8 | 23.9 | 19.1 | 18.2 | 18.1 | 18.1 | 18.2 | 18.8 | 19.1 | 19.8 | 19.4 | 18.8 | 18.7 | 19.8 | 19.3 | 19.9 | 19.0 | 17.9 | 18.1 | 17.8 | 15.9 | 15.8 | 15.8 |
| September-07 | 22.6 | 22.9 | 22.6 | 23.2 | 23.2 | 23.5 | 23.4 | 23.4 | 23.2 | 23.4 | 24.0 | 24.0 | 23.6 | 23.8 | 22.1 | 21.8 | 21.6 | 21.2 | 20.8 | 21.4 | 21.6 | 21.9 | 22.6 | 22.9 | 22.2 | 22.4 | 22.6 | 22.8 | 20.1 | 21.6 | |
| August-07 | 23.1 | 23.1 | 23.7 | 23.6 | 23.6 | 23.9 | 23.8 | 24.1 | 24.2 | 25.0 | 25.5 | 25.3 | 25.3 | 25.1 | 24.9 | 25.3 | 24.5 | 23.8 | 23.9 | 23.7 | 23.9 | 24.3 | 24.9 | 25.0 | 24.6 | 24.7 | 24.9 | 24.8 | 24.9 | 25.1 | 25.2 |
| July-07 | 23.7 | 23.2 | 23.9 | 23.9 | 24.9 | 23.1 | 23.2 | 23.1 | 23.8 | 24.6 | 23.9 | 23.4 | 23.2 | 23.0 | 23.0 | 23.1 | 22.7 | 24.0 | 23.7 | 23.2 | 23.0 | 22.1 | 22.8 | 23.3 | 22.6 | 22.3 | 23.0 | 23.1 | 23.0 | 23.1 | 23.1 |
| June-07 | 21.0 | 21.3 | 20.3 | 20.5 | 20.1 | 20.6 | 21.1 | 21.5 | 21.6 | 22.0 | 22.6 | 22.8 | 22.9 | 21.7 | 20.1 | 20.2 | 20.8 | 21.8 | 22.2 | 22.6 | 22.9 | 23.1 | 22.7 | 22.1 | 22.3 | 22.7 | 23.9 | 23.8 | 23.5 | 23.1 | |
| May-07 | 17.7 | 18.9 | 17.8 | 16.9 | 16.9 | 16.7 | 17.2 | 16.4 | 19.1 | 19.8 | 19.0 | 20.3 | 21.6 | 18.4 | 21.3 | 19.6 | 18.8 | 18.0 | 17.1 | 17.3 | 19.1 | 20.8 | 21.2 | 20.4 | 20.9 | 21.6 | 20.8 | 21.1 | 21.2 | 21.1 | 21.2 |
| April-07 | 15.2 | 15.9 | 16.4 | 17.1 | 14.8 | 13.9 | 13.4 | 12.1 | 12.3 | 12.4 | 12.7 | 13.0 | 12.8 | 13.4 | 13.7 | 13.7 | 13.7 | 15.4 | 16.4 | 16.6 | 14.4 | 15.0 | 15.3 | 16.4 | 17.1 | 17.6 | 18.1 | 17.1 | 17.6 | 17.2 | |
| March-07 | 11.1 | 11.2 | 10.2 | 9.8 | 9.6 | 9.9 | 10.8 | 10.6 | 10.9 | 10.9 | 11.8 | 11.6 | 13.2 | 13.9 | 15.1 | 10.6 | 10.1 | 10.1 | 9.6 | 11.7 | 12.5 | 12.1 | 13.6 | 14.6 | 15.3 | 15.5 | 15.6 | 17.3 | 16.9 | 17.2 | 14.4 |
| February-07 | 8.2 | 8.7 | 8.7 | 8.6 | 6.6 | 5.4 | 7.2 | 7.1 | 7.3 | 6.5 | 6.4 | 6.5 | 8.0 | 7.2 | 6.5 | 7.3 | 7.1 | 7.8 | 7.6 | 8.9 | 9.6 | 11.4 | 9.9 | 10.0 | 10.0 | 10.3 | 10.1 | 10.1 | | | |
| January-07 | 11.7 | 11.3 | 10.7 | 11.2 | 11.1 | 12.4 | 12.8 | 11.3 | 10.8 | 9.4 | 10.7 | 10.9 | 11.7 | 11.8 | 12.1 | 11.9 | 11.1 | 10.5 | 9.8 | 9.3 | 9.1 | 9.4 | 9.8 | 10.1 | 9.8 | 8.9 | 9.2 | 9.4 | 8.1 | 7.8 | 8.1 |
| December-06 | 16.2 | 14.4 | 13.1 | 12.8 | 11.6 | 10.8 | 11.4 | 10.6 | 10.1 | 11.4 | 11.6 | 11.3 | 12.1 | 12.7 | 12.5 | 14.7 | 14.3 | 14.5 | 14.4 | 12.7 | 11.9 | 13.8 | 13.7 | 13.1 | 12.9 | 12.2 | 11.8 | 11.8 | 12.4 | 12.7 | 12.8 |
| November-06 | 16.1 | 14.7 | 13.8 | 11.9 | 11.9 | 12.3 | 12.8 | 13.3 | 13.9 | 14.4 | 15.3 | 15.2 | 15.6 | 17.9 | 14.6 | 17.6 | 14.3 | 13.5 | 13.6 | 11.8 | 11.4 | 12.8 | 10.8 | 12.2 | 12.6 | 12.5 | 12.1 | 12.8 | 14.1 | 15.0 | |
| October-06 | 18.7 | 18.7 | 18.8 | 19.8 | 20.3 | 19.0 | 16.2 | 16.9 | 17.1 | 17.4 | 18.4 | 20.9 | 17.9 | 15.6 | 15.0 | 15.4 | 15.9 | 17.4 | 18.8 | 19.2 | 16.1 | 15.7 | 15.8 | 15.3 | 13.3 | 13.8 | 14.6 | 14.2 | 14.6 | 15.1 | 15.8 |
| September-06 | 21.9 | 20.3 | 21.5 | 21.8 | 21.2 | 21.2 | 21.1 | 22.1 | 21.2 | 22.1 | 23.0 | 21.2 | 20.9 | 19.8 | 20.8 | 20.6 | 20.5 | 21.1 | 21.3 | 20.6 | 19.2 | 19.0 | 19.9 | 21.8 | 21.0 | 21.3 | 19.4 | 19.7 | 18.9 | 18.1 | |
| August-06 | 23.4 | 23.2 | 23.4 | 23.5 | 23.2 | 23.1 | 25.6 | 23.7 | 23.0 | 22.9 | 22.9 | 22.6 | 21.4 | 21.8 | 21.9 | 22.3 | 22.7 | 22.4 | 22.8 | 24.6 | 23.6 | 23.6 | 23.4 | 23.5 | 23.6 | 23.6 | 23.7 | 24.1 | 24.2 | 24.4 | 22.3 |
| July-06 | 20.8 | 22.2 | 22.0 | 22.3 | 22.2 | 21.9 | 20.5 | 20.4 | 21.0 | 21.4 | 22.0 | 22.6 | 22.7 | 22.5 | 23.0 | 24.5 | 22.5 | 22.5 | 23.2 | 22.6 | 22.4 | 22.3 | 22.1 | 22.0 | 22.3 | 22.5 | 22.5 | 22.6 | 23.4 | 23.1 | 23.0 |
| June-06 | 20.2 | 20.6 | 20.8 | 20.5 | 20.1 | 19.9 | 20.4 | 21.3 | 20.6 | 19.3 | 19.7 | 19.8 | 19.7 | 19.7 | 19.9 | 19.6 | 20.9 | 22.1 | 23.7 | 21.3 | 20.9 | 23.6 | 23.0 | 23.1 | 22.4 | 22.1 | 21.6 | 22.0 | 21.5 | 21.2 | |
| May-06 | 15.6 | 15.8 | 17.2 | 16.6 | 18.1 | 18.7 | 17.4 | 16.1 | 16.8 | 17.1 | 16.6 | 16.3 | 16.6 | 16.7 | 17.1 | 16.7 | 16.4 | 17.3 | 16.7 | 16.6 | 16.9 | 17.9 | 17.4 | 16.9 | 18.1 | 19.0 | 19.3 | 19.8 | 20.0 | 20.1 | 20.3 |
| April-06 | 15.2 | 14.7 | 15.4 | 14.3 | 14.2 | 13.8 | 15.2 | 15.6 | 13.8 | 14.1 | 13.8 | 14.7 | 15.3 | 15.7 | 16.2 | 17.2 | 16.5 | 16.1 | 16.2 | 16.2 | 16.4 | 17.5 | 17.7 | 17.4 | 17.6 | 17.4 | 16.4 | 16.1 | 16.2 | 15.8 | 15.6 |
| March-06 | 11.4 | 11.9 | 11.8 | 11.9 | 12.8 | 12.1 | 13.1 | 13.2 | 13.7 | 14.9 | 13.7 | 14.7 | 15.6 | 15.4 | 13.8 | 12.6 | 12.1 | 12.4 | 12.2 | 12.4 | 12.2 | 12.0 | 11.6 | 12.6 | 13.3 | 12.1 | 11.8 | 11.9 | 12.3 | 12.4 | 13.5 |

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| **10th Percentile** | **10.6** |
| **90th Percentile** | **23.7** |

**VA0062031 - 2009 Reissuance**
**Temp Data from Monthly Operation Logs**
**High Flow (December - April)**

| Monitoring Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| April-08 | 13.8 | 14.0 | 13.0 | 13.1 | 13.6 | 13.5 | 13.1 | 12.7 | 13.6 | 17.7 | 17.2 | 16.9 | 13.9 | 13.2 | 13.4 | 12.4 | 13.1 | 14.4 | 15.9 | 16.0 | 15.8 | 15.9 | 16.1 | 16.5 | 18.1 | 18.2 | 17.1 | 16.7 | 16.6 | 14.9 | |
| March-08 | 9.8 | 10.3 | 10.9 | 10.9 | 10.7 | 10.8 | 11.0 | 10.6 | 9.7 | 9.8 | 10.8 | 12.3 | 11.1 | 12.1 | 13.5 | 13.2 | 12.7 | 11.6 | 12.5 | 13.6 | 12.6 | 11.9 | 11.8 | 11.6 | 11.3 | 11.4 | 13.6 | 13.8 | 13.7 | 12.0 | 13.0 |
| February-08 | 8.4 | 9.6 | 10.3 | 10.6 | 12.8 | 13.1 | 11.8 | 12.3 | 12.9 | 11.2 | 9.3 | 8.8 | 9.8 | 10.1 | 11.4 | 12.1 | 10.4 | 11.4 | 11.1 | 11.1 | 9.4 | 9.6 | 9.8 | 10.2 | 10.4 | 10.7 | 10.2 | 9.8 | 9.6 | | |
| January-08 | 9.9 | 9.3 | 9.1 | 9.6 | 9.7 | 11.3 | 11.8 | 12.7 | 12.9 | 11.8 | 11.1 | 11.5 | 11.2 | 10.9 | 11.0 | 10.9 | 9.9 | 10.4 | 9.3 | 9.2 | 8.9 | 8.9 | 9.7 | 9.9 | 10.2 | 8.8 | 9.5 | 9.8 | 10.6 | 10.3 | 10.5 |
| December-07 | 13.2 | 13.7 | 13.6 | 12.9 | 11.2 | 10.9 | 10.4 | 10.3 | 12.5 | 13.5 | 13.3 | 15.4 | 13.0 | 13.1 | 12.7 | 11.3 | 10.9 | 10.9 | 10.7 | 11.3 | 11.4 | 11.9 | 12.1 | 11.3 | 11.4 | 11.5 | 11.3 | 11.2 | 11.3 | 10.8 | 10.5 |
| April-07 | 15.2 | 15.9 | 16.4 | 17.1 | 14.8 | 13.9 | 13.4 | 12.1 | 12.3 | 12.4 | 12.7 | 13.0 | 12.8 | 13.4 | 13.7 | 13.7 | 13.7 | 15.4 | 16.4 | 16.6 | 14.4 | 15.0 | 15.3 | 16.4 | 17.1 | 17.6 | 18.1 | 17.1 | 17.6 | 17.2 | |
| March-07 | 11.1 | 11.2 | 10.2 | 9.8 | 9.6 | 9.9 | 10.8 | 10.6 | 10.9 | 10.9 | 11.8 | 11.6 | 13.2 | 13.9 | 15.1 | 10.6 | 10.1 | 10.1 | 9.6 | 11.7 | 12.5 | 12.1 | 13.6 | 14.6 | 15.3 | 15.5 | 15.6 | 17.3 | 16.9 | 17.2 | 14.4 |
| February-07 | 8.2 | 8.7 | 8.7 | 8.6 | 6.6 | 5.4 | 7.2 | 7.1 | 7.3 | 6.5 | 6.4 | 6.5 | 8.0 | 7.2 | 6.5 | 7.3 | 7.1 | 7.8 | 7.6 | 8.9 | 9.6 | 11.4 | 9.9 | 10.0 | 10.0 | 10.3 | 10.1 | 10.1 | | | |
| January-07 | 11.7 | 11.3 | 10.7 | 11.2 | 11.1 | 12.4 | 12.8 | 11.3 | 10.8 | 9.4 | 10.7 | 10.9 | 11.7 | 11.8 | 12.1 | 11.9 | 11.1 | 10.5 | 9.8 | 9.3 | 9.1 | 9.4 | 9.8 | 10.1 | 9.8 | 8.9 | 9.2 | 9.4 | 8.1 | 7.8 | 8.1 |
| December-06 | 16.2 | 14.4 | 13.1 | 12.8 | 11.6 | 10.8 | 11.4 | 10.6 | 10.1 | 11.4 | 11.6 | 11.3 | 12.1 | 12.7 | 12.5 | 14.7 | 14.3 | 14.5 | 14.4 | 12.7 | 11.9 | 13.8 | 13.7 | 13.1 | 12.9 | 12.2 | 11.8 | 11.8 | 12.4 | 12.7 | 12.8 |
| April-06 | 15.2 | 14.7 | 15.4 | 14.3 | 14.2 | 13.8 | 15.2 | 15.6 | 13.8 | 14.1 | 13.8 | 14.7 | 15.3 | 15.7 | 16.2 | 17.2 | 16.5 | 16.1 | 16.2 | 16.2 | 16.4 | 17.5 | 17.7 | 17.4 | 17.6 | 17.4 | 16.4 | 16.1 | 16.2 | 15.8 | 15.6 |
| March-06 | 11.4 | 11.9 | 11.8 | 11.9 | 12.8 | 12.1 | 13.1 | 13.2 | 13.7 | 14.9 | 13.7 | 14.7 | 15.6 | 15.4 | 13.8 | 12.6 | 12.1 | 12.4 | 12.2 | 12.4 | 12.2 | 12.0 | 11.6 | 12.6 | 13.3 | 12.1 | 11.8 | 11.9 | 12.3 | 12.4 | 13.5 |
| **10th Percentile** | **9.34** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **90th Percentile** | **16.2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**VA0062031 - 2009 Reissuance**
**Temp Data from Monthly Operation Logs**
**Low Flow (May - November)**

| Monitoring Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| August-08 | 25.1 | 25.0 | 24.4 | 24.1 | 24.3 | 24.8 | 25.1 | 24.6 | 23.6 | 23.2 | 23.2 | 22.6 | 22.8 | 22.7 | 22.9 | 22.6 | 23.3 | 24.4 | 23.4 | 23.8 | 21.9 | 28.6 | 22.7 | 23.5 | 23.6 | 23.7 | 22.7 | 21.6 | 22.9 | 24.1 | 24.4 |
| July-08 | 22.5 | 23.9 | 22.9 | 23.2 | 23.1 | 24.2 | 23.9 | 23.4 | 23.3 | 23.6 | 24.8 | 24.4 | 23.9 | 23.9 | 23.8 | 23.8 | 26.6 | 23.7 | 24.6 | 25.5 | 25.1 | 25.3 | 24.1 | 24.7 | 23.4 | 23.8 | 24.2 | 24.5 | 24.2 | 24.4 | 25.2 |
| June-08 | 20.3 | 20.4 | 20.4 | 20.9 | 21.0 | 21.2 | 22.2 | 23.4 | 23.8 | 25.3 | 23.7 | 23.7 | 23.5 | 23.4 | 23.4 | 23.2 | 23.0 | 22.6 | 20.9 | 21.9 | 21.8 | 23.7 | 22.4 | 22.3 | 22.7 | 23.3 | 23.0 | 24.1 | 23.6 | 23.4 | |
| May-08 | 17.1 | 17.1 | 18.7 | 19.6 | 18.4 | 18.3 | 18.6 | 18.6 | 18.5 | 19.0 | 16.9 | 16.8 | 17.4 | 17.3 | 17.1 | 17.6 | 16.6 | 17.4 | 17.9 | 17.8 | 17.7 | 17.8 | 17.9 | 17.2 | 16.8 | 17.4 | 19.9 | 18.6 | 19.3 | 19.8 | 20.3 |
| November-07 | 15.6 | 15.3 | 15.7 | 15.6 | 15.4 | 15.4 | 14.0 | 13.8 | 13.8 | 13.9 | 13.8 | 14.1 | 13.7 | 13.5 | 13.9 | 14.3 | 13.6 | 15.2 | 15.3 | 15.8 | 15.1 | 16.2 | 14.8 | 15.2 | 15.0 | 15.3 | 15.1 | 15.0 | 14.9 | 12.6 | |
| October-07 | 21.4 | 21.5 | 22.8 | 23.2 | 22.8 | 22.8 | 21.7 | 23.7 | 23.8 | 23.9 | 19.1 | 18.2 | 18.1 | 18.1 | 18.2 | 18.8 | 19.1 | 19.8 | 19.4 | 18.8 | 18.7 | 19.8 | 19.3 | 19.9 | 19.0 | 17.9 | 18.1 | 17.8 | 15.9 | 15.8 | 15.8 |
| September-07 | 22.6 | 22.9 | 22.6 | 23.2 | 23.2 | 23.5 | 23.4 | 23.4 | 23.2 | 23.4 | 24.0 | 24.0 | 23.6 | 23.8 | 22.1 | 21.8 | 21.6 | 21.2 | 20.8 | 21.4 | 21.6 | 21.9 | 22.6 | 22.9 | 22.2 | 22.4 | 22.6 | 22.8 | 20.1 | 21.6 | |
| August-07 | 23.1 | 23.1 | 23.7 | 23.6 | 23.6 | 23.9 | 23.8 | 24.1 | 24.2 | 25.0 | 25.5 | 25.3 | 25.3 | 25.1 | 24.9 | 25.3 | 24.5 | 23.8 | 23.9 | 23.7 | 23.9 | 24.3 | 24.9 | 25.0 | 24.6 | 24.7 | 24.9 | 24.8 | 24.9 | 25.1 | 25.2 |
| July-07 | 23.7 | 23.2 | 23.9 | 23.9 | 24.9 | 23.1 | 23.2 | 23.1 | 23.8 | 24.6 | 23.9 | 23.4 | 23.2 | 23.0 | 23.0 | 23.1 | 22.7 | 24.0 | 23.7 | 23.2 | 23.0 | 22.1 | 22.8 | 23.3 | 22.6 | 22.3 | 23.0 | 23.1 | 23.0 | 23.1 | 23.1 |
| June-07 | 21.0 | 21.3 | 20.3 | 20.5 | 20.1 | 20.6 | 21.1 | 21.5 | 21.6 | 22.0 | 22.6 | 22.8 | 22.9 | 21.7 | 20.1 | 20.2 | 20.8 | 21.8 | 22.2 | 22.6 | 22.9 | 23.1 | 22.7 | 22.1 | 22.3 | 22.7 | 23.9 | 23.8 | 23.5 | 23.1 | |
| May-07 | 17.7 | 18.9 | 17.8 | 16.9 | 16.9 | 16.7 | 17.2 | 16.4 | 19.1 | 19.8 | 19.0 | 20.3 | 21.6 | 18.4 | 21.3 | 19.6 | 18.8 | 18.0 | 17.1 | 17.3 | 19.1 | 20.8 | 21.2 | 20.4 | 20.9 | 21.6 | 20.8 | 21.1 | 21.2 | 21.1 | 21.2 |
| November-06 | 16.1 | 14.7 | 13.8 | 11.9 | 11.9 | 12.3 | 12.8 | 13.3 | 13.9 | 14.4 | 15.3 | 15.2 | 15.6 | 17.9 | 14.6 | 17.6 | 14.3 | 13.5 | 13.6 | 11.8 | 11.4 | 12.8 | 10.8 | 12.2 | 12.6 | 12.5 | 12.1 | 12.8 | 14.1 | 15.0 | |
| October-06 | 18.7 | 18.7 | 18.8 | 19.8 | 20.3 | 19.0 | 16.2 | 16.9 | 17.1 | 17.4 | 18.4 | 20.9 | 17.9 | 15.6 | 15.0 | 15.4 | 15.9 | 17.4 | 18.8 | 19.2 | 16.1 | 15.7 | 15.8 | 15.3 | 13.3 | 13.8 | 14.6 | 14.2 | 14.6 | 15.1 | 15.8 |
| September-06 | 21.9 | 20.3 | 21.5 | 21.8 | 21.2 | 21.2 | 21.1 | 22.1 | 21.2 | 22.1 | 23.0 | 21.2 | 20.9 | 19.8 | 20.8 | 20.6 | 20.5 | 21.1 | 21.3 | 20.6 | 19.2 | 19.0 | 19.9 | 21.8 | 21.0 | 21.3 | 19.4 | 19.7 | 18.9 | 18.1 | |
| August-06 | 23.4 | 23.2 | 23.4 | 23.5 | 23.2 | 23.1 | 25.6 | 23.7 | 23.0 | 22.9 | 22.9 | 22.6 | 21.4 | 21.8 | 21.9 | 22.3 | 22.7 | 22.4 | 22.8 | 24.6 | 23.6 | 23.6 | 23.4 | 23.5 | 23.6 | 23.6 | 23.7 | 24.1 | 24.2 | 24.4 | 22.3 |
| July-06 | 20.8 | 22.2 | 22.0 | 22.3 | 22.2 | 21.9 | 20.5 | 20.4 | 21.0 | 21.4 | 22.0 | 22.6 | 22.7 | 22.5 | 23.0 | 24.5 | 22.5 | 22.5 | 23.2 | 22.6 | 22.4 | 22.3 | 22.1 | 22.0 | 22.3 | 22.5 | 22.5 | 22.6 | 23.4 | 23.1 | 23.0 |
| June-06 | 20.2 | 20.6 | 20.8 | 20.5 | 20.1 | 19.9 | 20.4 | 21.3 | 20.6 | 19.3 | 19.7 | 19.8 | 19.7 | 19.7 | 19.9 | 19.6 | 20.9 | 22.1 | 23.7 | 21.3 | 20.9 | 23.6 | 23.0 | 23.1 | 22.4 | 22.1 | 21.6 | 22.0 | 21.5 | 21.2 | |
| May-06 | 15.6 | 15.8 | 17.2 | 16.6 | 18.1 | 18.7 | 17.4 | 16.1 | 16.8 | 17.1 | 16.6 | 16.3 | 16.6 | 16.7 | 17.1 | 16.7 | 16.4 | 17.3 | 16.7 | 16.6 | 16.9 | 17.9 | 17.4 | 16.9 | 18.1 | 19.0 | 19.3 | 19.8 | 20.0 | 20.1 | 20.3 |
| **10th Percentile** | **15.3** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **90th Percentile** | **24.1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**VA0062031 - 2009 Reissuance**
**pH Data from Monthly Operation Logs**
**Annual Average**

| Monitoring Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| August-08 | 7.93 | 7.20 | 7.83 | 7.79 | 7.94 | 7.58 | 7.90 | 7.90 | 7.86 | 7.34 | 7.67 | 7.64 | 7.47 | 7.79 | 7.26 | 7.54 | 7.92 | 7.63 | 7.94 | 7.02 | 7.77 | 7.96 | 7.12 | 7.81 | 7.42 | 7.33 | 7.86 | 7.63 | 7.02 | 7.49 | 7.83 |
| July-08 | 7.60 | 7.37 | 7.71 | 7.84 | 7.77 | 7.01 | 7.69 | 7.62 | 7.23 | 7.35 | 7.24 | 7.81 | 7.64 | 7.12 | 7.10 | 7.16 | 7.27 | 7.38 | 7.29 | 7.19 | 7.92 | 7.53 | 8.09 | 7.36 | 7.76 | 7.99 | 7.73 | 7.48 | 7.84 | 7.37 | 7.02 |
| June-08 | 7.41 | 7.30 | 7.31 | 7.28 | 7.17 | 6.92 | 7.04 | 7.18 | 7.39 | 7.26 | 7.56 | 7.38 | 7.14 | 7.02 | 7.83 | 8.04 | 8.08 | 7.45 | 7.72 | 8.15 | 7.86 | 7.48 | 7.41 | 7.83 | 7.51 | 7.15 | 7.39 | 7.68 | 7.08 | 7.32 | |
| May-08 | 7.13 | 7.55 | 7.04 | 7.71 | 7.18 | 7.28 | 7.02 | 7.17 | 7.03 | 7.17 | 7.59 | 7.43 | 7.20 | 7.16 | 7.03 | 7.10 | 7.22 | 7.08 | 6.94 | 7.26 | 7.21 | 7.11 | 6.98 | 6.94 | 7.09 | 7.24 | 7.68 | 7.35 | 7.49 | 7.38 | 7.72 |
| April-08 | 7.26 | 7.47 | 7.32 | 7.27 | 7.00 | 7.67 | 7.46 | 7.21 | 7.28 | 7.18 | 7.69 | 7.34 | 7.09 | 7.06 | 7.12 | 7.16 | 7.26 | 7.00 | 7.23 | 6.93 | 7.13 | 7.63 | 7.05 | 7.01 | 7.34 | 7.09 | 7.19 | 7.01 | 6.90 | 7.61 | |
| March-08 | 7.29 | 7.26 | 7.34 | 7.62 | 7.54 | 7.37 | 7.61 | 7.47 | 7.13 | 7.30 | 7.63 | 7.41 | 7.25 | 7.41 | 7.11 | 7.27 | 7.18 | 7.74 | 7.40 | 6.92 | 7.47 | 7.33 | 7.49 | 7.25 | 7.11 | 7.26 | 7.11 | 6.96 | 7.03 | 6.98 | 7.03 |
| February-08 | 7.00 | 7.72 | 7.38 | 7.04 | 7.02 | 6.99 | 7.47 | 7.45 | 7.09 | 7.28 | 7.16 | 6.98 | 7.09 | 7.24 | 7.31 | 7.16 | 7.01 | 7.38 | 7.46 | 7.51 | 7.66 | 7.54 | 7.26 | 7.03 | 7.38 | 7.49 | 7.54 | 7.35 | 7.17 | | |
| January-08 | 7.32 | 7.76 | 7.45 | 7.41 | 7.17 | 7.09 | 7.37 | 7.53 | 7.28 | 7.22 | 7.11 | 7.28 | 7.17 | 7.89 | 7.51 | 7.68 | 7.32 | 6.93 | 7.00 | 7.12 | 7.25 | 7.21 | 7.40 | 7.12 | 7.26 | 7.37 | 7.54 | 7.39 | 7.63 | 7.59 | 7.67 |
| December-07 | 7.44 | 7.19 | 7.04 | 7.24 | 7.11 | 7.68 | 7.54 | 7.03 | 7.25 | 7.09 | 7.19 | 7.05 | 7.08 | 7.14 | 7.01 | 7.12 | 7.02 | 7.11 | 7.45 | 7.88 | 7.46 | 6.93 | 7.02 | 7.05 | 7.23 | 7.56 | 7.23 | 7.04 | 7.01 | 6.93 | 7.09 |
| November-07 | 7.46 | 7.35 | 7.03 | 7.02 | 7.31 | 6.89 | 7.26 | 7.22 | 7.38 | 7.14 | 7.02 | 7.16 | 7.08 | 6.97 | 7.26 | 7.04 | 7.52 | 7.33 | 7.21 | 7.69 | 7.32 | 7.54 | 7.03 | 7.29 | 7.23 | 7.18 | 7.06 | 7.14 | 7.09 | 7.58 | |
| October-07 | 7.21 | 7.42 | 7.17 | 7.02 | 7.76 | 7.45 | 6.85 | 7.12 | 7.16 | 7.94 | 7.63 | 7.18 | 7.12 | 7.36 | 7.31 | 7.59 | 7.39 | 7.31 | 7.26 | 7.23 | 7.46 | 7.42 | 7.69 | 7.58 | 7.08 | 7.06 | 7.01 | 7.31 | 7.86 | 7.23 | 7.09 |
| September-07 | 7.61 | 7.20 | 6.89 | 7.02 | 7.18 | 7.82 | 7.64 | 7.59 | 7.08 | 7.14 | 7.59 | 7.53 | 7.24 | 7.19 | 7.86 | 7.77 | 7.64 | 7.28 | 7.03 | 7.74 | 7.13 | 7.89 | 7.17 | 7.39 | 7.16 | 7.03 | 8.02 | 8.34 | 7.10 | 7.19 | |
| August-07 | 7.46 | 7.27 | 7.49 | 7.76 | 7.62 | 7.53 | 7.51 | 7.63 | 7.74 | 7.89 | 7.62 | 7.30 | 7.62 | 7.20 | 7.02 | 7.49 | 7.59 | 7.63 | 7.34 | 7.16 | 7.86 | 7.41 | 7.32 | 7.17 | 7.29 | 7.11 | 7.22 | 7.17 | 7.02 | 7.28 | 7.95 |
| July-07 | 7.89 | 7.44 | 7.12 | 7.22 | 7.15 | 7.60 | 7.43 | 7.45 | 7.49 | 7.37 | 7.62 | 7.65 | 7.79 | 7.43 | 7.21 | 7.89 | 7.72 | 7.12 | 7.46 | 7.88 | 7.37 | 7.19 | 7.64 | 7.29 | 7.05 | 7.83 | 7.56 | 7.58 | 7.82 | 7.61 | 7.29 |
| June-07 | 7.41 | 8.06 | 7.32 | 7.95 | 7.63 | 7.52 | 7.39 | 7.38 | 7.23 | 7.18 | 7.39 | 7.22 | 7.06 | 7.21 | 7.09 | 6.91 | 7.44 | 7.99 | 8.16 | 7.12 | 7.11 | 6.92 | 7.75 | 7.32 | 7.19 | 7.03 | 7.13 | 7.25 | 8.62 | 8.02 | |
| May-07 | 7.27 | 7.10 | 7.14 | 7.22 | 7.02 | 7.18 | 7.12 | 7.74 | 7.51 | 7.26 | 8.33 | 7.49 | 6.98 | 7.43 | 7.03 | 7.66 | 7.41 | 7.38 | 7.65 | 7.42 | 7.27 | 7.11 | 6.78 | 7.21 | 7.09 | 7.55 | 7.93 | 7.62 | 8.18 | 7.61 | 7.44 |
| April-07 | 7.12 | 7.05 | 7.26 | 7.66 | 7.59 | 7.77 | 7.74 | 7.23 | 7.19 | 7.31 | 7.34 | 7.35 | 7.18 | 7.02 | 8.73 | 6.90 | 7.62 | 7.20 | 6.95 | 7.10 | 7.42 | 7.50 | 7.09 | 7.18 | 7.36 | 7.21 | 7.34 | 7.46 | 7.34 | 7.26 | |
| March-07 | 7.26 | 7.46 | 7.05 | 7.29 | 7.19 | 6.96 | 7.00 | 7.21 | 8.09 | 7.56 | 6.96 | 7.53 | 7.11 | 7.14 | 7.05 | 7.06 | 7.14 | 7.04 | 7.09 | 7.34 | 7.11 | 7.02 | 7.00 | 6.97 | 7.04 | 7.13 | 7.02 | 6.91 | 7.18 | 7.02 | 7.27 |
| February-07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| January-07 | 6.95 | 7.56 | 6.97 | 7.28 | 7.28 | 7.26 | 7.38 | 7.48 | 7.51 | 7.03 | 7.04 | 7.12 | 6.91 | 7.25 | 7.11 | 7.29 | 7.33 | 7.38 | 7.18 | 6.94 | 6.98 | 7.03 | 7.05 | 6.91 | 7.09 | 6.97 | 7.04 | 7.01 | 7.16 | 7.23 | 7.08 |
| December-06 | 7.05 | 8.47 | 7.36 | 7.11 | 7.23 | 7.10 | 7.20 | 7.06 | 6.98 | 7.08 | 7.01 | 6.90 | 6.93 | 7.63 | 7.41 | 7.12 | 7.01 | 7.08 | 7.02 | 7.16 | 7.20 | 7.04 | 7.06 | 7.69 | 7.09 | 7.06 | 7.14 | 7.96 | 7.51 | 7.11 | 7.06 |
| November-06 | 7.02 | 7.05 | 6.99 | 7.70 | 7.28 | 7.21 | 7.24 | 7.67 | 7.03 | 7.43 | 7.48 | 7.09 | 7.01 | 7.11 | 7.28 | 7.27 | 7.26 | 7.01 | 7.14 | 7.01 | 6.95 | 7.11 | 6.98 | 7.41 | 7.06 | 7.20 | 7.04 | 6.96 | 7.09 | 7.14 | |
| October-06 | 7.13 | 7.25 | 7.04 | 7.23 | 7.02 | 7.18 | 7.01 | 7.04 | 7.09 | 7.03 | 7.37 | 7.19 | 7.26 | 7.22 | 7.23 | 7.43 | 7.01 | 7.04 | 7.11 | 7.26 | 7.32 | 7.44 | 7.06 | 7.06 | 7.34 | 7.09 | 7.14 | 7.09 | 7.01 | 7.16 | 7.12 |
| September-06 | 7.46 | 7.41 | 7.27 | 7.02 | 7.10 | 7.46 | 8.14 | 7.01 | 7.19 | 7.63 | 7.27 | 7.27 | 7.08 | 7.14 | 7.16 | 7.22 | 7.03 | 7.21 | 7.12 | 7.25 | 7.12 | 6.91 | 7.16 | 7.05 | 7.07 | 7.02 | 7.13 | 7.07 | 7.12 | 7.05 | |
| August-06 | 7.10 | 7.16 | 7.69 | 7.56 | 7.62 | 7.36 | 7.23 | 7.15 | 7.22 | 7.06 | 7.41 | 7.02 | 7.39 | 7.45 | 7.47 | 7.32 | 7.46 | 7.08 | 7.42 | 7.10 | 7.46 | 7.26 | 7.04 | 7.62 | 7.50 | 7.26 | 7.09 | 7.42 | 7.37 | 7.56 | 7.54 |
| July-06 | 7.11 | 7.04 | 7.97 | 7.19 | 6.58 | 7.46 | 7.43 | 7.48 | 6.92 | 7.65 | 7.78 | 7.80 | 7.52 | 7.31 | 7.00 | 7.14 | 7.21 | 6.84 | 7.11 | 7.10 | 7.06 | 7.01 | 7.26 | 7.35 | 7.31 | 7.30 | 7.26 | 7.10 | 7.25 | 7.31 | 7.43 |
| June-06 | 7.63 | 7.58 | 7.16 | 7.22 | 7.64 | 7.75 | 7.62 | 7.46 | 7.57 | 7.35 | 7.31 | 7.35 | 7.43 | 7.31 | 7.52 | 7.56 | 7.32 | 7.16 | 7.04 | 7.39 | 7.54 | 7.41 | 7.35 | 7.39 | 7.21 | 7.05 | 7.40 | 7.34 | 7.79 | 7.55 | |
| May-06 | 7.31 | 7.39 | 7.72 | 7.62 | 7.55 | 7.31 | 7.30 | 7.27 | 7.65 | 7.40 | 7.46 | 7.60 | 7.51 | 7.55 | 7.61 | 7.53 | 7.62 | 7.51 | 7.63 | 7.35 | 7.39 | 7.42 | 7.39 | 7.45 | 7.61 | 7.36 | 7.54 | 7.36 | 7.25 | 7.05 | 7.62 |
| April-06 | 7.51 | 7.30 | 7.54 | 7.40 | 7.30 | 7.39 | 7.29 | 7.16 | 7.39 | 7.12 | 7.17 | 7.03 | 6.99 | 7.39 | 7.94 | 7.66 | 8.91 | 7.69 | 7.34 | 7.16 | 7.36 | 7.01 | 7.30 | 7.45 | 7.51 | 7.66 | 7.58 | 7.67 | 7.51 | 7.28 | 7.31 |
| March-06 | 7.36 | 7.05 | 6.96 | 7.08 | 7.12 | 6.99 | 7.77 | 7.39 | 7.10 | 7.52 | 7.31 | 7.65 | 7.42 | 7.44 | 7.24 | 7.36 | 7.50 | 7.74 | 7.44 | 7.88 | 7.32 | 7.62 | 7.92 | 7.44 | 7.44 | 7.51 | 8.78 | 7.21 | 7.36 | 7.40 | 7.24 |

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|---|---|
| **10th Percentile** | **7.0** |
| **90th Percentile** | **7.7** |

**VA0062031 - 2009 Reissuance**
**pH Data from Monthly Operation Logs**
**High Flow (December - April)**

| Monitoring Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| April-08 | 7.26 | 7.47 | 7.32 | 7.27 | 7.00 | 7.67 | 7.46 | 7.21 | 7.28 | 7.18 | 7.69 | 7.34 | 7.09 | 7.06 | 7.12 | 7.16 | 7.26 | 7.00 | 7.23 | 6.93 | 7.13 | 7.63 | 7.05 | 7.01 | 7.34 | 7.09 | 7.19 | 7.01 | 6.90 | 7.61 | |
| March-08 | 7.29 | 7.26 | 7.34 | 7.62 | 7.54 | 7.37 | 7.61 | 7.47 | 7.13 | 7.30 | 7.63 | 7.41 | 7.25 | 7.41 | 7.11 | 7.27 | 7.18 | 7.74 | 7.40 | 6.92 | 7.47 | 7.33 | 7.49 | 7.25 | 7.11 | 7.26 | 7.11 | 6.96 | 7.03 | 6.98 | 7.03 |
| February-08 | 7.00 | 7.72 | 7.38 | 7.04 | 7.02 | 6.99 | 7.47 | 7.45 | 7.09 | 7.28 | 7.16 | 6.98 | 7.09 | 7.24 | 7.31 | 7.16 | 7.01 | 7.38 | 7.46 | 7.51 | 7.66 | 7.54 | 7.26 | 7.03 | 7.38 | 7.49 | 7.54 | 7.35 | 7.17 | | |
| January-08 | 7.32 | 7.76 | 7.45 | 7.41 | 7.17 | 7.09 | 7.37 | 7.53 | 7.28 | 7.22 | 7.11 | 7.28 | 7.17 | 7.89 | 7.51 | 7.68 | 7.32 | 6.93 | 7.00 | 7.12 | 7.25 | 7.21 | 7.40 | 7.12 | 7.26 | 7.37 | 7.54 | 7.39 | 7.63 | 7.59 | 7.67 |
| December-07 | 7.44 | 7.19 | 7.04 | 7.24 | 7.11 | 7.68 | 7.54 | 7.03 | 7.25 | 7.09 | 7.19 | 7.05 | 7.08 | 7.14 | 7.01 | 7.12 | 7.02 | 7.11 | 7.45 | 7.88 | 7.46 | 6.93 | 7.02 | 7.05 | 7.23 | 7.56 | 7.23 | 7.04 | 7.01 | 6.93 | 7.09 |
| April-07 | 7.12 | 7.05 | 7.26 | 7.66 | 7.59 | 7.77 | 7.74 | 7.23 | 7.19 | 7.31 | 7.34 | 7.35 | 7.18 | 7.02 | 8.73 | 6.90 | 7.62 | 7.20 | 6.95 | 7.10 | 7.42 | 7.50 | 7.09 | 7.18 | 7.36 | 7.21 | 7.34 | 7.46 | 7.34 | 7.26 | |
| March-07 | 7.26 | 7.46 | 7.05 | 7.29 | 7.19 | 6.96 | 7.00 | 7.21 | 8.09 | 7.56 | 6.96 | 7.53 | 7.11 | 7.14 | 7.05 | 7.06 | 7.14 | 7.04 | 7.09 | 7.34 | 7.11 | 7.02 | 7.00 | 6.97 | 7.04 | 7.13 | 7.02 | 6.91 | 7.18 | 7.02 | 7.27 |
| February-07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| January-07 | 6.95 | 7.56 | 6.97 | 7.28 | 7.28 | 7.26 | 7.38 | 7.48 | 7.51 | 7.03 | 7.04 | 7.12 | 6.91 | 7.25 | 7.11 | 7.29 | 7.33 | 7.38 | 7.18 | 6.94 | 6.98 | 7.03 | 7.05 | 6.91 | 7.09 | 6.97 | 7.04 | 7.01 | 7.16 | 7.23 | 7.08 |
| December-06 | 7.05 | 8.47 | 7.36 | 7.11 | 7.23 | 7.10 | 7.20 | 7.06 | 6.98 | 7.08 | 7.01 | 6.90 | 6.93 | 7.63 | 7.41 | 7.12 | 7.01 | 7.08 | 7.02 | 7.16 | 7.20 | 7.04 | 7.06 | 7.69 | 7.09 | 7.06 | 7.14 | 7.96 | 7.51 | 7.11 | 7.06 |
| April-06 | 7.51 | 7.30 | 7.54 | 7.40 | 7.30 | 7.39 | 7.29 | 7.16 | 7.39 | 7.12 | 7.17 | 7.03 | 6.99 | 7.39 | 7.94 | 7.66 | 8.91 | 7.69 | 7.34 | 7.16 | 7.36 | 7.01 | 7.30 | 7.45 | 7.51 | 7.66 | 7.58 | 7.67 | 7.51 | 7.28 | 7.31 |
| March-06 | 7.36 | 7.05 | 6.96 | 7.08 | 7.12 | 6.99 | 7.77 | 7.39 | 7.10 | 7.52 | 7.31 | 7.65 | 7.42 | 7.44 | 7.24 | 7.36 | 7.50 | 7.74 | 7.44 | 7.88 | 7.32 | 7.62 | 7.92 | 7.44 | 7.44 | 7.51 | 8.78 | 7.21 | 7.36 | 7.40 | 7.24 |

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|---|---|
| **10th Percentile** | **7.0** |
| **90th Percentile** | **7.6** |

**VA0062031 - 2009 Reissuance**
**pH Data from Monthly Operation Logs**
**Low Flow (May - November)**

| Monitoring Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| August-08 | 7.93 | 7.20 | 7.83 | 7.79 | 7.94 | 7.58 | 7.90 | 7.90 | 7.86 | 7.34 | 7.67 | 7.64 | 7.47 | 7.79 | 7.26 | 7.54 | 7.92 | 7.63 | 7.94 | 7.02 | 7.77 | 7.96 | 7.12 | 7.81 | 7.42 | 7.33 | 7.86 | 7.63 | 7.02 | 7.49 | 7.83 |
| July-08 | 7.60 | 7.37 | 7.71 | 7.84 | 7.77 | 7.01 | 7.69 | 7.62 | 7.23 | 7.35 | 7.24 | 7.81 | 7.64 | 7.12 | 7.10 | 7.16 | 7.27 | 7.38 | 7.29 | 7.19 | 7.92 | 7.53 | 8.09 | 7.36 | 7.76 | 7.99 | 7.73 | 7.48 | 7.84 | 7.37 | 7.02 |
| June-08 | 7.41 | 7.30 | 7.31 | 7.28 | 7.17 | 6.92 | 7.04 | 7.18 | 7.39 | 7.26 | 7.56 | 7.38 | 7.14 | 7.02 | 7.83 | 8.04 | 8.08 | 7.45 | 7.72 | 8.15 | 7.86 | 7.48 | 7.41 | 7.83 | 7.51 | 7.15 | 7.39 | 7.68 | 7.08 | 7.32 | |
| May-08 | 7.13 | 7.55 | 7.04 | 7.71 | 7.18 | 7.28 | 7.02 | 7.17 | 7.03 | 7.17 | 7.59 | 7.43 | 7.20 | 7.16 | 7.03 | 7.10 | 7.22 | 7.08 | 6.94 | 7.26 | 7.21 | 7.11 | 6.98 | 6.94 | 7.09 | 7.24 | 7.68 | 7.35 | 7.49 | 7.38 | 7.72 |
| November-07 | 7.46 | 7.35 | 7.03 | 7.02 | 7.31 | 6.89 | 7.26 | 7.22 | 7.38 | 7.14 | 7.02 | 7.16 | 7.08 | 6.97 | 7.26 | 7.04 | 7.52 | 7.33 | 7.21 | 7.69 | 7.32 | 7.54 | 7.03 | 7.29 | 7.23 | 7.18 | 7.06 | 7.14 | 7.09 | 7.58 | |
| October-07 | 7.21 | 7.42 | 7.17 | 7.02 | 7.76 | 7.45 | 6.85 | 7.12 | 7.16 | 7.94 | 7.63 | 7.18 | 7.12 | 7.36 | 7.31 | 7.59 | 7.39 | 7.31 | 7.26 | 7.23 | 7.46 | 7.42 | 7.69 | 7.58 | 7.08 | 7.06 | 7.01 | 7.31 | 7.86 | 7.23 | 7.09 |
| September-07 | 7.61 | 7.20 | 6.89 | 7.02 | 7.18 | 7.82 | 7.64 | 7.59 | 7.08 | 7.14 | 7.59 | 7.53 | 7.24 | 7.19 | 7.86 | 7.77 | 7.64 | 7.28 | 7.03 | 7.74 | 7.13 | 7.89 | 7.17 | 7.39 | 7.16 | 7.03 | 8.02 | 8.34 | 7.10 | 7.19 | |
| August-07 | 7.46 | 7.27 | 7.49 | 7.76 | 7.62 | 7.53 | 7.51 | 7.63 | 7.74 | 7.89 | 7.62 | 7.30 | 7.62 | 7.20 | 7.02 | 7.49 | 7.59 | 7.63 | 7.34 | 7.16 | 7.86 | 7.41 | 7.32 | 7.17 | 7.29 | 7.11 | 7.22 | 7.17 | 7.02 | 7.28 | 7.95 |
| July-07 | 7.89 | 7.44 | 7.12 | 7.22 | 7.15 | 7.60 | 7.43 | 7.45 | 7.49 | 7.37 | 7.62 | 7.65 | 7.79 | 7.43 | 7.21 | 7.89 | 7.72 | 7.12 | 7.46 | 7.88 | 7.37 | 7.19 | 7.64 | 7.29 | 7.05 | 7.83 | 7.56 | 7.58 | 7.82 | 7.61 | 7.29 |
| June-07 | 7.41 | 8.06 | 7.32 | 7.95 | 7.63 | 7.52 | 7.39 | 7.38 | 7.23 | 7.18 | 7.39 | 7.22 | 7.06 | 7.21 | 7.09 | 6.91 | 7.44 | 7.99 | 8.16 | 7.12 | 7.11 | 6.92 | 7.75 | 7.32 | 7.19 | 7.03 | 7.13 | 7.25 | 8.62 | 8.02 | |
| May-07 | 7.27 | 7.10 | 7.14 | 7.22 | 7.02 | 7.18 | 7.12 | 7.74 | 7.51 | 7.26 | 8.33 | 7.49 | 6.98 | 7.43 | 7.03 | 7.66 | 7.41 | 7.38 | 7.65 | 7.42 | 7.27 | 7.11 | 6.78 | 7.21 | 7.09 | 7.55 | 7.93 | 7.62 | 8.18 | 7.61 | 7.44 |
| November-06 | 7.02 | 7.05 | 6.99 | 7.70 | 7.28 | 7.21 | 7.24 | 7.67 | 7.03 | 7.43 | 7.48 | 7.09 | 7.01 | 7.11 | 7.28 | 7.27 | 7.26 | 7.01 | 7.14 | 7.01 | 6.95 | 7.11 | 6.98 | 7.41 | 7.06 | 7.20 | 7.04 | 6.96 | 7.09 | 7.14 | |
| October-06 | 7.13 | 7.25 | 7.04 | 7.23 | 7.02 | 7.18 | 7.01 | 7.04 | 7.09 | 7.03 | 7.37 | 7.19 | 7.26 | 7.22 | 7.23 | 7.43 | 7.01 | 7.04 | 7.11 | 7.26 | 7.32 | 7.44 | 7.06 | 7.06 | 7.34 | 7.09 | 7.14 | 7.09 | 7.01 | 7.16 | 7.12 |
| September-06 | 7.46 | 7.41 | 7.27 | 7.02 | 7.10 | 7.46 | 8.14 | 7.01 | 7.19 | 7.63 | 7.27 | 7.27 | 7.08 | 7.14 | 7.16 | 7.22 | 7.03 | 7.21 | 7.12 | 7.25 | 7.12 | 6.91 | 7.16 | 7.05 | 7.07 | 7.02 | 7.13 | 7.07 | 7.12 | 7.05 | |
| August-06 | 7.10 | 7.16 | 7.69 | 7.56 | 7.62 | 7.36 | 7.23 | 7.15 | 7.22 | 7.06 | 7.41 | 7.02 | 7.39 | 7.45 | 7.47 | 7.32 | 7.46 | 7.08 | 7.42 | 7.10 | 7.46 | 7.26 | 7.04 | 7.62 | 7.50 | 7.26 | 7.09 | 7.42 | 7.37 | 7.56 | 7.54 |
| July-06 | 7.11 | 7.04 | 7.97 | 7.19 | 6.58 | 7.46 | 7.43 | 7.48 | 6.92 | 7.65 | 7.78 | 7.80 | 7.52 | 7.31 | 7.00 | 7.14 | 7.21 | 6.84 | 7.11 | 7.10 | 7.06 | 7.01 | 7.26 | 7.35 | 7.31 | 7.30 | 7.26 | 7.10 | 7.25 | 7.31 | 7.43 |
| June-06 | 7.63 | 7.58 | 7.16 | 7.22 | 7.64 | 7.75 | 7.62 | 7.46 | 7.57 | 7.35 | 7.31 | 7.35 | 7.43 | 7.31 | 7.52 | 7.56 | 7.32 | 7.16 | 7.04 | 7.39 | 7.54 | 7.41 | 7.35 | 7.39 | 7.21 | 7.05 | 7.40 | 7.34 | 7.79 | 7.55 | |
| May-06 | 7.31 | 7.39 | 7.72 | 7.62 | 7.55 | 7.31 | 7.30 | 7.27 | 7.65 | 7.40 | 7.46 | 7.60 | 7.51 | 7.55 | 7.61 | 7.53 | 7.62 | 7.51 | 7.63 | 7.35 | 7.39 | 7.42 | 7.39 | 7.45 | 7.61 | 7.36 | 7.54 | 7.36 | 7.25 | 7.05 | 7.62 |

| | |
|---|---|
| **10th Percentile** | **7.0** |
| **90th Percentile** | **7.8** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - Flow Parameter 001**

| | Design Flow - 0.024 MGD | | |
|---|---|---|---|
| **Monitoring Period** | **Monthly Average** | **Daily Maximum** | **95% Flow** |
| August-08 | 0.011 | 0.017 | 0.0228 |
| July-08 | 0.011 | 0.013 | 0.0228 |
| June-08 | 0.011 | 0.015 | 0.0228 |
| May-08 | 0.010 | 0.022 | 0.0228 |
| April-08 | 0.014 | 0.023 | 0.0228 |
| March-08 | 0.012 | 0.026 | 0.0228 |
| February-08 | 0.010 | 0.021 | 0.0228 |
| January-08 | 0.014 | 0.027 | 0.0228 |
| December-07 | 0.013 | 0.025 | 0.0228 |
| November-07 | 0.011 | 0.019 | 0.0228 |
| October-07 | 0.012 | 0.036 | 0.0228 |
| September-07 | 0.013 | 0.019 | 0.0228 |
| August-07 | 0.013 | 0.019 | 0.0228 |
| July-07 | 0.012 | 0.016 | 0.0228 |
| June-07 | 0.013 | 0.018 | 0.0228 |
| May-07 | 0.013 | 0.015 | 0.0228 |
| April-07 | 0.015 | 0.019 | 0.0228 |
| March-07 | 0.014 | 0.026 | 0.0228 |
| February-07 | 0.014 | 0.020 | 0.0228 |
| January-07 | 0.014 | 0.022 | 0.0228 |
| December-06 | 0.014 | 0.020 | 0.0228 |
| November-06 | 0.014 | 0.016 | 0.0228 |
| October-06 | 0.015 | 0.031 | 0.0228 |
| September-06 | 0.018 | 0.032 | 0.0228 |
| August-06 | 0.016 | 0.029 | 0.0228 |
| July-06 | 0.012 | 0.014 | 0.0228 |
| June-06 | 0.014 | 0.029 | 0.0228 |
| May-06 | 0.012 | 0.014 | 0.0228 |
| April-06 | 0.012 | 0.014 | 0.0228 |
| March-06 | 0.012 | 0.014 | 0.0228 |
| **Maximum** | **0.018** | **0.036** | |
| **Long-Term Average** | **0.013** | **0.021** | |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - pH Parameter 002**

| | Standard Units (s.u.) | | | | |
|---|---|---|---|---|---|
| **Monitoring Period** | **Limit Minimum** | **Minimum** | **Maximum** | **Limit Maximum** | |
| August-08 | 6 | 7.0 | 8.0 | 9 | |
| July-08 | 6 | 7.0 | 8.1 | 9 | |
| June-08 | 6 | 6.9 | 7.9 | 9 | |
| May-08 | 6 | 6.9 | 7.7 | 9 | |
| April-08 | 6 | 6.9 | 7.7 | 9 | |
| March-08 | 6 | 6.9 | 7.7 | 9 | |
| February-08 | 6 | 7.0 | 7.7 | 9 | |
| January-08 | 6 | 6.9 | 7.9 | 9 | |
| December-07 | 6 | 6.9 | 7.9 | 9 | |
| November-07 | 6 | 6.9 | 7.7 | 9 | |
| October-07 | 6 | 6.8 | 7.9 | 9 | |
| September-07 | 6 | 6.9 | 8.3 | 9 | |
| August-07 | 6 | 7.0 | 8.0 | 9 | |
| July-07 | 6 | 7.1 | 7.9 | 9 | |
| June-07 | 6 | 6.9 | **8.6** | 9 | |
| May-07 | 6 | 7.0 | 8.3 | 9 | |
| April-07 | 6 | 6.9 | **8.7** | 9 | |
| March-07 | 6 | 6.9 | 8.1 | 9 | |
| February-07 | 6 | 6.9 | 7.6 | 9 | |
| January-07 | 6 | 6.9 | 7.6 | 9 | |
| December-06 | 6 | 6.9 | 8.0 | 9 | |
| November-06 | 6 | 7.0 | 7.7 | 9 | |
| October-06 | 6 | 7.0 | 7.4 | 9 | |
| September-06 | 6 | 6.9 | 8.1 | 9 | |
| August-06 | 6 | 7.0 | 7.7 | 9 | |
| July-06 | 6 | **6.6** | 8.0 | 9 | |
| June-06 | 6 | 7.0 | 7.8 | 9 | |
| May-06 | 6 | 7.1 | 7.7 | 9 | |
| April-06 | 6 | 7.0 | **8.9** | 9 | |
| March-06 | 6 | 7.0 | **8.8** | 9 | |
| **Minimum** | | **6.6** | | | |
| **Maximum** | | | **8.9** | | **No Reduction** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - TSS Parameter 004**

| | kg/day | | mg/l | | |
|---|---|---|---|---|---|
| | Limit - 2.7 | Limit - 4.08 | Limit - 30 | Limit - 45 | |
| Monitoring Period | Monthly Average | Weekly Average | Monthly Average | Weekly Average | |
| August-08 | 0.20 | 0.20 | 4 | 4 | |
| July-08 | 0.05 | 0.05 | 1 | 1 | |
| June-08 | 0.10 | 0.16 | 3 | 4 | |
| May-08 | 0.20 | 0.20 | 4 | 4 | |
| April-08 | 0.10 | 0.04 | 1 | 1 | |
| March-08 | 0.20 | 0.21 | 5 | 5 | |
| February-08 | 0.50 | 0.53 | 16 | 16 | |
| January-08 | 0.10 | 0.07 | 1 | 1 | |
| December-07 | 0.10 | 0.08 | 2 | 2 | |
| November-07 | 0.40 | 0.36 | 4 | 4 | |
| October-07 | 0.10 | 0.09 | 2 | 2 | |
| September-07 | 0.10 | 0.05 | 1 | 1 | |
| August-07 | 0.10 | 0.10 | 2 | 2 | |
| July-07 | 0.10 | 0.05 | 1 | 1 | |
| June-07 | 0.20 | 0.16 | 3 | 3 | |
| May-07 | 0.10 | 0.05 | 1 | 1 | |
| April-07 | 0.10 | 0.05 | 1 | 1 | |
| March-07 | 0.10 | 0.05 | 1 | 1 | |
| February-07 | 0.04 | 0.04 | 1 | 1 | |
| January-07 | 0.10 | 0.08 | 1 | 1 | |
| December-06 | 0.10 | 0.06 | 1 | 1 | |
| November-06 | **1.00** | **1.91** | **23** | **44** | |
| October-06 | 0.40 | 0.44 | 7 | 7 | |
| September-06 | 0.04 | 0.04 | 1 | 1 | |
| August-06 | 0.04 | 0.04 | 1 | 1 | |
| July-06 | 0.10 | 0.04 | 1 | 1 | |
| June-06 | 0.00 | 0.04 | 1 | 1 | |
| May-06 | 0.04 | 0.04 | 1 | 1 | |
| April-06 | 0.10 | 0.13 | 3 | 3 | |
| March-06 | 0.65 | 0.65 | 15 | 15 | |
| **Long-Term Average** | **0.18** | **0.20** | **3.63** | **4.37** | |
| **Long-Term Maximum** | **1.00** | **1.91** | **23** | **44** | |
| **% Limit** | **6.7** | | **12** | | **No Reduction** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - Dissolved Oxygen Parameter 007**

| | mg/l | | |
|---|---|---|---|
| **Monitoring Period** | **Minimum** | **Limit - Minimum** | |
| August-08 | 7.1 | 6.0 | |
| July-08 | **6.5** | 6.0 | |
| June-08 | 7.2 | 6.0 | |
| May-08 | 8.5 | 6.0 | |
| April-08 | 8.5 | 6.0 | |
| March-08 | 8.6 | 6.0 | |
| February-08 | 9.2 | 6.0 | |
| January-08 | 7.3 | 6.0 | |
| December-07 | 8.2 | 6.0 | |
| November-07 | 8.4 | 6.0 | |
| October-07 | 7.2 | 6.0 | |
| September-07 | 7.0 | 6.0 | |
| August-07 | 7.0 | 6.0 | |
| July-07 | **6.5** | 6.0 | |
| June-07 | 7.1 | 6.0 | |
| May-07 | 6.9 | 6.0 | |
| April-07 | 8.7 | 6.0 | |
| March-07 | 8.7 | 6.0 | |
| February-07 | 9.4 | 6.0 | |
| January-07 | 8.6 | 6.0 | |
| December-06 | 8.4 | 6.0 | |
| November-06 | 9.4 | 6.0 | |
| October-06 | 8.1 | 6.0 | |
| September-06 | 8.0 | 6.0 | |
| August-06 | 7.4 | 6.0 | |
| July-06 | 7.1 | 6.0 | |
| June-06 | 7.3 | 6.0 | |
| May-06 | 7.4 | 6.0 | |
| April-06 | 7.0 | 6.0 | |
| March-06 | 8.9 | 6.0 | |
| **Minimum** | **6.5** | | **No Reduction** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - Ammonia Parameter 039**

| | Limit - 2.05 mg/l | | |
|---|---|---|---|
| **Monitoring Period** | **Monthly Average** | **Weekly Average** | |
| August-08 | 0.10 | 0.10 | |
| July-08 | 0.22 | 0.22 | |
| June-08 | **2.39** | **3.43** | |
| May-08 | **3.31** | **3.31** | |
| April-08 | 1.63 | 1.63 | |
| March-08 | 1.78 | 1.78 | |
| February-08 | **4.41** | **6.28** | |
| January-08 | 0.10 | 0.10 | |
| December-07 | 0.10 | 0.10 | |
| November-07 | 0.18 | 0.18 | |
| October-07 | 0.23 | 0.23 | |
| September-07 | 0.38 | 0.38 | |
| August-07 | 1.80 | 1.80 | |
| July-07 | 1.33 | 1.33 | |
| June-07 | 1.19 | 1.19 | |
| May-07 | 1.27 | 1.27 | |
| April-07 | 1.06 | 1.06 | |
| March-07 | 0.76 | 0.76 | |
| February-07 | 0.13 | 0.13 | |
| January-07 | 0.10 | 0.10 | |
| December-06 | 0.12 | 0.12 | |
| November-06 | 0.13 | 0.13 | |
| October-06 | 0.10 | 0.10 | |
| September-06 | 0.12 | 0.12 | |
| August-06 | 0.10 | 0.10 | |
| July-06 | 0.15 | 0.15 | |
| June-06 | 0.15 | 0.15 | |
| May-06 | 0.40 | 0.40 | |
| April-06 | **4.64** | **4.64** | |
| March-06 | **8.25** | **8.25** | |
| **Long-Term Average** | **1.22** | | |
| **Long-Term Maximum** | **8.25** | | |
| **% Limit** | **59.6** | | **No Reduction** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - TKN Parameter 068**

| | kg/day | | mg/l | | |
|---|---|---|---|---|---|
| | Limit - 0.63 | Limit - 0.95 | Limit - 7 | Limit - 10.5 | |
| Monitoring Period | Monthly Average | Weekly Average | Monthly Average | Weekly Average | |
| March-06 | 0.37 | 0.37 | **8.4** | **8.4** | |
| April-06 | 0.30 | 0.30 | **6.9** | **6.9** | |
| May-06 | 0.06 | 0.06 | 1.5 | 1.5 | |
| June-06 | 0.03 | 0.03 | 0.6 | 0.6 | |
| July-06 | 0.03 | 0.03 | 0.6 | 0.6 | |
| August-06 | 0.05 | 0.05 | 1.1 | 1.1 | |
| September-06 | 0.05 | 0.05 | 1.4 | 1.4 | |
| October-06 | 0.07 | 0.07 | 1.1 | 1.1 | |
| November-06 | 0.02 | 0.02 | 0.5 | 0.5 | |
| December-06 | 0.06 | 0.06 | 1.0 | 1.0 | |
| January-07 | 0.08 | 0.08 | 0.9 | 0.9 | |
| February-07 | 0.02 | 0.02 | 0.5 | 0.5 | |
| March-07 | 0.09 | 0.09 | 1.7 | 1.7 | |
| April-07 | 0.06 | 0.06 | 1.2 | 1.2 | |
| May-07 | 0.08 | 0.08 | 1.6 | 1.6 | |
| June-07 | 0.05 | 0.05 | 0.9 | 0.9 | |
| July-07 | 0.10 | 0.10 | 1.9 | 1.9 | |
| August-07 | 0.12 | 0.12 | 2.4 | 2.4 | |
| September-07 | 0.22 | 0.22 | 4.8 | 4.8 | |
| October-07 | 0.03 | 0.03 | 0.6 | 0.6 | |
| November-07 | 0.08 | 0.08 | 0.9 | 0.9 | |
| December-07 | 0.08 | 0.08 | 0.9 | 0.9 | |
| January-08 | 0.04 | 0.04 | 0.5 | 0.5 | |
| February-08 | 0.22 | 0.22 | **8.6** | **11.0** | |
| March-08 | 0.12 | 0.12 | 2.9 | 2.9 | |
| April-08 | 0.08 | 0.08 | 1.8 | 1.8 | |
| May-08 | 0.27 | 0.27 | 5.5 | 5.5 | |
| June-08 | 0.21 | 0.24 | 5.0 | 5.7 | |
| July-08 | 0.32 | 0.32 | 6.6 | 6.6 | |
| August-08 | 0.04 | 0.04 | 0.9 | 0.9 | |
| **Long-Term Average** | **0.11** | **0.11** | **2.4** | **2.5** | |
| **Long-Term Maximum** | **0.37** | **0.37** | **8.6** | **11** | |
| **% Limit** | **17.7** | | **35** | | **No Reduction** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - E. Coli Parameter 120**

| | Limit - 126 n/MCL | |
|---|---|---|
| **Monitoring Period** | **Monthly Average** | |
| August-08 | 2 | |
| July-08 | 2 | |
| June-08 | 2 | |
| May-08 | 2 | |
| April-08 | 2 | |
| March-08 | 2 | |
| February-08 | 3 | |
| January-08 | 2 | |
| December-07 | 2 | |
| November-07 | 2 | |
| October-07 | 2 | |
| September-07 | 2 | |
| August-07 | 5 | |
| July-07 | 13 | |
| June-07 | **146** | |
| May-07 | 19 | |
| April-07 | 32 | |
| March-07 | 2 | |
| February-07 | 2 | |
| January-07 | 2 | |
| December-06 | 2 | |
| November-06 | 2 | |
| October-06 | 11 | |
| September-06 | 5 | |
| August-06 | 2 | |
| July-06 | **225** | |
| June-06 | 57 | |
| May-06 | 7 | |
| April-06 | 110 | |
| March-06 | 48 | |
| **Maximum** | **225** | |
| **Long-Term Average** | **24** | **No Reduction** |

**Evergreen Mobile Home Park STP - VA0062031**
**DMR History - 2009 Reissuance**
**Outfall 001 - cBOD Parameter 159**

| | kg/day | | mg/l | | |
|---|---|---|---|---|---|
| | Limit - 1.27 | Limit - 1.9 | Limit - 14 | Limit - 21 | |
| **Monitoring Period** | **Monthly Average** | **Weekly Average** | **Monthly Average** | **Weekly Average** | |
| August-08 | 0.1 | 0.1 | 2 | 2 | |
| July-08 | 0.1 | 0.1 | 2 | 2 | |
| June-08 | 0.08 | 0.1 | 2 | 2 | |
| May-08 | 0.1 | 0.1 | 2 | 2 | |
| April-08 | 0.09 | 0.1 | 2 | 2 | |
| March-08 | 0.08 | 0.1 | 2 | 2 | |
| February-08 | 0.28 | 0.3 | 11 | 20 | |
| January-08 | 0.15 | 0.2 | 2 | 2 | |
| December-07 | 0.08 | 0.1 | 2 | 2 | |
| November-07 | 0.05 | 0.1 | 2 | 2 | |
| October-07 | 0.09 | 0.1 | 2 | 2 | |
| September-07 | 0.09 | 0.1 | 2 | 2 | |
| August-07 | 0.1 | 0.1 | 2 | 2 | |
| July-07 | 0.1 | 0.1 | 2 | 2 | |
| June-07 | 0.11 | 0.1 | 2 | 2 | |
| May-07 | 0.1 | 0.1 | 2 | 2 | |
| April-07 | 0.1 | 0.1 | 2 | 2 | |
| March-07 | 0.32 | 0.3 | 6 | 6 | |
| February-07 | 0.07 | 0.1 | 2 | 2 | |
| January-07 | 0.17 | 0.2 | 2 | 2 | |
| December-06 | 0.12 | 0.1 | 2 | 2 | |
| November-06 | 0.22 | 0.2 | 10 | 10 | |
| October-06 | 0.13 | 0.1 | 2 | 2 | |
| September-06 | 0.08 | 0.1 | 2 | 2 | |
| August-06 | 0.15 | 0.2 | 2 | 2 | |
| July-06 | 0.09 | 0.1 | 2 | 2 | |
| June-06 | 0.09 | 0.1 | 2 | 2 | |
| May-06 | 0.09 | 0.1 | 2 | 2 | |
| April-06 | 0.39 | 0.4 | 9 | 9 | |
| March-06 | 0.35 | 0.3 | 8 | 8 | |
| **Long-Term Average** | **0.14** | **0.14** | **3.1** | **3.4** | |
| **Long-Term Maximum** | **0.39** | **0.40** | **11.0** | **20** | |
| **% Limit** | **10.7** | | **22** | | **No Reduction** |

# FRESHWATER
# WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Evergreen MHP STP - 001 '09 REI  Permit No.: VA0062031

Receiving Stream: UT, Tussocky Creek  Version: OWP Guidance Memo 00-2011 (8/24/00)

**Stream Information**

| | | |
|---|---|---|
| Mean Hardness (as CaCO3) = | 25 | mg/L |
| 90% Temperature (Annual) = | 23.7 | deg C |
| 90% Temperature (Wet season) = | 16.2 | deg C |
| 90% Maximum pH = | 7.7 | SU |
| 10% Maximum pH = | 7 | SU |
| Tier Designation (1 or 2) = | 1 | |
| Public Water Supply (PWS) Y/N? = | n | |
| Trout Present Y/N? = | n | |
| Early Life Stages Present Y/N? = | y | |

**Stream Flows**

| | | |
|---|---|---|
| 1Q10 (Annual) = | 0 | MGD |
| 7Q10 (Annual) = | 0 | MGD |
| 30Q10 (Annual) = | 0 | MGD |
| 1Q10 (Wet season) = | 0 | MGD |
| 30Q10 (Wet season) | 0 | MGD |
| 30Q5 = | 0 | MGD |
| Harmonic Mean = | 0 | MGD |
| Annual Average = | 0 | MGD |

**Mixing Information**

| | | |
|---|---|---|
| Annual - 1Q10 Mix = | 100 | % |
| - 7Q10 Mix = | 100 | % |
| - 30Q10 Mix = | 100 | % |
| Wet Season - 1Q10 Mix = | 100 | % |
| - 30Q10 Mix = | 100 | % |

**Effluent Information**

| | | |
|---|---|---|
| Mean Hardness (as CaCO3) = | 25 | mg/L |
| 90% Temp (Annual) = | 23.7 | deg C |
| 90% Temp (Wet season) = | 16.2 | deg C |
| 90% Maximum pH = | 7.7 | SU |
| 10% Maximum pH = | 7 | SU |
| Discharge Flow = | 0.024 | MGD |

| Parameter | Background | Water Quality Criteria | | | | Wasteload Allocations | | | | Antidegradation Baseline | | | | Antidegradation Allocations | | | | Most Limiting Allocations | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (ug/l unless noted) | Conc. | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH |
| Acenapthene | 0 | -- | -- | na | 2.7E+03 | -- | -- | na | 2.7E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.7E+03 |
| Acrolein | 0 | -- | -- | na | 7.8E+02 | -- | -- | na | 7.8E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 7.8E+02 |
| Acrylonitrile[c] | 0 | -- | -- | na | 6.6E+00 | -- | -- | na | 6.6E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 6.6E+00 |
| Aldrin [c] | 0 | 3.0E+00 | -- | na | 1.4E-03 | 3.0E+00 | -- | na | 1.4E-03 | -- | -- | -- | -- | -- | -- | -- | -- | 3.0E+00 | -- | na | 1.4E-03 |
| Ammonia-N (mg/l) (Yearly) | 0 | 1.44E+01 | 1.98E+00 | na | -- | 1.4E+01 | 2.0E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E+01 | 2.0E+00 | na | -- |
| Ammonia-N (mg/l) (High Flow) | 0 | 1.44E+01 | 3.21E+00 | na | -- | 1.4E+01 | 3.2E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E+01 | 3.2E+00 | na | -- |
| Anthracene | 0 | -- | -- | na | 1.1E+05 | -- | -- | na | 1.1E+05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.1E+05 |
| Antimony | 0 | -- | -- | na | 4.3E+03 | -- | -- | na | 4.3E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.3E+03 |
| Arsenic | 0 | 3.4E+02 | 1.5E+02 | na | -- | 3.4E+02 | 1.5E+02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3.4E+02 | 1.5E+02 | na | -- |
| Barium | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| Benzene [c] | 0 | -- | -- | na | 7.1E+02 | -- | -- | na | 7.1E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 7.1E+02 |
| Benzidine[c] | 0 | -- | -- | na | 5.4E-03 | -- | -- | na | 5.4E-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 5.4E-03 |
| Benzo (a) anthracene [c] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Benzo (b) fluoranthene [c] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Benzo (k) fluoranthene [c] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Benzo (a) pyrene [c] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Bis2-Chloroethyl Ether | 0 | -- | -- | na | 1.4E+01 | -- | -- | na | 1.4E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.4E+01 |
| Bis2-Chloroisopropyl Ether | 0 | -- | -- | na | 1.7E+05 | -- | -- | na | 1.7E+05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.7E+05 |
| Bromoform [c] | 0 | -- | -- | na | 3.6E+03 | -- | -- | na | 3.6E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 3.6E+03 |
| Butylbenzylphthalate | 0 | -- | -- | na | 5.2E+03 | -- | -- | na | 5.2E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 5.2E+03 |
| Cadmium | 0 | 8.2E-01 | 3.8E-01 | na | -- | 8.2E-01 | 3.8E-01 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8.2E-01 | 3.8E-01 | na | -- |
| Carbon Tetrachloride [c] | 0 | -- | -- | na | 4.4E+01 | -- | -- | na | 4.4E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.4E+01 |
| Chlordane [c] | 0 | 2.4E+00 | 4.3E-03 | na | 2.2E-02 | 2.4E+00 | 4.3E-03 | na | 2.2E-02 | -- | -- | -- | -- | -- | -- | -- | -- | 2.4E+00 | 4.3E-03 | na | 2.2E-02 |
| Chloride | 0 | 8.6E+05 | 2.3E+05 | na | -- | 8.6E+05 | 2.3E+05 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8.6E+05 | 2.3E+05 | na | -- |
| TRC | 0 | 1.9E+01 | 1.1E+01 | na | -- | 1.9E+01 | 1.1E+01 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.9E+01 | 1.1E+01 | na | -- |
| Chlorobenzene | 0 | -- | -- | na | 2.1E+04 | -- | -- | na | 2.1E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.1E+04 |

| Parameter | Background | Water Quality Criteria | | | | Wasteload Allocations | | | | Antidegradation Baseline | | | | Antidegradation Allocations | | | | **Most Limiting Allocations** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (ug/l unless noted) | Conc. | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | **Acute** | **Chronic** | **HH (PWS)** | **HH** |
| Chlorodibromomethane[C] | 0 | -- | -- | na | 3.4E+02 | -- | -- | na | 3.4E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 3.4E+02 |
| Chloroform [C] | 0 | -- | -- | na | 2.9E+04 | -- | -- | na | 2.9E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.9E+04 |
| 2-Chloronaphthalene | 0 | -- | -- | na | 4.3E+03 | -- | -- | na | 4.3E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.3E+03 |
| 2-Chlorophenol | 0 | -- | -- | na | 4.0E+02 | -- | -- | na | 4.0E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.0E+02 |
| Chlorpyrifos | 0 | 8.3E-02 | 4.1E-02 | na | -- | 8.3E-02 | 4.1E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8.3E-02 | 4.1E-02 | na | -- |
| Chromium III | 0 | 1.8E+02 | 2.4E+01 | na | -- | 1.8E+02 | 2.4E+01 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.8E+02 | 2.4E+01 | na | -- |
| Chromium VI | 0 | 1.6E+01 | 1.1E+01 | na | -- | 1.6E+01 | 1.1E+01 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.6E+01 | 1.1E+01 | na | -- |
| Chromium, Total | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| Chrysene [C] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Copper | 0 | 3.6E+00 | 2.7E+00 | na | -- | 3.6E+00 | 2.7E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3.6E+00 | 2.7E+00 | na | -- |
| Cyanide | 0 | 2.2E+01 | 5.2E+00 | na | 2.2E+05 | 2.2E+01 | 5.2E+00 | na | 2.2E+05 | -- | -- | -- | -- | -- | -- | -- | -- | 2.2E+01 | 5.2E+00 | na | 2.2E+05 |
| DDD [C] | 0 | -- | -- | na | 8.4E-03 | -- | -- | na | 8.4E-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 8.4E-03 |
| DDE [C] | 0 | -- | -- | na | 5.9E-03 | -- | -- | na | 5.9E-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 5.9E-03 |
| DDT [C] | 0 | 1.1E+00 | 1.0E-03 | na | 5.9E-03 | 1.1E+00 | 1.0E-03 | na | 5.9E-03 | -- | -- | -- | -- | -- | -- | -- | -- | 1.1E+00 | 1.0E-03 | na | 5.9E-03 |
| Demeton | 0 | -- | 1.0E-01 | na | -- | -- | 1.0E-01 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.0E-01 | na | -- |
| Dibenz(a,h)anthracene [C] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Dibutyl phthalate | 0 | -- | -- | na | 1.2E+04 | -- | -- | na | 1.2E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.2E+04 |
| Dichloromethane (Methylene Chloride) [C] | 0 | -- | -- | na | 1.6E+04 | -- | -- | na | 1.6E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.6E+04 |
| 1,2-Dichlorobenzene | 0 | -- | -- | na | 1.7E+04 | -- | -- | na | 1.7E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.7E+04 |
| 1,3-Dichlorobenzene | 0 | -- | -- | na | 2.6E+03 | -- | -- | na | 2.6E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.6E+03 |
| 1,4-Dichlorobenzene | 0 | -- | -- | na | 2.6E+03 | -- | -- | na | 2.6E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.6E+03 |
| 3,3-Dichlorobenzidine[C] | 0 | -- | -- | na | 7.7E-01 | -- | -- | na | 7.7E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 7.7E-01 |
| Dichlorobromomethane [C] | 0 | -- | -- | na | 4.6E+02 | -- | -- | na | 4.6E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.6E+02 |
| 1,2-Dichloroethane [C] | 0 | -- | -- | na | 9.9E+02 | -- | -- | na | 9.9E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 9.9E+02 |
| 1,1-Dichloroethylene | 0 | -- | -- | na | 1.7E+04 | -- | -- | na | 1.7E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.7E+04 |
| 1,2-trans-dichloroethylene | 0 | -- | -- | na | 1.4E+05 | -- | -- | na | 1.4E+05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.4E+05 |
| 2,4-Dichlorophenol | 0 | -- | -- | na | 7.9E+02 | -- | -- | na | 7.9E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 7.9E+02 |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| 1,2-Dichloropropane[C] | 0 | -- | -- | na | 3.9E+02 | -- | -- | na | 3.9E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 3.9E+02 |
| 1,3-Dichloropropene | 0 | -- | -- | na | 1.7E+03 | -- | -- | na | 1.7E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.7E+03 |
| Dieldrin [C] | 0 | 2.4E-01 | 5.6E-02 | na | 1.4E-03 | 2.4E-01 | 5.6E-02 | na | 1.4E-03 | -- | -- | -- | -- | -- | -- | -- | -- | 2.4E-01 | 5.6E-02 | na | 1.4E-03 |
| Diethyl Phthalate | 0 | -- | -- | na | 1.2E+05 | -- | -- | na | 1.2E+05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.2E+05 |
| Di-2-Ethylhexyl Phthalate [C] | 0 | -- | -- | na | 5.9E+01 | -- | -- | na | 5.9E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 5.9E+01 |
| 2,4-Dimethylphenol | 0 | -- | -- | na | 2.3E+03 | -- | -- | na | 2.3E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.3E+03 |
| Dimethyl Phthalate | 0 | -- | -- | na | 2.9E+06 | -- | -- | na | 2.9E+06 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.9E+06 |
| Di-n-Butyl Phthalate | 0 | -- | -- | na | 1.2E+04 | -- | -- | na | 1.2E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.2E+04 |
| 2,4 Dinitrophenol | 0 | -- | -- | na | 1.4E+04 | -- | -- | na | 1.4E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.4E+04 |
| 2-Methyl-4,6-Dinitrophenol | 0 | -- | -- | na | 7.65E+02 | -- | -- | na | 7.7E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 7.7E+02 |
| 2,4-Dinitrotoluene [C] | 0 | -- | -- | na | 9.1E+01 | -- | -- | na | 9.1E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 9.1E+01 |
| Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq) | 0 | -- | -- | na | 1.2E-06 | -- | -- | na | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | na |
| 1,2-Diphenylhydrazine[C] | 0 | -- | -- | na | 5.4E+00 | -- | -- | na | 5.4E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 5.4E+00 |
| Alpha-Endosulfan | 0 | 2.2E-01 | 5.6E-02 | na | 2.4E+02 | 2.2E-01 | 5.6E-02 | na | 2.4E+02 | -- | -- | -- | -- | -- | -- | -- | -- | 2.2E-01 | 5.6E-02 | na | 2.4E+02 |
| Beta-Endosulfan | 0 | 2.2E-01 | 5.6E-02 | na | 2.4E+02 | 2.2E-01 | 5.6E-02 | na | 2.4E+02 | -- | -- | -- | -- | -- | -- | -- | -- | 2.2E-01 | 5.6E-02 | na | 2.4E+02 |
| Endosulfan Sulfate | 0 | -- | -- | na | 2.4E+02 | -- | -- | na | 2.4E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.4E+02 |
| Endrin | 0 | 8.6E-02 | 3.6E-02 | na | 8.1E-01 | 8.6E-02 | 3.6E-02 | na | 8.1E-01 | -- | -- | -- | -- | -- | -- | -- | -- | 8.6E-02 | 3.6E-02 | na | 8.1E-01 |
| Endrin Aldehyde | 0 | -- | -- | na | 8.1E-01 | -- | -- | na | 8.1E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 8.1E-01 |

| Parameter | Background | Water Quality Criteria | | | | Wasteload Allocations | | | | Antidegradation Baseline | | | | Antidegradation Allocations | | | | Most Limiting Allocations | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (ug/l unless noted) | Conc. | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH |
| Ethylbenzene | 0 | -- | -- | na | 2.9E+04 | -- | -- | na | 2.9E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.9E+04 |
| Fluoranthene | 0 | -- | -- | na | 3.7E+02 | -- | -- | na | 3.7E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 3.7E+02 |
| Fluorene | 0 | -- | -- | na | 1.4E+04 | -- | -- | na | 1.4E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.4E+04 |
| Foaming Agents | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| Guthion | 0 | -- | 1.0E-02 | na | -- | -- | 1.0E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.0E-02 | na | -- |
| Heptachlor [c] | 0 | 5.2E-01 | 3.8E-03 | na | 2.1E-03 | 5.2E-01 | 3.8E-03 | na | 2.1E-03 | -- | -- | -- | -- | -- | -- | -- | -- | 5.2E-01 | 3.8E-03 | na | 2.1E-03 |
| Heptachlor Epoxide[c] | 0 | 5.2E-01 | 3.8E-03 | na | 1.1E-03 | 5.2E-01 | 3.8E-03 | na | 1.1E-03 | -- | -- | -- | -- | -- | -- | -- | -- | 5.2E-01 | 3.8E-03 | na | 1.1E-03 |
| Hexachlorobenzene[c] | 0 | -- | -- | na | 7.7E-03 | -- | -- | na | 7.7E-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 7.7E-03 |
| Hexachlorobutadiene[c] | 0 | -- | -- | na | 5.0E+02 | -- | -- | na | 5.0E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 5.0E+02 |
| Hexachlorocyclohexane Alpha-BHC[c] | 0 | -- | -- | na | 1.3E-01 | -- | -- | na | 1.3E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.3E-01 |
| Hexachlorocyclohexane Beta-BHC[c] | 0 | -- | -- | na | 4.6E-01 | -- | -- | na | 4.6E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.6E-01 |
| Hexachlorocyclohexane Gamma-BHC[c] (Lindane) | 0 | 9.5E-01 | na | na | 6.3E-01 | 9.5E-01 | -- | na | 6.3E-01 | -- | -- | -- | -- | -- | -- | -- | -- | 9.5E-01 | -- | na | 6.3E-01 |
| Hexachlorocyclopentadiene | 0 | -- | -- | na | 1.7E+04 | -- | -- | na | 1.7E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.7E+04 |
| Hexachloroethane[c] | 0 | -- | -- | na | 8.9E+01 | -- | -- | na | 8.9E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 8.9E+01 |
| Hydrogen Sulfide | 0 | -- | 2.0E+00 | na | -- | -- | 2.0E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2.0E+00 | na | -- |
| Indeno (1,2,3-cd) pyrene [c] | 0 | -- | -- | na | 4.9E-01 | -- | -- | na | 4.9E-01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.9E-01 |
| Iron | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| Isophorone[c] | 0 | -- | -- | na | 2.6E+04 | -- | -- | na | 2.6E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.6E+04 |
| Kepone | 0 | -- | 0.0E+00 | na | -- | -- | 0.0E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0E+00 | na | -- |
| Lead | 0 | 2.0E+01 | 2.3E+00 | na | -- | 2.0E+01 | 2.3E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2.0E+01 | 2.3E+00 | na | -- |
| Malathion | 0 | -- | 1.0E-01 | na | -- | -- | 1.0E-01 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.0E-01 | na | -- |
| Manganese | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| Mercury | 0 | 1.4E+00 | 7.7E-01 | na | 5.1E-02 | 1.4E+00 | 7.7E-01 | na | 5.1E-02 | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E+00 | 7.7E-01 | na | 5.1E-02 |
| Methyl Bromide | 0 | -- | -- | na | 4.0E+03 | -- | -- | na | 4.0E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 4.0E+03 |
| Methoxychlor | 0 | -- | 3.0E-02 | na | -- | -- | 3.0E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3.0E-02 | na | -- |
| Mirex | 0 | -- | 0.0E+00 | na | -- | -- | 0.0E+00 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0E+00 | na | -- |
| Monochlorobenzene | 0 | -- | -- | na | 2.1E+04 | -- | -- | na | 2.1E+04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 2.1E+04 |
| Nickel | 0 | 5.6E+01 | 6.3E+00 | na | 4.6E+03 | 5.6E+01 | 6.3E+00 | na | 4.6E+03 | -- | -- | -- | -- | -- | -- | -- | -- | 5.6E+01 | 6.3E+00 | na | 4.6E+03 |
| Nitrate (as N) | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | -- |
| Nitrobenzene | 0 | -- | -- | na | 1.9E+03 | -- | -- | na | 1.9E+03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.9E+03 |
| N-Nitrosodimethylamine[c] | 0 | -- | -- | na | 8.1E+01 | -- | -- | na | 8.1E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 8.1E+01 |
| N-Nitrosodiphenylamine[c] | 0 | -- | -- | na | 1.6E+02 | -- | -- | na | 1.6E+02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.6E+02 |
| N-Nitrosodi-n-propylamine[c] | 0 | -- | -- | na | 1.4E+01 | -- | -- | na | 1.4E+01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.4E+01 |
| Parathion | 0 | 6.5E-02 | 1.3E-02 | na | -- | 6.5E-02 | 1.3E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6.5E-02 | 1.3E-02 | na | -- |
| PCB-1016 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB-1221 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB-1232 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB-1242 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB-1248 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB-1254 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB-1260 | 0 | -- | 1.4E-02 | na | -- | -- | 1.4E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.4E-02 | na | -- |
| PCB Total[c] | 0 | -- | -- | na | 1.7E-03 | -- | -- | na | 1.7E-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | na | 1.7E-03 |

| Parameter | Background | Water Quality Criteria | | | | Wasteload Allocations | | | | Antidegradation Baseline | | | | Antidegradation Allocations | | | | **Most Limiting Allocations** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (ug/l unless noted) | Conc. | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | Acute | Chronic | HH (PWS) | HH | **Acute** | **Chronic** | **HH (PWS)** | **HH** |
| Pentachlorophenol [C] | 0 | 8.7E+00 | 6.7E+00 | na | 8.2E+01 | 8.7E+00 | 6.7E+00 | na | 8.2E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **8.7E+00** | **6.7E+00** | **na** | **8.2E+01** |
| Phenol | 0 | -- | -- | na | 4.6E+06 | -- | -- | na | 4.6E+06 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **4.6E+06** |
| Pyrene | 0 | -- | -- | na | 1.1E+04 | -- | -- | na | 1.1E+04 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **1.1E+04** |
| Radionuclides (pCi/l except Beta/Photon) | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **--** |
| Gross Alpha Activity | 0 | -- | -- | na | 1.5E+01 | -- | -- | na | 1.5E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **1.5E+01** |
| Beta and Photon Activity (mrem/yr) | 0 | -- | -- | na | 4.0E+00 | -- | -- | na | 4.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **4.0E+00** |
| Strontium-90 | 0 | -- | -- | na | 8.0E+00 | -- | -- | na | 8.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **8.0E+00** |
| Tritium | 0 | -- | -- | na | 2.0E+04 | -- | -- | na | 2.0E+04 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **2.0E+04** |
| Selenium | 0 | 2.0E+01 | 5.0E+00 | na | 1.1E+04 | 2.0E+01 | 5.0E+00 | na | 1.1E+04 | -- | -- | -- | -- | -- | -- | -- | -- | **2.0E+01** | **5.0E+00** | **na** | **1.1E+04** |
| Silver | 0 | 3.2E-01 | -- | na | -- | 3.2E-01 | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | **3.2E-01** | **--** | **na** | **--** |
| Sulfate | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **--** |
| 1,1,2,2-Tetrachloroethane[C] | 0 | -- | -- | na | 1.1E+02 | -- | -- | na | 1.1E+02 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **1.1E+02** |
| Tetrachloroethylene[C] | 0 | -- | -- | na | 8.9E+01 | -- | -- | na | 8.9E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **8.9E+01** |
| Thallium | 0 | -- | -- | na | 6.3E+00 | -- | -- | na | 6.3E+00 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **6.3E+00** |
| Toluene | 0 | -- | -- | na | 2.0E+05 | -- | -- | na | 2.0E+05 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **2.0E+05** |
| Total dissolved solids | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **--** |
| Toxaphene [C] | 0 | 7.3E-01 | 2.0E-04 | na | 7.5E-03 | 7.3E-01 | 2.0E-04 | na | 7.5E-03 | -- | -- | -- | -- | -- | -- | -- | -- | **7.3E-01** | **2.0E-04** | **na** | **7.5E-03** |
| Tributyltin | 0 | 4.6E-01 | 6.3E-02 | na | -- | 4.6E-01 | 6.3E-02 | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | **4.6E-01** | **6.3E-02** | **na** | **--** |
| 1,2,4-Trichlorobenzene | 0 | -- | -- | na | 9.4E+02 | -- | -- | na | 9.4E+02 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **9.4E+02** |
| 1,1,2-Trichloroethane[C] | 0 | -- | -- | na | 4.2E+02 | -- | -- | na | 4.2E+02 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **4.2E+02** |
| Trichloroethylene [C] | 0 | -- | -- | na | 8.1E+02 | -- | -- | na | 8.1E+02 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **8.1E+02** |
| 2,4,6-Trichlorophenol [C] | 0 | -- | -- | na | 6.5E+01 | -- | -- | na | 6.5E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **6.5E+01** |
| 2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex) | 0 | -- | -- | na | -- | -- | -- | na | -- | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **--** |
| Vinyl Chloride[C] | 0 | -- | -- | na | 6.1E+01 | -- | -- | na | 6.1E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **--** | **--** | **na** | **6.1E+01** |
| Zinc | 0 | 3.6E+01 | 3.6E+01 | na | 6.9E+04 | 3.6E+01 | 3.6E+01 | na | 6.9E+04 | -- | -- | -- | -- | -- | -- | -- | -- | **3.6E+01** | **3.6E+01** | **na** | **6.9E+04** |

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

| Metal | Target Value (SSTV) |
|---|---|
| Antimony | 4.3E+03 |
| Arsenic | 9.0E+01 |
| Barium | na |
| Cadmium | 2.3E-01 |
| Chromium III | 1.4E+01 |
| Chromium VI | 6.4E+00 |
| Copper | 1.5E+00 |
| Iron | na |
| Lead | 1.4E+00 |
| Manganese | na |
| Mercury | 5.1E-02 |
| Nickel | 3.8E+00 |
| Selenium | 3.0E+00 |
| Silver | 1.3E-01 |
| Zinc | 1.4E+01 |

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Calculation of Waste Load Allocations using OWRM guidance memo 93-015 amendment no. 1
This spreadsheet uses the Fractional Complete Mix calculated by the 3-95 Mixing Model

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WLA Analysis For: | Eveergreen MHP | | | | | | | | |
| Stream: | Tussocky Creek, UT | | Effluent Information | | Date: | 06/19/01 | | | |
| Mean Hardness (mg/L) = | 25 | Default | Mean Hardness= | 25 | | Hardness: | | | |
| Stream NH3 (mg/L) | 0 | | NH3 (mg/L)= | 5.4 | | acute | 25 | Mix Hardness= | acute 25 |
| 90% Temperature | 25.6 | | 90% Temp.= | 25.6 | | chronic | 25 | | chronic 25 |
| 90% pH | 7.5 | | 90% pH= | 7.5 | | 7Q10 Ratio | 1 | * WLAa | |
| Fractional 7Q10-MGD | 0 | 100% of 7Q10 | Flow, MGD= | 0.015 | | 1Q10 Ratio | 1 | Coefficient = | 0.99 |
| Fractional 1Q10-MGD | 0 | 100% of 1Q10 | | | | | | Acute IWC = | 1 |
| Harmonic mean (carcinogen): | 0 | | | | | Harmonic ratio: | 1 | Chronic IWC = | 1 |
| 30Q5 Flow (Non-carcinogen): | 0 | | | | | 30Q5 ratio: | 1 | | |
| R(iver),L(ake) or S(torm): | R | | | | | | | | |
| Trout Present? (Y/N) | N | | | | | | | | |
| Public Water Supply(Y/N): | N | | | | | | | | |

| Parameter and Form | Carcinogen? | Sort? (Y/N) | Aquatic Protection Freshwater Criteria: Acute Criteria | Aquatic Protection Freshwater Criteria: Chronic Criteria | Human Health Criteria: Public Water Supplies Criteria | Human Health Criteria: All Other Surface Waters Criteria | Acute WLA | Chronic WLA | Public Health WLA | Other Waters WLA |
|---|---|---|---|---|---|---|---|---|---|---|
| **Ammonia (mg/l as N)** | | Y | **11.902** | **2.047** | **None** | **None** | **11.90** | **2.05** | **N/A** | **N/A** |
| **Chlorine** | | Y | **19** | **11** | **None** | **None** | **19.00** | **11.00** | **N/A** | **N/A** |

Footnotes:
1. All concentrations expressed as micrograms per liter (ug/L),except Ammonia.
2. Ammonia (as mg/L) selected from separate tables,based on pH and temprature.
3. Acute-1 hour avg. concentration not to be exceeded more than 1/3years
4. Chronic-4 day avg.concentration not to be exceeded more than 1/3years.
5. Complete mix-mass balances employ 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens
6. All flow values are expressed as Million Gallons per Day.
8. Metals measured as Dissolved, unless specified otherwise.
9. (c)-indicates carcinogenic parameter.
10. Public Water Supply-protects for fish and water consumption.
11. Other Waters-protects for fish consumption only.
12. Hardness expressed as CaCO3 (mg/L).
13. All limitations are based on EPA's TSD Statistical approach.

BASED ON OPS GUIDANCE MEMO 93-015-SUBJECT TO REVISION.

Freshwater Ammonia Toxicity Standards (based on 9 VAC 25-260-00 et seq)
(OK as of 3/91)
I. Perform Mass Balance for final Ammonia Concentrations and pH:

| | Flow (MGD) | Total NH3-N (mg/L) | pH* SU | Temp. (C) | [H+] |
|---|---|---|---|---|---|
| Stream: | 0.000 | 0.000 | 7.50 | 25.6 | 3.16E-08 |
| POTW: | 0.015 | 11.902 | 7.50 | 25.6 | 3.16E-08 |
| Mix: | 0.015 | 11.902 | 7.50 | 25.6 | 3.16E-08 |

Chronic/Acute Std.? (C/A)--> a <-- = 11.902 mg/l

System MEETS WQ Standard for 1-hour acute ammonia toxicity

* The pH mix does not take into account alkalinity.

| | Acute (1-Hr) |
|---|---|
| 90th Percentile Temp., C: | 25.6 |
| 90th Percentile pH: | 7.50 |
| FT (final temperature): | 0.6792 |
| FPH | 1.43546 |
| RATIO | #N/A |
| pKa | 9.23 |
| Un-ionized Ammonia, mg/L as NH3: | 0.27 |
| Fraction of Un-ionized Ammonia: | 0.01843 |
| Total Ammonia, mg/L as NH3: | 14.47 |
| Total Ammonia, mg/L as N: | 11.90 |
| Standard Selected | 11.902 |

Freshwater Ammonia Toxicity Standards (based on 9 VAC 25-260-00 et seq)
(OK as of 3/91)
I. Perform Mass Balance for final Ammonia Concentrations and pH:

| | Flow (MGD) | Total NH3-N (mg/L) | pH* SU | Temp. (C) | [H+] |
|---|---|---|---|---|---|
| Stream | 0.000 | 0.000 | 7.50 | 25.6 | 3.16E-08 |
| POTW: | 0.015 | 2.047 | 7.50 | 25.6 | 3.16E-08 |
| Mix: | 0.015 | 2.047 | 7.50 | 25.6 | 3.16E-08 |

Chronic/Acute Std.? (C/A)--> c <-- = 2.047 mg/l

System MEETS WQ Standard for 4-day chronic ammonia toxicity

* The pH mix does not take into account alkalinity.

| | Chronic (4-Day) |
|---|---|
| 90th Percentile Temp., C: | 25.6 |
| 90th Percentile pH: | 7.50 |
| FT (final temperature): | 0.6792036 |
| FPH | 1.4354626 |
| RATIO | 17.886408 |
| pKa | 9.2265 |
| Un-ionized Ammonia, mg/L -NH3: | 0.0459 |
| Fraction of Un-ionized Ammonia: | 0.01843 |
| Total Ammonia, mg/L as NH3: | 2.49 |
| Total Ammonia, mg/L as N: | 2.05 |
| Standard Selected | 2.047 |

Limit carried forward with 2009 Reissuance
KAE

# ATTACHMENT 8

# SPECIAL CONDITIONS RATIONALE

**VPDES PERMIT PROGRAM**
**LIST OF SPECIAL CONDITIONS RATIONALE**

B. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Permit Reopeners

a. Sludge Reopener

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-220 C., and 40 CFR 122.44(c)(4), which note that all permits for domestic sewage treatment plants (including sludge-only facilities) include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Clean Water Act.

b. Financial Assurance and Disclosure to Purchasers

Rationale: The State Water Control Law, Section 62.1-44.18:3, and the Financial Assurance Regulation, 9 VAC 25-650-10 et seq., require owners of privately-owned sewerage systems which discharge more than 1000 gallons per day and less than 40,000 gallons per day to file with the Board an abatement/ closure plan to be implemented in the event the facility ceases operations. The plan is required to include a demonstration of financial capability for its implementation. In addition, the Code of Virginia, Section 55-519 [Required Disclosures], requires an owner of residential real property to furnish a purchaser certain information on the property being purchased.

2. Licensed Wastewater Operator Requirement

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 D., requires the permittee to employ or contract at least one wastewater works operator who holds a current wastewater license for the permitted facility. The Code of Virginia 54.1-2300 et seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. In addition, the Sewerage Collection and Treatment Regulations (12 VAC 5-581-10 et seq.), recommends a manning and classification schedule for domestic wastewater treatment plant operators, based on plant capacity and specific treatment types.

3. Reliability Class

Rationale: The Sewerage Collection and Treatment Regulations (12 VAC 5-581-10 et seq.) specify reliability classes for all domestic sewage facilities.

4. Operations & Maintenance (O&M) Manual Requirements

Rationale: Required by the State Water Control Law, Section 62.1-44.19 and the VPDES Permit Regulation, 9 VAC 25-31-190 E. The State Water Control Law, Section 62.1-44.21, allows requests for any information necessary to determine the effect of the discharge on state waters. Section 401 of the Clean Water Act requires the permittee to provide opportunity for the state to review the proposed operations of the facility. In addition, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) in order to achieve compliance with the permit (includes laboratory controls and QA/QC).

5. 95% Design Capacity Notification

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.2., for all POTWs and PVOTWs in order to insure continued compliance with the terms of the permit.

6. Compliance Reporting Under Part I.A.

Rationale: Authorized by the VPDES Permit Regulation, 9 VAC 25-31-190 J.4. and 220 I. This condition is necessary when toxic pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

7. Materials Handling and Storage

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-50 A., prohibits the discharge of any wastes into State waters unless authorized by permit. The State Water Control Law, Sec. 62.1-44.16 and 17 authorizes the Board to regulate the discharge of industrial or other wastes. Section 301 of the Clean Water Act prohibits the discharge of any pollutant unless it complies with specific sections of the Act.

8. Indirect Dischargers

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.1 and 40 CFR 122.42(b), for POTWs and PVOTWs which receive waste from someone other than the owner of the treatment works. DEQ must be notified of the introduction of new pollutants to the treatment system, from an indirect discharger, whether as increased volume or a change in the character of the pollutants.

9. Sludge Management Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-100 P., 220 B.2. and 420 through 720, and 40 CFR 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal. The VPDES sewage sludge permit application form and its attachments constitute the sludge management plan and will be considered for approval with the VPDES permit. Technical requirements may be derived from the Department of Health's Biosolids Use Regulation, 12 VAC 5-585-10 et seq. and sections 330 and 340 of that regulation specify the general purpose and control requirements for an O&M manual in order to facilitate proper O&M of the facilities to meet the requirements of the regulation.

10. Permit Application Requirement

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-100 D. and 40 CFR 122.21 (d)(1) require a new application at least 180 days prior to expiration of the existing permit. In addition, the VPDES Permit Regulation, 9 VAC 25-31-100 E.1. and 40 CFR 122.21 (e)(1) note that a permit shall not be issued before receiving a complete application.

## Part II CONDITIONS APPLICABLE TO ALL VPDES PERMITS

The VPDES Permit Regulation, 9 VAC 25-31-190, and 40 CFR 122, require all VPDES permits to contain or specifically cite the conditions listed.

# ATTACHMENT 9

# RECEIVING WATERS INFO./
# TIER DETERMINATION/STORET DATA

# *Planning Statement for VPDES Permit Application Processing DEQ-SCRO*

| VPDES | OwnerName | Facility | County |
|---|---|---|---|
| VA0062031 | Evergreen Mobile Home Park | Evergreen Mobile Home Park | Lynchburg |

**Outfall #:** 001

**River Basin:** James River (Upper) **Receiving Stream:** UT, Tussocky Creek

**Subbasin:** James River

**Watershed Code:** H05R **River Mile:** 1.98

| | MGD | | MGD |
|---|---|---|---|
| **1Q10** | 0 | **HF 1Q10** | 0 |
| **7Q10** | 0 | **HF7Q10** | 0 |
| **30Q5** | 0 | **HF30Q10** | 0 |
| **30Q10** | 0 | **HM** | 0 |

**Modeling Notes**

cBOD5 - 14 mg/L
TKN - 7 mg/L
DO - 6 mg/L

**WQMP Name** 9 VAC 25-720-60

**Statement** There are no allocations for this facility included in the plan.

**TMDL ID** None

**Impairment Cause** None

**TMDL Due Date**

**Completed TMDL Information**

**TMDL Approval Dates**

Amanda B Gray 4.4.08

**Amanda B. Gray, Water Planning Engineer** **Date**

# MEMORANDUM
## Department of Environmental Quality
## South Central Regional Office

**7705 Timberlake Road** **Lynchburg, Virginia 24502**

Subject: Planning Service Requests for VPDES Permit Application Processing

To: Amanda Gray, Water Planning Engineer

From: Kevin A. Crider, Water Permit Writer

Date: **April 3, 2008**

Copies: Facility Permit Processing File, Planning File

The request for information from the planning section is to be made at the time of sending the reissuance reminder letter to the facility or, for an issuance or modification, at the time of application/modification request receipt.

FACILITY NAME: **Royal Mobile Homes, Inc – Evergreen MHP STP**

VPDES PERMIT NO. **VA0062031** EXPIRATION DATE: **4/7/2009**

PERMIT ACTION: Issuance **Reissuance** Modification

PERMIT TYPE: Major **Minor** **Municipal** Industrial Storm Water TMP TRE

**PERMIT WRITERS: ATTACH THE FOLLOWING MAPS AND INFORMATION**

- **Topo map with facility location and outfall locations clearly marked (include any proposed outfalls)**
- **Site diagram for facilities with multiple outfalls**
- **Description or map showing effluent flow path if not apparent on topo map**
- **The outfall numbers, latitude, longitude, receiving stream and topo name in the table below (use an additional sheet if there are more outfalls)**

| Outfall No. | Latitude | Longitude | Receiving Stream | Topo Name |
|---|---|---|---|---|
| 001 | 37° 17' 53'' | 79° 8' 59'' | UT, Tussocky Creek VAC-H05R | City Farm – 106C |
| | | | | |
| | | | | |

_X_ Check if a new FLOW FREQUENCY DETERMINATION is being requested.
**If checked, provide the previous flow frequency determination memo**

____ Check if a new or revised WATER QUALITY MODEL is being requested.
**If checked, provide the facility flow and the previous limitations page**

**DATE INFORMATION NEEDED** September 1, 2008

# MEMORANDUM

**DEPARTMENT OF ENVIRONMENTAL QUALITY**
*South Central Regional Office - Water Planning*
*7705 Timberlake Road Lynchburg, VA 24502 434/582-5120*

---

**SUBJECT:** Flow Frequency Determination
Evergreen MHP STP - #VA0062031

**TO:** Kevin Crider

**FROM:** Amanda Gray

**DATE:** April 4, 2008

**COPIES:** File

The Evergreen Mobile Home Park STP discharges to an unnamed tributary of Tussocky Creek near Lynchburg, Virginia. Flow frequencies are required at this site for use by the permit writer in developing the VPDES permit.

The flow frequencies for the receiving stream were determined by inspection of the USGS City Farm Quadrangle topographic map. The map depicts the stream as intermittent. The flow frequencies for intermittent streams are 0.0 cfs for the 1Q10, 7Q10, 30Q5, 30Q10, HF1Q10, HF7Q10, HF30Q10 and harmonic mean.

If you have any questions regarding this analysis please feel free to contact me.

# MEMORANDUM

**DEPARTMENT OF ENVIRONMENTAL QUALITY**
*South Central Regional Office - Water Planning*
*7705 Timberlake Road Lynchburg, VA 24502 434/582-5120*

**SUBJECT:** Stream Sanitation Analysis – UT to Tussocky Creek in Campbell County
Evergreen MHP - #VA0062031

**TO:** Kevin Crider

**FROM:** Amanda McKee

**VIA:** Kyle Winter

**DATE:** February 3, 2004

**COPIES:** File

A complete request for a stream sanitation analysis for Evergreen MHP was received on January 21, 2004. The discharge is currently permitted (VA0062031), but the stream sanitation analysis was requested because the permittee proposes to modify the design flow from 0.015 MGD to 0.024 MGD.

Amanda McKee, Kyle Winter and Kelly Wills performed a site visit and observed effluent flow. The effluent temperature was recorded as 1.9 ° C and the effluent DO was recorded as 12.83 mg/l at the outfall. The upstream and downstream elevations of the first segment are 850 ft. and 760 ft. respectively. An unnamed tributary enters at the start of the second segment where the upstream and downstream elevations are 760 ft. and 700 ft. respectively. The receiving stream is considered to be a Tier 1 water and therefore is not subject to antidegradation requirements.

The receiving stream was modeled using DEQ's Regional 4.0 model. The model was initially run using the default values for flow and temperature and the existing permit limits. The water quality standards were violated in this scenario with the proposed expansion. The stream was then modeled for expansion using the default flow and temperature and the following limits: $cBOD_5$ of 14 mg/L, a TKN value of 7 mg/L and a minimum dissolved oxygen limit of 6 mg/L. The water quality standard for DO was maintained in this case, therefore the proposed BOD and DO limits are appropriate.

The model predicted that the discharge will have no significant impact on the UT to Tussocky Creek under 7Q10 conditions. If you have any questions or need any additional information, please do not hesitate to contact me.

REGIONAL MODELING SYSTEM VERSION 4.0
**Model Input File for the Discharge**
**to UNNAMED TRIBUTARY TO TUSSOCKY CREEK.**

## File Information

| | |
|---|---|
| File Name: | U:\Planning\Planning\Modeling\VA0062031.mod |
| Date Modified: | February 03, 2004 |

## Water Quality Standards Information

| | |
|---|---|
| Stream Name: | UNNAMED TRIBUTARY TO TUSSOCKY CREEK |
| River Basin: | James River Basin |
| Section: | 11e |
| Class: | III - Nontidal Waters (Coastal and Piedmont) |
| Special Standards: | None |

## Background Flow Information

| | |
|---|---|
| Gauge Used: | Default |
| Gauge Drainage Area: | 0.1 Sq.Mi. |
| Gauge 7Q10 Flow: | 0 MGD |
| Headwater Drainage Area: | 0.1 Sq.Mi. |
| Headwater 7Q10 Flow: | 0 MGD (Net; includes Withdrawals/Discharges) |
| Withdrawal/Discharges: | 0.04 MGD |
| Incremental Flow in Segments: | 0 MGD/Sq.Mi. |

## Background Water Quality

| | |
|---|---|
| Background Temperature: | 28 Degrees C |
| Background cBOD5: | 2 mg/l |
| Background TKN: | 0 mg/l |
| Background D.O.: | 6.944397 mg/l |

## Model Segmentation

| | |
|---|---|
| Number of Segments: | 2 |
| Model Start Elevation: | 850 ft above MSL |
| Model End Elevation: | 700 ft above MSL |

REGIONAL MODELING SYSTEM VERSION 4.0
**Model Input File for the Discharge**
**to UNNAMED TRIBUTARY TO TUSSOCKY CREEK.**

## Segment Information for Segment 1

### Definition Information

| | |
|---|---|
| Segment Definition: | A discharge enters. |
| Discharge Name: | EVERGREEN MHC |
| VPDES Permit No.: | |

### Discharger Flow Information

| | |
|---|---|
| Flow: | 0.024 MGD |
| cBOD5: | 14 mg/l |
| TKN: | 7 mg/l |
| D.O.: | 6 mg/l |
| Temperature: | 28 Degrees C |

### Geographic Information

| | |
|---|---|
| Segment Length: | 0.893 miles |
| Upstream Drainage Area: | 0.1 Sq.Mi. |
| Downstream Drainage Area: | 2.4 Sq.Mi. |
| Upstream Elevation: | 850 Ft. |
| Downstream Elevation: | 760 Ft. |

### Hydraulic Information

| | |
|---|---|
| Segment Width: | 1 Ft. |
| Segment Depth: | 0.136 Ft. |
| Segment Velocity: | 0.272 Ft./Sec. |
| Segment Flow: | 0.024 MGD |
| Incremental Flow: | 0 MGD (Applied at end of segment.) |

### Channel Information

| | |
|---|---|
| Cross Section: | Deep Narrow U |
| Character: | Moderately Meandering |
| Pool and Riffle: | Yes |
| Percent Pools: | 60 |
| Percent Riffles: | 40 |
| Pool Depth: | 0.16 Ft. |
| Riffle Depth: | 0.1 Ft. |
| Bottom Type: | Large Rock |
| Sludge: | None |
| Plants: | None |
| Algae: | None |

REGIONAL MODELING SYSTEM VERSION 4.0
**Model Input File for the Discharge**
**to UNNAMED TRIBUTARY TO TUSSOCKY CREEK.**

**Segment Information for Segment 2**

Definition Information

| | |
|---|---|
| Segment Definition: | A tributary enters. |
| Tributary Name: | UNNAMED TRIBUTARY TO TUSSOCKY CREEK (WILLOW LAKE) |

Tributary Flow Information

| | |
|---|---|
| Flow: | 0 MGD |
| cBOD5: | 2 mg/l |
| TKN: | 0 mg/l |
| D.O.: | 6.967 mg/l |
| Temperature: | 28 Degrees C |

Geographic Information

| | |
|---|---|
| Segment Length: | 1.098 miles |
| Upstream Drainage Area: | 2.4 Sq.Mi. |
| Downstream Drainage Area: | 6.02 Sq.Mi. |
| Upstream Elevation: | 760 Ft. |
| Downstream Elevation: | 700 Ft. |

Hydraulic Information

| | |
|---|---|
| Segment Width: | 1.499 Ft. |
| Segment Depth: | 0.107 Ft. |
| Segment Velocity: | 0.283 Ft./Sec. |
| Segment Flow: | 0.024 MGD |
| Incremental Flow: | 0 MGD (Applied at end of segment.) |

Channel Information

| | |
|---|---|
| Cross Section: | Rectangular |
| Character: | Moderately Meandering |
| Pool and Riffle: | No |
| Bottom Type: | Gravel |
| Sludge: | None |
| Plants: | None |
| Algae: | None |

"Model Run For U:\Planning\Planning\Modeling\VA0062031.mod On 2/3/04 3
:53:40 PM"

"Model is for UNNAMED TRIBUTARY TO TUSSOCKY CREEK."
"Model starts at the EVERGREEN MHC discharge."

"Background Data"

| "7Q10", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| 0, | 2, | 0, | 6.944, | 28 |

"Discharge/Tributary Input Data for Segment 1"

| "Flow", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| .024, | 14, | 7, | ,6, | 28 |

"Hydraulic Information for Segment 1"

| "Length", | "Width", | "Depth", | "Velocity" |
|---|---|---|---|
| "(mi)", | "(ft)", | "(ft)", | "(ft/sec)" |
| .893, | 1, | .136, | .272 |

"Initial Mix Values for Segment 1"

| "Flow", | "DO", | "cBOD", | "nBOD", | "DOSat", | "Temp" |
|---|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| .024, | 6, | 35, | 17.32, | 7.729, | 28 |

"Rate Constants for Segment 1. - (All units Per Day)"

| "k1", | "k1@T", | "k2", | "k2@T", | "kn", | "kn@T", | "BD", | "BD@T" |
|---|---|---|---|---|---|---|---|
| 1.2, | 1.733, | 20, | 24.179, | .45, | .833, | 0, | 0 |

"Output for Segment 1"
"Segment starts at EVERGREEN MHC"

| "Total", | "Segm." | | | |
|---|---|---|---|---|
| "Dist.", | "Dist.", | "DO", | "cBOD", | "nBOD" |
| "(mi)", | "(mi)", | "(mg/l)", | "(mg/l)", | "(mg/l)" |
| 0, | 0, | 6, | 35, | 17.32 |
| .1, | .1, | 5.448, | 33.664, | 16.999 |
| .2, | .2, | 5.171, | 32.379, | 16.684 |
| .3, | .3, | 5.052, | 31.143, | 16.375 |
| .4, | .4, | 5.024, | 29.954, | 16.071 |
| .5, | .5, | 5.047, | 28.81, | 15.773 |
| .6, | .6, | 5.098, | 27.71, | 15.481 |
| .7, | .7, | 5.164, | 26.652, | 15.194 |
| .8, | .8, | 5.238, | 25.634, | 14.912 |
| .893, | .893, | 5.309, | 24.722, | 14.655 |

"Discharge/Tributary Input Data for Segment 2"

| "Flow", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| 0, | 2, | 0, | ,6.967, | 28 |

"Incremental Flow Input Data for Segment 2"

| "Flow", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| 0, | 2, | 0, | ,6.974, | 28 |

"Hydraulic Information for Segment 2"

| "Length", | "Width", | "Depth", | "Velocity" |
|---|---|---|---|
| "(mi)", | "(ft)", | "(ft)", | "(ft/sec)" |
| 1.098, | 1.499, | .107, | .283 |

"Initial Mix Values for Segment 2"

| "Flow", | "DO", | "cBOD", | "nBOD", | "DOSat", | "Temp" |
|---|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| .024, | 5.309, | 24.722, | 14.655, | 7.749, | 28 |

"Rate Constants for Segment 2. - (All units Per Day)"

| "k1", | "k1@T", | "k2", | "k2@T", | "kn", | "kn@T", | "BD", | "BD@T" |
|---|---|---|---|---|---|---|---|
| 1.4, | 2.022, | 20, | 24.179, | .5, | .925, | 0, | 0 |

"Output for Segment 2"
"Segment starts at UNNAMED TRIBUTARY TO TUSSOCKY CREEK (WILLOW LAKE)"

| "Total", | "Segm." | | | |
|---|---|---|---|---|
| "Dist.", | "Dist.", | "DO", | "cBOD", | "nBOD" |
| "(mi)", | "(mi)", | "(mg/l)", | "(mg/l)", | "(mg/l)" |
| .893, | 0, | 5.309, | 24.722, | 14.655 |
| .993, | .1, | 5.255, | 23.666, | 14.365 |
| 1.093, | .2, | 5.262, | 22.655, | 14.081 |
| 1.193, | .3, | 5.304, | 21.687, | 13.802 |
| 1.293, | .4, | 5.366, | 20.761, | 13.529 |
| 1.393, | .5, | 5.438, | 19.874, | 13.261 |
| 1.493, | .6, | 5.514, | 19.025, | 12.999 |
| 1.593, | .7, | 5.591, | 18.212, | 12.742 |
| 1.693, | .8, | 5.668, | 17.434, | 12.49 |
| 1.793, | .9, | 5.743, | 16.689, | 12.243 |
| 1.893, | 1, | 5.816, | 15.976, | 12.001 |
| 1.991, | 1.098, | 5.886, | 15.307, | 11.768 |

"END OF FILE"

REGIONAL MODELING SYSTEM VERSION 4.0
**Model Input File for the Discharge**
**to UNNAMED TRIBUTARY TO TUSSOCKY CREEK.**

## File Information

| | |
|---|---|
| File Name: | U:\Planning\Planning\Modeling\VA0062031.mod |
| Date Modified: | February 03, 2004 |

## Water Quality Standards Information

| | |
|---|---|
| Stream Name: | UNNAMED TRIBUTARY TO TUSSOCKY CREEK |
| River Basin: | James River Basin |
| Section: | 11e |
| Class: | III - Nontidal Waters (Coastal and Piedmont) |
| Special Standards: | None |

## Background Flow Information

| | |
|---|---|
| Gauge Used: | Default |
| Gauge Drainage Area: | 0.1 Sq.Mi. |
| Gauge 7Q10 Flow: | 0 MGD |
| Headwater Drainage Area: | 0.1 Sq.Mi. |
| Headwater 7Q10 Flow: | 0 MGD (Net; includes Withdrawals/Discharges) |
| Withdrawal/Discharges: | 0.04 MGD |
| Incremental Flow in Segments: | 0 MGD/Sq.Mi. |

## Background Water Quality

| | |
|---|---|
| Background Temperature: | 28 Degrees C |
| Background cBOD5: | 2 mg/l |
| Background TKN: | 0 mg/l |
| Background D.O.: | 6.944397 mg/l |

## Model Segmentation

| | |
|---|---|
| Number of Segments: | 2 |
| Model Start Elevation: | 850 ft above MSL |
| Model End Elevation: | 700 ft above MSL |

REGIONAL MODELING SYSTEM VERSION 4.0
**Model Input File for the Discharge**
**to UNNAMED TRIBUTARY TO TUSSOCKY CREEK.**

## Segment Information for Segment 1

### Definition Information

| | |
|---|---|
| Segment Definition: | A discharge enters. |
| Discharge Name: | EVERGREEN MHC |
| VPDES Permit No.: | |

### Discharger Flow Information

| | |
|---|---|
| Flow: | 0.024 MGD |
| cBOD5: | 15 mg/l |
| TKN: | 7 mg/l |
| D.O.: | 6 mg/l |
| Temperature: | 28 Degrees C |

### Geographic Information

| | |
|---|---|
| Segment Length: | 0.893 miles |
| Upstream Drainage Area: | 0.1 Sq.Mi. |
| Downstream Drainage Area: | 2.4 Sq.Mi. |
| Upstream Elevation: | 850 Ft. |
| Downstream Elevation: | 760 Ft. |

### Hydraulic Information

| | |
|---|---|
| Segment Width: | 1 Ft. |
| Segment Depth: | 0.136 Ft. |
| Segment Velocity: | 0.272 Ft./Sec. |
| Segment Flow: | 0.024 MGD |
| Incremental Flow: | 0 MGD (Applied at end of segment.) |

### Channel Information

| | |
|---|---|
| Cross Section: | Deep Narrow U |
| Character: | Moderately Meandering |
| Pool and Riffle: | Yes |
| Percent Pools: | 60 |
| Percent Riffles: | 40 |
| Pool Depth: | 0.16 Ft. |
| Riffle Depth: | 0.1 Ft. |
| Bottom Type: | Large Rock |
| Sludge: | None |
| Plants: | None |
| Algae: | None |

REGIONAL MODELING SYSTEM VERSION 4.0
**Model Input File for the Discharge**
**to UNNAMED TRIBUTARY TO TUSSOCKY CREEK.**

## Segment Information for Segment 2

Definition Information

| | |
|---|---|
| Segment Definition: | A tributary enters. |
| Tributary Name: | UNNAMED TRIBUTARY TO TUSSOCKY CREEK (WILLOW LAKE) |

Tributary Flow Information

| | |
|---|---|
| Flow: | 0 MGD |
| cBOD5: | 2 mg/l |
| TKN: | 0 mg/l |
| D.O.: | 6.967 mg/l |
| Temperature: | 28 Degrees C |

Geographic Information

| | |
|---|---|
| Segment Length: | 1.098 miles |
| Upstream Drainage Area: | 2.4 Sq.Mi. |
| Downstream Drainage Area: | 6.02 Sq.Mi. |
| Upstream Elevation: | 760 Ft. |
| Downstream Elevation: | 700 Ft. |

Hydraulic Information

| | |
|---|---|
| Segment Width: | 1.499 Ft. |
| Segment Depth: | 0.107 Ft. |
| Segment Velocity: | 0.283 Ft./Sec. |
| Segment Flow: | 0.024 MGD |
| Incremental Flow: | 0 MGD (Applied at end of segment.) |

Channel Information

| | |
|---|---|
| Cross Section: | Rectangular |
| Character: | Moderately Meandering |
| Pool and Riffle: | No |
| Bottom Type: | Gravel |
| Sludge: | None |
| Plants: | None |
| Algae: | None |

"Model Run For U:\Planning\Planning\Modeling\VA0062031.mod On 2/3/04 3
:53:07 PM"

"Model is for UNNAMED TRIBUTARY TO TUSSOCKY CREEK."
"Model starts at the EVERGREEN MHC discharge."

"Background Data"

| "7Q10", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| 0, | 2, | 0, | 6.944, | 28 |

"Discharge/Tributary Input Data for Segment 1"

| "Flow", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| .024, | 15, | 7, | ,6, | 28 |

"Hydraulic Information for Segment 1"

| "Length", | "Width", | "Depth", | "Velocity" |
|---|---|---|---|
| "(mi)", | "(ft)", | "(ft)", | "(ft/sec)" |
| .893, | 1, | .136, | .272 |

"Initial Mix Values for Segment 1"

| "Flow", | "DO", | "cBOD", | "nBOD", | "DOSat", | "Temp" |
|---|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| .024, | 6, | 37.5, | 17.32, | 7.729, | 28 |

"Rate Constants for Segment 1. - (All units Per Day)"

| "k1", | "k1@T", | "k2", | "k2@T", | "kn", | "kn@T", | "BD", | "BD@T" |
|---|---|---|---|---|---|---|---|
| 1.2, | 1.733, | 20, | 24.179, | .45, | .833, | 0, | 0 |

"Output for Segment 1"
"Segment starts at EVERGREEN MHC"

| "Total", | "Segm." | | | |
|---|---|---|---|---|
| "Dist.", | "Dist.", | "DO", | "cBOD", | "nBOD" |
| "(mi)", | "(mi)", | "(mg/l)", | "(mg/l)", | "(mg/l)" |
| 0, | 0, | 6, | 37.5, | 17.32 |
| .1, | .1, | 5.374, | 36.068, | 16.999 |
| .2, | .2, | 5.057, | 34.691, | 16.684 |
| .3, | .3, | 4.918, | 33.366, | 16.375 |
| .4, | .4, | 4.881, | 32.092, | 16.071 |
| .5, | .5, | 4.901, | 30.867, | 15.773 |
| .6, | .6, | 4.953, | 29.688, | 15.481 |
| .7, | .7, | 5.022, | 28.554, | 15.194 |
| .8, | .8, | 5.099, | 27.464, | 14.912 |
| .893, | .893, | 5.175, | 26.487, | 14.655 |

"**********"
"!!!THE WATER QUALITY STANDARD IS VIOLATED IN SEGMENT 1!!!"

"**********"

"Discharge/Tributary Input Data for Segment 2"

| "Flow", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| 0, | 2, | 0, | ,6.967, | 28 |

"Incremental Flow Input Data for Segment 2"

| "Flow", | "cBOD5", | "TKN", | "DO", | "Temp" |
|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| 0, | 2, | 0, | ,6.974, | 28 |

"Hydraulic Information for Segment 2"

| "Length", | "Width", | "Depth", | "Velocity" |
|---|---|---|---|
| "(mi)", | "(ft)", | "(ft)", | "(ft/sec)" |
| 1.098, | 1.499, | .107, | .283 |

"Initial Mix Values for Segment 2"

| "Flow", | "DO", | "cBOD", | "nBOD", | "DOSat", | "Temp" |
|---|---|---|---|---|---|
| "(mgd)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "(mg/l)", | "deg C" |
| .024, | 5.175, | 26.487, | 14.655, | 7.749, | 28 |

"Rate Constants for Segment 2. - (All units Per Day)"

| "k1", | "k1@T", | "k2", | "k2@T", | "kn", | "kn@T", | "BD", | "BD@T" |
|---|---|---|---|---|---|---|---|
| 1.4, | 2.022, | 20, | 24.179, | .5, | .925, | 0, | 0 |

"Output for Segment 2"

"Segment starts at UNNAMED TRIBUTARY TO TUSSOCKY CREEK (WILLOW LAKE)"

| "Total" "Dist.", | "Segm." "Dist.", | "DO", | "cBOD", | "nBOD" |
|---|---|---|---|---|
| "(mi)", | "(mi)", | "(mg/l)", | "(mg/l)", | "(mg/l)" |
| .893, | 0, | 5.175, | 26.487, | 14.655 |
| .993, | .1, | 5.117, | 25.356, | 14.365 |
| 1.093, | .2, | 5.124, | 24.273, | 14.081 |
| 1.193, | .3, | 5.169, | 23.236, | 13.802 |
| 1.293, | .4, | 5.234, | 22.243, | 13.529 |
| 1.393, | .5, | 5.31, | 21.293, | 13.261 |
| 1.493, | .6, | 5.391, | 20.383, | 12.999 |
| 1.593, | .7, | 5.473, | 19.512, | 12.742 |
| 1.693, | .8, | 5.555, | 18.679, | 12.49 |
| 1.793, | .9, | 5.635, | 17.881, | 12.243 |
| 1.893, | 1, | 5.713, | 17.117, | 12.001 |
| 1.991, | 1.098, | 5.786, | 16.4, | 11.768 |

"END OF FILE"

# ATTACHMENT 10

# TABLE A AND TABLE B - CHANGE SHEETS

TABLE A

VPDES PERMIT PROGRAM - **VA0062031 (2009 Reissuance)**
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

| OUTFALL NUMBER | PARAMETER | MONITORING CHANGED FROM / TO | EFFLUENT LIMITS CHANGED FROM / TO | RATIONALE | DATE & INITIAL |
|---|---|---|---|---|---|
| 001 | Interim Limitations for 0.015 MGD Plant – Previous permit Part I.A.1. | All monitoring removed. | All limits removed. | Previous permit contained Interim and Final limits based on approval of CTO for plant upgrade from 0.015 MGD to 0.024 MGD. | 12/15/08 KAC |
| | | | | | |

| OTHER CHANGES FROM: | CHANGED TO: | DATE & INITIAL |
|---|---|---|
| Additional Chlorine Limitations and Monitoring Requirements Condition (**Previous Permit Part I.B**). | Removed - Upon completion of the plant upgrade, disinfection by chlorination was replaced with Ultraviolet disinfection. | 12/15/08 KAC |
| Schedule for Expansion Condition (**Previous Permit Part I.C**) | Removed – Expansion has been completed. | 12/15/08 KAC |
| Financial Assurance and Disclosure to Purchasers Condition (**Proposed Permit Part 1.B.1.b.**) | Updated per Agency Guidance; removed requirement to provide an updated closure plan and cost estimate from previous permit. | 12/15/08 KAC |
| Licensed Wastewater Operator Requirement Condition (**Proposed Permit Part I.B.2.**) | Updated per Agency Guidance; Class III now required with expansion/upgrade. | 12/15/08 KAC |
| Compliance Reporting Under Part 1.A and 1.B. (**Proposed Permit Part I.6.a(1).**) | Removed QL for TRC; changed Ammonia from 0.2 mg/l to 0.20 mg/l; added TKN QL of 0.50 mg/l. | 12/15/08 KAC |
| Permit Application Requirement Special Condition (**Proposed Permit Part I.C.10**). | Added per Agency Guidance to communicate specific dates for filing application for reissuance. | 12/15/08 KAC |
| | | |

TABLE B

VPDES PERMIT PROGRAM – **VA0062031 (2009 Reissuance)**
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

| OUTFALL NUMBER | PARAMETER CHANGED | MONITORING LIMITS CHANGED FROM / TO | EFFLUENT LIMITS CHANGED FROM / TO | RATIONALE | DATE & INITIAL |
|---|---|---|---|---|---|
| 001 | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| OTHER CHANGES FROM: | CHANGED TO: | DATE & INITIAL |
|---|---|---|
| | | |
| | | |

# ATTACHMENT 11

# EPA/VIRGINIA DRAFT PERMIT SUBMISSION CHECKLIST

## Part I. Virginia Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

| | |
|---|---|
| Facility Name: | **Evergreen Mobile Home Park STP** |
| NPDES Permit Number: | **VA0062031** |
| Permit Writer Name: | **Kevin A. Crider, DEQ South Central Regional Office** |
| Date: | **October 2, 2008** |

**Major** [ ] **Minor** [X] **Industrial** [ ] **Municipal** [X]

| **I.A. Draft Permit Package Submittal Includes:** | **Yes** | **No** | **N/A** |
|---|---|---|---|
| 1. Permit Application? | X | | |
| 2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)? | X | | |
| 3. Copy of Public Notice? | | X | |
| 4. Complete Fact Sheet? | X | | |
| 5. A Priority Pollutant Screening to determine parameters of concern? | X | | |
| 6. A Reasonable Potential analysis showing calculated WQBELs? | X | | |
| 7. Dissolved Oxygen calculations? | X | | |
| 8. Whole Effluent Toxicity Test summary and analysis? | | | X |
| 9. Permit Rating Sheet for new or modified industrial facilities? | | | X |

| **I.B. Permit/Facility Characteristics** | **Yes** | **No** | **N/A** |
|---|---|---|---|
| 1. Is this a new, or currently unpermitted facility? | | X | |
| 2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit? | X | | |
| 3. Does the fact sheet **or** permit contain a description of the wastewater treatment process? | X | | |
| 4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit? | | X | |

| I.B. Permit/Facility Characteristics – cont. | Yes | No | N/A |
|---|---|---|---|
| 5. Has there been any change in streamflow characteristics since the last permit was developed? | | X | |
| 6. Does the permit allow the discharge of new or increased loadings of any pollutants? | | X | |
| 7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses? | X | | |
| 8. Does the facility discharge to a 303(d) listed water? | | X | |
| 8.a. Has a TMDL been developed and approved by EPA for the impaired water? | | | X |
| 8.b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit? | | | X |
| 8.c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water? | | | X |
| 9. Have any limits been removed, or are any limits less stringent, than those in the current permit? | | X | |
| 10. Does the permit authorize discharges of storm water? | | X | |
| 11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production? | | X | |
| 12. Are there any production-based, technology-based effluent limits in the permit? | X | | |
| 13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures? | | X | |
| 14. Are any WQBELs based on an interpretation of narrative criteria? | | X | |
| 15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations? | | X | |
| 16. Does the permit contain a compliance schedule for any limit or condition? | | X | |
| 17. Does the permit include appropriate Pretreatment Program requirements? | | | X |
| 18. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)? | | X | |
| 19. Have impacts from the discharge(s) at downstream potable water supplies been evaluated? | X | | |
| 20. Is there any indication that there is significant public interest in the permit action proposed for this facility? | | X | |
| 21. Has previous permit, application, and fact sheet been examined? | X | | |

**Part II NPDES Draft Permit Checklist**
**Region III NPDES Permit Quality Checklist – for POTWs**
(To be completed and included in the record only for POTWs)

| II.A. Permit Cover Page/Administration | Yes | No | N/A |
|---|---|---|---|
| 1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)? | X | | |
| 2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)? | X | | |

| II.B. Effluent Limits – General Elements | Yes | No | N/A |
|---|---|---|---|
| 1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a Comparison of technology and water quality-based limits was performed, and the most stringent limit selected)? | X | | |
| 2. Does the record discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit? | | | X |

| II.C. Technology-Based Effluent Limits (POTWs) | Yes | No | N/A |
|---|---|---|---|
| 1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS and pH? | X | | |
| 2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133? | X | | |
| 2.a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved? | | | X |
| 3. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)? | X | | |
| 4. Are permit limits for BOD and TSS expressed in terms of both long-term (e.g., average monthly) and short term (e.g., average weekly) limits? | X | | |
| 5. Are any concentration limitations in the permit less stringent than the Secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average? | | X | |
| 5.a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations? | | | X |

| II.D. Water Quality-Based Effluent Limits | Yes | No | N/A |
|---|---|---|---|
| 1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering state narrative and numeric criteria for water quality? | X | | |
| 2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL? | | | X |

| II.D. Water Quality-Based Effluent Limits – cont. | Yes | No | N/A |
|---|---|---|---|
| 3. Does the fact sheet provide effluent characteristics for each outfall? | X | | |
| 4. Does the fact sheet document that a "reasonable potential" evaluation was performed? | X | | |
| 4.a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures? | | | |
| 4.b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone? | X | | |
| 4.c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"? | X | | |
| 4.d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)? | X | | |
| 4.e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined? | X | | |
| 5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet? | X | | |
| 6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established? | X | | |
| 7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)? | X | | |
| 8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy? | X | | |

| II.E. Monitoring and Reporting Requirements | Yes | No | N/A |
|---|---|---|---|
| 1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations? | X | | |
| 1.a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver? | | | X |
| 2. Does the permit identify the physical location where monitoring is to be performed for each outfall? | X | | |
| 3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements? | | X | |
| 4. Does the permit require testing for Whole Effluent Toxicity? | | X | |

| II.F. Special Conditions | Yes | No | N/A |
|---|---|---|---|
| 1. Does the permit include appropriate biosolids use/disposal requirements? | X | | |

| II.F. Special Conditions – cont. | Yes | No | N/A |
|---|---|---|---|
| 2. Does the permit include appropriate storm water program requirements? | | | X |
| 3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements? | X | | |
| 4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations? | X | | |
| 5. Does the permit authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]? | | | X |
| 5.a. Does the permit require implementation of the "Nine Minimum Controls"? | | | X |
| 5.b. Does the permit require development and implementation of a "Long Term Control Plan"? | | | X |
| 5.c. Does the permit require monitoring and reporting for CSO events? | | | X |
| 6. Does the permit include appropriate Pretreatment Program requirements? | | | X |

| II.G. Standard Conditions | Yes | No | N/A |
|---|---|---|---|
| 1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions? | X | | |
| **List of Standard Conditions – 40 CFR 122.41**<br>• Duty to comply<br>• Duty to reapply<br>• Need to halt or reduce activity not a defense<br>• Duty to mitigate<br>• Proper O & M<br>• Permit Actions<br>• Property rights<br>• Duty to provide information<br>• Inspections and entry<br>• Monitoring and reporting<br>• Signatory requirement<br>• Reporting requirements<br>Planned change<br>Anticipated non-compliance<br>Transfers<br>Monitoring Reports<br>Compliance schedules<br>24-hour reporting<br>Other non-compliance<br>• Bypass<br>• Upset | | | |
| 2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]? | X | | |

## Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

| | |
|---|---|
| Name | **Kevin A. Crider** |
| Title | **Environmental Engineer, Water Permit Writer** |
| Signature | |
| Date | **October 2, 2008** |

# ATTACHMENT 12

# CHRONOLOGY SHEET

CHRONOLOGY OF EVENTS - **VA0062031 (2009 Reissuance)**

| APPLICATION RECEIVED | APPLICATION RETURNED | ADDITIONAL INFO REQUESTED | APPLICATION/ADD INFO DUE BACK IN RO | APPLICATION/ADD. INFO RECEIVED |
|---|---|---|---|---|
| 9/10/08 VPDES Sludge App, Addendum | | 9/16/08 No Form 2A | | 9/17/08 Another Sludge Application Rec'd |
| | | 9/18/08 No Form 2A | | 9/19/08 Form 2A Rec'd |
| | | 9/24/08 – Need additional copies of Applciation and Original Signature | 10/10/2008 | 10/10/08 Original and 2 copies Rec'd |
| APPLICATION TO VDH: 9/22/2008 | | | VDH COMMENTS RECEIVED: 10/2/2008 | |
| APPLICATION ADMIN. COMPLETE: 10/22/2008 | | | APPLICATION TECH. COMPLETE: 10/22/2008 | |

| Date | DESCRIPTIVE STATEMENT [CHRONOLOGY OF EVENTS] (Meetings, telephone calls, letters, memos, hearings, etc. affecting permit from application to issuance) |
|---|---|
| 9/10/08 | Partial Application received. Missing EPA Form 2A. |
| 9/16/08 | Contacted Owner by phone to request additional application pages – EPA Form 2A. |
| 9/17/08 | Owner dropped off another copy of VPDES Sludge application. |
| 9/18/08 | Contacted owner by phone to request EPA Form 2A. |
| 9/19/08 | Owner submits EPA Form 2A. |
| 9/22/08 | Application transmitted to VDH for review and comment. |
| 10/2/08 | VDH Comments received @ RO. No objections to the application or permit. |
| 10/21/08 | PN Authorization form transmitted to owner via email. |
| 10/22/08 | Signed PN Authorization received from owner. |
| 12/15/08 | Permit Drafted and forwarded to Permit Manager for review. |
| 12/16/08 | Complete application letter transmitted to owner. |
| 12/13/08 | DP/FS review completed by permit manager. |
| 01/15/09 | FS revised; FS and DP submitted to permit manager for review. |
| 01/15/09 | Electronic copy of DP emailed to owner. |
| 01/20/09 | Hard copy of DP/FS mailed to owner. |
| 2/13/09 | Email to Butch Royal on status of draft permit review. |
| 2/15/09 | Email from Royal to schedule meeting for 2/16/09 ~1000. |
| 2/16/09 | Meeting @ BRRO Lynchburg to discuss changes to permit. Owner concurs with draft permit and authorization to proceed with PN. |
| 2/18/09 | PN to Paper – via email and hard copy. PN to public officials. |
| 2/18/09 | PN to Hawkins – via email. |
| 2/20/09 | 1st run date for PN in News and Advance. |
| 2/27/09 | 2nd run date for PN in News and Advance. |
| 3/2/09 | PN mailing list received from CO (Hawkins). |
| 3/11/09 | PN Verification received from News Advance. |
| 3/23/09 | 30-day public comment period ends. |
| | |