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Please contact the appropriate permitting authority (either a State or EPA Regional office) prior to acting on this information to ensure you have the most up-to-date permit and/or fact sheet. EPA recognizes the official version of a permit or fact sheet to be the version designated as such and appropriately stored by the respective permitting authority.

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**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT**

**AND**

**MAINE WASTE DISCHARGE LICENSE**

# FACT SHEET

Date: **October 22, 2002**
Revised: **November 25, 2002**

PERMIT NUMBER: **ME0101079**
LICENSE NUMBER: **W000842-5L-E-M**

NAME AND ADDRESS OF APPLICANT:

**Mars Hill Utility District**
**P. O. Box 342, 70 Mill Street**
**Mars Hill, Maine 04758**

COUNTY: **Aroostook**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**70 Mill Street**
**Mars Hill, Maine**

RECEIVING WATER AND CLASSIFICATION: **Prestile Stream, Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Frank S. Kearney Sr.**
**(207) 425-2620**

## 1. APPLICATION SUMMARY

a. Application: The applicant has applied for modification and renewal of Department Waste Discharge License (WDL) #W000842-5L-C-R, which was issued on November 24, 1999 and is due to expire on November 24, 2004. The WDL authorized the MHUD to discharge up to a monthly average of 1.0 million gallons per day (MGD) of secondary treated sanitary waste waters from a publicly owned treatment works facility to Prestile Stream, Class B, in Mars Hill, Maine.

## 1. APPLICATION SUMMARY (cont'd)

b. Modifications requested - The MHUD has requested to modify the 11/24/99 WDL to incorporate the terms and conditions of the MEPDES permitting program, establish a sliding scale discharge regime by which a dilution factor of 114:1 will be maintained at all times and incorporate the ground water monitoring requirements contained in a Site Location of Development Order issued by the Department on April 30, 1992. It is noted the 11/24/99 WDL established a discharge prohibition when Prestile Stream is less than 174 cfs. The discharge prohibition below 174 cfs has created operational constraints for the MHUD in that during years of extended dry weather conditions, the MHUD is required to treat and store waste water for weeks and sometimes months longer than the original design capacity of the system. As a result, in the fall of the year, the storage lagoon can not be lowered to a level which will provide sufficient storage capacity through the winter months until the spring when flows in Prestile Stream are greater than 174 cfs. In calendar year 2001, the Department authorized an emergency discharge from the MHUD facility to prevent overtopping of the storage lagoon with a condition to maintain a dilution factor of 114:1 at all times.

c. Regulatory - On January 12, 2001, the Department received authorization from U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program and permit #ME0101079 will be utilized as the primary reference permit number. The NPDES permit last issued by the EPA on September 25, 2000 will be superseded by the MEPDES permit upon issuance. Once superseded, all terms and conditions of the NPDES permit are null and void. It is noted that on April 4, 2002, the MHUD submitted a letter to the Department authorizing the EPA to retire the NPDES permit.

## 2. PERMIT SUMMARY

a. Summary: This permit/license action is:

1) Carrying forward the monthly average flow limitation of 1.0 MGD.

2) Carrying forward the monthly average, weekly average and daily maximum best practicable treatment (BPT) concentration and mass limits for biochemical oxygen demand (BOD) and total suspended solids (TSS) based on a flow of 1.0 MGD.

3) Carrying forward the daily maximum BPT limits for settleable solids and pH.

**2. PERMIT SUMMARY (cont'd)**

4) Carrying forward the monthly average (geometric mean) and daily maximum water quality based limits for *E. coli* bacteria.

5) Establishing a water quality based daily maximum concentration limit for total residual chlorine.

6) Carrying forward the requirement to measure the flow in Prestile Stream on a daily basis.

7) Eliminating surveillance level chemical specific (priority pollutant) testing based on criteria established in Department rule Chapter 530.5, *Surface Water Toxics Control Program.*

8) Establishing a sliding scale discharge regime by which a dilution factor of 50:1 is maintained at all times during the time periods March 1st – May 31st and October 1st - November 30th and maintain a dilution factor of 75:1 during the time periods December 1st - February 28th and June 1st – September 30th.

9) Establishing weekly average mass and concentration limits for total phosphorus if the MHUD discharges during the period May 15 – September 30.

10) Eliminating the prohibition to discharge to Prestile Stream when the the stream is less than 174 cfs.

11) Incorporating the terms and conditions of the MEPDES permiting program.

12) Incorporating monitoring requirements for two of the eight existing ground water monitoring wells.

b. History: The MHUD constructed a new secondary waste water treatment facility that commenced operations in November of 1993 and replaced a primary treatment facility. The most recent permitting/licensing actions include the following:

*May 29, 1991* – The Department issued WDL #W000842-46-C-R with secondary treatment limitations.

*April 30, 1992* – The Department issued *Site Location of Development, Natural Resource Protection Water Quality Certification Findings of Fact Order #L-17896-29-A-N* for the construction of the waste water treatment facility.

**2. PERMIT SUMMARY (cont'd)**

*February 1, 1995* – The Department administratively modified WDL #W000842-46-C-R to incorporate whole effluent toxicity (WET) and chemical specific testing pursuant to Department regulation, Chapter 530.5, *Surface Water Toxics Control Program.*

*September 28, 1995* – The EPA issued NPDES permit #ME0101079 with secondary treatment requirements.

*March 13, 1996* - The MHUD submitted an application to the Department for renewal of WDL #W000842-46-C-R.

*April 1998* - The MHUD amended their 3/13/96 WDL application by requesting an increase in the monthly average flow limit from 0.70 MGD to 1.0 MGD based on a receiving water trigger flow of 174 cfs. The licensee also requested a proportional increase in biochemical oxygen demand (BOD) and total suspended solids (TSS) mass limitations.

*November 24, 1999* – The Department renewed the WDL for a five-year term by issuing WDL #W000842-5L-C-R.

*January 14, 2000* – The Department administratively modified the 11/24/99 WDL by reducing the frequency of monitoring for settleable solids, total residual chlorine and pH from 1/Day to 5/Week as requested by the MHUD in a letter to the Department dated December 29, 1999.

*September 25, 2000* – The EPA issued a renewal of NPDES permit #ME0101079 for a five-year term.

*May 20, 2002* – The MHUD submitted an application to the Department to modify the 11/24/99 WDL. See Section 1(b) of this Fact Sheet for the modifications requested.

c. Source Description: The waste water treatment facility receives sanitary waste water flows generated by approximately 1,200 commercial and residential users within the MHUD boundaries. The collection system is a separated system approximately 5.5 miles in length with two pump stations and no combined sewer overflow (CSO) points. The two pump stations in the collection system are equipped with a back-up power source. One station has an on-site generator while the other is served by a portable generated. It is noted that a bypass structure at the Pleasant Street pump station identified in Part I.D. of the 9/25/00 NPDES permit renewal has been permanently blocked off and is no longer capable of discharging. The permittee has indicated that no industry contributes more than 10% of the volume of waste water received by the treatment facility. In December of

## 2. PERMIT SUMMARY (cont'd)

1998, the MHUD installed a limestone contactor corrosion control system for the drinking water supply in an effort to reduce copper and lead concentrations in waste waters being conveyed to the waste water treatment facility. The treatment facility is not authorized to accept septage from local septage haulers.

d. Waste Water Treatment: The facility provides a secondary level of treatment via four lagoons, three aerated lagoons and one storage lagoon. The storage lagoon has a capacity of 32 million gallons. Each of the four lagoons has a high density polyethylene synthetic liner. Major components of the treatment system include a bar screen, a grit chamber, four lagoons operated in series totalling 10.7 acres in area with fine-bubbled diffused aeration in three of the four lagoons. The facility is equipped with a diesel powered generator that enables the facility to continue to provide a secondary level of treatment in the event of a power failure. The treated effluent is disinfected with sodium hypochlorite and discharged to Prestile Stream via a ductile iron pipe measuring 8 inches in diameter that extends out into the thread of the stream. The outfall does not have a diffuser on the end of it as rapid and completely mixing of the effluent with the receiving water is achieved without a diffuser. The facility has the necessary equipment to provide for de-chlorination with sodium bisulfite if necessary. It is noted it is the MHUD's normal practice (not prohibited by this permit or the pevious licensing action) is not to discharge between May 15$^{th}$ and September 30$^{th}$ of each year to avoid the potential of adversely impacting ambient water quality during the summer months when receiving waters are most at risk.

In their 5/20/02 application for modification of the WDL, the MHUD states that they have the equipment in-place to operate, maintain and verify that a pre-determined fixed dilution factor is achieved at all times. That equipment includes a magnetic flow meter on the effluent discharged that is accurate to 1 gpm and calibrated annually, a Check Well Water Level Monitor (stream gauge) to determine the flow in Prestile Stream at all times that is calibrated annually, a SCADA computer system that automatically adjusts the discharge flow based on the stream flow and has the U.S. Geological Survey verify the stream flow and provide the MHUD with an annual rating curve for the stream.

## 3. CONDITIONS OF PERMITS

Maine Law, 38 M.R.S.A., Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420, and Department Regulation Chapter 530.5, *Surface Water Toxics Control Program*, requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

## 4. RECEIVING WATER QUALITY STANDARDS:

Maine law, 38 M.R.S.A., §467(15)(F)(1) s classifies Prestile Stream at the point of discharge as a Class B waterway. Maine law, 38 M.R.S.A., §465(3) contains the clasification standards for Class B waterways.

## 5. RECEIVING WATER QUALITY CONDITIONS:

The *2002 Integrated Water Quality Monitoring And Assessment Report* published by the Department indicates the designated use of fishing (consumption) in the 9.2-mile segment of the main stem of the Prestile Stream below the dam in Mars Hill is being impaired due to DDT and agricultural non-point source run-off is the suspected cause. The Department collected ambient water quality data on Prestile Stream during calendar year 2002 that indicates Class B standards are being maintained below the MHUD discharge and that the MHUD discharge is not causing or contributing to the impairment cited above.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous licensing action established a monthly average flow limitation of 1.0 MGD that is being carried forward in this permiting action as it remains representative of the volume of the discharge necessary to comply with the annual discharge restrictions in this permitting action.

b. Dilution Factor(s): The previous licensing action required the permittee to regulate the discharge from the facility such that a dilution factor of 114:1 was to be maintained at all times and prohibited all discharges when Prestile Stream was below 174 cfs. The Department is re-evaluated the dilution factor threshold and stream flow threshold in this permitting action. Department personnel involved in the previous licensing action indicate the dilution factor of 114:1 was derived as a threshold at which the MHUD would not have a reasonable potential to exceed ambient water quality criteria (AWQC) for any of the chemical specific (priority pollutant) parameters or whole effluent toxicity (WET) species tested as of the date of the licensing action. In accordance with Department rule Chapter 530.5, *Surface Water Toxics Control Program*, and *Maine Department of Environmental Protection, Toxicity Program Implementation Protocols*, the Department conducted an up-to-date statistical evaluation of the most current 60 months of WET and chemical specific test results to determine if the discharge over said period exceeded or had a reasonable potential to exceed AWQC. The October 4, 2002, statistical evaluation indicates that with a dilution threshold as low as 50:1, the discharge does not exceed or have a reasonable potential to exceed AWQC for any of the chemical specific elements/compounds or WET species tested to date. Therefore, this permitting action is seasonally reducing the dilution factor threshold that must be maintained at all times when discharging from 114:1 to 50:1. The MHUD has agreed to the threshold of 50:1.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

The MHUD has indicated that though they have not been discharging to Prestile Stream between May 15th – September 30th they would like to retain the option to do so. To provide for a margin of safety during the time of year when receiving water quality is most at risk (summer) and when flows in the river may be less than accurate due to icing on the river (winter), the Department has multiplied the spring and fall dilution factor threshold of 50:1 by a factor of 1.5 (arbitrary) to establish a summer time dilution factor threshold of 75:1.

Being that seasonal dilution factor thresholds and water quality/technology based limitations are being established that are protective of water quality standards at all levels of discharge in the sliding scale, the Department is eliminating the prohibition to discharge when Prestile Stream is below 174 cfs. In summary, the annual discharge restrictions are as follows:

December 1st through February 28 – Maintain dilution factor of 75:1.

March 1st through May 31st – Maintain a dilution factor of 50:1.

June 1st through September 30th – Maintain a dilution factor of 75:1.

October 1st through November 30th - Maintain a dilution factor of 50:1.

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): The previous licensing established monthly and weekly average BOD5 and TSS BPT concentration limits of 30 mg/L and 45 mg/L respectively, that were based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR 133.102 and Department rule Chapter 525(3)(III). The concentration limits are being carried forward in this permiting action and are applicable under all conditions as they relate to the sliding scale discharge regime. The maximum daily BOD5 and TSS concentration limits of 50 mg/L was based on a Department best professional judgment of BPT.

As for mass limitations, the previous licensing action established monthly average, weekly average and daily maximum mass limitations based on a monthly average limit of 1.0 MGD that are being carried forward in this permitting action. In addition, this permitting action is establishing a sliding scale for said mass limitations based on the allowable discharge flow such that the applicable seasonal dilution factors of 50:1 and 75:1 are maintained at all times. The equation to determine the applicable limitations under the sliding scale discharge regime are as follows:

Monthly average : (Discharge flow in MGD)(8.34)(30 mg/L) = #/day
Weekly average: (Discharge flow in MGD)(8.34)(45 mg/L) = #/day
Daily Maximum: (Discharge flow in MGD)(8.34) (50 mg/L) = #/day

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

d. Settleable Solids - The previous license established a daily maximum concentration limit of 0.3 ml/L that is being carried forward in this permitting action and is considered a BPT limitation. The daily maximum limit is applicable under all conditions as it relates to the sliding scale discharge regime.

e. *E. coli* bacteria The previous licensing action established seasonal (May 15 – September 30) monthly average and daily maximum *E. coli* bacteria limits of 64 colonies/100 ml and 427 colonies/100 ml respectively, that are being carried forward in this permitting action. The limits are based on the State of Maine Water Classification Program criteria for Class B waters pursuant to Maine law, 38 M.R.S.A., §465 and are applicable under all conditions of the sliding scale discharge regimes between May 15 and September 30 of each year.

f. Total Residual Chlorine: Limits on total residual chlorine are specified to ensure attainment of the in-stream water quality criteria for chlorine and that BPT technology is utilized to abate the discharge of chlorine. Permits issued by this Department impose the more stringent of the calculated water quality based or BPT based limits. The previous licensing action established a seasonal daily maximum limitation of 1.0 mg/L as a BPT limit as it was more stringent than a calculated water quality based threshold of 1.25 mg/L based on a chronic AWQC of 0.011 mg/L and a dilution factor of 114:1 With the new summertime dilution factor of 50:1 (May 15 – May 31) and 75:1 (June 1 – September 30), end-of-pipe water quality based thresholds for TRC may calculated as follows:

| Acute (A) Criterion | Chronic (C) Criterion | A & C Dil. Factors | Calculated Acute Limit | Chronic Limit |
|---|---|---|---|---|
| 19 ug/L | 11 ug/L | 50:1 | 0.95 mg/L | 0.55 mg/L |
| 19 ug/L | 11 ug/L | 75:1 | 1.4 mg/L | 0.83 mg/L |

The Department has established a daily maximum best practicable treatment limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine based compounds unless the calculated acute water quality based threshold is lower than 1.0 mg/L. For facilities that need to de-chlorinate the discharge to meet water quality based thresholds, the Department has established daily maximum and monthly average best practicable treatment limits of 0.3 mg/L and 0.1 mg/L respectively. In the case of the MHUD, between May 15 and May 31 the chronic water quality based threshold is low enough such the the facility will need to de-chlorinate the discharge. Therefore, the best practicable treatment limits of 0.3 mg/L (daily maximum) and 0.1 mg/L monthly average are being imposed

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Between June 1 and September 30 the calculated acute water quality threshold is higher than 1.0 mg/l (de-chlorination not necessary), thus the best practicable treatment limitation of 1.0 mg/L is imposed. As for the monthly average limitation, the Department has not established a best practicable treatment limitation. However, the chronic water quality based threshold calculated above is lower than the daily maximum BPT limit of 1.0 mg/L indicating the 1.0 mg/L limit is not protective of aquatic life on a longer term (chronic) basis. Therefore, a monthly average water quality based limit of 0.83 mg/L is being established.

h. Total phosphorus – Ambient water quality sampling conducted by the Department around the State of Maine during the last three to four years indicates that instream concentration of 30 ug/L to 50 ug/L [(best professional judgment (BPJ)] for total phosphorus is likely to cause or contribute to non-attainment of dissolved oxygen standards in waterbodies, particularly Class B waterbodies. The non-attainment is usually limited to the summer months from June 1st – September 30$^{th}$. As a result, this permitting action is establishing a weekly average total phosphorus limit of 2.5 mg/L and 19 lbs/day based on the following calculations:

Dilution factor threshold during the summer months – 75:1

Critical in-stream threshold for total phosphorus (BPJ)– 30 ug/L

Weekly average concentration limit: (75)(30 ug/L) = 2.3 mg/L

Weekly mass limit: (2.3 mg/L)(8.34)(1.0 MGD) = 19 lbs/day

The weekly average mass limitation is subject to the "sliding scale" discharge regime such that the limitations are derived from the allowable discharge flow (maintaining the applicable dilution factor) and the applicable concentration limit. The equation to determine the applicable limitations under the sliding scale discharge regime are as follows:

Weekly average: (Discharge flow in MGD)(8.34)(2.3 mg/L) = #/day

i. pH – The previous licensing action established a pH range limitation of 6.0 - 8.5 standard units. The limits were based on Maine Board of Environmental Protection Policy regarding the certification of NPDES permits and were considered best practicable treatment limitations. This permitting action is expanding the range limit from 6.0 – 8.5 to 6.0 –9.0 standard units pursuant to a new Department rule found at Chapter 525(3)(III)(c). The new limits are considered BPT.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

The monitoring frequencies established for the parameters above are based on a schedule established in a 1992 Department policy regarding the certification of NPDES permits.

j. Whole Effluent Toxicity (WET) and Chemical Specific Testing – Maine Law, 38 M.R.S.A., Sections 414-A and 420, prohibits the discharge of effluents containing substances in amounts which would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the U.S. EPA. Department Rule, 06-096 CMR Chapter 530.5, *Surface Water Toxics Control Program*, set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Chemical specific, or "priority pollutant (PP)," testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria. The permittee has been conducting WET and chemical specific testing pursuant to Department rule Chapter 530.5. The regulation placed the MHUD facility in the low frequency category for WET testing as the facility had a chronic dilution factor of greater than 100:1 and in the low frequency testing category for chemical specific testing as the facility did not meet the criteria for the high or medium categories.

Maine Department of Environmental Protection Guidance entitled *Toxicity Program Implementation Protocols*, July 1998, protocol #F(9) establishes the criteria for reduced surveillance level testing for publicly owned treatment works. The protocol states that for facilities with all dilution factors greater than 20:1 and no reasonable potential or exceedences of AWQC over a full five-year cycle may receive a reduction to one round of screening testing for the complete suite of chemical specific (priority pollutants) and acute and chronic WET tests for all required species and that all screening tests must be completed in the screening year. The screening year begins 12-months prior to the expiration date of the permit.

The 11/24/99 WDL established a surveillance level monitoring frequency of 1/Year for chemical specific testing and a 1/5 Year screening level monitoring frequency for WET testing as the MHUD met the reduced testing frequency critieria in protocol #F(9). Since issuance of the 11/24/99 WDL, the MHUD has also met the criteria for reduced testing for chemical specific testing.

**6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)**

Department Rule Chapter 530.5 and Protocol E(1) of a document entitled *Maine Department of Environmental Protection, Toxicity Program Implementation Protocols*, dated July 1998, states that statistical evaluations shall be periodically performed on the most recent 60-months of WET and chemical specific data for a given facility to determine if water quality based limitations must be included in the permit.

Chapter 530.5 §C(2) states when a discharge *"...contains pollutants at levels that have a reasonable potential to cause or contribute to an ambient excursion in excess of a numeric or narrative water quality criterion, appropriate water quality based limits must be established in the permit upon issuance."*

Chapter 530.5 §C(3) also states that if data indicates that a discharge is causing an exceedence of applicable AWQC, then: *"(1) the Department must notify the licensee of the exceedence; (2) the licensee must submit a toxicity reduction evaluation (TRE) plan for review and approval within 30 days of receipt of notice and implement the TRE after Department approval; (3) the Department must modify the waste discharge license to specify effluent limits and monitoring requirements necessary to control the level of pollutant and meet receiving water classification standards within 180 days of the Department's approval of the TRE."*

On October 4, 2002, the Department conducted a statistical evaluation on the most current 60-months of WET and chemical specific test results. See Attachments A of this permit for the WET test results and Attachment B for the chemical specific test result evaluated for the five year period. The evaluation was conducted in accordance with the statistical approach outlined in EPA's March 1991 *Technical Support Document (TSD) for Water Quality Based Toxics Control*, Chapter 3.3.2 and Maine Department of Environmental Protection Guidance, July 1998, entitled *Toxicity Program Implementation Protocols*. It should be noted that the evaluation was conducted based on the new acute, chronic and harmonic mean dilution factor of 50:1.

The 10/4/02 statistical evaluation indicates that the discharge does not exceed or have a reasonable potential to exceed acute, chronic or human health ambient water quality criteria (AWQC) for the chemical specific parameters or critical ambient water quality thresholds for any WET species tested to date.

The Department has made the determination that the MHUD qualifies for the chemical specific and WET testing reduction and therefore has made a best professional judgment to grant the MHUD the reduction in chemical specific and WET testing to a screening level of testing. Screening level testing must be completed in the 12-month period prior to the expiration date of this permit. No surveillance level (1/Year) of testing is required in

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

the interim. In accordance with protocol F(9), the permittee must submit to the Department on an annual basis, a written statement evaluating its current status for each of the four conditions listed in Department regulation, Chapter 530.5(B)(7)(c)(iii). See Special Condition H of this permit.

k. Ground Water Monitoring – The previous licensing action did not require testing of ground water monitoring wells. The MHUD has eight existing ground water monitoring wells as required by the 4/30/92 Site Location of Development Order (#L-17896-29-A-N) issued by the Department for the construction of waste water treatment facility. The purpose of monitoring the wells is to have a mechanism by which significant leakage of lagoon(s) may be detected. The Order required the MHUD to submit to the Department a *"...ground water monitoring plan/protocol document that included ground water monitoring points, ground water elevations, water quality analysis, location of underdrain samples, monitoring parameters and frequency, chain of custody of monitoring samples, quality assurance/quality control provisions, a summarization and interpretation of the monitoring results, and a mitigation/remedial action plan if adverse effects on water quality is detected."*

The MHUD has conducted ground water sampling in all eight of the monitoring wells in November of 1993, September of 1996 and April of 2002. The permittee has requested the Department remove the obligation to conduct ground water monitoring from the aforementioned Site Location and Development Order and incorporate the requirement in this MEPDES permit/WDL. The Department is grant MHUD's request by requiring monitoring of wells #MW-4 and #MW- 8, pursuant to Special Condition A(3) of this permit. As a result, the Department is hereby administratively modifying Site Location of Development Order #L-17896-29-A-N by relieving the MHUD from conducting any additional ground water monitoring specified by said Order.

## 7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the waterbody to meet standards for Class B classification.

## 8. PUBLIC COMMENTS

Public notice of this application was made in the Star Herald newspaper on April 17, 2002. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

## 9. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Telephone (207) 287-3901

## 10. RESPONSE TO COMMENTS

During the period of October 22, 2002 through issuance of the permit, the Department solicited comments from the permittee, state and federal agencies and interested parties on the proposed draft MEPDES permit and Maine WDL to be issued to the Mars Hills Utility District for the proposed discharge. The Department did receive verbal comments from the MHUD that resulted in a substantive change in the terms and conditions of the permit. A response to their comments is as follows:

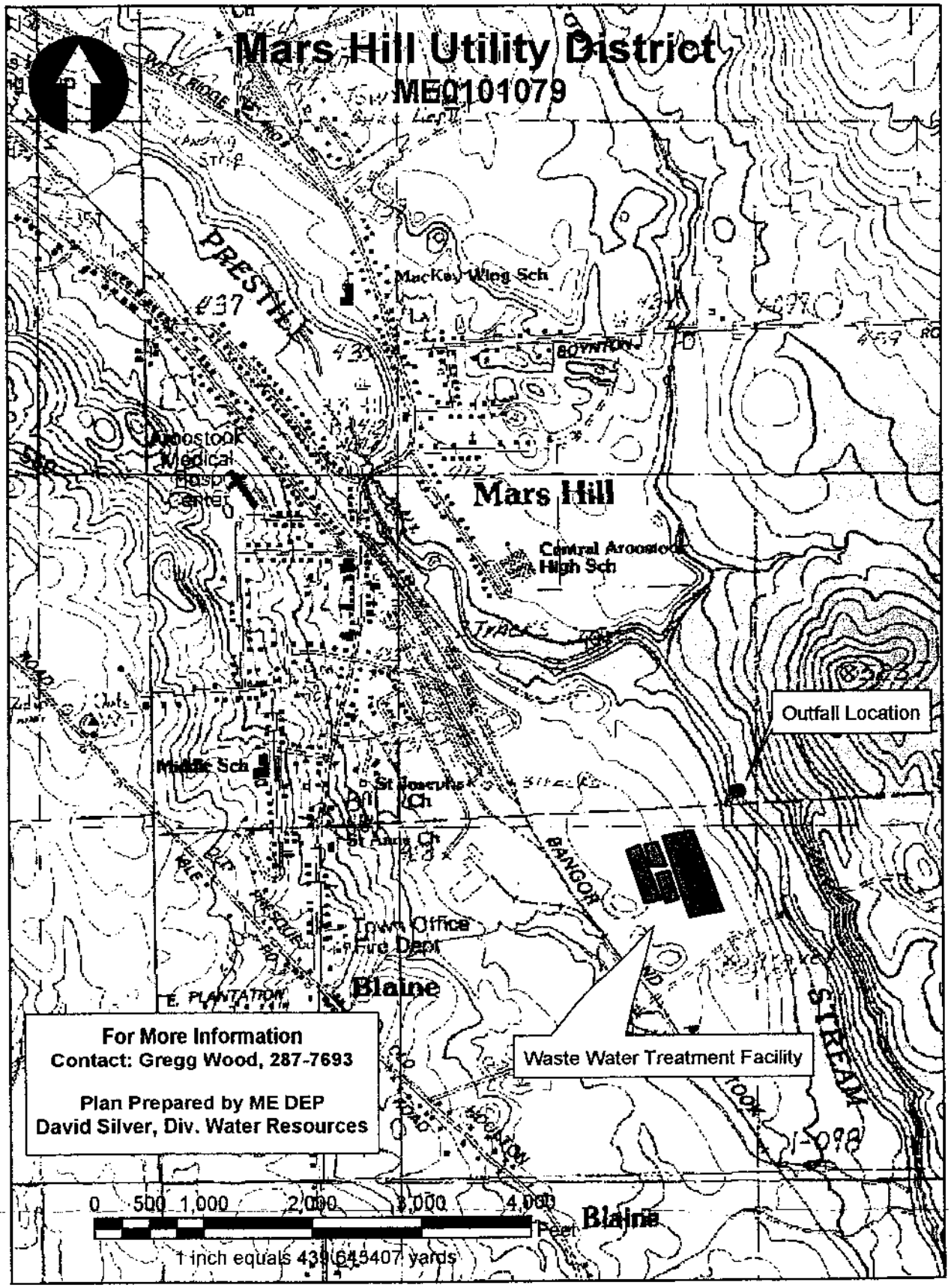
*Comment #1:* The MHUD requested the Department reconsider its position on prohibiting a discharge between December 15th and February 28th as the prohibition is likely to cause operational problems with storage capacity at the facility if flow in the Prestile Stream remains low throughout late fall of each year. The language in the October 22, 2002 proposed draft Fact sheet stated:

> *This permitting is action establishing a discharge prohibition between December 15th and February 28th due to the Department's skepticism on the ability of the stream flow measuring device to accurately measure the flow of Prestile Stream in the middle of winter when ice covers the river. Accurate flow measurement is necessary to determine the discharge rate in order to maintain the dilution factor of 50:1 in the non-summer months. The MHUD has agreed to the prohibition in this permitting action but would like to reserve their right to re-evaluate flow measurement in the winter months if future operational constraints necessitate the need to discharge during this time frame.*

*Response #1:* During the second week of November, the MHUD met with the US Geologiocal Survey to discuss the Department's concern. Based on a site evaluation and inspection of the flow measuring system, the USGS has determined that flow measurement of the Prestile Stream during the winter months will be accurate. As a result, the Department and the MHUD have agreed that prohibition of discharge during the winter

**10. RESPONSE TO COMMENTS (cont'd)**

months is overly conservative and that maintaining a dilution factor of 75:1 between December 1st and February 28th of each year provides for an adequate saftey factor if flow measurement is not quite as accurate as anticipated. The permit has been revised to reflect the inclusion of the dilution factor of 75:1 in said period.


Mars Hill Utility District
ME0101079
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BOYNTON
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Mars Hill
Central Aroostook High Sch
Outfall Location
Middle Sch
St Joseph Ch
St Anns Ch
BANGOR
Town Office
Fire Dept
Blaine
E. PLANTATION
STREAM
Waste Water Treatment Facility
For More Information
Contact: Gregg Wood, 287-7693
Plan Prepared by ME DEP
David Silver, Div. Water Resources
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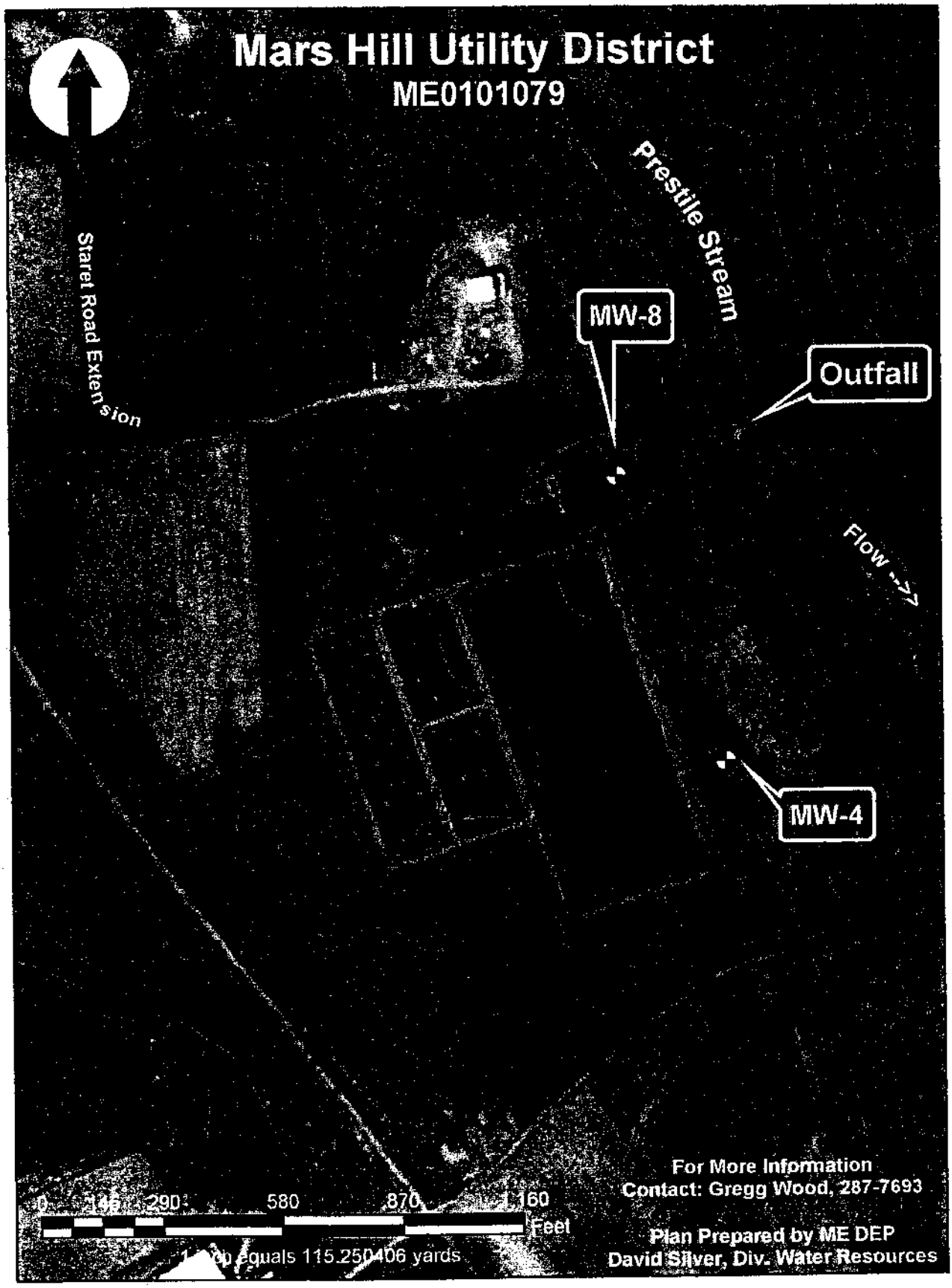
Mars Hill Utility District
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Feet
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For More Information
Contact: Gregg Wood, 287-7693
Plan Prepared by ME DEP
David Silver, Div. Water Resources

# ATTACHMENT A

**MARS HILL**
PRESTILE STREAM

Flow: 1.0 MGD
Chronic dilution: ~~113.5~~:1
Acute dilution: ~~113.5~~:1 50:1


10/22/2002

| Species | Test | Test Result % | Sample Date |
|---|---|---|---|
| WATER FLEA | A_NOEL | 100 | 01/01/1994 |
| WATER FLEA | LC50 | >100 | 01/01/1994 |
| WATER FLEA | A_NOEL | >100 | 01/25/1994 |
| WATER FLEA | LC50 | >100 | 01/25/1994 |
| FATHEAD | A_NOEL | 100 | 10/26/1994 |
| FATHEAD | C_NOEL | 100 | 10/26/1994 |
| FATHEAD | LC50 | >100 | 10/26/1994 |
| WATER FLEA | A_NOEL | 100 | 10/26/1994 |
| WATER FLEA | C_NOEL | 100 | 10/26/1994 |
| WATER FLEA | LC50 | >100 | 10/26/1994 |
| FATHEAD | A_NOEL | 100 | 01/30/1995 |
| FATHEAD | LC50 | >100 | 01/30/1995 |
| WATER FLEA | A_NOEL | 100 | 01/30/1995 |
| WATER FLEA | LC50 | >100 | 01/30/1995 |
| TROUT | A_NOEL | 100 | 03/09/1996 |
| TROUT | C_NOEL | 100 | 03/09/1996 |
| TROUT | LC50 | >100 | 03/09/1996 |
| WATER FLEA | A_NOEL | 100 | 03/09/1996 |
| WATER FLEA | C_NOEL | 100 | 03/09/1996 |
| WATER FLEA | LC50 | >100 | 03/09/1996 |
| FATHEAD | A_NOEL | 100 | 06/04/1996 |
| FATHEAD | C_NOEL | 50 | 06/04/1996 |
| FATHEAD | LC50 | >100 | 06/04/1996 |
| WATER FLEA | A_NOEL | 100 | 06/04/1996 |
| WATER FLEA | C_NOEL | 100 | 06/04/1996 |
| WATER FLEA | LC50 | >100 | 06/04/1996 |
| FATHEAD | A_NOEL | >100 | 10/08/1996 |
| FATHEAD | C_NOEL | 100 | 10/08/1996 |
| FATHEAD | LC50 | >100 | 10/08/1996 |
| WATER FLEA | A_NOEL | >100 | 10/08/1996 |
| WATER FLEA | LC50 | >100 | 10/08/1996 |
| FATHEAD | A_NOEL | >100 | 05/27/1997 |
| FATHEAD | LC50 | >100 | 05/27/1997 |
| WATER FLEA | A_NOEL | 50 | 05/27/1997 |
| WATER FLEA | C_NOEL | 50 | 05/27/1997 |
| WATER FLEA | LC50 | >100 | 05/27/1997 |
| TROUT | A_NOEL | >100 | 02/17/1998 |
| TROUT | LC50 | >100 | 02/17/1998 |
| WATER FLEA | A_NOEL | >100 | 02/17/1998 |
| WATER FLEA | C_NOEL | 100 | 02/17/1998 |
| WATER FLEA | LC50 | >100 | 02/17/1998 |

| Species | Test | Test Result % | Sample Date |
|---|---|---|---|
| TROUT | A_NOEL | 70 | 03/28/1999 |
| TROUT | C_NOEL | 50 | 03/28/1999 |
| TROUT | LC50 | >100 | 03/28/1999 |
| WATER FLEA | A_NOEL | 100 | 03/28/1999 |
| WATER FLEA | C_NOEL | 50 | 03/28/1999 |
| WATER FLEA | LC50 | >100 | 03/28/1999 |
| TROUT | A_NOEL | 21.5 | 05/14/2000 |
| TROUT | LC50 | >100 | 05/14/2000 |
| WATER FLEA | A_NOEL | 100 | 05/14/2000 |
| WATER FLEA | C_NOEL | 100 | 05/14/2000 |
| WATER FLEA | LC50 | >100 | 05/14/2000 |
| TROUT | A_NOEL | 51.9 | 04/22/2001 |
| TROUT | C_NOEL | 17.0 | 04/22/2001 |
| TROUT | LC50 | 68.3 | 04/22/2001 |
| WATER FLEA | A_NOEL | 100 | 04/22/2001 |
| WATER FLEA | C_NOEL | 50 | 04/22/2001 |
| WATER FLEA | LC50 | >100 | 04/22/2001 |
| TROUT | A_NOEL | 100 | 03/31/2002 |
| TROUT | C_NOEL | 17 | 03/31/2002 |
| TROUT | LC50 | >100 | 03/31/2002 |
| WATER FLEA | A_NOEL | 100 | 03/31/2002 |
| WATER FLEA | C_NOEL | 100 | 03/31/2002 |
| WATER FLEA | LC50 | >100 | 03/31/2002 |

# ATTACHMENT B

**Sample Date: 05/22/1997**
Plant flows provided

Total Tests: 121
Missing Compounds: 3
Tests With High DL: 11

mon.(MGD)= 0.695
day(MGD)= 0.718

M = 2 V = 0 A = 0
BN = 0 P = 9 other = 0

**Sample Date: 05/27/1997**
Plant flows not provided

Total Tests: 20
Tests With High DL: 4

M = 4 V = 0 A = 0
BN = 0 P = 0 other = 0

**Sample Date: 12/02/1999**
Plant flows not provided

Total Tests: 124
Missing Compounds: 2
Tests With High DL: 13

M = 4 V = 0 A = 0
BN = 0 P = 9 other = 0

**Sample Date: 04/24/2000**
Plant flows not provided

Total Tests: 123
Missing Compounds: 3
Tests With High DL: 12

M = 3 V = 0 A = 0
BN = 0 P = 9 other = 0

**Sample Date: 12/26/2000**
Plant flows provided

Total Tests: 122
Missing Compounds: 2
Tests With High DL: 4

mon.(MGD)= 0.599
day(MGD)= 0.440

M = 4 V = 0 A = 0
BN = 0 P = 0 other = 0

**Sample Date: 04/24/2001**
Plant flows not provided

Total Tests: 121
Missing Compounds: 3
Tests With High DL: 1

M = 1 V = 0 A = 0
BN = 0 P = 0 other = 0

**Sample Date: 07/05/2001**
Plant flows not provided

Total Tests: 105
Missing Compounds: 19
Tests With High DL: 0

M = 0 V = 0 A = 0
BN = 0 P = 0 other = 0

**Sample Date: 01/28/2002**
Plant flows provided

Total Tests: 123
Missing Compounds: 1
Tests With High DL: 1

mon.(MGD)= 0.226
day(MGD)= 0.130

M = 0 V = 0 A = 0
BN = 1 P = 0 other = 0

**Sample Date: 04/23/2002**
Plant flows provided

Total Tests: 124
Missing Compounds: 0
Tests With High DL: 1

mon.(MGD)= 0.838
day(MGD)= 0.886

M = 0 V = 0 A = 0
BN = 1 P = 0 other = 0