NEW MEXICO
ENVIRONMENT DEPARTMENT

Surface Water Quality Bureau

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DAVE MARTIN
Secretary

BUTCH TONGATE
Acting Deputy Secretary

Certified Mail - Return Receipt Requested

12 January 2012

Honorable Edmond Temple
Mayor
Village of Jemez Springs
P.O. Box 269
Jemez Springs, NM 87025

Re: **Minor Municipal; SIC 4952; NPDES Compliance Evaluation Inspection; Village of Jemez Springs Wastewater Treatment Plant; NM0028011; 14 December 2011**

Dear Mayor Temple:

Enclosed, please find a copy of the report for the referenced inspection that the New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

Problems noted during this inspection are discussed in the Further Explanations section of the inspection report. You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and to modify your operational and/or administrative procedures, as appropriate.

I wish to thank you for the cooperation of the Village of Jemez Springs WWTP representatives including Karen Nagleene and Ona Trujillo during this inspection.

If you have any questions about this inspection report, please contact me at (505) 827-0212.

Sincerely,

/S/ Barbara Cooney

Barbara Cooney
Surface Water Quality Bureau

cc: Marcia Gail Adams, USEPA (6EN-AS) by e-mail
Samuel Tates, USEPA (6EN-AS) by e-mail
Carol Peters-Wagnon, USEPA (6EN-WM) by e-mail
Diana McDonald, USEPA (6EN-WM) by e-mail
Larry Giglio, USEPA (6WQ-PP) by e-mail
Sonia Hall and Hannah Branning, USEPA (6EN-WC) by e- mail
NMED District II Manager by e-mail

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspec. Type	Inspector	Fac Type
1 N 2 5 3	N M 0 0 2 8 0 1 1 11	12 1 1 1 2 1 4 17	18 C	19 S 20	1

Remarks: M I N O R M U N I C I P A L

Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved
67 1 69	70 2	71 N 72	N 73 74	75 80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*
Village of Jemez Springs WWTP NPDES Permit No NM0028011
P.O. Box 269
Jemez Springs, NM 87025

Entry Time /Date
11:40 a.m. / 14 Dec 2011

Permit Effective Date
1 September 2010

Exit Time/Date
15:25 p. m. / 14 Dec 2011

Permit Expiration Date
31 August 2015

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)
Mayor, Edmond Temple 575-829-3540
Karen Nagleene
Ona Trujillo

Other Facility Data

SIC: 4952

Latitude- North 35° 46’ 5.988”
Longitude- West 106° 41” 30.012”

Name, Address of Responsible Official/Title/Phone and Fax Number
Mayor, Edmond Temple 505-829-3540
Village of Jemez Springs WWTP
P.O. Box 269
Jemez Springs, NM 8702

Contacted
Yes * No

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	**Permit**	M	**Flow Measurement**	M	**Operations & Maintenance**	N	**CSO/SSO**
U	**Records/Reports**	M	**Self-Monitoring Program**	S	**Sludge Handling/Disposal**	N	**Pollution Prevention**
S	**Facility Site Review**	S	**Compliance Schedules**	N	**Pretreatment**	N	**Multimedia**
M	**Effluent/Receiving Waters**	U	**Laboratory**	N	**Storm Water**	N	**Other:**

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

See Further Explanations Section of the Report For Details.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone/Fax	Date
Barbara Cooney ***/S/ Barbara Cooney***	**NMED/SWQB 505-827-0212**	***12 January 2012***
Signature of Management QA Reviewer	**Agency/Office/Phone and Fax Numbers**	**Date**
Richard Powell ***/S/ Richard Powell***	**NMED/SWQB 505-827-2798**	***12 January 2012***

Village of Jemez Springs WWTP	PERMIT NO. NM0028011

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS ☒ S ☐ M ☐ U ☐ NA (*FURTHER EXPLANATION ATTACHED NO)*

DETAILS: Permit is administratively extended pending issuance of new permit by EPA.

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE	☒Y ☐ N ☐ NA
2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES	☒ Y ☐ N ☐ NA
3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT	☒ Y ☐ N ☐ NA
4. ALL DISCHARGES ARE PERMITTED	☒ Y ☐ N ☐ NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. ☐ S ☐ M ☒ U ☐ NA (*FURTHER EXPLANATION ATTACHED YES)*

DETAILS: Some records requested were not provided to the Inspector.

1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.	☒ Y ☐ N ☐ NA
2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE.	☐ S ☐ M ☒ U ☐ NA
a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING	☐ Y ☒ N ☐ NA
b) NAME OF INDIVIDUAL PERFORMING SAMPLING	☐ Y ☒ N ☐ NA
c) ANALYTICAL METHODS AND TECHNIQUES.	☐Y ☒ N ☐ NA
d) RESULTS OF ANALYSES AND CALIBRATIONS.	☒ Y ☐ N ☐ NA
e) DATES AND TIMES OF ANALYSES.	☒ Y ☐ N ☐ NA
f) NAME OF PERSON(S) PERFORMING ANALYSES.	☒ Y ☐ N ☐ NA
3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE.	☐ S ☐ M ☒ U ☐ NA
4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR.	☐ S ☐ M ☒ U ☐ NA
5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA.	☐ Y ☒ N ☐ NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. ☐ S ☒ M ☐ U ☐ NA *(FURTHER EXPLANATION ATTACHED YES)*

DETAILS: .

1. TREATMENT UNITS PROPERLY OPERATED.	☒ S ☐ M ☐ U ☐ NA
2. TREATMENT UNITS PROPERLY MAINTAINED.	☐ S ☒ M ☐U ☐ NA
3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED.	☒ S ☐ M ☐ U ☐ NA
4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	☒ S ☐ M ☐ U ☐ NA
5. ALL NEEDED TREATMENT UNITS IN SERVICE. The headworks design does not provide adequate solids removal	☐ S ☐ M ☒ U ☐ NA
6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.	☐ S ☐ M ☐ U ☐ NA
7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.	☐ S ☐ M ☒ U ☐ NA
8. OPERATION AND MAINTENANCE MANUAL AVAILABLE.	☐Y ☒ N ☐ NA
STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED.	☐ Y ☒ N ☐ NA
PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.	☒ Y ☐ N ☐ NA

Village of Jemez Springs WWTP	PERMIT NO. NM0028011

SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR?	☐ Y ☒ N ☐ NA
IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED?	☐ Y ☐ N ☒ NA
HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS?	☐ Y ☐ N ☒ NA
10.HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT?	☐ Y ☒ N ☐ NA
IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT?	☐ Y ☒ N ☐ NA

SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. ☐S ☒ M ☐ U ☐ NA *(FURTHER EXPLANATION ATTACHED YES).*
DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT.	☒ Y ☐ N ☐ NA
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	☒ Y ☐ N ☐ NA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT.	☒ Y ☐ N ☐ NA
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT. Sample records not provided	☐ Y ☒ N ☐ NA
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT. Missing Records Operator could not verify samples taken	☐ Y ☒ N ☐ NA
6. SAMPLE COLLECTION PROCEDURES ADEQUATE	☒ Y ☐ N ☐ NA
a) SAMPLES REFRIGERATED DURING COMPOSITING.	☒ Y ☐ N ☐ NA
b) PROPER PRESERVATION TECHNIQUES USED.	☒ Y ☐ N ☐ NA
c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3.	☒ Y ☐ N ☐ NA
7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT? Could not verify this because record were not maintained.	☐ Y ☒ N ☐NA

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. ☐ S ☒M ☐ U ☐ NA *(FURTHER EXPLANATION ATTACHED YES)*
DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. TYPE OF DEVICE rectangular weir box and ultrasonic device	☐ Y ☒ N ☐ NA
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED.	☒ Y ☐ N ☐ NA
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED. Flow should be compared between ultrasonic device and weir box with staff gauge.	☐ Y ☒ N ☐ NA
4. CALIBRATION FREQUENCY ADEQUATE. *(DATE OF LAST CALIBRATION* No Record)	☐ Y ☒ N ☐ NA
RECORDS MAINTAINED OF CALIBRATION PROCEDURES.	☐ Y ☒ N ☐ NA
CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.	☐ Y ☒N ☐ NA
5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE.	☒ Y ☐ N ☐ NA
6. HEAD MEASURED AT PROPER LOCATION.	☒Y ☐ N ☐ NA
7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES. No Staff gauge in Weir box so no verification	☐ Y ☒ N ☐ NA

SECTION F – LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. ☐ S ☐ M ☒ U ☐ NA *(FURTHER EXPLANATION ATTACHED YES)*
DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED *(40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES)*	☒ Y ☐ N ☐ NA

Village of Jemez Springs WWTP	PERMIT NO. . NM0028011

SECTION F - LABORATORY (CONT'D)

2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED ☐ Y ☒N ☐ NA

3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. ☐S ☐ M ☒U ☐ NA

4. QUALITY CONTROL PROCEDURES ADEQUATE. ☐ S ☐ M ☒ U ☐ NA

5. DUPLICATE SAMPLES ARE ANALYZED. 10 % OF THE TIME. There were no records of duplicates ☐ Y ☒ N ☐ NA

6. SPIKED SAMPLES ARE ANALYZED. 10___ % OF THE TIME. Not evaluated ☐ Y ☐ N ☒ NA

7. COMMERCIAL LABORATORY USED. ☒ Y ☐ N ☐ NA

LAB NAME	Hall Environmental	New Mexico Dept. of Health	Huther &Associates, Inc.
	4901 Hawkins NE, Suite D	Scientific Laboratory Division	1156 North Bonnie Brae
	Albuquerque, NM 87109-4372	700 Camino de Salud NE- PO Box 4700	Denton, TX 76201
LAB ADDRESS		Albuquerque, NM 87196	

PARAMETERS PERFORMED BOD5, E.coli, TSS, Bio Monitoring

SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS. ☐ S ☒ M ☐ U ☐ NA *(FURTHER EXPLANATION ATTACHED YES_).*

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	None	None	None	None	None	Clear	

RECEIVING WATER

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. ☒ S ☐ M ☐ U ☐ NA *(FURTHER EXPLANATION ATTACHED (No).*
DETAILS:

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY. ☒ S ☐ M ☐ U ☐ NA

2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503. ☒S ☐ M ☐ U ☐ NA

3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: _____Surface Disposal

SECTION I - SAMPLING INSPECTION PROCEDURES *(FURTHER EXPLANATION ATTACHED _No).*

1. SAMPLES OBTAINED THIS INSPECTION. ☐ Y ☒ N ☐ NA

2. TYPE OF SAMPLE OBTAINED

GRAB _____ COMPOSITE SAMPLE __ METHOD _____ FREQUENCY _____

3. SAMPLES PRESERVED. ☐ Y ☐ N ☒ NA

4. FLOW PROPORTIONED SAMPLES OBTAINED. ☐ Y ☐ N ☒ NA

5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE. ☐ Y ☐N ☒ NA

6. SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE. ☐ Y ☐ N ☒ NA

7. SAMPLE SPLIT WITH PERMITTEE. ☐ Y ☐ N ☒ NA

8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED. ☐ Y ☐ N ☒ NA

9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT. ☐ Y ☐ N ☒ NA

INTRODUCTION

A Compliance Evaluation Inspection (CEI) was conducted at the Village of Jemez Springs Wastewater Treatment Plant (WWTP) by Ms. Barbara Cooney of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) on 14 December 2011. The inspection was conducted by NMED for the U. S. Environmental Protection Agency (USEPA), Region 6, under the National Pollutant Discharge Elimination System (NPDES) permit program, in accordance with the Federal Clean Water Act. These inspections are conducted under agreement with USEPA and are used by the USEPA to determine compliance with the NPDES permit program.

This facility is a minor domestic waste water treatment plant (WWTP) under the Federal Clean Water Act (CWA), section 402 Nation National Pollutant Discharge Elimination system (NPDES) permit program, and is assigned NPDES permit number NM0028011. The Standard Industrial Classification Code (SIC) is 4952. The facility discharges into the Jemez River in water quality segment 20.6.4.107, thence to Water Quality Segment 20.5.4.106 of the Rio Grande Basin *(State of New Mexico Standards for Interstate and Intrastate Surface Waters)*.

Designated uses of Water Quality Segment 20.6.4.107 are coldwater aquatic life, primary contact, irrigation, livestock watering, and wildlife habitat.

INSPECTION DETAILS

The inspector arrived at the Jemez Springs Village Wastewater Treatment Plant at11:40 a.m. on 14 December 2011. Ms. Karen Nagleene, WWTP Operator was at the site. The inspector made introductions, showed her credentials and explained the purpose of her visit. An exit interview was scheduled with Mayor Edmond Temple for later that day. Ms. Nagleene accompanied the inspector through the plant and onsite laboratory. Following the facility site inspection, a permit review and an abbreviated records review were done in the office by the inspector with Ms. Nagleene.

The Inspector met Mayor Edmond Temple and Ms. Ona Trujillo, Village Administrator along with Ms. Nagleene for an exit interview. The inspector left the Village office at 15:25 p.m. Records were sent via email to the Inspector by Ms. Nalezny for review on 16 December 2012.

The main areas of concern are: Record Keeping and Reporting and Operation & Maintenance (head works design and broken hydraulic decanter), and Flow Measurement. See the Further Explanations section of the report for details.

TREATMENT SCHEME

Raw wastewater flows by gravity through the collection system to the wet well at the head of the treatment plant. The influent lift station consists of two submersible pumps that lift wastewater to the treatment works. There is no solids removal at the head works. The original plant design had a swinging basket on a pulley, expected to catch large solids such as rags and other large objects that reached the WWTP through the collection system. Problems were discovered with swinging basket however, when it was found to hit the lines for the submersible pumps and was damaging them. In order to protect the submersible pumps, the swinging basket was removed, leaving the WWTP with no primary treatment of large solids removal before the main treatment works. The Jemez Springs WWTP is a Sequencing Batch Reactor (SBR), which was put into operation in January 2004.

The SBR consists of 5 chambers. The first and the fifth chambers are approximately four feet x eight feet x sixteen feet. They are used as equalization basins or pre-activation basins to control the inflow to the aeration basins. Following the pre-activation basins are the aeration basins. Typical wastewater flow through the plant is 0.027 MGD. The plant is designed to treat up to 0.045 MGD. One basin is being used as the primary aeration basin for treatment. A second basin that in the past was not being used is holding overflow from a plant upset that occurred a few months ago. The third and center aeration basin is being used for sludge thickening.

Once the raw sewage enters one of the aeration basins, treatment is achieved by cycling though an aerobic phase, a settling phase, and decant phase. The decanters are mounted on hydraulic arms that lower the units to just below the surface of the water in the basin. In the past, the hydraulic arms were subject to freezing in the winter. The Operator wrapped the arms with electrical heating tape to prevent this problem from reoccurring. The bottom of the basins have a series of fine bubble diffusers to distribute air during the aeration phase. Also on the bottom of the chambers are mixing arms that turn the solids and liquids. A problem noted in the past by the Operator is that rags and other solids in the basin would bind up the mixing arms, damaging them. This caused considerable maintenance issues because the chamber has to be drained to access the mixers to clear them.

The decanted liquid is sent through the Ultraviolet Light disinfection chamber, then past the ultrasonic effluent flow meter that totalizes the flow volume at the effluent weir box, then to the Jemez River. The solids are sent to the middle chamber of the SBR for thickening. The Village contracts with a vactor truck Operator to draw off the solids from the treatment units, and to haul them to the Albuquerque Reclamation facility on 2nd street in Albuquerque, NM.

A series of sand filters are in place at the WWTP as a back up treatment unit and were not being used at the time of this inspection.

FURTHER EXPLANATIONS

Note: The sections are arranged according to the format of the enclosed EPA Inspection Checklist (Form 3560-3), rather than being ranked in order of importance.

Section A – Permit Verification – Overall Rating of "Satisfactory"

Section B – Record Keeping and Reporting – Overall Rating of "Unsatisfactory" This is a repeat finding.

Permit Requirements For Record Keeping and Reporting:

The permit requires in PART I, C. MONITORING AND REPORTING (MINOR DISCHARGERS):

1. Monitoring and Reporting

a. The permittee shall effectively monitor the operations and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.

b. Monitoring information shall be on Discharge Monitoring Reports Form(s) EPA 3320-1 as specified in Part III.D.4. of this permit and shall be submitted quarterly. Each quarterly submittal shall include separate forms for each month of the reporting period.

The permit requires in Part III.C. Monitoring and Records.

1. Inspection and Entry:

The permittee shall allow the Director or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit:

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

3. Retention of Records:

The permittee shall retain records of all monitoring information, including all calibrations and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for

this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

4. Records Content:
Records of monitoring information shall include:
a. The date ,exact place and time of sampling or measurements:
b. The individual(s) who performed the sampling or measurements;
c. The date(s) and times(s) analyses were performed;
d. The individual(s) who performed the analyse(s);
e. The analytical techniques or methods used; and
f. The results of such analyses.

Findings For Record Keeping and Reporting:
Some records the permittee is required to maintain for the NPDES permit were not provided at the time of the inspection. This problem was noted in previous inspections. The permittee could not locate records for pH analysis, though they are required to analyze for pH 5/week. Following the inspection on 16 December 2011 the permittee sent via email to the inspector, copies of pH records for the month of June 2011.

The inspector requested the following records for review:

1. Laboratory Records, bench sheets and collection records for all sample analysis for the second quarter of 2011 to include the months of April, May and June.

pH is analyzed onsite by the plant operator. As stated above, the operator could not locate these records at the time of the inspection and they were provided later. This is an area of concern especially because these analyses are to be done 5 times a week. It would be reasonable to have these records easily available at the plant laboratory.
The pollutants: TSS; E. coli bacteria; Total Phosphorous; Nitrate Nitrogen; Nitrite Nitrogen; Total Arsenic and Total Boron are analyzed by the Scientific Laboratory Division (SLD) of the State Of New Mexico Department of Health.

Bench Sheets were not provided to the permittee by the analytical laboratory for the samples analyzed; only the results reports were provided. Therefore those records were not available for review during the inspection.

There were no records of samples and analysis of Total Arsenic and Boron for the month of June 2011. The permittee claimed to have collected and delivered these samples to SLD and that the laboratory lost the samples and records. However this is not supported by any documentation.

There were no records of Chain of Custody for the E. coli Bacteria samples.

Biochemical Oxygen Demand is analyzed by Hall Environmental Laboratory.

Bench Sheets were not provided to the permittee by the analytical laboratory for the samples analyzed; only the results report. Therefore they were not available for review during the inspection.

2. Daily flow records for the second quarter of 2011 to include the months April, May and June.
These records are missing some information. The records should list specifically the date, year, month and the day. The records should also list day of the week (Monday, Tuesday etc.) for the flow reading taken. For each day, the record should contain the recorded value from the digital read out, and the final conversion value to MGD. The record should contain information on what constitutes a daily totalized flow, for example, 12:00a.m.

through 11:59p.m. The flow records should also contain an initial or signature each day for the person taking the reading. This is a repeat finding.

The flow records provided to the Inspector did not include a conversion factor from the daily report by the flow meter to MGD. Actual flows could not be evaluated.

There were no records of flow meter calibration. According to the operator that was last done at the time the flow meter was installed in 2004.

Without daily flow values recorded, it is not possible to accurately evaluate the loading value of the pollutants reported on the DMRs. This permittee is required to report weekly averages and monthly averages for BOD, TSS, and Flow. The permittee is required to report daily max and monthly average for E.coli. The pH is reported as maximum and minimum.

3. Maintenance and daily logs at the WWTP for the second quarter of 2011 including the months of April, May and June.

The permittee had no maintenance, nor daily logs for work done at the WWTP. The permittee depends on the sample results report from the contract laboratories to document any samples submitted. It is in the permittees best interest to maintain daily logs and copies of all documents submitted to contract laboratories.

The USEPA has developed a system to submit the monthly Discharge Monitoring Reports (DMS) electronically, and is encouraging permittees to use this system. Information on this system NetDMR can be found online at:
www.epa.gov/netdmr
by email:
r6netdmt@epa.gov

Section C - Operation and Maintenance – Overall Rating of "Marginal"

Permit Requirements For Operation and Maintenance:
The permit requires in Part III.B. Proper Operation and Maintenance:

> *3. Proper Operation and Maintenance*
> *a. The permittee shall at all times properly operation and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with this permit.*
>
> *b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.*

Findings For Operations And Maintenance:
The influent lift station consists of two submersible pumps that lift wastewater to the treatment works. There is no solids removal at the head works.

As noted in a previous inspection, the mixing arms in the aeration basins were out of operation. A problem noted by the Operator is that rags and other solids were getting into the aeration basins, catching and damaging the mixing arm. This causes considerable maintenance issues because the chamber has to be drained to access the

mixers to clear them. To maintain optimal operation of the treatment works, large solids removal should take place at the head works of the WWTP.

The operator has suggested that not operating the mixing arms at the bottom of the aeration basins was a way to reduce foam and bulking solids.

The first aeration basin contained some amount of foam that typically results from heavy grease entering the treatment works. The operator indicated that a plant upset occurred a few months ago and this basin was holding the foamy remains of that event. The operator did not indicate any plan to remove this from the system.

Section D – Self Monitoring – Overall Rating of "Marginal"

Permit Requirements for Self-Monitoring
The permit requires in Part I. Section A. Limitations and Monitoring Requirements.

Findings For Self-Monitoring
It is noted in the Recordkeeping and Reporting section of this report that information is missing for Total Arsenic and Total Boron during the second quarter of 2011. Without records it cannot be confirmed that monitoring has occurred.

Section E – Flow Measurements – Overall Rating of "Marginal"

Permit Requirements For Flow Measurement:

> *The permit requires in Part III.C.6. Flow Measurements:*
> *Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capabilities of that type of device. Devices selected shall be capable of measuring flow flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.*

Finding For Flow Measurements:
The effluent flow meter is an ultrasonic meter that provides a totalized daily flow. The SBR designed plant, releases effluent in batches so the totalized flow is appropriate. There were no records of calibration since the time it was installed. The rectangular weir box should have a staff gauge permanently fixed to the side wall.

The daily flow records were missing information. This is also noted in Section B – Record Keeping and Reporting. The records should list the dates specifically for the year, month, and day. The records should also list the day of the week (Monday, Tuesday etc.) for the flow reading taken. For each day, the record should contain the value from the digital read out, and the final conversion value to MGD. The record should contain information on what time period constitutes a daily totalized flow, for example, 12:00a.m. through 11:59p.m.

The flow records provided to the Inspector did not include a conversion factor for the daily report flow meter to MGD.

Without daily flow values recoded it is not possible to accurately evaluate the loading value of the pollutants reported on the DMRs.

The records should be initialed every day by the person taking the reading. The time the reading is taken should also be recorded.

There were no records of flow meter calibration. According to the operator that was last done at the time the flow meter was installed in 2004.

Section F - Laboratory - Overall Rating of "Unsatisfactory"

Permit Requirements For Laboratory:
The permit requires in Part III.C. 5. Monitoring Procedures:

> *Monitoring must be conducted according to test procedures approved under 40CFR Part 136, unless other test procedures have been specified in the permit or approved by the Regional Administrator.*

The permit requires in Part III.C. Monitoring and Records.
4. Records Content:

> *Records of monitoring information shall include:*
> *a. The date, exact place and time of sampling or measurements:*
> *b. The individual(s) who performed the sampling or measurements;*
> *c. The date(s) and times(s) analyses were performed;*
> *d. The individual(s) who performed the analyse(s);*
> *e. The analytical techniques or methods used; and*
> *f. The results of such analyses.*

Findings For Laboratory
The operator was asked to conduct a pH analysis at the time of the inspection to demonstrate the procedures and equipment being used. The pH meter being used is by the manufacture Oakton. The probe is being stored in distilled water. The operator said calibrations are done once a week and turned off after the initial calibration and sample reading for that day. The remaining days of the week the meter is turned on and the sample is analyzed. The operator did not have the manufacture's instruction manual. Several problems were observed during the demonstration by the operator. The operator did a 3 point calibration and the meter is designed to correct for temperature as part of the calibration slope. The three points were for pH 4.0, 7.0 and 10.0.

1. No instruction manual - The inspector found an operation manual for the equipment being used, on line. Attached to this report are some excerpts from that manual. The instruction manual can be found at:
http://www.4oakton.com/Manuals/pHORPIon/wppH_CON300mnl.pdf

2. Improper storage of the probe - The probe was stored in distilled water. The instructions explicitly state that the meter probe should NEVER be stored in distilled water (see attachment). According to the manufacture instructions, the probe should be kept moist in a storage buffer or in the pH 4.0 buffer. Improper storage of the probe can cause damage making the readings unreliable.

3.Dead Batteries - the pH meter's batteries were dead when the operator tried to turn it on. It took the operator several minutes to go to another location to find replacement batteries.

4. ph calibration buffers were improperly stored. The lids were only set on top of the buffer bottles and not tightly closed allowing additional air into the bottles.

5. Missing pH records - The operator could not find any pH records at the time of the inspection. Some records were sent 2 days later to the inspector.

6. The manufacture instructions state that the meter should be calibrated every time it is turned off and on. The operator was only calibrating the probe once per week.

7. It was observed that a pH reading of the effluent sample after calibration showed considerable drift indicating that the probe may be damaged.

Section G - Effluent and Receiving Water - Overall Rating "Marginal"

Findings For Effluent and Receiving Water

Due to the incorrectly preformed pH analysis (noted in the section above for Laboratory), it is not possible to evaluate entirely that the effluent is meeting the permit requirements, resulting in a "Marginal" rating for this section.

Section H - Sludge Disposal - Overall Rating of "Satisfactory"

NMED/SWQB Official Photograph Log Photo # 1		
Photographer: Google Earth	Date: 14 December 2011	Time: Unknown
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Google Earth View of the Village of Jemez Springs WWTP - 2010 aerial photo.		

NMED/SWQB Official Photograph Log Photo # 2		
Photographer: B. Cooney	Date: 14 December 2011	Time: 13:08
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Influent raw sewage - note the very dark color indicates highly concentrated waste.		

NMED/SWQB Official Photograph Log Photo # 3		
Photographer: B. Cooney	Date: 14 December 2011	Time: 12:54
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: handmade unit to be used as influent wet well screen for solids. Operator said it would be installed during the coming spring season.		

NMED/SWQB Official Photograph Log Photo #4		
Photographer: B. Cooney	Date: 14 December 2011	Time: 13:06
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: First Aeration basin - contains greasy foam		

NMED/SWQB Official Photograph Log Photo # 5		
Photographer: B. Cooney	Date: 14 December 2011	Time: 13:08.
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Third aeration basin - following decant cycle that sends treated wastewater to the Ultraviolet disinfection channel. - some floating solids are noted in this basin.		

NMED/SWQB Official Photograph Log Photo # 6		
Photographer: B. Cooney	Date: 14 December 2011	Time: 13:07
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Another photo of the third aeration basin - following decant cycle that sends treated wastewater to the Ultraviolet disinfection channel. - floating and other large solids are noted in this basin.		

NMED/SWQB Official Photograph Log Photo # 7		
Photographer: B. Cooney	Date: 14 December 2011	Time: 13:06
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Central basin is used for sludge thickening.		

NMED/SWQB Official Photograph Log Photo # 8		
Photographer: B. Cooney	Date: 14 December 2011	Time: 12:28
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Ultraviolet Disinfection Chanel		

NMED/SWQB Official Photograph Log Photo # 9		
Photographer: B. Cooney	Date: 14 December 2011	Time: 12:28
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Effluent water clear and free of color and turbidity. This water was taking from the UV channel.		

NMED/SWQB Official Photograph Log Photo # 10		
Photographer: B. Cooney	Date: 14 December 2011	Time: 12:08
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Laboratory pH meter - probe stored in distilled water. - The distilled water is stored in the juice container at the top right of the picture.		

NMED/SWQB Official Photograph Log Photo # 11		
Photographer: B. Cooney	Date: 14 December 2011	Time: 12:15
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: pH calibration buffers: 4 -7-10		

NMED/SWQB Official Photograph Log Photo # 12		
Photographer: B. Cooney	Date: 14 December 2011	Time: 12:44 - 12:48.
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: pH Calibration 3 point with buffers 10 - 4 - 7. The meter had considerable drift and the operator did not adjust the meter for the drift before taking the reading.		

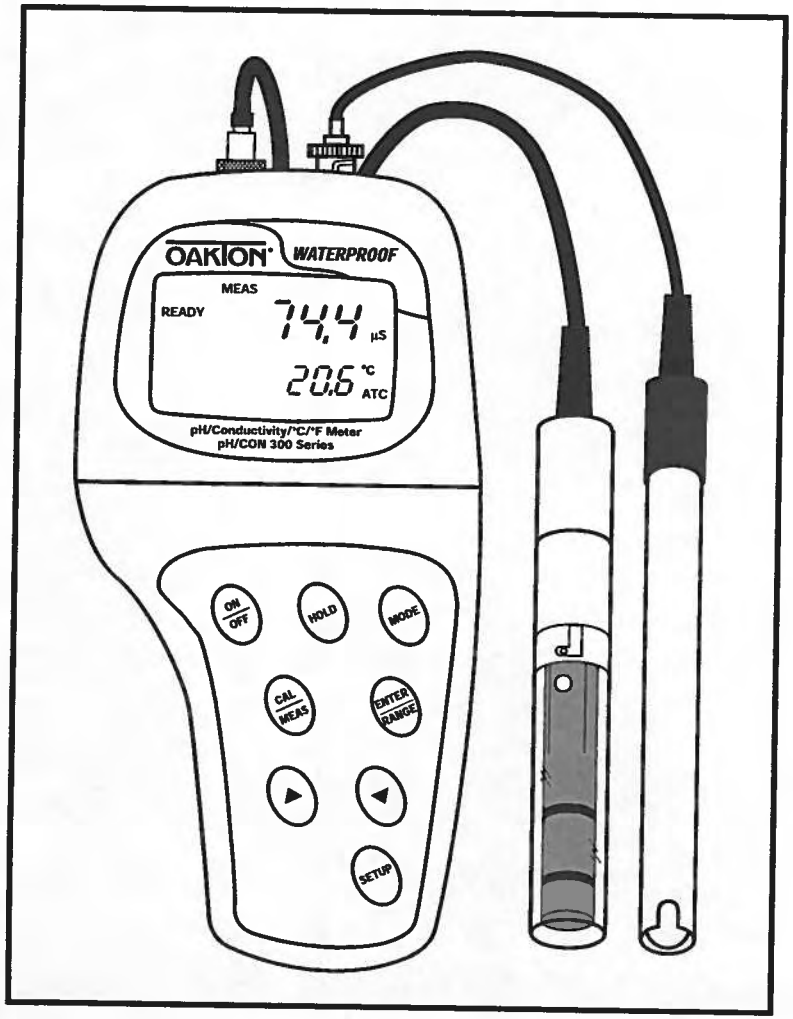
NMED/SWQB
Official Photograph Log
Photo # 13

Photographer: B. Cooney	Date: 14 December 2011	Time: 11:49 a.m.
City/County: Village of Jemez Springs / Sandoval		State: New Mexico
Location: WWTP		
Subject: Effluent channel with Ultrasonic Flow Meter and No backup staff gauge.		

1. Introduction

Thank you for selecting an OAKTON meter. This OAKTON portable meter is a microprocessor-based instrument that measures pH, conductivity, TDS and temperature! Your meter has many user-friendly features, all of which are accessible through the membrane keypad.

Your meter includes a single-junction pH electrode, a combination conductivity/temperature probe, and batteries. Please read this manual thoroughly before operating your meter.



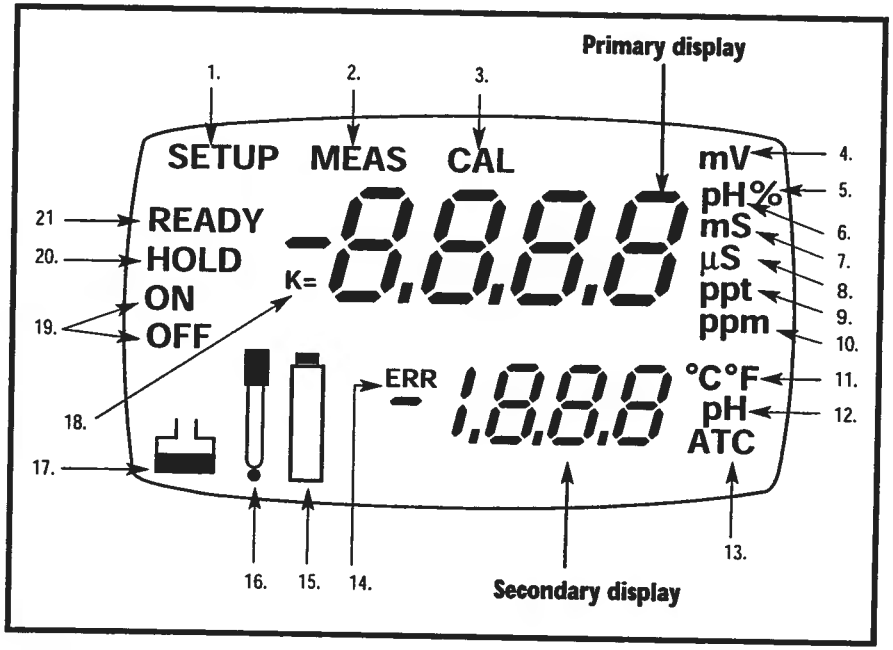
2. Display and Keypad Functions

2.1 Display

The LCD has a primary and secondary display.

- The primary display shows the measured pH or conductivity reading.
- The secondary display shows the temperature of the reading.

The display also shows error messages, keypad functions and program functions.



1. SETup mode indicator
2. MEASurement mode indicator
3. CALibration indicator
4. mV indicator
5. % indicator
6. pH measurement indicator
7. Millisiemens indicator
8. Microsiemens indicator
9. Parts per thousand indicator
10. Parts per million indicator
11. Temperature indicators
12. pH setup indicator
13. Automatic Temperature Compensation indicator
14. ERRor indicator
15. Low battery indicator
16. Probe indicator
17. Calibration indicator
18. Cell constant indicator
19. ON/OFF indicator
20. HOLD indicator
21. READY indicator

4. Calibration

4.1 Important Information on Meter Calibration

When you recalibrate your meter, old calibration points are replaced on a "point by point" basis in pH, and on a "range by range" basis in conductivity or TDS. For example:

- pH: if you previously calibrated your meter at pH 4.01, 7.00, and 10.01, and you recalibrate at pH 7.00, the meter retains the old calibration data at pH 4.01 and pH 10.01.
- Conductivity/TDS: if you previously calibrated your conductivity meter at 1413 µS in the 0 to 1999 µS range and you recalibrate at 1500 µS (also in the 0 to 1999 µS range), the meter will replace the old calibration data (1413 µS) in that range. The meter will retain all calibration data in other ranges.

  TDS values are proportional to conductivity values. Note that if you calibrate a TDS value in an equivalent conductivity range, the TDS value will replace the previous conductivity value, and vice versa.

To view current calibration points:
- **pH:** Program P1.0 in the SETUP section, page 26.
- **Conductivity/TDS:** Program P5.0 in the SETUP section, page 32.

To completely recalibrate your meter, or when you use a replacement probe, it is best to clear old calibration data by resetting the meter.

To reset the meter to its factory defaults:
- **pH:** Program P4.0 in the SETUP section, page 31.
- **Conductivity/TDS:** Program P9.0 in the SETUP section, page 40.

NOTE: Resetting the meter will set meter to factory defaults. Conductivity/TDS and pH must be reset separately.

For directions on how to calibrate your meter:
- See section 4.3 on pages 11-12 for pH calibration
- See section 4.4 on page 13-15 for conductivity and TDS calibration
- See section 4.5 on page 16 for Temperature Calibration

4.2 Preparing the Meter for Calibration

Before starting calibration, make sure you are in the correct measurement mode. When you switch on the meter, the meter starts up in the units last used. For example, if you shut the meter off in "pH" units, the meter will read "pH" units when you switch the meter on.

Do not reuse calibration solutions after calibration. Contaminants in the solution can affect the calibration, and eventually the accuracy of the measurements. See pages 46-47 for information on our high-quality calibration solutions.

4.3 pH calibration

We recommend that you perform at least a 2-point calibration using standard buffers that bracket (one above and one below) the expected sample range.

Preparing for pH calibration

This meter is capable of up to 5-point pH calibration to ensure accuracy across the entire pH range of the meter. Select from the following buffer options:

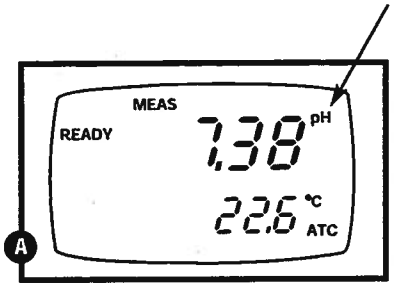
pH 1.68, 4.01, 7.00, 10.01, and 12.45.

The meter automatically recognizes and calibrates to these standard buffer values, which makes pH calibration faster and easier.

Be sure to remove the protective electrode storage bottle or rubber cap of the probe before calibration or measurement. If the electrode has been stored dry, wet the probe in tap water for 10 minutes before calibrating or taking readings to saturate the pH electrode surface and minimize drift.

Wash your probe in deionized water after use, and store in electrode storage solution. If storage solution is not available, use pH 4.0 or 7.0 buffer.

To calibrate pH:



1. **If necessary, press the MODE key to select pH measurement mode.** The pH indicator appears in the upper right hand corner of the display.

See figure (A)

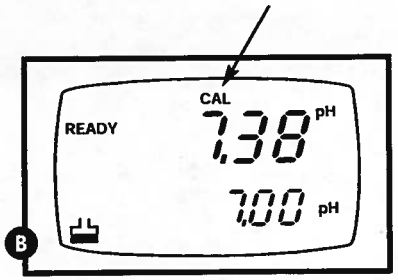
2. **Rinse the pH electrode thoroughly with de-ionized water or a rinse solution.** Do not wipe the probe; this causes a build-up of electrostatic charge on the glass surface.
3. **Dip the pH electrode into the calibration buffer.** The end of the probe must be completely immersed into the sample. Stir the probe gently to create a homogeneous sample.

NOTE: The temperature element is in the conductivity cell. For temperature compensated readings, dip the conductivity cell into the calibration buffer as well.

CONTINUED ON NEXT PAGE

4. **Press CAL/MEAS** to enter pH calibration mode. The CAL indicator lights. The primary display will show the measured reading while the smaller secondary display will indicate the pH standard buffer solution.

See figure B



5. **Wait for the measured pH value to stabilize.** If the READY indicator has been activated (set up program P3.1—see page 28), the READY annunciator lights when the reading is stable.

6. **Press ENTER to confirm calibration.** The meter is now calibrated to the current buffer. The lower display scrolls through the remaining buffer options.

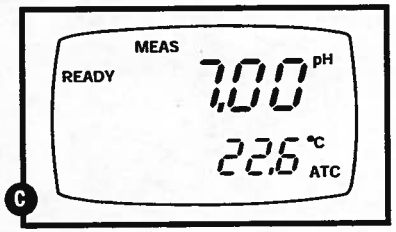
- If you are performing multipoint calibration, go to step 7.
- If you are performing one-point calibration, go to step 9.

7. **Rinse the electrode with de-ionized water or a rinse solution, and place it in the next pH buffer.**

8. Follow steps 5 to 8 for additional calibration points.

9. When calibration is complete, **press CAL/MEAS to return to pH measurement mode.**

See figure C



Notes

To exit from pH Calibration mode without confirming calibration, DO NOT press **ENTER** in step 6. Press **CAL/MEAS** instead.

If the selected buffer value is not within ±1.0 pH from the measured pH value: the electrode and buffer icon blink and the ERR annunciator appears in the lower left corner of the display.

To limit the number of pH buffer values available during calibration, see Set-up program P3.2 on page 29.

4.3 Conductivity and TDS calibration

Calibrate up to 5-point conductivity or 5 point TDS calibration at one point per range:

Range	Conductivity:	TDS:
R1	0.00-19.99 µS	0.00-9.99 ppm
R2	0.0-199.9 µS	10.0-99.9 ppm
R3	0-1999 µS	100-999 ppm
R4	0.00-19.99 mS	1.00-9.99 ppt
R5	0.0-199.9 mS	10.0-199.9 ppt

If you are measuring values in more than one range, make sure to calibrate each of the ranges you are measuring. All new calibration data will over-ride existing stored calibration data for each measuring range you calibrate.

- If you are measuring in ranges near to or greater than 20 mS (10 ppt), or near to or lower than 100 µS (50 ppm), calibrate the meter at least once a week to get specified ±1% F.S. accuracy.
- If you are measuring in the mid ranges and you washed the probe in deionized water and stored it dry, calibrate the meter at least once a month.
- If you take measurements at extreme temperatures, calibrate the meter at least once a week.

Preparing for conductivity/TDS calibration

For best results, select a standard value close to the sample value you are measuring. Alternatively, use a calibration solution value that is approximately ⅔ the full scale value of the measurement range you plan to use. For example, in the 0 to 1999 µS conductivity range, use a 1413 µS solution for calibration.

See the table below for recommended calibration solution ranges:

Conductivity Range	Recommended Cal. Solution Range	TDS Range	Recommended Cal. Solution Range
0.00-19.99 µS	6.00 to 17.00 µS	0.00-9.99 ppm	3.00 to 8.50 ppm
0.0-199.9 µS	60.0 to 170.0 µS	10.0-99.9 ppm	30.0 to 85.0 ppm
0-1999 µS	600 to 1700 µS	100-999 ppm	300 to 850 ppm
0.00-19.99 mS	6.00 to 17.00 mS	1.00-9.99 ppt	3.00 to 8.50 ppt
0.0-199.9 mS	60.0 to 170.0 mS	10.0-199.9 ppt	30.0 to 170 ppt

Temperature coefficient: These meters are factory set to a temperature coefficient of 2.1% per °C. For most applications this will provide good results. See Program P8.1 on page 38 to set the temperature coefficient to a different value. See Appendix 31, "Calculating Temperature Coefficients" on page 50 to determine the appropriate temperature coefficient for your solution.

Normalization temperature: The factory default value for normalization temperature is 25°C. If you need to normalize to a value other than 25°C, see Program P8.2 on page 39.

CONTINUED ON NEXT PAGE

6.10 P9.0: Resetting to factory default settings (conductivity/TDS)

This program lets you reset all conductivity parameters to factory default settings. This clears all calibration data any other conductivity setup functions you might have changed. The following settings will remain as you have set them:

- temperature unit of measure (°C or °F)
- The temperature offset calibration value
- All pH calibration data and parameters

From measurement mode

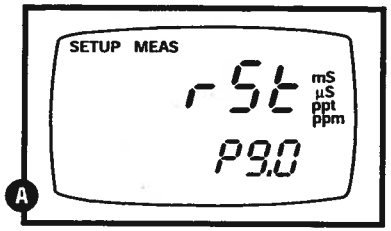
1. Press the Mode key to select conductivity measurement mode.
2. Press Setup key to enter Set Up mode.
3. Press the ▲ and ▼ keys to scroll through subgroups until you view parameter "P5.0" in the lower display.

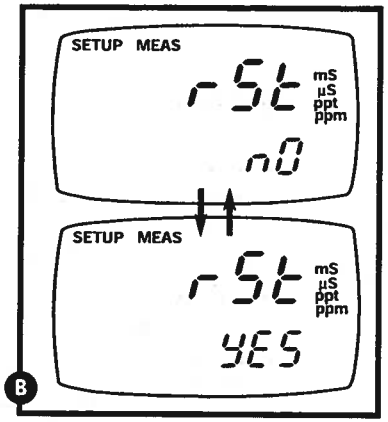
See figure (A)

4. Press the ENTER key.

See figure (B)

5. Press the ▲ and ▼ keys to toggle between NO and YES.
   - NO retains current settings
   - YES resets to factory default settings
6. Press the ENTER key to confirm selection and to return to measurement mode.





Notes

To clear all pH data, see page 31.

See page 51 for a table of factory default settings.

7. Probe Care and Maintenance

7.1 pH electrode care

Since your pH electrode is susceptible to dirt and contamination, clean it every one to three months depending on the extent and condition of use. For specialty electrode care, consult the instruction manual included with your electrode.

pH electrode storage

For best results, always keep the pH bulb wet. Use the protective electrode storage bottle or rubber cap filled with electrode storage solution to store your electrode (see page 46 for ordering information). Also, you can store in a pH 4 buffer with 1/100 part of saturated KCl. Other pH buffers are OK for storage, but NEVER use distilled water for storage.

After measuring

1. Rinse the pH electrode and reference junction in de-ionized water.
2. Store the electrode as recommended above in "pH electrode storage," or as recommended by the manufacturer.
3. Prior to next use, rinse the liquid junction with de-ionized water and tap dry—never wipe electrode. If this does not restore electrode to normal response, see "Reactivating the pH electrode" section below.

pH electrode cleaning

Salt deposits: dissolve the deposits by immersing the electrode in tap water for ten to fifteen minutes. Ten thoroughly rinse with distilled water.

Oil/grease film: wash electrode pH bulb gently in some detergent and water. Rinse electrode tip with distilled water or use a general purpose electrode cleaner (see page 40 for ordering information).

Clogged reference junction: heat a diluted KCl solution to 60 to 80°C. Place the sensing part of the electrode into the heated solution for about 10 minutes. Allow the electrode to cool in some unheated KCl solution.

Protein deposits: prepare a 1% pepsin solution in 0.1 M of HCl. Set the electrode in the solution for five to ten minutes. Rinse the electrode with distilled water.

Reactivating the pH electrode

If stored and cleaned properly, your pH electrode should be ready for immediate use. However, a dehydrated bulb may cause sluggish response. To rehydrate the bulb, immerse the electrode in a pH 4 buffer solution for 10 to 30 minutes. If this fails, the electrode requires activation. **Never touch or rub glass bulb. Contact builds up an electrostatic charge.**

CONTINUED ON NEXT PAGE