



NEW MEXICO  
ENVIRONMENT DEPARTMENT



*Surface Water Quality Bureau*

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Deputy Secretary

ERIKA SCHWENDER  
Director  
Resource Protection Division

**Certified Mail - Return Receipt Requested**

December 6, 2013

Mr. John Arrowsmith  
Utilities Manager  
Los Alamos Department of Public Utilities  
170 Central Park Square  
P.O. Box 1030  
Los Alamos, NM 87544

**Re: Los Alamos County - Los Alamos Wastewater Treatment Facility; Major; Municipal;  
SIC 4952; NPDES Compliance Evaluation Inspection; NM0020141; November 8, 2013**

Dear Mr. Arrowsmith:

Enclosed please find a copy of the report and check list for the referenced inspection that the New Mexico Environment Department (NMED) 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.

Introduction, treatment scheme, and 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 advised to modify your operational and/or administrative procedures, as appropriate. Further, you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Diana McDonald  
US Environmental Protection Agency, Region VI  
Enforcement Branch (6EN-WM)  
1445 Ross Avenue  
Dallas, Texas 75202-2733

Bruce Yurdin  
New Mexico Environment Department  
Surface Water Quality Bureau  
Point Source Regulation Section  
P.O. Box 5469  
Santa Fe, New Mexico 87502

Los Alamos County - Los Alamos Wastewater Treatment Facility  
December 8, 2013  
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If you have any questions about this inspection report, please contact Barbara Cooney at 505-827-0212 or at [barbara.cooney@state.nm.us](mailto:barbara.cooney@state.nm.us) .

Sincerely,

*/S/ Bruce J. Yurdin*

Bruce J. Yurdin  
Program Manager  
Point Source Regulation Section  
Surface Water Quality Bureau

cc: Rashida Bowlin, USEPA (6EN-AS) by e-mail  
Carol Peters-Wagnon, USEPA (6EN-WM) by e-mail  
Racquel Douglas, USEPA (6EN-WM) by e-mail  
Gladys Gooden-Jackson, USEPA (6EN-WC) by e-mail  
NMED District 1, Robert Italiano by e-mail



### 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   0   1   4   1   11   12   1   3   1   1   0   8   17   18   C   19   S   20   1					
Remarks					
M   A   J   0   R   M   U   N   I   C   I   P   A   L   L   O   S   A   L   A   M   O   S   C   O					
Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	
67       1   69	70   4	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) Los Alamos County Department of Public Utilities – Los Alamos Wastewater Treatment Facility One mile northwest of the intersection at State Road 502 and State Road 4 on the right side of Hwy. At locked gate, call WWTP to open gate. WWTP is approx. 2 miles up the road. P.O. Drawer 1030 170 Central Park Square Los Alamos, NM 87544 Los Alamos County, New Mexico	Entry Time /Date 1040 Hours / November 8, 2013	Permit Effective Date October 11, 2011
	Exit Time/Date 1545 Hours / November 8, 2013	Permit Expiration Date September 30, 2016
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) John Arrowsmith, Utilities Manager, 505-662-8833 Tim Glasco, Deputy Utility Manager, 505-662-8833 Jeff Ayers, Plant Manager, 505- 662-8269 Pete Padilla, Environmental Compliance Specialist 505-662-8472 Santiago Martinez, Lead Operator, 505- 662-8269 Jennifer Baca, Laboratory Analyst, 505- 662-8269	Other Facility Data SIC 4952 Outfall 002: Latitude: 35° 52'53.35" Longitude: 106° 14'54.34"	
Name, Address of Responsible Official/Title/Phone and Fax Number John Arrowsmith, Utilities Manager / 505-662-8833 Los Alamos Department of Public Utilities P.O. Drawer 1030 170 Central Park Square Los Alamos, NM 87544	Contacted Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

#### Section C: Areas Evaluated During Inspection

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

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

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

SEE THE FURTHER EXPLANATIONS SECTION FOR DETAILS.

Name(s) and Signature(s) of Inspector(s) /S/ BARBARA COONEY	Agency/Office/Telephone/Fax NMED/SWQB 505-827-0212 / 505-827-0160	Date December 6, 2013
Signature of Management QA Reviewer /S/ BRUCE YURDIN	Agency/Office/Phone and Fax Numbers NMED/SWQB 505-827-2795 / 505-827-0160	Date December 6, 2013

SECTION A - PERMIT VERIFICATION

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

DETAILS:

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:

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. Alarm systems for lift stations -- no call out on many  S  M  U  NA

5. ALL NEEDED TREATMENT UNITS IN SERVICE.  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

## 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 NO )  
 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.  Y  N  NA
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT.  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?  Y  N  NA

## SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO )  
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED.  
 TYPE OF 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.  Y  N  NA
4. CALIBRATION FREQUENCY ADEQUATE. (DATE OF LAST CALIBRATION \_\_\_\_\_ )  
 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.  Y  N  NA

## SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED No )  
 DETAILS:

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

**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.  Y  N  NA
6. SPIKED SAMPLES ARE ANALYZED. 10 % OF THE TIME.  Y  N  NA
7. COMMERCIAL LABORATORY USED.  Y  N  NA

LAB NAME Hall Laboratory Bio Aquatic

LAB ADDRESS Albuquerque, NM Texas

PARAMETERS PERFORMED Metals Biomonitoring

**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
002	None	None	None	None	None	Clear - light green	

RECEIVING WATER OBSERVATIONS  
Sanitary Sewer Overflows

**SECTION H - SLUDGE DISPOSAL**

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED YES ).

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: \_\_\_\_\_ (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

**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 MATURE 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

Los Alamos County - Los Alamos Wastewater Treatment Facility  
NPDES Permit Number NM0020141  
Compliance Evaluation Inspection  
November 8, 2013  
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### **Introduction**

A Compliance Evaluation Inspection (CEI) was conducted at the Los Alamos County - Los Alamos Wastewater Treatment Facility (LAWWTF) by Ms. Barbara Cooney of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) on November 8, 2013. 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 major municipal waste water treatment plant (WWTP) under the Federal Clean Water Act (CWA), section 402 National Pollutant Discharge Elimination system (NPDES) permit program and is assigned NPDES permit number NM0020141. The Standard Industrial Classification Code (SIC) is 4952. The facility discharges to ephemeral Pueblo Canyon water quality segment 20.6.4.97 thence to Los Alamos Canyon where it enters San Ildefonso Pueblo, thence to Rio Grande within Pueblo jurisdiction of the Rio Grande River. The designated uses for this segment are livestock watering, wildlife habitat, limited aquatic life and secondary contact.

### **Inspection Details**

The inspector arrived at the LAWWTF at 10:40 a.m. and was met by John Arrowsmith - Utilities Manager, Tim Glasco - Deputy Utility Manager, Jeff Ayers - Plant Manager, Pete Padilla - Environmental Compliance Specialist, Santiago Martinez - Lead Operator, Jennifer Baca - Laboratory Analyst. The Inspector made introductions, showed her credentials and explained the purpose of her visit. During the first part of the inspection, Mr. Pete Padilla accompanied the inspector to lift stations and manholes where overflows had occurred in the collection system. Upon return to the WWTP, the other representatives of Los Alamos County accompanied the inspector throughout the treatment plant and during the records review. All records requested by the inspector were provided. An exit interview was held following the inspection with all county representatives listed above with the exception of Mr. Arrowsmith and Mr. Glasco. The Inspector left the Facility at 3:45 p.m.

### **Treatment Scheme**

The Los Alamos County WWTP serves the City of Los Alamos through approximately 110 miles of sewer lines. The collection system includes 27 lift stations. Ten of the lift stations have alarm systems that are hooked up the treatment Supervisory Control and Data Acquisition (SCADA) system with call out alarms. The remaining 17 lift stations have flashing light alarm systems that operate in the event of high water levels in the wet wells. The final lift stations send water through an 18 inch line to the influent Parshall Flume fitted with a pressure sensor – transducer flow meter and a staff gauge. Samples are taken past the Parshall flume for the NPDES permit Percent Reduction calculation of BOD and TSS. Influent then passes through a mechanical screw pump – grinder- screener or a manual bar screen depending on maintenance requirements. Screenings are bagged and collected in a dumpster for disposal at the county landfill. Water then flows to an aerated grit removal system before being sent through the rest of the treatment works. The collected grit is also disposed of at the county land fill.

Past the grit removal basin, flow can be split into parallel treatment trains. At the time of this inspection only one treatment train was online based on the volume of the influent. Following screening and grit removal, the sewage is sent to the anoxic zone of the treatment basin. The Dissolved Oxygen (DO) is maintained at 0.00 mg/L in this stage for optimal Nitrogen conversion and reduction. The water then flows to the rectangular aeration basins. Fine bubble diffused air distributed by two blower maintains a DO concentration of 1.04 mg/L. Each aeration basin has six mixers. The Mixed Liquor Suspended Solids (MLSS) in this basin ranges from 1800 mg/L to 2800 mg/L. This low MLSS is the result of the solids wasting schedule of once a week. It is most economical for this wasting schedule to be kept because of schedule of the truck that hauls solids to the Rio Rancho Land fill for surface disposal. This wasting schedule is likely to be adjusted once the County completes the solids handling and composting facility being constructed at the Los Alamos Bayo WWTP old site.

Following aeration, the flow is sent to parallel secondary clarifiers. Both clarifiers were on line at the time of the inspection. The sludge blanket is 1.5 feet thick at mid basin. It is wasted 1/week due to the cost of sludge hauling to Rio Rancho Landfill, while the new composting site is being built.

Decant from the clarifiers is sent through a final fine screen to Ultraviolet (UV) Disinfection, the Parshall Flume fitted with a pressure sensor – transducer flow meter and a staff gauge. This is also where effluent samples are taken. The flow is sent either to Outfall 002 at Pueblo Canyon, or though treatment with a Myox system then to a holding tank for reuse.

### **Sludge**

A new solids processing and composting site is being built at the old Bayo WWTP location. Until this facility is operational, solids are wasted from the secondary clarifies and dewatered with a belt press and with polymer addition. These are then trucked to the Rio Rancho land fill for surface disposal.

Grit removed from the head works is collected in a wheel barrow or hopper and after passing the paint filter test disposed of in the Los Alamos County landfill.

### **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 “Satisfactory”**

#### **Permit Requirements For Record Keeping and Reporting**

The permit requires in Part III.3. D. REPORTING REQUIREMENTS

##### **4. DISCHARGE MONITORING REPORTS AND OTHER REPORTS**

*Monitoring results must be reported to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically in lieu of the paper DMR Form. To submit electronically, access*

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*the NetDMR website at [www.epa.gov/netdmr](http://www.epa.gov/netdmr) and contact the R6NetDMR.epa.gov in-box for further instructions. Until you are approved for Net DMR, you must report on the Discharge Monitoring Report (DMR) Form EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA at the address below. Duplicate copies of paper DMR's and all other reports shall be submitted to the appropriate State agency (ies) at the following address (es):*

EPA:

Compliance Assurance and Enforcement Division  
Water Enforcement Branch (6EN-W)  
U.S. Environmental Protection Agency, Region 6  
1445 Ross Avenue  
Dallas, TX 75202-2733

New Mexico:

Program Manager  
Surface Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 5469  
1190 Saint Francis Drive  
Santa Fe, NM 87502-5469

**Findings For Record Keeping and Reporting:**

As part of the inspection a records review was made of the month of September 2013.

The permittee submits records through the NetDMR system. Error messages are occurring regularly for the submission of the E. coli bacteria. These errors state, "*The selected units do not match the units specified by the permit for the parameter. (Error Code:3)*".

The permittee is using the EPA approved analytical method for E. coli bacteria analysis, IDEXX Quanti – Tray2000. Samples analyzed with this method are a statistical value of Most Probable Number (MPN) per 100 ml of water or MPN/100ml.

The NPDES permit states in Table 1 for Effluent limits:

*Footnote:*

*\*5 Colony forming units (cfu) per 100 ml.*

The values produced by the MPN calculations are consistent w/ the allowed concentrations of CFU/100 ml. It is suggested that the permittee use the default units of CFU/100 ml in the reporting for NetDMR and include a note in the explanations section to explain that the test method results are measured in MPN. This will reduce the error problem found in the Net DMR system.

The permittee could also request a minor permit modification from EPA to include the MPN units in the permit.

**Section C - Operation and Maintenance – Overall Rating of “Satisfactory”**

**Permit Requirements For Operation and Maintenance**

The permit requires in Part III.3. PROPER OPERATIONS AND MAINTENANCE:

*a. The permittee shall properly and maintain all facilities and systems of treatment and control (and 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 with the conditions of this permit. Proper*

*operations 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 the conditions of this permit.*

**Findings For Operation and Maintenance:**

This facility came online October 2, 2007. The treatment units are all relatively new, the facility maintains back up equipment and an adequate operational staff.

The County has had several collection system overflow every year. This year, the month of September had catastrophically high rainfall through New Mexico. Los Alamos County saw rainfall of up to 10 inches in one day. This resulted in several overflows, including from a manhole off of Canyon Road and into Acid Canyon. The volumes were so high it was not possible to estimate and back calculate flow. Another lift station located just before the WWTP was completely inundated with rain water. It was also not possible to estimate the overflow volume at this lift station according to plant representatives. The influent flow at the WWTP topped out at the maximum readable volumes. September 9<sup>th</sup> the influent flow was 1.222 MGD, twice the average daily flow. These locations where over flows occurred were inspected and found to have been cleaned up and clear of any debris.

There are 17 lift stations throughout the collection system. Only a few of these have alarms call-out devices to notify operators if there is an overflow or power failure. The other lift stations have flashing lights and citizens in the area call into the utilities department when there is a problem. These lift stations are also checked by operators on a regular basis. According to facility representative the County is in the process of rehabilitating these lift stations – a few each year. When the lift station is upgraded so is the alarm system. It is advisable for the permittee to consider these upgrades as a high priority.

**Section D – Self Monitoring – Overall Rating of “Satisfactory”**

**Section E – Flow Measurements – Overall Rating of “Satisfactory”**

**Section F - Laboratory - Overall Rating of "Satisfactory"**

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

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**Permit Requirements For Effluent and Receiving Water**

The permit requires in Part I. Section A. Limitations and Monitoring Requirements:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	Standard Units		MEASUREMENT FREQUENCY	SAMPLE TYPE
		MINIMUM	MAXIM		
pH	00400	6.6	9.0	Daily	Grab

EFFLUENT	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
WHOLE EFFLUENT	30-DAY AVERAGE MINIMUM	7-DAY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<i>Ceriodaphnia dubia</i>	Report	Report	Once/Quarter (*1)	24-Hr Composite
<i>Pimephales promelas</i>	Report	Report	Once/Quarter (*1)	24-Hr Composite

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
Expanded Effluent Testing (*2)	Report	1 each in 2 <sup>nd</sup> , 3 <sup>rd</sup> , & 4 <sup>th</sup> years of the permit (*2)	24-Hr Composite (*3)

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	lbs/day, unless		mg/l, unless noted(*0)			MEASUREMENT	SAMPLE TYPE
		30-DAY AVG	7-DAY AVG	30-DAY	7-DAY AVG	DAILY MAX		
Flow	50050	Report MGD	Report MGD	***	***	***	Continuous	Totalizing Meter
Biochemical Oxygen Demand, 5-day	00310	343	514	30	45	N/A	1/Week	6-Hr Composite
Biological Oxygen Demand,	TBD	≥ 85% (*4)	---	---	---	---	1/Week	Calculation (*4)
Total Suspended	00530	343	514	30	45	N/A	1/Week	6-Hr Composite
Total Suspended Solids	TBD	≥ 85% (*4)	---	---	---	---	1/Week	Calculation (*4)
<i>E. coli</i> Bacteria	51040	N/A	N/A	126 (*5)	N/A	410 (*5)	1/Week	Grab
Total Residual	50060	N/A	N/A	N/A	N/A	11 µg/l (*6)	Daily	Instantaneous Grab
Copper	01042	0.326	0.49	28.5 µg/l	N/A	42.8 µg/l	3/Week	24-Hr Composite
PCBs	TBD	N/A	N/A	N/A	N/A	Report	Once/term (*7)	Grab
Gross alpha emitters	TBD	N/A	N/A	N/A	N/A	Report	Once/term (*8)	Grab

**Footnotes:**

\*0 See Appendix A of part 2 of the permit for minimum quantification levels.

\*1 Once per quarter. If the first full year of testing, four (4) quarterly tests pass, then the frequency maybe reduced to once/six-months. See Part II of the Permit for monitoring frequency reduction. If any test demonstrates significant toxic effects at the 100% critical dilution, testing for the affected species will continue at once/quarter until the expiration date of the permit. Additionally, for this failure, TRE requirements, as defined in Part II, Section D, Whole Effluent Toxicity Testing Requirements, will be conducted. At the expiration date of this permit, until a renewal permit is issued, biomonitoring frequency monitoring reverts to once per quarter until the permit is re-issued. See Part II, Section D of the permit.

\*2 See NPDES Permit Application Form 2A; Tables A.12, B.6, and Part D for the list of pollutants to include in this testing. Samples are to be taken on the same day as the WET test event for that year. The permittee shall report the results as a separate attachment in tabular form sent to the Permits and Technical Assistance Section Chief of the Water Quality Protection Division within 60 days of receipt of the lab analysis.

\*3 Except for bacteria, pH, TRC, DO and sulfite, which are grab samples.

Los Alamos County - Los Alamos Wastewater Treatment Facility  
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\*4 Percent removal is calculated using the following equation: (average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration.

\*5 Colony forming units (cfu) per 100 ml.

\*6 The effluent limitation for TRC is the instantaneous maximum grab sample taken during periods of chlorine use and cannot be averaged for reporting purposes. Instantaneous maximum is defined in 40 CFR Part 136 as being measured within 15 minutes of sampling. This limit and sampling frequency apply in the event the facility uses chlorine to control bacteria or disinfect control equipment.

\*7 PCB sampling and analysis is required once and the analysis must occur within one year of the reissuance of the permit. EPA Method 1668B (or a more recent version of the method) is the required test method. For the one time test requirement, the detection limits addressed in Method 1668B, as revised: Chlorinated Biphenyl Congeners in Water, Soil, Sediment and Tissue by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (HRGC/HRMS) shall be used.

\*8 Gross alpha sampling and analysis is required once and the analysis must occur within one year of the reissuance of the permit. EPA Method 900 (or a more recent version of the method) is the required test method.

**Findings For Effluent and Receiving Water:**

The lift station overflows that discharged untreated sewage to surface waters, are the reason this section is given the rating of “Marginal”.

The DMRs reported for the period of September 2012 through September 2013 show no effluent exceedences. The laboratory and records review for September 2013 confirms that effluent reporting on the DMRs is consistent with supporting paper work at the facility.

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

A new solids processing and composting site is being built at the old Bayo WWTP location. Until this facility is operational, solids are wasted from the secondary clarifies and dewatered with a belt press and polymer addition. These are then trucked to the Rio Rancho land fill for surface disposal.

Grit removed from the head works is collected in a wheel barrow or hopper and after passing the paint filter test disposed of in the Los Alamos County landfill. The new facility will be an extension of this treatment plant and is expected to be covered under this NPDES permit. This facility is expected to come on line in the year 2014.

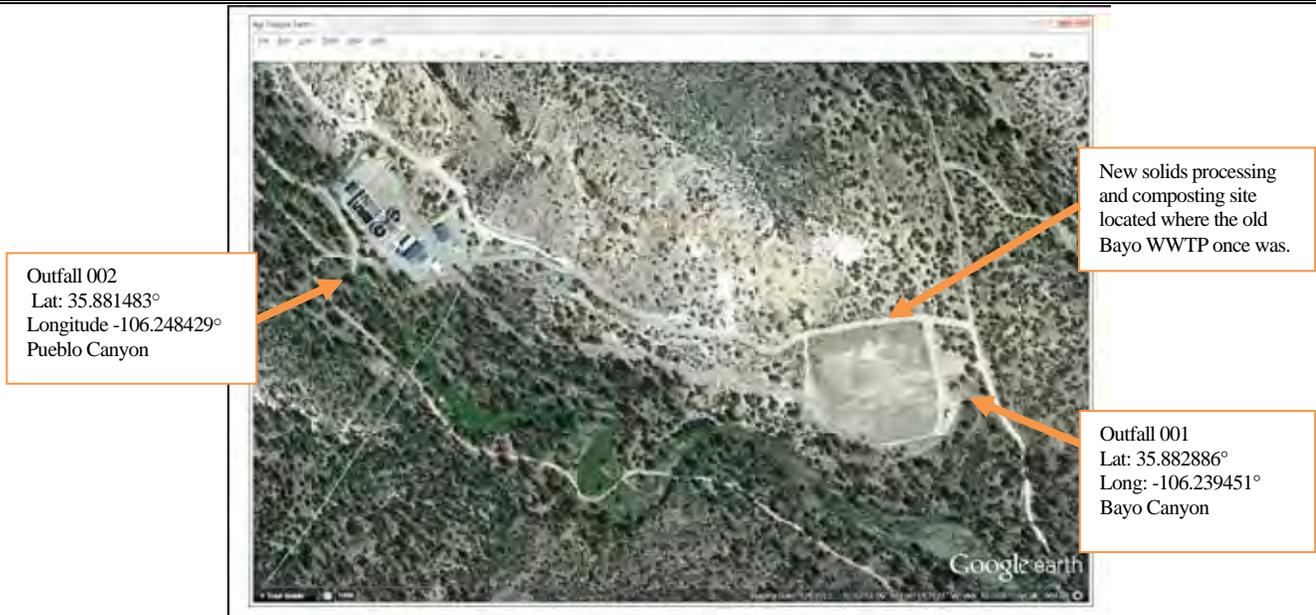
**NMED/SWQB  
Official Photograph Log  
Photo # 1**

Photographer: Los Alamos County Record	Date: Unknown	Time: Unknown
City/County: Los Alamos / Los Alamos		State: New Mexico
Location: Los Alamos County – Los Alamos Wastewater Treatment Facility		
Subject: Hill side view of the new WWTP		



**NMED/SWQB  
Official Photograph Log  
Photo # 2**

Photographer: Google Earth	Date: May 4, 2012	Time: Unknown
City/County: Los Alamos / Los Alamos		State: New Mexico
Location: Los Alamos County – Los Alamos Wastewater Treatment Facility		
Subject: 1. Location of the New WWTP and Outfall 002 to Pueblo Canyon. 2. The location of the Old Bayo WWTP is being converted to a solids and compost processing facility. 3. The location of the old outfall 001 at Bayo Canyon.		



NMED/SWQB  
Official Photograph Log  
Photo # 3

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:32 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Influent Parshall Flume – staff gauge and pressure sensor – transducer flow meter that provides totalize flow values.



NMED/SWQB  
Official Photograph Log  
Photo # 4

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:40 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Grinder – screw pump for influent solids removal.



**NMED/SWQB  
Official Photograph Log  
Photo # 5**

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:41 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Influent manual bar screen for back up.



**NMED/SWQB  
Official Photograph Log  
Photo # 6**

Photographer: B.Cooney

Date: November 8, 2013

Time: 12:38 p.m.

City/County:

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Influent screens – large solids are bagged for disposal at the land fill after meeting the paint filter test.



NMED/SWQB  
Official Photograph Log  
Photo # 7

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:47 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Blower Motors – variable speed – a third motor is onsite and another backup was on order at the time of the inspection. Even at the lowest setting these blower are too powerful for one train.



NMED/SWQB  
Official Photograph Log  
Photo # 8

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:59 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Anoxic Zone – Dissolved Oxygen reading are 0.00 mg/L



NMED/SWQB  
Official Photograph Log  
Photo # 9

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:59 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Aeration Basin – Dissolved Oxygen ranges up to 104 mg/L – Mixed Liquor Suspended Solids (MLSS) ranges from 1800 to 2800 mg/L



NMED/SWQB  
Official Photograph Log  
Photo # 10

Photographer: B. Cooney

Date: November 8, 2013

Time: 12:59 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: One treatment train was on line at the time of the inspection due to the volume of the influent. The photo below shows air diffusers in the offline basin. The depth is 22 feet deep.



NMED/SWQB  
Official Photograph Log  
Photo # 11

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:12 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Aeration Basin – another view.



NMED/SWQB  
Official Photograph Log  
Photo # 12

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:14 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Secondary Clarifier – Both clarifiers were on line and running parallel at the time of the inspection. Sludge Blanket is 1.5 deep feet at mid basin. Wasting is done 1/week due to the cost of sludge hauling to Rio Rancho solid waste facility, while the new composting site is being built.



NMED/SWQB  
Official Photograph Log  
Photo # 13

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:17 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Clarifier and weirs appear to be level with very little to no short circuiting.



NMED/SWQB  
Official Photograph Log  
Photo # 14

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:14 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Clarifier weir troughs are scrubbed mechanically w/ brushes to keep algae growth and accumulation at a minimum.



NMED/SWQB  
Official Photograph Log  
Photo # 15

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:18 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Clarifier weir troughs are scrubbed mechanically w/ brushes to keep algae growth and accumulation at a minimum. A push broom was fastened by operators to the rotating arm to clean the trough floor.



NMED/SWQB  
Official Photograph Log  
Photo # 16

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:19 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Effluent leaving the clarifier is clear and free of floating solids.



NMED/SWQB  
Official Photograph Log  
Photo # 17

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:20 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Effluent Parshall flume following the Ultraviolet Disinfection Units. Note the ISCO auto sampler located at the end of the treatment works for collection of samples for analysis.



NMED/SWQB  
Official Photograph Log  
Photo # 18

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:30 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Fine screen in place prior to the Ultraviolet (UV) Disinfection Chamber collects any solids that may have made it through the other treatment units. This protects the UV lights, improves disinfection and effluent quality.



NMED/SWQB  
Official Photograph Log  
Photo # 19

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:39p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Effluent Parshall Flume – flow measurement and sampling location.



NMED/SWQB  
Official Photograph Log  
Photo # 20

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:20 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: From the final flow measurement the effluent travels approximately 300 feet through an underground 18 inch pipe to the final discharge point.



NMED/SWQB  
Official Photograph Log  
Photo # 21

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:21 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Final Discharge point to Pueblo Canyon.



NMED/SWQB  
Official Photograph Log  
Photo # 22

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:22 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Noted on the wall of the aeration basins are some sealed joints that show staining. These areas of the basin should be watched as time goes by as cracking and leaking could develop.



NMED/SWQB  
Official Photograph Log  
Photo # 23

Photographer: B. Cooney

Date: November 8, 2013

Time: 1:25 p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Waste Activated Sludge (WAS) and Return Activated Sludge (RAS) lines and pumps.



NMED/SWQB  
Official Photograph Log  
Photo # 24

Photographer: B. Cooney

Date: November 8, 2013

Time: 11:12 a.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Final lift station before the WWTP. This lift station overflowed during the week of September 9, 2013 when New Mexico and the Western United States experienced massive rain fall and flooding. Los Alamos County received up to 10 inches of rain in a single day. – The area has since been cleaned and disinfected by plant operators.



NMED/SWQB  
Official Photograph Log  
Photo # 25

Photographer: B. Cooney

Date: November 8, 2013

Time: 11:56 a.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: Man hole near Canyon Road and above Acid Canyon overflowed an unknown amount of wastewater mixed with rain water during the week of September 9, 2013 when New Mexico and the Western United States experienced massive rain fall and flooding. Los Alamos County received up to 10 inches of rain in a single day. – The area has since been cleaned and disinfected by plant operators.



NMED/SWQB  
Official Photograph Log  
Photo # 26

Photographer: Computer Screen Print

Date: November 8, 2013

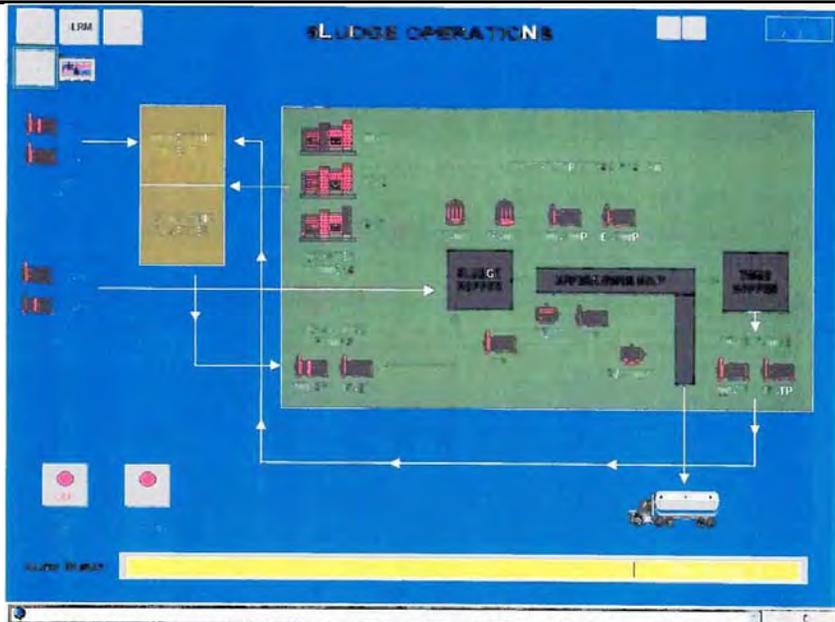
Time: Approximately 3:00p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: SCADA computerized operational system for the WWTP and Solids Processing – Screen Print



NMED/SWQB  
Official Photograph Log  
Photo # 27

Photographer: Computer Screen Print

Date: November 8, 2013

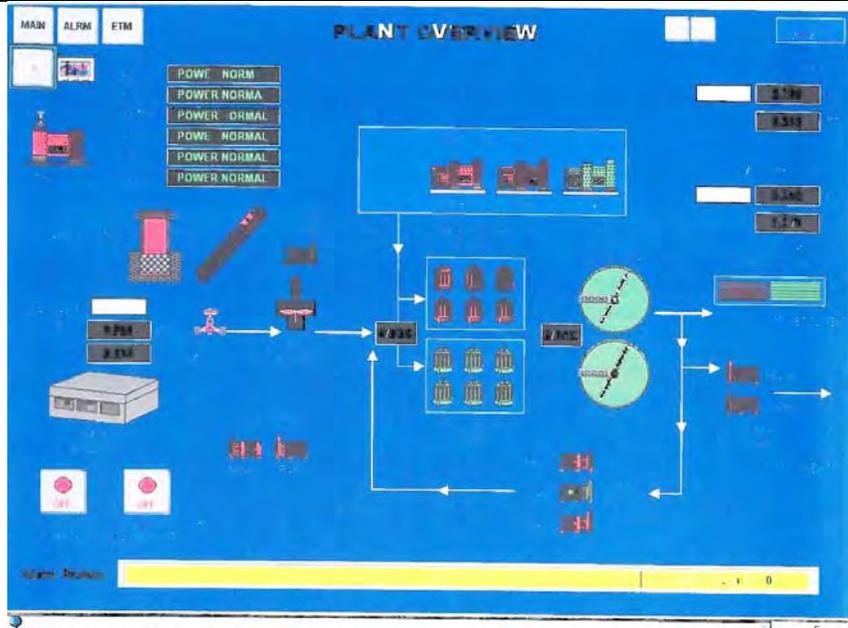
Time: Approximately 3:00p.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility

Subject: SCADA computerized operational system for the WWTP and Solids Processing – Screen Print



NMED/SWQB  
Official Photograph Log  
Photo # 28

Photographer: B. Cooney

Date: November 8, 2013

Time: 10:39 a.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility – Solids Processing and Composting Facility

Subject: Location of the old Bayo WWTP – Now being converted to a Solids processing and composting facility.



**NMED/SWQB  
Official Photograph Log  
Photo # 29**

Photographer: B. Cooney

Date: November 8, 2013

Time: 10:39 a.m.

City/County: Los Alamos / Los Alamos

State: New Mexico

Location: Los Alamos County – Los Alamos Wastewater Treatment Facility - Solids Processing and Composting Facility

Subject: Location of the old Bayo WWTP – Now being converted to a Solids processing and composting facility.

